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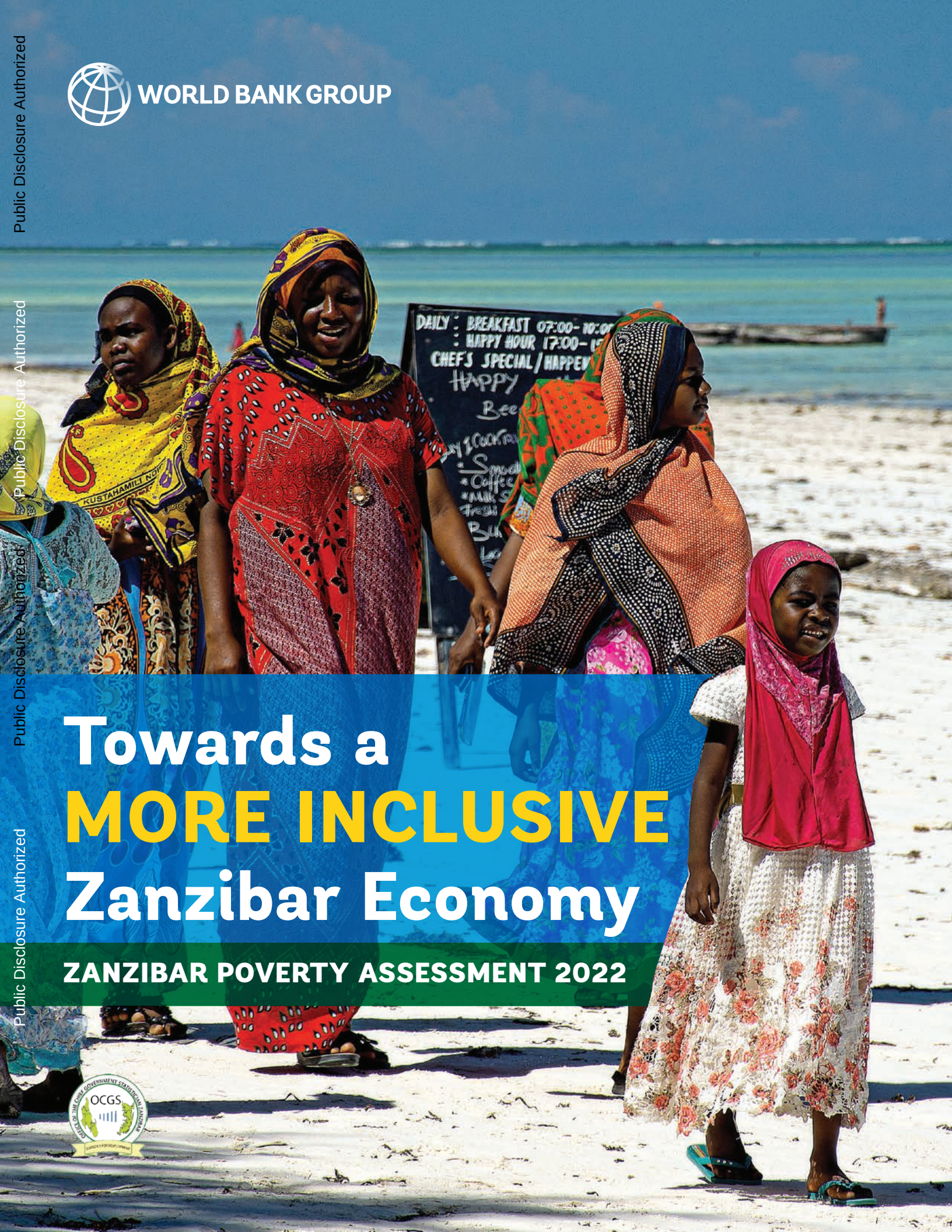

Towards a MORE INCLUSIVE Zanzibar Economy

ZANZIBAR POVERTY ASSESSMENT 2022

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ABBREVIATIONS

AE	adult equivalent
AF	Alkire-Foster
BIA	benefit incidence analysis
DHS	Demographic and Health Surveys
GDP	gross domestic product
GIC	growth incidence curve
HBS	Household Budget Survey
HFWMS	High-Frequency Welfare Monitoring Survey
ILFS	Integrated Labor Force Survey
MKUZA III	Zanzibar Strategy for Growth and Reduction of Poverty
MPI	Multidimensional Poverty Index
MODA	Multidimensional Overlapping Deprivation Analysis
MSME	micro, small, and medium-sized enterprise
NHA	National Health Accounts
NHIF	National Health Insurance Fund
NPS	National Panel Survey
OCGS	Zanzibar Office of the Chief Government Statistician
OVC	orphaned or vulnerable child
PHC	primary health care
PSSN	productive social safety net
RGoZ	Revolutionary Government of Zanzibar
SDG	Sustainable Development Goal
SME	small and medium-sized enterprise
SNA	System of National Accounts
TASAF	Tanzania Social Action Fund
UHC	universal health coverage
UNICEF	United Nations Children's Fund
WaSH	water, sanitation, and hygiene
ZAWA	Zanzibar Water Authority
ZECO	Zanzibar Electricity Company
ZUPS	Zanzibar Universal Pension Scheme

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ABSTRACT

This report assesses recent progress in poverty reduction in Zanzibar. It is based on Zanzibar's last three household budget surveys and considers the period between 2009 and 2019, with a focus on the last four years of this decade: 2015–2019. Poverty — based on household consumption — fell by 9 percentage points over the decade before the COVID-19 pandemic: it dropped from 34.9 to 25.7 percent. However, the pace of poverty reduction was slow relative to population growth and as such, the number of poor dropped by only 27,000. The drop was fastest in urban areas and because poverty levels were already lower than in rural areas, the gap between rural and urban poverty widened, driven by differences between the islands of Unguja and Pemba. Simulations suggest that the COVID-19 pandemic increased urban poverty increased by 1.8 percentage points in 2020–21 while rural poverty dropped by 0.8 percentage points.

Substantial progress was also made across a range of non-monetary poverty indicators, notably in improved access to basic services including electricity and education. During the period 2009-2019, access to the electricity network increased from 38 to 57 percent, while education indicators also improved considerably. For example, between 2015 and 2019, lower secondary gross enrolment went up from 68 to 90 percent. Despite progress, gaps remain especially among the poor living in rural areas, notably in Pemba. Results from a multi-dimensional poverty index (MPI) calculated based on 3 dimensions and 13 indicators using the HBS 2019-20 indicate that 36.6 percent of Zanzibaris were multi-dimensionally poor, that is, they were deprived in at least a third of the MPI indicators used.

The relationship between economic growth and poverty reduction was weak as during 2009–19 growth did not sufficiently translate into improved well-being of the poorest. Although during the period 2014 to 2020-21 Zanzibar witnessed a large shift of people out of low-productivity agriculture into services, particularly of women (a 10-percentage point shift according to labor force survey data), 'decomposition analysis' shows that population shifts to other sectors of work barely contributed to poverty reduction. Many likely adopted low-productivity work in the services sector. In fact, the creation of quality jobs was limited, and informality increased during this period.

To accelerate poverty reduction in Zanzibar, a combination of policies are required to (i) make tourism, the main growth engine of the economy, more inclusive, for example through the diversification of tourism products; (ii) improve labor market outcomes for women and youth through better skills training and internship programs; (iii) improve the distribution of public spending in education and health to make it more pro-poor; and (iv) improve the business operating and regulatory environment of SMEs and better connect farm smallholders to high-value markets to enhance value addition, job creation and poverty reduction.

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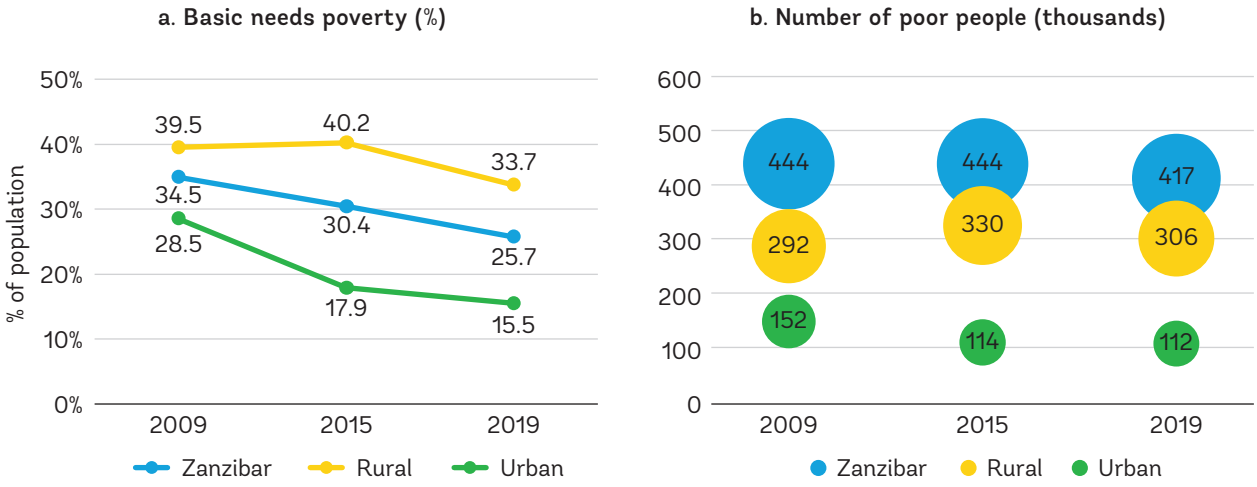
EXECUTIVE SUMMARY

Poverty dropped before COVID-19, but the pace was slow relative to population growth, and the gap between rural and urban poverty widened, driven by differences between Unguja and Pemba

Poverty fell over a decade before the COVID-19 pandemic, but the pace was slow relative to population growth. Zanzibar's poverty rate fell at almost one percentage point per year during 2009–19, falling from 34.9 percent in 2009 to 30.4 percent in 2015 and 25.7 percent in 2019, translating to a 9.2 percentage point drop in 10 years (Figure ES1a). Urban poverty fell much faster, it almost halved while rural poverty saw a relative drop of only 15 percent. This relatively larger decline in urban areas, where poverty levels were already lower, and the slow reduction in rural areas, where poverty was already higher, resulted in a widening of the gap between rural and urban poverty. By 2019, rural poverty was double the urban rate. During 2015–19, however, rural poverty reduction was faster than in urban areas, but the pace was not enough to compensate for the widening gap between poverty in rural and urban areas in the preceding five years. Further, at around 2.8 percent per year, population growth continues to be high relative to the reduction in the poverty rate. As a result, the number of poor declined only marginally, and in rural areas, the number of poor people increased between 2009 and 2019 (Figure ES1b).

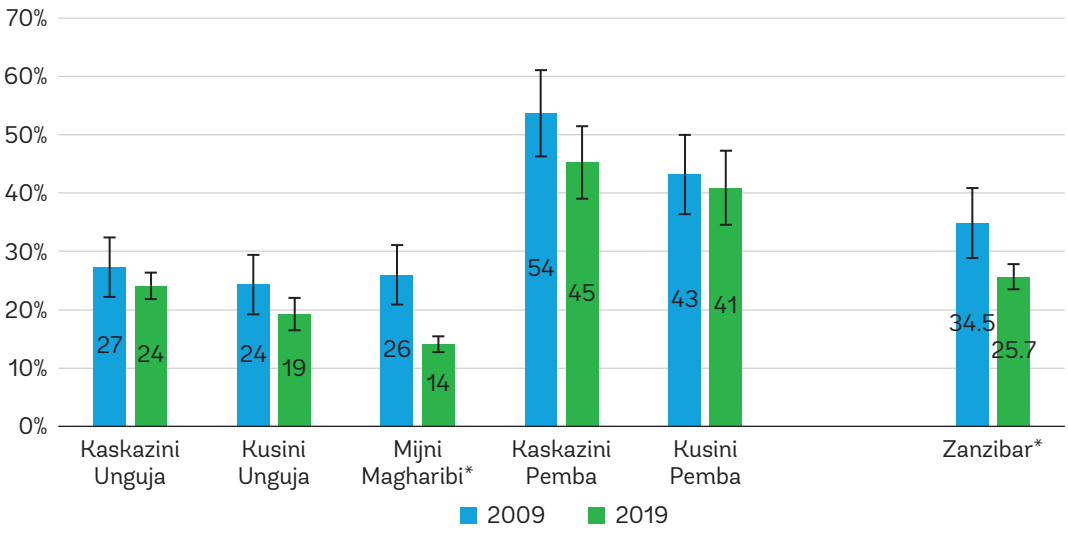
FIGURE ES1 Poverty incidence and number of poor people, by location in 2009, 2015, and 2019



Source: Based on OCGS HBS 2009/10, 2014/15, and 2019/20. The HBS 2009/10 fell mostly in 2009, the HBS 2014/15 fell mostly in 2015, and the HBS 2019/20 fell mostly in 2019. We therefore refer to 2009, 2015 and 2019 in the report to simplify notation.

There are large differences in poverty across regions and regional differences are widening. Poverty almost halved in Mjini Magharibi Region but barely fell in Kusini Pemba Region (Figure ES2).

FIGURE ES2 Poverty headcount rates (%) with 95% confidence intervals, by region, 2009 and 2019



Notes: The vertical lines in the bars are 95% confidence intervals. Confidence intervals are wide. If they overlap for the two survey years the difference is not significant, which is the case for all regions except one (Mjini Magharibi). The drop for all of Zanzibar is also statistically significant. * means the change is statistically significant at 95%.
Source: Based on OCGS HBS 2009/10 and 2019/20.

Economic growth during 2009–19 did not sufficiently translate into improved well-being of the poorest, and 'growth elasticity of poverty reduction' was low as is often seen in Sub-Sahara Africa

Zanzibar experienced substantial growth in gross domestic product (GDP) per capita between 2009 and 2019, but transmission of growth into increased consumption of households was low. Household consumption growth during the 2009–15 period and the 2015–19 period was moderate and relatively low given the high economic growth that took place. Real GDP per capita has grown at an average rate of 3 percent per year and rose from US$712 in 2009 to US$950 in 2019, an increase of 33 percent. Real consumption per capita, as measured by the Household Budget Surveys (HBSs), grew by only 18 percent between 2009 and 2019. Only a little more than half of GDP per capita growth translated into increased household consumption and better welfare, as measured by the HBS, suggesting that quality of growth was insufficient to translate into a commensurate improvement in the population's welfare. Growth elasticity of poverty reduction was low, as is not uncommon in Sub-Saharan Africa.

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Despite relatively high GDP growth, job creation between 2014 and 2019-20 was limited and unemployment went up from 17 to 19 percent, while inactivity increased from 21 to 24 percent, according to the labor force surveys of 2014 and 2020–21. This trend was particularly strong for women for whom unemployment rose from 26 to 30 percent, which was partly driven by youth unemployment among girls, which went up from 41 to 48 percent.[1] Inactivity among women increased from 24 to 29 percent. The percentage of people with wage jobs was only 1.5 percentage points higher in 2019-20 than in 2014 and the proportion of people in the informal sector rose by 4 percentage points (7 percentage points for women). A survey conducted for the evaluation of the MKUZA III plan recorded that when asked about progress seen in the last 5 years, only 0.3 percent of respondents mentioned tourism activities. Insufficient employment opportunities were most often mentioned as the biggest challenge respondents face.[2]

Richer households benefited more from consumption growth between 2009 and 2019, and as a result, inequality, though relatively low, increased slightly along various inequality indicators. All household groups saw a small increase in real consumption between 2009 and 2019, but it increased faster for richer households than for poorer ones. The poorest 40 percent experienced slower consumption growth than for the whole population, and thus the "shared prosperity premium" was negative. This triggered a marginal increase in inequality, reflected in the Gini index increasing only modestly, from 30.3 to 31.1. This remains much lower than in mainland Tanzania (39.5 in 2018) and is among the lowest in Sub-Saharan Africa. Inequality is higher in urban than rural areas.

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[1] Youth unemployment among males remained constant at 21 percent.

[2] RGoZ (2017). Zanzibar Strategy for Growth and Reduction of Poverty ZSGRP III (MKUZA III). 2016-2020. Zanzibar, Revolutionary Government of Zanzibar.

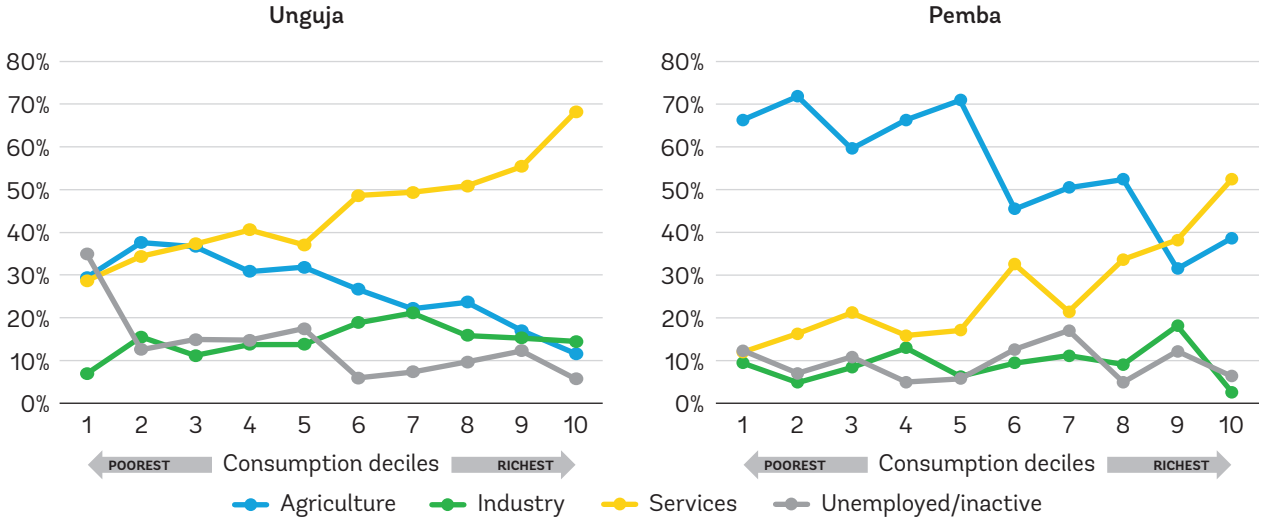
The large shift of people out of low-productivity agriculture into services, particularly of women, barely contributed to poverty reduction. In Unguja a large proportion of the poorest parts of the population are in the services sector, suggesting that they have been unable to benefit from the fast-growing tourist industry.

During 2014 to 2020-21 Zanzibar witnessed a large shift of people out of low-productivity agriculture into services[3], particularly of women (a 10-percentage point shift), but decomposition analysis shows that population shifts to other sectors of work barely contributed to poverty reduction. This suggests that the work they found in the services sector was of insufficient productivity to raise them above the poverty line. As this happened at a time when the tourism sector was growing fast, this would imply that the tourism industry's impact on the population's welfare has been limited. Other research has shown that most tourism industry purchases are from outside Zanzibar.

The proportion of the population working in the service sector increases sharply when moving from the poorest to the richest decile of the population, but in Unguja a large proportion of the poorest deciles are in the services sector (see Figure ES3). This indicates that working in the services sector is not a guarantee for escaping poverty. In Pemba nearly everyone in the poorest groups is in agriculture. The population shift to the urban area of Mjini Magharibi on western Unguja coincided with a reduction in the poverty rate there during 2009–14, but poverty reduction stagnated in this region during 2015–19, suggesting that during this period many poor households that migrated to Mjini Magharibi no longer escaped poverty.

[3] Based on the Integrated Labor Force Survey data of 2014 and 2020-21, but the HBS 2014/15 and HBS 2019/20 show a similar trend: the proportion working in agriculture, forestry and fisheries dropped by 3.5 percentage points, while the proportion working in services went up by 2 percentage. And industry went up by 2.5 percentage points

FIGURE ES3 Sector of work of main jobs in Unguja and Pemba, by welfare decile



Note: The average age of the women in the poorest decile in Unguja that are inactive or unemployed is much younger than the rest of the population.
Source: Based on OCGS HBS 2019/20.

Strikingly, a large proportion of the poorest women in Unguja are comprised of young women who are unemployed or inactive. This proportion is much larger than among poor men. Clearly, the inability of women in Unguja to find work, despite having substantial years of schooling, is forming an important constraint for poverty reduction. While the tourism sector is the key driver of the economy it appears unable to provide employment to sufficient numbers of young women. This may be partially related to the reluctance of women to engage with foreigners displaying behavior that does not reflect Zanzibari habits and customs. But it may also relate to the lack of skills required by the private sector and limited job creation more broadly.

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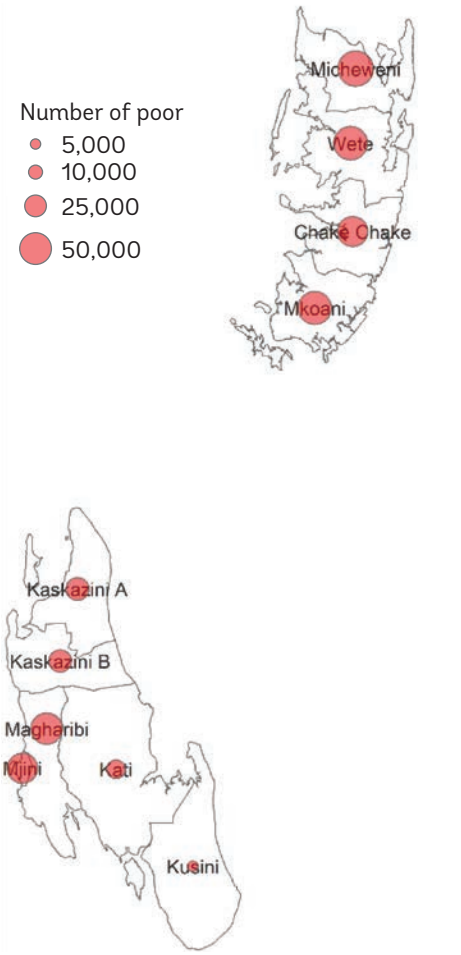
A high concentration of the poor in Pemba, combined with lower quality social services and limited economic opportunities, suggests the poor there are stuck in a spatial poverty trap

Spatial inequality is substantial and increasing, as poverty reduction is uneven across space, with many of the poor stuck in a spatial poverty trap (see Figure ES4). More than half of the poor (57 percent) live on Pemba Island, although only 27 percent of the population lives there. Even when correcting for differences in educational attainment and sector of work, households in Pemba have a 6 percentage points

FIGURE ES4 Geographical distribution of poverty in Zanzibar

a. Proportion of the population that is poor

b. Number of poor in that live in the district



Source: Based on OCGS HBS 2019/20.

lower consumption per adult equivalent than those in Unguja. Pemba's population is much younger and only 27 percent of the people are of working age (26–60 years) compared to 36 percent on Unguja, and, as a consequence, dependency rates are much higher in Pemba. Despite a fast increase, educational attainment continues to lag in Pemba, especially for women (see Table ES1). Although access to electricity has risen fast, the proportion of the population with access to the electricity grid is still only half that of Unguja.

The poverty profile of those in Pemba is very different from that in Unguja. In Unguja, a large proportion of the poorest groups work in the services sector, while in Pemba they are nearly all in agriculture. Only a fraction (6 percent) of the tourist accommodations in Zanzibar are found in Pemba. The growing spatial inequality and the consistent low scores of the poorest regions, especially those in Pemba, across many social indicators suggest the poor there are stuck in a spatial poverty gap.

TABLE ES1 Average years of schooling (adult population 25–64 years of age)

	2015			2019		
	Male	Female	Total	Male	Female	Total
Unguja	8.4	7.5	7.9	8.9	8.2	8.5
Pemba	6.1	4.6	5.3	6.7	5.2	5.9
Total	7.8	6.7	7.2	8.3	7.3	7.8

Note: This refers to amount of successfully completed school years.
Source: Based on OCGS HBS 2019/20.

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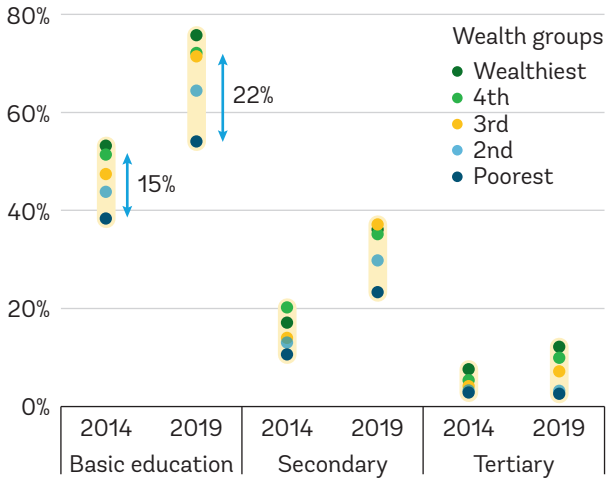
Zanzibar has made impressive progress in social services delivery, but gaps remain, especially in poorer districts, caused by public spending on education and health that is insufficiently pro-poor

The last 10 years witnessed a spectacular increase in access to basic social services. Access to key social services rose fast in all districts. This follows a substantial investment drive in the provision of these services over the past years as part of the implementation of the Zanzibar Development Vision 2050.[4] This has led to a substantial improvement in living standards and is likely to have played an important role in reducing poverty.

Recent education reforms, including the abolition of school fees, have had a dramatic impact on enrollments in education. Between 2015 and 2019, average levels of education in the working age population rose by 0.6 successfully completed school years and compare favorably with the average for Sub-Saharan Africa. Enrollment quickly improved across the population. However, there are important disparities between wealth groups and significant gaps in educational attainment between rural and urban areas and between the islands of Unguja and Pemba. These gaps in attainment did not close significantly between 2014 and 2019. In 2014, the difference in basic education enrollment rates between the poorest and wealthiest quintiles was 15 percentage points but increased to 22 percentage points by 2019. A similar widening of absolute enrollment rates is evident in tertiary education (see Figure ES5). Enrollment rates in pre-tertiary education are higher for girls than boys.

FIGURE ES5 Net enrollment rates for different wealth groups, 2014 and 2019



Source: Based on OCGS HBS 2014/15 and 2019/20.

[4] See: http://planningznz.go.tz/doc/new/ZDV2050.pdf

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Levels of educational spending per student vary considerably across districts. Public spending and the quality of learning environments tend to be lower in districts with higher rates of poverty. For example, in Chake Chake District in Pemba, there are an average of 92 students for each pre-primary and primary classroom compared to 59 students in Kati in Unguja. School planning and teacher deployment systems to ensure that new teachers and infrastructure are allocated across Zanzibar according to need would significantly improve the overall distribution of public spending.

Health indicators improved significantly. The proportion of child deliveries in health facilities increased sharply between 2010 and 2015–16 according to the Demographic and Health Surveys (DHS) for those years. Child mortality also saw a notable decline and is below the value for mainland Tanzania. An increase in the proportion of births that takes place in health facilities and more coverage of child vaccination are important factors in reducing child mortality.

The poor are ill more often but they seek formal health care less often than the better-off. Therefore, spending on health care is not pro-poor. Unit cost data on government health care spending from the National Health Insurance Fund (NHIF) combined with HBS data suggest that government spending on health care benefits the rich more than the poor.

Access to electricity improved dramatically over the last decade. The proportion of households with access to grid network grew from 38 to 57 percent between 2009 and 2019

with another 6 percent having access to solar power (mostly in rural areas). The proportion relying on a paraffin/kerosene lamp for their lighting halved. Ensuring the poor have access to modern energy services is one of the strategic priorities for Zanzibar's energy sector, which is detailed in the Zanzibar Strategy for Growth and Reduction of Poverty (MKUZA III).

Zanzibar's multidimensional poverty rate, using a nationally defined Multi-dimensional Poverty Index (MPI), was estimated at 36.6 percent in 2019. Being multi-dimensionally poor implies being deprived in at least a third of 13 indicators. Among people who are multidimensionally poor, 16 percent live in urban areas, while 84 percent live in rural areas. More than half of Zanzibaris living in rural areas are multidimensionally poor, while in urban areas this ratio is only 14 percent.

Just like for monetary poverty, Kaskazini Pemba has the highest proportion (72 percent) of people who are multidimensionally poor, while Mjini Magharibi, the most populated area, has the lowest rate of multidimensional poverty (14 percent). Distance to social service facilities showed clear correlation with the MPI at the district level. Less than half of the multidimensional poor were also poor in monetary poverty terms, which stresses the importance of using both poverty measures to track progress and inform policies and planning.

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Vulnerability to shocks is high as many households move in and out of poverty; however, few have access to social safety nets, according to the HBS data, and shocks significantly slow poverty reduction; there is scope for improving the HBS to better track coverage of programs targeted at the poor

Economic vulnerability is high. A large share of Zanzibar's population clustered around the poverty line could easily fall back into poverty. And a substantial proportion of Zanzibar's population moves in and out of poverty: between 2008–09 and 2012–13, 22 percent of the population was "transient poor" or "occasionally poor," based on analysis of the National Panel Survey (NPS) of 2008–09, 2010–12, and 2012–13. This suggests that even before the onset of COVID-19, households were very susceptible to income or health shocks and lacked the capital, savings, or access to social safety nets to cushion these sudden negative impacts on livelihoods.

COVID-19 is projected to have increased poverty, highlighting the exposure households have to income shocks and their weak ability to manage them. In Zanzibar, the impact of the COVID-19 crisis on tourist arrivals and subsequent drop in jobs and business activity led to a rise in urban poverty of 1.8 percentage points in 2020–21. According to a national telephone survey,[5] 16 percent of respondents who were working before the pandemic in January 2020 indicated they were not able to keep working consistently during the rest of the year. This proportion is much higher among women: 33 percent vs. 12 percent for men.

Spending on social protection has increased in recent years, but the true coverage of the social pension and Tanzania Social Action Fund (TASAF) cash transfers cannot be fully assessed from the HBS survey. Social protection spending remains dominated by social insurance. Available data from the HBS and NPS show that coverage of social assistance programs is low and that there is scope for improving targeting towards the poor. While the TASAF social assistance program mostly benefited those in the lower part of the income distribution, other social assistance programs showed considerable leakage to the non-poor. However, there is reason to believe that coverage is not well-captured in the household budget survey. There is scope to further improve survey design and implementation regarding the capture of data from households for current programs that have been put in place to assist the poor.

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[5] Tanzania, high frequency welfare monitoring survey reports: see https://www.nbs.go.tz/index.php/en/census-surveys/poverty-indicators-statistics/national-panel-survey/743-tanzania-high-frequency-welfare-monitoring-survey

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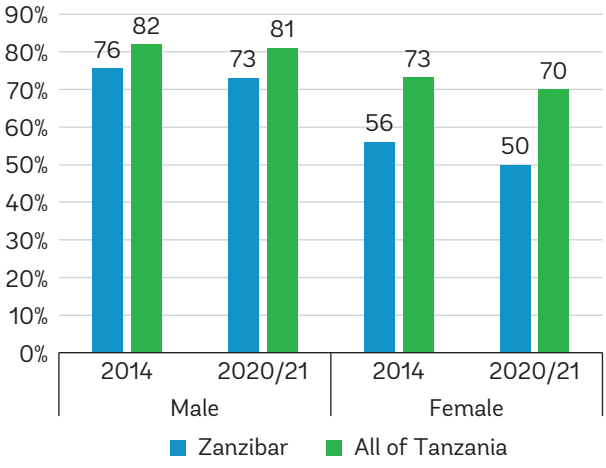
Despite only small gender differences in educational attainment, labor market outcomes differ substantially between men and women; a higher proportion of their time spent on unpaid domestic and caregiving plays a role

Although the educational attainment of women is close to that of men, their employment rates are much lower. Women tend to have one year less education than men, but in 2020–21, only 50 percent of women were conducting work for pay or were self-employed, compared to 73 percent of men. Women's human capital appears to be underused, leaving their potential to raise household incomes unexploited. The employment rate of women is much lower than those for all of Tanzania despite their higher levels of education (Figure ES6). Among the women that work, the proportion who has a wage job is much smaller than that of men—33 percent versus 21 percent—and the gap is narrowing only slowly.

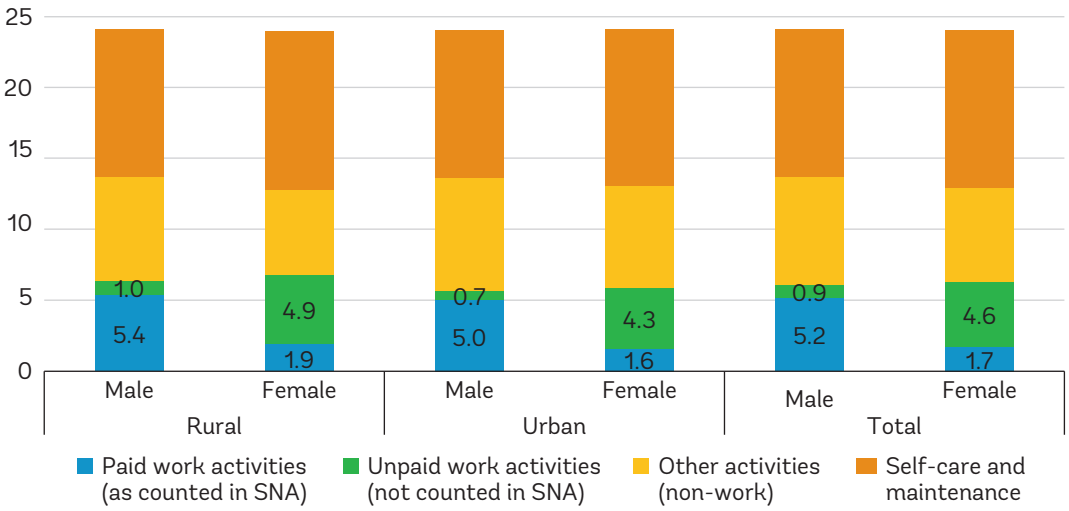
FIGURE ES6 Employment among men and women, 2014 and 2020/21



Note: Employment is defined as conducting work for pay and includes self-employment.
Source: Based on Integrated Labor Force Survey (ILFS) 2020-21

The differences in time spent on paid and unpaid work differs highly between men and women. On average, men spent just under three times as many hours as women did in paid work activities. On the other hand, females spent over six times as many hours as men doing unpaid domestic work, with a very low amount of time spent by men in unpaid domestic work overall. The gender gap in unpaid work is larger in urban than rural areas (see Figure ES7) but is constant across wealth groups (defined by consumption levels), while women's time spent on paid work activities, defined as work activities that feed into the compilation of the System of National Accounts (SNA), increases fairly consistently across welfare quintiles.

FIGURE ES7 Mean time spent by the men and women age 15 years and above per day on activities, by location (hours per 24-hour day)



Note: 'Paid work activities' is defined as work that contributed to the system of national accounts (SNA), while unpaid work is defined as work not accounted for in SNA, such as unpaid domestic work and caring duties.
Source: Based on OCGS HBS 2019-20

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To accelerate poverty reduction, a series of policy measures should be considered:

Make tourism more inclusive and promote economic opportunities in Pemba.

Better exploitation of Zanzibar's "blue economy" offers sizeable opportunities for more diversified tourism that benefits a larger share of the population. To maximize the economic and social benefits to the poor, this could include:

- Promoting the establishment of locally owned small accommodation establishments. A quality label program, modeled after the Seychelles Secrets Initiative and a similar program in Cabo Verde, could be prepared to train, certify, and promote locally owned small accommodation establishments in Pemba and Unguja.
- Putting in place infrastructure and promoting investment in Pemba (currently only 5 percent of accommodation beds is on this island).
- Diversifying to small-group rural destinations and activities, possibly managed by communities, including investing in the sustainable development of Jozani Forest, agritourism, and marine tourism.

Greater effort is also needed to minimize environmental degradation, biodiversity loss, and the nondurable use of marine resources.

There is scope to further strengthen backward linkages of tourism to the local economy, as over 80 percent of the requirements in the tourism sector are sourced from outside Zanzibar. This is caused by the qualitative and quantitative mismatch between the sector's requirement and locally supplied goods and services. To meet the food needs of the tourist industry hotels and ensure a year-round supply, irrigation and better aggregation arrangements from smallholders, including contract farming, could help. A network of collection, treatment, and distribution centers under private management could be put in place, with an active role in the training of farmers and other chain operators, and the promotion and dissemination of market information. There are opportunities to reduce costs through digital solutions such as creating digital applications to facilitate licensing and registration, recordkeeping, and contactless payment.

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Improve labor market outcomes for women and youth.

Labor market outcomes can also be improved through better skills training and internship programs to enable students to apply what they have learned and build their technical and soft skill sets. Skills strengthening is needed especially in customer service and soft skills required by hotels. Enabling women to better exploit economic opportunities requires a change in gender values and norms regarding unpaid domestic work as well as the availability of affordable daycare centers.

Improve educational outcomes for the poor by improving the distribution of public education.

Narrowing the gaps in service provision between schools would need to include improving school planning and teacher deployment systems to ensure that new teachers and infrastructure are allocated across Zanzibar according to need. Additional public resources will be needed to extend educational opportunities to children that are currently excluded. This would include more public schools, particularly at the secondary school level, and the provision of more teachers and other educational inputs. And, second, a greater is needed on reaching the most marginalized children with more targeted support to help them to enroll and complete their education successfully.

Make public spending on health more pro-poor

Building resilience to income shocks will be key for sustaining poverty reduction. Building resilience to enable people to "bounce back" will become increasingly important as the world continues to face crisis after crisis. This requires strengthening access to savings and physical capital and improving access to social protection and health insurance. The coverage and targeting effectiveness of social transfers and health insurance could be better tracked through management information systems, including household surveys such as the HBS. Households living with young children should be supported with cash transfers to enable the family to access adequate healthy food. This could be done with a universal child grant that is disbursed to mothers until the child reaches the age of 2. To facilitate better access of the poor to health care, the quality of care and the coverage of fee and cost exemptions will need to be expanded and should also cover private dispensaries.

Improve business operating and regulatory environment of SMEs to boost value addition of local produce and increase job creation

There are opportunities for improving the business environment for small and medium sized enterprises, as many are essential for aggregating and processing local produce such as seaweed and salt which can be an important income source for poor women. Better financial services for startups as well as strengthening copyright protection and business skills and quality standards will incentivize innovation and job creation. Strengthening the public-private dialogue will be important to realise the needed reforms.

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1. INTRODUCTION

This report assesses Zanzibar's recent progress in the achievement of key development goals with a focus on reducing poverty and improving a wide range of other social indicators. It looks at the period between 2009 and 2019 and particularly at the last four years of this decade: 2015–19. It seeks to enhance understanding of the barriers to and engines for reducing poverty in Zanzibar in recent years. Based on the results, it identifies possible areas of intervention that will accelerate the reduction of poverty.

Zanzibar is a semi-autonomous region of the United Republic of Tanzania. The Tanzanian Constitution establishes a unique federal arrangement which allows Zanzibar to enjoy significant autonomy over internal affairs, including its own constitution, development policy, and budgetary matters. Zanzibar has its own legislative assembly, judicial system, and an executive headed by the President. Under the federal arrangement, the Union government is responsible for security and external trade matters.

The Zanzibar Development Vision 2050[6] puts human development at the forefront of national planning. It has the overarching aspiration of lifting Zanzibar economically and socially to attain upper-middle income status by 2050. It emphasizes that this goal cannot be achieved without equitable, sustainable, and

[6] See: http://planningznz.go.tz/doc/new/ZDV2050.pdf

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balanced improvements in the standard of living of all Zanzibaris. The Vision stresses that the national direction for development must prioritize inclusive and pro-poor policies in economic, social, political, and environmental dimensions.

The Zanzibar Development Strategy (ZADES) 2021–26 promotes growth and economic transformation with a central role for the blue economy and emphasizes poverty reduction and improvement of livelihoods. The aim is to mainstream the poverty reduction agenda into the core of the nation's development planning framework, and improve coordination with respect to prioritization, program designing, sequencing, implementation, monitoring and evaluation, and reporting. It also articulates clear national key result areas and aims to align national priorities with sector strategies through medium-term expenditure frameworks and ensure consistency of public expenditure with national priorities.

Zanzibar generates its own social indicators through its own statistics office: the Zanzibar Office of the Chief Government Statistician (OCGS). It has typically conducted its own household surveys, generating its own social and demographic

statistics. This includes the Household Budget Surveys (HBSs) which are the main data source for measuring poverty in Zanzibar. The below assessment of poverty trends in Zanzibar relies on data from the Zanzibar HBS 2009–10, 2014–15, and 2019–20. Early findings have already been published by the OCGS in the 2019–20 Zanzibar HBS Key Indicators Report.[7]

The Zanzibar Household Budget Survey (HBS) is representative at national, regional, and district level. It is important to note that the HBS 2019–20 survey had a 40 percent smaller sample size than the previous two surveys. In the HBS 2009/10 a total of 4,296 households from 179 Enumeration Areas (EAs) were interviewed. This was 4,560 households from 380 EAs in the HBS 2014/15, and 2,820 households from 235 EAs in the HBS 2019/20. Data collection for each of the HBSs is conducted for a full year. HBS surveys collect information on household consumption, income, education, health, employment, living standards, access to various social services and programs, and time use. This allows the computation of both monetary and non-monetary poverty indicators. Where possible, findings from the HBS 2019–20 are compared with those from the HBS 2014–15 and the HBS 2009–10. Box 1 and Appendix 1 present further details on the surveys and poverty measurement methodology.

Collection of spatial data. The HBS 2019–20 also collects the longitude and latitude of where the household lives, which allows for spatial analysis. The data on the locations of various facilities (e.g., hospital, health care unit, bank, school) from Google Maps and road infrastructure from OpenStreetMap were extracted, and the GPS coordinates of households were used to calculate a Euclidean distance between households and the closest point of interest.

The report is organized as follows. Chapter 2 provides the macroeconomic context and developments. Chapter 3 presents the poverty and inequality trends and discusses the characteristics of the poor and how these have changed. Chapter 4 then discusses the drivers of poverty change while Chapter 5 subsequently presents trends in non-monetary dimensions of poverty. This is followed by Chapter 6 on education and poverty, and Chapter 7 on health care and social protection. Chapter 8 is on time use, gender, and poverty, while Chapter 9 discusses policy implications and concludes.

[7] Office of the Chief Government Statistician (2020) Main Report 2019/20 Household Budget Survey December 2020. http://www.ocgs.go.tz/php/ReportOCGS/HBS%20Main%20Report_final%2031.12.2020%20printing%20(2).pdf.

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2. MACROECONOMIC AND DEMOGRAPHIC CONTEXT

Main findings

Zanzibar's economy is dominated by the services sector, led by tourism activities. Tourism contributes an estimated 27 percent to the country's gross domestic product and around 80 percent of its foreign exchange earnings. The number of jobs that are directly or indirectly linked to the tourism sector is estimated at 60,000,[8] out of a total of 600,000 people that are employed. Between 2009 and 2019 real GDP per capita grew at an average rate of 3 percent per year and rose from US$712 to US$950 during this period, which is a total increase of 33 percent. Growth was led by both the services sector and the industrial sector. Following the onset of the COVID-19 pandemic and a subsequent decline in tourism activity, GDP per capita fell by 1.6 percent in 2020. Tourism receipts dropped by 38 percent compared to 2021. Average labor productivity in the services sector is about 57 percent higher than in the agriculture, livestock, and fisheries sector. Over the past 15 years, Zanzibar has witnessed a population growth rate that has remained at or above the average rate in Sub-Saharan Africa. With an annual population growth rate that is estimated to have dropped to 2.9 percent in 2019, Zanzibar's population grew from a total of around 1.20 million in 2009 to approximately 1.65 million in 2019, an increase

[8] World Bank (2021). Tanzania Economic Update 16: Transforming tourism: towards a sustainable, resilient and inclusive sector. https://openknowledge.worldbank.org/bitstream/handle/10986/36048/Transforming-Tourism-Toward-a-Sustainable-Resilient-and-Inclusive-Sector.pdf?sequence=1&isAllowed=y.

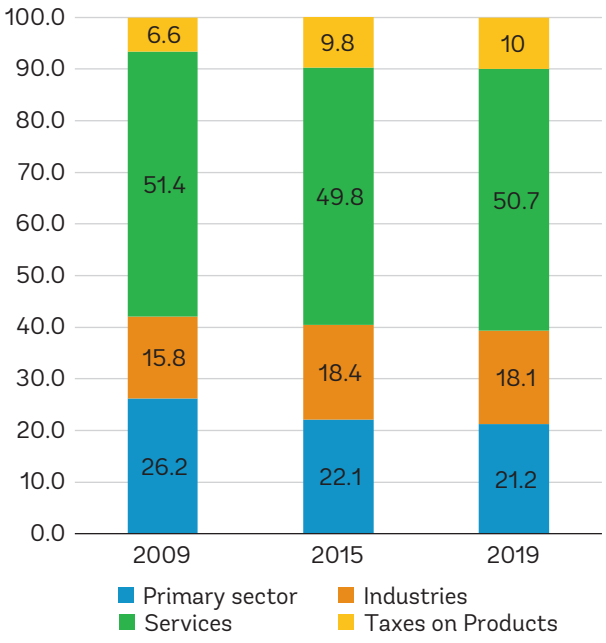
of 34 percent. The gradually declining dependency ratio offers opportunities for realizing demographic dividend, but this will require that the growing working-age population is able to find jobs of sufficient quality.

2.1 Macroeconomic trends

Services dominate the economy, led by the tourism sector. The services sector's contribution to the economy has remained at around 50 percent for the past 10 years. Its share dropped somewhat during 2009–14 and then increased a little (Figure 1). Between 2011 and 2019 the number of international tourist arrivals grew threefold (Figure 2). This was due to favorable conditions such as political stability, comprehensive marketing initiatives by the Zanzibar Commission for Tourism, better infrastructure (e.g., hotel facilities) and an increase in direct flights from Europe and Asia. The share of the industrial sector was a little under one fifth in 2019.

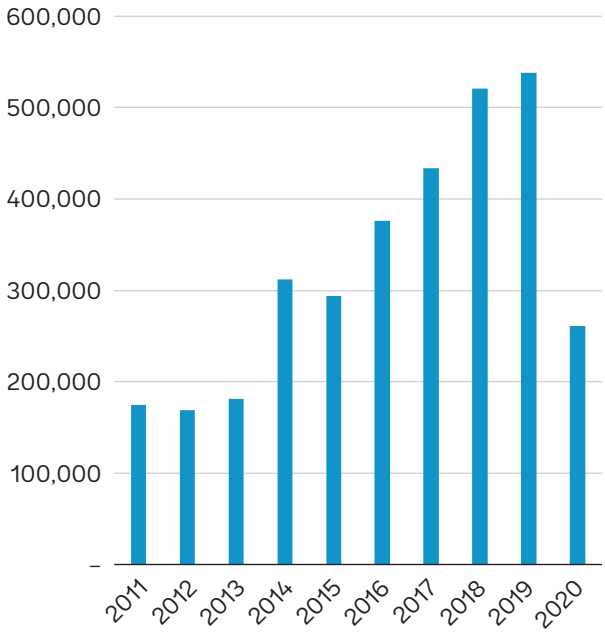
Tourism is the largest source of foreign exchange, contributing a provisionally estimated 27 percent to Zanzibar's gross domestic product and around 80 percent of its foreign exchange earnings. The contribution of tourism activities to GDP

FIGURE 1 Sector contribution to GDP in 2011 and 2022 (%)



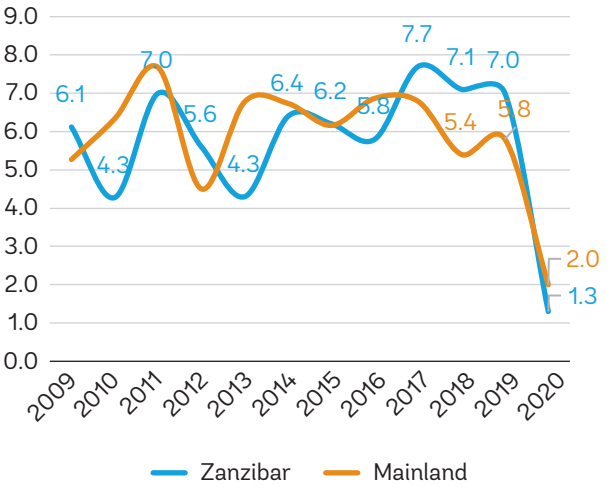
Source: OCGS.

FIGURE 2 Number of annual international visitors



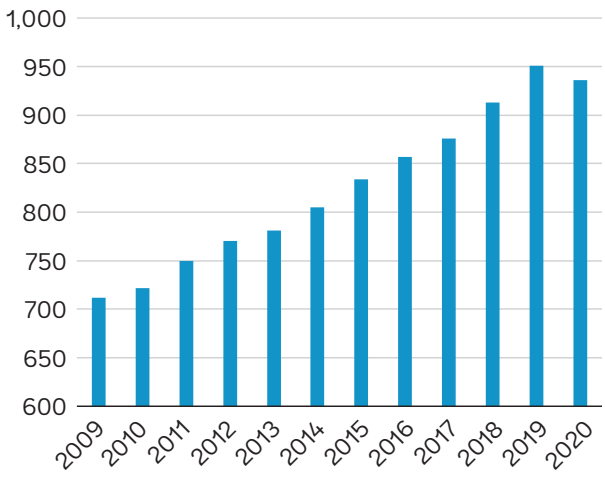
Source: OCGS Zangibar Statistical Abstract 2020, p. 150.

FIGURE 3 Real GDP growth rate, Zanzibar and mainland Tanzania (%)



Source: OCGS.

