



The State of Zanzibar's Children

Evidence from the Zanzibar Household Budget Surveys (2010–2020)



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The State of Zanzibar's Children: Evidence from the Zanzibar Household Budget Surveys (2010–2020)

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Acronyms and abbreviations

| | |
|-----------------|--|
| COVID-19 | coronavirus disease |
| DHS | Demographic and Health Survey |
| HBS | Household Budget Survey |
| ILO | International Labour Organization |
| MD | multidimensional |
| MODA | Multiple Overlapping Deprivation Analysis |
| N/A | not applicable |
| OCGS | Office of the Chief Government Statistician (Zanzibar) |
| SDG | Sustainable Development Goal |
| Tsh | Tanzanian shillings |
| UNDP | United Nations Development Programme |
| UNICEF | United Nations Children's Fund |
| WHO | World Health Organization |



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Foreword

The State of Zanzibar's Children: Evidence from the Zanzibar Household Budget Surveys (2010–2020) is the first child poverty report for Zanzibar that uses consistent and comparable indicators of monetary and multidimensional poverty for children aged 0–17 years, using Household Budget Survey (HBS) data collected between 2010 and 2020.

This methodology for measuring multidimensional poverty captures issues of importance that affect the livelihoods of children during childhood and, more importantly, impact their lives into adulthood. Poverty affects children's development, their educational outcomes, later job prospects, health and life choices. The approach taken in this report aims to reflect this multifaceted problem. The method (known as Multiple Overlapping Deprivation Analysis, or MODA) was introduced by the United Nations Children's Fund and

developed further by academics, researchers and statisticians, including Zanzibar's Office of the Chief Government Statistician (OCGS). It complements the traditional method of measuring poverty through a household's expenditure lens. This report draws on previous work by OCGS and has benefited immensely from OCGS input.

The information presented in this report shows progress across seven dimensions over a decade and thus seeks to generate a deeper understanding of the trends of the multiple dimensions of child poverty among governmental and non-governmental stakeholders. We hope that this evidence will inform the development of plans, policies and programmes that address and aim to improve the well-being of children and achieve the Sustainable Development Goals in Zanzibar.

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1 Introduction

Poverty hampers children's development, educational outcomes and later job prospects, as well as their health and life choices, often resulting in chronic intergenerational transmission of poverty. Ending child poverty is crucial for fulfilling the rights of every child and for the future economic and social development of Zanzibar and the United Republic of Tanzania. If not effectively addressed, poverty prevents children from achieving their full potential, undermines national growth and hampers progress towards Zanzibar's 'Vision 2050'.

The transition from the United Nations' 2015 Millennium Development Goals to the 2030 Sustainable Development Goals (SDGs) reaffirms a strong commitment to tackling poverty in all its dimensions and to addressing child poverty. Children can experience poverty even when their household income is above the poverty line; therefore, while monetary poverty provides a vital measure of child poverty and vulnerability, it does not sufficiently capture the nature and extent of material and social deprivations suffered by children and their families.

Measuring multidimensional (MD) child poverty effectively requires recognizing the importance of needs that are key to children's well-being beyond those reflected by monetary indicators such as income and expenditure. The so-called

'multidimensional approaches', using indicators of wider deprivation and unmet needs, are now recognized by United Nations agencies and the World Bank as important complements to monetary measures of poverty (World Bank, UNDP and UNICEF, 2021). Researchers and policymakers have long recognized the value in combining information from monetary and non-monetary approaches to show how families can be exposed to the dangers of poverty from both low income and unmet basic needs. Such analysis uses data designed with children's particular needs in mind and holds great potential to yield a more coherent set of policy recommendations. This enhanced approach to poverty analysis enriches the discussion of poverty trends by drawing attention to aspects of poverty and well-being neglected by the simple construction of poverty indicators based on consumption expenditure, i.e. monetary poverty.

This report aims to assess the nature and extent of MD child poverty in Zanzibar and to reflect on how its patterning evolved between 2010 and 2020 using data from the Zanzibar Household Budget Surveys (HBSs) for 2009/10, 2014/15 and 2019/20. It begins by setting out the conceptual and measurement framework adopted for the analysis and explains (in Chapter 2) the data used, selection of key variables and development of the final index to reflect the prevalence and patterning of child MD poverty in Zanzibar between 2010 and 2020. Chapter 3 begins with a presentation of trends in

child poverty in Zanzibar, using official estimates presented in OCGS reports. This is then followed by the analysis of the HBS microdata to show trends between 2010 and 2020 for several different dimensions of deprivation (i.e., housing, nutrition, communication, water and sanitation, education, protection and health), presenting results by place of residence (urban/rural), district and other key characteristics. Overlaps with monetary poverty are also provided. Chapter 4 is a more focused assessment of the patterning of child MD poverty in Zanzibar in 2020. Chapters 5 and 6 discuss policy suggestions and potential ways to improve MD poverty measurement, using internationally validated methods and exploring how these might be incorporated into future surveys by OCGS.

The report shows how prevalence rates of deprivation for important basic needs among children have fluctuated. While the picture is one of general progress, there are also areas where attention is needed. The United Nations Children's Fund's (UNICEF's) Multiple Overlapping Deprivation Analysis (MODA) framework is used to capture the deprivation of various goods and services crucial for children's survival and development (De Neubourg et al., 2012). Not all MODA indicators are available in the three HBSs, so the main contribution of this report is to provide robust and, where possible, comparable estimates of changes in MD poverty between 2010 and 2020, drawing on the expertise of and work by Zanzibar's Office of the Chief Government Statistician (OCGS), which includes the collection and standardization of the HBSs. This means that estimates of MD child poverty may not be comparable with previous Zanzibar reports that used different data sets and the wider set of indicators that were available in a given year. However, the indicators analysed allow policymakers to understand where progress has occurred and where it has stalled in the last 10 years.

Researchers and policymakers have long recognized the value in combining information from monetary and non-monetary approaches to show how families can be exposed to the dangers of poverty from both low income and unmet basic needs.

1.1 Main findings

Analysis of the HBS data for 2010, 2015 and 2020 showed that MD poverty among children fell from 53 per cent in 2010 to 47 per cent in 2015 and 34 per cent in 2020. This pattern mirrored similar declines in child monetary poverty, which dropped from 40 per cent to 30 per cent in 2020. The proportion of

children who experienced *both* monetary and non-monetary poverty (i.e., a subset of those referred to above) fell from 36 per cent in 2010 to 17 per cent in 2020.

There were evident disparities between districts of Zanzibar. For instance, Micheweni and Mkoani reported high rates of child monetary and MD poverty at or around 50 per cent or above in 2020 for both measures. In contrast, districts such as Mjini and Kusini reported rates of monetary and MD poverty below 20 per cent. Children in rural areas were almost always more likely to be monetarily and multidimensionally poor. Children in households where the head reported not receiving any education were significantly more likely to be monetarily and multidimensionally poor.

Compared to 2010, children in Zanzibar in 2020 benefit from considerable improvements in dietary diversity (a fall in deprivation from 56 per cent in 2010 to 6 per cent in 2020); are more likely to live in homes made from appropriate materials (a fall in deprivation from 60 per cent to 28 per cent); and their inability to communicate with the outside world via mobile phones or the internet has decreased (from 40 per cent deprivation in 2010 to only 7 per cent in 2020). Nowadays, children in Zanzibar are also more likely to be enrolled in school (18 per cent deprived in 2010 to 7 per cent deprived in 2020) and less likely to be behind in their education (from 39 per cent deprived in 2010 to 19 per cent in 2020). However, a significant proportion of Zanzibar's children remain (in 2020) exposed to high levels of deprivation of important basic needs. Overcrowding is widespread (59 per cent in 2020) and 40 per cent of children live in households that still experience food insecurity, with no clear sign of progress from 2010. The percentage of children without access to drinking water and sanitation (47 per cent in 2020) has not improved and seems to have worsened. Specifically, neither access to improved sanitation nor access to improved sources of water increased between 2010 and 2020, with sanitation deprivation driving the estimate for the water and sanitation dimension. Finally, although school enrolment has improved (from 18 per cent deprived in 2010 to 7 per cent in 2020), a fifth of children (just under 20 per cent) were not literate in 2020 (no change from 2015) and 14 per cent were not attending school.

The proportion of children who experienced *both* monetary and non-monetary poverty fell from 36 per cent in 2010 to 17 per cent in 2020.





2 Conceptual and measurement framework

Conventional monetary measures of poverty that use either household income or expenditure data are recognized to ‘miss’ several important ‘dimensions’ or aspects of poverty that people worldwide are exposed to daily and that affect their quality of life and living standards. These aspects include elements that cannot easily be monetized, such as participation in important customary activities and social and caring obligations.

Monetary measures are also limited in their capacity to reflect the lived experience of children, as they are designed to reflect adult poverty. Following near global ratification of the 1989 United Nations Convention on the Rights of the Child; 2006 United Nations General Assembly’s agreement on an international definition for child poverty; and SDGs – which call for poverty ‘in all its dimensions’, for children and adults, to be tackled with urgency – countries and agencies like UNICEF and the World Bank are required to rethink how child poverty should and can be assessed, reflected and located within the policy space (World Bank, UNDP and UNICEF, 2021).

As part of this reconsideration, effort has gone into developing indicators and measures that are designed with the needs and rights of children in mind. UNICEF’s 2007 Global Study of Child Poverty and Disparities initiative (UNICEF, 2007) was built on the pioneering work of sociologist Professor Peter Townsend (see Gordon et al., 2003). His theory of



Importantly, where data permits, MODA can be used to examine the overlap between monetary and non-monetary poverty indicators.

relative deprivation identified people as poor when they lack 'sufficient command over resources' to participate in the customary norms and lifestyles of their societies at the time. This concept underpins most internationally accepted definitions of poverty and implies that poverty changes over time and across populations (Townsend and Gordon, 2002) owing to its relative nature.¹ This concept of poverty has seen poverty measures developed at the individual rather than household level and provided policymakers with disaggregated, 'decomposed' data relevant to programme development and delivery.

UNICEF's Office of Research built on the success of the Global Study to develop its own child MD poverty measurement tool called Multidimensional Overlapping Deprivation Analysis (MODA). MODA examines both the prevalence and overlap of several child-relevant deprivations applicable across the life course, such as food/nutrition, education, health(care), information, water and sanitation, housing and other country-specific deprivation dimensions. Importantly, where data permits,² it can be used to examine the overlap between monetary and non-monetary poverty indicators.

The MODA tool has been used successfully by UNICEF's Office of Research to examine MD poverty among children. This report uses this methodology for Zanzibar with existing data from the HBS. There are, of course, other methodologies that have been developed in recent decades to focus on the measurement of child poverty, including the Bristol Deprivations Approach (Gordon et al., 2003) and the

Oxford Poverty and Human Development Initiative's Multidimensional Poverty Index, each with their strengths and limitations (e.g., not incorporating measures of monetary poverty or questions about the relative weights accorded to different dimensions and sub-components).³ Previous work on child poverty in Zanzibar and Tanzania Mainland has used the MODA effectively (OCGS and UNICEF, 2019; NBS and UNICEF, 2019), and this report – using the most up-to-date survey data – continues this tradition.

The benefits of the MODA include the following:

- It is explicitly designed to reflect child poverty and (importantly), is situated within UNICEF's conceptual framework of poverty as an infringement of children's rights.
- It has been tried and tested and used successfully in over 50 countries.⁴
- The results it produces are easy to understand and explain to policymakers, journalists and the general public.
- It generates policy-relevant information for planners, identifying the presence and depth of need among children, with children as the units of analysis.
- The framework has already been piloted in the Zanzibar 2014/15 HBS (OCGS and UNICEF, 2019) and in Tanzania Mainland using National Panel Survey data (NPS) 2014/15 (NBS and UNICEF, 2019).

The HBSs contain sufficient information to compute comparable indicators to reflect the necessary dimensions required to conduct a comprehensive and longitudinal MODA for Zanzibar. Importantly, the surveys include household income and expenditure data, making it possible to analyse the overlaps between household monetary poverty and non-monetary deprivations over time.

The MODA framework has been used to identify deprivation indicators most applicable to children in Zanzibar, reflecting their needs and rights (e.g., a decent standard of living, education and health care). This report follows on earlier studies of MD child

¹ This concept is reflected in the definitions of absolute and overall poverty adopted by over 100 nations at the 1995 World Summit on Social Development and has been used effectively by UNICEF, the European Union and a host of other development partners to generate realistic, easily understood indicators of basic needs deprivation among children and their families.

² That is, researchers have often used the MODA approach with household survey data from the Demographic and Health Surveys (DHSs) and UNICEF's Multiple Indicator Cluster Surveys; these platforms rarely, if ever, also collect data on monetary poverty.

³ See Alkire and Roche (2012). For further discussion of the Multidimensional Poverty Index and its use, see Nájera Catalán and Gordon (2020); Santos and Villatoro (2020); and Nájera Catalán (2019).

⁴ For example, Chzhen et al. (2016); Ferrone and De Milliano (2018); De Milliano and Plavgo (2018); and Shabir and Ur Rahim (2017).



poverty in Tanzania Mainland and Zanzibar using data from the DHSs and earlier rounds of the HBS. For example, Minujin and Delamonica (2012) used a basic needs deprivations approach taking children as the unit of analysis in the 2004/05 DHS (NBS and ORC Macro, 2005), and found that just under two thirds (63 per cent) of children in Zanzibar were severely deprived of one or more basic human needs, compared to 88 per cent of children in Tanzania Mainland. If a different threshold, say deprivation of two or more basic needs, is used then the estimate of child poverty in Zanzibar fell to 49 per cent and 72 per cent among children in Tanzania Mainland. The most prevalent deprivations identified for children in Zanzibar in 2004/05 were for shelter/housing (44 per cent) and sanitation (32 per cent).⁵ Similarly, a report by OCGS using the 2014/15 HBS showed that the most prevalent deprivations were nutrition, housing and sanitation (OCGS and UNICEF, 2019).

The indicators and threshold used in this report to reflect MD child poverty may differ slightly from previous studies, which explains why the estimates

A report by OCGS using the 2014/15 HBS showed that the most prevalent deprivations were nutrition, housing and sanitation.

presented here may differ from earlier ones. This is expected from methodologies like MODA that do not have fixed criteria on which indicators should be used or how many dimension deprivations (e.g., one or more or three or more) identify a child as multidimensionally poor. Therefore, the key messages for policymakers can be derived from the detailed analysis of each dimension and indicator and the suggestions for further data collection. All indicators in this report have been based on good social science and statistical principles and are in keeping with international guidance issued by United

⁵ Shelter deprivation was defined as children in dwellings with more than five people per room or with flooring material made of mud or dung; sanitation deprivation was defined as children in households with no access to a toilet of any kind in the vicinity of their dwellings.



Nations agencies tasked with reporting on SDG target 1.2.2 (World Bank, UNDP and UNICEF, 2021). Furthermore, this report expands previous analyses by presenting estimates of both monetary and MD child poverty, as well as their overlap and changes between 2010 and 2020.

2.1 Data and methods

Data used, variable selection and final MODA composition

The MODA presented in this report has been explicitly designed to be as comparable over time as possible, using Zanzibar HBSs for the years 2009/10, 2014/15 and 2019/20. These surveys are the most

authoritative (and up to date) data on living standards and household incomes in Zanzibar, providing an excellent base with which to assess monetary and non-monetary poverty.

Following an in-depth examination of the relevant variables, their relationship to children's rights and basic needs, and inputs from OCGS and stakeholders at an inception meeting, it was agreed to reflect potential deprivation across seven dimensions – (i) housing, (ii) water and sanitation, (iii) communication, (iv) protection, (v) education, (vi) nutrition and (vii) health.

Each dimension includes between one and four sub-component indicators. Deprivation in any of these sub-component indicators is sufficient to consider a child being deprived in that dimension. Sub-component indicators include a combination of individual- and household-level variables.

1. Housing: Household-level indicators on overcrowding and dwelling construction materials.⁶
2. Nutrition: Household-level indicators of food insecurity, meal frequency and dietary diversity.
3. Water and sanitation: Household-level indicators on water source, time to water and form of sanitation. This dimension reflects indicators related to Goal 6 of the SDGs (United Nations, n.d.).
4. Communication: Household-level indicators on whether households have a modern means of communication, including landline or mobile telephone.
5. Education: Individual-level indicators on school enrolment, attendance, literacy and grade for age.
6. Protection: Individual-level indicators on birth registration and child labour; and
7. Health: Individual-level indicator of whether a sick child received treatment.⁷

In a few instances, such as in the case of food insecurity and literacy, some sub-component indicators were not available for the year of 2010, which may understate deprivation. However, on the whole, the comparability was reasonable for the final indicators selected (Table 1, page 15).

⁶ The housing dimension indicator has, in the past, included the type of cooking fuel; however, given almost universal prevalence of the use of polluting fuels across Zanzibar, it was decided to exclude cooking fuel from the indicator, to allow for some differentiation of other housing deprivation elements across socioeconomic groups.

⁷ The data available in the HBS to reflect 'health deprivation' in a meaningful sense are at present limited; other sources of data, like the DHS, which include information about children's contact with public health services, for example, through receipt of basic vaccinations, may be more reliable to understand 'health deprivation' in a fuller, more comparable sense. In 2015/16, DHS data showed that 81 per cent of children aged 12–23 months in Zanzibar received all eight vaccinations recommended by the World Health Organization Expanded Programme on Immunization. See MoHCDGEC et al. (2016).

Table 1: Dimensions and sub-components for Zanzibar MODA

| Dimension | Indicator | 2010 | 2015 | 2020 |
|-------------------------------------|---|------|------|------|
| Housing | Overcrowding: Household with a room occupancy of more than two adult equivalents per room | ✓ | ✓ | ✓ |
| | Building materials: Dwelling with floors made of earth/palm bamboo; roofs of mud, grass or plastic; or walls of mud or grass | ✓ | ✓ | ✓ |
| Nutrition | Meal frequency: Households usually consume fewer than three meals a day | ✓ | ✓ | ✓ |
| | Food insecurity: Households are food insecure according to the Household Food Insecurity Access Scale (Coates, Swindale and Bilinsky, 2007) | N/A | ✓ | ✓ |
| | Dietary diversity: Households consume fewer than 3 out of 10 food groups | ✓ | ✓ | ✓ |
| Water and sanitation (SDG 6) | Water source: Household using unimproved water sources (e.g., rivers/dams/lakes, unprotected wells and/or springs) | ✓ | ✓ | ✓ |
| | Time to water: The time taken to collect water for the household (in the dry or wet season) is more than 30 minutes | ✓ | ✓ | ✓ |
| | Sanitation facility: Household using unimproved sanitation facilities (e.g., no facilities, seashore/bushes, open pit latrines without slabs) or whose members were sharing facilities with other households | ✓ | ✓ | ✓ |
| Communication | Form of communication: Households have access to neither landline nor mobile telephone | ✓ | ✓ | ✓ |
| Education | School enrolment: Children of school age (7–17 years) were not currently attending school | ✓ | ✓ | ✓ |
| | School attendance: Older children (aged 16–17) had never attended school | ✓ | ✓ | ✓ |
| | Literacy: Children of school age (9–17 years) reported not being able to read and write in any language or were not able to read a full sentence in either English or Swahili if tested | N/A | ✓ | ✓ |
| | Grade for age: Children (9–17 years) were more than two years over the regular/expected age for their current grade | ✓ | ✓ | ✓ |
| Protection | Birth registration: A child's birth had not been formally registered and/or parents reported that they did not have a birth certificate | ✓ | ✓ | ✓ |
| | Child labour: A child (under 18 years of age) was economically active or absent from school owing to having to work ⁸ | ✓ | ✓ | ✓ |
| Health | Untreated illness: A child who had a recent illness ⁹ failed to receive medical care or advice | ✓ | ✓ | ✓ |

Source: Authors

8 This is likely to underestimate child labour because of the limited information on the nature of the work and unpaid work in the HBS. Child labour as well as child labour conditions can be further investigated using the *Tanzania Integrated Labour Force Survey*, which in 2006 (Tanzania Ministry of Labour, Employment and Youth Development et al., 2007) and 2014 (DFID et al., 2015) included the specialized module known as the Child Labour Survey. Further recommendations are provided in Appendix 1 (page 73).