FIGURE 4 GDP per capita in constant 2015 prices (US$)



Source: OCGS Zanzibar Statistical Abstract 2020, p. 150.

is only measured indirectly through subsectors such as "accommodation and food services," which contributed 21 percent to GDP in 2019, followed by "real estate activities" (8 percent), and "transport" (5 percent). The number of jobs that are directly or indirectly linked to the tourism sector is estimated at 60,000[9] out of a total of 600,000 people that are employed, but further work is needed to come to a precise estimate of tourism-related jobs.[10,11]

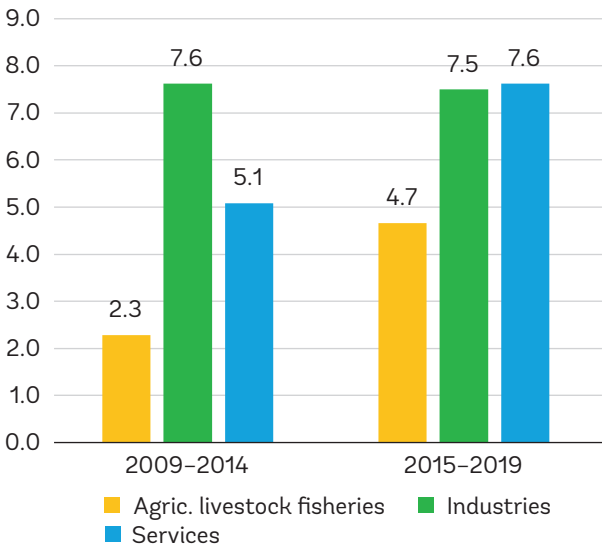
Zanzibar recorded impressive economic growth during 2009–19, driven by services, particularly in the area of tourism and related services. GDP growth dropped steeply in 2020. Zanzibar's real annual GDP growth has fluctuated but averaged 6.3 percent during 2009–19, similar to mainland Tanzania (Figure 3). During 2017–19 Zanzibar GDP growth was 1.2–1.7 percentage points higher than mainland Tanzania, but the subsequent drop in 2020 was steeper (Figure 3). Real GDP per capita has grown at an average rate of 3 percent per year and rose from US$712 in 2009 to US$950 in 2019 (Figure 4), which is a total increase of 33 percent.

[9] Ibid.

[10] Average household size is 5.5 people.

[11] According to the ILFS 2020/21, in Zanzibar 27,000 people worked in 'accommodation and food services', another 31,000 in 'transportation and storage', and an additional 85,000 in 'wholesale and retail'. This adds up to 140,000 people. But not all of these jobs are related to tourism. If the proportion linked to tourism is 100%, 50% and 30% respectively, the total number of people working in tourism is 67,000. Exact estimates require the computation of a satellite account of tourism.

FIGURE 5 Average real GDP growth per sector, 2009–14 and 2015–19 (%)



Source: OCGS macroeconomic data.

During the period 2015–19, growth was led by both the services sector and the industrial sector. The services sector picked up speed, growing at an average of 7.6 percent per year compared to 5.1 percent per year during the previous five years. The industrial sector witnessed a consistently fast growth rate during both periods. The agricultural growth rate has been much lower but almost doubled to an average of 4.7 percent during 2015–19 compared to the previous five years (Figure 5).

The growth of the manufacturing services sector during 2009–2015 was driven by its two main components: construction and manufacturing. Manufacturing activities, which are characterized by small and medium enterprises (SMEs), have grown by an average of 8 percent in the last 10 years. Similarly, the construction sector expanded by more than 7 percent annually during the past decade.[12]

The GDP share of the agricultural, livestock, and fisheries sector dropped, but during 2015–19 it fell only gradually. Agriculture, livestock, and fisheries are an important source of income for many of the poor, especially those located in Pemba. Its contribution fell from 26.2 percent of GDP in 2009 to 21.2 percent in 2019 (Figure 1).

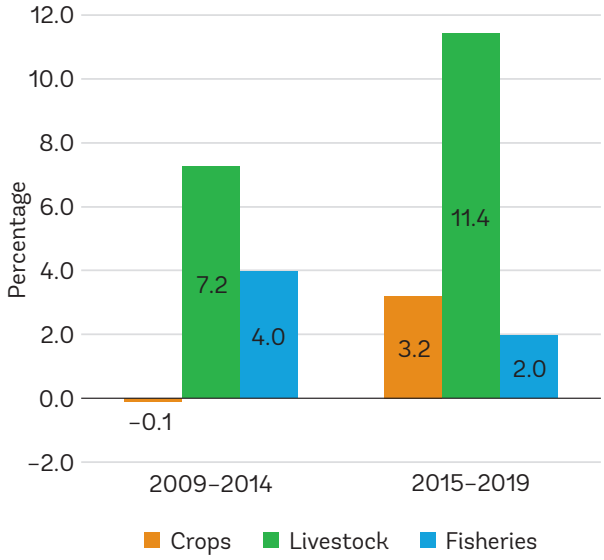
The crop subsector forms an important source of income for many of the poor but its contribution to GDP declined sharply: from 13.8 percent of GDP in 2009 to 7.4 percent in 2019. The crop subsector grew at 3.2 percent per year during 2015–19 after an average annual growth rate of minus 2.5 percent during 2011–14 (Figure 6). Growth was driven by food crop production rather than cash crop production. Food crops dominate the cropping sector, with cassava contributing on average about one-third to the total value of the crops sector in 2019 and 2020, followed by bananas (about a quarter) and paddy (about one-eighth)[13]. Cassava production in 2019/20 was 184,000 tons compared to 121,000 tons in 2007/08 as measured by the agricultural sample census of those years. The average cassava production during 2016–19 was 2.4 times higher than the volume in 2015.

[12] Source: OCGS macroeconomic data.

[13] Zanzibar Statistical Abstract for 2020. See http://www.ocgs.go.tz/Abstract

Paddy production was 50,000 tons in 2019–20 compared to 32,000 tons in 2007–08. The production of cloves has shrunk by almost 4 times from 8,007 tons recorded in 2007/08 to 2,236 tons in 2019/20. In contrast, seaweed production, typically led by women's groups, grew ninefold from 615 tons in 2007/08 to 5538 tons in 2019/20. The proportion of these high value crops in total agricultural production has however remained small.[14]

FIGURE 6 Average annual growth of cropping, livestock, and fisheries subsectors, 2009–14 and 2015–19



Source: OCGS Zanzibar Statistical Abstract 2020.

The livestock subsector contributes around 8 percent to GDP. It grew relatively fast: by 7.2 percent on average during 2009–14 and 11.4 percent during 2015–19 (Figure 6). This was driven mainly by an increase in the production of cattle and chicken. The average annual growth of the fisheries sector was 4.0 percent during 2009–14 but then fell to 2.0 percent during 2015–19 (Figure 6). Consequently, the contribution of the fisheries sector to the economy fell. It dropped from 6.4 percent in 2011 to 4.8 percent in 2019. Fisheries is constrained by the use of small boats that do not have capacity to go far from the land. In addition, there are no fish processing facilities in Zanzibar. Most fish catches are for the local Zanzibar market, especially for household consumption or are used in the tourism sector.

In 2020 the economy of Zanzibar was impacted by the COVID-19 crisis. GDP growth in Zanzibar slowed to an estimated 1.3 percent, driven by a decline in tourism activity. GDP per capita fell by 1.6 percent. Most severely hit were the "accommodation and food services" sub-sector which decreased by 13 percent (of which the "food services" component fell by 19 percent while "accommodation" dropped by 11 percent). "Transport" shrank by 6.6 percent. The Revolutionary Government of Zanzibar (RGoZ) imposed containment measures, and most of the hospitality industry shut down between March and September 2020. Occupancy rates were close to zero over this period, and the number of tourist arrivals plunged from 72,487 and 173,842 in Q2 and Q3 2019 to 884 and 12,867 in Q2 and Q3 2020. The tourism sector began to recover slowly in Q4 2020, and

[14] Zanzibar Statistical Abstract for 2020, National Agricultural Sample Census 2020 (https://www.nbs.go.tz/index.php/en/census-surveys/agriculture-statistics/661-2019-20-national-sample-census-of-agriculture-main-report) and Zanzibar Crop Sector Report 2007/08 based on the Agriculture Sample Census of that year (https://www.nbs.go.tz/index.php/en/census-surveys/agriculture-statistics/49-zanzibar-crop-sector-report-2007-08-agriculture-sample-census).

FIGURE 7A Sector contribution to employment, 2014 and 2020–21 (%)

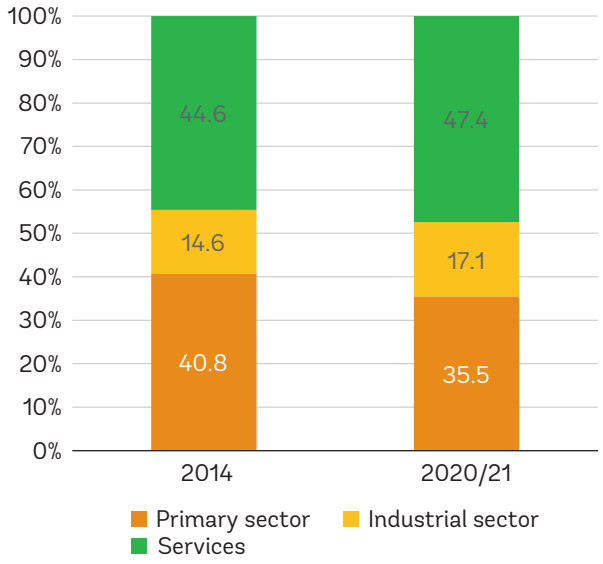
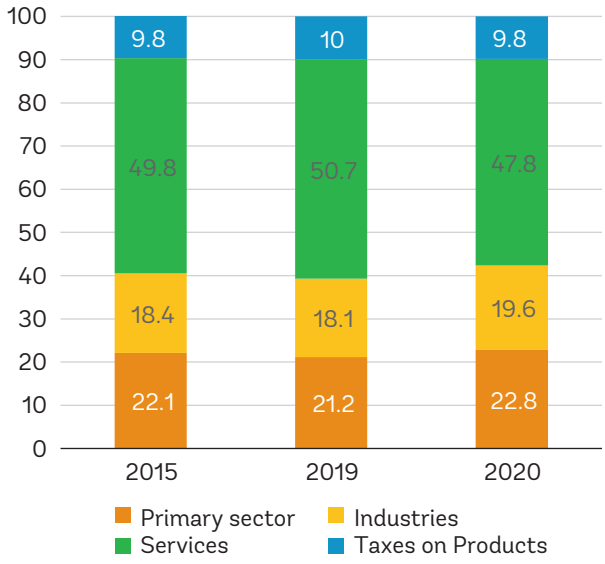


FIGURE 7B Sector contribution to GDP, 2015, 2019, and 2020 (%)



Source: OCGS/NBS: ILFS 2020/21 Key labor market indicators report, 2021. OCGS Zanzibar Statistical Abstract 2020

by December 2020 tourist arrivals in Zanzibar (mainly from Europe) had reached almost 80 percent of their 2019 level. Despite this recovery, tourism receipts fell by 38 percent for the year.[15]

Average labor productivity is highest in the industrial sector. The proportion of the work force (15+) working in the agriculture, livestock, and fisheries sector (the primary sector) dropped sharply from 40.8 percent in 2014 to 35.5 percent in 2020/21 (Figure 7a) according to data from the Integrated Labor Force surveys for those years. As the contribution of this sector to GDP remained about the same during this period (Figure 7b), average labor productivity increased. At the same time, the proportion of the work force in the services sector increased between 2014 and 2020/21 while its contribution to GDP increased much less (or even dropped if we use the 2020 estimate), suggesting its labor productivity declined. However average labor productivity in the services sector is still about 57 percent[16] higher than in the agriculture, livestock, and fisheries sector.

[15] Tanzania Economic Update, July 2021 : Transforming Tourism - Toward a Sustainable, Resilient, and Inclusive Sector. https://openknowledge.worldbank.org/handle/10986/36048.

[16] The sector share in total employment divided by the sector share in GDP gives the average relative labor productivity of the sector. For agriculture, livestock, and fisheries these figures in 2020 are respectively 35.5% and 22.8% (figure 6 and 7), dividing these gives 0.64. For the services sector, the employment share is 47.4 percent and the GDP share is 47.8 percent, dividing these gives 1.0. This is 0.36 higher than for the agricultural sector which gives a relative increase of 0.36/0.64 = 57 percent.

The tax to GDP ratio is relatively high. The domestic revenue to GDP ratio averaged 19.2 percent during 2017–18 and 2019–20, significantly higher than 14.5 percent of GDP in mainland Tanzania. Nevertheless, the fiscal deficit is still substantial and averaged 5.7 percent of GDP between 2017–18 and 2019–20. However, in the first three quarters of FY2020/21, the deficit narrowed to 1.8 percent of GDP. External concessional loans, which averaged 4.7 percent of GDP, have remained the major financing source for the deficit while domestic financing was limited to about 1 percent of GDP. The RGoZ has not borrowed non-concessional external funds. The sharp reduction in tourist arrivals following the onset of COVID-19 has negatively impacted fiscal revenue of the government of Zanzibar, as an estimated 57 percent of fiscal resources is generated through tourism.

Public expenditure to GDP ratio is generally high but a large portion is directed to recurrent expenditures. Total public expenditure to GDP ratio averaged 26.6 percent between 2017–18 and 2019–20; two-thirds of this was directed to recurrent expenditure such as wages and salaries and the supply of goods and services. Development expenditures (investments) averaged 8.9 percent of GDP between 2017–18 and 2019–20. Foreign funds accounted for 66.3 percent of development expenditures while the rest was from domestic funds.

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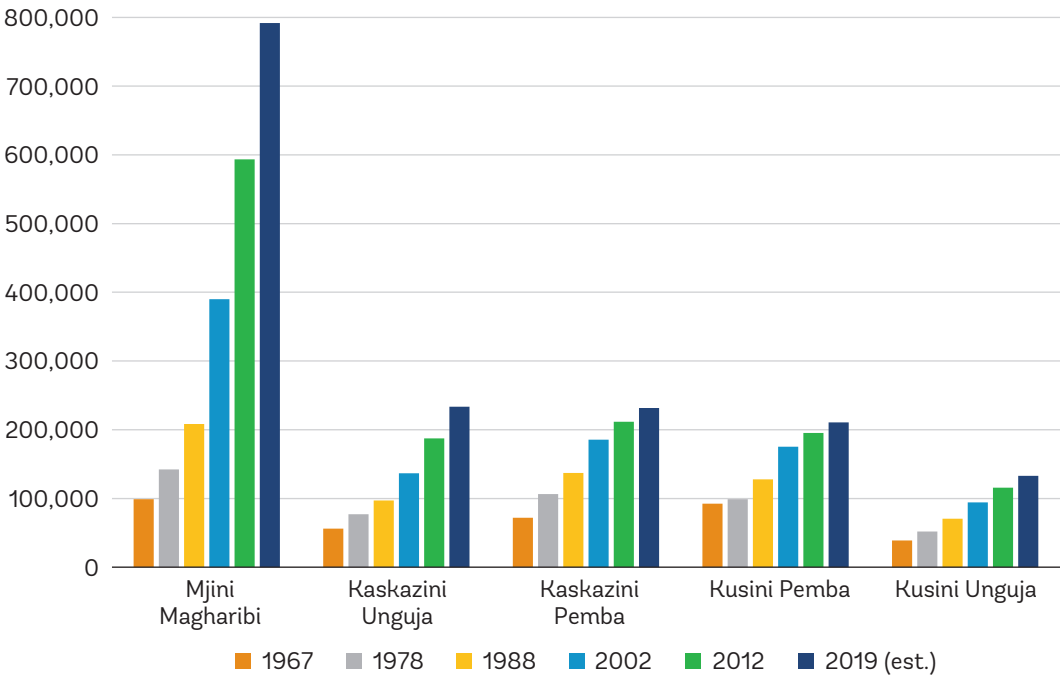
2.2 Demographic trends

Over the past 15 years, Zanzibar has witnessed a population growth rate that, despite a small drop, has remained at or above the average rate in Sub-Saharan Africa. With an annual growth rate that is estimated to have reduced gradually to 2.9 percent in 2019, Zanzibar's population grew from a total of around 1.20 million in 2009 to approximately 1.65 million in 2019, an increase of 34 percent.[17]

The proportion of the population living on the main island, Unguja, has gradually grown, while the percentage on the island of Pemba has fallen. In 2012, 69 percent of the population lived on Unguja island (the main island) and this is projected to have gradually increased to 72 percent in 2019. The proportion of the population that lives on Pemba Island declined from 46 percent in 1967 to 31 percent in 2012 and is estimated to have been around 28 percent in 2019. The proportion of population that lives in Mjini Magharibi in the urbanized western part of Zanzibar has steadily increased. In 2002 it contained about 40 percent of the population, and this went up to 46 percent in 2012 and was estimated to be 49 percent in 2019.[18]

FIGURE 8 Population trends up to 2019 of Zanzibar's five regions



Note: Projections for 2019 are based on the regional growth rates observed during 2002–12 as more recent data are not yet available. These were: 4.2% for Mjini Magharibi, 3.2% for Kaskazini Unguja, 2.0% for Kusini Unguja, 1.3 percent for Kaskazini Pemba and 1% for Kusini Pemba. Population projections for Zanzibar for 2019 are available (see: http://www.ocgs.go.tz/censusurvey) but not by region.

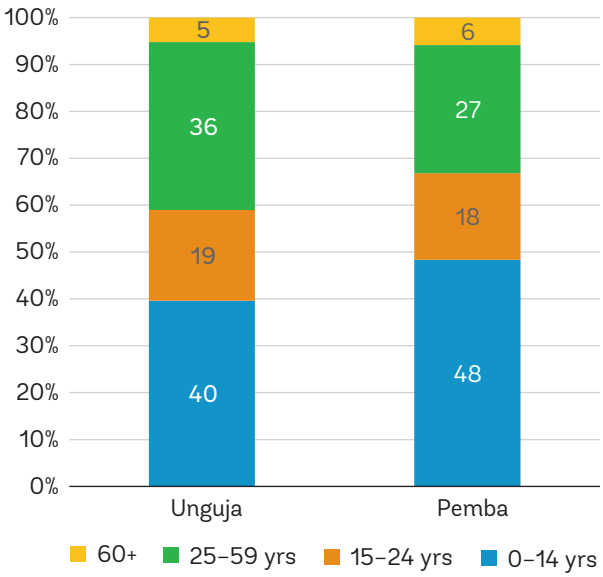
[17] (NBS, 2006); (NBS and OCGS, 2013).

[18] OCGS Statistical Abstract 2020 page 17.

During 2002–2012 urbanization was happening at a gradual pace as the proportion of the population living in urban areas increased only slowly. Recent data are not available but based on trends observed during 2002–2012 the urbanization rate increased from 42 percent in 2009 to 44 percent in 2019.[19] Although Zanzibar is currently more urbanized, urbanization is happening much faster in mainland Tanzania. Here the proportion of people living in urban areas is estimated to have increased from 27.5 percent in 2009 to 34.5 percent in 2019, based on 2002–2012 trends. This is an increase of 0.7 percentage points per year, compared to 0.2 percentage points per year in Zanzibar.[20]

The demographic profile of Pemba and Unguja Islands is very different, with Pemba suffering from much higher dependency ratios. Pemba has a much younger population than Unguja, as almost half the population is below 15 years old and only a little more than a quarter (27 percent) is between 15 and 60 years old (Figure 9). In Unguja the latter figure is much higher: 36 percent. The low proportion of population of working age follows from a high fertility rate and a high outmigration of the adult population, leading to high dependency rates for those that stay behind. This undermines the ability of households to move out of poverty.

FIGURE 9 Population distribution of age groups in Unguja and Pemba (%)



Source: Based on OCGS HBS 2019/20.

Falling fertility rates present an opportunity for a demographic dividend.[21] High fertility rates have led to young and fast-growing populations in many African countries. However, with economic and social improvements, this trend is slowly changing. Falling fertility rates present an opportunity for an economic boost as the size of the working-age population (aged 18–64) becomes increasingly larger than the dependent population (aged 0–17 and 65+). As a country's dependency ratio falls in relation to the working-age population, the potential

[19] Based on linear projections from the period 2002–2012. This will be confirmed by the national population and housing census of 2022.

[20] These estimates need to be confirmed after the population census of 2022.

[21] The below paragraphs on the demographic dividend are based on *"The socio-economic implications of the demographic transition in Zanzibar: From childhood to adulthood," Economic Policy research Institute (2022)*

for economic growth increases, providing the country with the possibility to leverage economic opportunities presented by the country's demographic transition (i.e., the demographic dividend).

The annual rate of population growth is declining as evidenced by Zanzibar 's transformation in fertility and age structure. In fact, the total fertility rate per woman fell from 7.3 children in 1967 to 6.4 children in 1988, and further to 4.5 children in 2017.[22] Furthermore, official projections point to a further significant decline in Zanzibar's fertility rates over the coming decades: by 2035, it is estimated that a women will give birth to 3.0 children over her reproductive life span. This rate of reduction is larger than that exhibited in Sub-Saharan Africa. Consequently, the crude birth rate has also seen a fall from 48 births per 1,000 women in 1970 to 36.3 births in 2015–16. From 2002 to 2020, life expectancy at birth has risen from 50.9 years to 68.0 years with further increases expected over the coming 15 years allowing for life expectancy to reach 73.2 years by 2035.

The overall dependency ratio is declining due to falling birth rates and lower mortality. This is driven by a decreasing child (0–17 years) and youth (18–24 years) population as a percentage of the total population, while the proportion of its working-age population (18–64 years) is expanding. To realise its demographic dividend, it will become important for Zanzibar to absorb the growing working-age population into the national labor market. In 2021, the total labor force participation rate was 76.0 percent, with a gender disparity in favor of men (81.6 percent compared to 70.7 percent).[23] Youth unemployment rates in Zanzibar are high (33.6 percent in 2020–21), especially among women (47.5 percent).[24] This rate is above the average exhibited for the world and Africa (17 and 14 percent, respectively).[25] Clearly, Zanzibar can still greatly benefit from increasing its youth employment rate, especially for young women.

Combined, these trends indicate that Zanzibar is in its second stage of demographic transition. Since 2000, when Zanzibar's Vision 2020 was launched, the country has progressed by moving closer to the early-dividend stage by implementing policies that have allowed for a decline in the total rate of fertility as well as child mortality. With the establishment and implementation of Vision 2050, Zanzibar aims to further progress to realize the payoffs of the first demographic dividend.

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[22] (NBS and OCGS, 2018)
[23] (OCGS, 2021)
[24] (OCGS 2021)
[25] World Bank Development Indicators

Photo by Mathias Katz on Unsplash

3. PROGRESS IN REDUCING MONETARY POVERTY

Main findings

Poverty dropped by 9.2 percentage points in 10 years. It fell from 34.9 percent in 2009 to 30.4 percent in 2015 and 25.7 percent in 2019.[26] *But the nature of poverty reduction changed, as urban poverty reduction slowed while rural poverty reduction increased. The downward poverty trend in Zanzibar is comparable to that of mainland Tanzania. However, between 2009 and 2019 urban poverty fell much faster in Zanzibar than in mainland Tanzania.*

Population growth has fallen only marginally and continues to be high relative to the reduction in the poverty rate, and therefore the number of poor declined only a little. The growth elasticity of poverty reduction is low as economic growth did not translate into a commensurate increase in consumption and the proportion of households with wage jobs only changed a little, despite a shift of the work force out of the agricultural sector, particularly among women.

[26] The poverty rate in 2019 is the proportion of people below the Zanzibar poverty line of Tsh 66,313 per adult equivalent per month (see box 1) or Tsh 2,179 per day, which is equivalent to US$1.82 per person per day in 2011 purchase power parity. (Tsh 546 = US$1 at PPP in 2011). The poverty line in Mainland Tanzania is TSh 49,320 per adult equivalent per month or US$1.35 per person per day in 2011 purchase power parity.

Spatial differences in poverty are high, especially between Pemba and Unguja Islands, and grew between 2009 and 2019. More than half of the poor (57 percent) live on Pemba Island although only 27 percent of the population lives there. Zanzibar's poor are clustered around the poverty line, making them very vulnerable to falling back into poverty even under minor income shocks. All household groups saw a small increase in real consumption between 2009 and 2019, but it increased faster for richer households than for poorer ones. Inequality in Zanzibar grew but remains relatively low.

Larger households, especially those with more children, tend to have a lower level of consumption per adult equivalent and thus are poorer, controlling for all other factors. Educational attainment is strongly related to higher consumption and wealth levels. However, this only counts for tertiary, upper, and lower secondary education. Households that work in the services sector are considerably better off compared to agriculture/livestock or fisheries and so are those that use electricity.

There is no single definition of poverty and therefore no perfect indicator to measure it. Poverty is a state of deprivation involving multiple dimensions. The main indicator used in Tanzania for measuring poverty is monetary poverty. To compute this poverty rate, the OCGS relies on the measurement of consumption based on its household budget survey (HBS), like the National Bureau of Statistics of Mainland Tanzania and many statistics offices around the world. The OCGS defines a threshold based on the cost of a consumption basket in Zanzibar that includes food and non-food items, with food spending being large enough to secure 2,200 calories per day per person.

Photo by Majid Veiseh on Unsplash

Households are considered poor when their consumption expenditure levels are not enough to afford this consumption basket. This gives the proportion of the population that lives below the *national poverty line*, which gives the *national poverty rate*. This is indicator 1.2.1 of the first Sustainable Development Goal (SDG). In Zanzibar the poverty line in 2019–20 was Tsh 66,313 per adult equivalent per month or Tsh 2,179 per day (see box 1). A second, lower, line is the *food poverty line*, which reflects the costs of just the food items in the consumption basket. The *food poverty rate* indicates the proportion of the population that lives below this line. This is also referred to as food poverty or extreme poverty. The food poverty line in 2019–20 was Tsh 47,541 per adult equivalent per month or Tsh 1562 per day. See Box 1 and 2 for further details. Appendix 1 presents further detail on the 2019/20, 2014/15 and 2009/10 HBSs and the methodological differences among them and what was done to maximize comparability. Appendix 2 explains the different poverty measures.

BOX 1 The household budget surveys in Zanzibar

The main data sources for this poverty assessment are the Household Budget Surveys (HBS) for 2009/10, 2014/15, and 2019/20. These surveys collect detailed information on household spending and consumption as well as other indicators of well-being, including income, education, health, access to basic services, employment, and ownership of assets. The data collection period for the HBS 2009/10 was June 2009 to May 2010, for the HBS 2014/15 it was October 2014/ October 2015, and for the HBS 2019/20 it was March 2019-February 2020. To simplify presentation, when reporting HBS survey findings in this report, 2009 refers to the 2009/10 survey period, 2015 to the 2014/15 survey period and 2019 to the 2019/20 survey period. As shown in Table B1, sample sizes of each of the past HBS surveys were as follows:

TABLE B1 Sample sizes of Zanzibar HBS surveys

	Number of enumeration areas in sample	Sample size (households)
HBS 2009/10	179	4,296
HBS 2014/15	380	4,560
HBS 2019/20	235	2,820

The sample design of the three surveys allows representation of the results at the national, urban-rural, regional and district levels of Zanzibar, but standard errors for regional and in particular district estimates can be large.

BOX 2 Consumption aggregation and poverty measurement in Zanzibar

The Zanzibar poverty estimates are based on a consumption-based welfare indicator, referred to in this report as the consumption aggregate. The consumption aggregate captures both food and non-food consumption. The food consumption aggregate captures food consumed by household members, including consumption from purchases and own-production and food consumed outside the household. The non-food consumption aggregate captures expenditures on clothing and footwear; housing; water; electricity, gas, and other fuels; furnishings, household equipment, maintenance of the house; health; transport; communication; recreation and culture; education and hotels; and other goods and services. The following non-food items were excluded from the consumption aggregate: housing-related expenditures (either actual rent or imputed rental values for home owners); 'use values' for large durable items, but it does include the purchasing values of a large number of smaller, semi-durable goods. Household-level investments such as purchase of houses, apartments, garages, payments for hiring labor for own construction, expenditures on ceremonies such as weddings, funerals, business expenditures, etc. were also excluded.

Three adjustments are made to the consumption aggregate. First, consumption data, which are captured at the household level, are converted into consumption per adult equivalent (AE) using the sum of the adult equivalent of each household member. This accounts for the effects of different consumption needs by different household members depending on age and gender. Second, an adjusted adult equivalent measure was estimated to take into consideration the number of consumption days in the survey month in which the particular member was present in the household. Third, the consumption aggregate is adjusted for variation in the price of food across regional and rural-urban locations and the survey quarter in the year. The prices are based on reported quantities and total value of purchased goods in the survey. The constructed price indices reflect the cost of the consumption basket relative to the national median prices during the survey period.

The cost-of-basic-needs method is used to estimate a consumption-based poverty line. It is based on the cost of a food basket containing 2,200 calories per adult per day given the consumption patterns in Zanzibar and adjusted upward to include non-food consumption. Table B2 presents the estimated poverty lines for 2009/10, 2014/15, and 2019/20 in constant (2019) prices.

TABLE B2 Zanzibar poverty lines per adult equivalent per month, in TSh, 2019 prices

	Food poverty line	National poverty line	US$ per person per day in 2011 purchase power parity
2009–10	46,781	64,298	
2014–15	47,317	66,341	
2019–20	47,541	66,313	1.82

The 2019/20 basic-needs poverty line is Tsh 66,313 per adult equivalent per month or Tsh 2,179 per adult equivalent per day, which is about US$1.82 per person per day in 2011 purchase power parity. (Tsh 546 = US$1 at PPP in 2011). The basic needs poverty line in Zanzibar is much higher than in mainland Tanzania (Tsh 66,313 vs Tsh 49,320 per adult equivalent per month). These poverty lines refer to different years (2019/20 in Zanzibar vs 2017/18 in mainland Tanzania). Appendix 1 presents further detail on the Zanzibar HBSs and the construction of the consumption aggregate.

This chapter looks at poverty trends, covering poverty rates, poverty density, and the depth of poverty. This is followed by an assessment of the spatial dimension of poverty, where we look at differences in poverty across regions and districts of the Zanzibar archipelago. We then assess the sensitivity of poverty to minor changes in the poverty line to assess the vulnerability of households to shocks, such as sudden loss of income. This is followed by an analysis of who benefited from consumption growth, and an assessment of inequality in Zanzibar. Lastly, we present the results from a simulation of the poverty impact of the COVID-19 induced downturn that started in 2020, and we present a text box on the distributional impact of the price rises caused by the Russian invasion of Ukraine in February 2022.

3.1 Poverty trends

Changes in consumption levels

Zanzibar experienced an increase in welfare between 2009 and 2019 as median consumption per adult equivalent[27] rose by 18 percent in real terms. This is equal to 1.8 percentage points per year. It is much lower than the 3 percent annual growth of real GDP per capita between 2011–19 suggesting that only a little more than half of GDP growth translated into increased household consumption.[28] Urban areas experienced a total consumption growth of 20.7 percent which is much higher than rural areas, where consumption per adult equivalent grew by 14.0 percent and the welfare gap between urban and rural areas increased. The highest increase was recorded in Magharibi district (31 percent), while the lowest increase in consumption per adult equivalent was found in the neighboring urban district of Mjini (1.4 percent). As the population share of Mjini also dropped and that of Magharibi increased sharply, perhaps a sizeable proportion of households in Mjini moved to next-door Magharibi district and many of these may have been better-off. Chake Chake district in Pemba also saw a sizeable increase in consumption (18 percent) (Table 1).

[27] Mean household consumption per adult equivalent is the welfare indicator used by OCGS.

[28] Underreporting of consumption in the household budget surveys, which typically becomes more common when households grow richer, could also play a role.

TABLE 1 Median household consumption per adult equivalent, Tsh per month in 2009, 2015, and 2019 (real, 2019 prices)

	2009 (Tsh)	2015 (Tsh)	2019 (Tsh)	2019 95% confidence interval (Tsh)	Percentage change (2009–19) (%)
Urban	86,550	100,014	107,433	100,635–114,231	24.1
Rural	72,228	72,893	79,769	75,852–83,492	10.3
All of Zanzibar	77,168	83,622	92,067	88,236–95, 872	19.3
District					
Kaskazini	80,193	91,718	86,165	80,196–92,134	7.4
Kati	82,550	81,528	96,690	86,094–107,286	17.1
Kusini	83,928	80,106	98,875	88,407–109,343	17.8
Magharibi	85,694	100,427	113,631	105,200–122,062	32.6
Mjini	100,848	95,632	102,213	91,345–113,081	1.4
Wete	63,176	68,332	71,443	64,262–78,466	13.1
Micheweni	60,168	54,939	68,927	59,387–78,466	14.6
Chake Chake	68,614	65,074	80,911	68,924–92,899	17.9
Mkoani	66,751	63,796	68,139	55,792–80,486	2.1

Note: The Magharibi figure for 2019 combines Magharibi A
Source: Based on OCGS HBS 2009/10, 2014/15, and 2019/20.

Changes in the poverty rate

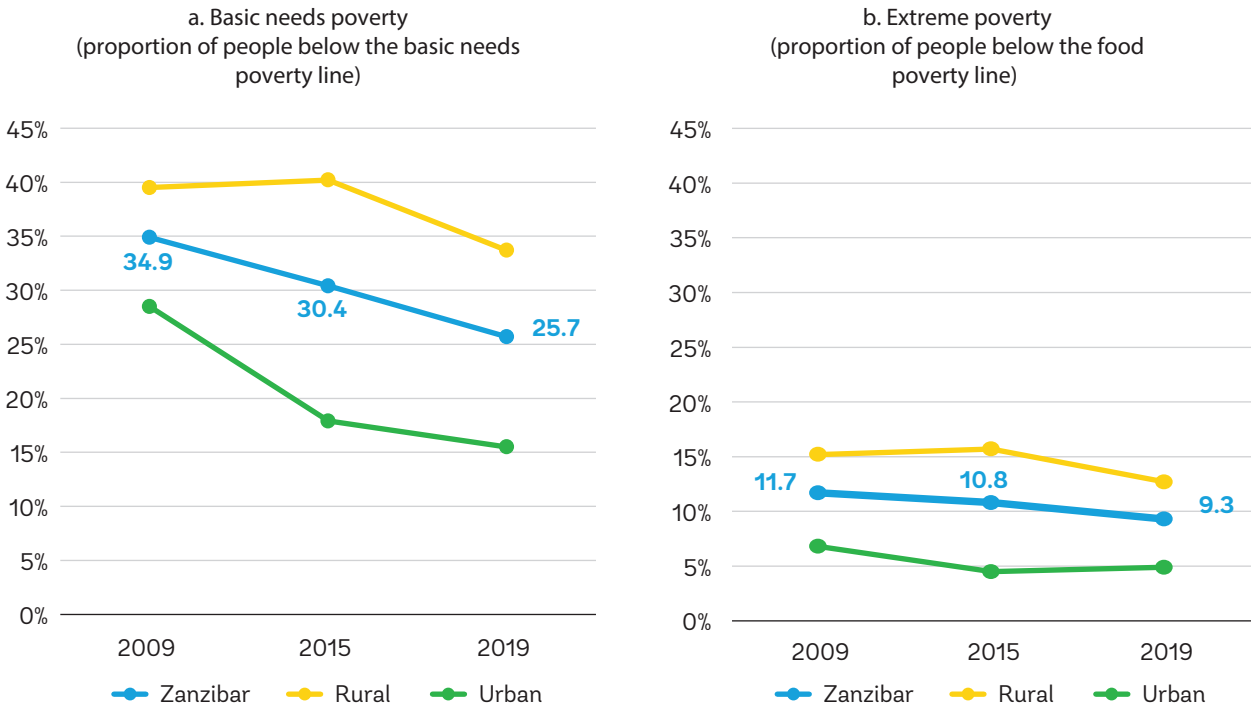
Poverty dropped by 9.2 percentage points in 10 years, falling from 34.9 percent in 2009 to 30.4 percent in 2015, and 25.7 percent in 2019. But the nature of poverty reduction changed. During 2015–19 urban poverty reduction slowed compared to the previous five years, while rural poverty reduction accelerated. Between 2015 and 2019 urban poverty reduction was only 1.6 percentage points, compared to 10.6 percentage between 2009 and 2015. In contrast, between 2015 and 2019 rural poverty dropped by 6.5 percentage points, compared to an increase of 0.7 percentage points between 2009 and 2015.

However, the relatively fast drop in rural poverty during 2015–19 was not enough to compensate for the widening gap between poverty in rural and urban areas in the preceding five years. Taken over the ten-year period of 2009–19, urban poverty fell much faster. It almost halved as it fell from 28.5 percent in 2009

to 15.5 percent in 2019, a relative drop of 46 percent and an absolute drop of 13 percentage points. In contrast, rural poverty saw a relative drop of 15 percent and an absolute reduction of only 5.8 percentage points between 2009 and 2019 (Figure 10a). The relatively larger decline in urban areas, where poverty levels were already lower, and the slow reduction in rural areas, where poverty was already higher, resulted in a widening of the gap between rural and urban poverty as can also be seen from Figure 10a.

Extreme poverty, measured as the proportion of people living below the *food* poverty line, also fell, but only marginally. Extreme poverty dropped by 2.4 percentage points, much lower than the 8.5 percentage point drop of general poverty during this period (Figure 10b). In relative terms, the difference between the drop in general poverty and extreme poverty is smaller but still substantial. Extreme poverty saw a relative decline of 26 percent while general poverty fell by 36 percent. During the most recent period under consideration, 2015–19, reductions of extreme poverty were much higher in rural areas than in urban areas, similar to what was witnessed for general poverty. More broadly, however, the slow reduction in extreme poverty is concerning and suggests that current measures taken to assist the extreme poor are not showing adequate results.

FIGURE 10A+B Poverty incidence in Zanzibar 2009, 2015, and 2019

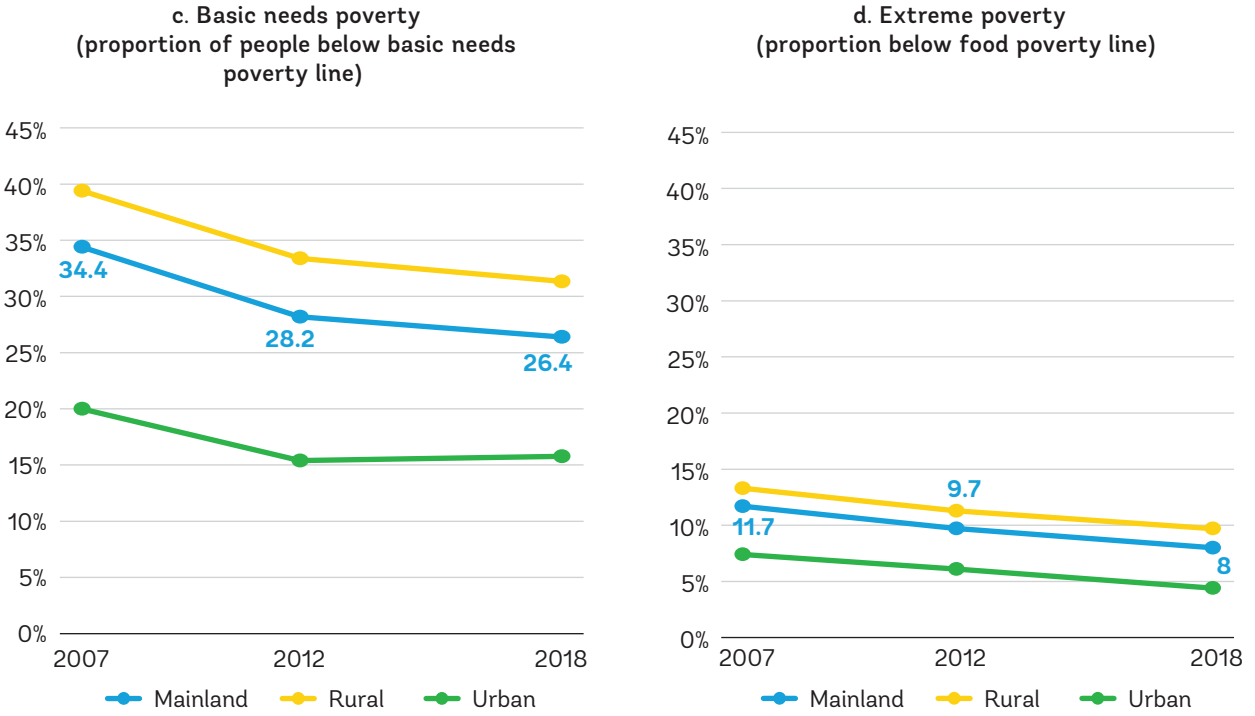


Source: Based on HBS 2009/10, 2014/15, and 2019/20. The HBS 2009/10 fell mostly in 2009, the HBS 2014/15 fell mostly in 2015, and the HBS 2019/20 fell mostly in 2019.

The acceleration of rural poverty reduction in the most recent four years (2015–19) coincided with a sharp rise in the growth of the agriculture, livestock, and fisheries sector (4.7 percent per year) (Figure 5). This growth was driven by a sharp increase in the average growth of the cropping sector during 2015–19, and further increase in the average growth of the livestock sector (Figure 6). While production grew, the proportion of the workforce in the agriculture, livestock, and fisheries sector dropped by 5 percentage points between 2015 and 2019–20 (Figure 7a), raising productivity per worker even further.

The downward poverty trend in Zanzibar is comparable to that of mainland Tanzania. However, between 2009 and 2019 urban poverty fell much faster in Zanzibar than mainland Tanzania, despite a considerable slowdown in Zanzibar's urban poverty reduction between 2015 and 2019. Using the HBS of mainland Tanzania for 2007 and 2017–18, the mainland poverty rate fell from 34.4 to 26.4 percent, a drop of 8 percentage points, while between 2009 and 2019 in Zanzibar poverty fell by 9.2 percentage points (Figure 11). While the poverty rates are not directly comparable between Zanzibar and mainland Tanzania—the methodologies, poverty lines, and survey years are somewhat different—a

FIGURE 10C+D Poverty incidence in mainland Tanzania, 2007–18



Note: the basic needs poverty line in Zanzibar is higher than in Mainland Tanzania (Tsh 66,313 vs Tsh 49,320 per adult equivalent per month) and they also cover different years (2017/18 vs 2019/20). Poverty rates are therefore not strictly comparable between Zanzibar and Mainland Tanzania; however the trends can be compared.
Source: Tanzania Mainland Poverty Assessment (World Bank, 2019).

comparison of trends is valid. In Zanzibar, poverty in urban areas dropped 13 percentage points between 2009 and 2019 while in mainland Tanzania it only dropped by 4.2 percentage points between 2007 and 2018. In mainland Tanzania poverty reduction in urban areas is even stagnating and urbanization seems to work better for poverty reduction in Zanzibar than mainland Tanzania. This could be partly because urbanization in mainland Tanzania is happening faster than in Zanzibar (see Chapter 1). Rural poverty has dropped a little faster in mainland Tanzanian than Zanzibar, but differences are small: 5.8 percentage points in Zanzibar over 10 years vs. 7.8 percentage points in mainland Tanzania over 11 years.

How deep is poverty?

Depth and severity of poverty barely changed between 2009 and 2019 and is almost three times higher in rural areas compared to urban ones, even if it reduced much faster in rural areas than urban ones during 2009–19. The depth of poverty (also called the poverty gap) measures how far on average the consumption of the poor is from the poverty line. During 2015–19 it remained constant in urban locations (Table 2) as was the case with the poverty rate. The severity of poverty, which measures the average poverty gap for the poor but attaches more weight to the very poorest, dropped particularly slowly, in both urban and rural areas. Nonetheless, the severity of poverty is low, suggesting that inequality between poor households is limited.

TABLE 2 Changes in the depth and severity of poverty, 2009–19

	Poverty gap				Squared poverty gap			
	2009	2015	2019	Change (2019–09)	2009	2015	2019	Change (2019–09)
Food poverty line								
Urban	5.4	3.2	3.0	–2.4	1.5	0.9	0.9	–0.6
Rural	10.2	10.3	8.1	–2.1	3.7	3.6	2.8	–0.9
Total	8.2	7.2	5.8	–2.3	2.8	2.5	2.0	–0.8
Basic needs poverty line								
Urban	1.1	0.6	0.7	–0.5	0.3	0.1	0.2	–0.1
Rural	3.3	2.9	2.3	–1.1	1.1	0.8	0.6	–0.5
Total	2.4	1.9	1.6	–0.8	0.8	0.5	0.4	–0.3

Source: Based on OCGS HBS 2009/10, 2014/15, and 2019/20. See appendix 2 for explanation of poverty gap and squared poverty gap

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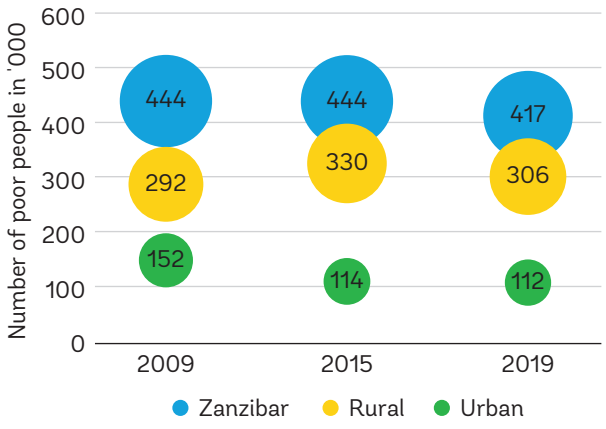
3.2 Changes in the number of poor people

Population growth continues to be high[29] relative to the reduction in the poverty rate, and therefore the number of poor declined only a little between 2009 and 2019 (Figure 11). While between 2009 and 2019 the poverty rate dropped from 34.9 percent to 24.7 percent, the total number of people living in Zanzibar rose from 1.27 million to 1.63 million. Therefore, the number of poor people fell by only a small amount: from 444,000 to 417,000. During 2009–14 the number of poor barely changed and between 2015 and 2019 dropped by just 27,000 people. Taken over a period of ten years (2009–19), the number of poor fell by 2,700 per year which is 0.6 percent of the number of poor in 2009. This implies that at this pace of poverty reduction and population growth it will take another 166 years to eliminate poverty. Between 2009 and 2019, the number of rural poor increased by 14,000 while the number of urban poor dropped by around 40,000 (Figure 11) despite urban to rural migration. The number of *extreme* poor increased marginally (by around 1,600) between 2009–19 with an increase of about 2,800 in rural areas and a small decline of 1,200 in urban areas.

FIGURE 11 **Number of poor in Zanzibar, rural and urban areas, 2009, 2015, and 2019 (in thousands)**



Source: Based on OCGS HBS 2009/10, 2014/15, and 2019/20.

[29] Zanzibar's population grew from a total of around 1.20 million in 2009 to approximately 1.65 million in 2019, an increase of 34 percent or 2.9 percent per year. See section 2.2

3.3 Growth elasticity of poverty reduction

The growth elasticity of poverty reduction is low, as economic growth in Zanzibar did not bring about a proportionate rate of poverty reduction. Economic growth is fundamental to reducing poverty rates, particularly in low-income countries. The "growth elasticity of poverty reduction" measures the "responsiveness" of poverty reduction to economic growth. It is calculated by dividing the relative change in poverty divided by the relative change in per capita GDP. In Zanzibar the growth elasticity of poverty for the 2009–19 period was 0.72, which implies that 1 percent of per capita economic growth translated into 0.72 percent of poverty reduction. This is close to the average for Sub-Saharan Africa of 0.76 but below the global average of around 2. It was higher than for mainland Tanzania for the period 2012–18 (Table 3). During the 2015–19 period the elasticity was somewhat higher: 0.95. These low elasticities show that the type of economic growth witnessed in Zanzibar during 2009–19 did not translate well into poverty reduction, although this improved during 2015–2019.

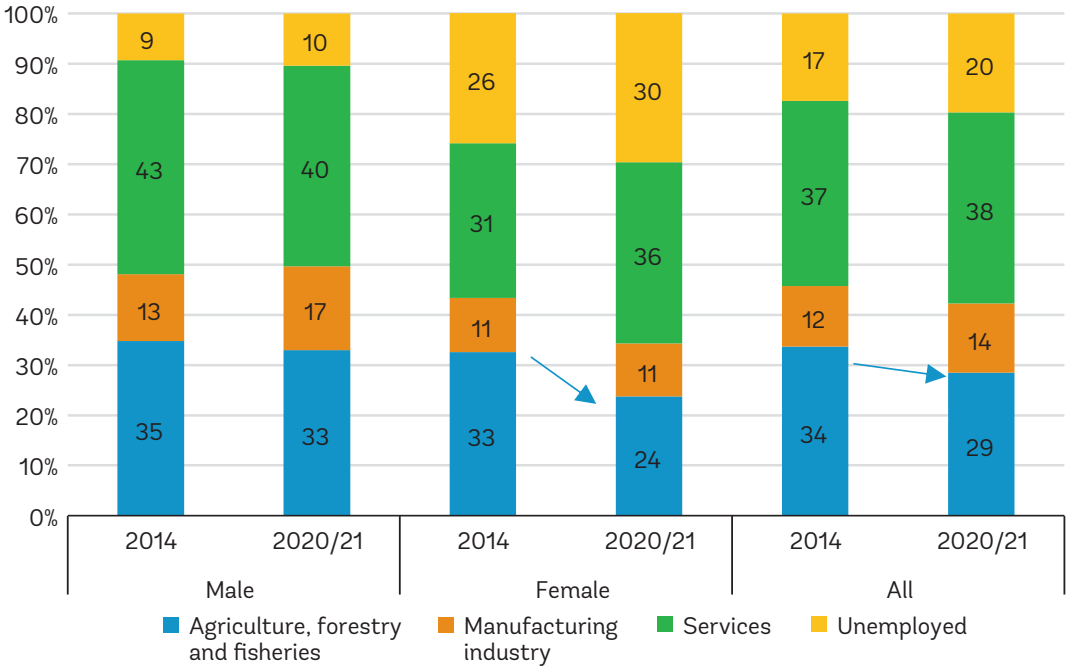
Economic growth did not translate into a significant increase in wage jobs, despite a shift of the work force out of the agricultural sector, particularly for women. As shown above (see Figure 7a), the proportion of people working in agriculture, livestock, and fisheries dropped by 5 percentage points, according to the 2014 and

TABLE 3 Growth elasticity of poverty reduction

	2009	2015	2019	2009–19	2015–19
Poverty rate (%)	34.9	30.4	26.4		
Percentage change in poverty (a)		–12.7%	–13.3%	–24.3%	–13.3%
GDP per capita (US$ in 2015 prices)	712	834	951		
Percentage change in GDP per capita (b)				33.6%	14.0%
Poverty growth elasticity Zanzibar 2015–20 (a)/(b)				–0.72	–0.95
Poverty growth elasticity Sub-Saharan Africa				–0.76	
Poverty growth elasticity, world				–2	
Poverty growth elasticity, mainland Tanzania (2012–18)				–0.41	

Note: Only point-to-point estimates are presented. Poverty to growth elasticities tend to be weaker when poverty rates are high.
Source: Based on economic growth data from OCGS and Zanzibar HBS 2009/10, 2014/15, and 2019/20. And Martin Ravallion (2011).