9 These included illnesses like malaria, diarrhoea, anaemia, pneumonia, eye or skin diseases and accidents.

The percentage of children who experienced one or more deprivations only decreased from 95 per cent in 2010 to 88 per cent in 2019/20.

Indicators based on individual-level data (e.g., education) were computed for the appropriate age groups,¹⁰ and household-level variables were aggregated to all household members. Missing data represented a small percentage of all eligible responses and was therefore not considered an issue. Indicators were grouped into dimensions (e.g., education). In the case of the water and sanitation dimension, we grouped these indicators in line with SDG 6, as this will aid reporting progress in the future. To err on the side of caution, all respondents with missing data were counted as not deprived when counting the number of deprived children within an indicator in each dimension (leading to conservative estimates of deprivation). Following previous MODA analyses, an equal weighting approach was adopted, where a child was categorized as deprived in a given dimension if she or he shows deprivation in any of the dimension indicators. The threshold for determining MD poor children was set at three or more dimensions. We inspected results using different thresholds and the overall results remained consistent (i.e., Zanzibar experienced decreases in MD poverty). Nevertheless, the percentage of children who experienced one or more deprivations only decreased from 95 per cent in 2010 to 88 per cent¹¹ in 2019/20, which suggests that MD poverty is still very prevalent in Zanzibar, while the percentage of children who experience deprivations across multiple dimensions (three or more) has decreased considerably (from 53 per cent in 2010 to 34 per cent in 2020). We discuss this finding further in the

next section. We also inspect individual dimensions and indicators to show which indicators are driving dimension deprivation.

Information on consumption was also used to calculate the percentage of children in monetary poverty and to explore the relationship between monetary poverty and MD poverty. Consumption, calculated by the Office of the Chief Government Statistician (OCGS) for each Zanzibar HBS, includes everything purchased and consumed over 28 days in sampled households. This includes records on food and non-food items purchased, as well as food that was grown by the household.¹² This is then converted into Tanzanian shillings (Tsh) and adjusted by household size, age and sex of household members,¹³ and can then be used to measure the overall economic welfare. OCGS used two different poverty lines: basic needs poverty (generally referred to as poverty or monetary poverty) and food poverty (also referred to as extreme poverty). The poverty line for food poverty is lower than the one for monetary poverty, so by definition all food-poor households and all children within them are also (monetarily) poor. The analysis in this report focuses on basic needs poverty, calculated using OCGS official monetary poverty thresholds.

All selected indicators showed a positive association with monetary poverty, meaning that children in monetary poverty were more likely to be deprived of every single indicator, as shown in Figure 1 (page 17). These associations were tested using 2015 and 2020 samples to provide a larger sample size and were all statistically significant at the 5 per cent level.

Challenges in the selection of indicators

The final list of indicators in Table 1 (page 15) is the result of a long process that involved input and consultation with OCGS to provide robust and comparable estimates of changes in indicators between 2010 and 2020. Comparable data availability was the main limiting factor. Appendix 2 provides

10 All children of an age outside the relevant age bracket of age-specific indicators are considered not deprived.

This means that with regard to education, young children are set as not deprived as they may be too young to have started school. This is primarily due to the lack of reliable data on pre-school education and may understate the nature and extent of education deprivation among the very young. Similarly, all children younger than 16 are considered not deprived in the school attendance indicator.

11 This is a statistically significant change ($p < 0.05$).

12 Following the revised OCGS methodology, durable goods, imputed rents and costs of weddings and funerals are not included in these calculations (OCGS, 2020).

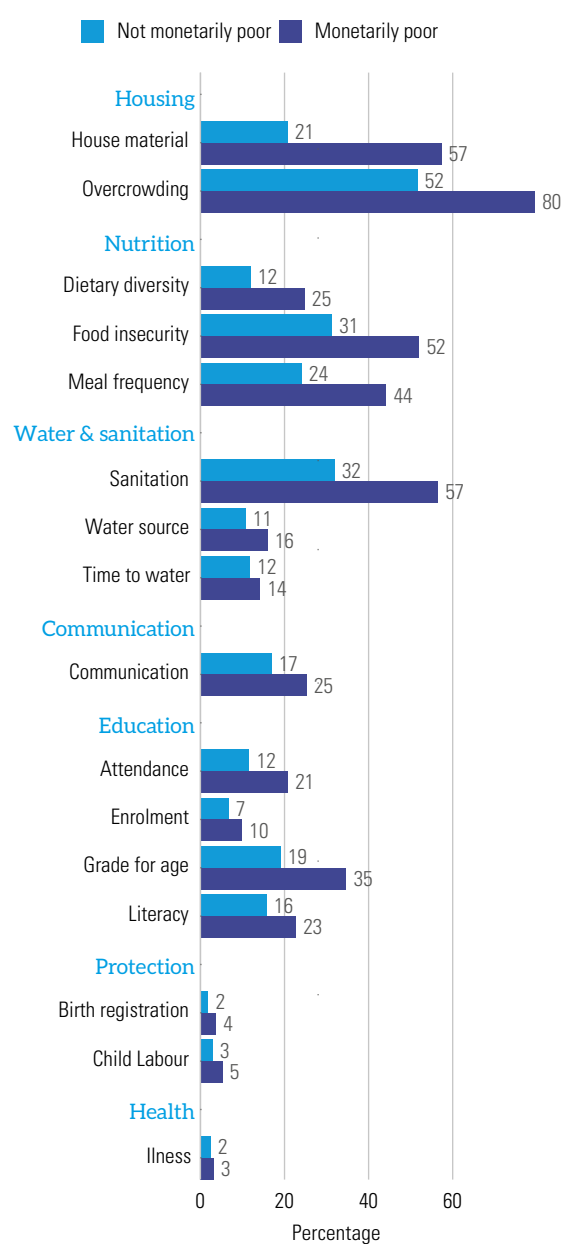
13 To account for the fact that, for example, a single-person household requires less consumption than a household with two adults and three children.

further details on the indicators that could not be created for this analysis because of data limitations.

This thorough exploration of the data comparability across the three HBS data sets was only possible with the advice and collaboration of OCGS staff, who were an invaluable resource

throughout the process. In Chapter 6 at the end of this report (and in Appendix 1), we identify dimension-specific knowledge and data gaps and suggest additional indicators that will inform future data collection of the HBS to gain further insights into the extent and causes of MD poverty.

Figure 1: Percentage of children deprived of each dimension indicator by monetary poverty status in Zanzibar, 2015 and 2020



Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)







3 Trends in monetary and MD child poverty

3.1 Child monetary poverty in Zanzibar

This initial section presents what is known about the extent and patterning of child monetary poverty in Zanzibar between 2010 and 2020. The data presented here are taken from the Main Report of the 2019/20 HBS (OCGS, 2020) and relate to the primary indicator of basic needs poverty. The report notes that a change in methodology was adopted in 2014/15 and used subsequently in 2019/20 and the method used to adjust poverty estimates for 2009/10 to make them comparable to later years is presented in Annex A3 of the published report. The adjustments made are not discussed in this report.

The official food poverty line (Tsh47,541 per adult per month in 2020) is based on the cost of a food basket that delivers 2,200 calories per adult per day. This is considered adequate to meet the energy needs for maintaining a healthy life and carrying out light physical activity. Consumed quantities are converted into calories using the OCGS calorie conversion factors and valued at national median prices (OCGS, 2020). The basic needs poverty line, used in this report, also allows for basic non-food goods and was Tsh66,313 in 2020.

Table 2: Basic needs poverty headcount rate, all households and children in Zanzibar, 2010–2020

| | 2009/10 | 2014/15 | 2019/20 |
|---------------------------|---------|---------|---------|
| Percentage all households | 34.9 | 30.4 | 25.7 |
| Percentage children | 39.7 | 34.7 | 30.1 |

Source: OCGS (2020), Table 7.2A and Table 8.22

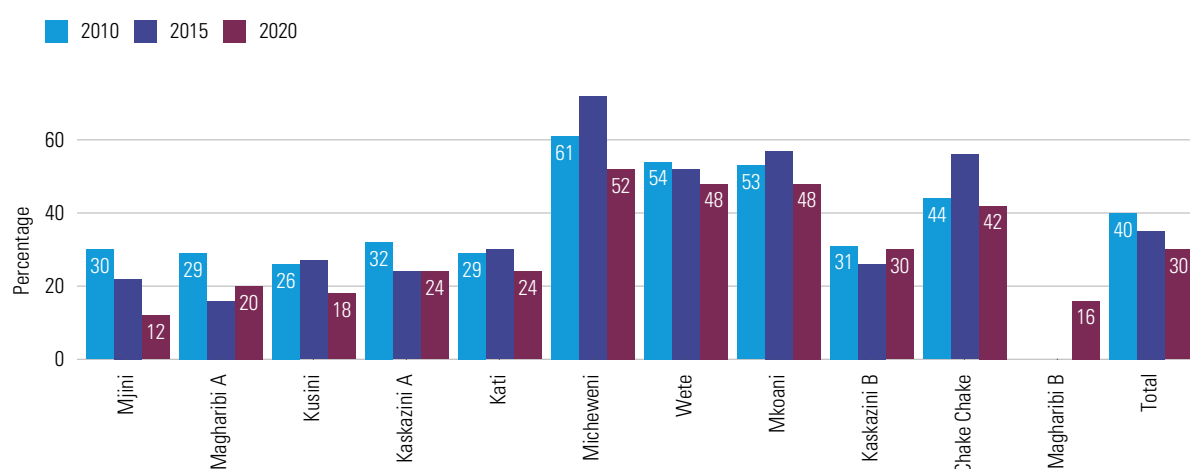
Given the demographics of most countries in sub-Saharan Africa, it is often the case that rates of basic needs poverty among children are greater than those of the general population. This is confirmed for Zanzibar in Table 2, where rates of child monetary poverty are higher across each survey round. Child monetary poverty dropped from over one third of children affected in 2010 to 3 in 10 in 2020.

Disaggregating child monetary poverty – geography

Impressive reductions in monetary child poverty at the aggregate (i.e., Zanzibar) level were achieved between 2010 and 2020. Figure 2 shows the change in child monetary poverty rates between 2010 and 2020 across the districts of Zanzibar, as reported in the relevant OCGS report. The districts are ordered by the relative change between 2010 and 2020, with headcount percentages

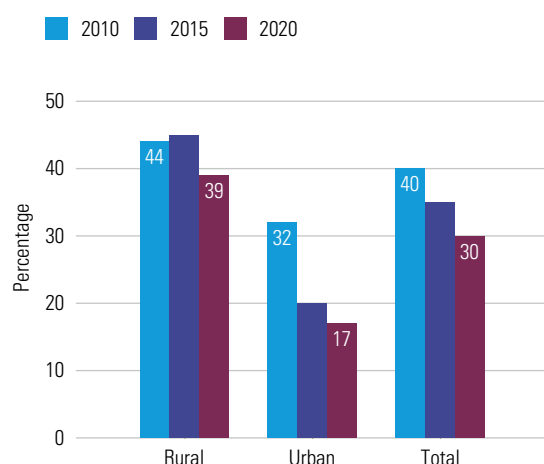
shown for 2010 and 2020. It is apparent that rates of child monetary poverty behaved in several ways. First, there were regions with consistent decline over the decade (Wete and Mjini). Secondly, there were districts with declines between 2015 and 2020, following an increase between 2010 and 2015 (Micheweni, Mkoani, Chake Chake, Kati and Kusini). Lastly, there were districts in which, following a decline between 2010 and 2015, there were increases in 2020 (Kaskazini A, Kaskazini B and Magharibi A). Mjini district saw the largest overall relative decline, of nearly 60 per cent; the districts of Chake Chake and Kaskazini B saw the least relative decline, of only 3 and 5 per cent respectively.

When the data are disaggregated by place of residence, i.e., urban and rural areas, distinct differences in performance emerge. Urban areas, with lower overall rates of child monetary poverty, saw a relative decline of 47 per cent, from 32 per cent in 2010 to 17 per cent in 2020. Rural areas saw a much smaller relative fall in child monetary poverty, around 11 per cent, from 44 per cent in 2010 to 39 per cent in 2020. As Figure 3 (page 21) shows, there was no apparent reduction in rural poverty between 2010 and 2015, in contrast to urban poverty, which reduced from 32 per cent to 20 per cent. Between 2015 and 2020, this pattern was switched, with greater decline in rural places of residence.

Figure 2: Child monetary poverty headcount (percentage) by district, 2010–2020

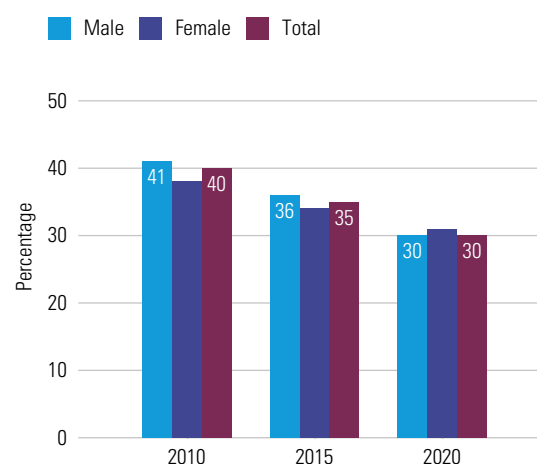
Source: OCGS (2020), p. 116

Figure 3: Child monetary poverty headcount (percentage) by place of residence, 2010–2020



Source: OCGS (2020), p. 116

Figure 4: Child monetary poverty headcount (percentage) by sex of child, 2010–2020



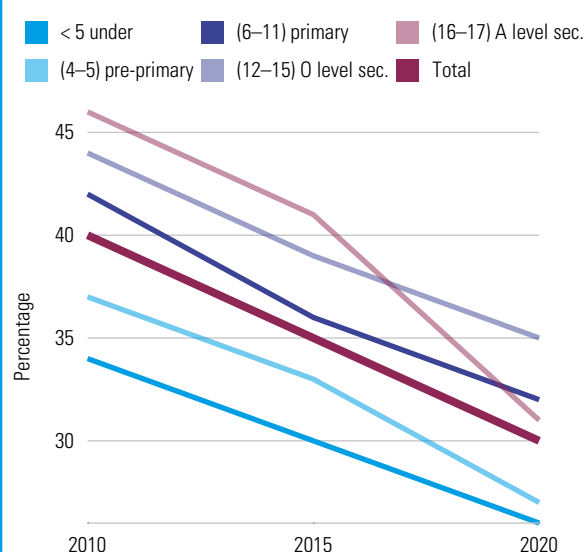
Source: OCGS (2020), p. 116

Disaggregating child monetary poverty – child and household characteristics

While geographic differences are apparent with regard to child monetary poverty, they are less noticeable at the level of child and household characteristics. That said, there are (slight) differences, for example, by sex (see Figure 4), but these are unlikely to be statistically significant. In 2010 and 2015, a slightly higher proportion of boys were monetarily poor compared to girls, but this difference had disappeared by 2020.

Figure 5 shows rates of monetary poverty in different age groups for children. While differences are unlikely to be statistically significant, the youngest children had the lowest rates of poverty and older children had higher rates across the three survey years. This figure illustrates part of the problem of using monetary poverty as an indicator of child poverty since it fails to reflect the different needs of children across the different stages of their life course. Older children may require items that require a greater share of household resources (e.g., materials for school or socializing with their peers), while younger children's needs centre around visits to the health-care centre, early childhood education needs and more basic items such as nappies and milk powder. These important differences cannot be adequately reflected or accounted for by monetary measures.

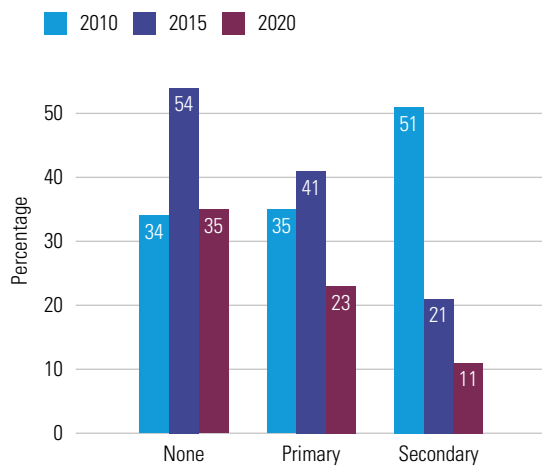
Figure 5: Child monetary poverty headcount (percentage) by age group, 2010–2020



Source: OCGS (2020), p. 116

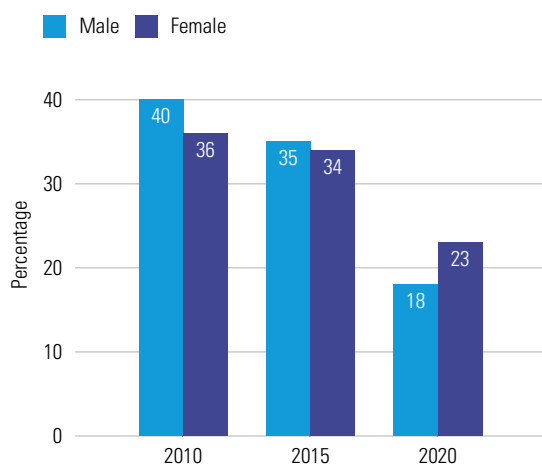
While the characteristics at the level of individual children may not explain the difference in child poverty rates, this is not so when one considers the overall socioeconomic position of the household. In Figures 6 and 7 (page 22), rates of child monetary poverty are presented according to the education

Figure 6: Child monetary poverty headcount (percentage) by education level of head of household, 2010–2020



Source: OCGS (2020), p. 116

Figure 7: Child monetary poverty headcount (percentage) by sex of head of household, 2010–2020



Source: OCGS (2020), p. 116

level and sex of the head of the household. In most analyses of poverty, the education of the head of household is taken as a proxy measure of socioeconomic status, with the expectation that more educated household heads are likely to have secured a better job and thus resources for the

household, thus reducing their chance of being poor. As Figure 6 shows, in 2020, there was a clear gradient in poverty rates, with those children in households where the head had a secondary education much less likely to be monetarily poor (11 per cent) compared to those whose head had no education (35 per cent). Over time, the greatest reductions in child poverty rates were among those whose household head had a secondary education. Overall, the pattern of child monetary poverty and education levels holds as one would expect. There was no apparent decline over 10 years for households where the head had no education; things worsened between 2010 and 2015, but then returned in 2020 to the same level as 2010.

Differences in child poverty in terms of the sex of the head of household in Zanzibar were not very pronounced across all three survey years. In 2010, a slightly higher proportion of children in male-headed households (40 per cent) were monetarily poor compared to children in female-headed households (36 per cent). In 2015, there was no discernible difference, but in 2020, there was a wider gap, this time with children in female-headed households more likely to be poor compared to those in male-headed households (23 per cent to 18 per cent).

Clear progress was made in reducing child poverty in Zanzibar between 2010 and 2020. When the data are disaggregated by place of residence, district and household/individual-level characteristics, interesting patterns of progress, regress and inertia become apparent. However, what is also noticeable is the relative lack of information provided, which might inform policymakers as to what areas of children's lives need improvement. Policymakers in different ministries, such as health, education and housing, need clear information on how and where people lack access to key services. Poverty in its very nature is 'multidimensional' and as such, measures of MD poverty need to be policy-relevant and actionable. Data on how many children are out of school, not receiving adequate health care, or living in households lacking access to safe water and sanitation are of more direct use than information on household-level estimates of resources falling under an arbitrary threshold that may not adequately explain why people lack access to basic services. More importantly, such measures and thresholds often

fail to consider the particular needs of children and, as such, misrepresent the nature and extent of child poverty in Zanzibar today. The following section sets out a measure of MD child poverty developed with children as the unit of analysis and their needs at the forefront of the design of indicators.

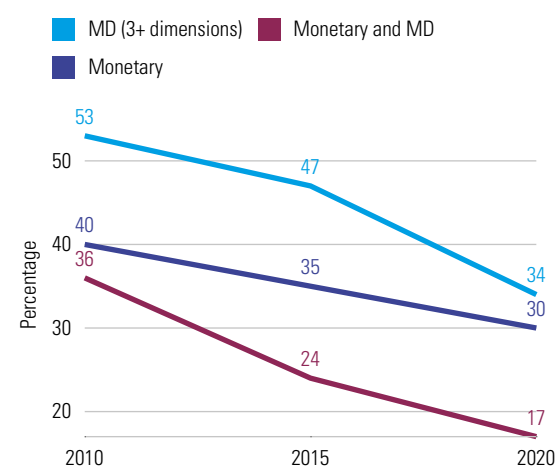
3.2 Child MD poverty in Zanzibar

Figure 8 shows that the reduction in child monetary poverty between 2010 and 2020 occurred alongside a decrease in MD child poverty.

The figure shows that the percentage of children who experienced MD child poverty, i.e., deprivation in three or more dimensions (up to a total of seven), decreased from 53 per cent to 34 per cent over the 10-year period.

Although this is a remarkable change over just 10 years, it is important to point out that these findings show that a third of all children are still experiencing deprivation in at least three out of seven dimensions. These dimensions aim to measure children's basic needs and, as argued in this report, generally underestimate the level of deprivation in both health and protection dimensions. Despite these measurement shortcomings that generally underestimate MD poverty, a third of all children are experiencing three or more deprivations simultaneously, which should be a matter of great concern. Moreover, it is important to note that although there have been reductions in MD poverty using a three or more deprivations cut-off, the vast majority (88 per cent) of children in Zanzibar in 2020 are experiencing deprivation in at least one of the seven dimensions explored in this

Figure 8: Trends in MD and monetary poverty, 2010–2020



Source: Monetary child poverty estimates estimated by OCGS (OCGS, 2020).

report (see Table 3 and Figure 9, page 24). This means that the vast majority of children in Zanzibar in 2020 are experiencing some form of deprivation regardless of whether they lived in households considered monetarily poor.

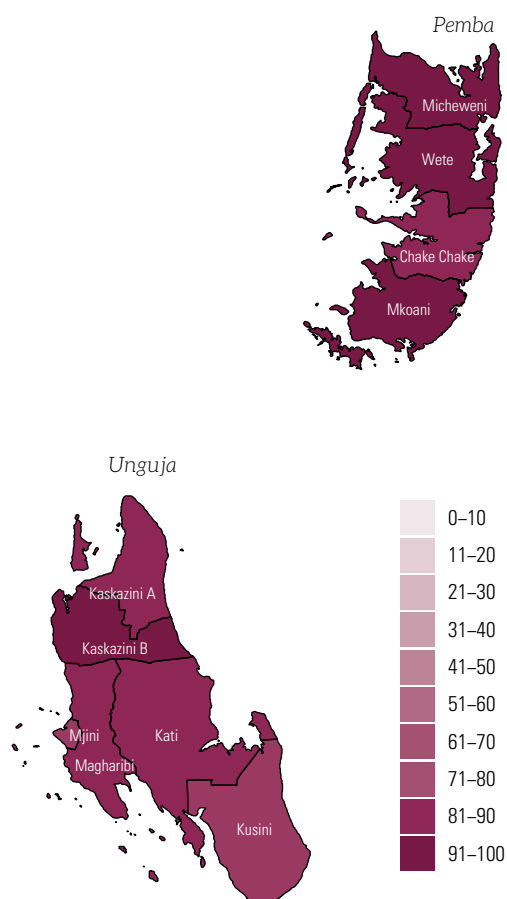
Finally, although this decrease in poverty has been witnessed in all districts, the extent of poverty reduction and current poverty levels varies considerably across districts, with more than half of all children in areas such as Micheweni experiencing poverty (either monetary or MD), compared to just over 10 per cent in better-off areas such as Mjini (see Figures 10–13, pages 24–26).

Table 3: Trends in the percentage of multidimensionally poor children by different thresholds in Zanzibar, 2010–2020

| Year | One or more | Two or more | Three or more (adopted threshold) | Four or more | Five or more | Six or more |
|------|-------------|-------------|-----------------------------------|--------------|--------------|-------------|
| 2010 | 95 | 78 | 53 | 27 | 9 | 2 |
| 2015 | 92 | 73 | 47 | 20 | 5 | 1 |
| 2020 | 88 | 63 | 34 | 11 | 3 | 0 |

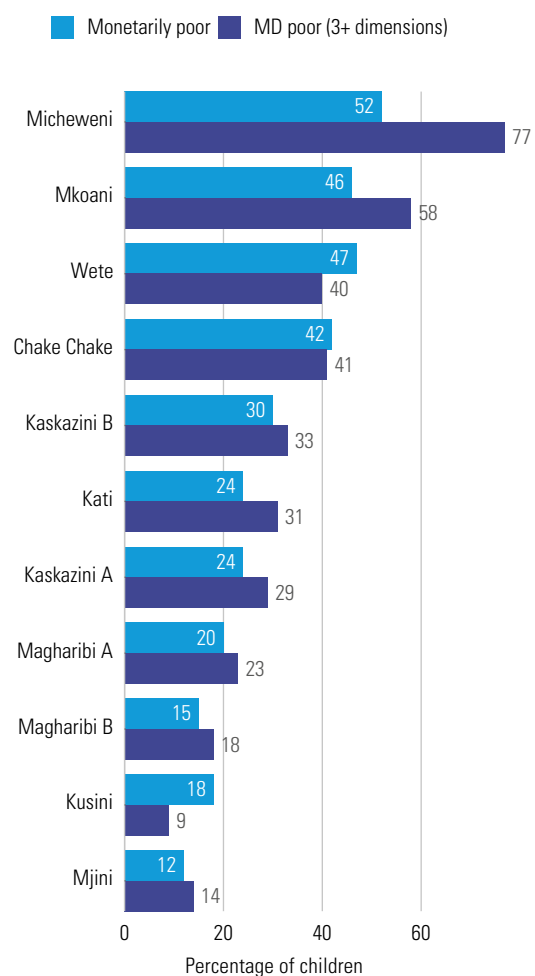
Note: All changes between 2010 and 2020 are statistically significant at the 5 per cent level.

Figure 9: Percentage of children in Zanzibar deprived in one or more dimension, by district, 2020



Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

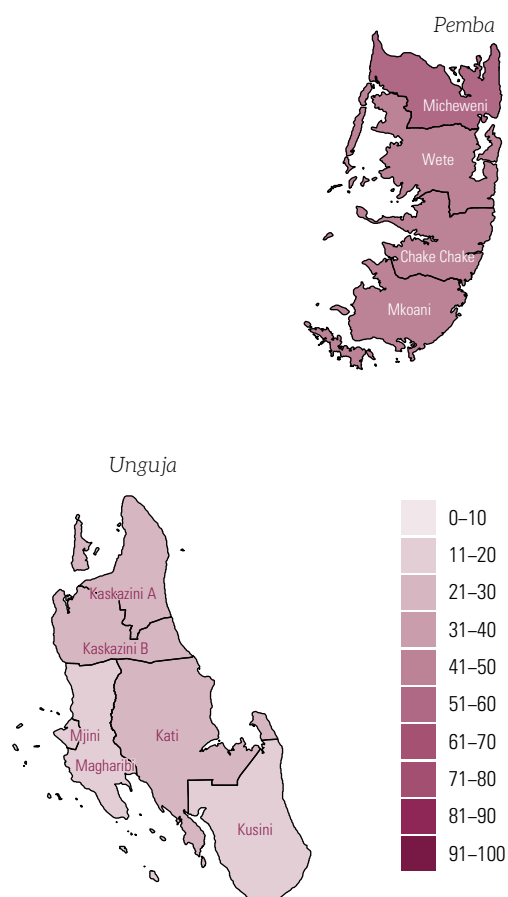
Figure 10: Percentage of poor children by district in Zanzibar, 2020



Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

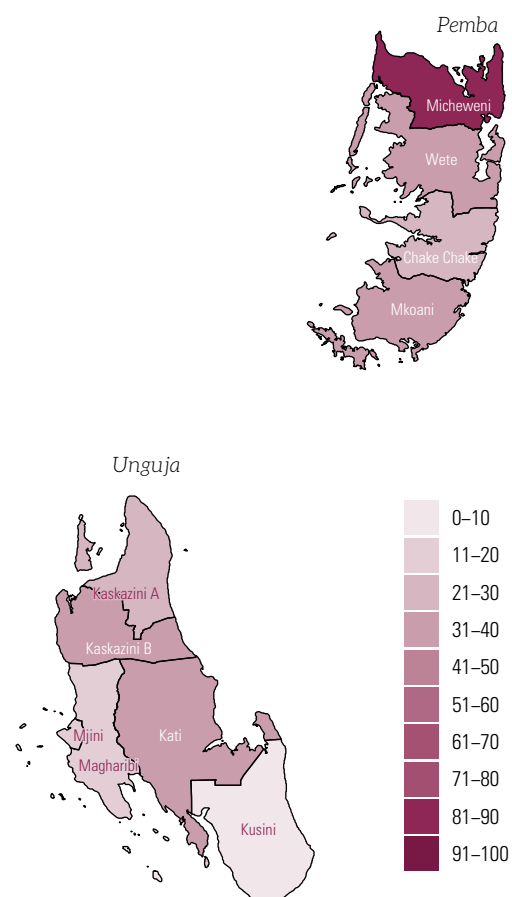


Figure 11: Percentage of children in Zanzibar in monetary poverty, by district, 2020



Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

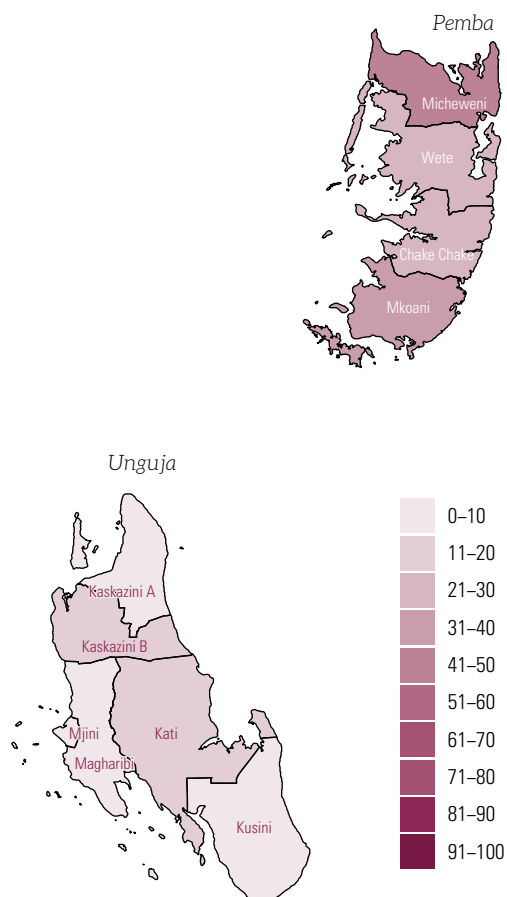
Figure 12: Percentage of children in Zanzibar in MD poverty (three or more dimensions), by district, 2020



Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)



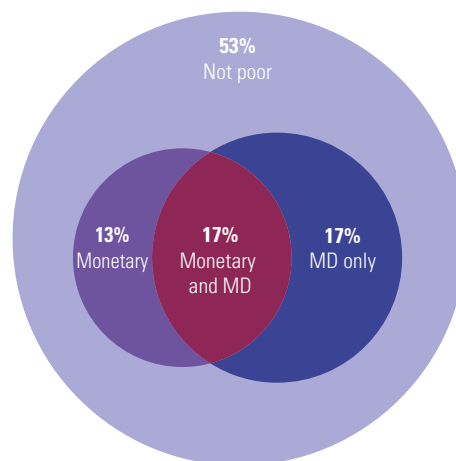
Figure 13: Percentage of children in Zanzibar in MD and monetary poverty, by district, 2020



Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

The extent of poverty reduction and current poverty levels varies considerably across districts, with more than half of all children in areas such as Micheweni experiencing poverty.

Figure 14: Prevalence and overlap between monetary and MD poverty (three or more dimensions) in Zanzibar, 2020

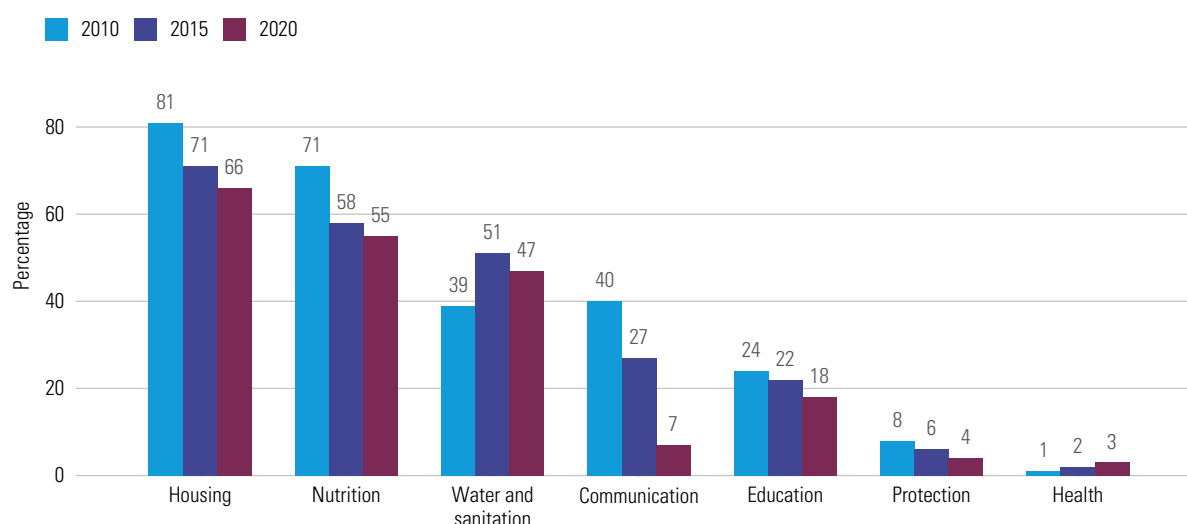


Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Although the overall poverty reduction is clear when using the Zanzibar official poverty line (monetary poverty) as well as the MD poverty (three or more deprivations) threshold, under half (47 per cent) experienced either only monetary poverty, only MD poverty or a combination of both. There is a degree of overlap (as shown in Figure 14). Almost 2 in 10 children (17 per cent) experience both monetary and MD poverty and are the most vulnerable in Zanzibar. The percentage of children jointly affected by monetary and MD poverty has decreased considerably from 36 per cent in 2010 to 17 per cent in 2020, as shown in Figure 8 (page 23), and the percentage of children who experienced neither has increased from 31 per cent in 2010 to 53 per cent in 2020. In contrast, the percentage of children who are only multidimensionally poor or only monetarily poor has remained relatively stable throughout this period.

3.3 Overall trends by dimension

Figure 15 shows how the prevalence of deprivation across each dimension has changed over time

Figure 15: Trends in deprivation prevalence by dimension in Zanzibar, 2010–2020

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

in Zanzibar,¹⁴ while Figure 16 (page 28) shows trends in the underlying dimension indicators and whether the change between 2010 and 2020 is statistically significant. The dimensions with the highest deprivation in Zanzibar are housing (66 per cent), nutrition (55 per cent) and, water and sanitation (47 per cent). Two dimensions appear to have worsened over the 10-year period: health (from 1 per cent to 3 per cent) and, water and sanitation (from 39 per cent to 47 per cent). The most marked improvement is observed in the communication dimension, which decreased from 40 per cent in 2010 to 7 per cent in 2020.

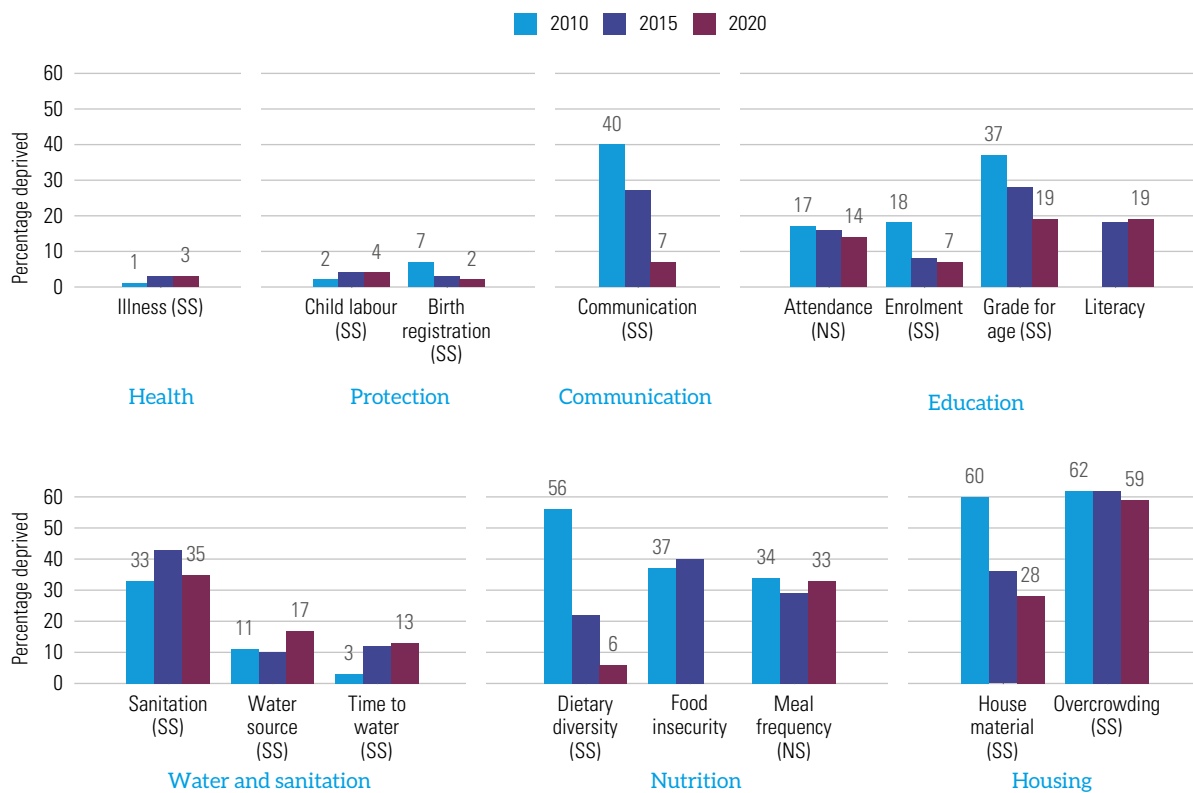
Effective health programmes in Zanzibar have ensured that most children are vaccinated before they are 2 years of age and are protected against major causes of illness and premature mortality (Revolutionary Government of Zanzibar and UNICEF, 2018). Although rates of health deprivation seem to have increased from 1 per cent in 2010 to 3 per cent in 2020, they remain very low, suggesting widespread availability of health care for children in need in Zanzibar but also the need to monitor this dimension alongside other indicators, such as anthropometric failure, in future HBSs. These estimates are very likely to underestimate health deprivation as they do not

consider whether children were able to visit a health facility, dentist, optician or specialist, or were able to obtain all medication to treat the illness. The survey also lacks information on whether children received essential vaccines, such as those prescribed in SDG 3 on good health and well-being.