FIGURE 12 Distribution of the labor force across main sectors, men and women, 2014 and 2020–21



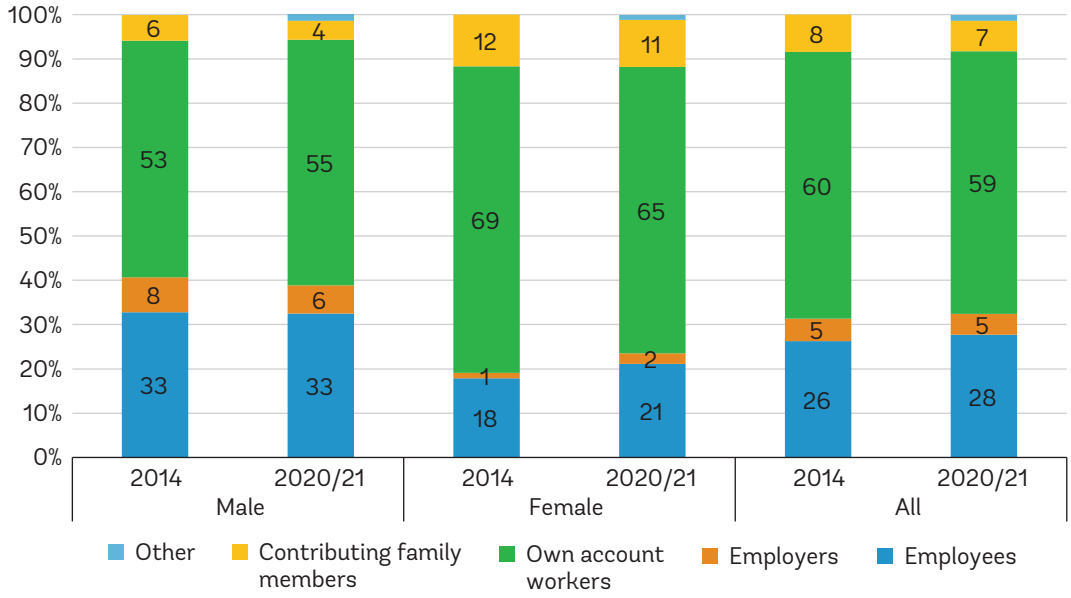
Note: the HBS 2014/15 and HBS 2019/20 show a similar trend: the proportion working in agriculture, forestry and fisheries dropped by 3.5 percentage points, while the proportion working in services went up by 2 percentage. And industry went up by 2.5 percentage points.
Source: NBS and OCGS ILFS 2020/21: Key labor market indicators for the United Republic of Tanzania.

2020–21 integrated labor force surveys (ILFS).[30] This was almost entirely driven by a reduction of 9 percentage points among women. This labor force shift among women was mostly to the services sector (Figure 12). However, between 2014 and 2020/21 job creation was limited; unemployment went up from 17 to 20 percent. (Inactivity also increased from 21 to 24 percent but this is partly driven by girls staying in school longer). This trend was particularly strong for women, for whom unemployment rose from 26 to 30 percent. This was partly caused by rising youth unemployment among girls, which went up from 41 to 48 percent.[31]

During the period 2014–2020/21 the proportion of people in the informal sector increased by four percentage points (7 percentage points for women). The percentage of people with wage jobs grew by only 1.5 percentage points, which was driven by women for whom this increased by 3 percentage points (to 21 percent) according the ILFS (Figure 13).

[30] The HBS 2014/15 and 2019/20 showed similar figures, but they collect less detailed labor force data than the ILFS.
[31] Youth employment among males remained constant at 21 percent.

FIGURE 13 Distribution of total employment across type of job, 2014 and 2020–21



Source: NBS and OCGS ILFS 2020/21: Key labor market indicators for the United Republic of Tanzania.
Own account workers are those running their own farm or their own household business.

One explanation for the slow poverty reduction despite the move out of agriculture would be that many women who left the agricultural sector transitioned into low productivity, non-farm informal sector jobs and were unable to escape from poverty. In addition, young women who entered the job market appeared to have been unable to find work and became unemployed, making it difficult to move out of poverty. This is further investigated in Chapter 4.

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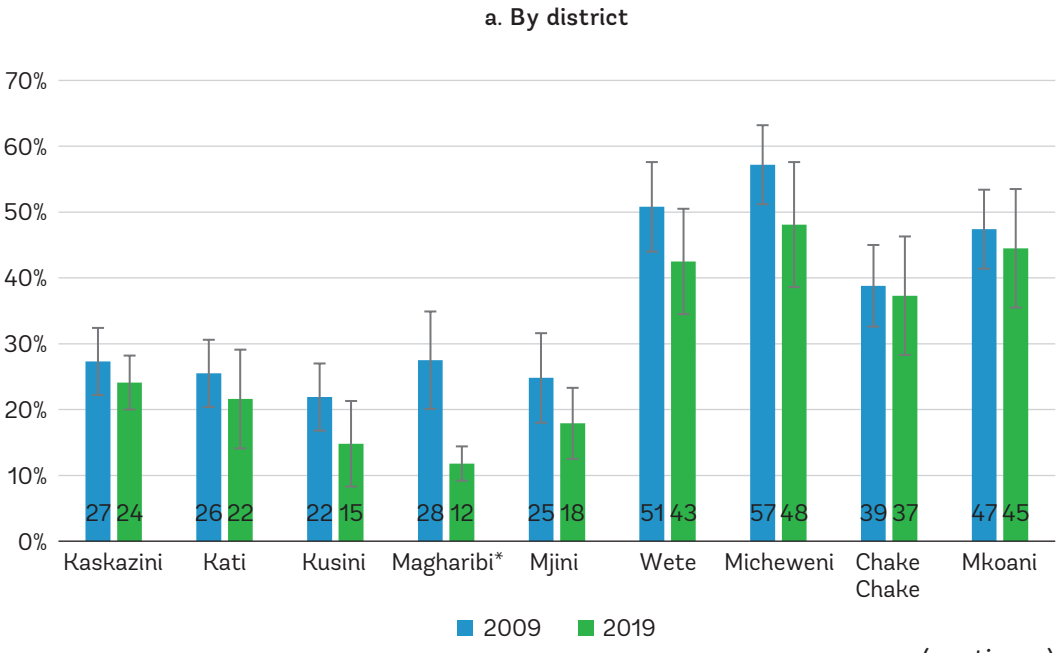
3.4 Spatial dimension of poverty

Spatial differences in poverty are high, especially between Pemba and Unguja Islands, and grew between 2009 and 2019. The four poorest districts are located on Pemba Island where their poverty rates vary between 37 and 48 percent. The three

least poor districts are found on Unguja Island and have poverty rates that vary between 12 and 18 percent. The differences in districts' poverty rates grew between 2009 and 2019. In 2019, the poorest district had a poverty rate that was more than four times higher than the least poor district. In contrast, in 2009 this was much smaller as the poorest district was only about twice as poor as the least poor district. District poverty rates are not converging as the variation among districts, measured through the standard deviation, was higher in 2019 than in 2009.

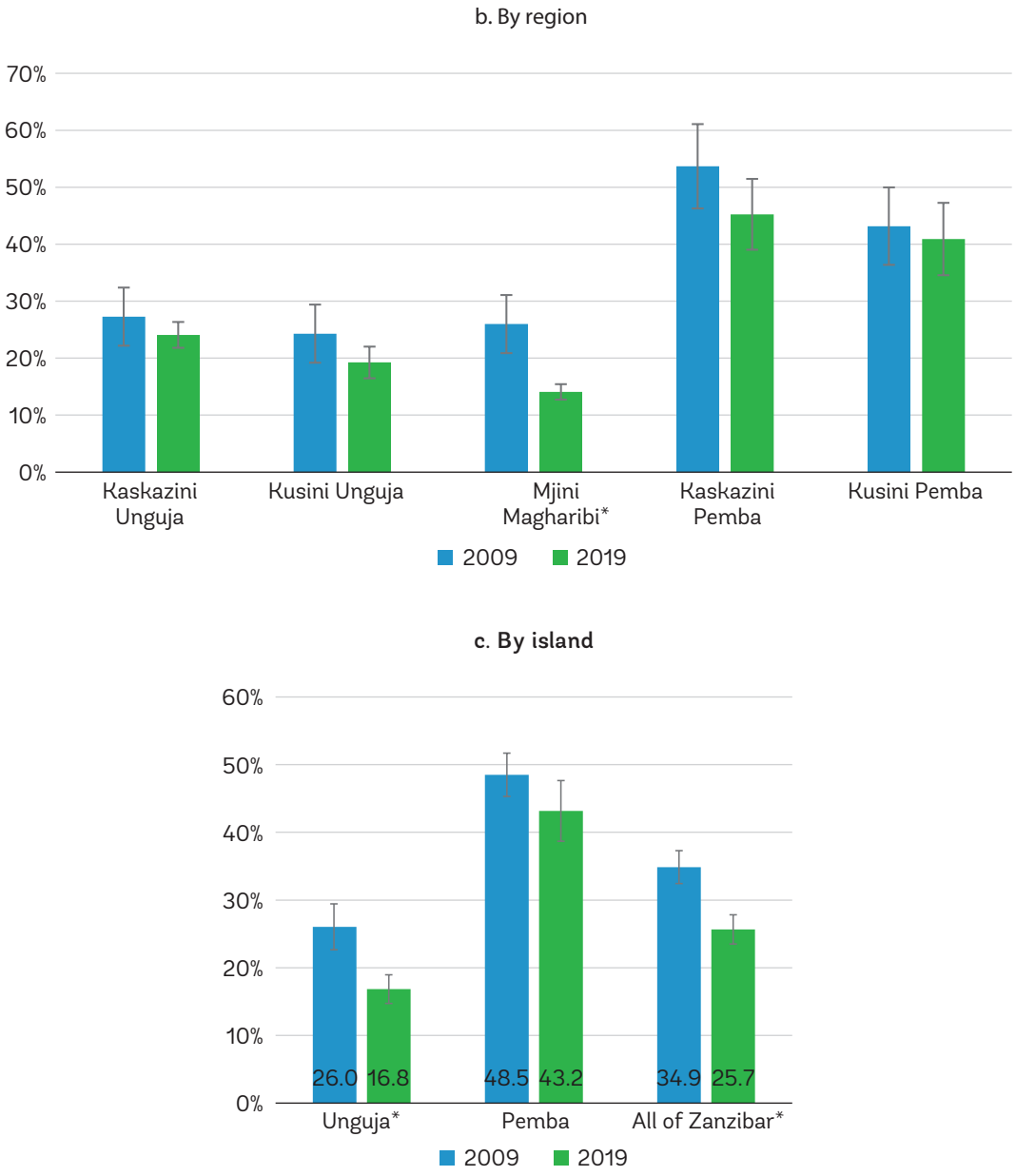
Poverty reduction trends between 2009 and 2019 differ highly across districts and regions. But confidence intervals are wide, especially for the HBS 2019/20 survey, and most poverty reductions at the district and regional level are not statistically significant. Magharibi Mjini region (in the west of Unguja Island, which includes Zanzibar city/Stone Town) is the exception. It saw its poverty rate drop by almost half: from 26 percent in 2009 to 14 percent in 2019, and the difference is statistically significant. In contrast, in Kusini Pemba region, poverty saw a relative drop of only 5 percent over the same period, too small to be statistically significant. At the district level, the only drop in poverty that is statistically significant was witnessed in Maghiribi district. At the island level, only the reduction in poverty in Unguja is statistically significant; the one in Pemba is not, and we can therefore not conclude with 95 percent certainty that in 2019 poverty in Pemba was lower than in 2009 (see Figures 14a, 14b and 14c).

FIGURE 14 Poverty headcount rates (%), with confidence intervals in 2009 and 2019



(*continues*)

FIGURE 14 Poverty headcount rates (%), with confidence intervals in 2009 and 2019 (*Continued*)

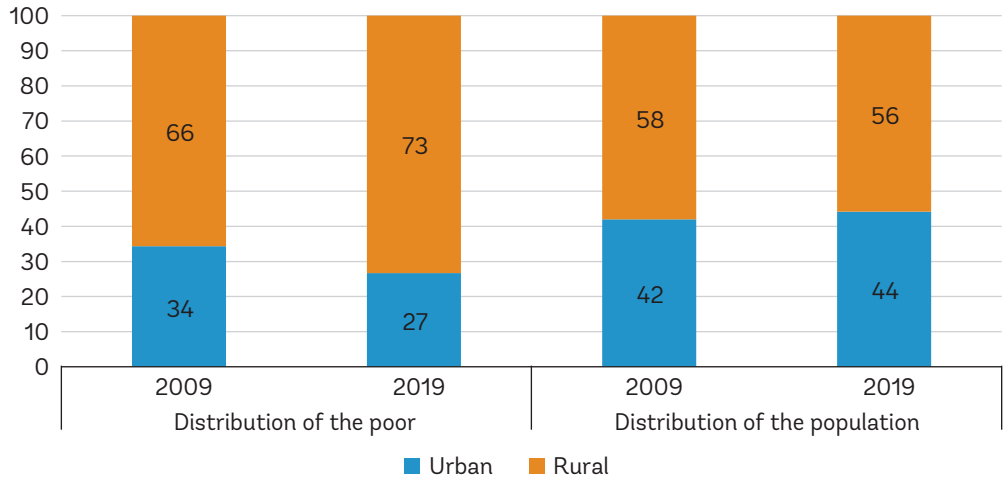


Notes: The vertical lines in the bars are 95% confidence intervals; * means the change is statistically significant at 95% confidence. 95% confidence intervals are wide, especially for the 2019-20 survey, and often overlap. That is mostly because of a low number of observations particularly in the HBS 2019-20 survey when the sample size was 2783 households divided over 5 regions (9 districts).
Source: Based on OCGS HBS 2009/10 and 2019/20

Where do the poor live?

Poverty became more concentrated in rural areas during 2009–15 but during the following four years (2015–19) the proportion of the poor that lives in rural locations dropped a little. In 2019, 73 percent of the poor lived in rural areas while only 56 percent of the Zanzibari population lives there. The proportion of the poor that lives in rural areas increased from 66 percent in 2009 to 74 percent in 2015 and then dropped marginally to 73 percent in 2019 (Figure 15). These proportions are somewhat higher for extreme poverty (food poverty): 77 percent of the extreme poor lived in rural areas in 2019. This proportion was 76 percent in 2009 and thus has barely changed over the past ten years.

FIGURE 15 **Distribution of the poor and the population across urban and rural areas, 2009–19**



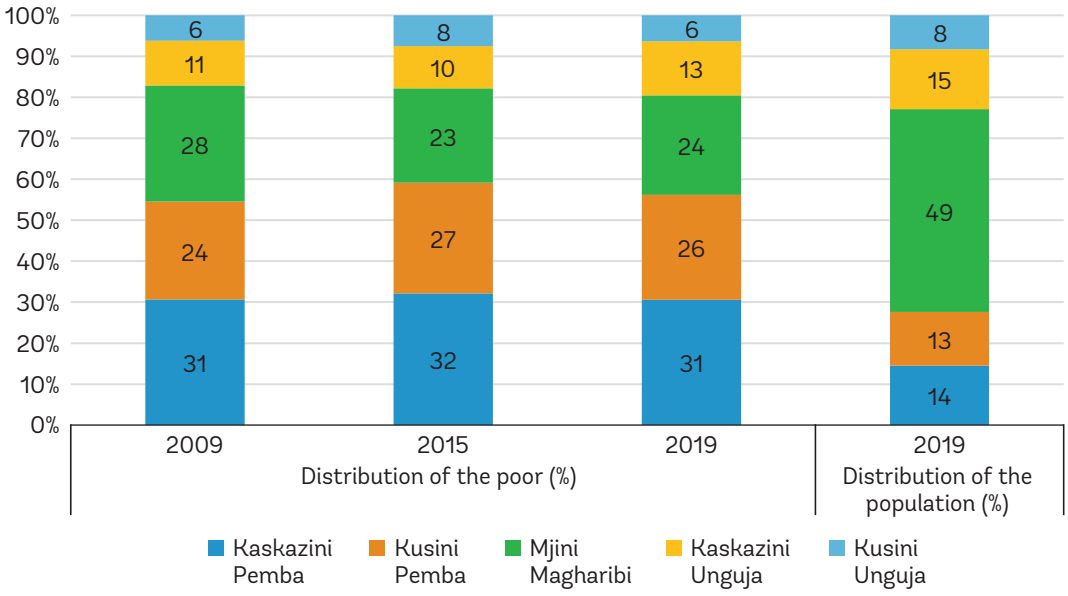
Source: Based on OCGS HBS 2009/10, 2014/15, and 2019/20.

Photo by Humphrey Muleba on Unsplash

More than half of the poor (57 percent) live on Pemba Island although only 27 percent of the population lives there (Figure 15). The Kaskazini Pemba and Kusini Pemba regions only harbor 14 and 13 percent of the population, but 31 percent and 26 percent of the poor live there, respectively (Figure 16). In contrast, while 49 percent of population lives on Mjini Magharibi, only around quarter (24 percent) of the poor are in this region. The proportion of the poor that lives in Mjini Magharibi has dropped from 28 percent in 2009 to 24 percent despite a growing concentration of the people living there. In contrast, the proportion of the poor that live in Kusini Pemba has grown from 24 to 26 percent between 2009 and 2010, despite a slower than average population growth there.

The population shift to Mjini Magharibi region in the west of Unguja coincided with a reduction in the poverty rate there during 2009–14, but the relatively fast poverty reduction there stagnated during 2015–19 as the proportion of the poor that live there stayed about the same (Figure 16). Kaskazini Pemba region had the highest share of the poor in 2009, 2015 and 2019. Kusini Unguja consistently accounted for the least share of the poor, accounting for only 6 percent (Figure 16 and 17).

FIGURE 16 Distribution of the poor across the five regions, 2009, 2015, and 2019

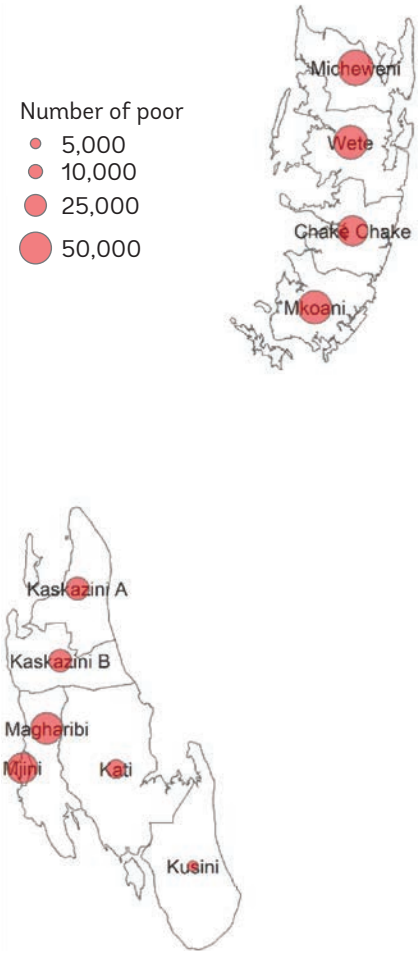


Source: Based on OCGS HBS 2009/10, 2014/15, and 2019/20.

FIGURE 17 Geographical distribution of poverty in 2019

a. Proportion of the population that is poor

b. Number of poor in that live in the district



Source: Based on OCGS HBS 2019/20.

Photo by MARIOLA GROBELSKA on Unsplash

3.5 Sensitivity of the poverty estimates

Zanzibar's poor are clustered around the poverty line and raising the poverty line by a small amount raises the poverty rate significantly. For instance, increasing the national and extreme poverty lines by 5 percent increases the proportion of households living under the national and extreme poverty lines by 15 and 18 percent respectively (Table 4). Similarly, a 20 percent higher poverty line would increase the poverty rate by 53 percent and raise the national poverty gap by 77 percent. This suggests that many of the non-poor are vulnerable to falling back into poverty even if facing a minor shock. Without means to cushion themselves against shocks, they could easily fall back into poverty.

Analysis of the National Panel Survey (NPS) of 2008–09, 2010–12, and 2012–13 showed that a substantial proportion of Zanzibar's population moves in and out of poverty. Between 2008–09 and 2012–13, about a fifth of the population (22 percent) of the population was "transient poor", which means that the average of consumption expenditure of the household over the three rounds of NPS is above

TABLE 4 Sensitivity of poverty measures to the choice of poverty line, 2009–19

	Poverty headcount rate (%)	Poverty rate change from actual (%)	Poverty gap	Change from actual (%)
National poverty line				
Actual	25.7	0.0	5.8	0.0
+5%	29.6	15.4	6.9	17.9
+20%	39.3	53.0	10.3	76.5
–5%	22.6	-12.1	4.9	–16.3
–20%	13.0	-49.2	2.6	–56.3
Food poverty line				
Actual	9.3	0.0	1.6	0.0
+5%	10.5	13.3	2.0	25.0
+20%	16.2	74.2	3.4	116.0
–5%	7.3	–21.5	1.2	–22.9
–20%	2.8	-69.7	0.5	–70.1

Source: Team calculations from HBS 2009/10, 2014/15, and 2019/20.

the poverty line, but the household/individual is poor in at least one round. Nineteen percent of the population was chronically poor, meaning that their consumption expenditure is below the poverty line in all three rounds of the NPS or their average of consumption expenditure over the three rounds of NPS is below the poverty line. The remainder of households (59 percent) was never poor: their consumption expenditure was above the poverty line in all three rounds of the NPS.[32]

3.6 Who benefited from consumption growth between 2009 and 2019?

All household groups saw a small increase in real consumption between 2009 and 2019, but it increased faster for richer households than for poorer ones. A simple way to look at who benefited from growth is to rank the population in each of the surveys from poorest to richest, and then divide them in groups of equal size, say "percentile" groups (groups of 1 percent) and subsequently measure consumption growth for each group. This is done in the growth incidence curve (GIC) presented in Figure 18a. For each of these percentiles of households, it shows the average change in annual household real consumption per adult equivalent between 2009 and 2019. GICs thus show how different income groups benefited from consumption growth between two periods.[33] From the curve, as shown in Figure 18a, we can identify three groups: (i) the poorest 20 percent of the population, which saw an average annual consumption growth of around 1 percent; (ii) the middle 70 percent whose consumption grew by 1.3–1.8 percent per year; and (iii) the richest 10 percent group, where this was 2–2.5 percent per year.

When looking at the average of deciles (groups of 10 percent) rather than per percentiles we can more easily quantify the differences across groups (Figure 18b). We see that the poorest two deciles had annualized growth consumption growth rates of 1.10–1.18 percent between 2009 and 2019, while the richest decile of households experienced average growth of 1.8 percent of their consumption levels. The difference is large in relative terms, but small in absolute terms. As mentioned,

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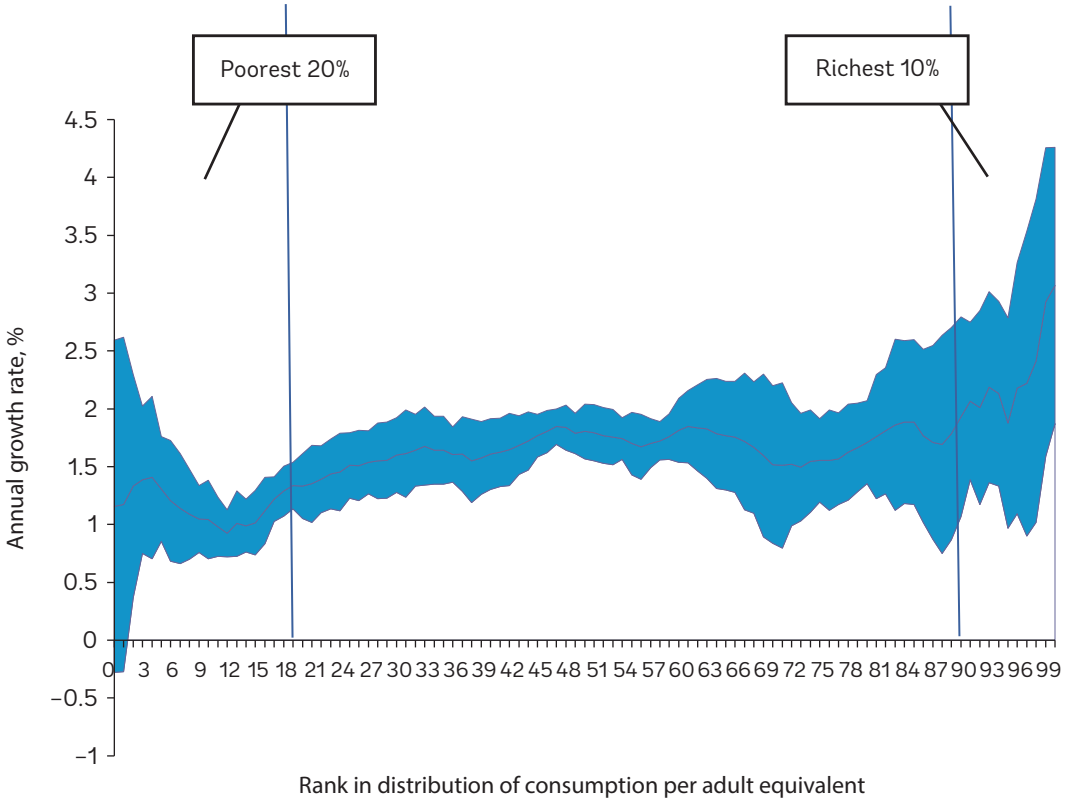
[32] Finn, Arden and Wendy Kwaramba (2019) The Evolution and Dynamics of Poverty in Tanzania 2008–2014: Analysis based on the National Panel Survey and Demographic Household Survey. World Bank.

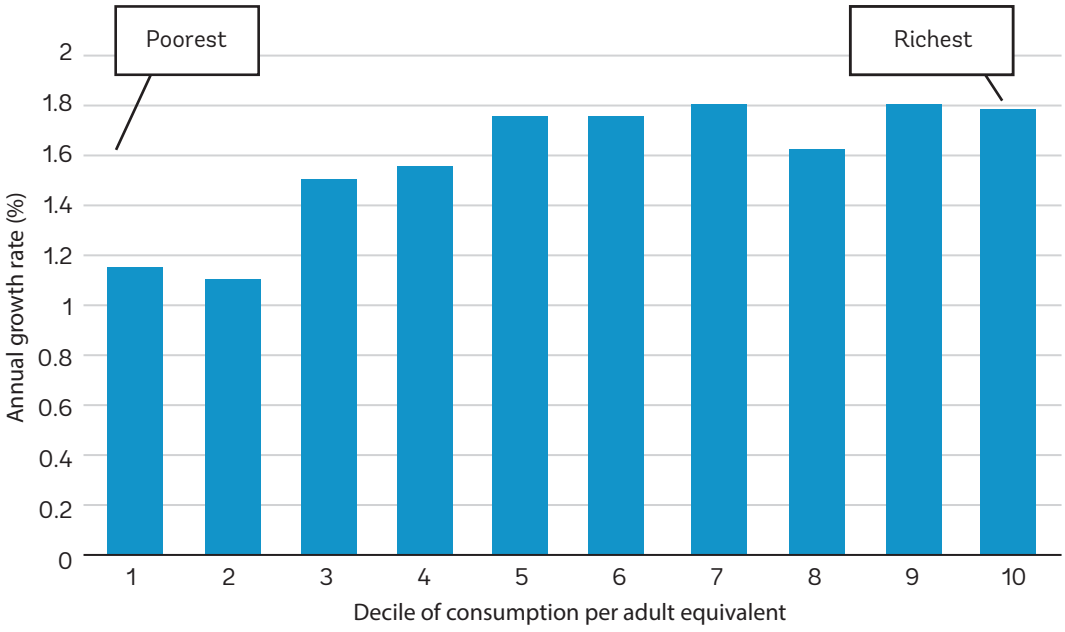
[33] GICs present different average growth rates in real consumption expenditure for households ranked from the poorest to the richest households. The vertical axis reports the growth rate of consumption per capita expenditure, and the horizontal axis reports consumption expenditure percentiles. The estimation of growth incidence curves is a methodology that helps identify the extent to which each percentile of household's benefits from growth (Ravallion and Chen, 2002). The part of the curve above zero means the percentile benefited from growth, and the part below zero points to negative growth.

FIGURE 18 **Annual mean real consumption growth from poorest to richest, 2009–19, all of Zanzibar**

a. Per percentile (growth incidence curves), 2009–19



b. Per decile, 2009–19



Note: Blue areas indicate the confidence interval.
Source: Based on OCGS HBS 2009/10, 2014/15, and 2019/20.

during the 2009–19 period, the gap between the poorest and richest in Zanzibar widened, but only a little. The type of economic growth that was witnessed in Zanzibar during this period benefited those who were already doing relatively well somewhat more than those who were less well-off.

Annualized consumption growth between 2009 and 2019 for the urban population was about 50 percent higher than for the rural population, although absolute differences were small. Mean per adult equivalent grew by 1.9 percent per year in urban areas compared to 1.3 percent in rural areas. In both urban and rural areas, the richest decile saw faster consumption growth than the poorest. The gap between the poorest and richest decile was higher in urban areas than in rural areas. However, urban households from the 2nd to the 7th decile saw a consistent annual consumption growth of around 1.5–2.0 percent, which was higher than the middle group in rural areas for whom this was only 0.8–1.3 percent.

Consumption of the poorest 40 percent grew at a slower rate than for the whole population, and thus the "shared prosperity premium" was negative. The annualized growth rate of the bottom 40 percent was 1.4 percent between 2009

Photo by Mathias Katz on Unsplash

and 2019, slower than the mean growth of 1.7 percent. At -0.3 percentage points, the shared prosperity premium—the difference between the growth of the bottom 40 percent and the mean—was negative, indicating the income distribution became less equal. In both urban and rural areas, the poorest 40 percent of households saw a 1.4 percent increase in their consumption between 2009 and 2019. This means in urban areas, consumption of the bottom 40 percent grew slower than the whole urban population, while in rural areas, the average annual consumption growth rate for the bottom 40 percent was higher, albeit only slightly. Thus, the comparison of urban and rural areas shows that growth was somewhat more pro-poor in rural areas than in urban ones.

3.7 Inequality

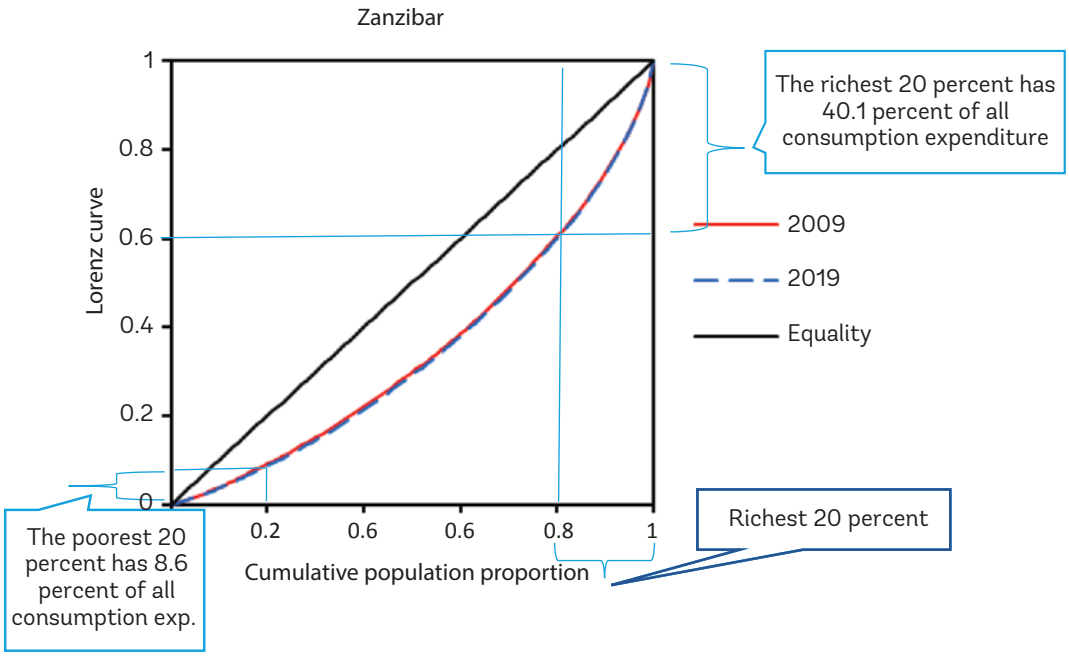
Inequality in Zanzibar is low but increased (a little) along various inequality indicators. Keeping economic growth inclusive is an important objective of the government of Zanzibar. A substantial increase in inequality could lead to a less cohesive society. Assessing changes in inequality is thus warranted. One simple way to look at inequality is to break down the population of equal size, from poorest to richest, and measure the share of total expenditures represented by each of them. Table 5 presents a standard breakdown based on five groups or quintiles. The bottom row of Table 5 shows the ratio of the share of expenditures of the richest quintile and the share of the poorest quintile. The higher this ratio, the greater the inequality. The ratio increased from 4.36 in 2009 to 4.64 in 2019 displaying a gradual but steady tendency toward greater inequality.

TABLE 5 Share of expenditures by population quintile (20 percent groups)

	2009	2015	2019
Poorest 20 percent	9.1%	9.0%	8.6%
Near poorest	12.9%	13.1%	12.7%
Middle	16.6%	16.8%	16.7%
Near richest	21.8%	21.9%	21.9%
Richest 20 percent	39.6%	39.2%	40.1%
Total	100.0%	100.0%	100.0%
Richest 20 percent/poorest 20 percent	4.36	4.38	4.64

Source: Based on HBS 2009/10, 2014/15, and 2019/20.

FIGURE 19 Lorenz Curves, national, 2009–19



Source: Based on OCGS HBS 2009/10 and 2019/20.

Welfare inequality can be illustrated using the Lorenz curve; it confirmed that income distribution became only slightly more unequal between 2009 and 2019.[34] This is a graphical representation of the cumulative consumption distribution. It shows the proportion of total consumption that is taken by each percentile of the population when ranked from poorest to richest. It illustrates that the richest 20 percent has 40 percent of all consumption expenditure, while the poorest 20 percent has only 8.6 percent of total consumption. The curve also confirms that income distribution became only slightly more unequal between 2009 and 2019 (as the 2019 line is somewhat more curved than the 2009 line) (Figure 19).

The Gini index of inequality in Zanzibar increased between 2009 and 2019 but only marginally, and it is still relatively low.[35] The Gini index ranges from 0 when the actual distribution is perfectly egalitarian, to 1, in the extreme case where all expenditures are concentrated in the richest population group. Table 6 shows that Zanzibar is relatively

[34] The Lorenz curve plots the cumulative percentage of total consumption against the cumulative percentage of the corresponding population ranked in increasing size of proportion. Total equality is said to exist along the 45-degree line while any deviation from this line indicates inequality: the further away the curve is from the 45-degree line, the higher the degree of inequality of distribution.
[35] Lower than any country in Sub-Saharan Africa, although this partly because the user value of durable assets and housing is not included in the welfare aggregate. However, this practice is the same for mainland Tanzania, which despite this has much higher inequality.

egalitarian as the Gini index is relatively low. It is 31.1, which is much lower than mainland Tanzania, where it was 39.5 in 2018. While the Gini index in Zanzibar increased between 2009 and 2019, it did so only modestly, from 30.3 to 31.1 (Table 6). The Gini is lower in rural areas than urban ones, but between 2009 and 2019 it rose in rural areas while it dropped somewhat in urban areas. This suggests that urbanization in Zanzibar has not led to growing urban inequality. However, looking at only the most recent period under consideration, 2005–19, inequality in urban areas slightly increased.

Other indicators of inequality also show a slight increase. The ratio of consumption at the 90th percentile and consumption at the 10th percentile increased from 3.5 in 2009 to 3.9 in 2019 (Table 6), reflecting higher consumption growth for the richest than the poorest. The Atkinson index of inequality, which is more sensitive to changes at the bottom of the income distribution,[36] increased from 24.4 to 25.4. Inequality is mostly caused by disparities *within* urban and rural areas rather than *between* rural and urban areas.

Photo by Patrick Mueller on Unsplash

TABLE 6 Gini index, by geographic location, 2009–19

	2009	2015	2019	Change (2009–19)
All of Zanzibar	30.3	30.1	31.1	0.8
Urban	31.9	30.0	31.1	–0.7
Rural	27.4	27.3	28.6	1.1
Atkinson Index (A(2))	24.4	23.8	25.4	1.0
p90/p10 ratio	3.5	3.5	3.9	0.33

Source: Team calculations from HBS 2009/10, 2014/15, and 2019/20.

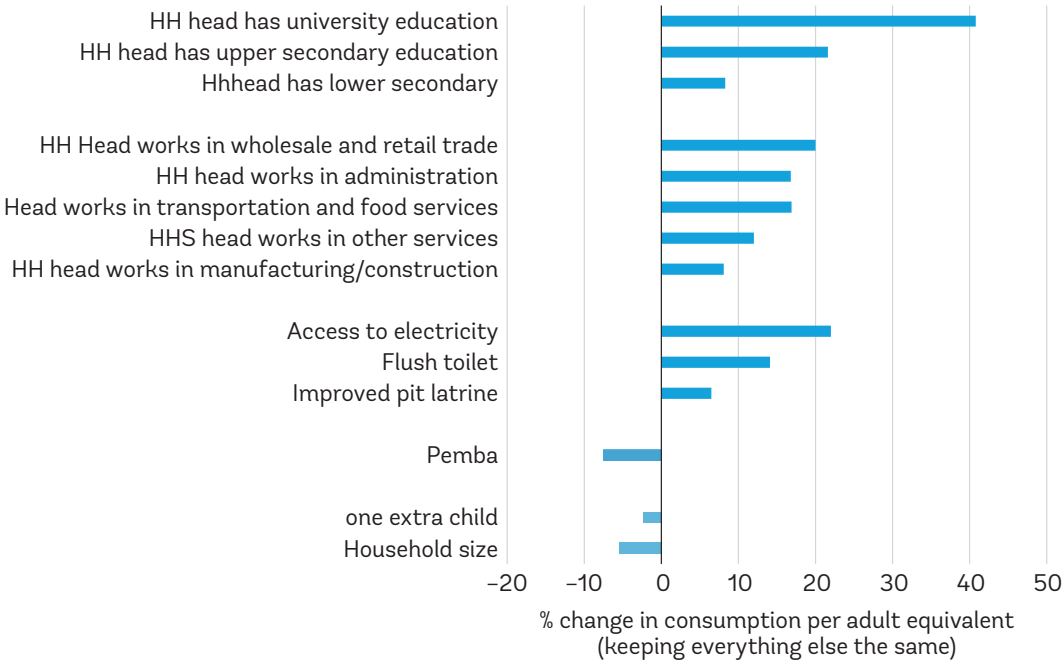
[36] In contrast to the Gini index which is more sensitive to changes around the middle of the income distribution.

3.8 Who are the poor?

In addition to counting the number of poor, understanding who the poor are is important for aligning policies and programs to poverty reduction. The previous section identified a few of their characteristics. It showed for instance that poverty was higher in rural areas and on Pemba Island, but it did not touch on other characteristics of the poor, such as their main income earning and livelihood activity or their assets.

There is a clear relationship between poverty and several geographic, household, and community characteristics—Figure 20 summarizes this relationship. Household budget surveys, which measure consumption expenditure, can be used to generate a "statistical profile," to identify household and other characteristics most associated with poverty. The statistical analysis is conducted by linking household consumption expenditure on the one hand and household characteristics on the other. It is important to note that correlation is not causation. The analysis displays the change in per capita consumption expenditure associated with selected characteristics if everything else that was measured stays the same.

FIGURE 20 **Variation in consumption per adult equivalent by household characteristic, 2019**



Note: Only coefficients that are statistically significant are presented.
Source: Based on OCGS HBS 2019/20.

Educational attainment has the strongest relationship with consumption. However, this only counts for tertiary, upper, and lower secondary education. In contrast to 2015,[37] in 2019 no significant difference was found in consumption levels between those with only primary education and those with no education at all. This suggests that the returns to primary education have dropped and no longer suffice for making a difference in welfare levels.

Also striking is the role of access to electricity and sector of work of the household head. Households that use electricity have an average consumption expenditure that is 22 percent higher than those that do not, controlling for everything else. In addition, the type of economic activity of the head of households also matters significantly. Households whose head works in transportation and food services, in trade or repairs, or in administration all have a consumption expenditure that is 10–18 percent higher than those with one who works in agriculture/livestock or fisheries (which was the 'omitted' sector and used as a benchmark).

As is commonly the case, larger households, and especially those with more children, are poorer as they tend to have a lower level of consumption per adult equivalent, keeping everything else the same. Because they have more children, dependency ratios are higher for poor households, suggesting the strain on household resources is significantly higher for them. Having many children typically also prevents women from fully exploiting their economic potential and contributing to household income, preventing their escape from poverty. Strikingly, households in Pemba have a six percentage points lower consumption per adult equivalent than those in Unguja, when controlling for all the other factors, suggesting the important role of the spatial factor alone.

The relationship between educational attainment and poverty is well-illustrated in Figure 21. The analysis first ranks them from poorest to richest and then divides them in deciles (groups of 10 percent). The illustration shows the proportion of households in each decile with a certain education in 2009 and 2019. In 2019 the proportion of those in richer deciles that had no education dropped compared to 2009 and those with secondary education increased, showing that education level has become even more important for poverty reduction. For example, the proportion of the poorest decile with just primary school increased from 35 to 42 percent (see blue figures in chart), indicating that completing primary school is increasingly insufficient for achieving a life out of poverty. At the same time, the proportion of those in the 7th decile that have secondary education increased from 38 percent to 49 percent (see red figures in chart) demonstrating the growing importance of secondary education for this welfare rank (Figure 21).

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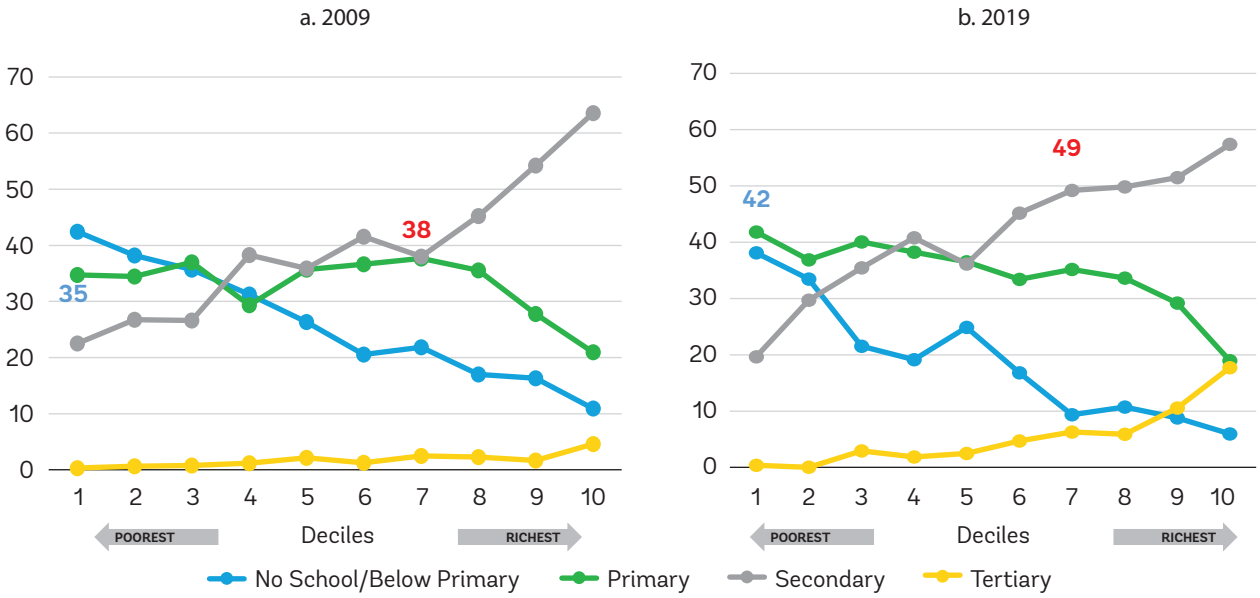
[37] See "World Bank. 2017. Zanzibar Poverty Assessment. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/28851, page 106.

FIGURE 21 Education level of the head of household, by welfare decile (% of household heads with education level)



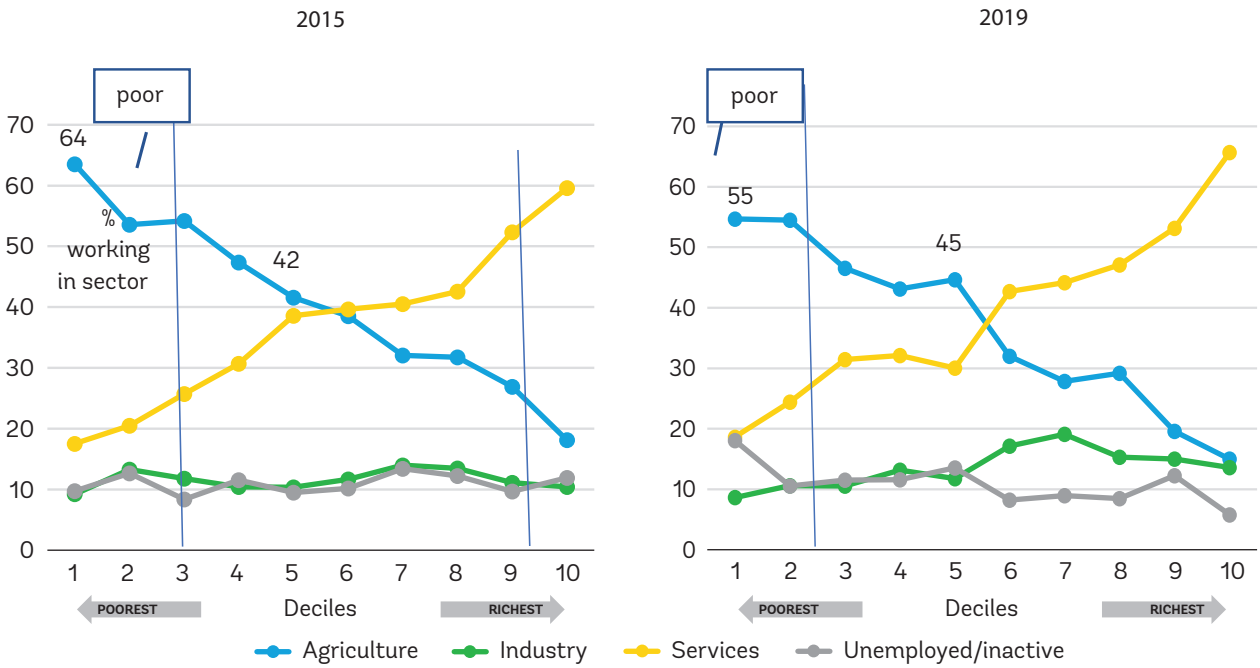
The impact of education on poverty was even larger in 2019 compared to 2009, as between 2009 and 2019 poverty fell fastest for those with a higher level of education. Findings also show that poverty rates are relatively high among widows and widowers. Unlike in 2009, in 2019 individuals living in female-headed households experienced higher rates of poverty than those living in male-headed households. More specifically, households with a single female adult had a higher poverty rate than those with a single male adult. Widowhood is associated with an increased likelihood of being poor, and this phenomenon increased between 2009 and 2019. Having more adults in the household generally led to higher levels of poverty.

The poor typically work in agriculture, and the proportion working in that sector drops rapidly when moving from poor to rich (see the blue line in Figure 22). Between 2015 and 2019, the proportion of the poorest decile that works in agriculture dropped, while the proportion of the unemployed/ inactive in that decile increased, suggesting that farming was less commonly a source of income for the poorest, while being inactive/ unemployed became more common among this group (Figure 22).

At the same time the proportion working in the service sector increases sharply when moving from the poorest to the richest decile, indicating that those working in the services sector are typically better-off. In contrast, the proportion of those working in the industrial sector stays almost constant when moving from poor to rich, although this changed somewhat in 2019 when a higher proportion of the better-off worked in the industrial sector. Being unemployed or inactive appears to have limited impact on welfare in 2019 as the proportion in this group is similar across deciles, except the poorest decile and the richest decile (Figure 22).