The protection dimension includes indicators of birth registration and child labour. This dimension showed improvement, with deprivation falling from 8 per cent to 4 per cent, most likely because of real efforts to increase birth registration in Zanzibar by simplifying and reducing the costs associated with the process (UNICEF Office of Innovation, 2015). However, it is also important to consider the limitations of the indicators for this dimension. For example, the child labour indicator is likely to understate the degree to which children undertake activities that jeopardize their education, health and general development. This is because the HBS contains limited information on labour activities as well as hours and types of unpaid work undertaken by children.

Progress has also been made in a dimension closely linked to protection – that of education – where deprivation fell from 24 per cent in 2010 to 18 per cent in 2020. While children are clearly receiving an education in Zanzibar, what

¹⁴ All changes between 2010 and 2020 are statistically significant at the 5 per cent level.

Figure 16: Trends in deprivation prevalence by indicator in Zanzibar, 2010–2020

Note: SS = Statistically significant change between 2010 and 2020 ($p < 0.001$). NS = Not significant. Literacy and food insecurity indicators lack data for 2010.

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

may be driving one in six children to be deprived in this dimension may be their low grade for age (19 per cent of children) or poor literacy attainment (19 per cent), followed by attendance (14 per cent) and enrolment (7 per cent). It is worth noting that these first three dimensions are based on individual-level data and are not reliant on household-level data, which in some instances may mask intra-household inequalities.

As already noted, there was an impressive decline in the communication dimension, from 40 per cent in 2010 to a low 7 per cent in 2020, driven most likely by rapid expansion in access to mobile telephones. However, progress in those dimensions that affect a large proportion of children has been less pronounced. An examination of water and sanitation (which reflect aspects such as the source of water, time to collect water and form of sanitation) reveals that the proportion of children deprived in this dimension

increased between 2010 (39 per cent) and 2020 (47 per cent), having reached a high of 51 per cent in 2015. The current data suggests that 35 per cent of children in Zanzibar do not have access to improved sanitation, a slightly higher percentage than in 2010. Moreover, access to improved and close water sources seems to have worsened between 2010 and 2020. Indeed, there seems to be little progress in the water and sanitation dimension since 2010 and the prevalence of deprivation remains high. This high prevalence is concerning, not least in recent years with the experience of the global COVID-19 pandemic and ongoing efforts to eliminate cholera, which requires adults and children to be able to wash their hands regularly and effectively to limit infection and spread.

Despite improvement in the nutrition and housing dimensions, more than half of all Zanzibar's children were deprived in these dimensions in 2020.

Table 4: Composition of children experiencing MD poverty (deprived in three or more dimensions) in Zanzibar, 2020

| Types of deprivation experienced by multidimensionally poor children | Percentage | Cumulative percentage |
|---|------------|-----------------------|
| Nutrition; water and sanitation; and housing only (no other dimension) | 46% | 46% |
| Nutrition; water and sanitation; housing; and other dimensions | 27% | 73% |
| Either nutrition; or water and sanitation; or housing; and other dimensions | 27% | 99.9% |
| Not experiencing nutrition; water and sanitation; and housing | 0.1% | 100% |

Source: Authors' analysis of HBS 2019/20 (OCGS, 2020)

Household food security and living conditions (e.g., overcrowding, suitable construction materials) are critical determinants of child health, survival and fundamental rights as set out in the United Nations Convention on the Rights of the Child. The fact that over half of Zanzibar's children are deprived in these critical dimensions should be a source of ongoing concern and should form an important element of any child-relevant measure of poverty going forward. Also worth noting here is that the 2015/16 DHS, using child-level anthropometric data, found that 24 per cent of children under 5 years of age in Zanzibar experienced chronic malnutrition in the form of stunting and 4 per cent exhibited signs of wasting (acute malnutrition).¹⁵

Children in Zanzibar can experience a wide range of combinations of different deprivations. The correlation between dimensions is low,¹⁶ except for protection and education, which is primarily explained by the fact that older children engaged in child labour activities are considerably less likely to be enrolled

in school. This suggests that these dimensions need to be addressed with bespoke policies, which are addressed in Chapter 5. However, this does not mean that there are not clear overall patterns. Virtually all (99.9 per cent) children experiencing MD poverty in 2020 in Zanzibar experienced at least one of these three deprivations: nutrition; water and sanitation; and housing. Over 70 per cent of multidimensionally poor children experienced these three simultaneously (see Table 4). Reducing deprivation in these three is identified as one of the key challenges for the future of Zanzibar's children.

Considering the overall trend of MD child poverty in Zanzibar, the following sections examine greater details of deprivation trends in each dimension across three standardized cross-breaks: the place of residence (urban/rural); district; and monetary poverty status (relative to the year of the survey). Data are presented in order of the most prevalent deprivation in 2010. It should be noted that all graphs showing deprivation by district have merged Magharibi A and Magharibi B, given that in the 2009/10 HBS the two separate districts had not been created yet. We therefore comment on the trends in the Magharibi A and B districts jointly.

The section closes with suggestions of possible additional questions that reflect the particular needs of children for inclusion in future national household budget and expenditure surveys. These questions are linked to existing dimensions of poverty and well-being and could contribute to improving the specificity of child poverty measures in Zanzibar.

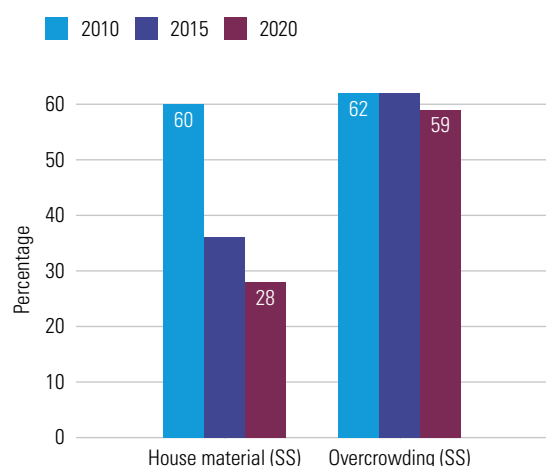
3.4 Trends in deprivation in the housing dimension

Access to housing of decent quality is a fundamental determinant of children's living standards and chances of growing up safely and healthily. Indicators of housing deprivation can take several forms, including information about tenancy security, levels of overcrowding and the types of materials used to

¹⁵ The 2018 Tanzania National Nutrition Survey reports stunting rates of 21.5 per cent for Zanzibar and wasting rates of 6 per cent (MoHCDGEC et al., 2018).

¹⁶ We inspected tetrachoric correlations between dimensions for all children, which were (with the exception of the education and protection dimensions, which had a tetrachoric correlation coefficient of above 0.7) generally low (within the 0.4 to -0.4 range). We repeated this exercise among children in MD poverty (i.e., experiencing deprivation in three or more dimensions). The correlations among the latter are higher, but this is to be expected because focusing on children who are experiencing three or more deprivations simultaneously artificially inflates the correlation between dimensions. Nevertheless, even within this subset of children, the tetrachoric correlations were generally low.

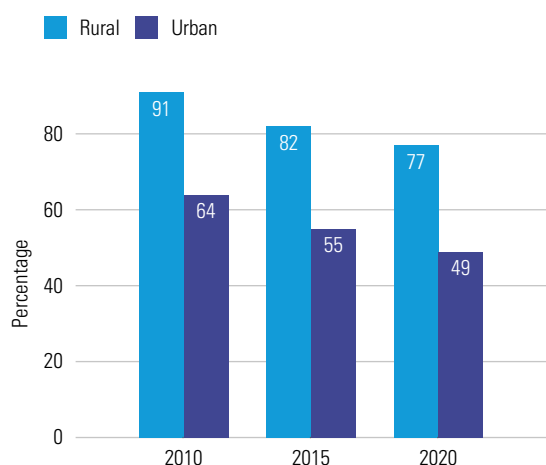
Figure 17: Percentage of deprived children by housing dimension indicators, 2010–2020



Note: SS = Statistically significant change between 2010 and 2020 ($p < 0.001$).

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Figure 18: Trends in housing deprivation by place of residence in Zanzibar, 2010–2020



Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

construct the dwelling. Some measures incorporate indicators of access to basic services, such as water, sanitation and electricity. For this MODA, the dimension of housing is represented by two indicators:

1. Overcrowding, namely households with a room occupancy of more than two, i.e., > 2 adult equivalents per room. As per UNICEF's previous

use of this indicator (OCGS and UNICEF, 2019), children aged 0–5 years were counted as 0.5 and household members aged 5 years and older counted as 1; the number of rooms excludes kitchens, bathrooms and storage rooms.

2. The construction materials used for the roof, floor and walls of the main dwelling. Dwellings with floors made of earth or palm bamboo; roofs of mud, grass or plastic; or walls of mud or grass were considered deprived.

As shown in Figure 17, there have been considerable improvements between 2010 and 2020 in house material deprivation, whereas overcrowding has remained at roughly the same levels.

Housing deprivation by place of residence

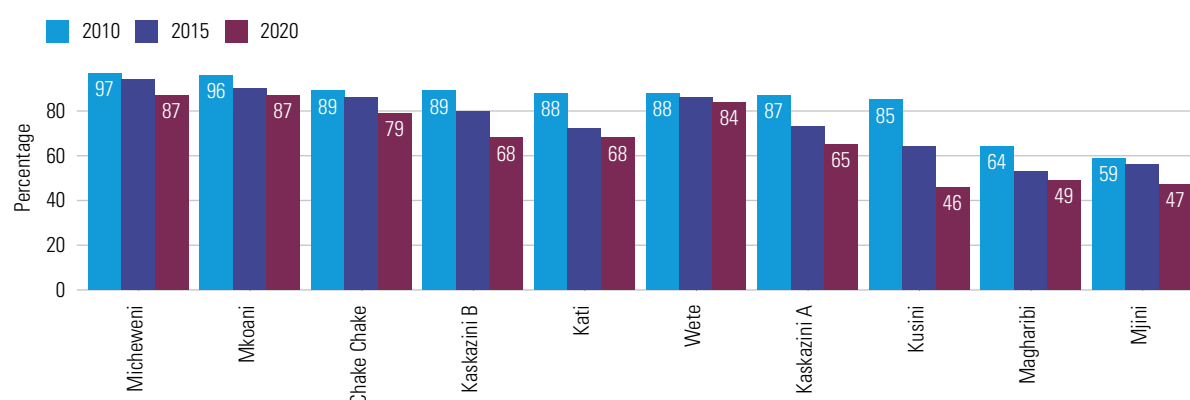
As Figure 18 shows, deprivation in the housing dimension remains widespread in Zanzibar in both urban and rural locations.

Most likely due to the choice and use of traditional construction materials (e.g., mud floors and walls) and ongoing cultural practices of large households sharing a few bedrooms, housing deprivation has been and remains the most prevalent deprivation affecting children in Zanzibar. While similar levels of improvement have occurred for children in both rural and urban areas between 2010 and 2020, with a decrease in relative terms of 15 and 23 per cent respectively, the fact remains that nearly half of all urban children and more than three quarters of rural children were deprived in this dimension in 2020. Such exposure has implications for child health and broader development (Shrestha et al., 2020; Wolff et al., 2001). Policy responses could entail support for improving construction materials and encouragement for smaller households, which would help tackle overcrowding.

Housing deprivation by district

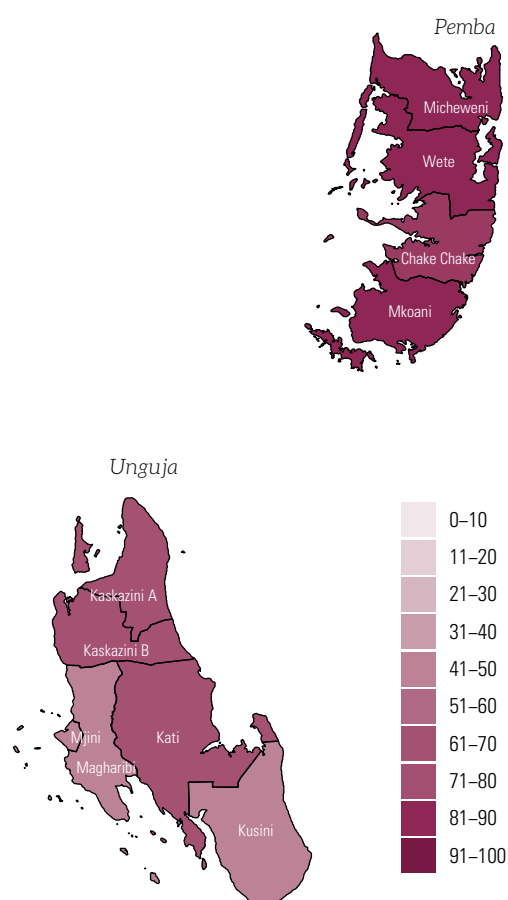
Figure 19 (page 31) presents prevalence rates of deprivation in the housing dimension by district in Zanzibar. Figures shown are for the years 2010 and 2020, with labels removed for 2015, to make the comparison clearer. In each district, rates have been constantly decreasing between 2010 and 2020.

In 2010, rates of housing deprivation were pronounced in all districts of Zanzibar, with more

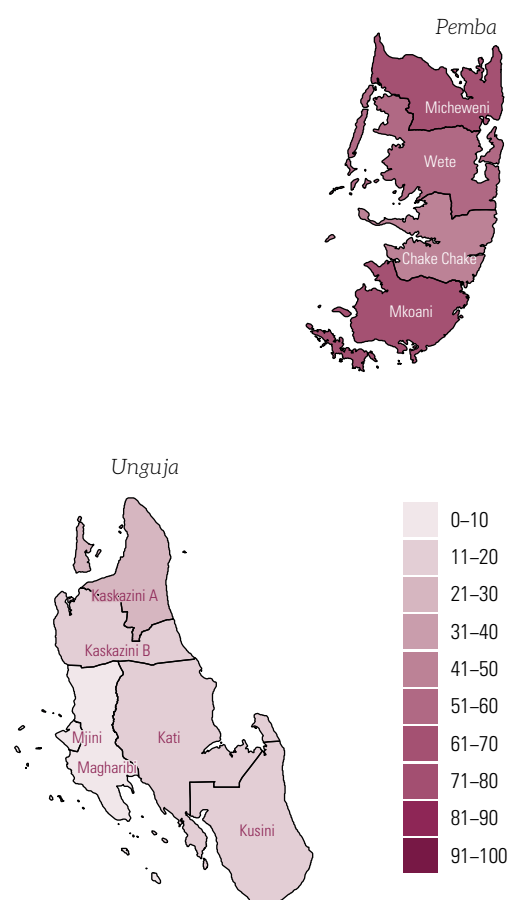
Figure 19: Trends in housing deprivation by district in Zanzibar, 2010–2020

Note: The 2015 and 2020 data for Magharibi A and Magharibi B have been merged in this graph, as in the 2009/10 HBS the two separate districts had not been created yet.

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

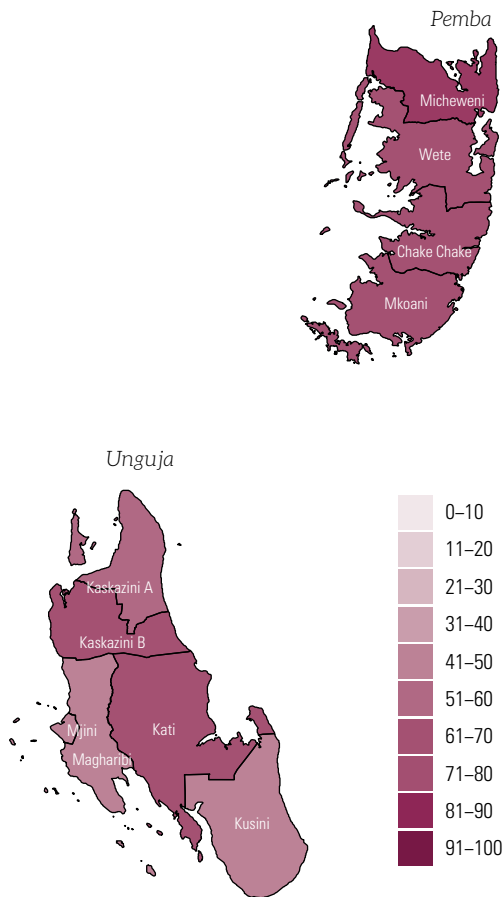
Figure 20: Housing dimension: percentage of children in Zanzibar deprived, by district, 2020

Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

Figure 21: House material: percentage of children in Zanzibar deprived, by district, 2020

Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

Figure 22: Overcrowding: percentage of children in Zanzibar deprived, by district, 2020



Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

The overlap between monetary poverty and housing deprivation is large, with 93 per cent of children in monetarily poor households in 2010 also being housing-deprived.

Figure 23: Trends in housing deprivation by monetary poverty status in Zanzibar, 2010–2020



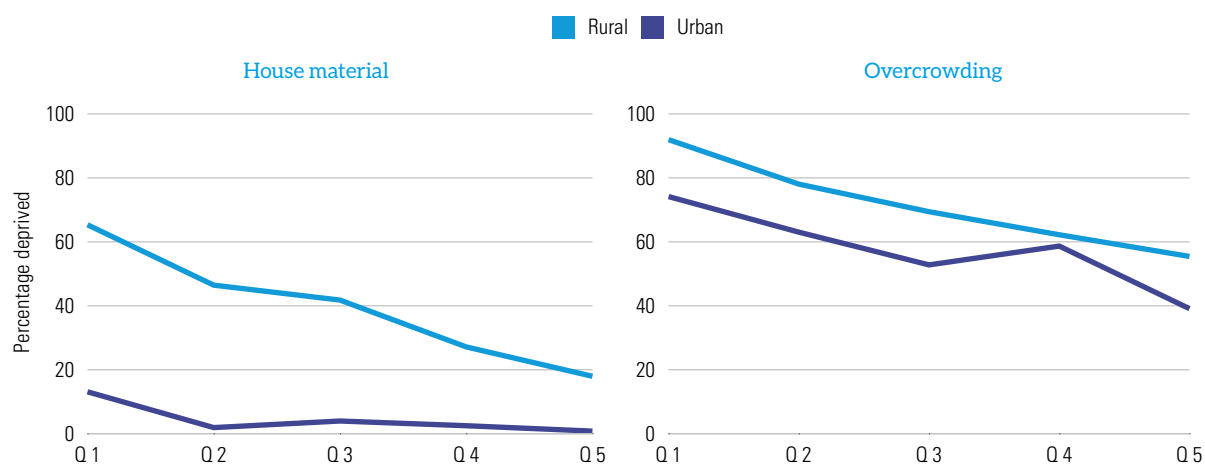
Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

than half of all children affected in all districts; in 8 out of 11 districts, over 80 per cent of children were deprived, with over 90 per cent of children in Micheweni and Mkoani districts affected. By 2020, over 80 per cent of children in these two districts remained deprived, while only four districts (i.e., Kusini, Magharibi A & Magharibi B and Mjini) scored less than 50 per cent of children deprived in the housing dimension.