The agriculture sector is associated with relatively high levels of poverty as is common across Sub-Saharan Africa. The poverty rate for those working in agriculture fell from 45 to 38 percent between 2009 and 2019, but the pace of the

FIGURE 22 Sector of main work of head of household, per welfare decile



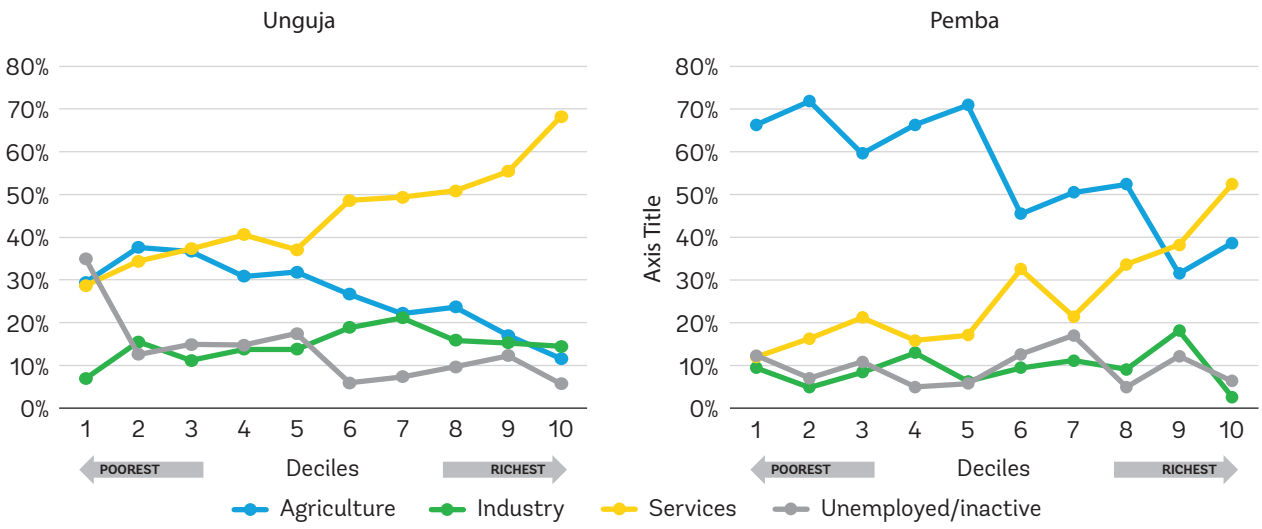
Note: Data of the HBS 2009 do not allow for distinguishing between those working in industrial sector or services and therefore the analysis is only done for the HBS 2014/15 instead and HBS 2019/20.
Source: Based on OCGS HBS 2014/15 and 2019/20.

reduction was slower than that of individuals in a household in which the head's primary economic activity was outside agriculture. Not only are individuals in 2019 living in a household in which the head's primary economic activity is in agriculture more likely to be poor than in 2009, they also account for a higher share of the poor than in 2009. More than half (53 percent) of the poor population were in households headed by someone in agriculture in 2019 compared to 49 percent in 2009.

The sector of work profile of the poor in Pemba is very different from in Unguja. In Unguja a large proportion of the poorest groups are in services, while in Pemba they are nearly all in agriculture. The poorest groups in Unguja—which form 43 percent of all the poor in Zanzibar—are not just earning their livelihood through agriculture but an equal proportion of the poorest 3 deciles are in the services sector. The majority of those in poorest percentile are unemployed or inactive. In contrast, in Pemba, which has 57 percent of the poor, the overwhelming majority of the poorest groups are in agriculture (Figure 23). Clearly in Unguja, working in the services sector is not a guarantee for being out of poverty.

There are striking differences in the sector of work of the poor between men women. In Unguja, young women (between 18 and 35 years old) that are unemployed/inactive form the largest proportion of the poorest decile and the 3rd and 4th poorest deciles. The proportion of young men in Unguja who are unemployed/inactive

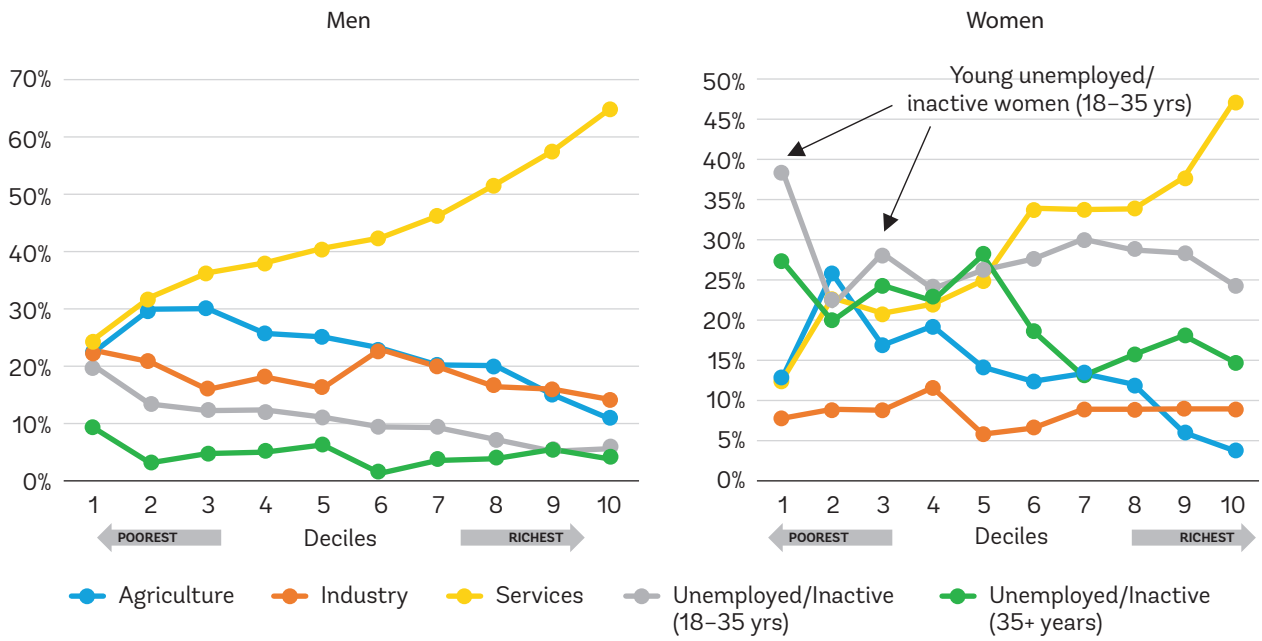
FIGURE 23 Sector of work of main job, by welfare decile by island



Source: Based on OCGS HBS 2014/15 and 2019/20.

is much lower across all deciles including the bottom deciles (see yellow line in Figure 24). In Pemba, the proportion of poor who are unemployed/inactive is also much higher among women compared to men, but the differences are smaller. By far the largest proportion of poor women and men in Pemba are those who work in agriculture, as noted.

FIGURE 24 Sector of work of main job by welfare decile in Unguja, by gender (18+ years)



Note: Those still in school are excluded from this analysis.
Source: Based on OCGS HBS 2014/15 and 2019/20.

Photo by MARIOLA GROBELSKA on Unsplash

3.9 Impact of the COVID-19 pandemic on poverty

In Zanzibar, the impact of the COVID-19 crisis on tourist arrivals and subsequent drop in jobs and business activity is likely to have mostly affected informal enterprises, women, and low-skilled workers.[38] International hotels and resorts anchoring the sector will have cut recurrent and capital expenditures, affecting jobs in tourism and related sectors such as construction and transportation. Tourism micro, small and medium scale enterprises (MSMEs) are the most vulnerable to permanent closures, particularly food service providers and non-branded accommodations. In the short term, the pandemic is likely to have led to increased informality, which will persist even after the recovery is underway. The closeness of Zanzibar households to the poverty line noted above and the relatively high levels of "churning" (people moving in and out of poverty) suggests that the COVID-19 induced income shock has pushed a substantial amount of people into poverty.

A telephone survey of a nationally representative sample of 2,734 households was initiated after the onset of COVID-19 to shed light on the impact of the pandemic on households. The survey was conducted by NBS and OCGS, in collaboration with the World Bank. The first round of this High-Frequency Welfare Monitoring Survey (HFWMS) was conducted in February 2021. The survey was fielded every other month, with five rounds successfully completed as of December 2021.

Results[39] show that in Zanzibar, 16 percent of respondents who were working before the pandemic in January 2020 indicated they were not able to keep working consistently during the rest of the year. The proportion that was unable to work consistently is much higher among women: 33 percent vs. 12 percent for men (Figure 25a). The main reason for being unable to work was illness, followed by business closure, but among women business closure was the main reason (Figure 25b).

In June/July 2021 the proportion of survey respondents who indicated they were working was 16 percentage points below the proportion in January 2020, before the onset of COVID-19. In addition, 14 percent of respondents who had a household business before COVID-19 indicated it was either temporarily or permanently closed, mostly because of lack of customers.[40]

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[38] World Bank 2021. Transforming Tourism, Toward a sustainable resilient and inclusive sector. Tanzania Economic Update 16.
[39] NBS and OCGS Tanzania high frequency welfare monitoring survey reports: https://www.nbs.go.tz/index.php/en/census-surveys/poverty-indicators-statistics/national-panel-survey
[40] Results from the High-Frequency Survey: February/March, April/May 2021 and June/July 2021. Draft

FIGURE 25A Proportion of respondents working and working consistently during January–December 2020 (%)

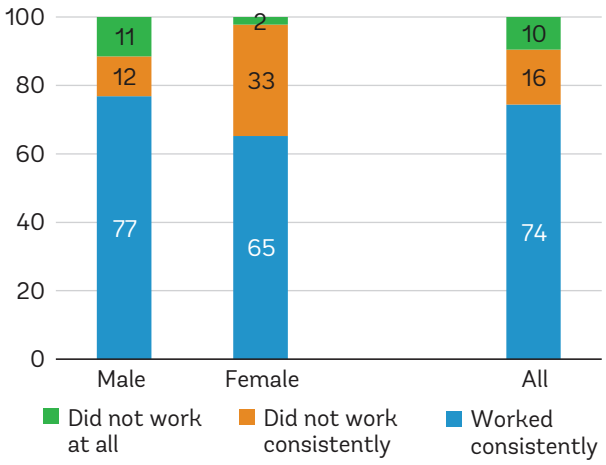
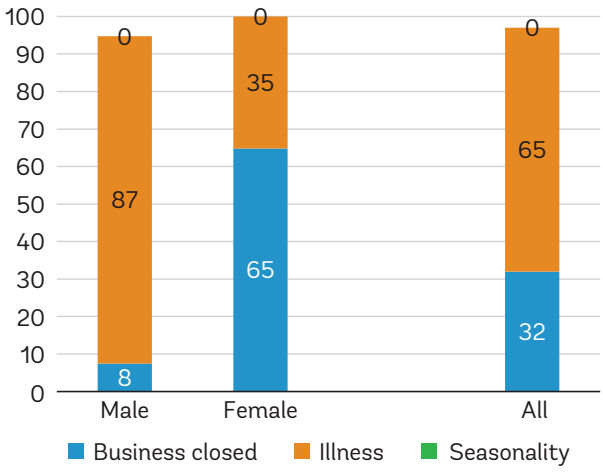


FIGURE 25B Reason for not working consistently in 2020 (proportion of those not working consistently, %)



Source: Based on the Tanzania HFWMS.

The COVID-19 pandemic affected Zanzibar but its impact on poverty was not measured by the HBS 2019–20 survey, as data collection had stopped just before the onset of the pandemic. Zanzibar witnessed a slowdown of economic growth to 1.3 percent in 2020, which, due to a population growth rate of 2.8–2.9 percent per year, led to a contraction of GDP per capita by 1.5 percent. The slowdown was driven by a contraction of the service sector, especially the tourism industry. Most of the hospitality industry shut down between March and September of 2020 and occupancy rates were close to zero over this period. Overall tourist arrivals for the 2020 calendar year amounted to just 50 percent of the previous year, and receipts from tourism fell by 38 percent as mentioned in Chapter 1.[41]

Using data on household poverty correlates collected through the Integrated Labor Force Survey (ILFS) 2020–21 which was conducted after the onset of the pandemic,[42] we find that urban poverty increased by 1.8 percentage points in 2020–21 while rural poverty dropped by 0.8 percentage points. Although it does not measure consumption, the ILFS collects data from households on a series of poverty correlates such as employment status, asset ownership, education and others, some of which may have been affected by the economic crisis. Using the HBS

[41] OCGS Zanzibar Statistical Abstract 2020.

[42] The ILFS was conducted across Tanzania and included a sampling stratum that was representative for Zanzibar from July 2020 to June 2021.

TABLE 7 Estimated urban and rural poverty rates for 2020–21, using imputation techniques and the ILFS 2020–21 survey

	Urban poverty (%)	Std. err.	[95% conf.	interval]
2019–20 (based on HBS)	15.5	1.4	12.7	18.3
2020–21 (estimated using ILFS)	17.3	2.2	12.8	21.7
	Rural poverty	**Std. err.**	**[95% conf.**	**interval]**
2019–20 (based on HBS)	33.7	1.5	30.7	36.7
2020–21 (estimated using ILFS)	32.9	1.6	29.1	36.6

Photo by Maurits Bausenhart on Unsplash

2019–20 to estimate the relationship between these poverty correlates and consumption, we can impute the level of consumption of each household in the ILFS 2020–21 using the poverty correlates and estimate poverty for that period.[43] Results show—as mentioned—that urban poverty rate rose by 1.8 percentage points. In contrast, rural poverty dropped a little, by 0.8 percentage points, possibly because of the sales of animals and cloves which saw a sharp rise in 2020.[44] It should be noted, though, that the estimates face high standard errors, leading to relatively large confidence intervals, and the changes in poverty are not statistically significant.

[43] The imputation approach uses the technique developed in the Survey of Well-being via Instant and Frequent tracking (SWIFT) approach. The HBS 2019-20 household survey dataset is split randomly into 10 subsamples. Each of these subsamples is called a "fold." Consumption models are estimated using the data in each of these ten folds by running stepwise ordinary least squares (OLS) regressions. After a model is estimated, the household expenditure is imputed in the remaining folds using the multiple-imputation method (MI). This analysis is repeated 10 times; each round uses a different fold as testing data to test the performance in terms of mean squared errors (MSEs) and the absolute value of the difference between the projected and actual poverty rates. For the analysis conducted here, separate models are estimated for rural and urban households.

[44] The number of goats inspected and sold for slaughter increased four-fold in 2020 compared to 2019 and for cows this rose by 20 percent. The value of clove production in 2019 was 2.5 times the value in 2018 and in 2020 it was even four times higher than in 2018 (see OCGS Zanzibar Statistical Abstract 2020).

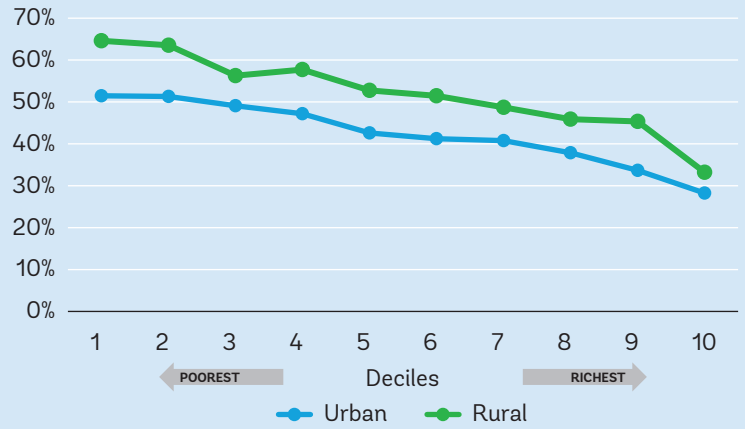
The poverty impact of food price rises following the Russian invasion of Ukraine affects the poor more than the non-poor, as the amount of food purchased as a proportion of total consumption is higher for those in the bottom of the income distribution. Box 3 presents the poverty impact of the Russian invasion of Ukraine in February 2022.

BOX 3 Impact of the Ukraine war on poverty

The rise in food and fuel prices following the Russian invasion of Ukraine could have an impact on poverty in Tanzania. While nominal income is projected to outgrow inflation in Tanzania over the coming years, leading to real GDP per capita growth, there is a time lag between price increases and nominal income growth, which can reduce real income temporarily.

In addition, an increase in food prices affects the poor more than the non-poor. That is because the proportion of a household's total consumption that consists of purchased food is higher for those in the bottom of the welfare distribution compared to those at the top (Figure B3.1). In Zanzibar, this proportion is higher in rural areas than urban areas. World Bank analysis for mainland Tanzania suggests that if food inflation increases twice as fast as non-food inflation, Tanzania's poverty rate in 2024 will be 2.5 percentage points higher than the pre-Ukraine war projection.

FIGURE B3.1 Percentage of household food expenditure on total consumption, per welfare decile in urban and rural (Zanzibar)



Source: Nobuo Yoshida and Haoyu Wu (2022). Analysis on the impact of the Ukraine war on poverty projections in Tanzania.

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Photo by Patrick Mueller on Unsplash

4. DRIVERS OF POVERTY REDUCTION, 2009–19 AND 2015–19

Main findings

The decline in poverty between 2009 and 2019 and the last four years of this period (2015–19) is predominantly driven by growth, while distributional changes slowed poverty reduction. Improvements within urban and within rural areas contributed the bulk of the decline in the Zanzibar poverty rate. Population movements, e.g., urbanization, hardly played any role, based on available data. Between 2009 and 2019, economic growth in urban areas contributed more (5.4 percentage points) to poverty reduction than rural growth (3.4 percentage points). However, the role of urban growth in poverty reduction declined during 2015–19. Breaking poverty reduction down by region shows that most of the reduction came from within regional growth and very little from population movements across regions. The two regions with the highest poverty levels in 2015—Kaskazini Pemba and Kusini Pemba—contributed the most to reducing the Zanzibar poverty headcount rate during this period. The decomposition of poverty reduction by "between-sector" and "within-sector" of employment change shows that within-sector poverty reduction took care of the bulk of the poverty reduction, with only a limited role for the population shift effect of changing sector of employment. Thus, the shift of people to other sectors, such as from agriculture to more productive sectors such as services and industry, played only a limited role in poverty reduction.

There are many possible factors that could have contributed to the modest poverty reduction during 2009–2019. This chapter investigates drivers behind the

drop in poverty. It exploits variation in poverty reduction, sectoral output growth, and provision of public goods across zones and time to examine what drove changes in poverty over the 2009–19 period. It uses different decomposition techniques to break down the changes in poverty between 2009 and 2019.

- First, it assesses whether poverty reduction was driven by a general growth of consumption (linked to economic growth) or through redistribution policies that changed the distribution of consumption across households.[45]
- The second decomposition consists of quantifying the relative contributions of economic growth (in the form of consumption growth) to poverty reduction *within* geographical areas versus the movement of people *towards* different geographical areas where opportunities for more productive activities are higher.[46]
- Third, looking at the sector of work of the head of household, it assesses whether poverty reduction was driven by *within* sector productivity changes or by movement of people *to a different* sector of employment, looking at services, the industrial sector, and agriculture/livestock/fisheries.[47]
- Fourth, an assessment is conducted of the amount of poverty reduction that can be accounted for by changes in "endowments" versus "returns to endowments."

All these techniques describe what poverty would have been in 2019 if one aspect from 2009 had remained unchanged. Such a counterfactual scenario allows for an isolated assessment of how one factor contributed to the changes in poverty, keeping another factor constant. However, counterfactual scenario analysis does not identify the causal drivers of poverty, it only sheds light on poverty reduction correlates. Box 4 provides further details on the decomposition methodology.

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[45] Using the method developed by Datt and Ravallion (1992).
[46] Using the Ravallion and Huppi (1991) approach.
[47] Using the Ravallion and Huppi (1991) approach.

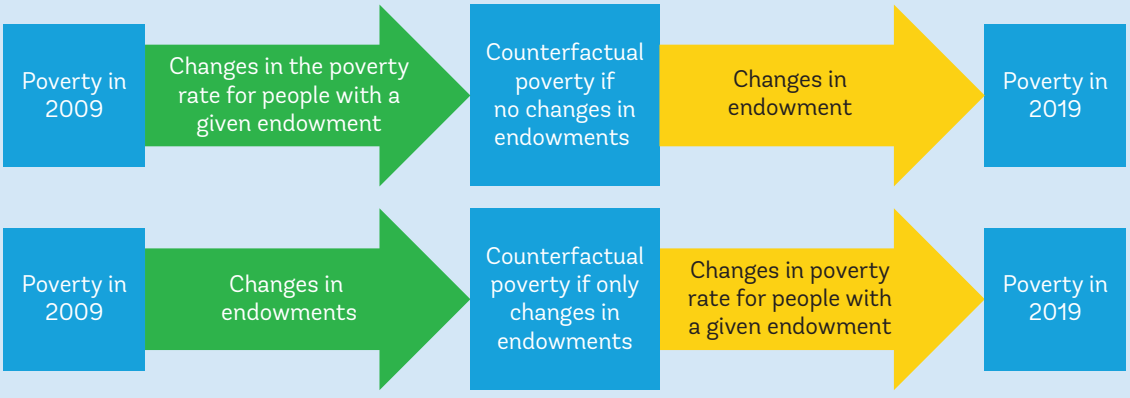
BOX 4 Decomposing poverty reduction: Methodology

In this chapter the results of three decomposition methods are applied. The first method assesses whether poverty reduction arose from a general increase in consumption or from changes in the distribution (a decrease in consumption inequality). Datt and Ravallion (1992) developed a technique to assess which of the two changes drove the poverty reduction between two periods. The method asks what poverty would look like with the mean consumption level in 2019 but the distribution of consumption in 2009, and vice-versa.

The second method is the Ravallion and Huppi (1991) **inter-sectoral decomposition** method that quantifies how much poverty reduction among different groups/locations or movement between different groups/locations accounts for national poverty reduction. In this method the focus is on a counterfactual of no change in the *proportion of the population in different locations or sectors*, and a counterfactual of no change *in poverty among people within a given location or sector.* These counterfactuals are used to examine the amount of poverty reduction that took place within sectors (as if sectors had not changed), and the amount of poverty reduction that took place because of people moving from one sector to another.

The third method uses **Oaxaca-Blinder decompositions** to different percentiles of the consumption distribution. This allows for an assessment of the amount of poverty reduction that can be accounted for in changes in the *characteristics of households and individuals* ("endowments") compared to the changing *nature of the Zanzibar economy and poverty* ("returns"). In the Oaxaca-Blinder decomposition analysis, the focus is on a counterfactual of a constant relationship between endowments and poverty in Zanzibar. This counterfactual is used to determine which changes in endowments could have contributed to poverty reduction, and how much poverty reduction could have changed as a result of a changing relationship between poverty and endowments. The latter is sometimes referred to as changes in the *returns to endowments*, but in fact it represents how the conditional correlation between a given endowment and consumption has changed. See also the below diagram.

Using counterfactuals to quantify changes that have been important for poverty reduction

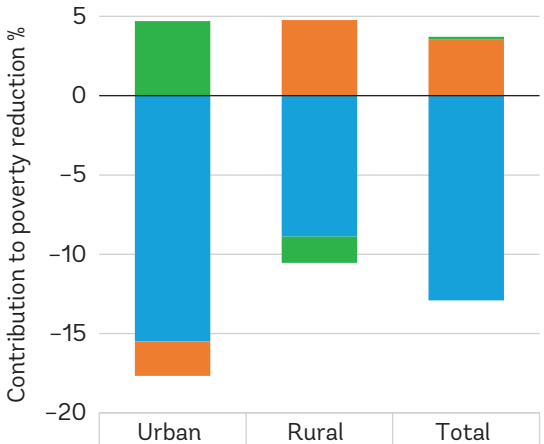


4.1 Growth vs. redistribution

Growth in consumption played a dominant role in overall poverty reduction, while distributional changes slowed poverty reduction. Figure 26 breaks down the change in the poverty headcount rate between 2009 and 2019, and for the period 2015–19, by whether poverty reduction was driven by growth in mean consumption per adult equivalent or by a more equitable distribution of consumption. The 9.2 percentage point decline in the poverty rate between 2009 and 2019 and the 4.8 percentage point decline in the headcount rate between 2015 and 2019 were mainly driven by the growth component (see blue colored parts of the bars in Figure 26). In the absence of a worsening distribution in consumption per adult equivalent, the national poverty rate would have declined by 7.3 percentage points between 2015 and 2019 instead of 5.8 percentage points. On the other hand, in the absence of growth in consumption per adult equivalent, the national poverty headcount rate would have *increased* by 2.4 percentage points due to changes in the distribution in consumption at a national level between 2015 and 2019 (see Figure 26b). These figures are more pronounced when looking at the period 2009–2019 (Figure 26a). A similar trend is evident considering other poverty measures such as the poverty gap and square poverty gap, suggesting that increases

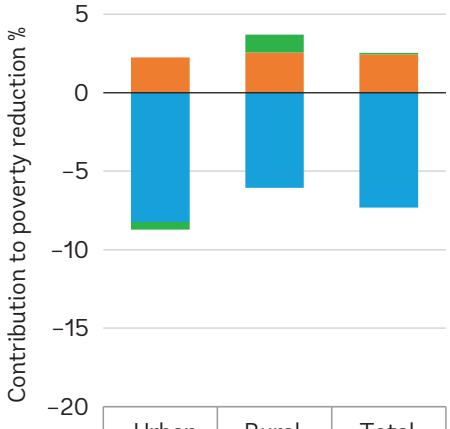
FIGURE 26 Decomposing changes in poverty into growth and distributional change, 2015–19

a. 2009–19



	Urban	Rural	Total
Interaction	4.7	–1.7	0.1
Redistribution	–2.2	4.8	3.6
Growth	–15.5	–8.9	–12.9

b. 2015–19



	Urban	Rural	Total
Interaction	–0.5	1.1	0.1
Redistribution	2.2	2.6	2.4
Growth	–8.2	–6.1	–7.3

Source: Calculations from HBS 2014/15 and 2019/20.

in consumption per adult equivalent at the bottom of the consumption distribution were due to growth and not due to redistribution policies, such as social safety nets, between 2009–15 and 2015–19.

4.2 Inter-area population shifts vs. intra-area growth

Consumption growth within urban and within rural areas contributed the bulk of the decline in the national poverty rate between 2009 and 2019 and the last four years of this period, 2015–19. The role of population shifts between rural and urban areas,[48] based on available population data, was marginal. Between 2009 and 2019, within area consumption growth reduced poverty by 8.8 percentage points and population shifts only contributed 0.1 percentage points. These figures were 4.7 and 0.1 respectively for the last four years of the period, 2015–19. This implies that if population shares of urban and rural areas remained constant at 2015 levels and considering only the changes in poverty rates in these two geographical areas, poverty would have declined by 4.7 percentage points, instead of 4.8 percentage points. On the other hand, if consumption per adult equivalent had remained the same in urban and rural areas, population shifts from rural to urban areas, would have contributed only 0.1 percentage points to poverty reduction (Figure 27). Findings were similar for both basic needs poverty and food poverty (extreme poverty) even if overall changes in food poverty were smaller.

[48] Between 2015 and 2019, the share of the urban population increased by only 0.6 percentage points, based on available population data.

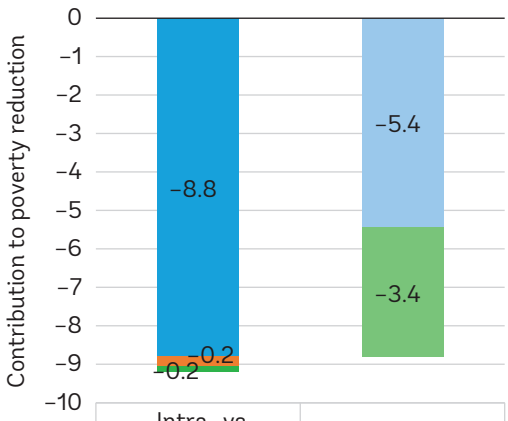
Photo by MARIOLA GROBELSKA on Unsplash

Between 2009 and 2019, growth in both rural and urban areas contributed to poverty reduction, but urban growth contributed more (5.4 percentage points) to poverty reduction than rural growth (3.4 percentage points) (see light blue and green colored bars in Figure 27a). Looking only at the 2015–19 period, however, the contribution of rural growth to poverty reduction (3.6 percentage points) was much larger than urban growth (1.0 percentage point of poverty reduction) (see green and light-blue colored bars in Figure 27b).

Breaking poverty reduction down by region shows that most of the reduction in poverty came from within regional growth and very little from population movement across regions. If changes in regional population shares are allowed to change, and the poverty headcount rates in the regions are held constant at 2015 levels, the national poverty headcount rate would have *increased* by 0.3 percentage points between 2015 and 2019. However, if regional population shares are held

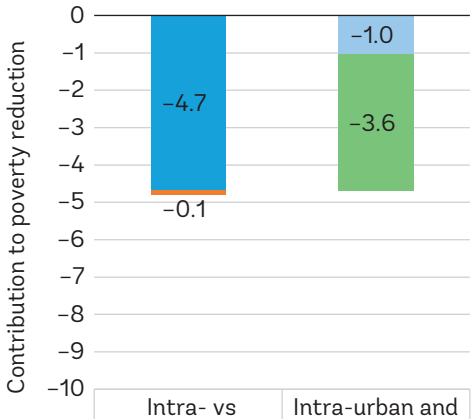
FIGURE 27 **Decomposing changes in absolute poverty into intra-rural/intra-urban effects vs. urban-rural population-shift effects**

a. 2009–19



	Intra- vs population shift effect	Intra-urban and Intra-rural effect
Intra-rural effect		−3.4
Intra-urban effect		−5.4
Interaction effect	−0.2	
Cross location population-shift effect	−0.2	
Intra-location effect	−8.8	

b. 2015–19



	Intra- vs population shift effect	Intra-urban and Intra-rural effect
Intra-rural effect		−3.6
Intra-urban effect		−1.0
Interaction effect	0.0	
Cross location population-shift effect	−0.1	
Intra-location effect	−4.7	

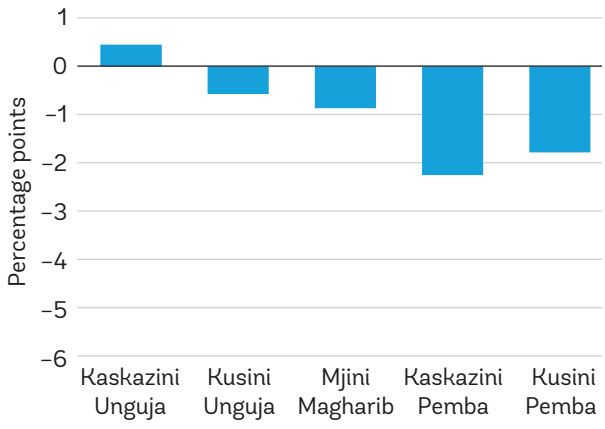
Source: Based on OCGS HBS from 2014/15 and 2019/20.

Photo by Kaspars Eglitis on Unsplash

constant at levels that prevailed in 2015, and regional poverty rates are allowed to vary, then national poverty would have *declined* by 5.0 percentage points.

Kaskazini Pemba contributed the most to reducing the national poverty headcount rate during 2015–2019. The reduction in poverty within Kaskazini Pemba contributed about 2.2 percentage points of total poverty reduction, followed by Kusini Pemba 1.8 percentage points. This is encouraging given that the two regions had the highest poverty level in 2015 and account for more than half of the total poor of Zanzibar in both years. On the other hand, Kaskazini Unguja, home to 14 percent of the total population in 2019, slowed down the national and extreme poverty reduction by 0.4 and 0.1 percentage points, respectively (Figure 28). However, as noted in Section 3.4, poverty changes at the regional level are not statistically significant between 2015 and 2019 as standard errors are large.

FIGURE 28 **Decomposing changes in absolute poverty by region, 2015–19 (intra-area effect)**



Source: Based on OCGS HBS 2014/15 and 2019/20.

4.3 Inter-employment sector population shifts vs. intra-sector growth

The decomposition of poverty reduction by "between-sector" and "within sector" of employment change shows that within sector poverty reduction took care of the bulk of the poverty reduction, with only a

limited role for the population shift effect of changing sector of employment. According to the HBS data the proportion working in the agricultural and fisheries sector dropped by 4.3 percentage points between 2009 and 2019. Decomposing changes in the poverty rate to account for changes in poverty within the sector of employment of household head and the effect of mobility between sector of employment reveals that if the share of the population in the sector of employment is held constant at the 2009 value, the national poverty rate would have declined by 9.4 percentage points, which is almost the same amount witnessed in reality (9.2 percentage points).[49] On the other hand, if the poverty rate in each sector of employment is held constant at the 2009 value and the share of the population in each sector is allowed to change, the national poverty headcount rate would have declined by only 0.3 percentage points (Figure 29a). The same was found for the 2015–19 period (Figure 29b). Thus, the shift of people to other sectors, such as from agriculture to more productive sectors such as services, played only a limited role in poverty reduction.

Between 2009 and 2019 the reduction in poverty within the non-agriculture sector contributed about 7.0 percentage points of total poverty reduction, while the agricultural sector contributed 2.7 percentage points (Figure 29c). This is in line with the higher poverty reduction in urban areas during 2009–19. Looking at only the last 5 years of this period, however, the highest contribution to poverty reduction was found in the agricultural sector (2.1 percentage points), followed by services (1.7 percentage points (Figure 29d). This corresponds to the higher poverty reduction in rural areas, which declined by 6.5 percentage points compared to a drop of 2.4 percentage points in urban areas.

One conclusion to be drawn from this is that the movement of people from one sector of work to another—for example, from agriculture to services—has not contributed much to poverty reduction. There has been a substantial shift of the labor force (especially women) from agriculture to other sectors (mainly services) during the 2014–20/21 period, according to labor force survey data[50]. Similar trends were found in the HBS data for the period 2015–19. However, this has not coincided with a commensurate drop in poverty reduction, which has been slow.

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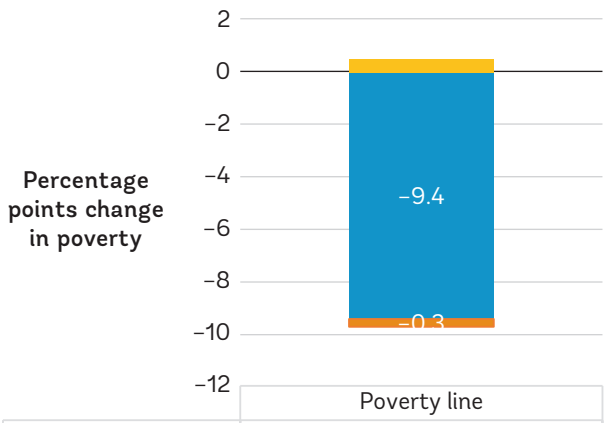
[49] Agriculture sector includes agriculture, forestry and fishing; Industry includes manufacturing, construction, mining and quarrying; electricity, gas and water supply; Services includes market services (trade; transportation; accommodation and food; and business and administrative services) and non-market services (public administration; community, social and other services and activities).

[50] See: OCGS and NBS (2021) Labor Force Survey key indicators report. https://www.nbs.go.tz/index.php/en/census-surveys/labour-statistics/688-integrated-labour-force-survey-2020-21

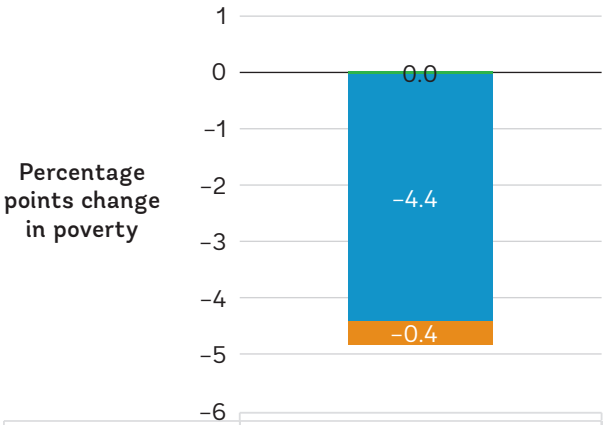
FIGURE 29 Decomposing changes in absolute poverty by household head employment sector, 2009–19 and 2015–19

a. Total intra-sectoral vs. population-shift effects 2009–19



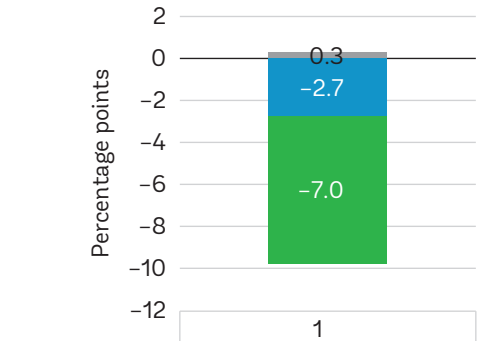
	Poverty line
Interaction effect	0.5
Population-shift effect	−0.3
Total Intra-sectoral effect	−9.4

b. Total intra-sectoral vs population-shift effects 2015–19



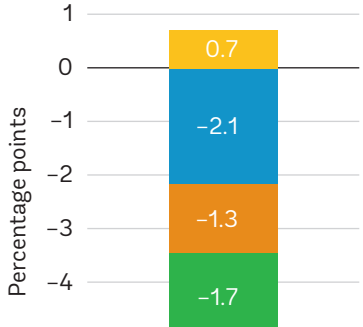
Interaction effect	0.0
Population-shift effect	−0.4
Total Intra-sectoral effect	−4.4

c. Decomposing the intra-sector effect 2009–19



	1
Non-agriculture	−7.0
Agriculture, forestry and fishing	−2.7
Missing	0.3

d. Decomposing the intra-sector effect 2015–19



Missing	0.7
Services	−1.7
Industry	−1.3
Agriculture	−2.1

Note: distinguishing between services and industry for the decomposition for the period 2009 and 2019 is not possible due to data limitations in the HBS 2009.
Source: Calculations from HBS 2014/15 and 2019/20.

The finding that the shift of people out of low-productivity agriculture into services barely contributed to poverty reduction suggests that the work they found in the services sector was of insufficient productivity to raise them above the poverty line. This happened at a time when the tourism sector was growing fast, which suggests that the impact of the tourism sector on the population's welfare has been limited. Most tourism industry purchases are from outside Zanzibar (Table 8). A recent review of the MKUZA III, the Zanzibar Growth and Poverty Reduction Strategy, by the Planning Commission found that only 0.3 percent of survey respondents indicated that growth of the tourism sector was an important part of the progress they had witnessed.

Second, while the non-agricultural services sector was the main driver of poverty reduction during 2009–19, the agricultural sector also played a role, particularly during 2015–19. As noted in Chapter 2, agricultural production saw a substantial increase in growth during the period under analysis (2015–19) compared to the five years before that, although agricultural growth during 2015–19 was still lower than in the services and industry sector. But given the large numbers of poor people who depend on the agricultural sector for their livelihood, it played an important role in rural poverty reduction. The overall size of poverty reduction was limited, however.

TABLE 8 **Linkages and leakages in the Zanzibar tourism industry: Proportion of purchases sourced inside and outside of Zanzibar**

Items	Local (%)	Imports (%)	Total
Foods	14.8	85.2	100%
Beverages	5.7	94.3	100%
Rooms/accommodation	17.3	82.7	100%
Compensation of employees	24.7	75.3	100%
Average	**16.9**	**83.1**	**100%**

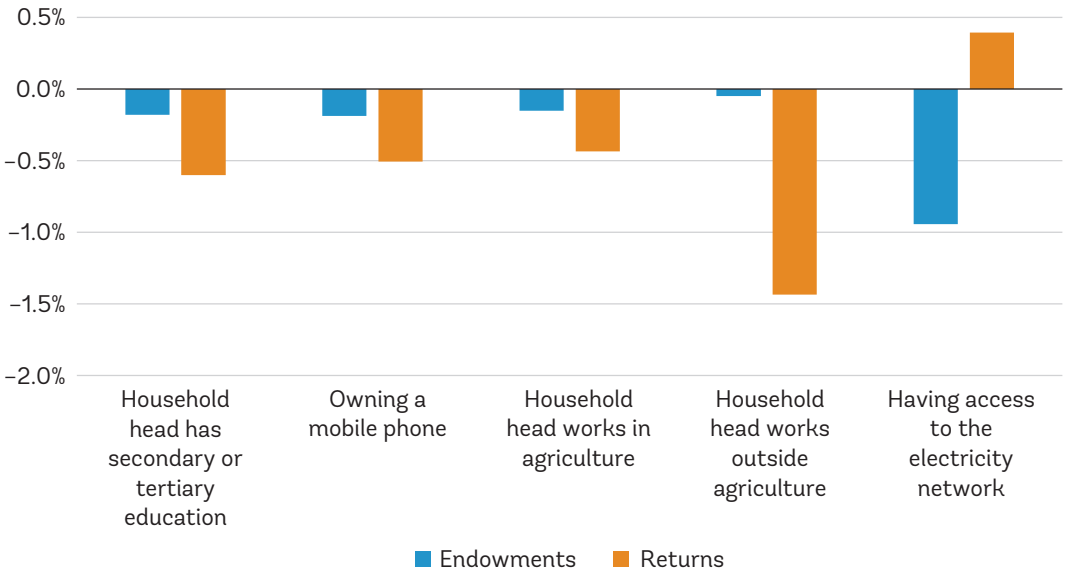
Source: UNICEF report quoting the following publications: Anderson, W. And Juma, S. (2011) Linkages at tourism destinations: Challenges in Zanzibar. Journal of Tourism Research, 3 (1), 27–41; Anderson, W. (2013) Leakages in the tourism systems: case of Zanzibar. Tourism review, 68(1), 62–76; Anderson, W. (2015) Human Resource Needs and Skill Gaps in the Tourism and Hospitality Sector in Tanzania. Consultancy Report submitted to The Ministry of Education and Vocational Training, Tanzania under World Bank – STHEP AF Project.

4.4 Changes in endowments vs. changes in returns to endowments

The poverty reduction of nearly five percentage points during 2015–19 was driven[51] mostly by an increase in endowments, and much less by an increase in returns to endowments. Higher *returns* for working *outside* agriculture, as well as higher *returns* to having secondary or tertiary education, and to having a mobile phone, all contributed. Increased returns to working *in* agriculture also played a role (see orange bars in Figure 30). However, the expansion in access to electricity also made an important contribution to the reduction of poverty during 2015–19. Hardly any poverty reduction was due to an increase in the *proportion* of people working outside agriculture. This confirms the above finding that shifts between sectors of work (mainly the large shift out of agriculture) hardly contributed to the reduction in poverty.

The substantial poverty reduction in Pemba of 11 percentage points is mostly associated with an increase in access as well as higher access to electricity. This is followed by an increase in the returns to working in agriculture and also to working outside agriculture. In Unguja, higher *returns* to tertiary education played an important role in poverty reduction; the increase in the *proportion* of having tertiary education barely played a role.

FIGURE 30 Drivers of poverty reduction, 2015–19



Source: Based on Oaxaca decomposition analysis using OCGS HBS 2014–15 and 2019–20 data.

[51] This paragraph is based on the Oaxaca decomposition analysis explained in Box 4.

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Photo by Abubakar Burhan on Unsplash

5. NON-MONETARY DIMENSIONS OF POVERTY

Main findings

The last decade saw fast progress across a range of non-monetary poverty indicators. The HBS surveys show that between 2015 and 2019 the gross school enrollment rate increased across all levels, particularly in secondary education (Form 5 and 6) where it increased from 51 to 66 percent. Access to electricity improved spectacularly between 2009 and 2019: the proportion of households with access to the grid network grew from 38 to 57 percent, with another 6 percent having access to solar power. During the same period, the proportion of households with access to a modern toilet with a flushing system increased from 20 to 51 percent between 2009 and 2009. The proportion of the population depending on an unprotected, dug well for their drinking water dropped from 9 to 6 percent. Between 2010 and 2015–16 the proportion of child deliveries in health facilities increased sharply according to the DHS surveys, while between 2014 and 2018 the stunting rate (low height for age) of children under five dropped by 2.9 percentage points to 21.5 percent according to the Tanzania National Nutrition Surveys. A Multidimensional Poverty Index (MPI) was calculated and suggests that 37 percent of Zanzibarians are "multidimensional poor," that is, are deprived in at least a third of indicators used to estimate the MPI and thus are classified as multidimensionally poor. On average, a multidimensionally poor individual is deprived in 48 percent of the indicators. There are large disparities in multidimensional poverty across geographic locations. The MPI in rural areas is almost five times that of urban areas, and Pemba Island has a much higher MPI than Unguja Island. To compliment the MPI, the Multidimensional Overlapping Deprivation Analysis (MODA) approach is

used to deepen analysis of child poverty. Results show that child deprivation in Zanzibar remains widespread across a range of indicators. Deprivation caused by pollution from burning cooking fuel is the most dramatic.

Conventional monetary measures of poverty using income or consumption miss several important aspects of poverty that people in Zanzibar are exposed to daily, and which affect their quality of life and living standards. These aspects include elements that cannot easily be monetized, such as food security, housing, health, education, and access to electricity and safe drinking water. Efforts to sustainably address poverty need to go beyond the proximate causes of deficits in consumption, to understand the different forms of deprivation, and to address the multiple underlying causes of poverty and vulnerability. Monetary measures of poverty are also limited in their capacity to reflect the lived experience of children. Even households that are not monetary poor may still be unable to send their children to school or may have children who are malnourished.

The "multidimensional approaches," using indicators of wider deprivation and unmet needs, are now recognized by UN agencies including the World Bank as important complements to monetary measures of poverty. The Multidimensional Poverty Index (MPI), for instance, has been adopted as an official indicator for the UN 2030 Agenda and its SDGs. Tanzania, including Zanzibar, aspires to join the growing number of countries and regions that develop a national MPI that complements monetary poverty statistics. Zanzibar has historically relied on monetary measures for its poverty monitoring. Although non-monetary poverty aspects have been studied before, no formal national MPI has been constructed.

Photo by Bruna Afonso on Unsplash

This chapter presents the results of the construction of a Zanzibar MPI modeled after the one mainland Tanzania has developed recently. Three poverty dimensions are used: health, education, and living standards, each capturing different facets of poverty. The selection of these dimensions is informed by data availability and Tanzania (including Zanzibar) preferences. The MPI can identify, prioritize and help achieve targeted sectoral policy intervention. It can guide actions by several ministries, provide clear goals, and target for each indicator and act as a monitoring and accountability tool within the government.

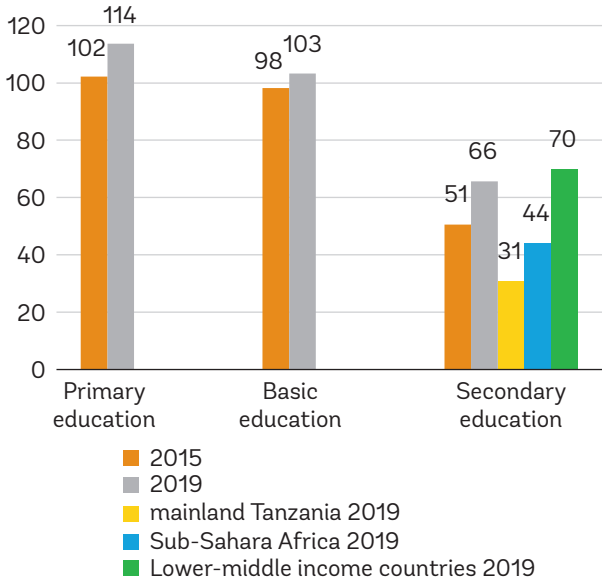
This chapter starts by examining the progress of several non-monetary factors that have been important dimensions of poverty in Zanzibar in the last few years. This is followed by a discussion of the method used to construct the MPI and a presentation of the results in detail, highlighting differences across population groups and geographical areas. The chapter ends by deepening the measurement of child poverty through conducting a comprehensive and longitudinal Multidimensional Overlapping Deprivation Analysis (MODA) for Zanzibar.

5.1 Progress in reducing selected non-monetary indicators of poverty

Education

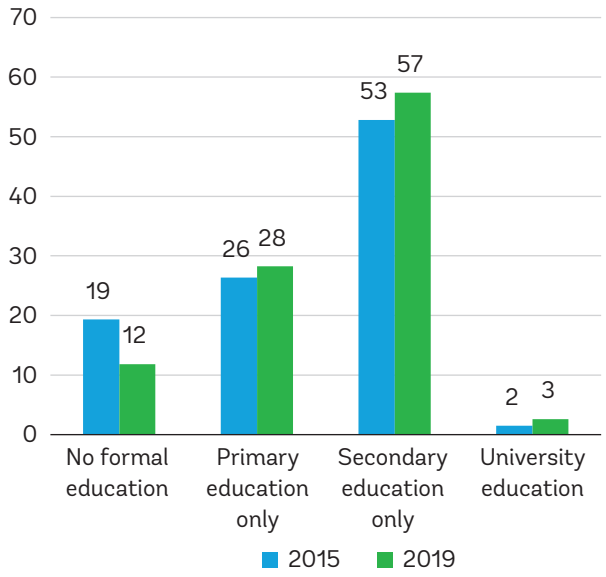
Across all levels, the gross school enrollment rate increased between 2015 and 2019, particularly in secondary education (Figure 31). During this period, enrollment in secondary education (Form 5 and 6) increased from 51 to 66 percent just below the average for lower-middle income countries (see Figure 31). Indicators of educational attainment also went up: the proportion of the population of 15 years and older with no formal education dropped from 19 to 12 percent while the proportion that only completed primary education increased by 2 percentage points. Completion of secondary education went up by 4 percentage points in just 4 years

FIGURE 31 Gross enrollment rates, 2015–19, and in mainland Tanzania and comparator groups in 2019



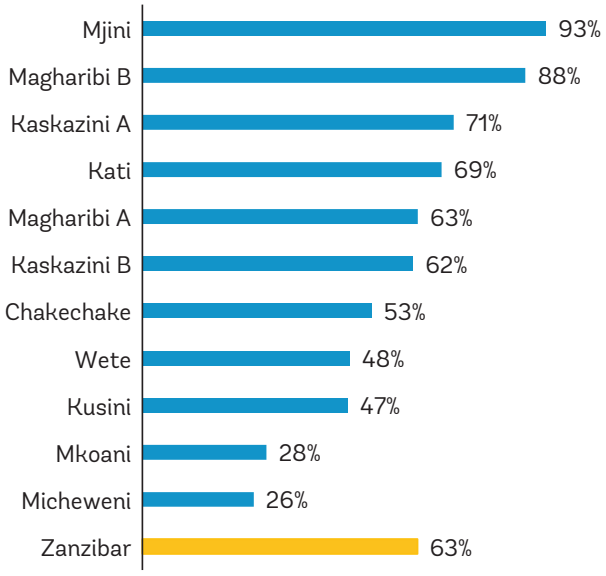
Notes: Primary education = pre-primary and Primary 1–6; Basic education = Primary 6–7+ secondary 1-4; Secondary education = Secondary 5–6. The gross enrollment rate is the number of students enrolled in a given level of education, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education.
Source: Based on Zanzibar HSB 2014/15 and HBS 2019/20.