Housing deprivation by monetary poverty status

The HBS includes data on the monetary poverty status of households. This information can be used in conjunction with data on material deprivation in different dimensions to effectively show overlaps between monetary and non-monetary poverty, thus revealing the MD nature of child poverty in Zanzibar. In Figure 23, there is apparent and considerable overlap between monetary poverty and deprivation in the housing dimension.

As one might expect, the overlap between monetary poverty and housing deprivation is large, with 93 per cent of children in monetarily poor households in 2010 also being housing-deprived. The overlap fell slightly across the three years to 85 per cent in 2020. Among those children whose households were not identified as monetarily poor in the year of the survey (i.e., their

Figure 24: Indicator deprivation rate by consumption quintile for urban and rural children in Zanzibar, 2020

Note: Quintile 1 = poorest; quintile 5 = richest

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

household incomes were above the poverty line or threshold for each year), the overlap with housing deprivation was also high – ranging from 67 per cent in 2010 to 58 per cent in 2020.

We can further unpack these findings by looking at the percentage of urban and rural children deprived in the housing indicator according to household consumption (Figure 24). Instead of simply looking at those below the poverty line, the population can be split into five consumption groups, i.e., quintiles, from poorest to richest. Figure 24 shows that children living in the poorest households are considerably more likely to live in dwellings with floors made of earth or palm bamboo; roofs of mud, grass or plastic; or walls of mud or grass and are also more likely to live in overcrowded households than richer households. Housing material deprivation is primarily driven by (poorer) rural households, whereas this is very low in urban households, regardless of consumption quintile.

These patterns show that overcrowding remains prevalent, as do poor housing materials in rural areas, and that richer households are generally less likely to endure these deprivations.

3.5 Trends in deprivation in the nutrition dimension

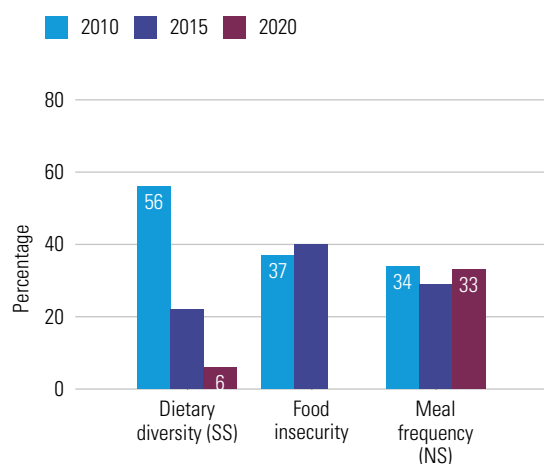
Having enough food, of decent nutritional quality, is a basic entitlement for everyone. Indicators of individual nutritional status and household food insecurity have informed the development of poverty indicators for over a century, and food deprivation is an element of all major internationally accepted definitions of absolute poverty and child poverty.

Food insecurity can be reflected in several ways, including using data from household consumption diaries; data on food expenditure; anthropometric data on people's heights and weights to calculate body mass index for adults; and rates of stunting, wasting and underweight for children.

For this MODA report, deprivation in the nutrition dimension is assessed using three household-level indicators based on data available in the HBS:

1. Households that have three meals a day.
2. Food insecurity according to the Household Food Insecurity Access Scale (only for 2015 and 2019; Coates et al., 2007).¹⁷
3. A measure of dietary diversity previously used by UNICEF (MoHCDGEC, 2018).

¹⁷ This is a standardized questionnaire module in which households are asked whether the household/household members in the past 30 days: worried that they would not have enough food; were unable to eat preferred foods due to the lack of money; could not eat different types of food due to the lack of money; ate foods they really did not want to eat because of lack of money; ate less food than the diet needed because there was not enough food; ate fewer meals a day because there was not enough food; there was no food because of the lack of money to buy food; slept hungry because of the lack of sufficient food; spent the whole day without eating any food because there was not enough food.

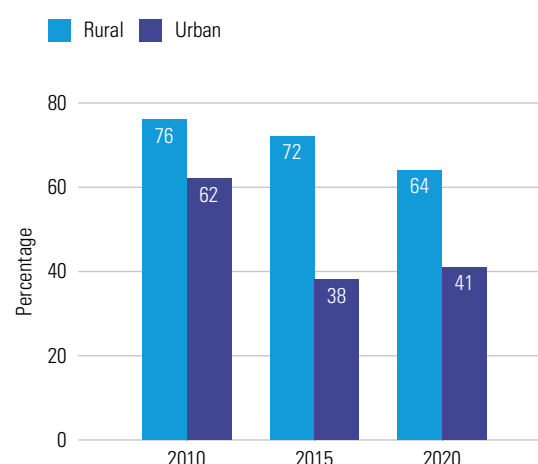
Figure 25: Percentage of children deprived in the nutrition dimension indicators in Zanzibar, 2010–2020

Note: SS = Statistically significant change between 2010 and 2010 ($p < 0.001$). NS = Not significant.

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Children in households deprived in any of these three indicators were counted as deprived in the nutrition dimension. As shown in Figure 25, there have been major reductions in the percentage of children with insufficient dietary diversity (which dropped from 56 per cent in 2010 to 6 per cent in 2020), whereas meal frequency and food insecurity have remained relatively stable.

Figure 25 also shows that there has been limited progress in the percentage of children who lived in food insecure households (37 per cent in 2015 and 40 per cent in 2020) and in the percentage who lived in households that have three meals a day (34 per cent in 2010 and 33 per cent in 2020). By contrast, dietary diversity deprivation has decreased dramatically. The vast majority of children (94 per cent) live in households that eat foods from three out of ten food groups on four or more days per week.¹⁸ Overall, the dimension is driven by meal frequency and food insecurity deprivation, which remain high at 33 per cent and 40 per cent, respectively. Although not having three meals a day may reflect dietary preferences (such as skipping breakfast), food insecurity findings confirm that households are cutting back on food because they do not have enough of it.

Figure 26: Trends in nutrition deprivation by place of residence in Zanzibar, 2010–2020

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

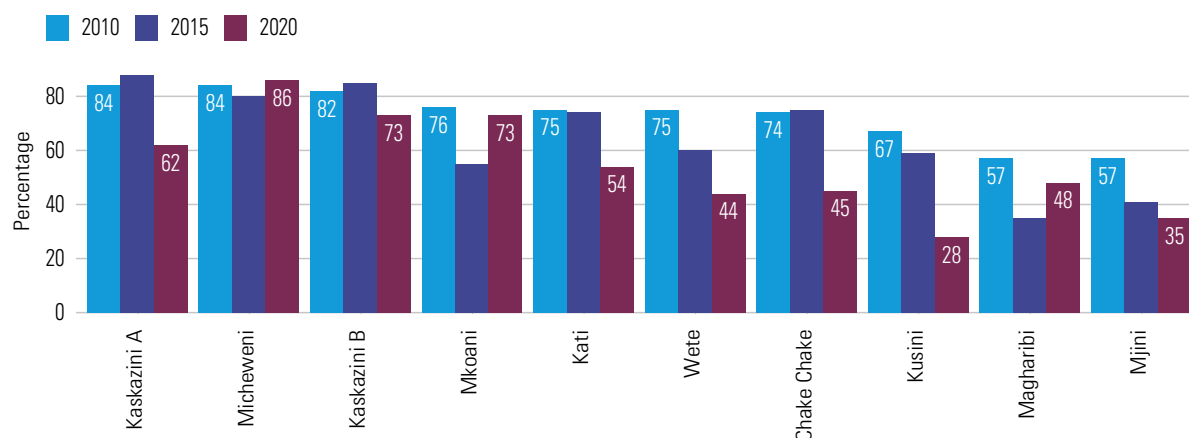
Nutrition deprivation by place of residence

As with the housing dimension, deprivation rates in the nutrition dimension are high in Zanzibar and particularly so in rural areas (Figure 26). There have been steady reductions in prevalence rates between 2010 and 2020 in rural areas, but in urban areas, following a decline of 24 percentage points between 2010 and 2015, rates in 2020 remained at 2015 levels – around 40 per cent. Urban–rural disparities in nutrition deprivation increased (from 14 to 23 percentage points) between 2010 and 2020, owing to much greater reductions in urban areas than in rural areas. The persistence of urban nutrition deprivation is a concern, not least because of the importance of adequate food for children in their formative years and the fact that urban populations are not likely to produce their own food for consumption.

Nutrition deprivation by district of residence

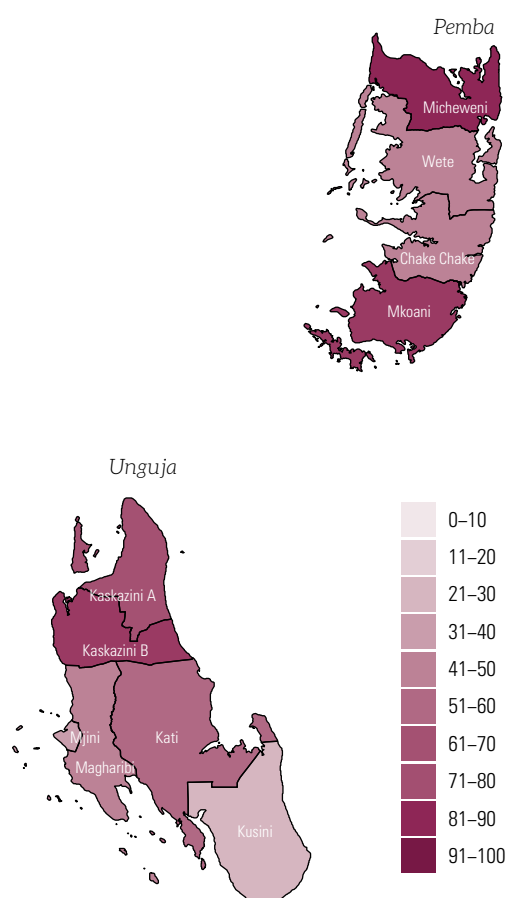
There were clear disparities in nutrition deprivation across the districts of Zanzibar (Figure 27, page 35), with deprivation worsening between 2010 and 2020 in Micheweni and between 2015 and 2020 in Mkoani and Magharibi A & Magharibi B.

¹⁸ Although there may be issues of comparability between 2010 and 2020 estimates, the decline between 2015 and 2020 was clear.

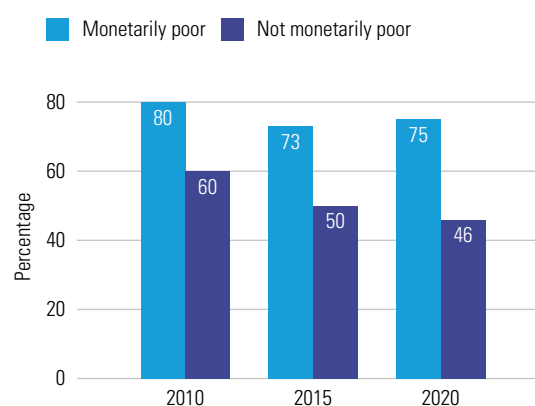
Figure 27: Trends in nutrition deprivation by district in Zanzibar, 2010–2020

Note: The 2015 and 2020 data for Magharibi A and Magharibi B have been merged in this graph, as in the 2009/10 HBS the two separate districts had not been created yet.

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Figure 28: Nutrition dimension: percentage of children in Zanzibar deprived, by district, 2020

Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

Figure 29: Trends in nutrition deprivation by monetary poverty status in Zanzibar, 2010–2020

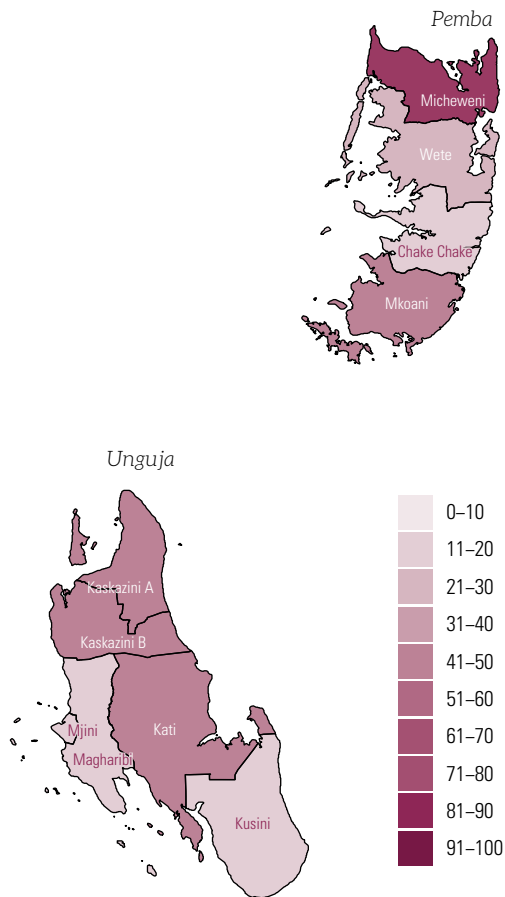
Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Improvements across all three HBSs were observed in Kati, Wete, Kusini and Mjini – with Kusini having the lowest level of nutrition deprivation in 2020, at 28 per cent. Three districts had deprivation rates above 70 per cent in 2020 (Micheweni 86 per cent, Mkoani 73 per cent and Kaskazini B 73 per cent). Indeed, deprivation in Micheweni has stagnated, appearing to increase from 84 per cent in 2010 to 86 per cent in 2020.

Nutrition deprivation by monetary poverty status

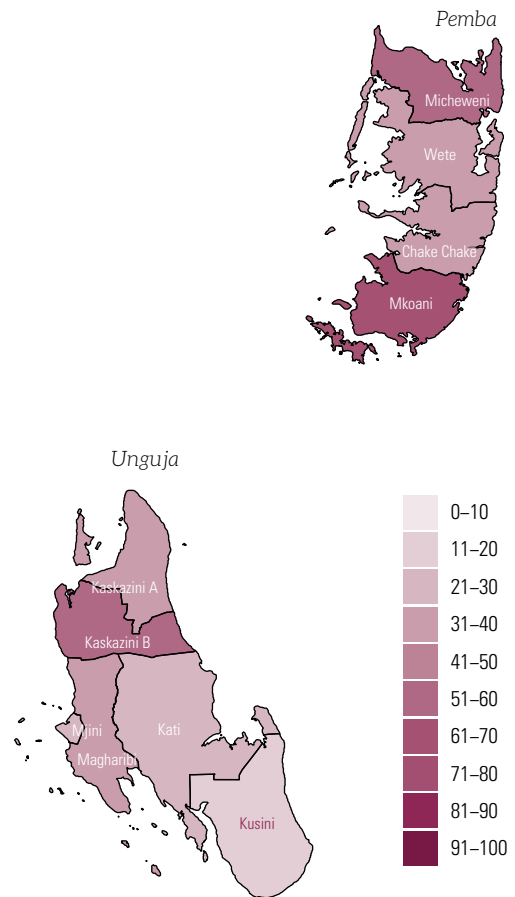
Figure 29 shows the overlaps between monetary poverty and nutrition deprivation in Zanzibar. As one would expect, the overlap is high, with over 70 per

Figure 30: Meal frequency: percentage of children in Zanzibar deprived, by district, 2020



Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

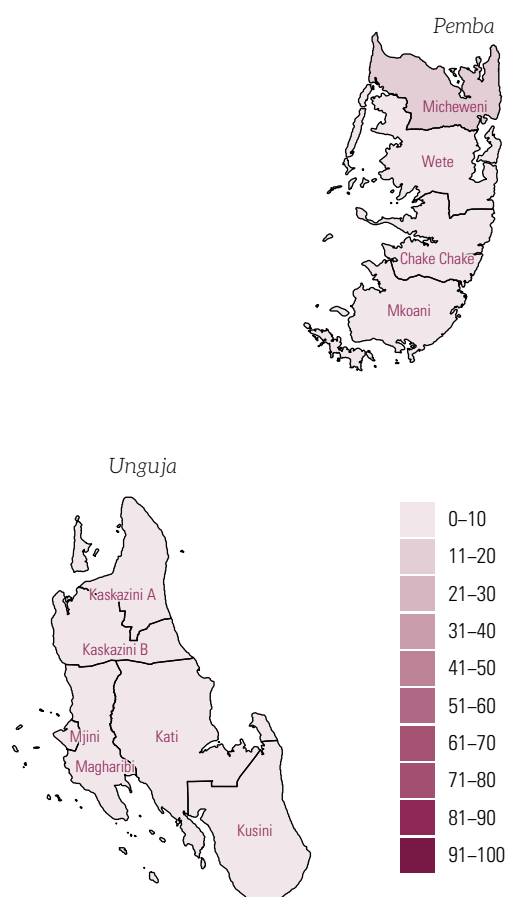
Figure 31: Food insecurity: percentage of children in Zanzibar deprived, by district, 2020



Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)



Figure 32: Dietary diversity: percentage of children in Zanzibar deprived, by district, 2020



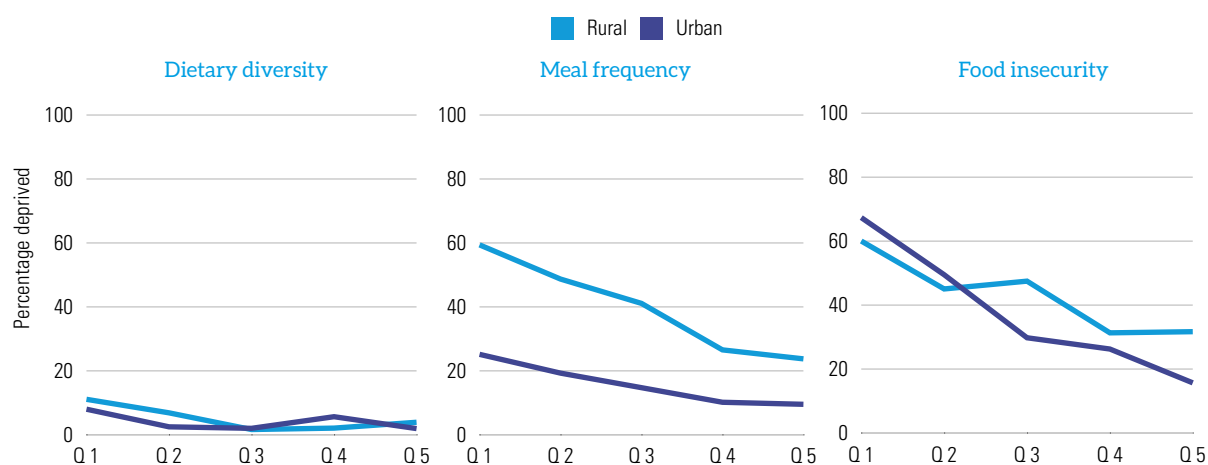
Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

While there is not much difference between urban and rural areas in terms of food insecurity, meal frequency deprivation is much higher in rural than in urban areas.

cent of the monetarily poor children being deprived in the nutrition dimension across all three survey years. The reduction, from 80 per cent to 75 per cent, shows little to no progress has been made in tackling this important issue among the monetarily poor. The larger decline in nutrition deprivation among the monetarily not-poor means the degree of inequality between these two groups has widened, from around 1.3 (80/60), to around 1.6 (75/46).

Given how consumption is computed, we expect a strong overlap between nutrition indicators and consumption quintiles, but it is nevertheless useful to explore the relationship between these. Figure 33 shows that as of 2020, levels of dietary diversity deprivation are very low (following a considerable decrease from 2010) and nutrition deprivation is now primarily driven by food insecurity and meal frequency indicators, which are strongly correlated with overall consumption levels. While there is not much difference between urban and rural



Figure 33: Percentage of children deprived in each indicator by household consumption quintile in Zanzibar, 2020

Note: Quintile 1 = poorest; quintile 5 = richest

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

areas in terms of food insecurity, meal frequency deprivation is much higher in rural than in urban areas.

3.6 Trends in deprivation in the communication dimension

Measures of MD poverty have increasingly incorporated indicators to reflect both information and communication dimensions. The ability of households and children to access sources of information is critical for education and, as the pandemic has shown, health. Technological developments like mobile telephones and increasingly cheaper means of communication, like computers, enable communities to access sources of information like the internet and to communicate widely and quickly.

To facilitate comparability over time, the MODA presented here only uses data to report trends in the communication dimension – namely, whether households own a landline or mobile telephone. Data on computers were collected in the HBS, but it was unclear whether households had access

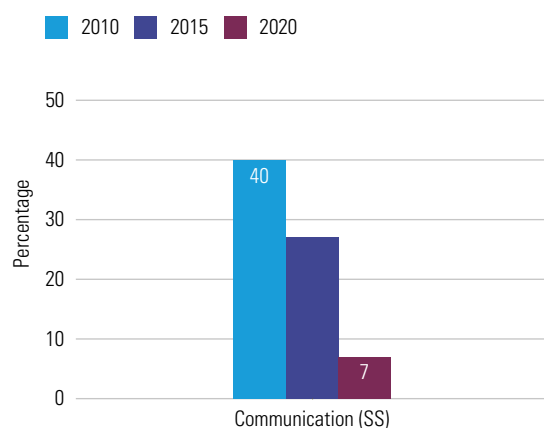
to the internet, thus obfuscating the meaning of a household's capacity to 'communicate' using a computer. As such, deprivation in the communication dimension is based on whether a household had or lacked either a landline or mobile telephone.¹⁹ Given the nature of the indicator (ownership) and the spread of cheap mobile phones, it is no surprise that overall deprivation in this dimension declined as far and as fast as it did, from 40 per cent to 7 per cent between 2010 and 2020 (Figure 34).

Communication deprivation by place of residence

Notably, in 2020, there were small differences between urban and rural deprivation rates (Figure 35). In 2010, over half of rural children were deprived, compared to 21 per cent of urban children; in 2015, these rates had dropped to 29 per cent and 24 per cent, respectively, and by 2020 to 8 per cent and 5 per cent, respectively, indicating a clear narrowing of the differences in access to communication between urban and rural areas.

¹⁹ Previous MODA analyses also included an information dimension, which identified households without television, books and radio. Following wider technological advancements and the general increase in access to the internet and online learning materials, it could be argued that this indicator *as originally designed* is not comparable across time and is now of limited value in meaningfully reflecting access to information. Household survey data, while containing information about the possession of books, do not specify if these are for children.

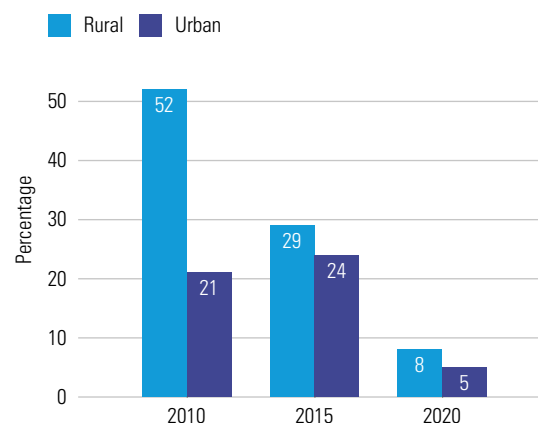
Figure 34: Percentage of children deprived in the communication dimension indicators in Zanzibar, 2010–2020



Note: SS = Statistically significant change between 2010 and 2020 ($p < 0.001$).

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Figure 35: Trends in communication deprivation by place of residence in Zanzibar, 2010–2020



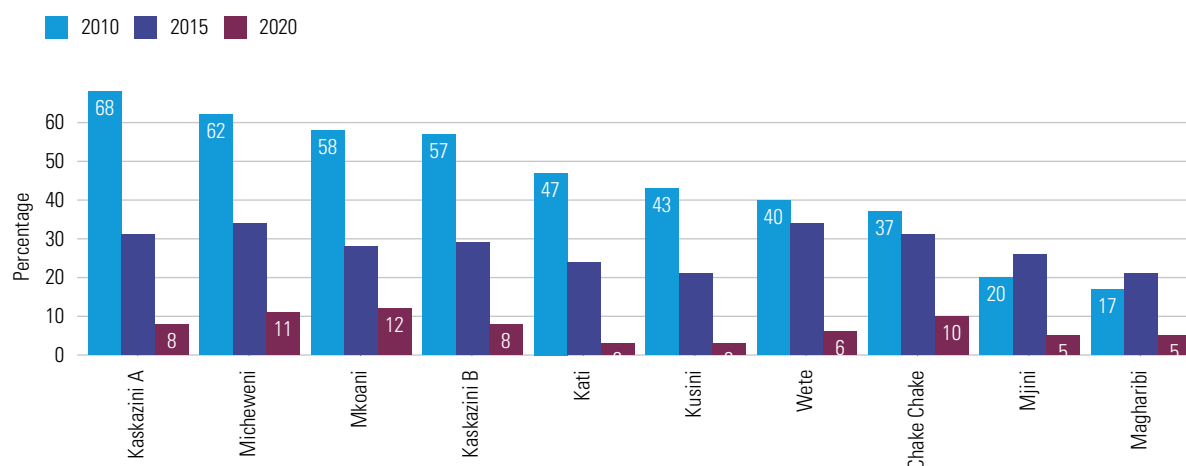
Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Communication deprivation by district

A similar steady decline in communication deprivation was evident across all districts in Zanzibar and by 2020 only three (Chake Chake, Mkoani and Micheweni) had deprivation rates at or just above 10 per cent (Figure 36); this is in sharp contrast

to 2010, when 8 of the then 10 districts had rates above 35 per cent. Rates in Mjini and Magharibi A & Magharibi B have historically been the lowest, but this was no longer the case in 2020, when Kati and Kusini showed the lowest rates of deprivation in the communication dimension.

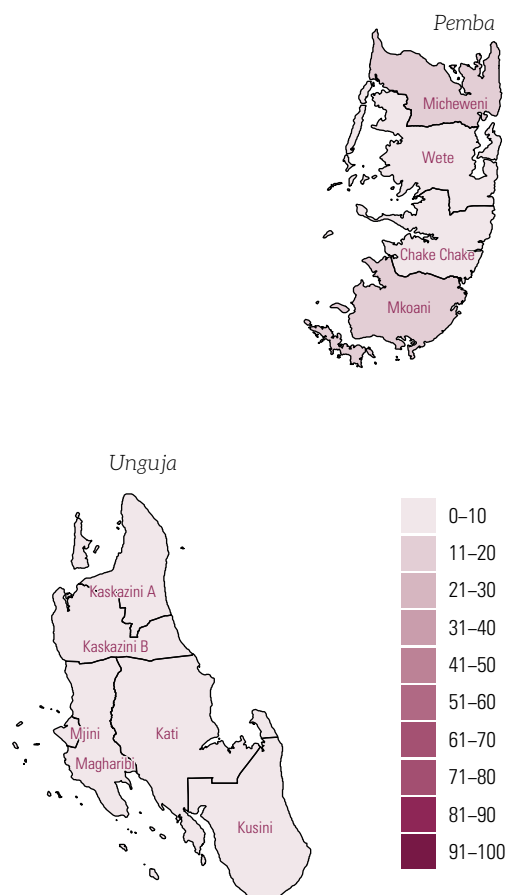
Figure 36: Trends in communication deprivation by district in Zanzibar, 2010–2020



Note: The 2015 and 2020 data for Magharibi A and Magharibi B have been merged in this graph, as in the 2009/10 HBS the two separate districts had not been created yet.

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Figure 37: Communication dimension: percentage of children in Zanzibar deprived, by district, 2020

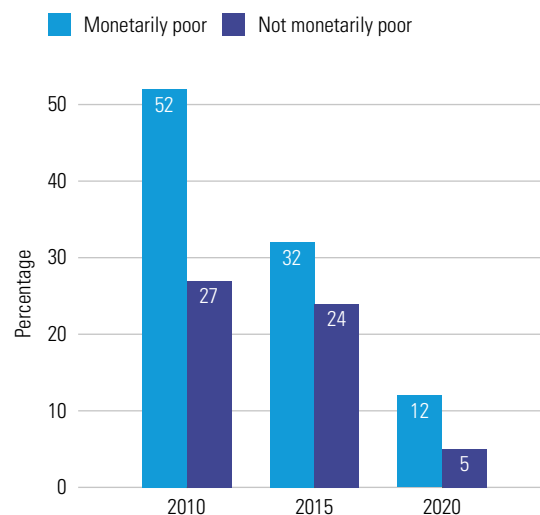


Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

Communication deprivation by monetary poverty status

Although communication deprivation is higher among the monetarily poor, similar rates of progress in reducing deprivation can be observed with regard to both the monetarily poor and the not poor (Figure 38). In 2010, over of half the poor were also communication-deprived, but this dropped to 32 per cent in 2015 and 12 per cent in 2020. In 2020, around 1 in 20 not-poor children in Zanzibar were also communication-deprived, suggesting that coverage of technologies like mobile telephones is not yet universal.

Figure 38: Trends in communication deprivation by monetary poverty status in Zanzibar, 2010–2020



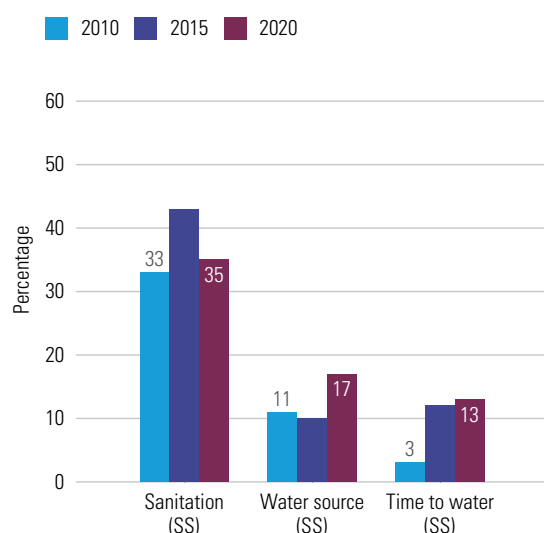
Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

3.7 Trends in deprivation in the water and sanitation dimension

Water and sanitation are critical basic services for all households and are particularly important for the health development of children and the prevention of waterborne diseases. Hygiene and basic sanitation were important elements in protecting people from the COVID-19 pandemic, and having user-friendly and functional hand hygiene stations on or near the dwelling is important. While sharing of water, sanitation and hygiene facilities is common in many places, particularly sources of water, it is important to consider the time taken to collect water from such sources and the implications of multiple households sharing sanitation facilities. The World Health Organization (WHO) and UNICEF have categorized water and sanitation facilities as either improved or unimproved and these definitions are used in this MODA report. Priority in developing the indicators has been placed on comparability and on reflecting deprivation in a meaningful sense. Three household-level indicators reflect this dimension:

1. The household's main source of water for drinking
 - where households using unimproved water

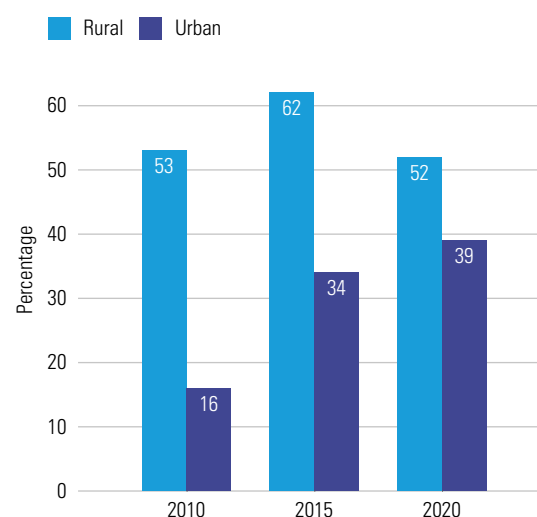
Figure 39: Percentage of children deprived of water and sanitation dimension indicators in Zanzibar, 2010–2020



Note: SS = Statistically significant change between 2010 and 2020 ($p < 0.001$).

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Figure 40: Trends in water and sanitation deprivation by place of residence in Zanzibar, 2010–2020



Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

- sources (e.g., rivers, dams or lakes, unprotected wells and/or springs) are counted as deprived.
- The time taken to collect water (i.e., reach the water source and come back) for the household – where households that take more than 30 minutes to collect water are counted as deprived.
 - Household sanitation facilities – where households using unimproved sanitation facilities (e.g., no facilities, seashore/bushes or open pit latrines without slabs) or shared facilities with other households are counted as deprived.

Children deprived in any of these three indicators were counted as deprived in the water and sanitation dimension. Overall, as shown in Figure 40, this dimension shows a clear lack of consistent progress across all three indicators and suffered an overall change from 39 per cent in 2010 to 47 per cent in 2020 (having peaked at 51 per cent in 2015). It is also worth unpacking this dimension by inspecting changes in the underlying indicators to further understand what is driving the worrying lack of progress. Across Zanzibar, the proportion of children who lacked access to improved sanitation increased from 33 per

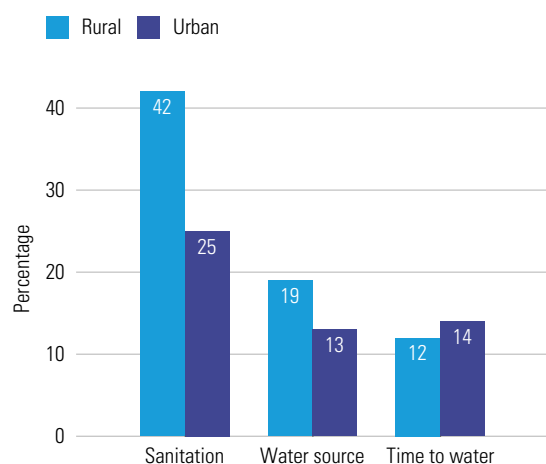
cent to 35 per cent between 2010 and 2020, the proportion of children who did not have access to improved sources of water increased from 11 per cent to 17 per cent and those who live in households more than 30 minutes to water increased from 3 per cent to 13 per cent. Therefore, it is worth exploring further the details behind these high levels of deprivation.

Water and sanitation deprivation by place of residence

As shown in Figure 15 (page 27), progress in tackling deprivation in this important dimension, which increased from 39 per cent in 2010 to 47 per cent in 2020, has not been as forthcoming as for other dimensions. As seen in Figure 40, between 2010 and 2020 there was little or no progress in reducing deprivation in rural areas, with a worsening situation between 2010 and 2015. By 2020, over half of all rural children in Zanzibar were deprived in the water and sanitation dimension.

In urban areas, the picture is one of a general worsening of deprivation, with rates more than doubling from 16 per cent in 2010 to 39 per cent in 2020. Such a finding contradicts what one would

Figure 41: Trends in water and sanitation deprivation indicators by place of residence in Zanzibar, 2020



Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

expect, although rapidly growing urban populations in areas where access to improved water sources and forms of sanitation are not available would contribute to a worsening of the situation. The level of investment required for changes to be seen in urban water and sanitation is considerable. This suggests the necessity for greater involvement by state or private providers to assist with the development and planning of necessary infrastructure development.

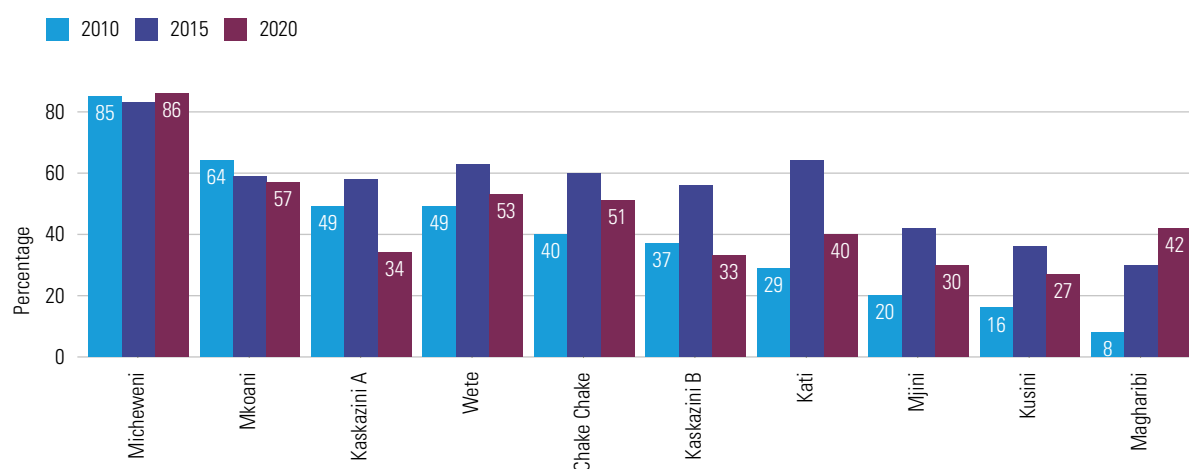
As shown in Figure 41, water and sanitation deprivation in both urban and rural areas is primarily driven by the sanitation indicator, although levels of deprivation in the time to collect water and water sources persist above 10 per cent in urban and rural households in 2020.

Water and sanitation deprivation by district

Trends in deprivation at the district level (Figure 42) essentially present a picture of high and persistent deprivation (e.g., Micheweni and Mkoani), or relatively low but worsening deprivation (e.g., Mjini and Magharibi A & Magharibi B). In 2020, 8 of the 11 districts had higher rates of deprivation than they did in 2010, and many of these spiked even higher in 2015. Deprivation rates in Magharibi A & Magharibi B in 2020 were more than five times higher than in 2010; these regions have been urbanizing at a rate of 4.4 per cent.

Trends in deprivation at the district level essentially present a picture of high and persistent deprivation.