FIGURE 32 Educational attainment, 2015–19 (15+) 9%)



Note: Primary education = completion of Primary 8; Secondary education = completion of Form 6;
Source: Based on Zanzibar HSB 2014/15 and HBS 2019/20.

FIGURE 33 Percentage of population living within less than one kilometer from a health facility, by district, 2019–20



Source: Based on OCGS HBS 2019/20.

(Figure 32). Chapter 6 presents more detail on education trends.

Health

There has been significant progress in the provision of basic health services as well as the expansion of health facility coverage in the last few years. However, there is a high variation in access to health facilities among districts. In 2019, the proportion of the population reported to live within one kilometer of a primary health facility, varied between 93 percent in Mjini to 26 percent in Micheweni (Figure 33). More than 57 percent of those who visited health facilities received free services according to the HBS 2019–20 survey. Formal health insurance is limited however, as only 4 percent of the survey respondents indicated they had such insurance (see also Section 7.1)

The rate of malnutrition declined between 2014 and 2018 according to the Tanzania National Nutrition Surveys of those years. The stunting rate (low height for age) of children under five dropped by 2.9 percentage points in four years to 21.5 percent in 2018; 5.7 percent were severely stunted.[52] Stunting rates in Zanzibar are lower than those in mainland Tanzania where it is 32 percent (Table 9).[53] However, the lower stunting rate in Zanzibar is accompanied by a higher wasting rate (low weight for height) which was almost

[52] Stunting prevalence data is collected from the Tanzania National Nutrition Survey of 2018.

[53] Stunting, wasting, and underweight are three important anthropometric indicators. *Stunting* results from chronic undernutrition, which retards linear growth, whereas *wasting* results from inadequate nutrition over a shorter period and being *underweight* encompasses both stunting and wasting.

TABLE 9 Prevalence of malnutrition for children under five, compared to mainland Tanzania

		Stunting Low height for age	Wasting Low weight for height	Underweight Low weight for age
2014	Zanzibar	24.4	7.2	13.9
	Mainland	35.0	3.7	13.4
2018	Zanzibar	21.5	6.1	14.0
	Mainland	32.1	3.5	14.7

Notes: Stunting (height-for-age ratio) is a measure of linear growth retardation and cumulative growth deficits, identifying children who are short for their age (stunted) or chronically undernourished. *Wasting* (weight-for-height ratio) measures body mass in relation to body height or length and describes current nutritional status, identifying children who are thin (wasted) or acutely undernourished. *Underweight* (weight-for-age ratio) is a composite index of height-for-age and weight-for-height that takes into account acute and chronic undernutrition.
Source: Tanzania National Nutrition Survey 2014 and 2018.

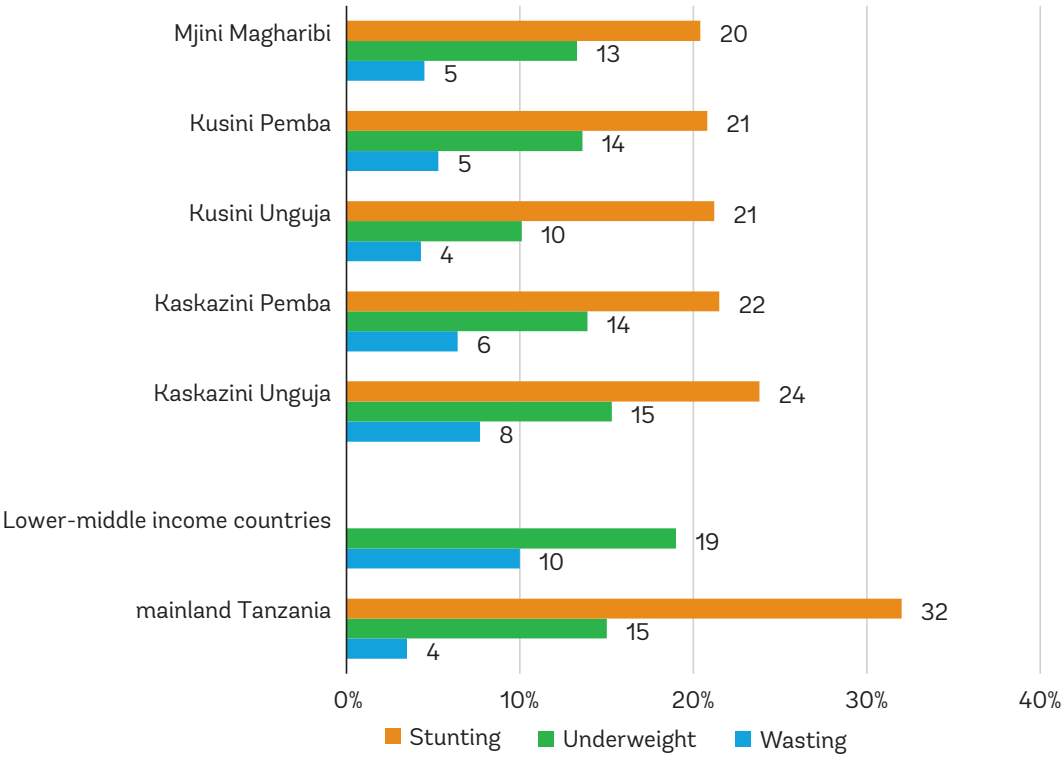
twice as high as mainland Tanzania, although percentages are relatively low (6.1 vs 3.5 percent).

Regional disparities in malnutrition are evident in Zanzibar but are relatively low, as malnutrition is relatively high even in better-off districts. Kaskazini Unguja region, for example, is the second richest region but has the highest malnutrition rates: the stunting rate is 24 percent, 8 percent is affected by wasting and 15 percent is underweight (Figure 34). However, even in Mjini Magharibi, which has a much lower monetary poverty rate than all other regions, malnutrition indicators are only slightly lower than other districts (Figure 34). Research has shown that malnutrition often has a multisectoral cause and is driven by three factors: food and care, health, and Water, Sanitation and Hygiene (WaSH) services.[54]

[54] Skoufias, Emmanuel, Katja Vinha, and Ryoko Sato. 2019. All Hands on Deck: Reducing Stunting through Multisectoral Efforts in Sub-Saharan Africa. Africa Development Forum series. Washington, DC: World Bank. doi:10.1596/978-1-4648-1396-2.

Photo by Kaspars Eglitis on Unsplash

FIGURE 34 Prevalence of malnutrition for children under five, 2018 (%)



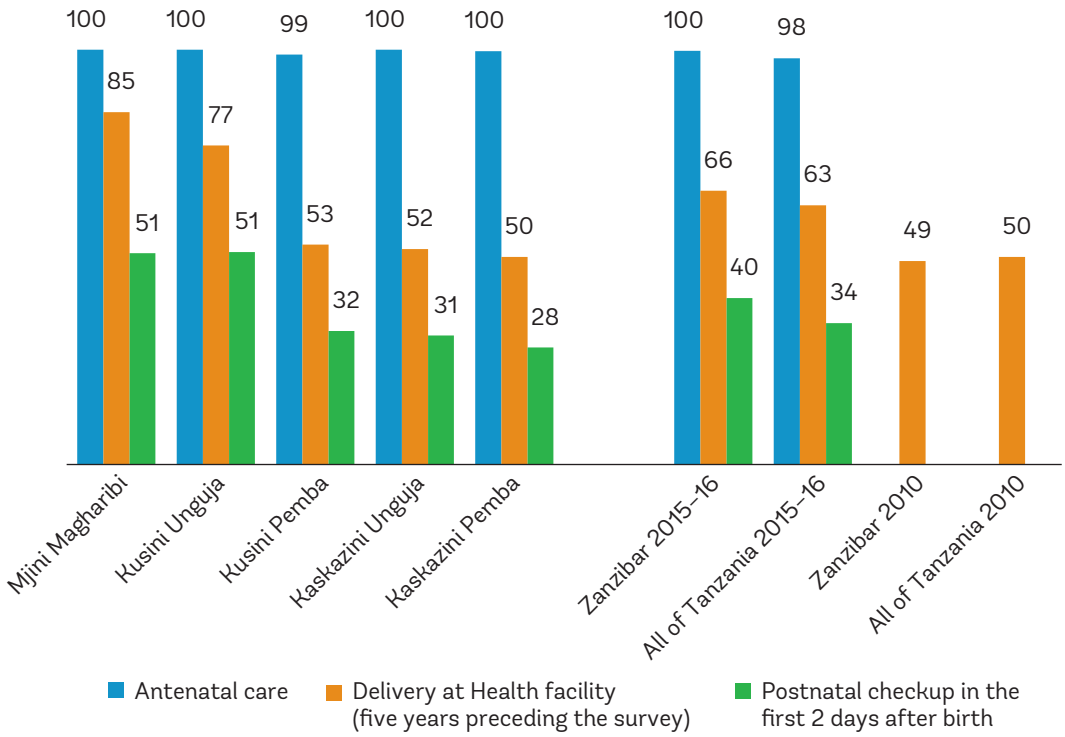
Notes: For explanation of 'stunting', 'underweight' and 'wasting' see footnote under Table 9.
Source: Tanzania National Nutrition Survey, 2018.

The proportion of child deliveries in health facilities increased sharply between 2010 and 2015–16 according to the DHS surveys of those years. In 2015–16, on average 66 percent of deliveries took place at a health facility compared to 49 percent in 2010. In addition, in 2015–16 40 percent of newborns received postnatal checkup in the first 2 days after birth.[55] These statistics are above the national average for the United Republic of Tanzania. There are large differences across geographical areas in Zanzibar, women living in Mjini Magharibi had the highest proportion of delivering an infant at a health facility (85 percent) while this was lowest (50–53 percent) in Kaskazini Pemba, Kaskazini Unguja, and Kusini Pemba (Figure 35).

Child mortality also saw a notable decline in recent years. The mortality rate for children under the age of five dropped from 73 deaths per 1,000 live births in 2010 to 56 deaths in 2015–16, a relative reduction of 23 percent (Figure 36). The infant

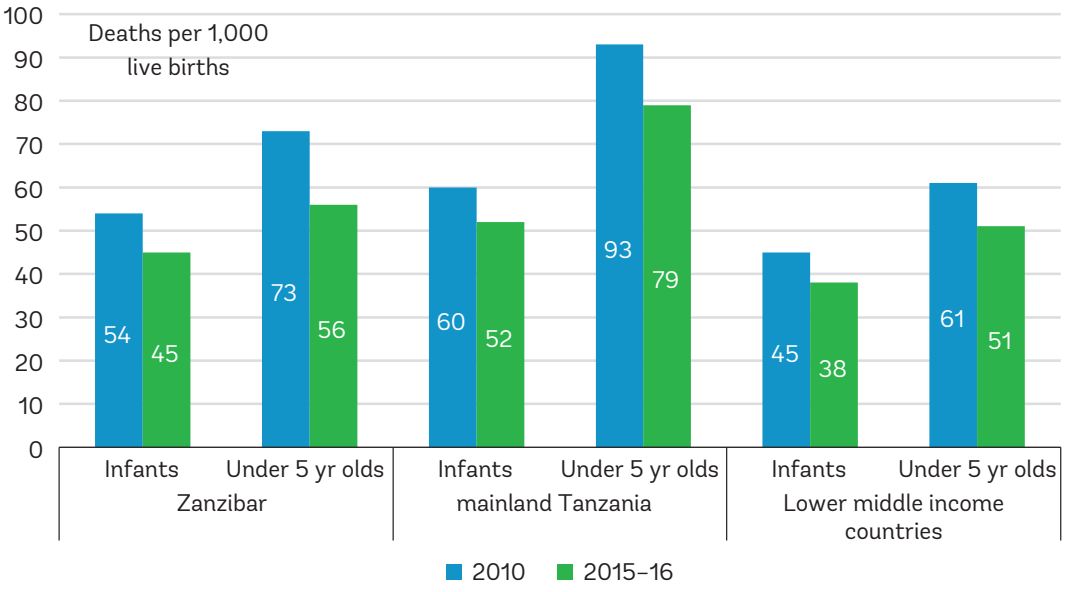
[55] The statistics on women's health care service usage are from two Demographic and Health Surveys (2015/16 TDHS-MIS and 2010 TDHS).

FIGURE 35 Percentage of women aged 15–49 receiving delivery related health care services, 2015–16



Source: Tanzania Demographic and Health Surveys–Malaria Indicator Survey (TDHS-MIS 2015–16) and Tanzania DHS 2010.

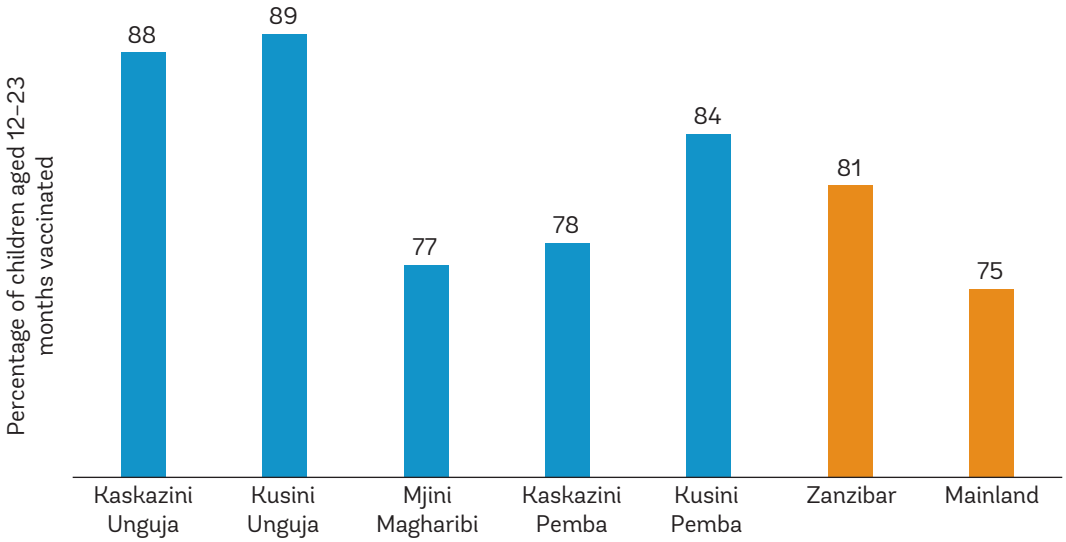
FIGURE 36 Infant and child mortality rate, 2010–11 through 2015–16



Source: 2010 Tanzania DHS and 2015/16 Tanzania DHS-MIS, and World Development Indicators (data.worldbank.org)

mortality rate also fell from 54 deaths per 1,000 live births to 45 deaths during the same period, a relative decline of 16.7 percent. Child mortality rates are below those in mainland Tanzania. Increased births in health facilities and more coverage of child vaccination are important factors in reducing child mortality. Compared to the mainland, Zanzibar has a higher coverage of vaccination (81 percent in Zanzibar vs. 75 percent in the mainland) (Figure 37).

FIGURE 37 **Vaccination rate among children aged 12–23 months, 2015–16 (%)**



Source: 2015/16 TDHS-MIS.

Photo by MARIOLA GROBELSKA on Unsplash

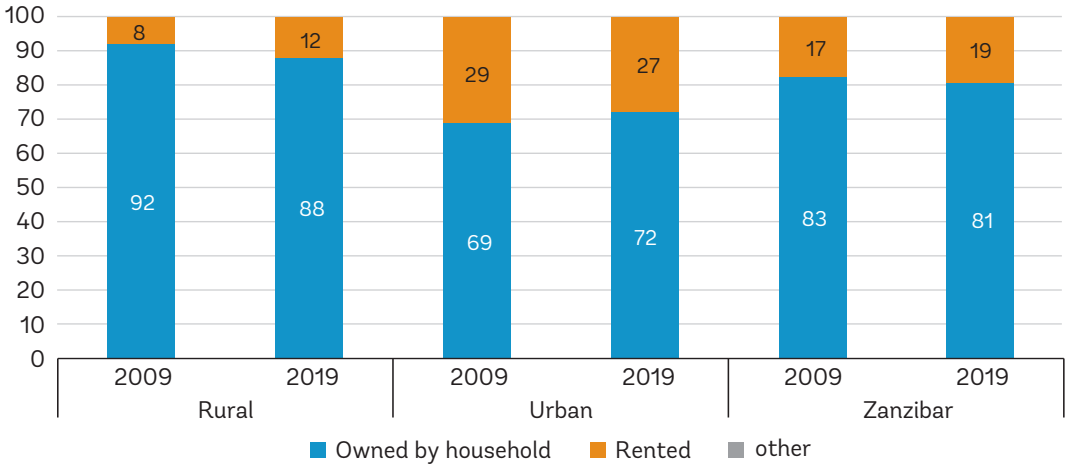
Home ownership and access to basic infrastructure

Home ownership dropped in the last decade, driven by a reduction in rural areas. Around 84 percent of households owned a house in 2010, and this had not changed in 2015 and even reduced to 81 percent in 2020 (Figure 38). The trend for rural and urban areas differs: in rural areas the ownership of dwellings declined from 92 percent to 88 percent during 2009–19, while in urban areas there was a 3 percent increase.

The proportion of women owning a home has increased but men remain more likely to own a home and other assets, compared to women. For example, the proportion of women owning a home increased from 16 to 21 percent during 2009–19; for men this fell from 82 percent to 75 percent. Joint ownership of assets by couples is uncommon. Females in urban areas seemed to be more likely to own a home than in rural areas. Equal access to assets is essential for providing women with equal opportunities.

Most of Zanzibar's households (91 percent) have access to a safe source of drinking water; the proportion depending on an unprotected, dug well for their drinking water dropped from 9 to 6 percent. The proportion of households with a main drinking water source that counts as "improved" as per the UNICEF/WHO definition[56] rose only 1.5 percent over 10 years, but there have been significant changes within the "improved" category towards piped water and away from wells (Figure 39). The

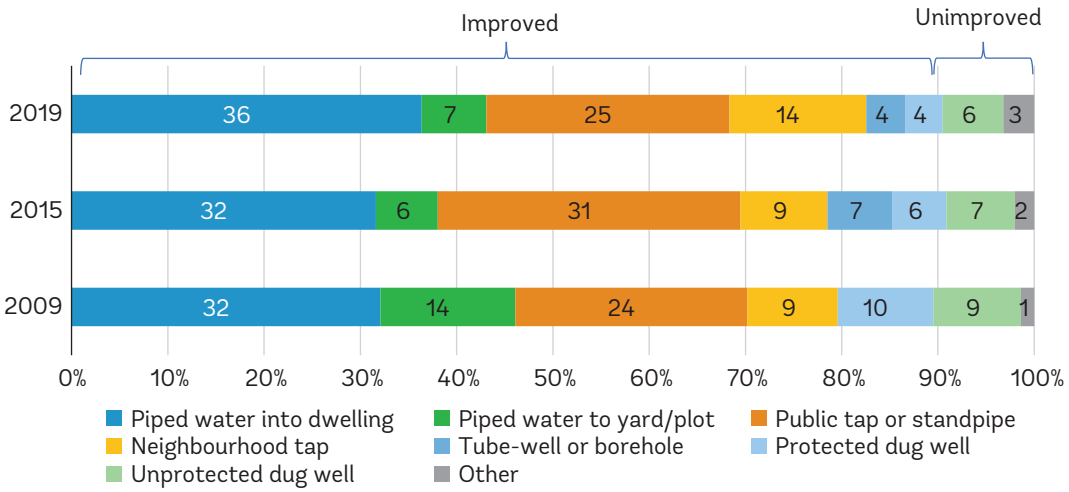
FIGURE 38 Home ownership (proportion of people, %)



Source: Based on OCGS HBS 2009/10, 2014/15, 2019/20.

[56] Here, safe source of drinking water refers to piped water, tap water, or protected well/spring, either public or private, within 30 minutes' round trip distance.

FIGURE 39 Main source of drinking water in 2009, 2015, and 2019

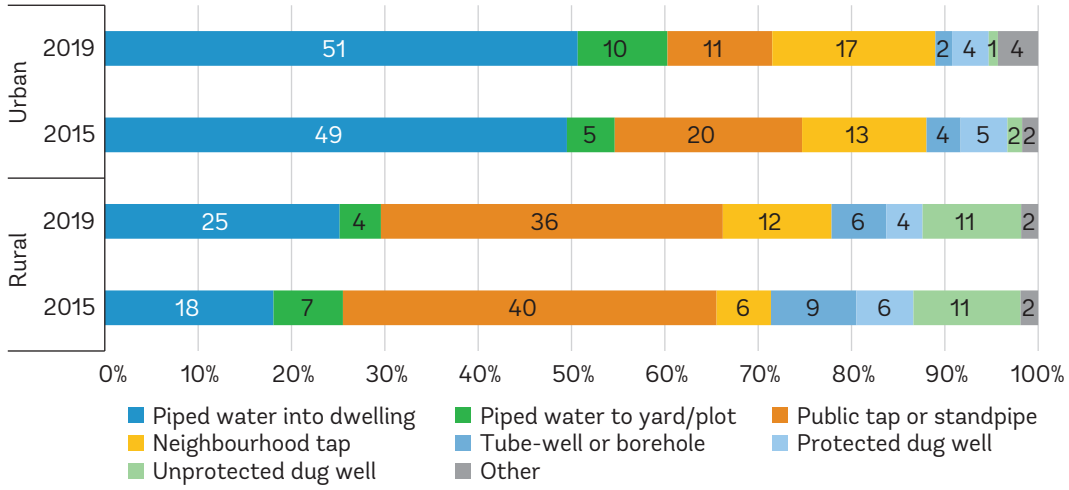


Source: Based on Zanzibar HBS 20014/15 and HBS 1019/20.

proportion of households whose main source of drinking water is piped water *inside the dwelling* went up from 32 to 36 percent. For piped water inside the dwelling *or inside the yard/plot* this proportion dropped from 46 to 43 percent (Figure 39).

Progress over the past four years has been particularly noticeable in rural areas as access to piped water into the dwelling or yard/plot increased from 25 to 29, and the proportion of households using a neighborhood tap or a public tap as their main source of drinking went up from 46 to 48 percent (Figure 40). In urban areas the

FIGURE 40 Main source of drinking water in rural and urban areas, 2015 and 2019 (%)



Source: Based on Zanzibar HBS 2014/15 and 2019/20.

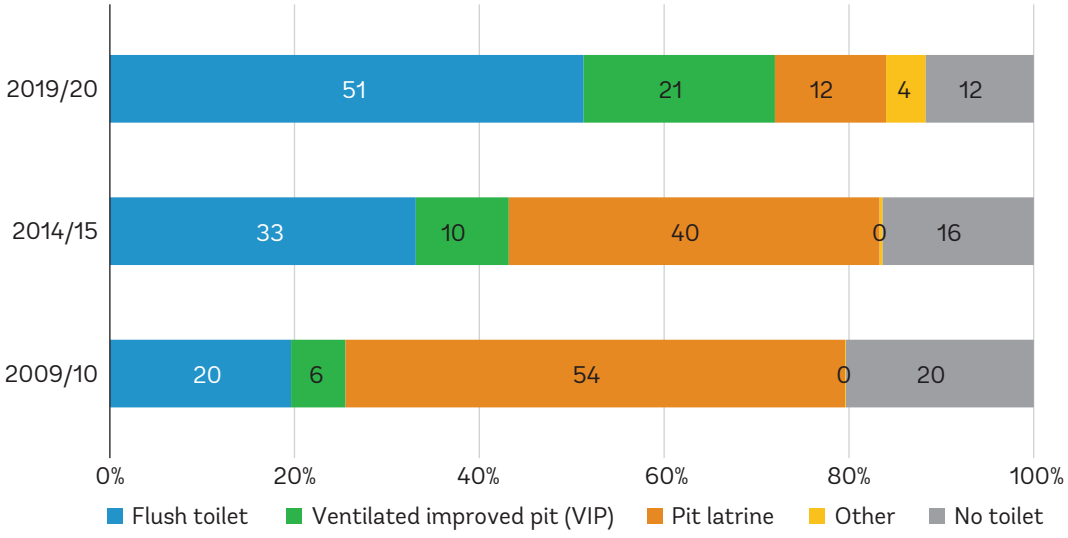
proportion of households with access to piped water inside the dwelling or inside yard/plot increased from 54 percent to 61 percent.

Access to sanitation expanded significantly in the last decade. The proportion of households with access to a modern toilet with a flushing system increased from 20 to 51 percent between 2009 and 2009 (Figure 41). The proportion of households with such a toilet increased fourfold in rural areas and doubled in urban areas. In the past years, various the RGoZ has implemented various programs in the area of sanitation and results are visible in the survey statistics. Despite this impressive progress, disparities between rural and urban areas remain, with 21 percent of rural households having no toilet facility in 2019 compared to only 1 percent of urban households.

Access to electricity improved spectacularly between 2009 and 2019. The proportion of households with access to the grid network grew from 38 to 57 percent during this period, with another 6 percent having access to solar power. The latter is mostly found in rural areas. The proportion relying on a paraffin/ kerosene lamp for their lighting halved (Figure 42). Ensuring access to modern energy services by the poor is one of the strategic priorities for Zanzibar's energy sector, which are detailed in the Zanzibar Strategy for Growth and Reduction of Poverty (MKUZA III). The number of new customers connected to electricity reported by Zanzibar Electricity Company (ZECO) more than tripled from 2011 to 2019.

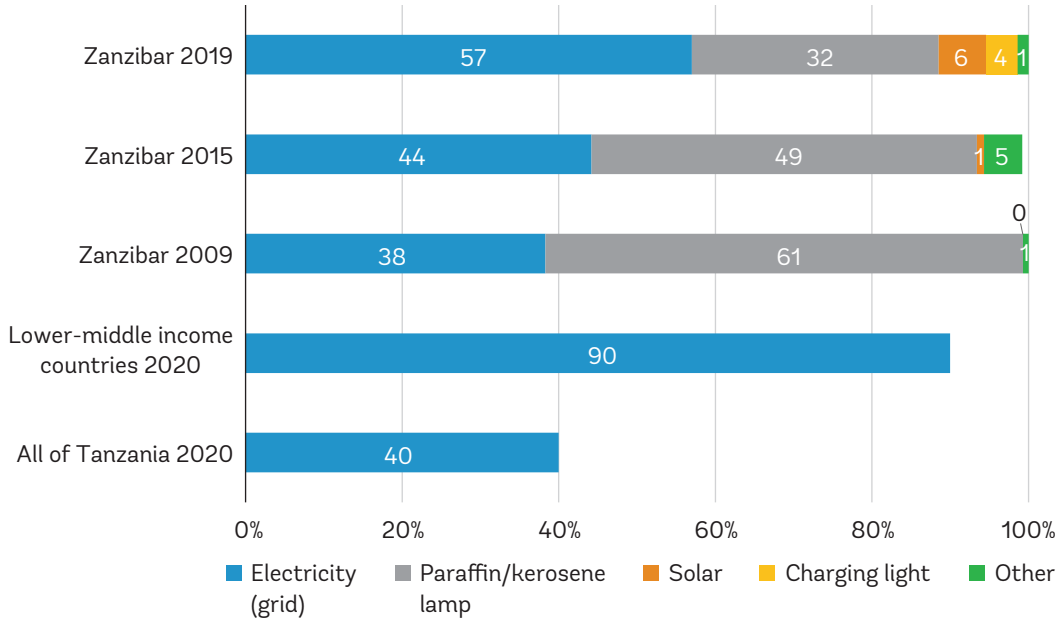
Access to electricity also rose fast in Pemba, but the proportion of those with access to the electricity grid is still only half of that of Unguja (Figure 43).

FIGURE 41 Type of main sanitation facility



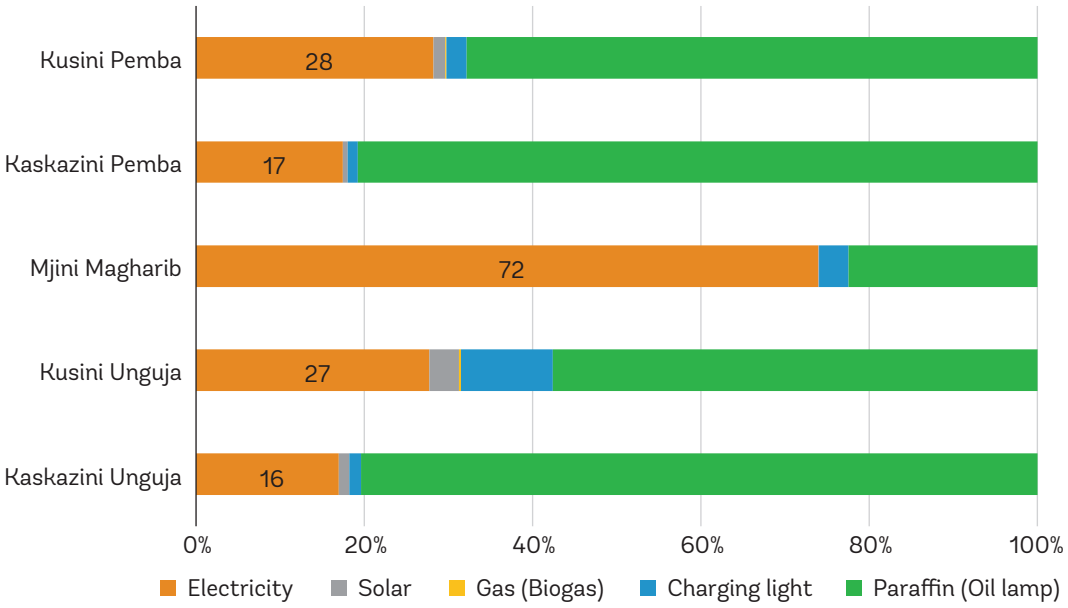
Source: Based on OCGS HBS 2009/10, 2014/15, and 2019/20.

FIGURE 42 Sources of energy for lighting in 2009, 2015, and 2019 (percentage)



Source: Based on OCGS HBS 2009/10, 2015/16, 2019/20.

FIGURE 43 Main source of lighting by region, 2015–19



Note: Small proportion of households per region (0-1 percent) used a generator, firewood of as a soured of lighting. These have been omitted from this chart.
Source: Based on Zanzibar HBS 2014/15 and HBS 2019/20.

5.2 A multidimensional poverty index for Zanzibar

A multidimensional poverty index (MPI) combines a range of poverty indicators into a single index. A national MPI can be constructed that captures those poverty dimensions that are central to a country's development plans and policies, and the SDGs. This approach identifies the "multidimensionally poor" by considering the proportion of people who are deprived on certain indicators and also assesses the intensity of deprivations they suffer by using an aggregation method. It exploits two cutoffs: one within each indicator of welfare to determine whether a person suffers shortfalls in that aspect, and the other across dimensions that delineates how widely deprived a person must be in order to be considered poor. The detailed methodology used is outlined in Appendix 3.

For the construction of the Zanzibar MPI the draft MPI for mainland Tanzania was followed. Only data from the most recent (2019–20) HBS are used. The HBS collects information from households on a broad range of topics related to welfare and living standards. This allows the computation of both monetary and non-monetary poverty indicators for each household. In constructing the MPI, households with missing information on any of the selected indicators are excluded from the analysis.[57]

Three poverty dimensions are used: health, education, and living standards, each capturing different facets of poverty. The selection of these dimensions is informed by data availability and Tanzania (including Zanzibar) preferences. In consultation with OCGS, the Zanzibar Planning Commission, and government ministries, 3 dimensions and 13 indicators were chosen (see Table 10). These are in line with the draft MPI for mainland Tanzania.

The multidimensional poverty cutoff is set at a third of the weighted MPI indicators. That is, a person is multidimensionally poor if the person's weighted deprivation score is equal to or higher than the poverty cutoff of 33.3 percent. Furthermore, following the convention used in the global MPI, people who are "vulnerable to poverty" are defined as those with deprivation scores between 20 and 33.2 percent, and people who are in "severe poverty" are defined as those whose deprivation score is above 50 percent.

[57] About 7 percent of households have missing information (6 percent with missing information on school attainment and 1 percent on health insurance).

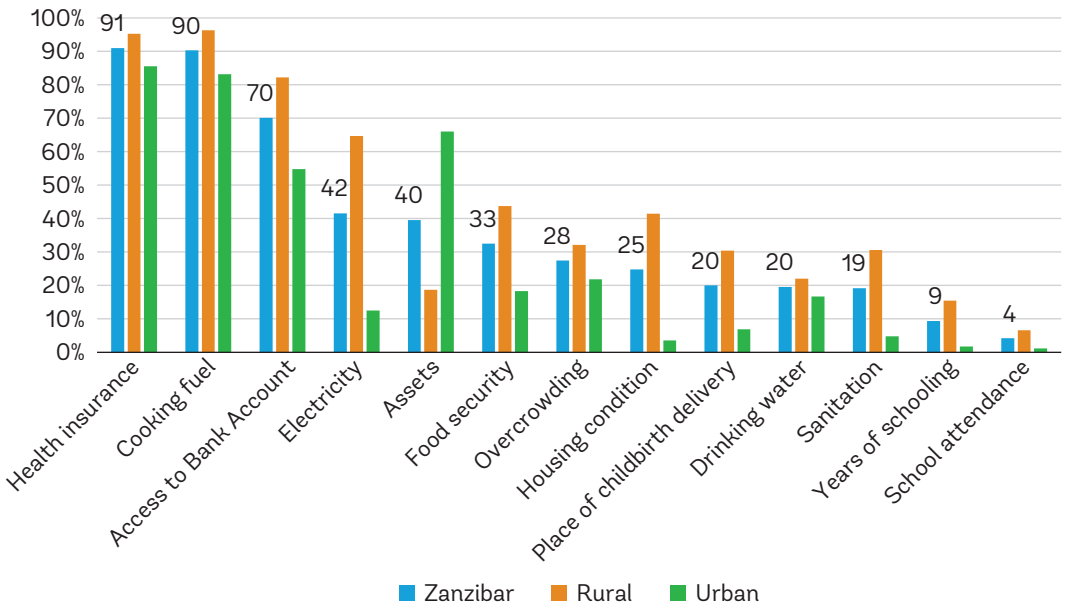
TABLE 10 Dimensions, indicators, deprivation cutoffs, and weights

Dimensions (weight)	Indicators (weight)	Deprived if . . .
Health (1/3)	Place of delivery (1/15)	any of the last births was outside a health facility.
	Food security (1/15)	anyone in the household experienced moderate or severe food insecurity.
	Insurance (1/15)	nobody in the household has any kind of health insurance.
	Water (1/15)	the household does not have safe drinking water according to SDG standards (considering distance).
	Sanitation (1/15)	the household does not have improved sanitation according to SDG Standards.
Education (1/3)	Years of schooling (1/6)	there is no one in the household with at least seven years of education.
	School attendance (1/6)	the household has a school-age child (7 to 13 years) not attending school.
Living Standards	Electricity (1/18)	the household does not have access to grid electricity.
	Cooking fuel (1/18)	the household uses dirty cooking fuels according to SDG standards inside the main house.
	Housing (1/18)	either roof, floor, or walls of the house is of low quality material.
	Banking (1/18)	nobody in the household has a bank account.
	Overcrowding (1/18)	there are three or more people per sleeping room.
	Assets (1/18)	the household has less than two assets and does not have a car, land (owned for agriculture or livestock) or livestock.

Uncensored headcount ratios: deprivation by MPI indicator

Regardless of the multidimensional poverty status, the highest deprivation is found for health insurance (91.0 percent),[58] followed by cooking fuel (90.5 percent) and having a bank account (70.1 percent) (Figure 44; see Table 10 for the definition of "deprivation"). The deprivation rate for electricity, assets, food security, overcrowding, and housing condition is between 25 and 40 percent. Place of childbirth delivery and access to improved water and sanitation services have a deprivation rate of around 20 percent. The education dimension, which includes years of schooling and school attainment, has the lowest deprivation rate, 9.4 percent and 4.2 percent, respectively. The rural population has a higher deprivation rate than the urban population for almost all indicators, except for access to assets. The reverse headcount ratio gap for assets between urban and rural areas is because rural households are more likely to have land or livestock.

FIGURE 44 **Proportion of people deprived in a poverty dimension (uncensured head count ratios, %)**



Note: The uncensored headcount ratio is the proportion of the population who are deprived in a particular indicator, irrespective of their poverty status. The percentages refer to the population for whom a certain indicator is defined.
Source: Based on OCGS data from HBS 2019/20. See Table 10 for a definition of deprivation.

[58] The HBS 2019/20 appears to undercount the proportion of households with health insurance (3 percent). The NPS 2019 suggests a much higher coverage (51 percent) of those that are entitled to health exemption for example.

Headline MPI results

The analysis shows that 37 percent of the Zanzibar population is multidimensionally poor, i.e., their weighted deprivation score is equal to or higher than the poverty cutoff of 33 percent (Table 11, Column 2). Among people who are multidimensionally poor, 17 percent live in urban areas, while 84 percent live in rural areas. More than half of Zanzibarians living in rural areas are multidimensionally poor, while in urban areas this ratio is only 14 percent. Just like for monetary poverty, Kaskazini Pemba has the highest proportion (72 percent) of people who are multidimensionally poor, while Mjini Magharibi, the most populated area, has the lowest rate of multidimensional poverty (14 percent). The intensity of poverty, which is measured through the average percentage of weighted deprivations for those who are multidimensionally poor, is 48 percent (Table 11, column 3).

The proportion of the population that is vulnerable to multidimensional poverty is 35 percent. Interestingly, this proportion is higher in urban areas than in rural ones. Twelve percent of the population is severely deprived, and these are nearly all in rural areas (Table 11).

TABLE 11 Headline MPI results, 2019–20

	Multidimensional poverty					
	Headcount ratio: (H) *% Population*	Intensity of deprivation (A) *Average % of weighted deprivations*	MPI = H*A *Range 0 to 1*	Vulnerable to poverty *% Population*	Severe deprived *% Population*	Population share *% Population*
Zanzibar	37%	48%	17%	35%	12%	100%
Rural	55%	49%	27%	29%	20%	56%
Urban	14%	40%	5%	43%	1%	44%
Kaskazini Unguja	47%	43%	20%	41%	8%	14%
Kusini Unguja	29%	44%	13%	46%	7%	8%
Mjini Magharibi	14%	40%	6%	43%	1%	44%
Kaskazini Pemba	71%	54%	38%	17%	36%	17%
Kusini Pemba	56%	49%	28%	23%	21%	16%

Note: The headcount ratio is the proportion of people who are multidimensionally poor. Vulnerable to poverty is defined as who experience 20–33.3 % intensity of deprivations and severe poverty is defined as who have higher than 50% intensity of deprivation.
Source: Based on OCGS HBS 2019/20.

In terms of censored headcount ratios, which looks at deprivation amongst the multidimensionally poor, the largest contributor to deprivation is the living standards dimension (48 percent), followed by the health dimension (39 percent), while the education dimension contributes the least (13 percent).

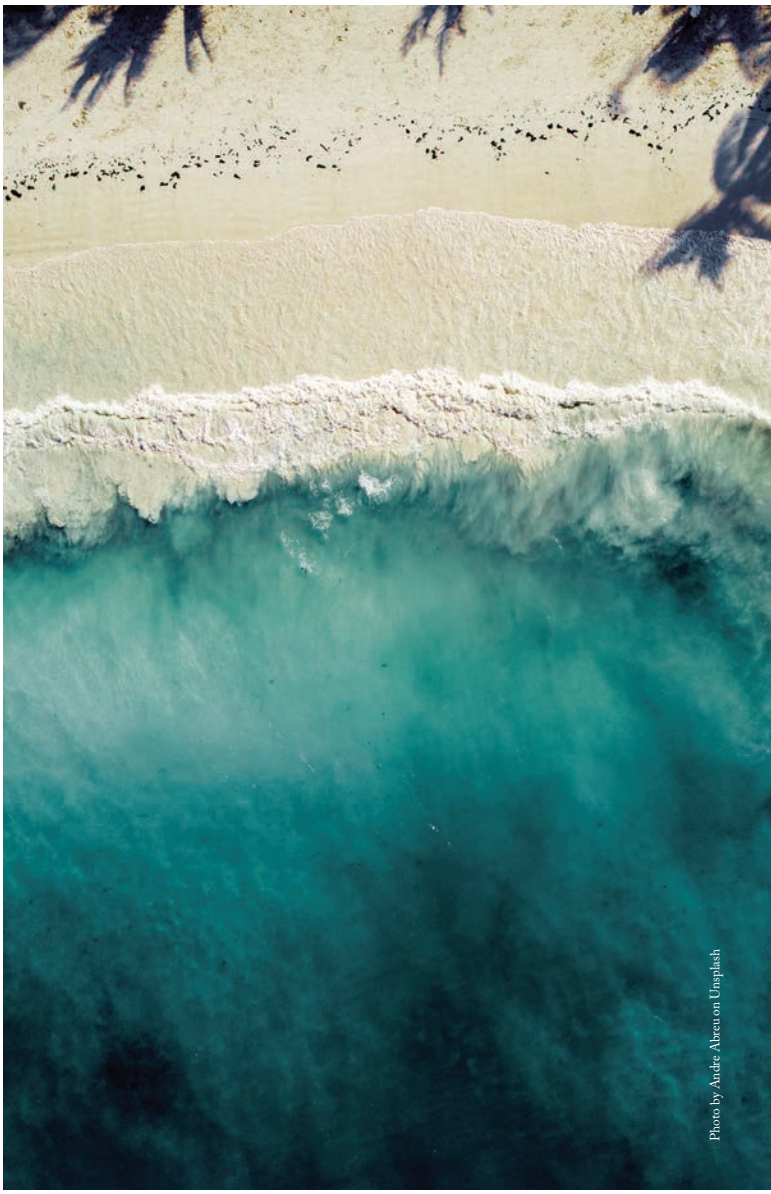


Photo by Andre Abreu on Unsplash

Relationship between monetary poverty and non-monetary poverty

The proportion of the population that is poor along the MPI (37 percent) is higher than the proportion that is "monetary poor" (i.e., based on the measurement of consumption and a poverty line) (25.7 percent). Among the 37 percent who are multidimensionally poor, 16 percent are also monetary poor, which is less than half. Among the 25.7 percent of people who are monetary poor, more than half (16 percent of the people) are also multidimensionally poor (Table 12). This limited overlap between the poverty rates based on monetary and multidimensional measured stresses the importance of using both poverty measures to track progress and inform policies and planning. Monetary poverty reflects levels of income generation and livelihood

TABLE 12 Monetary and multidimensional poverty, 2019–20

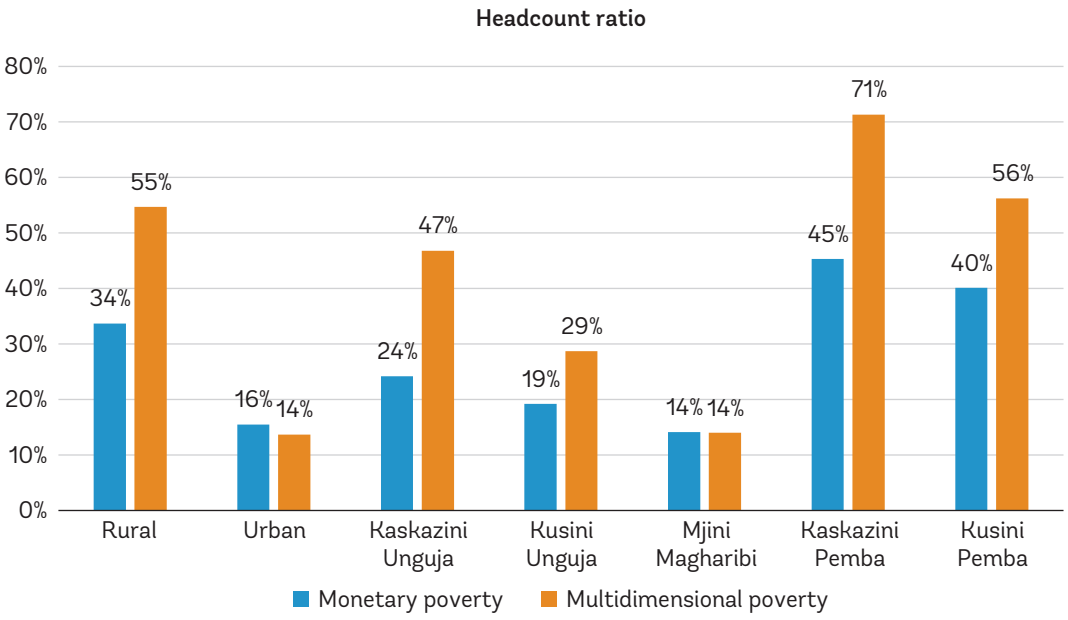
Monetary poverty	Multidimensional poverty		
	Poor	Non-poor	Total
Poor	15.8%	9.8%	25.7%
Non-poor	20.8%	53.6%	74.3%
Total	36.6%	63.4%	100.0%

Source: Based on HBS 2019/20.

generation, which follow from productivity of household assets like land, labor, and capital. Multidimensional poverty is typically the result of lack of access to social and infrastructure services and limited access to assets (means of production).

The disparity between monetary and non-monetary poverty rates is only found in rural areas (33.7 percent vs. 54.7 percent), as in urban areas these are almost the same (15.5 percent vs. 15.7 percent). Reflecting rural and urban differences, the regions that are rural in nature show more prominent disparities in these two poverty measures while the most urban one (Mjini Magharibi) hardly shows any difference (Figure 45).

FIGURE 45 **Comparison between monetary and multidimensional poverty by region, 2019–20**



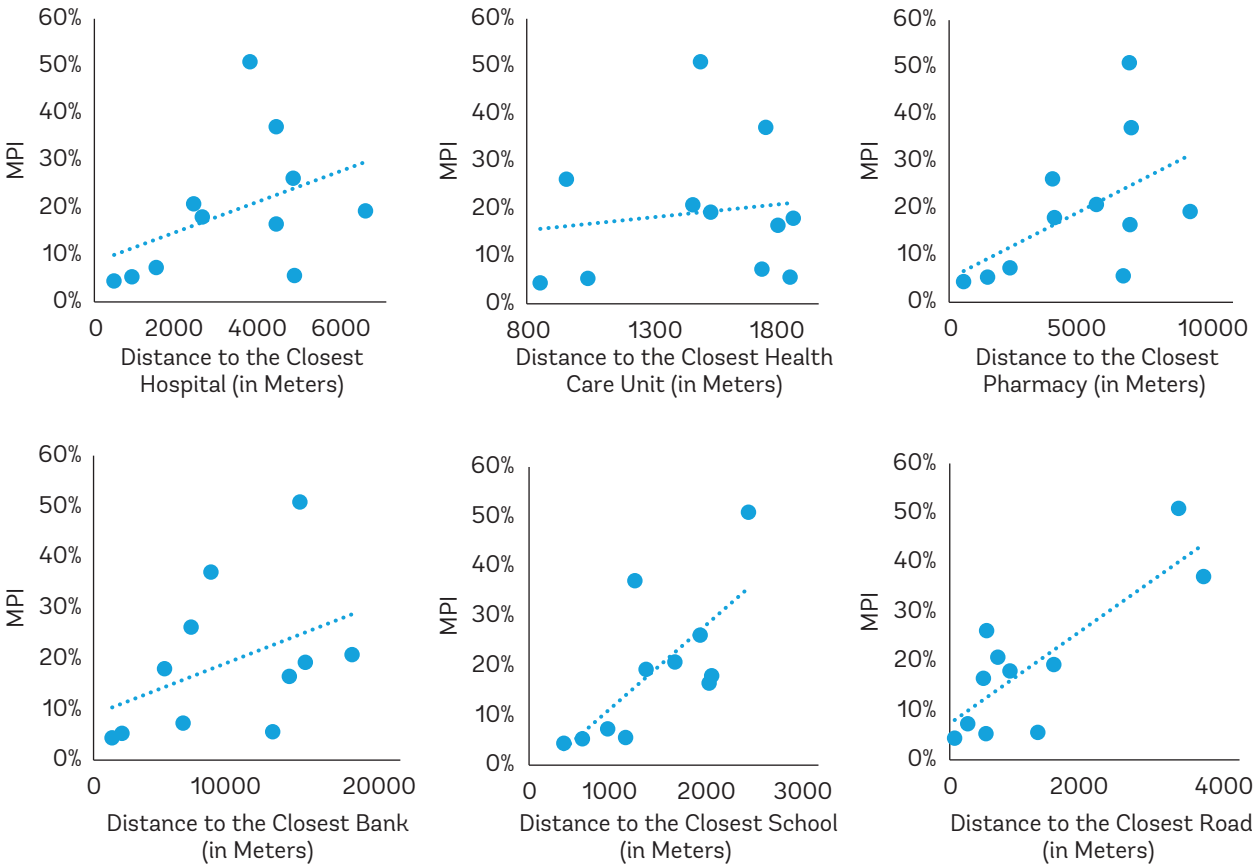
Source: Based on OCGS HBS 2019/20.