Figure 42: Trends in water and sanitation deprivation by district in Zanzibar, 2010–2020

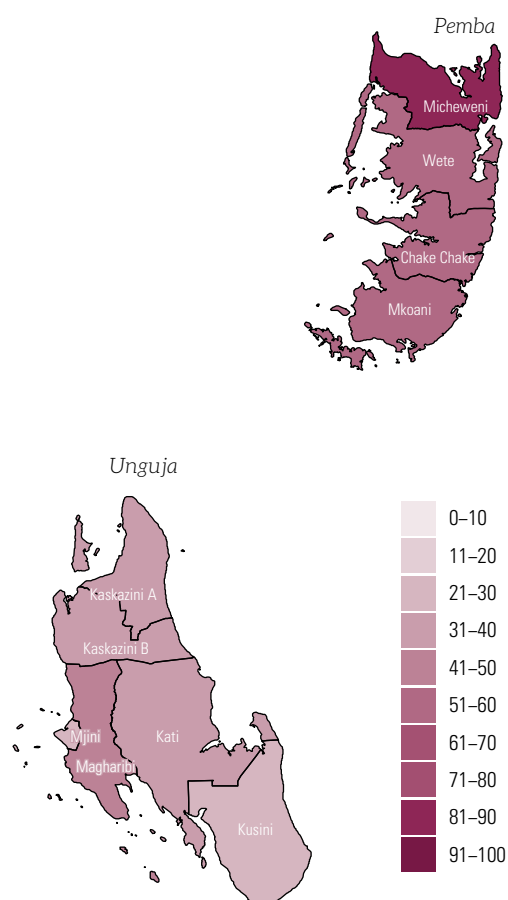


Note: The 2015 and 2020 data for Magharibi A and Magharibi B have been merged in this graph, as in the 2009/10 HBS the two separate districts had not been created yet.

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

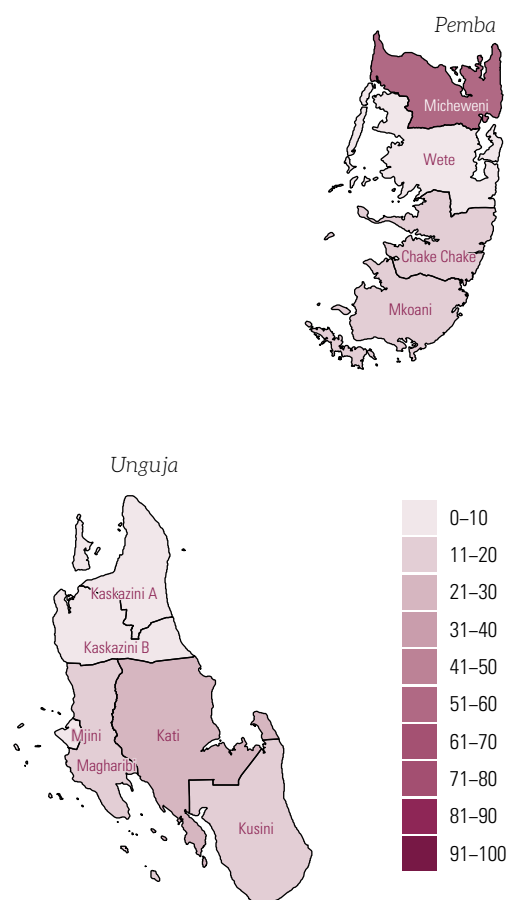


Figure 43: Water and sanitation dimension: percentage of children in Zanzibar deprived, by district, 2020



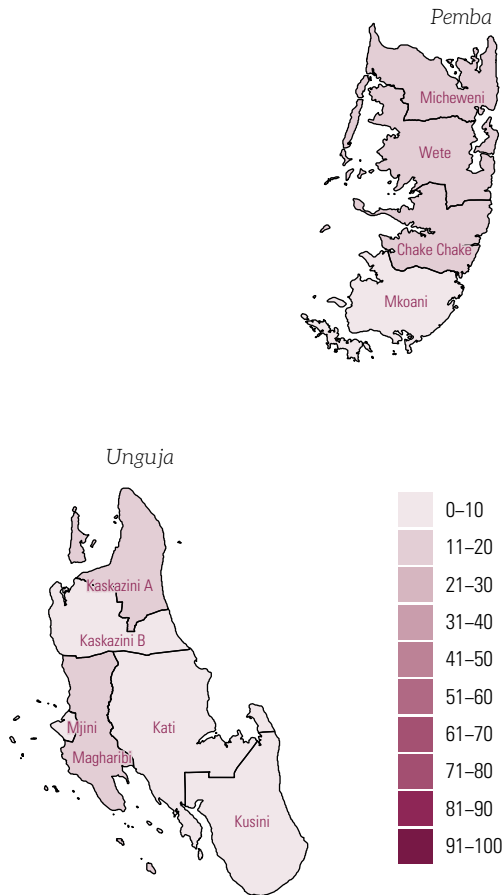
Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

Figure 44: Water source: percentage of children in Zanzibar deprived, by district, 2020



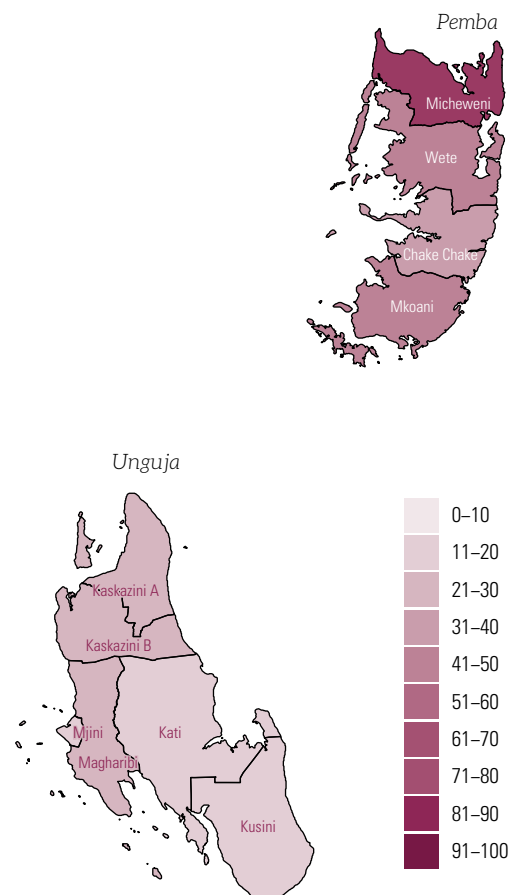
Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

Figure 45: Time to water: percentage of children in Zanzibar deprived, by district, 2020



Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

Figure 46: Sanitation: percentage of children in Zanzibar deprived, by district, 2020



Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

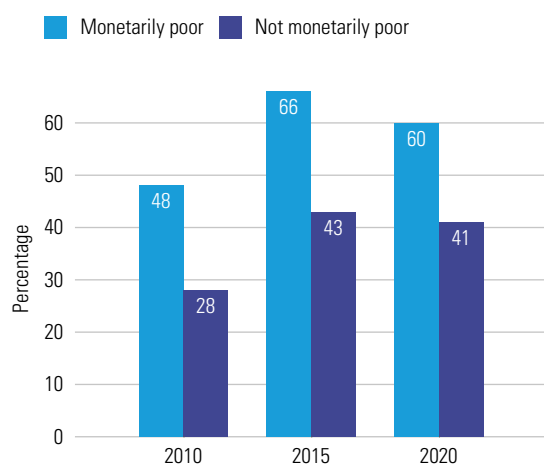
Water and sanitation deprivation by monetary poverty status

Examining overlaps between monetary poverty and deprivation in the water and sanitation dimension, it is clear from Figure 47 (page 45) that deprivation increased for both groups, more so for the monetarily not poor. The fact that 6 in 10 poor children and 4 in 10 non-poor children were deprived in this most important and basic of dimensions suggests a real need for improvement. The international SDGs are clear on what is expected by the target year of 2030, and for there to be apparent regression taking place across so many sections of Zanzibari society should be an area of concern.

Tackling this important problem is likely to involve considerable effort by the government. Figure 48 (page 45) shows the relationship between each water and sanitation dimension indicator and household consumption in urban and rural areas. It shows that the correlation between consumption (i.e., a proxy for household level of monetary and overall welfare) and the other indicators is less clear for water indicators in urban environments,²⁰ which appear to worsen for the richer quintiles in urban areas. This suggests that time for collecting water and water source deprivations are not easily overcome by better-off households and are likely to require investment in water infrastructure and planning. Furthermore, in urban areas, there does not

²⁰ Deprivation seems, if anything, to increase at higher levels of consumption in urban areas.

Figure 47: Trends in water and sanitation deprivation by monetary poverty status in Zanzibar, 2010–2020



Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

appear to be much difference between the poorest and richest quintiles.

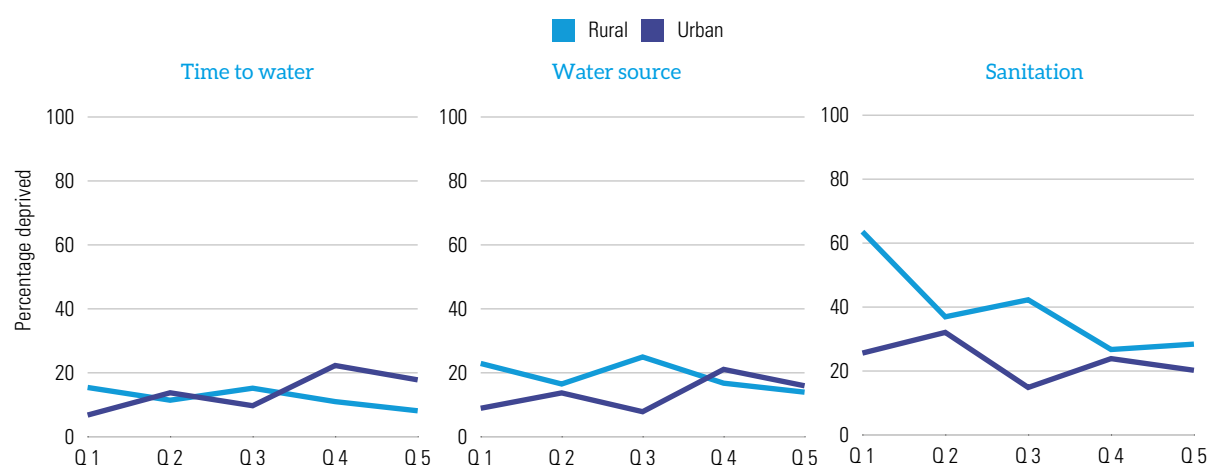
Regarding sanitation, Figure 49 (page 46) shows that in urban areas the majority (83 per cent) of children deprived, according to the sanitation indicator, shared improved toilets. In contrast, 43 per cent of sanitation-

deprived children in rural areas share an improved toilet and 49 per cent have the sole use of unimproved toilets. In other words, in rural areas, sanitation deprivation is driven by both sharing with one or more households and using unimproved toilets, whereas in urban areas, sanitation deprivation is mostly driven by sharing improved toilets with other households.

Finally, it is worth noting that 43 per cent of children in rural areas and 83 per cent in urban areas shared improved toilets. Counting shared improved sanitation facilities as deprivation may initially seem a way of overstating sanitation deprivation. However, this is in line with the water, sanitation and hygiene framework, and a recent analysis across 51 countries confirms that although the health implications of sharing an improved toilet between households may not be as severe as only having an unimproved toilet, the prevalence of issues like diarrhoea was 10 per cent lower in households with non-shared improved facilities than households with shared but otherwise improved facilities (Fuller et al., 2014). This is also in line with recent COVID-19 guidance on avoiding direct or indirect contact with other households.

As for access to improved water sources, previous reports (OCGS, 2020) have outlined that access to improved sources of water has remained high and relatively stable between 2010 and 2020.

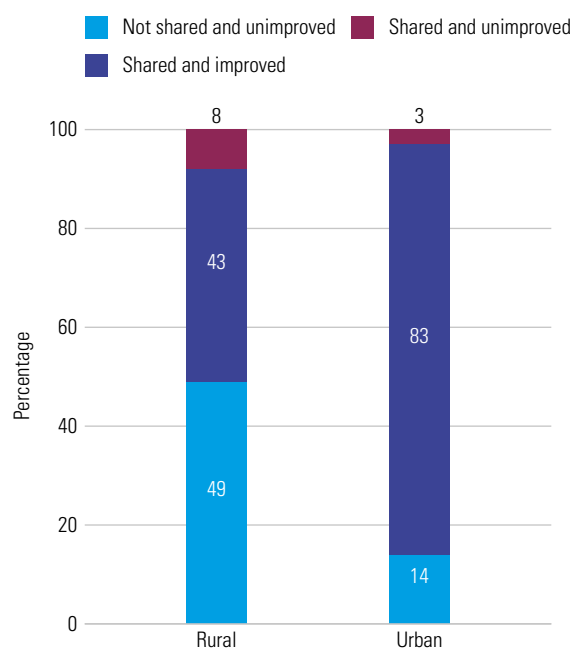
Figure 48: Percentage of children deprived in each water and sanitation indicator by consumption quintile in Zanzibar, 2020



Note: Quintile 1 = poorest; quintile 5 = richest

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Figure 49: Type of sanitation used by sanitation-deprived children in rural and urban households



Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Roughly 90 per cent of households have had access to either rainy or dry seasons during this period. We can corroborate these findings, yet the water source indicator used in this report takes a more careful approach by identifying children who have no access to improved sources in either dry or wet seasons as deprived. Further analysis of trends between 2015 and 2020 (not shown here) suggests that the increase in this more comprehensive type of water source deprivation has been driven by an increase in the percentage of children in both rural and urban areas who did not have access to improved sources in the rainy season (while having access in the dry season). This means that the overall percentage of children who have no access in either dry or rainy seasons has been low and unchanged, but the percentage of those who did not have access during the rainy season has increased. Although this might

be specific to a particular period or a problem with data comparability between HBSs,²¹ further research should be undertaken to make sure that reporting only coverage in either rainy or dry seasons currently used in Zanzibar does not hide differences in access to improved sources between the dry and rainy seasons.

3.8 Trends in deprivation in the education dimension

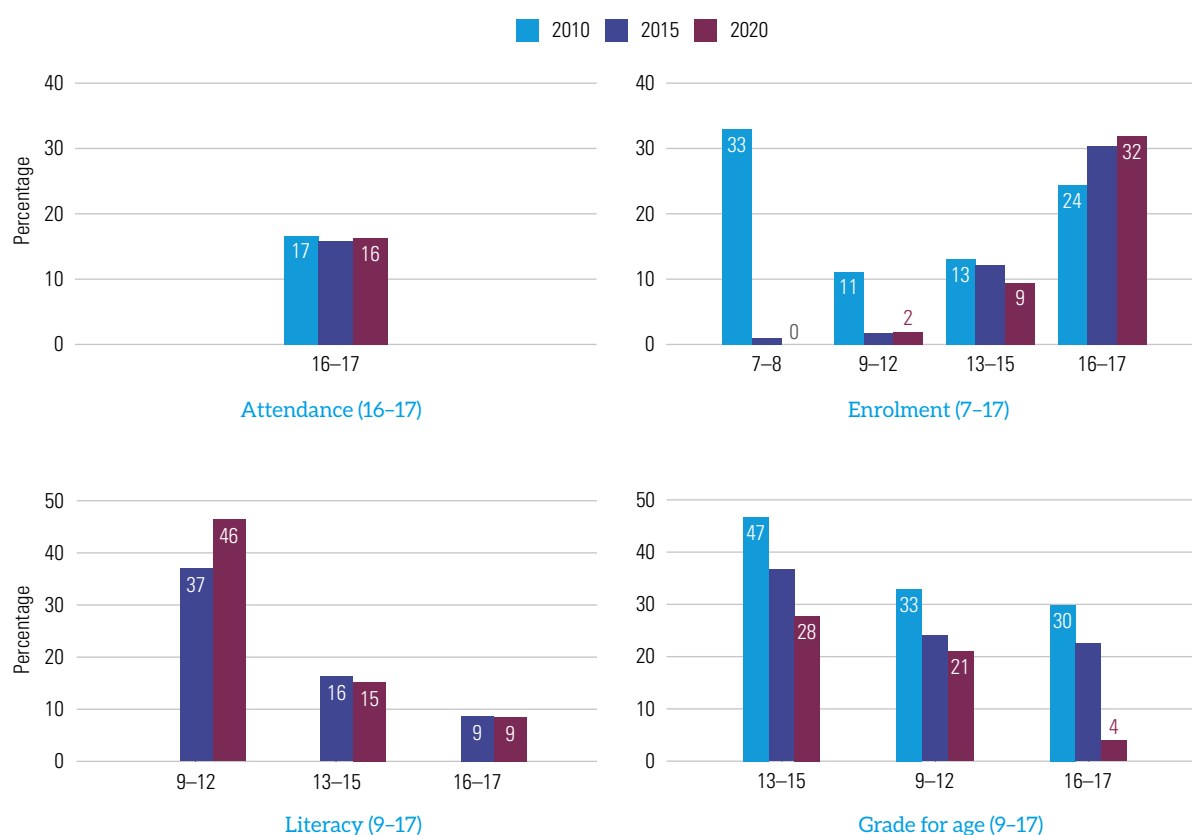
Children's rights to education are a fundamental part of their broader development and are enshrined in the United Nations Convention on the Rights of the Child. No measure of MD child poverty would be complete without reflecting on the educational needs and rights of children. In the past, measures of MD child poverty have used data on whether children have ever been in school, which although crude, provided some measure of contact with (basic) education. Researchers now recognize the importance of reflecting on the quality of education that children receive and whether what they are learning (especially in primary school) prepares them for later life. Unfortunately, data that would reflect the quality of education (e.g., teacher absence, ability to participate in school and afford appropriate school uniforms) is not available in the HBS.

In this MODA, four child-level indicators reflect deprivation in the education dimension. These are:

1. School enrolment: Whether a child of school age (i.e., between the ages of 7 and 17)²² was attending school, including pre-school for children).
2. School attendance: Whether older children (aged 16–17) had ever attended school.
3. Grade for age: Whether children between 9 and 17 years of age were more than two years over the regular/expected age for their current grade.
4. Child literacy: Whether children between 9 and 17 years of age were reported not to be able to read and write in any language or were not able to read a full sentence in either English or Swahili if tested. (It is important to note that data for this indicator were not collected in the 2010 HBS.)

²¹ The variables for rainy and dry seasons in the 2020 HBS (F4S5_Q10 and F4S5_Q11, respectively) do not seem to contain any respondents with access to piped water into dwellings.

²² To err on the side of caution, children under the age of 7 were not considered for this indicator because in some instances it was unclear whether the child was not in primary school due to their date of birth, errors in data collection or other reasons. All children between 7 and 17 are fully entitled to school in Zanzibar (regardless of the month they were born in) and therefore failure to be in school can be labelled as deprivation.