Photo by MARIOLA GROBELSKA on Unsplash

5.3 Spatial analysis of multidimensional poverty

Distance to basic infrastructure, such as health facilities, schools, banks, and roads, is correlated with multidimensional poverty: the higher this distance, the higher the multidimensional poverty (Figure 46). Distance to schools and healthcare facilities is an important factor in the determination of school attendance and healthcare usage. The distance to these facilities is a close approximate of districts' urbanization rate. Therefore, urban-rural inequalities can partially explain the geographic disparities and the positive relationship between the MPI poverty rate and distance to infrastructure and public services. Addressing such geographic disparities is a crucial step toward reducing geographic inequalities in both monetary and non-monetary poverty in Zanzibar.

FIGURE 46 Relationship between MPI and distance to basic infrastructure (district averages)



Note: MPI is calculated at the district level. Distance to the closest hospital, health care unit, pharmacy, bank, school, and road is first calculated at the household level and then averaged to the district level. Each observation represents the values for a district, and there are 11 districts in total.
Source: HBS 2019/20.

5.4 Child poverty[59]

Adult multidimensional poverty measures are not always well-suited to track the situation of children and may fail to evaluate the impact of policies and shocks that affect them. For example, children and adults have distinct needs for education and nutrition. Children can experience poverty even when their household income is above the poverty line. That is why the SDGs explicitly emphasize the establishment of a child-specific measure of poverty. The efforts entail the use of indicators of deprivation of basic needs, of access to basic services for health care and education, and the infringement of children's rights. Countries are also increasingly reporting on the well-being of children, with children as the "units of analysis" rather than households, or adults, and looking to innovative ways to ensure "national definitions" of the dimensions of poverty for children, men, and women, as per the first SDG.

In 2019, about one in three children (30 percent) in Zanzibar lived in households below the monetary poverty line, and one in nine (11 percent) lived in households below the official food poverty line. Child monetary poverty varied significantly across Zanzibar, with the highest rates of monetary poverty among children found in Kaskazini Pemba (50 percent), and in households where the head lacked formal education (49 percent). Food-based poverty was patterned similarly, showing greater disadvantage among rural children and children in Pemba (Kaskazini and Kusini).

BOX 5 Estimating child poverty in Zanzibar

The Multidimensional Overlapping Deprivation Analysis (MODA) approach is adopted in the recent Zanzibar child poverty study. The MODA is explicitly designed to reflect child poverty, based on well-developed theory, internationally accepted definitions of poverty, multidimensional poverty, and child poverty. It is, importantly, situated within UNICEF's conceptual framework of poverty as an infringement of children's rights and has been tried, tested, and used successfully in over 50 countries. The results produced are easy to understand by policy makers, journalists, and the general public, and generate policy-relevant information for planners by identifying the presence and depth of the need among children. The unit of analysis is children.

The MODA framework is used to identify variables to develop indicators of deprivation most applicable to children in Zanzibar. The detailed dimensions and indicators used in the MODA tool are documented in Appendix 3. These indicators are chosen to reflect a variety of different basic needs, including children's living environments, their access to sufficient food and basic services, and basic rights as enshrined under the UN Convention of the Rights of the Child.

[59] This section was contributed by UNICEF and is a based on UNICEF's Zanzibar Child Multidimensional Poverty Report 2022.

Among all multidimensional poverty indicators, deprivation caused by pollution from burning cooking fuel is the most dramatic, and almost all (92 percent) of Zanzibar's children are exposed to dangerous toxins daily. With most cooking occurring outdoors, on open stoves, such deprivation signals a priority area for intervention by government and health agencies. It is notable that among households where the head has some tertiary education, deprivation rates in this area are much lower (73 percent), suggesting there may be a socioeconomic gradient with regards to types of cooking fuel used, with the poor more exposed to pollution than the non-poor. Given the impact on children's health of burning dirty fuels like coal, crop residues, and wood (World Health Organization, 2014, 2018),[60] this domain should be urgently addressed through public policies (Table 13).

Other housing-related deprivations such as sanitation and overcrowding also affect children disproportionally. Over one-third (35 percent) of children use an unimproved form of sanitation, over half (59 percent) live in overcrowded conditions, and more than a quarter (28 percent) live in dwellings made of poor-quality materials. Notable achievements have been made with regards to access to basic services like water (17 percent deprived) and health care (3 percent deprived), and basic child protections, reflected by birth registration and certification (2 percent deprived). Child labor in Zanzibar exists but is primarily an issue for older children aged 14–17 years, who may be able to combine education and work more effectively than young children (Table 13).

The clearest fault lines of disadvantage for children in Zanzibar run along geographical lines. The regions in Pemba have greater than expected rates of deprivation and monetary poverty. Rural children are consistently more deprived than their urban counterparts. This is especially so for the quality of building materials for dwellings, forms of sanitation and water source, food insecurity, education measures, and monetary and food-based poverty. Children in households where the head has only primary or less than primary education are more likely to be deprived, except for time to collect water.

There are higher levels of some deprivations for children living in households headed by women. This particularly counts for housing quality, use of unimproved sanitation, and food insecurity. At the same time, there are considerable gender differences within the education domain, with larger proportions of boys deprived

[60] World Health Organisation (2014), WHO guidelines for indoor air quality: household fuel combustion. Geneva: WHO. www.who.int/publications/i/item/9789241548885; World Health Organisation (2018), Air pollution and child health: Prescribing clean air. Geneva; WHO. www.who.int/publications/i/item/air-pollution-and-child-health

TABLE 13 Child deprivation rate for each indicator

		Zanzibar	Rural	Urban
Housing	Polluting cooking fuel	92%	97%	85%
	Overcrowding (adult equivalent)	59%	66%	48%
	Poor quality housing materials (floor, wall, roof)	28%	44%	4%
Water and sanitation	Unimproved sanitation	35%	42%	25%
	Water source	17%	19%	13%
	Long collection time (30+ min)	13%	12%	14%
Food and nutrition	Food (in)security (according to HFIA categories)	40%	46%	31%
	Meal frequency	33%	44%	16%
	Dietary diversity (UNICEF definition)	6%	6%	4%
Education	Behind grade for age	19%	25%	11%
	Literacy	19%	21%	17%
	Never attended school	14%	20%	7%
	Not currently in school	7%	8%	5%
Health	Sick child not visiting a health care provider	3%	3%	3%
Protection	Children engaged in labor activities	4%	4%	3%
	Lacking birth certificate or notification	2%	2%	0%
Communication	Household has no landline or mobile phone	7%	8%	5%
Official poverty measures	Monetary poverty line	30%	39%	17%
	Food poverty line	11%	15%	5%

Note: This table shows the important deprivations to which children in Zanzibar are exposed. The deprivation rate is shown by each indicator for the whole population and subgroups disaggregated by location, region of residence, household head's determinants (sex and education), and child-level characteristics including children's sex, age, and whether they are OVC.[61] Cells shaded red reflect high levels of deprivation, with cells shaded light yellow and green reflecting lower levels of deprivation. Presented in the final two columns are rates of poverty among children using "official" poverty measures—i.e., monetary poverty and a food-based poverty line (set at TSh 66,313 and 47,541 respectively).
Source: HBS 2019/20.

for all indicators. However, orphaned or vulnerable child (OVC) status (i.e., whether a child has lost either one or both parents), does not appear to be a driver of deprivation. Across most of the measures used here, OVCs are less deprived than children with both parents alive. However, OVCs are more likely to not be in school, and to be engaged in labor activities.

[61] UNICEF defines orphaned or vulnerable children as those who have either one or both parents dead.

In sum, child deprivation in Zanzibar remains widespread across a range of indicators. Those set out here can be tackled through public policies and the provision of basic services and resources; the exposure of almost all children to polluting cooking fuels is concerning, given the known health implications and complications associated with COVID-19. The pandemic has required all countries to reconsider the role of state support and provision of basic services; household resources on their own cannot protect children from severe deprivation.

This chapter has demonstrated the use of a multidimensional MPI to complement monetary poverty. It helps inform decision making regarding service delivery to the most needy and builds their base of human capital and other assets. Promoting the use of MPI for regional-level polices is important to reduce regional disparity. Understanding the different situations that each region faces and designing specific policies for each region is an effective way to reduce the deprivation rates. Including MPI variables in future surveys would allow the comparison of multidimensional poverty at different time periods and allow policy makers to monitor poverty closely and use the results to evaluate the effectiveness of public policies in poverty reduction.

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6. EDUCATION AND POVERTY

Main findings

Recent education reforms, including the abolition of school fees, have had a dramatic impact on enrollments in basic education. Between 2015 and 2019, gross enrollment rates in basic education (pre-primary, primary, and lower secondary) increased from 91 to 101 percent. Enrollment increases were most marked in pre-primary and lower secondary education, reaching 90 percent by 2019. These increases have largely been the result of more children starting school earlier. Enrollment improved across the population, but absolute differences between wealth groups widened over the same period. There are also relatively large differences in enrollment between rural and urban areas and between Unguja and Pemba: the basic education enrollment rate in Unguja was 72 percent compared to only 56 percent in Pemba. Enrollment figures are higher for girls than boys except in tertiary education, where differences are small. For example, in 2019, the net enrollment for girls in basic education was 70 percent compared to 62 percent for boys. Despite these impressive increases in access to education, student learning outcomes remain low, although still somewhat higher than countries with similar income levels. The impressive improvements in education access have come about from large increases in government and household spending. Simple benefit incidence analysis shows that overall public education spending is distributed relatively equally across socioeconomic groups. The distribution of total public education expenditure in Zanzibar is more equitable than other low- and middle-income countries. However, district level analysis suggests that spending and the quality of learning environments tend to be lower in districts with higher rates of poverty.

For example, in 2015, the difference in basic education enrollment rates between the poorest and wealthiest quintiles was 15 percentage points but increased to 22 percentage points by 2019. A similar widening of absolute enrollment rates is evident in tertiary education. However, tertiary enrollment rates for the bottom two quintiles actually fell between 2015 and 2019 (Figure 49).

Between 2015 and 2019, average levels of education in the working age population rose by 0.6 years. In 2019, adults aged between 25 and 64 years of age had an average of 8 years of education, which is equivalent to primary and some secondary education. This is on average about six years in Sub-Saharan Africa. Disparities between different population groups remain. For example, adults in the wealthiest quintile have 10 years of education compared to adults in the poorest quintile, who only have five years. Women tend to have one year less education than men, and there are significant gaps in education attainment between rural and urban areas and Unguja and Pemba. These gaps in attainment have not closed significantly between 2014 and 2019.

This chapter takes a brief look at progress in enrolment by wealth groups making use of the HBS data. It then combines these findings with data on public expenditure on education at the national and district level to assess the extent to which it benefits the poor. Learning outcomes are also discussed.

A key element of the RGoZ strategy for economic growth and poverty reduction rests on having a well-educated workforce. The Zanzibar Strategy for Growth and Reduction of Poverty ZSGRP III 2016–2020 (MKUZA III) identified widening access to and improving the quality of education as critical to achieving the plan's goal of social and economic prosperity (RGoZ 2017). Investment in education services were seen as vital to achieve the plan's goals of improved productivity and increased employment, and as a way to maximize the economic and social returns of Zanzibar's growing youth population. The accompanying education sector plan set out targets to universalize access to basic education, improve the quality of learning environments, and improve student learning outcomes (MoEVT 2017).[62] To support these aims, the government abolished school fees in pre-primary and primary schools in 2015 and in secondary schools in 2018. It reformed the primary school curriculum and embarked on a large-scale investment program to improve the quality of school learning environments.

Between 2015 and 2019, average levels of education in the working age population rose by 0.6 years and compare favorably with the Sub-Saharan Africa average (Table 14). In 2019, adults aged between 25 and 64 years of age had an average of

[62] Basic education in Zanzibar is compulsory and defined as two years of pre-school, six years of primary and four years of lower secondary.

TABLE 14 Average years of schooling (adult population 25–64 years of age)

	2015			2019		
	Male	Female	Total	Male	Female	Total
Poorest quintile	5.4	4.3	4.8	5.9	4.7	5.3
Near poorest	6.7	5.3	6.0	7.4	6.3	6.8
Middle	7.8	6.5	7.1	7.8	7.0	7.4
Near richest	8.2	7.3	7.8	9.1	8.2	8.6
Richest quintile	9.4	8.9	9.1	9.9	9.3	9.6
Non-poor	8.4	7.4	7.8	8.8	7.9	8.3
Poor	5.9	4.7	5.2	6.4	5.3	5.7
Rural	6.6	5.2	5.9	7.2	6.0	6.6
Urban	9.1	8.3	8.7	9.6	8.7	9.1
Unguja	8.4	7.5	7.9	8.9	8.2	8.5
Pemba	6.1	4.6	5.3	6.7	5.2	5.9
Total	7.8	6.7	7.2	8.3	7.3	7.8
Sub-Saharan Africa						6*

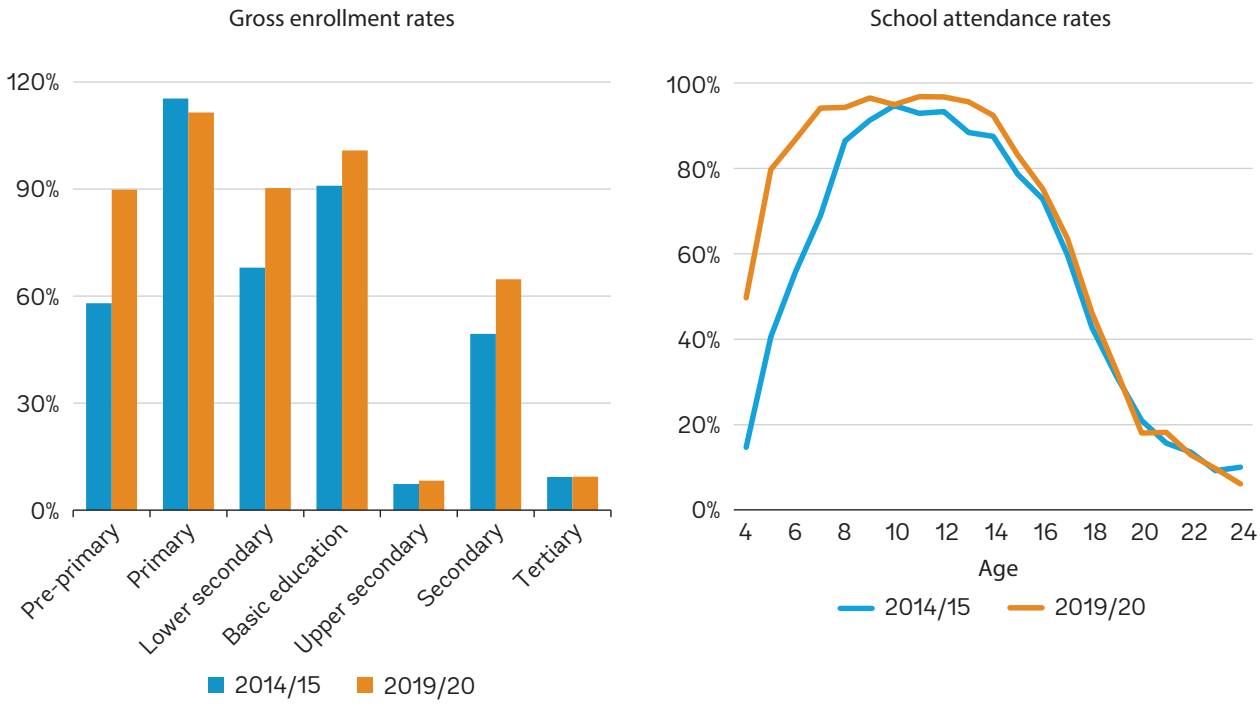
Note: Pre-primary education is excluded from the estimates to allow for international comparisons. The average years of schooling here refers to amount of successfully completed school years. *While not strictly comparable, the average years of schooling is about six years in Sub-Saharan Africa.
Source: World Bank calculations based on OCGS HBS 2014/15 and 2019/20.

8 years of education, which is equivalent to primary and some secondary education. While not strictly comparable, the average years of schooling were estimated to be approximately six years across Sub-Saharan Africa, suggesting that overall levels of education are relatively high in Zanzibar (Lee and Lee 2016). Despite this, there are some significant disparities between different population groups. Adults in the wealthiest quintile have 10 years of education compared to adults in the poorest quintile who only have five years. Women tend to have one year less education than men, and there are significant gaps in education attainment between rural and urban areas and Unguja and Pemba. These gaps in attainment did not close significantly between 2014 and 2019.

6.1 Changes in education outcomes between 2015 and 2019

Recent education reforms, including the abolition of school fees, have had a dramatic impact on enrollments in basic education (Figure 47). Between 2015 and 2019, gross enrollment rates in basic education (pre-primary, primary, and lower secondary) increased from 91 to 101 percent, indicating that there are sufficient school places to enroll all children between the ages of 4 and 15. Enrollment increases were most marked in pre-primary and lower secondary education reaching 90 percent by 2019. These increases have been largely the result of more children starting school earlier. For example, between 2015 and 2019, the proportion of 4-year-olds attending school increased from 14 to 50 percent. These increases in enrollment for the youngest children are particularly striking given the importance of early childhood education for school readiness, educational attainment, and future life outcomes (World Bank 2018).

FIGURE 47 Enrollment and school attendance rates, 2015 and 2019



Note: The gross enrollment rate is estimated by dividing total enrollment for a particular education level by the total population in the official school age range for the same education level.
Source: Based on OCGS HBS 2014/15 and 2019/20.

Enrollment improved across the population but absolute differences generally widened between socioeconomic groups (Figure 48a). Between 2015 and 2019, percentage increases in basic education enrollment rates were relatively similar for each wealth group (consumption quintile). However, absolute differences in enrollment rates widened over the same period. For example, in 2015, the difference in basic education enrollment rates between the poorest and wealthiest quintiles was 15 percentage points but increased to 22 percentage points by 2019. A similar widening of absolute enrollment rates is evident in tertiary education. However, tertiary enrollment rates for the bottom two quintiles actually fell between 2015 and 2019.

There are relatively large differences in enrollment between rural and urban areas and between Unguja and Pemba (Figure 48b). At all levels of education, children living in urban areas are more likely to attend school compared to their rural counterparts. For example, in 2019 basic education enrollment rates were 73 percent in urban areas compared to only 62 percent in rural areas. However, between 2015 and 2019, enrollment increased more rapidly in rural areas and absolute rural-urban enrollment gaps fell slightly. In 2019, gaps in enrollment rates between the two main islands of Zanzibar were much wider than rural-urban differences. The basic education enrollment rate in Unguja was 72 percent compared to only 56 percent in Pemba. Unlike the rural-urban gap in enrollment rates, the gap in enrollment rates between Unguja and Pemba widened between 2015 and 2019.

Enrollment rates in pre-tertiary education are higher for girls than boys. For example, in 2019, the net enrollment for girls in basic education was 70 percent compared to 62 percent for boys. Over time the absolute gender gaps in pre-tertiary education have also grown. In 2015, the gap between male and female enrollment rates in basic education was 4 percentage points but had grown to 8 percentage points in favor of female enrolment by 2019. Gender differences in tertiary enrollment rates tend to be much smaller partly because a much smaller share of the relevant population attends. In 2019, the male tertiary enrollment rate was 7.5 percent compared to a female rate of 7.1 percent. While the gender gap in 2019 was very small and in favor of boys, in 2015 it was the opposite, with the female rate exceeding the male rate by 1.3 percentage points.

Despite these impressive increases in access to education, student learning outcomes remain low. Using the harmonized learning outcome (HLO) score, Zanzibar compares relatively well with other territories with similar levels of national income (World Bank forthcoming). However, this is largely because levels of learning are also low in these comparator countries. A recent learning assessment conducted in Grade 2 showed that in Zanzibar only around 1 percent of students were meeting early grade reading and mathematics benchmarks (RTI International 2018). In the

FIGURE 48 Net enrollment rates for different population groups, 2015 and 2019

Note: The net enrollment rate is estimated by dividing the number of children of the correct age enrolled in a particular education level by the total population in the official school age range for the same education level.
Source: World Bank calculations based on OCGS HBS 2014/15 and 2019/20.

same assessment, about 2 percent of students on the Tanzania mainland reached the reading benchmarks and 7 percent achieved the benchmarks in mathematics.

6.2 Education spending by government and households

The impressive improvements in education access have come about from large increases in government and household spending. This section documents trends in education spending and explores the distribution of spending to assess how equitable government spending on education is and whether there have been any significant changes between 2015 and 2019.

Household spending on education has risen rapidly but there are significant differences between population groups (Table 15). In 2015, households that recorded any spending on education allocated approximately TSh 26,000 shillings in real terms for each household member. By 2019, per capita spending had more than doubled and the average household spending on education allocated TSh 54,000 for

TABLE 15 Household education spending, 2015 and 2019 wealth groups

	Poorest fifth	Near poorest	Middle	Near richest	Richest fifth	Total
2014–15 (2019–20 prices)						
Households reporting ed. spend (%)	58	55	62	58	54	57
Education spending						
• per capita (non-zero)	5,511	8,399	13,836	23,953	82,507	25,972
• as % of total spending (non-zero households)	1.0	1.1	1.5	1.8	3.2	1.7
• as % of total spending (all households)	0.6	0.6	0.9	1.1	1.7	1.0
2019/20						
Households reporting ed. spend (%)	59	64	72	69	65	66
Education spending						
• per capita (non-zero)	6,933	12,158	23,181	46,640	182,193	54,434
• per capita (non-zero)	1.2	1.4	2.0	3.2	6.4	2.9
• as % of total spending (non-zero)	0.7	0.9	1.5	2.2	4.2	1.9

Source: Based on OCGS HBS 2014/15 and 2019/20.

each household member. These averages mask very large differences in household spending between different population groups. In 2019, wealthy households spent 26 times as much as the poorest households on education. Moreover, their spending increased more rapidly than spending among the poorer quintiles. This partly reflects the greater tendency for wealthier groups to enroll their children in more expensive private schools. For example, households in the wealthiest quintile make up 60 percent of all enrollment in private primary and lower secondary schools. In contrast, poorer households, who send their children predominantly to public schools, registered much smaller increases in spending. The government's policy of abolishing fees in primary and secondary schools may have contributed to the rather small overall increases in spending among these groups.

Despite its rapid growth, household education spending represents a relatively small share of overall household expenditure. Overall, households spend approximately 1 percent of their overall expenditure on education. While it is difficult to compare this directly with other countries it appears relatively low. For example, in 2019 total household education spending in Zanzibar represented approximately 1.9 percent of GDP compared with an average of 2.4 percent for Sub-Saharan Africa and 2.1 percent for low-income countries (World Bank forthcoming).

Increases in education access have come about from significant increases in public education spending. Between 2015–16 and 2019–20 real public spending on education increased by 35 percent in real terms from TSh 136 to TSh 189 billion (constant 2019–20 prices). Despite the very large increase in enrollment over this period, per-student spending also increased considerably. In real terms, primary (secondary) spending per student increased from TSh 177,000 (294,000) in 2015–16 to TSh 195,000 (521,000) in 2019–20 (World Bank forthcoming).[63]

National level information on public education spending is used to estimate the distribution of public education spending across different wealth groups in Zanzibar. Government expenditure per student is calculated from information on total public spending on each level of the education system and national enrollment information.[64] The resulting unit expenditures are combined with information on public enrollment contained in the household surveys to allocate government spending to each individual. This information is used to report the proportion of total government expenditure that different population groups receive. The results are reported in Table 16.

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[63] In 2019/20, government spent approximately US$82 per pre-primary and primary school student and US$220 per secondary school student.

[64] Government spending accounts do not differentiate between pre-primary and primary schooling so it was not possible to disaggregate between these two levels.

Simple benefit incidence analysis shows that overall public education spending is distributed relatively equally across socioeconomic groups (Table 16). In 2019, poor households received 32 percent of total government education spending while they made up about 26 percent of the overall population. This suggests that overall

TABLE 16 Distribution of education spending, 2015 and 2019 (%)

	Consumption quintiles											
	Poorest	2	3	4	Richest		rural	urban		Unguja	Pemba	
2014–15												
Population shares	20	20	20	20	20	100	56	44	100	67	33	100
Public ed. spending												
pre-prim. and prim.	27	23	21	18	11	100	63	37	100	59	41	100
secondary	23	21	22	20	14	100	49	51	100	67	33	100
tertiary	10	16	14	24	36	100	21	79	100	78	22	100
total	21	21	19	20	19	100	48	52	100	66	34	100
Private ed. spending	5	6	12	18	59	100	35	65	100	76	24	100
Total consumption	9	13	17	21	39	100	49	51	100	73	27	100
2019–20												
Population shares	20	20	20	20	20	100	56	44	100	67	34	100
Public ed. spending												
pre-prim. and prim.	27	24	23	17	9	100	67	33	100	65	35	100
secondary	21	24	23	20	13	100	51	49	100	74	26	100
tertiary	9	7	19	26	39	100	34	66	100	94	6	100
total	20	19	22	21	18	100	53	47	100	77	23	100
Private ed. spending	2	4	9	19	66	100	25	75	100	94	6	100
Total consumption	8	13	17	23	40	100	50	50	100	79	21	100

Source: Based on OCGS HBS 2014/15 and 2019/20.

government education spending is pro-poor but the pattern is not particularly strong. Despite significant improvements, increases in public spending between 2015 and 2019, the distribution of spending has remained relatively similar. For example, the poorest 40 percent of the population received 42 percent of total public education spending in 2015 and 39 percent in 2019.

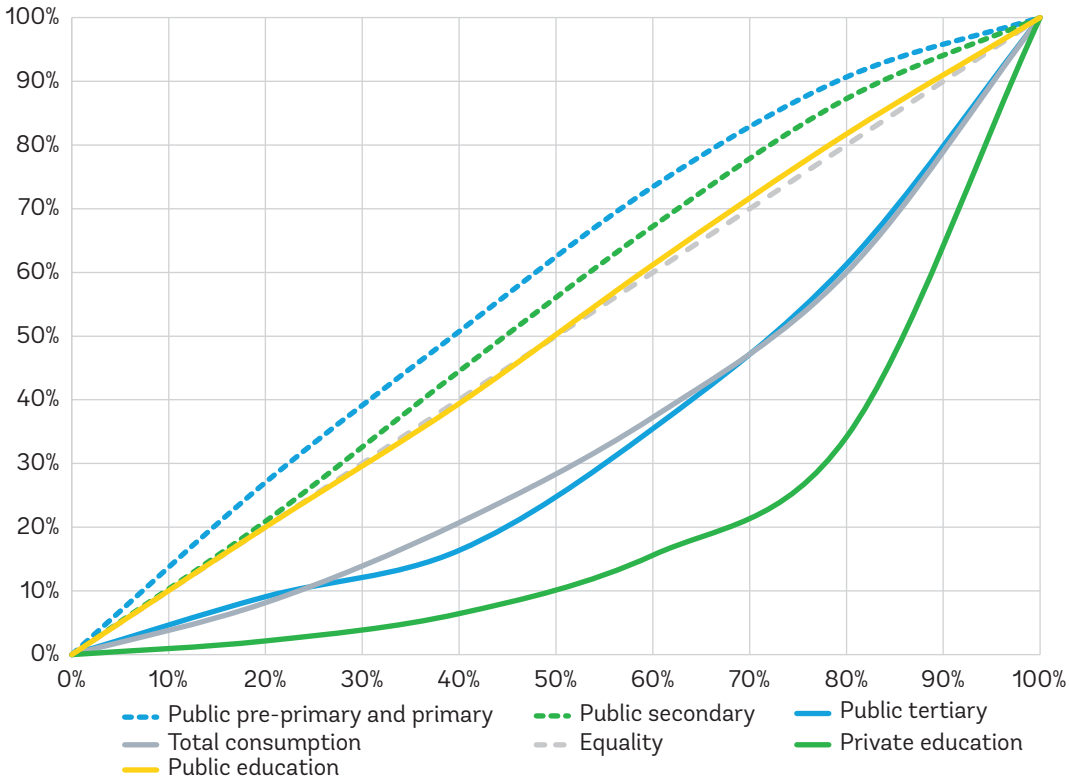
The distribution of total public education expenditure in Zanzibar is more equitable than other low- and middle-income countries. In 2019, the share of public education spending going to the poorest 20 percent of households in Zanzibar was 20 percent and the wealthiest 20 percent received 18 percent. A survey of recent benefit incidence studies showed that the poorest 20 percent of households received on average 10 and 15 percent of total spending in low- and lower-middle-income countries, respectively. In contrast, the wealthiest 20 percent of households in low- and lower-middle-income countries received 38 and 26 percent of overall public education spending (UNICEF 2020).

Disaggregating public expenditure by level of education shows that primary and secondary spending is progressive and pro-poor. Figure 49 provides a graphical and more detailed representation of the information outlined in Table 16. Lines show the proportion of total government education expenditure (and private education spending and consumption) that accrues to each percentile of the population when the population is ranked from the poorest to wealthiest households. For example, it shows that in 2019, 51 percent of government spending on primary education went to the poorest 40 percent of the population. Overall, spending on primary and secondary education is progressive and pro-poor, with poorer households receiving a greater share of public primary and secondary education than wealthier households. (Table 16).

Given that tertiary enrollment rates are much higher for wealthier households, public tertiary education subsidies are also heavily concentrated within this group. For example, 65 percent of total government spending on tertiary education in 2019 went to the wealthiest 40 percent of households (Figure 49). Compared to the distribution in 2015, when about 60 percent of government funding went to the wealthiest 40 percent of households, public spending on tertiary education has become more unequal.

While the preceding analysis provides a broad picture of the distribution of public spending, it does not capture spending differences between schools serving different population groups. For example, in many countries poor and marginalized children attend schools that have greater teacher shortages, fewer textbooks, and more limited facilities than schools serving wealthier children living in urban areas. Failure to take into account differences in the quality of public service provision

FIGURE 49 Lorenz curves for education spending and consumption, 2019



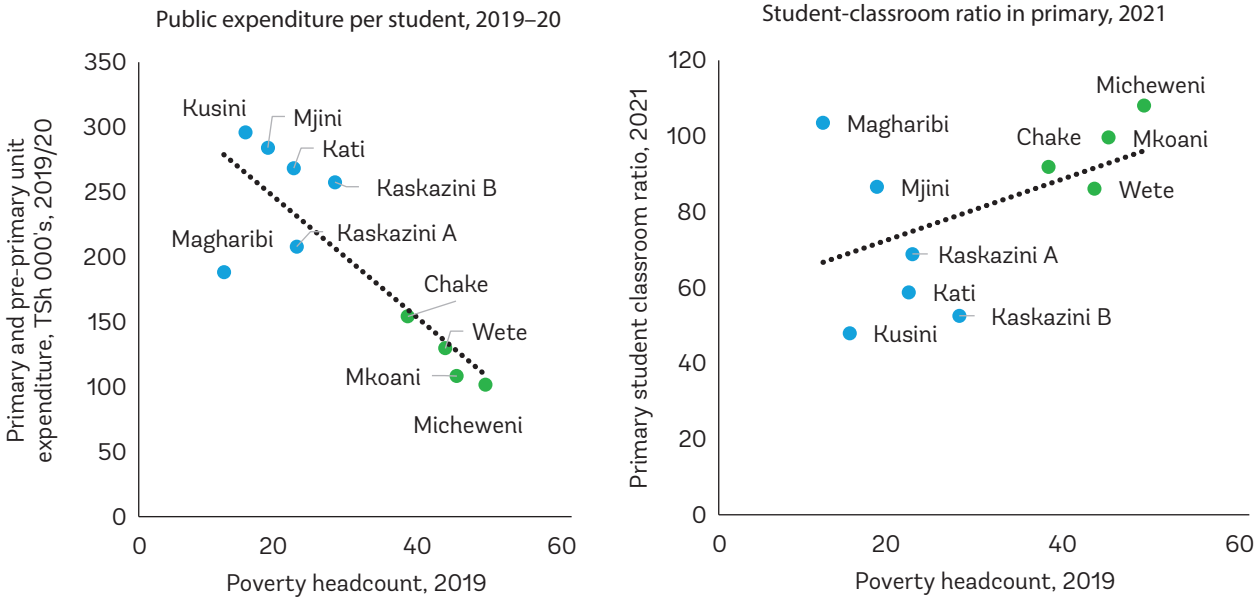
Source: World Bank calculations based on OCGS HBS 2014/15 and 2019/20.

between poor and wealthy households tends to incorrectly skew the benefits of public spending towards poorer households.

In Zanzibar, differences across districts in terms of public spending and the quality of learning environments are relatively large (Figure 50). Since districts were made responsible for the delivery of public pre-primary and primary education services between 2017–18 and 2021–22, it is possible to analyze public spending at the district level.[65] Levels of spending per student vary considerably across districts. For example, average spending per student in Mjini was TSh 284,000 compared to only TSh 130,000 in Wete. Similar differences are seen when looking at the quality of school learning environments. In Chake Chake, there are an average of 92 students for each pre-primary and primary classroom compared to 59 students in Kati. These differences in spending and facilities are associated with poverty. Spending and the quality of learning environments tend to be lower in districts with higher rates of poverty.

[65] Spending reported at the district level does not include all spending on pre-primary and primary education. It mostly includes recurrent spending and particularly teacher salaries. Other spending on pre-primary and primary spending that it was not possible to disaggregate (approximately 2 percent of the total) is excluded from this analysis.

FIGURE 50 Primary and pre-primary public spending and learning environments, 2019

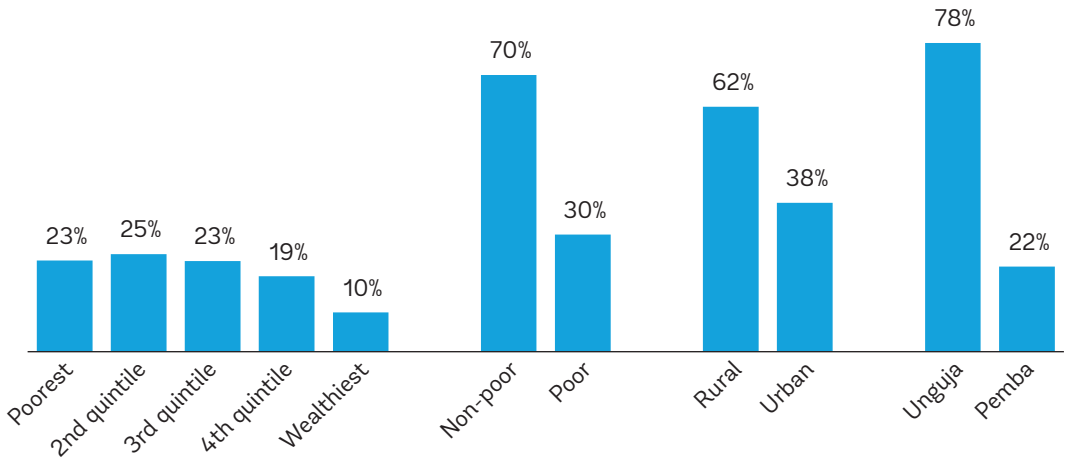


Source: World Bank calculations based on OCGS HBS 2014/15 and 2019/20 and MoEVT Statistical Abstract 2021.

Photo by Kasyans Eglitis on Unsplash

Using this more disaggregated data for the benefit incidence analysis shows that public spending is still pro-poor, but not as progressive as the estimates from national level data suggest. Using the national spending information in Table 16, poor households received 33 percent of all pre-primary and primary public spending. However, using the more disaggregated data, this share falls to 30 percent. Conversely, the share of spending allocated to the wealthiest 40 percent of households increases from 26 percent in the national data to 29 percent using the disaggregated data. More striking is the share of public spending allocated to the two main islands. Using the disaggregated analysis, the share of public education spending going to households in Unguja is 78 percent compared to only 65 percent when the national data is used.

FIGURE 51 Distribution of public pre-primary and primary education spending, 2019



Source: World Bank calculations based on OCGS HBS 2019/20 and district level data on education expenditure.

Improving the distribution of public education spending requires a stronger focus on narrowing the gaps in service provision between schools. In 2019–20, teacher remuneration and school infrastructure investments made up 84 percent of total public spending on education. However, recent analysis shows that over the 2015–2019 period, the relationship between the allocation of new teachers and classrooms has been only weakly correlated with need (World Bank forthcoming). Improving school planning and teacher deployment systems to ensure that new teachers and infrastructure are allocated across Zanzibar according to need would significantly improve the overall distribution of public spending. It would also improve education outcomes by using resources more effectively to improve the quality of learning environments in schools.

However, distributing current resources more equally would lead to only a partial narrowing of the large gaps in education outcomes between socioeconomic groups. Additional public resources will be needed to extend educational opportunities to children who are currently excluded. This will require more public schools, particularly at the secondary level, and the provision of more teachers and other educational inputs. It will also require a greater focus on reaching the most marginalized children with more targeted support to help them to enroll and complete their education successfully. For example, programs to ensure that all students achieve foundational literacy and numeracy in primary education would reduce drop-out, particularly of the poorest students, and help them stay in school longer and build the skills they need to improve their livelihoods.

Photo by Patrick Mueller on Unsplash

Photo by Queen Lijon Unsplash

7. HEALTH CARE AND SOCIAL PROTECTION

Main findings

Out-of-pocket spending on health care is low and is smallest among poorer groups, also when taken as a percentage of total consumption expenditure. However, public spending on health care (excluding inpatient health care) benefits richer population groups more than the poorest ones. This is partly because the poor seek health care less often than the better-off even though they are entitled to free health care. A larger proportion of health care visits of the poor are to primary health care facilities while the better-off more often visit hospitals, both private and public ones. To address this inequality of access, the government should not only spend more on health care; it should also spend more on health service provision in rural and remote areas to reach more of the poor and address barriers that prevent them from accessing adequate health care. This could include expanding health insurance coverage to the poor.

Regarding social assistance programs, the report finds that based on the data on the HBS 2019–20, social assistance programs in Zanzibar cover only a small part of the population (5 percent). This is a much smaller amount than what program records show. Of the three main social assistance programs only the TASAF program is targeted towards the poor; that is, it is the only program that benefits the poorest 20 percent of the population more than other wealth groups.

7.1 Health care

Introduction

The aspiration of the RGoZ is to achieve universal health coverage (UHC), according to its fourth sector plan.[66] Ensuring that all citizens, including the poor, have access to affordable basic health care is an important responsibility of governments. Health care provision is often subsidized with public funds for this purpose. The RGoZ has revised the Essential Health Care Package of cost-effective health services, including curative and preventive services to guide its efforts in the realization of the UHC goal. Public spending in the health sector includes spending by the Ministry of Health, Mnazi Mmoja Hospital, and Local Government Authorities (LGAs).

However, health care financing has been insufficient to realize the government's ambition. In FY19–20, the total government budget allocation to the health sector amounted to 7.7 percent of the total budget, which remains significantly below the Abuja Declaration target of allocating at least 15 percent of the national budget to health. In absolute amounts, the Zanzibar government spends around US$ 30 per capita on health care. Again, this runs short of the recommended US$86 per capita needed to achieve UHC. There is a severe shortage of health care workers, particularly in poor areas.[67]

This section presents an assessment of disease incidence and health care utilization by wealth groups making use of the HBS 2019/20 data. It then combines these findings with data on public expenditure on health care to assess the extent to which health care service delivery benefits the poor. This was done through a benefit incidence analysis (BIA) which was conducted as part of the poverty assessment. The Zanzibar HBS 2019/20 survey captured information on household use of health care services from health care providers by level of care. This can then be used to calculate averages by wealth group. The HBS 2019/20 also gathered data on household out-of-pocket health care expenditure. The analysis also draws on the unit costs of health care service delivery from the NHIF. It only focuses on outpatient services as no information is available on inpatient services.

Findings

About one fifth (20 percent) of Zanzibar's population reported being sick within the four weeks prior to the survey interview. Of all those reporting they had

[66] RGoZ, Ministry of Health, Social Welfare, Elders, Gender and Children (2021). Sector Strategic Plan Iv 2020/21 - 2024/25.
[67] UNICEF Tanzania (2020). Zanzibar 2020 Health Budget Brief revised.

been ill, the proportion that is in the richest quintile is relatively high (23 percent) compared to the poorest quintile (17 percent)[68]. The proportion that has been ill is also relatively high in Pemba: 37 percent of all those who were ill live there, while only 27 of the Zanzibar population is located in Pemba. In contrast, the proportion of those that were ill that live in Unguja is 63 percent while 73 present of the population lives here (Table 17).

Of those who were ill, almost one quarter (24 percent) did not seek health care, while more than half (54 percent) sought public care and the remainder (21 percent) obtained private care. The main reason for not seeking health care is because they saw "no need" for doing that, with 95 percent providing this answer, followed by "had medicine at home" (5 percent). Public primary health care units were visited most often (by 29 percent of those who were ill), followed by public hospitals (26 percent) (Table 18a). On average, each individual visits a health care provider three times per year. The proportion of those who are ill but not seeking care is higher in urban areas (27 percent) compared to rural areas (23 percent) and the rural population made more health care visits than those in urban areas. The proportion not seeking care is higher in Pemba (32 percent) than in Unguja (20 percent) (Table 18a).

There are important differences between poor and better-off population groups in terms of health care-seeking behavior. When they were ill, the poorest population groups sought health care less often than people in the upper end of the income distribution (Table 18a). The better-off visited private health care providers more often than the poorest groups. For example, only 5 percent of those who were ill in the poorest quintile visited a private hospital compared to

TABLE 17 Distribution of those who were ill across welfare quintiles and main islands (%)

	All	Q1 Poorest	Q2 Near poorest	Q3 Middle	Q4 Near richest	Q5 richest	Total	Unguja	Pemba	Total
Person has been ill in the 4 weeks before the survey (%)	20	17	21	18	21	23	100	63	37	100
All people (%)	100	20	20	20	20	20	100	73	27	100

[68] The poor tend to underreport their illnesses, according to research literature which could be one reason for the low proportion indicating they were ill.

TABLE 18A Percentage of people who were ill and sought health care, by facility and wealth group, (consumption quintiles) and location

		Of those ill, % seeking						
			Public health care		Private health care			
	Sick in previous 4 weeks (%)	Did not seek care (%)	Public hospitals (%)	Primary health care units (%)	Private hospital/ dispensary (%)	Other private care (pharmacy, healer) (%)	Total (%)	Average annual visits for all individuals* (n = 14,838)
Overall (%)	20**	24	26	29	12	9	100	3.0
By quintile (20 percent group)								
Poorest	17	35	25	30	5	5	100	2.1
Near poorest	21	28	27	31	9	5	100	3.1
Middle	18	24	30	27	8	11	100	2.6
Near richest	21	22	25	31	13	9	100	3.2
Richest	23	17	25	26	20	12	100	3.9
By location								
Rural	61	23	26	34	8	9	100	3.3
Urban	39	27	27	22	17	7	100	2.5
By island								
Unguja	63	20	24	33	15	8	100	2.9
Pemba	37	32	29	23	5	11	100	3.2

Notes: Public hospitals include (i.e., referral (7%), regional and special (4%), cottage hospitals (7%), district hospitals (8%)); PHC units include PHCU plus and PHC. *Zeros were put for those who were not ill or never sought health care. ** this figure is different from the 15 percent in the HBS 2019–20 report because we added those who had said they sought care but had initially said they were not sick.
Source: Zanzibar HBS 2019/20.

20 percent in the richest quintile. Annual average visits to health care providers of the richest population group (almost 4 visits) were almost twice as high as among the poorest population (a little more than 2 visits), indicating that the better off enjoy better health care access when they are ill, and that the poor face other barriers for accessing health care.

Of all those that did not seek health care although they were ill, a relatively high proportion is from the poorest fifth of the population (23 percent) or the near

poorest one (24 percent), compared to richest and near richest groups (16 and 19 percent respectively (see red figures in Table 18b). At the same time, the richest fifth seek care more often including in public facilities. They are the most frequent visitors not only in private health care providers (where 32 percent of all visitors comes from the richest fifth) also in public ones where 22 percent comes from this group compared to only 16 percent of the poorest fifth. Although 37 percent

TABLE 18B **Distribution of people who were ill and sought health care by facility and by wealth group, location and island**

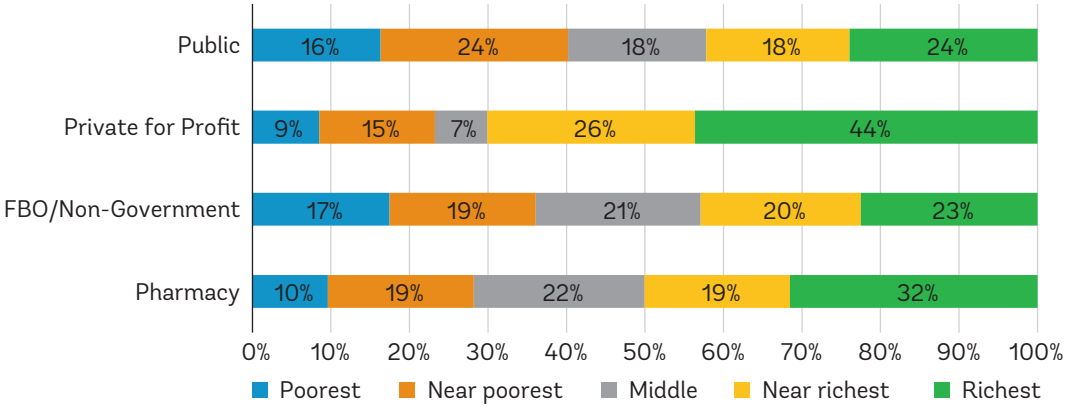
		Of those ill, % seeking					
			Public health care		Private health care		
	Sick in previous 4 weeks (%)	Did not seek care	Public hospitals	Primary health care units	Private hospital/ dispensary	Other private care (pharmacy, healer)	Average annual visits for all individuals* (n = 14,838)
Overall total	20	25	26	29	12	9	3.0
By quintile (20 percent group)							
Poorest	17	23%	16%	17%	7%	10%	2.1
Near poorest	21	24%	22%	22%	17%	13%	3.1
Middle	18	18%	20%	17%	13%	22%	2.6
Near richest	21	19%	20%	23%	24%	23%	3.2
Richest	23	16%	22%	21%	39%	32%	3.9
	100	100	100	100	100	100	
By location							
Rural	61	57%	60%	71%	42%	67%	3.3
Urban	39	43%	40%	29%	58%	33%	2.5
	100	100	100	100	100	100	
By island							
Unguja	63	52%	58%	71%	83%	54%	2.9
Pemba	37	48%	42%	23%	17%	46%	3.2
	100	100	100	100	100	100	

Photo by Sasha Marweva on Unsplash

of all those that are ill live on Pemba, a much high proportion, 48 percent, of those that don't seek care although they are ill live there (Table 18b), showing that people living in Pemba are overrepresented among those that do not seek care when they are ill.

Findings from the benefit incidence of health care spending show that richer households benefit relative more from public spending on health care than poorer groups (see first bar in Figure 52). Almost a quarter (24 percent) of public spending on health care goes to the richest fifth of the population while only 16 percent goes to the poorest fifth. This follows from the above finding that the poor seek health care less often when sick, while the richest fifth seek care more often including in public facilities. This is partly because hospitals are more easily accessible for urban households who are often better-off compared to those in rural areas. Hospital care is also more expensive than primary health care. The richest fifth also benefits more from private providers compared to the poorest fifth (second bar in Figure 52).

FIGURE 52 Distribution of health care benefits across welfare quintile



Source: Annual service utilization data (visits) were obtained from the Zanzibar OCGS 2019–20 and annual spending (government and private) on health care facilities is derived from the NHIF-based unit costs multiplied by the number of visits.

Out-of-pocket spending on health care is low and is smallest among poorer groups, also when taken as a percentage of total consumption expenditure. Households in the top of the income distribution incur out-of-pocket expenditures on health care that are ten times higher than those in the poorest group. This is because they seek health care more often than the poor and more often visit private providers and hospitals (public and private), which tend to be more expensive. As a proportion of total household consumption expenditure, the richest group still spends more on health care (2.2 percent) than the poorest (1.1 percent). Only a few (3.7 percent) individuals are covered with health insurance in Zanzibar, which is mostly provided to civil servants. As can be expected, health insurance coverage is higher among the richest households and residents in urban and Unguja. Coverage is significantly higher in Unguja (5.2 percent) than in Pemba (0.7 percent), and higher in urban (6.1 percent) than in rural locations (1.7 percent). The majority of insured people (74 percent) were covered by the NHIF.

TABLE 19 **Mean annual household health expenditure and health insurance coverage, by quintile and location**

Subgroup		Annual out-of-pocket health care expenditure per adult equivalent (Tsh)	Out-of-pocket health expenditure as % of total household expenditure	Proportion of people with health insurance coverage (%)
Wealth group	Poorest	5,776	1.0	0.5
	Near poorest	9,902	1.2	1.2
	Middle	10,985	1.0	2.9
	Near richest	26,716	1.8	3.5
	Richest	68,872	2.2	10.4
	Concentration Index (CI) (P value)	CI = 0.516 (P < 0.001)	CI = 0.516 (P < 0.001)	CI = 0.527 (P < 0.001)
Location type	Rural	18,747	1.3	1.7
	Urban	31,631	1.6	6.1
Island type	Unguja	29,362	1.6	5.2
	Pemba	14,672	1.1	0.7
Overall		**24,441**	**1.4**	1.1

Notes: N=2,788 households; N=14,838 individuals OOP: Out-of-pocket; Out of 3.7%: NHIF=74.1%, insurance via employer=19.3%, private insurance=3.1%, and other=1%.
Source: Zanzibar OCGS 2019/20.

Around 3.1 percent of households in Zanzibar incurred catastrophic health payments exceeding 10 percent of their total expenditures and 1.1 percent of households in Zanzibar were pushed into poverty due to health care spending, which translates into a 4.3 percent relative increase in the poverty head count. About 1.3 percent incurred payments in excess of 40 percent of non-food expenditure. This highlights the need to extend the pre-payment mechanisms like health insurance and government funding to protect the most vulnerable population from financial hardship and poverty.

The government should more systematically monitor who benefits from its public spending on health care to track whether public spending reaches those who need it most. Further strengthening of mechanisms to ensure universal health care coverage and/or enlarge coverage of health insurance will be key to ensure that the poor are protected from catastrophic health spending and prevent them from falling back into poverty. Using household survey data such as the HBS can play an important role in monitoring who benefits from public and private spending on health care.

7.2 Social assistance

Introduction

Since 2014 Zanzibar has had a comprehensive life-cycle-based social protection system which covers social assistance and social insurance interventions.[69] Social assistance coverage and spending expanded significantly following the inception of the conditional cash transfer (CCT) program through the Productive Social Safety Net (PSSN) in 2014, and the government-funded Zanzibar Universal Pension Scheme (ZUPS) in 2016. Under the ZUPS, anyone over the age of 70 receives a monthly non-contributory pension of Tsh 20,000 (approximately US$9). The program started in 2016, and in 2020 an estimated 60,000 elders were benefitting from the program.

Spending on social protection has increased in recent years but remains small and is dominated by social insurance. In 2018, 1.6 percent of GDP was spent on social protection in Zanzibar, which consisted of 1.1 percent spent on social insurance, 0.5 percent on social assistance, with additional small amounts going to labor market programs and social welfare services. The government provides 40 percent of social assistance spending and the remainder is provided by development partners.

[69] This section is partly based on: RGoZ and UNICEF (2018). Zanzibar**:** Social Protection Budget Analysis and World Bank (2021). A Blueprint for Developing a Unified Social Registry in Tanzania.

The share of social protection expenditure in the total government budget has been increasing, reaching 9 percent in 2015–16. Social insurance expenditures stood at 6 percent of the total government budget in 2015–16, social assistance at 3 percent, and the remainder was distributed between labor market programs and social welfare services. In the social protection arena, Zanzibar adopted its social protection policy in 2014, after which it introduced and massively scaled up the PSSN program, and then introduced the ZUPS. Both contributory pension schemes and the ZUPS target the elderly.

The PSSN is aimed mainly at poor families with children. The cash transfer component of the PSSN incentivizes investing in children's human capital, and the public works component provides temporary employment for working-age members of the population. There are currently no plans for the RGoZ to supplement PSSN spending (which is currently fully donor-funded). There are, however, plans to expand the ZUPS (financed by the government) by lowering the eligibility age.

To assess the coverage of social protection plans among the poor, data from the HBS 2019–10 as well as the Zanzibar sample of the NPS 2019 were used. Both surveys were not well designed to assess program coverage and further work is needed to strengthen the surveys in this respect.

Analysis based on the HBS 2019–20

Only 5 percent of households interviewed for the HBS 2019–20 indicated having received social assistance from a government program during the 12 months before the survey interview. This is much lower than would be expected given that during the survey period, around 70,000 households out of approximately 350,000 were receiving such social assistance, according to program records. The largest program in terms of coverage is what is referred to in the survey as "social benefits received from the Ministry of Finance,"[70] which reached 3.1 percent of households. This is followed by cash transfers from the PSSN by the Tanzania Social Action Fund (TASAF):[71] 1.4 percent of household indicated they received funds from this program. Finally, 0.7 percent of respondents claimed to have received benefits from non-contributary social pensions managed by the Ministry of Labor.

While the TASAF social assistance program mostly benefited those in the lower part of the income distribution, other social assistance programs showed considerable leakage to the non-poor. The "social benefits program from the Ministry of Finance" reached only 1.1 percent of the poorest 20 percent of the population while it benefited

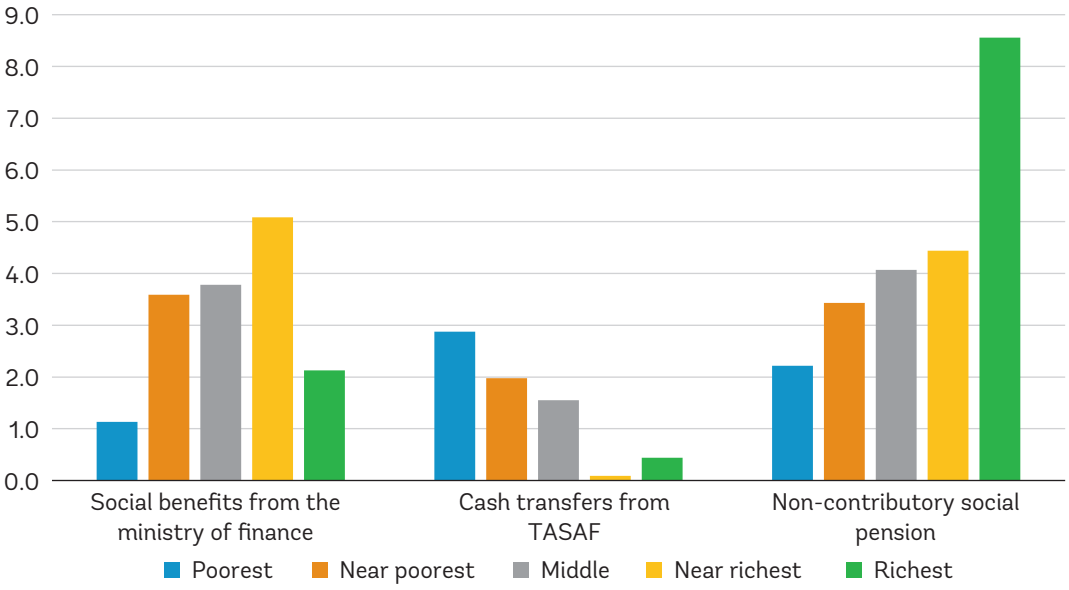
[70] Question 4b in the Social Security section (Section 7) of HBS 2019/20 Questionnaire Form 4.
[71] Question 5a and 5b in the Social Security section (Section 7) of HBS2019/20 Questionnaire Form 4.

5.1 percent of households of the "near richest" quintile and 2.1 percent in the richest quintile, according to the HBS 2019–20 survey. The non-contributory social pension program benefited a much larger proportion of households in the better-off quintiles than in the poorer population groups (Figure 53).

The TASAF program is well-targeted towards households in the bottom two quintiles: 41 percent of all beneficiaries are in the poorest fifth (quintile) of the population, followed by 29 percent in the near poorest group (Figure 54). However, even in the TASAF program 46 percent of beneficiaries were not poor—that is, they were not below the basic-needs poverty line. Beneficiaries of the non-contributory social pensions are mostly found in the near poorest and middle quintiles (Figure 54).

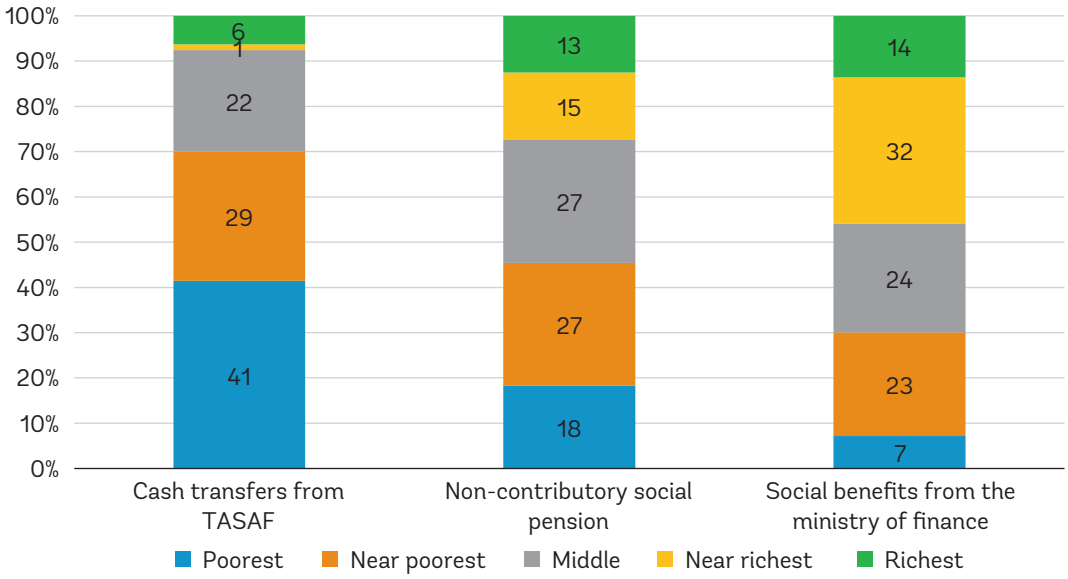
The HBS 2019–20 survey does not contain data on the amounts households received for each of the programs. It is therefore not possible to assess the distribution of benefits; that is, assess the extent to which the *total amounts* that households received from each of the social assistance programs are targeted towards the poorest households. For in-kind transfers to households, such as food and school uniforms, it is not possible to use the HBS 2019–20 to assess whether these were received from government or NGO programs or from private persons such as family and friends.

FIGURE 53 **Proportion of households in each wealth group benefiting from social assistance programs (%)**



Note: The "social benefits from the ministry of finance" was the program name used in the HBS 2019 questionnaire.
Source: Based on OCGS HBS 2019/20.

FIGURE 54 Distribution of program beneficiaries across welfare groups (quintiles)



Source: Based on OCGS HBS 2019/20.

Contributory pensions from ZSSF and NSSF cover 4.5 percent of the population and are biased towards better-off households. The largest proportion of beneficiaries of contributory pensions (38 percent) are found in the richest fifth of the population, followed by the near richest (20 percent). Only 10 percent of beneficiaries of contributory pensions are found in the poorest fifth of the population.

In conclusion we can say that, based on the data of the HBS 2019–20, social assistance programs in Zanzibar cover only a small part of the population (5 percent). According to program records this should be about 20 percent. Of the three main social assistance programs only the TASAF programs is targeted towards the poor; that is, it is the only program that benefits the poorest 20 percent of the population more than other wealth groups.

Photo by Micah Campre on Unsplash

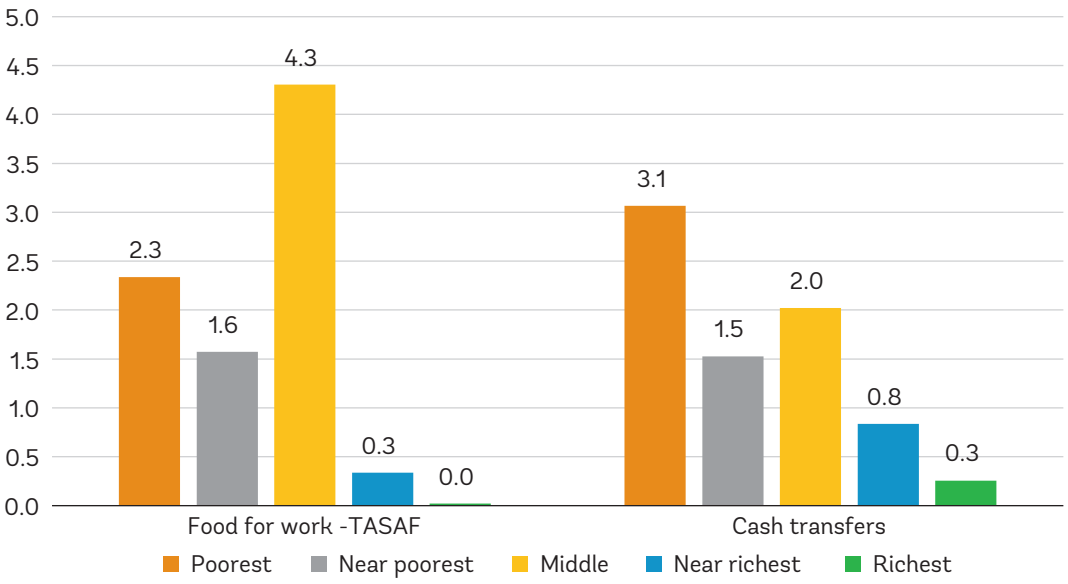

Photo by Sameer Al-maafzy on Unsplash

Analysis based on the National Panel Survey 2019

According to data collected through the Zanzibar sample of the NPS 2019, household coverage of cash transfer programs is low, as only 1.5 to 3 percent of the poorest two quintiles reported receiving any social assistance. This is similar to the findings from the HBS 2019–20. The name and origin of the program that provided these cash transfers was not well captured in the survey, but this could be the social pensions or TASAF cash transfers. The food for work program had an equally lower coverage according to the survey data but was less well targeted as the highest coverage was found among the middle group.

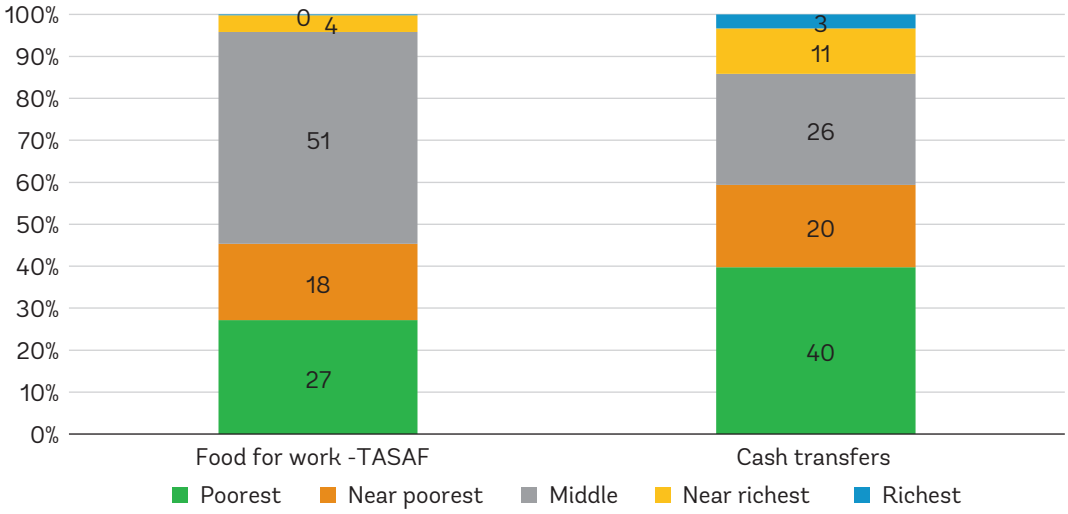
The NPS 2019 data suggest that the cash transfer program is reasonably well targeted but there is much scope for further

FIGURE 55 Proportion of households in each wealth group benefiting from social assistance programs, according to NPS 2019 data



Note: Further investigation into the nature and correct name of these programs is needed.
Source: Zanzibar sample of the National Panel Survey 2019.

FIGURE 56 Distribution of program beneficiaries across wealth groups (quintiles)



Source: Zanzibar sample of the National Panel Survey 2019.

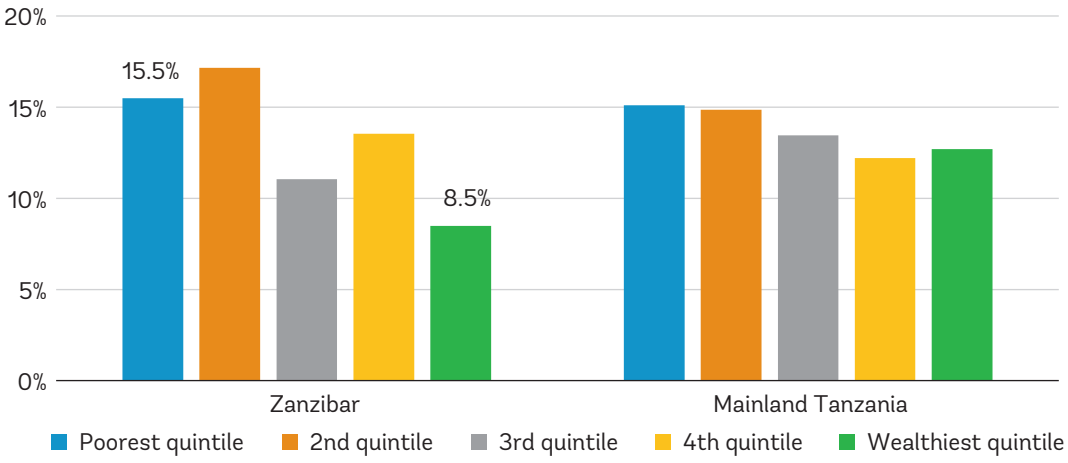
improvement. With 40 percent of the beneficiaries in the upper 3 quintiles, there is scope for further reducing the "leakage" to these groups and making sure that the program reaches the most needy population groups. The food for work program is not well targeted towards the poor, as the poorest two quintiles only contain 45 percent of beneficiaries.

7.3 Disability

In Zanzibar 2.4 percent of people have a disability[72], and 13 percent of households have at least one member with a disability, according to the HBS 2019/20 data. These estimates are somewhat lower than for mainland Tanzania. The proportion of households in Zanzibar with at least one member who has a disability is almost twice as high in the poorest quintile (15.5 percent) than the richest one-fifth (8.5 percent) (Figure 57). This could imply that disability causes poverty, but could also mean that poverty causes disability, and so further analysis is required to confirm the nature of this relationship. Only a small fraction of households with some form of disability received a social transfer, but this also requires further confirmation through a closer look at the available data.

[72] Disability' is defined as having difficulties executing basic activities in six core functional domains: seeing, hearing, walking, remembering, self-caring. This is as defined in the Washington Group on Disability Statistics.

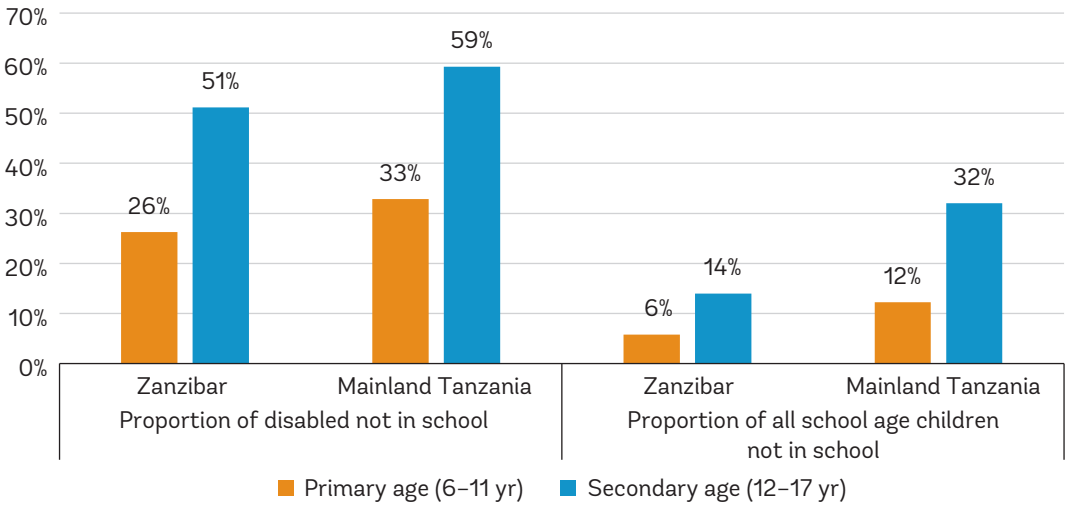
FIGURE 57 Proportion of households in each wealth group with at least one member with a disability, Zanzibar and mainland Tanzania



Note: 'disability' is defined as having difficulties executing basic activities in six core functional domains: seeing, hearing, walking, remembering, self-caring. This is as defined by the Washington Group on Disability Statistics.
Source: Zanzibar HBS 2019/20 and mainland Tanzania HBS 2017/18.

About a quarter of all disabled children of primary school age does not attend school, compared to 6 percent of all children of that age group. The figures are much higher for children of secondary school age: more than half of the disabled children in this age group is not in school compared to 14 percent for all school age children (Figure 58).

FIGURE 58 Proportion of disabled children versus all children not in school, by school level for Zanzibar and mainland Tanzania



Note: 'disability' is defined as having difficulties executing basic activities in six core functional domains: seeing, hearing, walking, remembering, self-caring. This is as defined by the Washington Group on Disability Statistics.
Source: Zanzibar HBS 2019/20 and mainland Tanzania HBS 2017/18.

Photo by Majkl Vdner on Unsplash

8. GENDER, TIME USE, AND POVERTY

Main findings

Gender parity has been attained at all levels of education, including institutions of higher learning, and Zanzibar is ahead of mainland Tanzania in this respect. However, employment rates among women are much lower than those in mainland Tanzania, as is contraceptive use. They also live in polygynous unions more often. Households where the only adult is female are poorer than households where the only adult is a male.

On average, males spent just under three times as many hours as women did on paid activities (defined as those that are measured in the System of National Accounts). On the other hand, females spent over six times as many hours as men doing unpaid domestic work. Men spent more time than women on activities like leisure and social activities while women spent slightly more time than men on self-care and maintenance including sleeping and bathing. Time spent on paid work was slightly higher in rural areas compared to urban ones for both men and women, driven by time spent on production of goods for own final use. The gender gap in conducting unpaid domestic work was larger in urban than rural areas.

8.1 Gender and poverty

Zanzibar's latest gender policy of 2018 presents a vision of "a Zanzibar society in which there is equity and equality between men and women in social, political, and economic spheres at all levels." In recognition of the need to address women's concentration in less productive sectors and jobs, there is also the Zanzibar Economic Empowerment Policy (2019), which encourages women and girls to participate in male-dominated trades.

Gender gaps in Zanzibar are smaller than on mainland Tanzania along some indicators. For example, gender parity has been attained at all levels of education, including institutions of higher learning. Zanzibar differs from the mainland in that girls remain in the majority throughout lower and upper-secondary education. At the secondary level, boys are even slightly more likely to drop out of school than girls. Teenage pregnancy rates are much lower in Zanzibar compared to mainland Tanzania. In 2016, in Zanzibar 8 percent of women between the ages of 15-19 had either given birth or were pregnant, compared to 27 percent in mainland Tanzania. Intimate partner violence occurs less often to Zanzibar women, relative to women in mainland, and Zanzibar women are more likely to make independent decisions such as on the use of their own earnings, compared to women on the mainland, according to DHS data reported in a recent World Bank Gender Assessment.[73]

However, Zanzibar lags mainland Tanzania along other gender indicators. Zanzibar women for example have a much lower employment rate (see below). Zanzibar also has a much lower rate of contraceptive use, as married women are less than half as likely as married women on the mainland to use modern contraceptives. Use of a bank account is also less prevalent among women in Zanzibar compared to those in mainland Tanzania[74].

Men in Zanzibar are more likely to be in polygynous unions than men in the mainland. Across Zanzibar, the occurrence of polygynous unions is most common in the Kusini Unguja Region, with 26 percent of men reporting having more than one wife. Like women, men who are older, live in rural areas, have no education or incomplete primary education, and from households in the lowest wealth quintile are more likely to have two or more wives than other men.

Households where the only adult is female are poorer than households where the only adult is a male. This is likely related to a large average household size of

[73] World Bank (2022). Tanzania Gender Assessment, based on data from the Demographic Health Survey (DHS) pf 2016. See here for link
[74] Ibid

TABLE 20 Poverty estimates of people living in different household types (2019)

Household typology	Poverty estimates (%)	Proportion of the population living in these households (%)	HH size (number of people)
No adult	14	1	2.8
One adult female	23	4	4.4
One adult male	16	1	3.0
One adult female & one adult male	22	38	5.4
At least three adults	29	52	8.0
All of Zanzibar	25.7	100	6.4

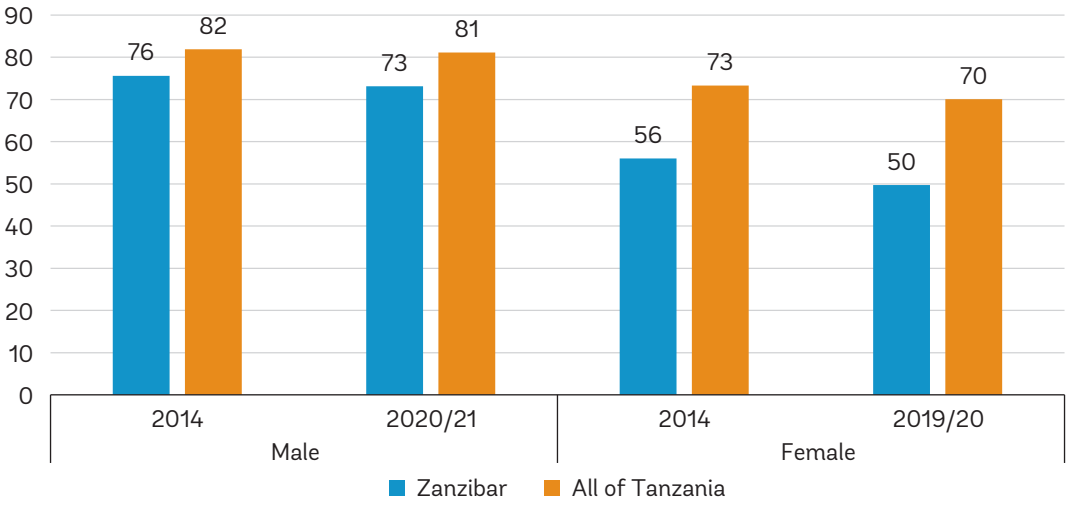
Source: Based on OCGS HBS 2019/20.

the first compared to the second (Table 20), as poverty rates are strongly related to household size, as was noted in Section 3.8. While this is relatively uncommon, it shows the disadvantage households headed by single females face in terms of gaining income and generating welfare for their families, compared to households headed by a single male. Part of the explanation can possibly be found in the allocation of their time use across income-generating and caring duties, which is the subject of the next section.

Although their educational attainment is similar to that of men, women's employment rates are much lower according to the Integrated Labor Force Survey (ILFS) data. In 2020–21 only 50 percent of women were conducting work for pay or were self-employed compared to 73 percent of men (Figure 59). Employment rates of women have also dropped faster than among men. Women's human capital appears to be underused for the benefit of the economy and for raising household incomes and reducing poverty. Moreover, despite their higher levels of

Photo by Micah Camper on Unsplash

FIGURE 59 Employment among men and women

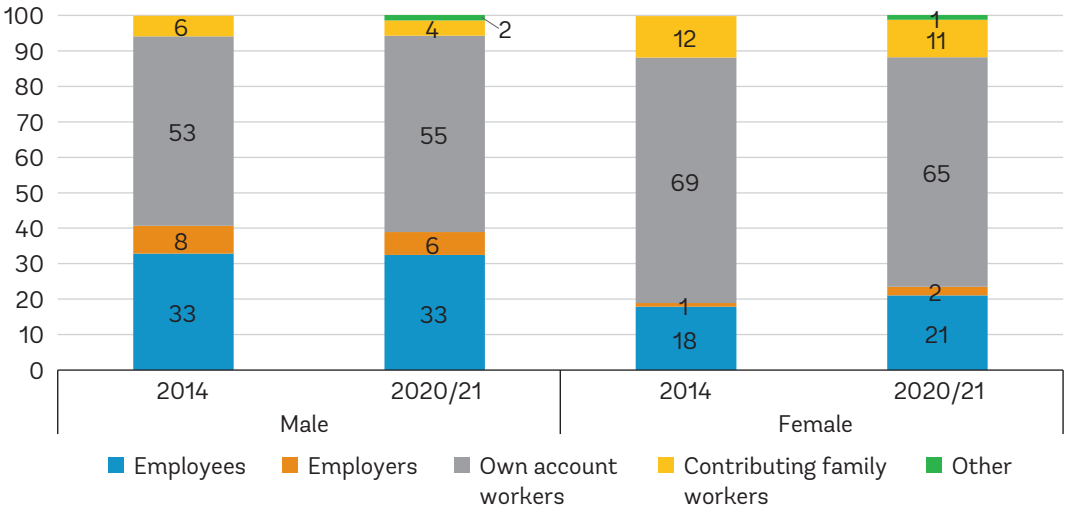


Note: Employment is defined as conducting work for pay and includes self-employment.
Source: URT (2021) Key labor market indicators report based on the ILFS 2014 and ILFS 2020–21. See here for link.

education, women's employment rate is much lower than the average for all of Tanzania (Figure 59).

Among women who work, the proportion who have a wage job is much smaller than that of men—33 percent vs. 21 percent in 2019/20—and the gap is narrowing only slowly (Figure 60).

FIGURE 60 Proportion of males and females working with wage jobs and self-employed



Source: URT (2021) Key labor market indicators report based on the ILFS 2014 and ILFS 2020–21. See here for link

8.2 Time use

An unequal distribution of the burden of domestic work and care-giving duties across men and women can be an important barrier for raising household income, improving well-being, and reducing poverty. It prevents equal opportunities for men and women to engage in productive work. Reliable time-use statistics are therefore critical for measuring and analyzing poverty and quality of life more broadly. They enable a comprehensive measurement of all forms of work, including unpaid work and non-market production, which is crucial for understanding gender inequalities and how these impact households' opportunities to improve welfare and move out of poverty. The HBS 2019–20 included a survey module on time use, enabling analysis of linkages between time use, gender inequality, and poverty.

The framework for time-use analysis is provided by the System of National Accounts (SNA). Data on time spent on productive and paid activities that are measured in SNA is compared with time spent on work that is not accounted for in SNA, such as unpaid domestic work and caring duties. Four types of activities are distinguished (Table 21). Only the time use of those who are 15+ years old is measured.

The analysis shows that there are large differences between men and women in the time spent on paid and unpaid work. On average, males spent just under three times as many hours as women did on SNA work activities (5.2 hours per 24 hours for men vs. 1.7 hours for women). On the other hand, females spent over six times as many hours as men doing unpaid domestic work, with a very low amount of time spent by men in unpaid domestic work overall (4.6 hours for women versus 0.9 hours for men). Taken together, these figures imply that men and women spent a similar amount of combined total time in work activities (6.1 hours for men vs 6.3 hours for women), and that the split between paid and unpaid work is strongly related to

TABLE 21 Types of activities distinguished in time-use analysis

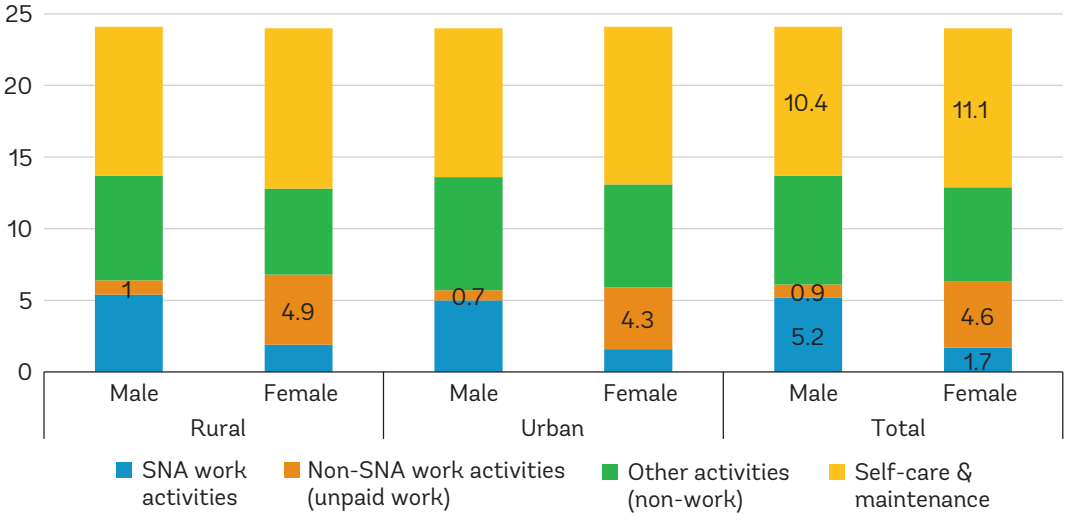
SNA work activities	"Productive activities" that are included in the measurement of the SNA
Non-SNA work activities (unpaid work)	Activities that do not contribute to the SNA, such as unpaid domestic work and caring
Other activities (non-work)	Leisure and social activities with family, friends, and communities
Self-care & maintenance	Covers bathing, sleeping, etc.

gender. Men spent slightly more time than women on "other activities" (like leisure and social activities) (7.6 hours for men vs. 6.6 hours for women). Women spent slightly longer than men on self-care and maintenance (11.1 hours for women vs. 10.4 hours for men), including sleeping and bathing (Figure 59).

Gender differences in urban and rural areas

Time spent on SNA (paid work) activities was slightly higher in rural areas compared to urban ones for both men and women, driven by time spent on production of goods for own final use. Gender gaps in employment and related activities were approximately the same across rural and urban areas. Time spent on unpaid domestic work (non-SNA work) were slightly lower for both men and women in urban areas compared to rural areas, but the gender gap was actually larger in urban areas: women spent over six times as long as men on unpaid domestic work in urban areas (4.3 hours for women vs. 0.7 hours for men) while they spent about five times as long as men in rural areas (4.9 vs. 1.0 hours). Time spent on other activities (non-work) was slightly higher in urban areas for both men and women, but the gender gap was higher in rural areas (Figure 61).

FIGURE 61 **Mean time spent by the population aged 15 years and above by activity and location (hours per 24-hour day)**



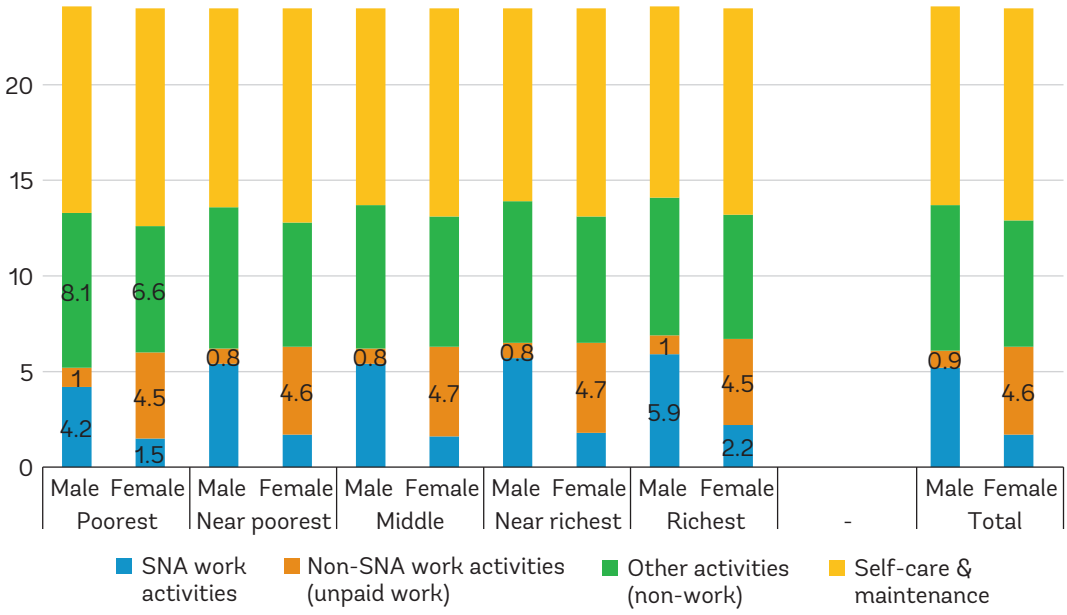
Note: See Table 21 for further explanation of the activities.
Source: Based on OCGS HBS 2019/20.

Gender differences among wealth groups

The gender gap in non-SNA work activities is constant across wealth groups, while women's time spent on SNA work activities increases consistently across welfare quintiles. The amount of time spent on SNA work rises from 1.5 hours among women in the poorest quintile to 2.2 hours among women in the wealthiest quintile. A similar pattern is observed for men, where the amount of time spent on SNA work increased from 4.2 hours among the poorest quintile to 5.9 hours among the wealthiest quintile. These figures imply a roughly constant gender gap in time spent on SNA work activities across poor, middle group, and wealthier households. Women's time spent on non-SNA activities remains remarkably constant at approximately 4.6 hours across consumption quintiles, while men's time on non-SNA work activities also remains constant at approximately 0.9 hours (Figure 62).

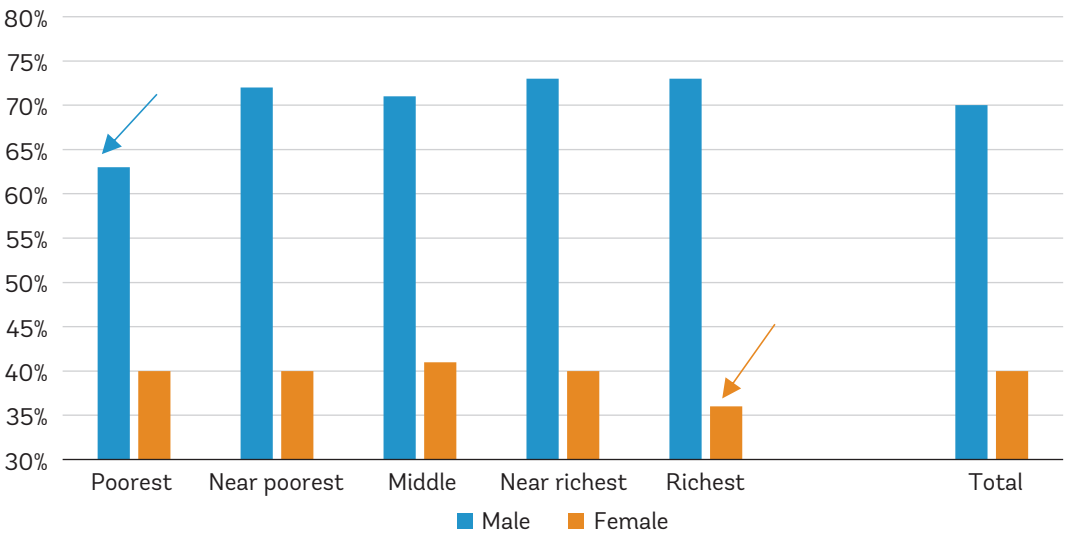
One facet of time use that is different among people in the poorest quintile is that men in this group spent more time on other non-work activities (such as social activities): 8.1 hours, compared to an average of 7.6 across all income groups. But women's time spent on other non-work activities is not similarly higher among the poorest households compared to women in other income groups (Figure 62).

FIGURE 62 **Mean time spent per day (24 hours) by activity and wealth groups (quintiles) (15+ year-olds)**



Note: See Table 21 for further explanation of the activities.
Source: Based on OCGS HBS 2019/20.

FIGURE 63 Participation rate in SNA activities (paid work) by consumption quintile (15+ year-olds) (%)



Source: Based on OCGS HBS 2019/20.

The participation rate in SNA work among males is lowest among the poorest quintile, suggesting a higher level of inactiveness either due to health reasons or opportunity to do productive work contributes to poverty. The proportion, however, remains fairly constant across the second to fifth quintiles. In contrast, women's participation rates are lowest among the richest quintile[75] (Figure 63).

Being better off in rural areas is associated with women doing more paid work, suggesting that higher incomes in rural areas are associated with women being able to grasp economic opportunities. In rural areas, women's time spent on SNA activities is markedly higher among households in the wealthiest 20 percent of the whole population (2.7 hours per day) compared to rural women in the other wealth groups (1.8–2.0 hours). Urban women's time spent on SNA activities increases more gradually as we move from poorer to middle group to wealthier households. The burden of unpaid domestic work and care giving duties is higher among rural than urban women.

Gender differences across levels of educational attainment

Gender gaps in hours spent on SNA work (paid work) activities persist across all education levels. While gender gaps widen slightly as we move from considering individuals with below primary to primary education, and again as we move to those

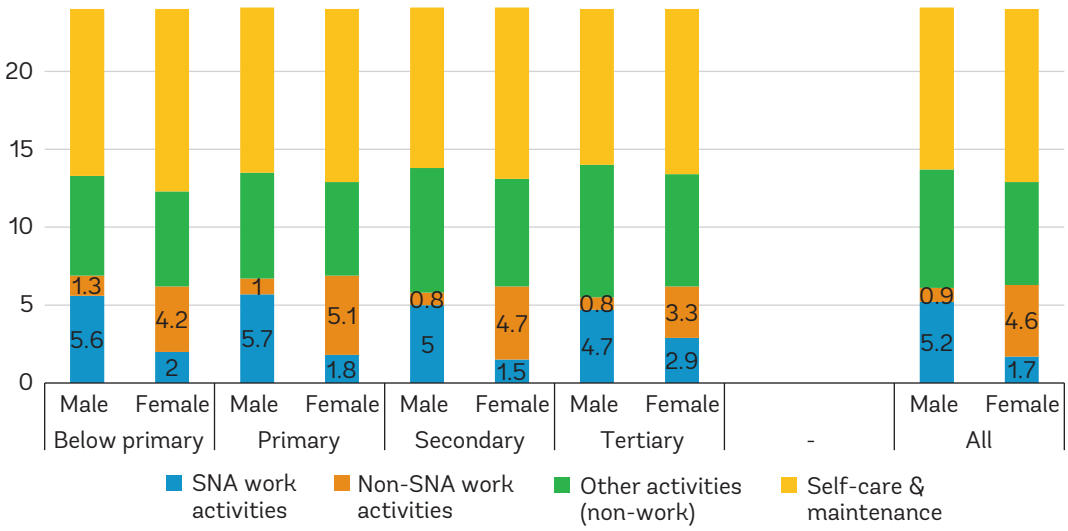
[75] This is also true for women aged 21+, so this is not capturing higher rates of female participation in secondary and tertiary education at higher income quintiles.

with secondary education, the gap narrows considerably when we consider men and women who have tertiary education (4.7 hours for men vs. 2.9 for women). The latter reflects both lower time on SNA work for men with tertiary education, and greater time on SNA work for women with tertiary education, compared to the average across all education levels (5.2 hours for men and 1.7 hours for women, respectively).

Interestingly, women's time spent on SNA work is highest among women with tertiary education, followed by those with below-primary education, while it is lower for those with primary and secondary education (Figure 62). This is consistent with trends observed in other settings, whereby women's participation in SNA work is a financial necessity at low levels of education or other measures of human capital, and again takes off at higher levels, but is dampened at intermediate levels and constrained by women's higher levels of non-SNA work (unpaid work) (Figure 64).

Gender gaps in time spent on non-SNA work activities (unpaid work) follow the same pattern: widening from below-primary to primary and again to secondary education, but narrowing sharply at tertiary education. In the case of non-SNA work activities, both men and women with tertiary education spend considerably less time on these activities than other men and women with lower education levels. Mirroring this, men and women with tertiary education spend far more time on other activities (non-work) than any other education group. Time spent on self-care decreases consistently as education rises, although this may proxy education being correlated with more readily available access to infrastructure and related services (Figure 64).

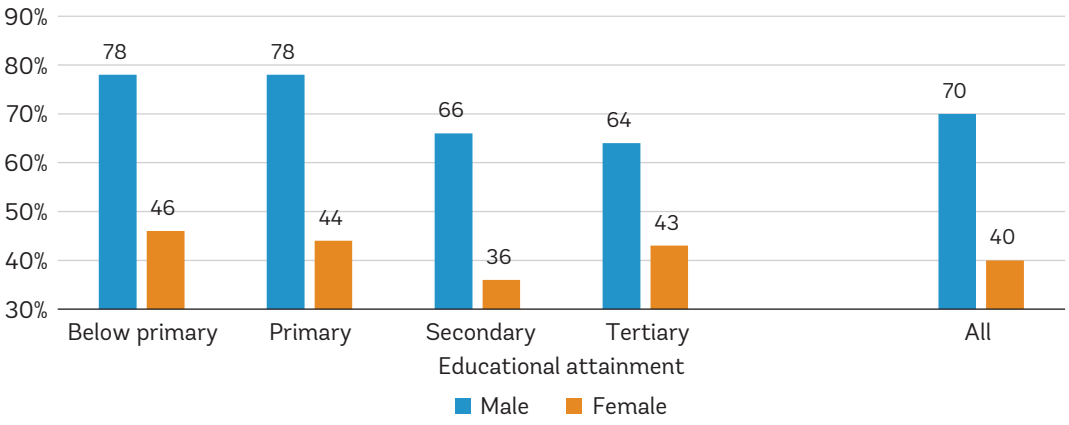
FIGURE 64 Mean time spent by the population aged 15 years and above per day (24 hours), by activity and education level



Note: See Table 21 for further explanation of the activities.
Source: Based on OCGS HBS 2019/20.

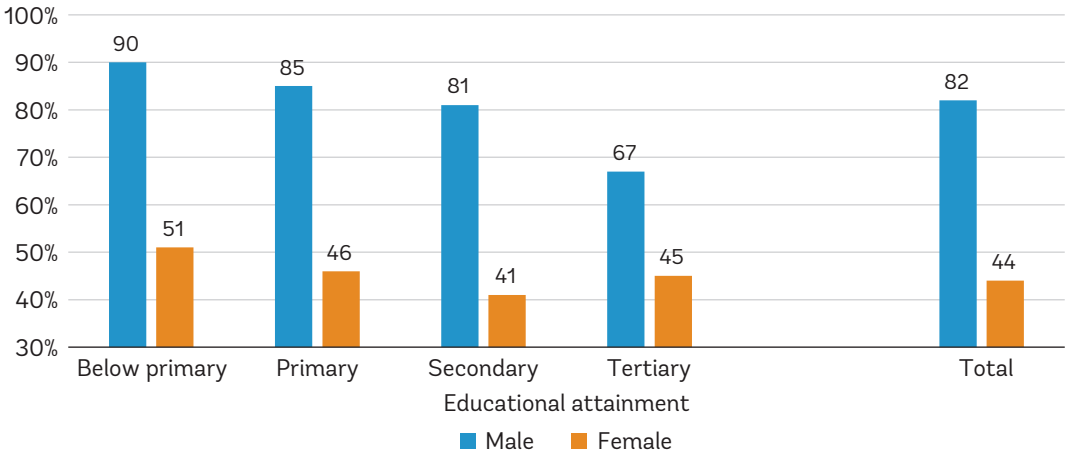
Women's participation rates in SNA work activities (40 percent on average) are strikingly just a little over half the rates observed among men (70 percent on average). Participation rates for both men and women appear lower among those with secondary and tertiary education than among those with primary and secondary education. If we consider just those men and women aged 21 and older, and hence exclude older adolescents and young adults who might still be completing secondary or tertiary education, we see substantially higher participation rates but the same gender gaps (44 percent for women versus 82 percent for men) and the same pattern of lower participation rates for both men and women with higher education levels (Figure 65a and 65b below).

FIGURE 65A Participation rate in SNA work activities (paid work), by education level (15+ years)



Source: Based on OCGS HBS 2019/20.

FIGURE 65B Participation rate in SNA work activities (paid work), by education level (21+ years)



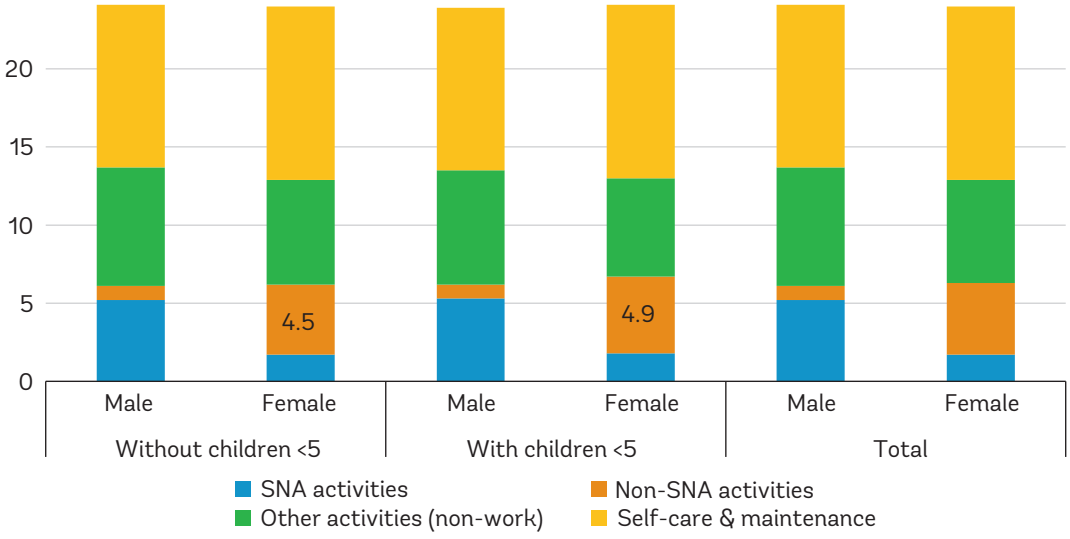
Source: Based on OCGS HBS 2019/20.

Presence of children under 5 (adults 15+)

The presence of children under 5 in the household is associated with higher time spent on non-SNA activities for women (an increase from 4.5 hours in households without children under five to 4.9 hours in households with children under five); while men's time spent on non-SNA activities is constant across households with and without children under five (0.9 hours). Thus, it appears that women alone shoulder the additional caring burden implied by the presence of children under five. Time spent on SNA activities slightly increases for both women and men when young children are present in the household. Thus the additional caring time spent by women when children are present comes at the cost of a decrease in other activities, not of a decrease in SNA activities.

Further analysis on time use is presented in Appendix 5.

FIGURE 66 **Mean time spent by the population of age 15+ years per day (24 hours), by activity and presence of children under five years old**



Note: See Table 21 for further explanation of the activities.
Source: Based on OCGS HBS 2019/20.

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9. POLICY IMPLICATIONS

Main findings

To accelerate poverty reduction in Zanzibar, the following policy recommendations should be considered:

(1) Make tourism more inclusive by

a. diversifying tourism products, including natural, cultural, and historic ones, through community involvement. This requires systemic changes in thinking and planning for tourism.

b. strengthening backward linkages to the local economy, as over 80 percent of the requirements in the tourism sector are sourced from outside Zanzibar.

- *To meet the food needs of the tourist industry hotels, better aggregation arrangements from smallholders, including contract farming, could help. A network of collection, treatment, and distribution centers under private management could be put in place.*

c. strengthening the generation of comprehensive visitor data and research.

(2) Improve labor market outcomes for women and youth by

a. better internship programs and linkages to Zanzibar's growth engines.

b. developing more community-based tourism products that are more culturally appropriate for Zanzibar, enabling women and men to equally participate in the tourist economy.

c. changing gender values and norms regarding unpaid domestic work, as well as the availability of affordable daycare centers.

(3) Improve educational outcomes for the poor by

a. improving the distribution of public education services across regions.

b. putting a greater focus on reaching the most marginalized children with more targeted support to help them enroll and complete their education successfully.

(4) Increase public spending on health care, especially for health service provision in rural and remote areas, to reach more of the poor and better track who benefits from public spending on health, for example by using the HBS.

(5) Build resilience against income shocks through safety nets and financial services and better track their coverage through household surveys.

Make tourism more inclusive.

Tourism is the engine of Zanzibar's economy, but it will only offer a pathway for Zanzibaris to move out of poverty if it adds more value locally and is made more inclusive. Zanzibar is already leading the global tourism sector's recovery and is becoming a distribution hub to other domestic destinations. But even prior to the pandemic, Zanzibar's tourism sector faced an array of challenges common to many small island economies, including weak linkages within the local economy, inadequate institutional and technical capabilities, and a shortage of trained and specialized personnel.[76] Currently, tourism is almost entirely driven by accommodations, and tourist activities are mostly limited to spending time on beaches, and visiting Stone Town. This leads to short stays and small value-added for local industries. Zanzibar's net income per tourist arrival was only US$258 in 2017, one-fifth of that of Mauritius and the Seychelles. To drive further growth and local added value, tourism has to be upgraded.

[76] Government of Zanzibar and IFC (2021) Zanzibar Tourism integrated strategic plan.

To harness tourism as a platform for inclusive development, proper strategies and long-term plans are needed that focus on diversifying tourism products. In transitioning from an ad hoc, private, sector-driven tourism development approach to one that more strategically develops the sector to benefit all Zanzibaris, it is critical for the government to take a more proactive role in identifying and investing in public goods that are essential to crowd in and facilitate sustainable and inclusive private sector investments at all levels of the tourism value chain. This includes transport, accommodation, activities, and various goods and services that are inputs to these enterprises.[77] To move towards redefining the *Zanzibar Experience* from the current short-stay, beach-centric one to a richer and more holistic, longer-stay, natural, cultural, and historic one requires systemic changes in thinking and planning.

Local economic development and poverty reduction can be achieved by mobilizing and engaging communities in cultural preservation and cultural tourism development, leading to more job opportunities in tourism. This could, for example, include skill training on heritage restoration and certification of preservation architects and craftsmen, as well as entrepreneurship enhancement programs for starting/expanding small businesses. There is potential for public institutions across several sectors to work more closely, effectively, and efficiently with private investors, communities, and other stakeholders to achieve a common tourism strategy. A tourism-related "Delivery Unit" that has convening power across different government agencies can drive implementation of a strategic plan.

[77] Zanzibar: A Pathway to Tourism for All Integrated Strategic Action Plan July 2019. World Bank and the Revolutionary Government of Zanzibar (RGZ).

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There is scope to further strengthen backward linkages to the local economy of goods consumed by tourists, as over 80 percent of the requirements in the tourism sector are sourced from outside Zanzibar. This is caused by the qualitative and quantitative mismatch between the sector's requirement and locally supplied goods and services. To meet the food needs of the tourist industry hotels, better aggregation arrangements from smallholders, including contract farming, could help. A network of collection, treatment, and distribution centers under private management is needed, one that plays an active role in training farmers and other chain operators, and promoting and disseminating market information. There are opportunities to reduce costs through digital solutions, such as creating digital applications to facilitate licensing and registration, recordkeeping, and contactless payment.

It is also key to strengthen the generation of comprehensive visitor data and research, along with conducting ongoing research into products and markets, and market intelligence. This includes research into alternative attractions as well as niche and emerging market segments. This will support the effectiveness of product development decisions and marketing strategies. Lastly, access to investment and financing, especially for SMEs, will need to be strengthened. For example, high barriers to entry hinder independent small businesses. Women are particularly affected by this.

Improve labor market outcomes for women and youth through better internship programs and linkages to Zanzibar's growth engines.

Creating jobs for poor young women who are currently unemployed or inactive will be essential to further reduce poverty. This requires better skills training and internship programs to enable students to apply in practice what they have learned in school. A human capital development strategy is needed for skills training in both the public and private sector. This should also cover soft skills. Apart from addressing the shortage of skilled staff at all levels and professions of the tourist value chain, this will enable the identification and fostering of talent. More emphasis is needed to diversify tourist products away from "sun, sea, and sand" and develop more community-based products that are more culturally appropriate for Zanzibar, and that enable women and men to equally participate in the tourist economy. Enabling women to better exploit economic opportunities also requires a change in gender values and norms regarding unpaid domestic work, as well as the availability of affordable daycare centers.

Improve educational outcomes for the poor by improving the distribution of public education.

Narrowing the gaps in service provision between schools would need to include improving school planning and teacher deployment systems to ensure that staff and infrastructure are allocated across Zanzibar according to need. Additional public resources will be needed to extend educational opportunities to children who are currently excluded. This would include more public schools, particularly at the secondary level, and the provision of more teachers and other educational inputs. In addition, greater focus is needed to reach the most marginalized children with more targeted support to help them to enroll and complete their education successfully. A human resource strategy is needed that enables the creation of a skilled workforce that can engage with Zanzibar's growth engines.

Increase public spending on health care, especially in rural and remote areas to achieve better coverage of the poor.

Further strengthen mechanisms to provide universal free health care to ensure that the poor make better use of health care services. This will also help protect them from catastrophic health spending and falling back into poverty. There is also a need to more systematically monitor who benefits from public spending on health care to track whether public spending reaches those who need it most. For this, use can be made of the HBS.

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Photo by Anil Reddy on Unsplash

Build resilience against income shocks through safety nets and financial services, and better track their coverage through household surveys.

Building resilience to income shocks will be key for sustaining poverty reduction, in particular given the increasing rainfall variability and rising temperatures (see appendix 7) that will expose households more to weather induced shocks. Building resilience to enable people to "bounce back" will become increasingly important as the world continues to face crisis after crisis. This requires strengthening access to savings and physical capital and improving access to social protection and health insurance. The coverage and targeting effectiveness of social transfers and health insurance could be better tracked through management information systems, including household surveys, to assess whether they reach the poor. Poor households living with young children should be supported with cash transfers to enable the family to access adequate healthy food.

REFERENCES

Anderson, W. And Juma, S. (2011) Linkages at tourism destinations: Challenges in Zanzibar. Journal of Tourism Research, 3 (1), 27–41

Anderson, W. (2013) Leakages in the tourism systems: case of Zanzibar. Tourism review, 68(1), 62–76

Anderson, W. (2015) Human Resource Needs and Skill Gaps in the Tourism and Hospitality Sector in Tanzania. Consultancy Report submitted to The Ministry of Education and Vocational Training, Tanzania under World Bank – STHEP AF Project

Asante AD, Ir P, Jacobs B, et al. 2019. Who benefits from healthcare spending in Cambodia? Evidence for a universal health coverage policy. *Health policy and planning*, **34**: i4–i13.

Ataguba JE, McIntyre D. 2012. Paying for and receiving benefits from health services in South Africa: is the health system equitable? *Health Policy Plan*, **27 Suppl 1**: i35–45.

Barrett, C. B., Garg, T., & McBride, L. (2016). Well-being dynamics and poverty traps. Annual Review of Resource Economics, 8, 303-327.

Bussolo, M., & Lopez-Calva, L. F. (2014). Shared prosperity: Paving the way in Europe and Central Asia. World Bank Publications.

Datt, G.; Ravallion, M. (1992) "Growth and Redistribution Components of Changes in Poverty Measures: A Decomposition with Applications to Brazil and India in the 1980s." Journal of Development Economics, 38: 275–296.

Bowser D, Patenaude B, Bhawalkar M, Duran D, Berman P. 2019. Benefit incidence analysis in public health facilities in India: utilization and benefits at the national and state levels. *Int J Equity Health*, **18**: 13.

Chuma J, Maina T, Ataguba J. 2012. Does the distribution of health care benefits in Kenya meet the principles of universal coverage? *BMC public health*, **12**: 20–20.

Deaton A, Zaidi S. 2002. *Guidelines for constructing consumption aggregates for welfare analysis*. World Bank Publications.

Finn, Arden and Wendy Kwaramba (2019) The Evolution and Dynamics of Poverty in Tanzania 2008–2014: Analysis based on the National Panel Survey and Demographic Household Survey

Huppi, M., and M. Ravallion. 1991. "The Sectoral Structure of Poverty during an Adjustment Period: Evidence for Indonesia in the Mid-1980s." World Development 19 (12): 1653–78.

Kwesiga B, Ataguba JE, Abewe C, Kizza P, Zikusooka CM. 2015. Who pays for and who benefits from health care services in Uganda? *BMC Health Serv Res*, **15**: 44.

McIntyre D, Ataguba JE. 2011. How to do (or not to do) . . . a benefit incidence analysis. *Health Policy Plan*, **26**: 174–82.

Mtei G, Makawia S, Ally M, et al. 2012. Who pays and who benefits from health care? An assessment of equity in health care financing and benefit distribution in Tanzania. *Health Policy and Planning*, **27**: i23-i34.

NBS and OCGS Tanzania high frequency welfare monitoring survey reports: https://www.nbs.go.tz/index.php/en/census-surveys/poverty-indicators-statistics/national-panel-survey

O'Donnell O, Van Doorsslaer E, Wagstaff A, Lindelöw M. 2008. *Analyzing Health Equity Using Household Survey Data: A Guide to Techniques and Their Implementation*. World Bank Publications.

Lee, J.-W. and H. Lee (2016). "Human capital in the long run." *Journal of Development Economics.*

MoEVT (2017). Zanzibar Education Development Plan II 2017/2018–2021/2022. Zanzibar, Ministry of Education and Vocational Training, Revolutionary Goverment of Zanzibar.

Ravallion, Martin (2011), *Poverty, Inequality and Growth Revisited, World Bank note.*

RGoZ (2017). Zanzibar Strategy for Growth and Reduction of Poverty ZSGRP III (MKUZA III). 2016—2020. Zanzibar, Revolutionary Goverment of Zanzibar.

RGoZ, Ministry Of Health, Social Welfare, Elders, Gender and Children (2021). Sector Strategic Plan Iv 2020/21—2024/25

RGoZ and UNICEF (2018). Zanzibar**:** Social Protection Budget Analysis

Skoufias, Emmanuel, Katja Vinha, and Ryoko Sato. 2019. All Hands on Deck: Reducing Stunting through Multisectoral Efforts in Sub-Saharan Africa.

Africa Development Forum series. Washington, DC: World Bank. doi:10.1596/978-1-4648-1396-2

RGoZ and IFC (2021) Zanzibar Tourism integrated strategic plan

Office of the Chief Government Statistician (2020) Main Report 2019/20 Household Budget Survey December 2020. Report is found here

RTI International (2018). "Assistance to Basic Education: All Children Reading (ABE-ACR). Final Findings Report, 2017 Tanzania National Early Grade Reading Assessment (EGRA)."

UNICEF Tanzania (2020) Zanzibar 2020 Health Budget Brief revised

UNICEF (2020). "Addressing the learning crisis: An urgent need to better finance education for poorest children." New York, USA: UNICEF.

World Bank (2018). World Development Report 2018: Learning to Realize Education's Promise. Washington, DC, World Bank.

World Bank (forthcoming). Zanzibar: Education and Health Public Expenditure Review. Dar es Salaam, The World Bank.

World Bank (2021). A Blueprint for Developing a Unified Social Registry in Tanzania

World Bank 2021. Transforming Tourism, Toward a sustainable resilient and inclusive sector. Tanzania Economic Update 16

World Bank (2021). Tanzania Gender Assessment.

Yoshida, Nobuo and Haoyu Wu (2022). Analysis on the impact of the Ukraine war on poverty projections in Tanzania.


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Appendix 1
METHODOLOGICAL DIFFERENCES BETWEEN THE HBS SURVEYS

Methodological Comparison: 2019/20, 2014/15 and 2009/10 Household Budget Surveys

The HBS data collection instrument and construction of the welfare aggregate and the poverty lines, has evolved over time, often creating comparability issues. Below we discuss the changes that have taken place and what was done to maintain comparability to the maximum.

Sampling Design:

- In the HBS 2009/10 a total of 4,296 households from 179 EAs were interviewed. This was 4,560 households from 380 EAs from the HBS 2014/15, and 2,820 households from 235 EAs from the HBS 2019/20. The sample design of the three surveys allows representation of the results at the national, urban-rural and district levels of Zanzibar.

Data collection period

- The data collection period for the HBS 2009–10 was June 2009 to May 2010, for the HBS 2014/15 it was October 2014–October 2015, and for the HBS 2019/20 it was March 2019-February 2020.

Differences in data collection and analysis:

- Unlike the paper-based data collection used during the 2009/10 and 2014/15 surveys, the 2019/20 HBS used Computer Assisted Personal Interviewing (CAPI), specifically "Survey Solutions" software for data collection. The response rate for the HBS 2009/10 was 100 percent, while for the HBS 2014/15 it was 96.5 percent, and for the HBS 2019/20 it was 99.4 percent.
- A 28-day household diary to record daily food consumption was administered for the 2009/10 and 2014/15 surveys. Investigation of the data however showed that there were no marked differences between consumption and poverty rates

based on a 28-day a 14-day diary. With this finding and financial implications considered, a 14-day diary was adopted in the HBS 2019/20.

- The HBS 2014/15 covered a total of 612 consumption items based on the food diary and recall following the COICOP[78] definition but this reduced to 596 consumption items for the 2019/20 survey, partly due to the reclassification of COICOP items prior to 2019/20[79].

Differences in consumption/expenditure aggregates:

- The adoption of the Tanzania Mainland questionnaire for the Zanzibar HBS 2014/15, affected comparability between the HBS 2009/10 and HBS 2014/15. This was particularly the case for the usage of Form II to improve the reporting of non-food expenditure. The poverty analysis based on the HBS 2014/15—and the subsequent HBS 2019/20—used the actual food *consumption* recorded in the diary to correct data that were collected on food expenditure/purchases through diary and recall. To address the changes made in calculating total household consumption, the 2009/10 data was reanalyzed using the revised method for calculating 2014/15 consumption against the relevant poverty line for 2009/10. This led to a "rebasing" of the 2009/10 poverty measures.
- The HBS 2014/15 and HBS 2019/20 differ from the preceding 2009/10 HBS in a number of ways. Unlike the HBS 2009/10, the HBS 2014/15 and HBS 2019/20 questionnaires:
  - Used closed questions for non-food expenditure in Form II of the questionnaire to improve the reporting of non-food items.
  - Used food consumption in the diary in addition to food purchases in order to get more accurate data on actual household food consumption (as mentioned above).
  - Applied a consumption aggregate that excludes explicit and imputed housing rents, housing maintenance cost, expenditures on durable goods, and ceremonies. In the HBS 2009/10 house rent for home renters + imputed rent derived from a hedonic regression for homeowners were included in the consumption aggregate. To maintain comparability with the HBS 2014/15

[78] COICOP stands for Classification of Individual Consumption by Purpose.
[79] Revision of COICOP: https://www.cepal.org/sites/default/files/presentations/unsd-classification-individual-consumption-according-purpose-2018.pdf

and HBS 2019/20 these were removed from the 2009/10 consumption aggregate.

(The exclusion of housing-related expenditures – neither actual rent nor imputed rent for homeowners is mainly due to the limited rental market in Zanzibar, with only 12.0 percent of household in urban areas and 1.7 percent of the households in rural areas renting their homes. It was therefore decided to exclude actual or imputed values for house rent from the consumption aggregate as the house rental market in Zanzibar is too thin, especially in rural areas. This practice is similar to Mainland Tanzania.

– Spatial and temporal price deflators were derived from survey data, while for the HBS 2009/10 the official CPI was used for temporal deflation. In the 2009/10 HBS corrections for price differences between the months of the survey were made using the value of the monthly official CPI. However, no spatial deflators were used to correct for price differences between different locations. In contrast, both temporal and spatial price deflators were computed from the HBS 2014/15 and 2019/20 (instead of the CPI) to correct for price differences across location and across months. The HBS 2014/15 and 2019/20 adjusted for variation in the prices of food across regional and rural-urban locations and the various quarters of data collection using the Fisher Price Indices for both food and non-food expenditures.

- The consumption aggregates for the HBS 2014/15 and 2019/20 also exclude user values for large durable consumption goods such as cars, refrigerators, TVs and motorcycles, but it does include the purchasing values of a large number of smaller, semi-durable goods.[80] Excluding user values of large durable consumption goods will underestimate total consumption of households that have these goods. As these goods are more commonly owned by richer households, it does not affect the measurement of poverty much, but it is likely to particularly underestimate consumption values of the better-off and thus underestimate inequality.
- Finally, expenditures on ceremonies such as weddings, funerals, and religious services were excluded from the consumption aggregates of the 2014/15 and 2019/20 surveys. This is in line with international good practice because these expenditures are thought not to be particularly welfare enhancing.

[80] The distinction between durables, semi-durables and non-durable items is based on UNStats.un.org official COICOP classification in which ND=Non-Durable, SD=Semi Durable and D=Durable. Reference: https://unstats.un.org/unsd/classifications/unsdclassifications/COICOP_2018_-_pre-edited_white_cover_version_-_2018-12-26.pdf

Computation of the poverty lines

HBS 2009/10:

The poverty line that was calculated for the analysis for the HBS 2009/10 survey report used the food basket that was used for the analysis of the HBS 2004/05, based on the "basic needs" approach. The prices of the items in the food basket were based on the median prices paid by the bottom 50 percent of the welfare distribution (in per capita consumption) of the HBS 2009/10 survey.

To allow comparison across survey months, the costs of consumption items were adjusted for price changes across the months of the survey period. Deflators were applied to express all goods in July 2009 prices. The estimated food poverty line and the share of food expenditure in total expenditure (food and non-food) of the bottom 25 percent are then used to estimate the non-food component and add this to the food poverty line to construct the basic needs poverty line[81]. The basic needs approach for calculating the poverty line is explained in Box A1.1. The final poverty lines used

BOX A1.1 Basic needs approach for calculating the poverty line

The basic needs approach for calculating the poverty line starts with the calculation of a set of food items that reflect consumption patterns of the Zanzibar population that lives around the poverty line and that delivers 2,200 calories per adult per day. These 2,200 calories are the amount of dietary energy that is considered adequate for an adult to meet the energy needs for maintaining a healthy life and carrying out light physical activity.

Having set the food poverty line, the next step is to estimate an allowance for basic non-food goods to obtain the basic needs poverty line. The lower bound method for estimation has been used, firstly selecting a reference group of households whose total consumption per adult equivalent is close to the food poverty line. The share of total consumption that goes to food consumption is calculated (monthly food consumption divided by total monthly consumption) for this reference group. This share is the "allowance" for non-food consumption that is added to the value of the food poverty line to get the complete poverty line as follows:

$$\textit{Basic Needs Poverty Line} = \frac{\textit{Food Poverty Line}}{1 - \textit{Share of non food}} = \frac{\textit{Food Poverty Line}}{\textit{Share of food}}$$

[81] The share of food expenditure in total consumption of the bottom 25 percent was 0.656. The inverse of this share is used to calculate the basic needs poverty line that reflects both food and non-food needs.

for the 2009/10 HBS survey report were Tsh 26,904 per adult equivalent per month for the food poverty line and Tsh 41,027 per adult equivalent per month for basic needs (food and non-food).

HBS 2014/15:

The poverty lines used for the analysis of the 2014/15 survey are based on a new food basket that was constructed from the HBS 2014/15 data using the "basic needs" approach (see box A1 below). This updated the food basket that was constructed from the HBS 2004/5 survey and was valued at food item prices derived from the HBS 2014/15 survey. The cost of this food basket (the food poverty line) was estimated at Tsh 38,071 per adult per month based on data from the HBS 2014/15. The share of food for this reference population was 71.3 percent in 2014/15. The basic needs poverty line therefore was Tsh 53,377 in 2014/15.

To ensure comparability between 2009/10 and 2014/15 poverty rates, the poverty lines from the 2014/15 HBS were deflated back to 2009/10 prices to obtain revised/updated poverty lines to apply to the 2009/10 HBS data. This was done by dividing the 2014/15 food poverty line by the Fisher food price index for the period 2014/15 to 2009/10. The basic needs poverty line was estimated using the total Fisher price index for the period 2014/15 to 2009/10.

HBS 2019/20:

For the analysis of the HBS 2019/20 the value of the food items in the basket constructed from the HBS 2014/15 was updated using item price data derived data from the HBS 2019/20. This led to a food poverty line of Tsh 47,541 per adult per month. The share of food for this reference population was 71.7 percent in 2019/20 and the basic needs poverty line therefore was Tsh 66,313 in 2019/20.

Appendix 2
POVERTY MEASURES

Four main measures are used to estimate and describe poverty.

- **The basic needs headcount poverty rate** (herein "poverty rate") which captures the proportion of the population whose consumption per adult equivalent is below the poverty line.
- **The extreme headcount poverty rate** (herein "extreme or food poverty rate") measures the proportion of the population living below the food poverty line.
- **The depth of poverty, also referred to as the poverty gap**, is used to provide information regarding how far off a household or individual is from the poverty line. Summing these gaps for the poor (the non-poor have a shortfall of zero) and dividing the total by the population gives the mean aggregate consumption (or income) shortfall relative to the poverty line across the whole population. The measure gives the total resources needed to bring all the poor to the level of the poverty line divided by the number of individuals in the population.
- **The severity of poverty, also referred to as the squared poverty gap**, which squares the poverty gap to consider not only the distance separating the poor from the poverty line (the poverty gap), but also the consumption inequality among the poor. This way, the severity of poverty gives a higher weight to those households that are further away from the poverty line.

Appendix 3
CHILD POVERTY INDICATORS AND DEFINITIONS

Indicator	Definition
Polluting cooking fuel	Child lives in household that uses polluting fuel (e.g., kerosine, coal, charcoal, firewood, wood, field residuals).
Overcrowded (adult equivalent)	Child lives in household that contains more than two adult equivalents per room.
Poor quality housing materials (floor, wall, roof)	Child lives in dwelling where floor was made of earth/palm bamboo or roof was made of mud, grass or plastic or walls of mud or grass.
Unimproved sanitation	Child lives in household that uses unimproved toilet facilities (e.g., pit latrines without a slab or platform, hanging latrines or bucket latrines) according to Sanitation Ladder classification or shared toilet facilities.
Water source	Child lives in household that used unimproved drinking water source (in dry or rainy season).
Long collection time (30+ min)	Child lives in household where the main drinking water source is more than 30 mins away (in dry or rainy seasons).
Food (in)security (according to HFIA categories)	Child lives in household that was moderately or severely food insecure in the past 30 days according to the Household Food Insecurity Access (HFIA) Scale.
Meal Frequency	Child lives in household that usually consumes fewer than three meals per day.

(*continues*)

Indicator	Definition
Dietary diversity (UNICEF definition)	Child lives in household that consumed fewer than three out of ten food groups, where consumption counts if a food group was consumed on four or more days the previous week.
Behind grade for age	Child (9–17) is more than two years over the regular age for grade (for children aged 9–17 years).
Literacy	Child (9–17) cannot read and write in any language or cannot read full sentence in either English or Swahili during the test if tested.
Never attended school	Child (16–17) currently not in school and has never attended secondary school.
Not currently in school	Child (5–17) currently not in school.
Sick child not visiting a health care provider	Child was sick in the last four weeks and did not attend a healthcare facility or attended a traditional healer/received traditional medicine.
Engaged in labor activities	Child (5–17) is engaged in labor activities.
Lacking birth certificate or notification	A child's birth had not been formally registered, and/or parents reported that they did not have a birth certificate.
Household has no landline AND mobile phone	Child lives in household that has no landline and no mobile phone.
Monetary poverty line	Child lives in household below the monetary poverty line (equivalized 66,313 Tsh).
Food poverty line	Child lives in household below the food poverty line (equivalized 47,541 Tsh).

Appendix 4
ESTIMATING A MULTIDIMENSIONAL POVERTY INDEX (MPI) FOR ZANZIBAR

The Zanzibar MPI is estimated using the Alkire-Foster (2011) approach, which builds on the method developed by the Oxford Poverty & Human Development Initiative (OPHI) by extending the Foster Greer Thorbecke (1984) unidimensional poverty methodology. This approach identifies the poor by considering the proportion of people who are multidimensionally poor and the intensity of deprivations they suffer by using an aggregation method. It exploits two cutoffs: one within each indicator of welfare to determine whether a person suffers shortfalls in that aspect, and the other across dimensions that delineates how widely deprived a person must be in order to be considered poor.

Technically, the identification and aggregation of the multidimensionally poor involve the following steps:

1. Select a set of relevant dimensions and indicators of poverty based on nationally accepted definitions/relevance and data availability.
2. For each indicator, determine a *deprivation cutoff*, $z_j > 0$, and use this threshold to assess whether a person (or household) is deprived or not in that indicator. Create a dummy variable accordingly with the value of one indicating deprived and zero otherwise.
3. Aggregate all deprivations for each person (or household) into a deprivation score using pre-determined weights, where weights reflect the importance of each indicator.
4. A person (or household) is considered as multidimensionally poor if the deprivation score is higher than a poverty cutoff, or the k-value, which is defined by each country.
5. Aggregate up across all individuals (or households) to obtain the headcount ratio, *H*, which measures the proportion of people as multidimensionally poor.
6. Although the headcount ratio illustrates the proportion of people who are multidimensionally poor, it remains unchanged if a poor individual becomes deprived in a new dimension and it does not allow the evaluation of the contribution of each dimension to poverty. To assess the intensity of poverty, the average

proportion of deprivations in which the poor are deprived (or the average deprivation score of the poor) is measured. The final index is calculated as $MPI = H * A$, which represents the proportion of weighted deprivations experienced by the poor relative to the maximum potential deprivations that could be experienced by the whole population; where H represents headcount ratio and A represents the intensity of poverty.

Unit of identification

In constructing Zanzibar's MPI, the deprivation and poverty status are measured at the household level, which means that all members within the same household are attributed with the same deprivation status. Some indicators, such as food security and years of schooling, are first defined at the individual level, and then aggregated to the household level on the assumption that all members within the household share the resources and if any member of the household lacks certain capacities, then the whole family is affected. For example, the household is deprived if at least one member experienced moderate or severe food insecurity. Other indicators, such as access to electricity and water, are defined at the household level directly.

Dimensions, indicators, deprivation cutoffs and weights

The dimensions include three domains—health, education, and living standards—in which deprivations are measured, and they capture different facets of poverty. The selection of dimensions is informed by cultures/ideologies, public concerns, data availability, Zanzibarian's values and behaviors. In consultation with NBS, the Zanzibar Planning Commission and government ministries, OCGS choose three dimensions and 13 indicators (see Table A4.1, which is copy of Table 10).

Equal nested weight is used in constructing Zanzibar's MPI. In order to aggregate all the selected indicators into a single index, each indicator needs to be assigned with a certain weight, and all the weights should sum up to one. The choice of weights is usually a value judgment open to debate and public scrutiny. Following the convention used in global MPI and most national MPIs, Zanzibar's MPI assigns equal weight to all dimensions (1/3 for each dimension) and equal weight to indicators within each dimension. This means that all dimensions are equally important and within each dimension, all indicators are equally important.

TABLE A4.1 Dimensions, indicators, deprivation cutoffs and weights

Dimensions (weight)	Indicators (weight)	Deprived if . . .
Health (1/3)	Place of delivery (1/15)	any of the last births was outside a health facility.
	Food Security (1/15)	anyone in the household experienced moderate or severe food insecurity.
	Insurance (1/15)	nobody in the household has any kind of health insurance.
	Water (1/15)	the household does not have safe drinking water according to SDG standards (considering distance).[1]
	Sanitation (1/15)	the household does not have improved sanitation according to SDG Standards.[2]
Education (1/3)	Years of schooling (1/6)	there is no one in the household with at least seven years of education.
	School attendance (1/6)	the household has a school-age child (7 to 13 years) not attending school.
Living Standards	Electricity (1/18)	the household does not have access to grid electricity.
	Cooking fuel (1/18)	household uses dirty cooking fuels according to SDG standards inside the main house.
	Housing (1/18)	either roof, floor, or walls of the house is of low quality material.[3]
	Banking (1/18)	nobody in the household has a bank account.
	Overcrowding (1/18)	there are three or more people per sleeping room.
	Assets (1/18)	the household has less than two assets and does not have a car, land (owned for agriculture or livestock) or livestock.[4]

Note: **1.** Safe drinking water is defined as one located on premises, available when needed and free from contamination. According to the SDGs/National standards, during the dry season, considering distance (less than a 30 minutes' return trip), the following sources of water are considered unsafe: unprotected spring/well; cart with small tank/drum; tanker-truck; surface water (pond, stream, canal, irrigation channels); natural surface water (river, dam, lake). **2.** According to the SDGs/National standards, a no flush system; no toilet/bush/field; open pit without slab/open pit; and pit latrine with slab (not washable) are considered non-improved sanitation. **3.** Low quality material for floor includes earth/sand; for wall includes timber, timber and iron sheets, bamboo/poles and mud, and grass; for roof includes asbestos, grass/leaves, mud and leaves. The assets include computer, refrigerator, bicycle, boat, motorbike, television, telephone, bajaji. Livestock includes oxen, bulls, cows, steers, heifer, calve, goat, lambs, pigs, poultry, donkey, and others, but excludes cats. The definition of assets and livestock mainly depends on the data availability in the survey.

Defining the multidimensionally poor

The multidimensional poverty cutoff is set at a third of the weighted MPI indicators. That is, a person is multidimensionally poor if the person's weighted deprivation score is equal to or higher than the poverty cutoff of 33.3 percent. Furthermore, following the convention used in global MPI, people who are vulnerable to poverty are defined as those with deprivation scores between 20 and 33.2 percent, and people who are in severe poverty are defined as those whose deprivation score is above 50 percent.

Appendix 5
BENEFIT INCIDENCE ANALYSIS OF HEALTHCARE SPENDING

Surveyed households reported their access and utilization of healthcare services from public and private healthcare providers within a duration of 4 weeks prior to the survey date. The number of visits were annualized (multiplied by 12 months) to obtain annual household visits (Asante et al. 2019; Bowser et al. 2019). Annualized outpatient visits to various healthcare providers were weighted using population weights to obtain national representation using the HBS 2019–20 weights. The unit cost data by facility ownership and level of care were provided by NHIF in Tanzania (NHIF, 2018). The unit costs provided were in Tanzania Shillings and converted to US $ (in 2018 ~ 1US$ = 2281). Thereafter, annualized outpatient visits for different providers were multiplied by the unit costs for respective healthcare providers to obtain gross healthcare benefits.

The Zanzibar HBS captured information on household visits to healthcare provider by ownership (public, private for profit, and private not for profit (faith-based organization)), and by level of care (hospitals, health centers and dispensaries). It is worth noting that 176 (11 percent) of households made multiple visits to different healthcare providers. During data cleaning and analysis, those with multiple visits were assigned to the higher level of care (for example if a person visited a dispensary and a health center, we opted for the health center). Similarly, for those who reported to have visited public and private, were assigned to public healthcare providers, and households who visited faith-based facilities and private for profit, were assigned to private for profit. Lastly, households who visited visiting a formal provider and a pharmacy, were assigned to the formal provider.

Distribution of health care benefits under UHC is assessed through comparing health care benefits and households' healthcare need (McIntyre & Ataguba 2011; Mtei et al. 2012). The measure of household healthcare need could base on self-assessed health, illness and possible impairment. In this study household healthcare need was assessed using reported households' illness in the last four weeks prior to the survey.

The relative share of gross healthcare benefits received by each wealth quintile is shown. Furthermore, a concentration index (CI) is used to measure the degree of pro-poorness of the distribution of health care benefits and present a series

of concentration curves (O'Donnell et al. 2008). Concentration curves plot the cumulative share of benefits (Y axis) against the cumulative share of the population ranked by socio-economic status (X axis). The diagonal line at 45 degree represents a perfect equality, where the poorest 20 percent receives 20 percent of the benefits and the richest 20 percent receives 20 percent of the benefits. In case the line lies above the 45-degree line, the distribution is considered to be pro-poor; and pro-rich if lies below the 45-degree line. We applied a dominance test to ascertain whether the concentration curve is significantly higher or lower than 45-degree line. The concentration index is calculated as twice the area between the 45-degree line and the concentration curve. The concentration index ranges between [-1 and +1], whereby zero indicates equality across socioeconomic status subgroups, while negative and positive values indicate that the burden of health care payments is higher among the poor and rich, respectively (O'Donnell et al. 2008). Healthcare benefits are said to be pro-poor (rich) if the concentration index indicates a negative (positive) sign. In addition, healthcare benefits were compared with the households' healthcare needs (illness and impairment) to ascertain the fairness in health care benefits.

Mathematically, benefit incidence of public spending is estimated by the following formula:

$$X_j = \sum_{i=1}^{3} U_{ij} \frac{s_i}{U_i} \equiv \sum_{i=1}^{3} \frac{U_{ij}}{U_i} S_i,$$

where X_j = value of the total health subsidy enjoyed by group j; U_{ij} = utilisation of service/visits of group j to health facilities at level i (i representing provider type); U_i = total utilisation of service at provider level i by all groups combined; and S_i = government net spending on service at level i (it will be net if fees and recovery cost are netted out). The unit subsidy of funding a health consultation at level i is given by $\frac{S_i}{U_i}$

Note: Dom1 the 45-degree line dominates the concentration curve; Dom2 the concentration curve dominates the 45-degree line and non-dominance or curves crossing; SE = Standard error; *** denotes significance at 1%, ** at 5%, and * at 10% level

Appendix 6
TIME-USE ANALYSIS

Women in households where there are two earners spend less time on SNA work and more on non-SNA work activities compared to households in which there is just one earner (which may be the woman, but is typically a male earner). Gender gaps in SNA and non-SNA activities persist even in households where no adult is earning, with men spending 2.1 hours on SNA vs. 0.6 hours for women (likely representing production for own consumption, and other activities which contribute to SNA but do not produce paid income), and women spending 4.4 hours on non-SNA work compared to 1.2 hours for men.

Marital status (adults 15+):

The gap in SNA work activity time is most pronounced among married adults (6.7 hours for men vs 1.8 hours for women); although it is still sizeable among those who are never married, divorced/separated adults and widows/widowers. Similarly, the gap in unpaid domestic work is again largest for married women (5.5 hours for women versus 0.8 hours for men; a sevenfold difference) but still present for those who are never married, divorced/separated and widows/widowers (roughly a fourfold difference between men and women in each category).

TABLE A6.1 **Mean time spent by the population of age 15 years and above per day (24 hours) by activity and marital status**

	Never Married		Married/ Living		Divorced/ Separated		Widower/ Widow		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
SNA work activities	3.1	1.3	6.7	1.8	6.0	2.6	4.2	1.9	5.2	1.7
Non-SNA work activities	1.0	3.4	0.8	5.5	1.0	4.0	0.7	2.7	0.9	4.6
Other activities (non-work)	9.2	8.1	6.4	5.8	6.3	6.3	7.9	7.4	7.6	6.6
Self-care & maintenance	10.7	11.2	10.1	10.9	10.7	11.1	11.2	12.0	10.4	11.1
	24	24	24	24	24	24	24	24	24	24

Household types defined along demographic criteria (adults 18–64):

We next classify households by the number and gender of adults: no adults (all household members are dependents aged under 18 or 65+); one male or one female adult; two adults of one or mixed genders; or three or more adults. We see that gender gaps in time spent on SNA activities (with men spending more time) and on non-SNA activities (with women spending far more time) persist even when we compare men living as the only adult to women living as the only adult, or households with two men compared to households with two women. However, by far the greatest gender gaps in time spent on both SNA and non-SNA activities open up within households comprising one male and one female adult – here is where women spend the least time on SNA and the most time on non-SNA activities, and vice versa for men. These households represent a large fraction of households in total. Thus overall gender gaps in time use are largely driven by "specialization" of time use within one-male, one-female households.

TABLE A6.2 **Mean time spent by the population of age 15 years and above per day (24 hours) by Activity and Household types (Demographic)**

	% of households		SNA Activities	Non-SNA Activities	Other Activities	Self-care & Maintenance	
No Adult (all members aged <18 or >64)	3.36	Male	2.7	1.5	9.2	10.6	24
		Female	1.4	3.3	7.7	11.6	24
One Female Adult (no male adult)	9.75	Male	3.8	0.6	8.7	11.0	24
		Female	2.2	4.4	6.4	10.9	24
One Male Adult (no female adult)	5.14	Male	6.1	1.1	6.5	10.4	24
		Female	0.6	3.8	7.8	11.7	24
Two Female Adults	5.18	Male	1.6	0.6	10.7	11.2	24
		Female	2.1	3.9	6.8	11.1	24
Two Male Adults	1.14	Male	4.6	2.1	6.3	11.0	24
		Female	0.4	2.4	8.3	12.9	24
One Female Adult & One Male Adult	42.57	Male	6.3	0.8	6.8	10.1	24
		Female	1.5	5.7	5.8	10.9	24
Three or More Adults	32.86	Male	4.6	0.8	8.1	10.5	24
		Female	1.7	4.0	7.1	11.2	24
		Male	5.2	0.9	7.6	10.4	24
Total	100	Female	1.7	4.6	6.6	11.1	24

Time use and access to electricity (adults 15+):

Approximately 40 percent of men and women live in households that do not have direct access to electricity. The time spent in SNA activities by these men and women is similar to the time spent by men and women in households with access to electricity. However, time spent on non-SNA work activities is somewhat higher for men and considerably higher for women in households without access to electricity compared to households with electricity; while time spent on other activities (non-work) is considerably lower. For both genders This increased time spent on non-SNA activities especially for women likely reflects the additional time needed to conduct chores and related activities when electricity-powered appliances and lighting cannot be used. Expanding access to electrification may therefore be a promising route to reducing time spent by individuals on non-SNA activities, the majority of which burden falls on women, and freeing up their time for other activities (non-work).

TABLE A6.3 **Mean time spent by the population of age 15 years and above per day (24 hours) by Activity and Access to Electricity**

	Main house connected to electricity					
	No		Yes		Total	
	Male	Female	Male	Female	Male	Female
SNA work activities	5.3	1.8	5.1	1.7	5.2	1.7
Non-SNA work activities	1.1	5.0	0.8	4.3	0.9	4.6
Other activities (non-work)	7.2	5.9	7.8	7.0	7.6	6.6
Self-care & maintenance	10.5	11.3	10.3	11.0	10.4	11.1
	24.0	24.0	24.0	24.0	24.0	24.0

Distance to drinking water

Having a source of drinking water inside the house or within the yard is associated with no difference in men's time spent on non-SNA activities, but a substantial difference in women's non-SNA activities (4.7 hours without this close proximity to drinking water, versus 4.2 hours with water in close proximity), at the cost of women spending 0.8 hours less time on other activities when they do not have drinking water on site.

TABLE A6.4 Mean time spent by the population of age 15 years and above per day (24 hours) by Activity and Access to Drinking

	Source of drinking water within the yard/inside the house					
	NO		YES		TOTAL	
	Male	Female	Male	Female	Male	Female
SNA activities	5.2	1.7	5.2	1.7	5.2	1.7
Non-SNA activities	0.9	4.9	0.8	4.2	0.9	4.6
Other activities	7.5	6.3	7.7	7.1	7.6	6.6
Self-care & maintenance	10.4	11.1	10.4	11.0	10.4	11.1
	24.0	24.0	24.0	24.0	24.0	24.0

7.2 Disability status (adults 15+):

Disability has a substantial effect on time use. Male respondents who report one or more functional disabilities as defined by the Household Budget Survey—difficulty seeing, hearing, working, remembering, self-care or communicating—spend just 4.1 hours per day on SNA activities, compared to an average of 5.3 hours among men who do not report a disability. Women who have a reported disability spend 3.7 hours per day on non-SNA activities, compared to 4.7 hours

TABLE A6.5 Mean time spent by the population of age 15 years and above per day (24 hours) by Activity and Respondent's Disability Status

	Respondent has at least one reported disability					
	NO (91.1%)		YES (8.8%)		TOTAL	
	Male	Female	Male	Female	Male	Female
SNA activities	5.3	1.7	4.1	1.9	5.2	1.7
Non-SNA activities	0.9	4.7	0.9	3.7	0.9	4.6
Other activities	7.5	6.5	8.0	7.1	7.6	6.6
Self-care & maintenance	10.3	11.1	11.0	11.4	10.4	11.1
	24.0	24.0	24.0	24.0	24.0	24.0

among women who do not report a disability. Disability does not appear to affect men's time spent on non-SNA activities, nor women's time spent on SNA activities, both of which again appear fairly constant despite different personal circumstances.

Distance to healthcare facility (adults 15+):

Around 13 percent of men and women live more than 1km from a healthcare facility. Compared to those who live 1km or less from a healthcare facility, both men and women who live more than 1km from a healthcare facility spend somewhat more time on non-SNA domestic and caring duties (time spent on SNA activities is unchanged).

TABLE A6.6 **Mean time spent by the population of age 15 years and above per day (24 hours) by Activity and Access to health vcare facility**

	Distance to the health care facility					
	More than 1km		1km or less		Total	
	Male	Female	Male	Female	Male	Female
SNA activities	5.1	1.7	5.2	1.7	5.2	1.7
Non-SNA activities	1.0	4.9	0.8	4.6	0.9	4.6
Other activities	7.6	6.2	7.6	6.7	7.6	6.6
Self-care & maintenance	10.3	11.2	10.4	11.1	10.4	11.1
	24.0	24.0	24.0	24.0	24.0	24.0

Distance to primary school:

Approximately 10 percent of men and women live more than 1km from a primary school. Among those who are 15+, living more than 1km from a primary school is associated with lower time spent on SNA for men but increased time spent on SNA for women. Both men and women spend considerably more time on non-SNA domestic and caring duties when the nearest primary school is more than 1km away.

For children, the time spent on SNA activities is considerably larger when the household is more than 1km from a primary school, and the time spent on other activities (including learning) is lower. This pattern is particularly pronounced among boys and girls of primary school age (5–11).

TABLE A6.7 Mean time spent by the population of age 15 years and above per day (24 hours) by Activity and Access to primary school

	Distance to School					
	More than 1km		1km or less		Total	
	Male	Female	Male	Female	Male	Female
SNA activities	4.8	2.0	5.2	1.7	5.2	1.7
Non-SNA activities	1.4	5.0	0.8	4.6	0.9	4.6
Other activities	7.2	5.8	7.6	6.7	7.6	6.6
Self-care & maintenance	10.6	11.2	10.4	11.1	10.4	11.1
	24	24	24	24	24	24

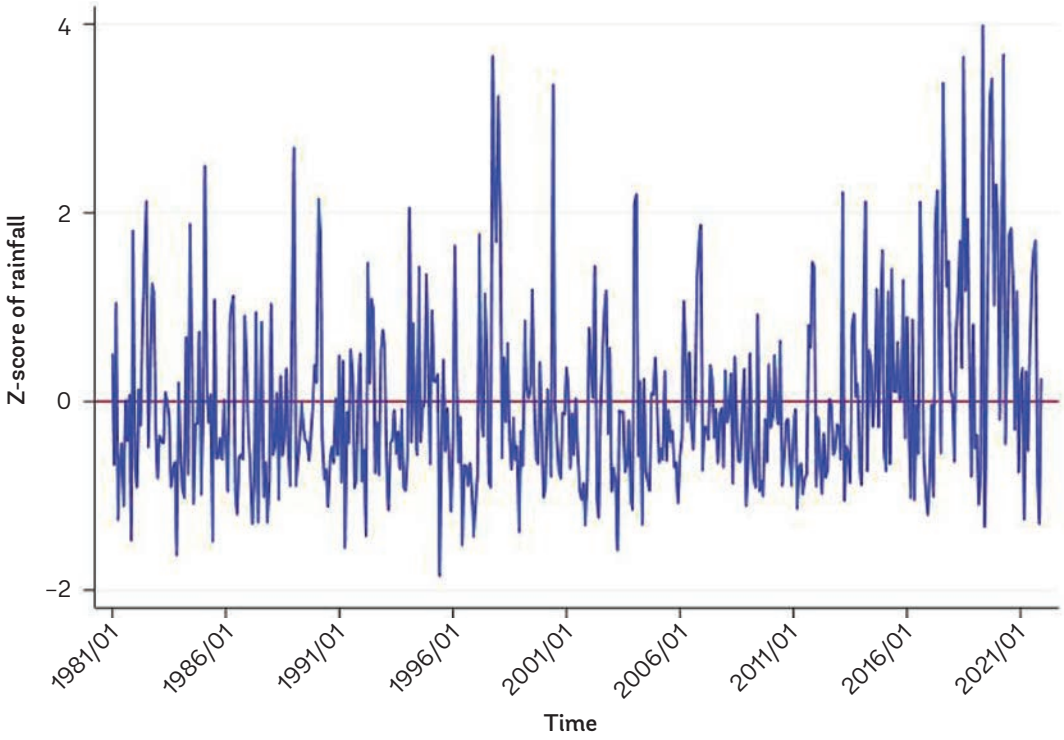
TABLE A6.8 Mean time spent by the population of age (5–11 years) per day (24 hours) by activity and access to primary school

	Distance to School					
	More than 1km		1km or less		Total	
	Male	Female	Male	Female	Male	Female
SNA activities	0.7	0.6	0.1	0.1	0.2	0.2
Non-SNA work activities	0.9	1.0	0.4	0.8	0.4	0.8
Other activities	10.4	10.5	11.5	11.2	11.4	11.1
Self-care & maintenance	12.0	12.0	12.0	11.9	12.0	11.9
	24	24	24	24	24	24

Appendix 7
RAINFALL AND TEMPERATURE TRENDS

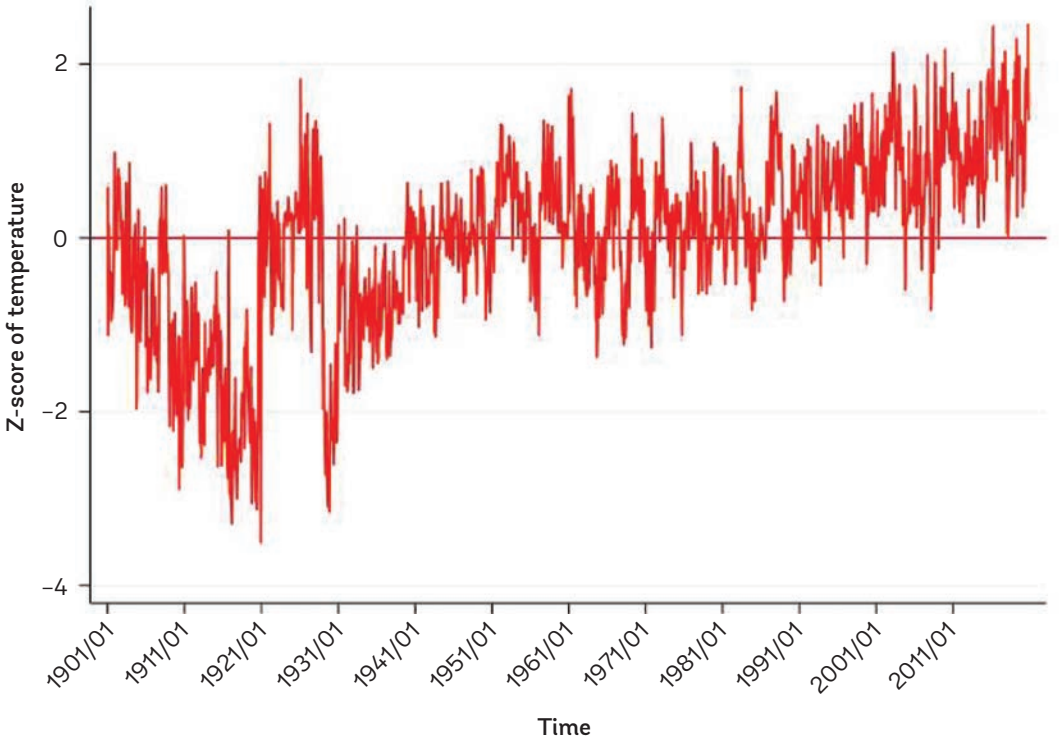
The charts below shows how the amount of rainfall and temperature deviates in Zanzibar from its historical mean in a particular month from 1981 to 2021. This is presented in the form of 'Z-scores' using the historical Zanzibar monthly mean for a given month as a benchmark. While temperature is clearly on a rise, rainfall shows a slight increase in variability in recent years (with a higher standard deviation).

CHART A.7.1. **Rainfall variability in Zanzibar 1981 to 2021 standard deviation of monthly average daily mean temperature (against the historical mean) in Zanzibar (Z-score)**



Note: A Z-score is a numerical measurement that describes a value's relationship to the mean of a group of values. Z-score is measured in terms of standard deviations from the mean. If a Z-score is 0, it indicates that the data point's score is identical to the mean score. A Z-score of 1.0 would indicate a value that is one standard deviation from the mean.
Source: CHIRPS

CHART A.7.2. **Temperature variability in Zanzibar 1901 to 2021, deviations from their historical monthly mean (Z-score)**



Source: Version 4 of the CRU TS monthly high-resolution gridded multivariate climate dataset

Photo by Abubakar Burhan on Unsplash

Image by Boris Mayer from Pixabay

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