Figure 50: Percentage of children deprived in education indicators by age of children in Zanzibar, 2010–2020

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Children deprived in any one of these indicators were considered deprived in the education dimension. Figure 50 shows reductions in education deprivation indicators over the past 10 years. There has been a considerable increase in enrolment among younger pupils and a reduction in the percentage of children in school lagging in their education (the grade-for-age indicator). However, enrolment levels are much lower among older children; 13 per cent of 16- to 17-year-olds have never attended school and this issue has remained relatively unchanged over the past 10 years. Literacy levels have also remained relatively unchanged. This calls for greater investments in the quality of education and learning and there is some initial evidence that literacy deprivation for children between the ages of 9 and 12 increased from 37 per cent to 43 per cent ($p < 0.05$) between 2015 and 2020. Looking ahead, much will depend on whether the greater number of enrolled children will stay in school, which

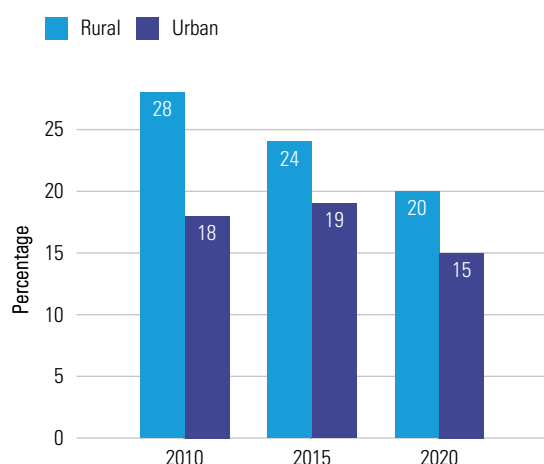
In both urban and rural areas female children had lower rates of attendance deprivation and grade-for-age deprivation.

will likely lead to lower literacy deprivation among older children.

Education deprivation by place of residence

Based on individual child-level data on education deprivation (Figure 51, page 48), there has been some progress in Zanzibar between 2010 and 2020. In rural areas, deprivation rates fell consistently from 28 per cent in 2010 to 20 per cent in 2020 – leaving one in five rural children deprived. Progress in urban areas was less pronounced than in rural areas, with little

Figure 51: Trends in education deprivation by place of residence in Zanzibar, 2010–2020



Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

or no change between 2010 and 2015 and a fall from 19 per cent in 2015 to 15 per cent in 2020.

This is primarily because attendance and enrolment deprivation were already considerably lower in urban areas in 2010, as shown in Figure 52. Urban and rural areas show relatively similar trajectories, but the

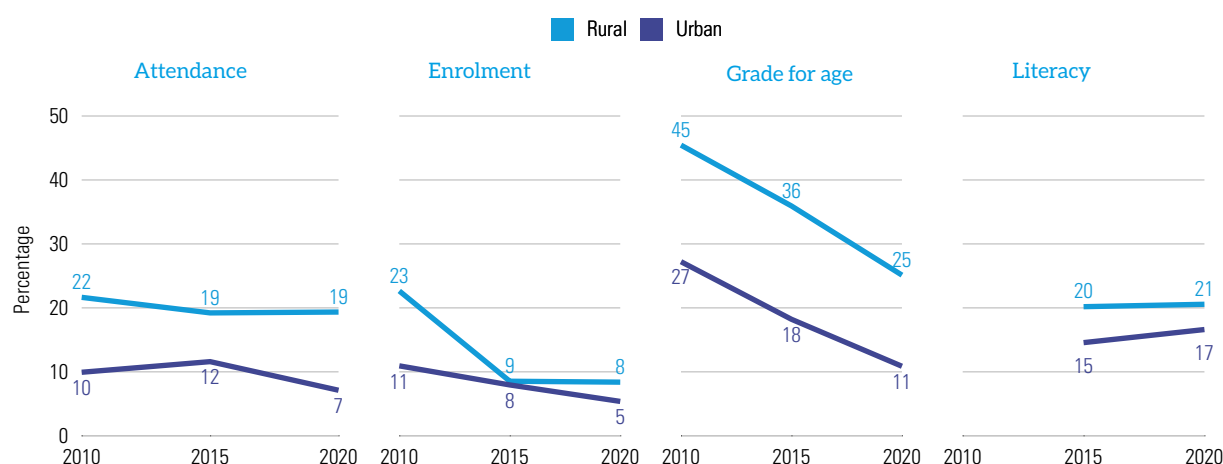
absolute prevalence change has been greater in rural areas, which had much higher levels of deprivation in 2010. Differences between urban and rural areas have narrowed, but there is still a considerable gap in attendance and grade-for-age deprivation, which remain high in rural areas (20 per cent and 25 per cent, respectively) and considerably lower in urban areas (7 per cent and 11 per cent, respectively).

The education dimension is also the only one where we see considerable differences according to the sex of the child.²³ As shown in Figure 53 (page 49), although the overall trends were similar for boys and girls, in both urban and rural areas female children had lower rates of attendance deprivation and grade-for-age deprivation.

Education deprivation by district

Changes in education deprivation across the 11 districts of Zanzibar show a mixed pattern by district (Figure 54). In some districts (Mkoani, Kaskazini A, Kaskazini B, Chake Chake and Magharibi A & Magharibi B), there were steady decreases across all three survey years. Only Mjini and Kusini decreased between 2015 and 2020, followed by an increase between 2010 and 2015. In Wete, after an initial decrease between 2010 and 2015, education deprivation remained unchanged between 2015 and 2020.

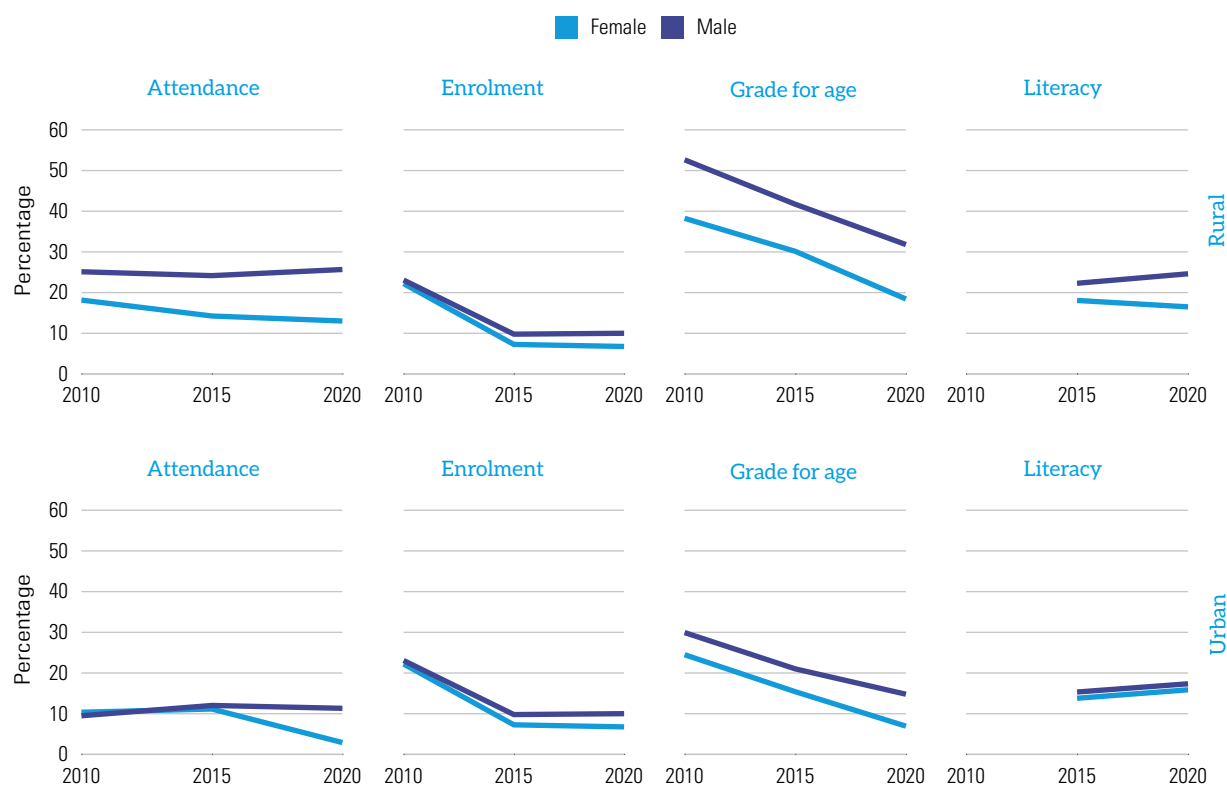
Figure 52: Percentage of children deprived of each education indicator in Zanzibar, 2010–2020



Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

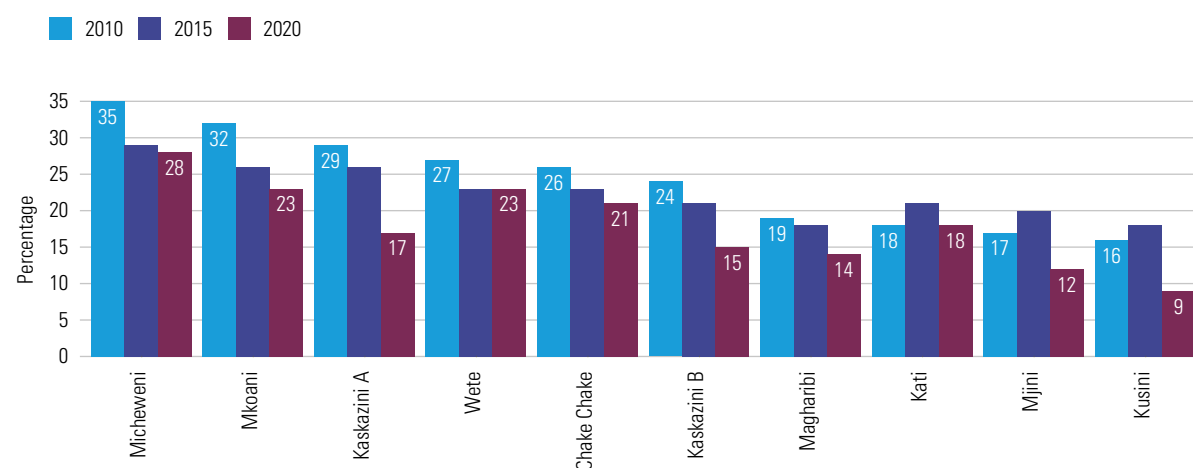
²³ This is also because the majority of indicators used in this report are at household level.

Figure 53: Percentage of male and female children deprived in each education indicator in rural and urban households in Zanzibar, 2010–2020



Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

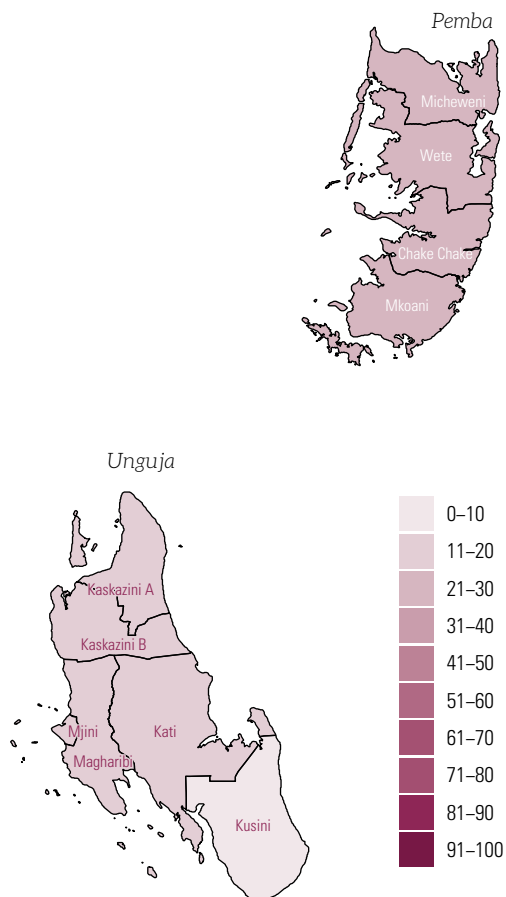
Figure 54: Trends in education deprivation by district in Zanzibar, 2010–2020



Note: The 2015 and 2020 data for Magharibi A and Magharibi B have been merged in this graph, as in the 2009/10 HBS the two separate districts had not been created yet.

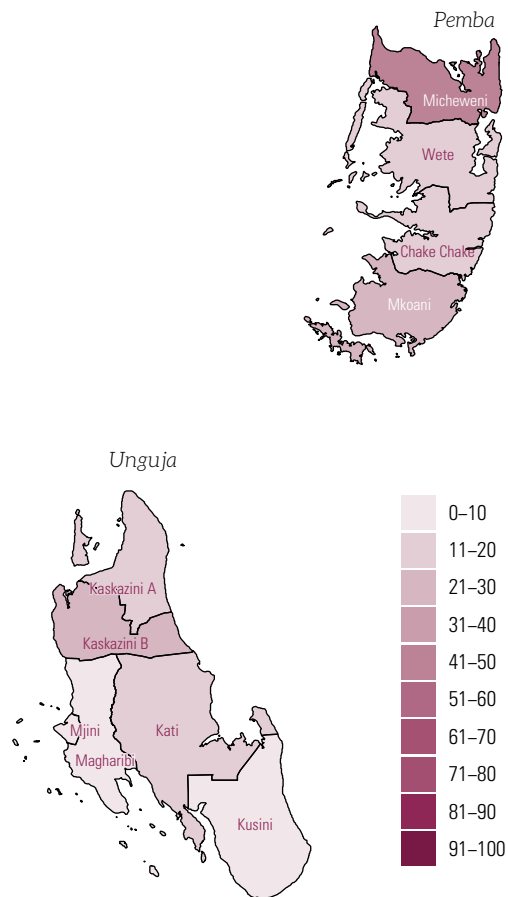
Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Figure 55: Education dimension: percentage of children in Zanzibar deprived, by district, 2020



Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

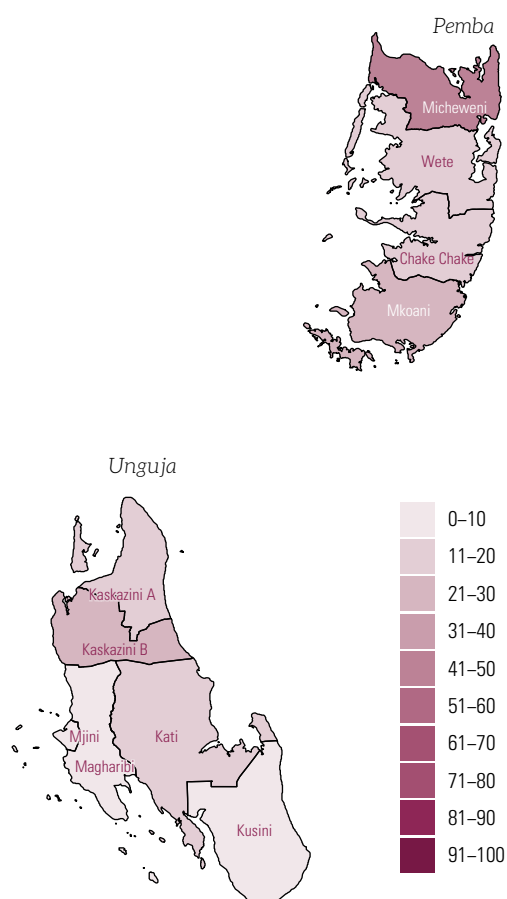
Figure 56: Attendance: percentage of children in Zanzibar deprived, by district, 2020



Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

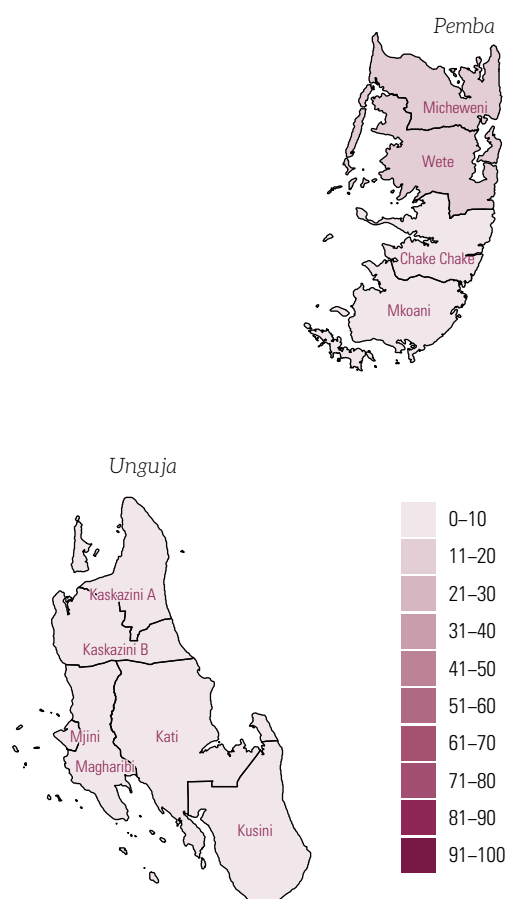


Figure 57: Enrolment: percentage of children in Zanzibar deprived, by district, 2020



Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

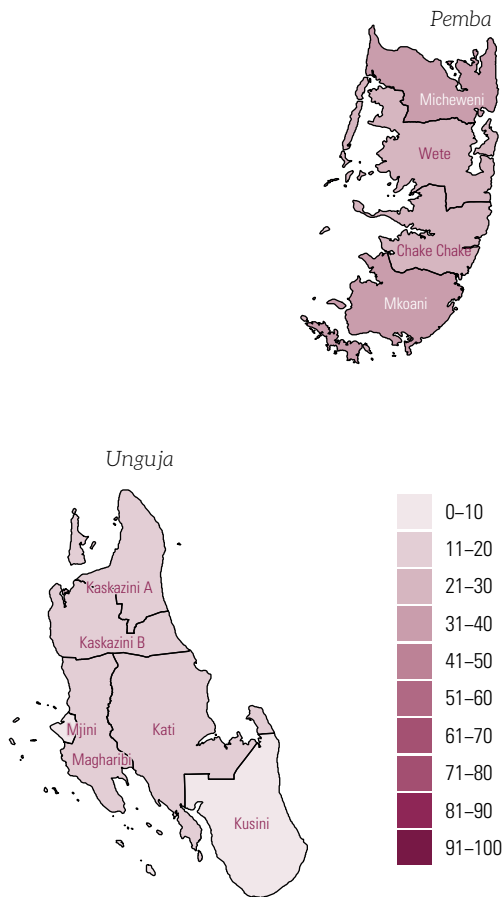
Figure 58: Literacy: percentage of children in Zanzibar deprived, by district, 2020



Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

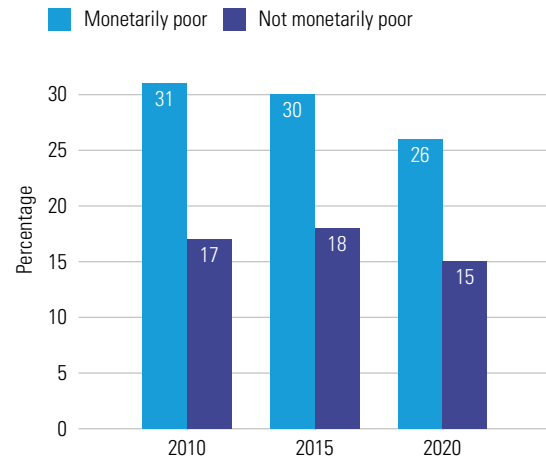


Figure 59: Grade for age: percentage of children in Zanzibar deprived, by district, 2020



Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

Figure 60: Trends in education deprivation by monetary poverty status in Zanzibar, 2010–2020



Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Education deprivation by monetary poverty status

In terms of overlaps between monetary poverty and education deprivation (Figure 60), there appears to have been little change between 2010 and 2015 for children identified as monetarily poor, with rates persisting at around 30 per cent in both 2010 and 2015. These fell to 26 per cent in 2020, meaning one in four poor children remain deprived in the education dimension. Meanwhile, 15 per cent of non-poor children in Zanzibar were also education-deprived in 2020, following a smaller reduction from 17 per cent in 2010.



3.9 Trends in deprivation in the protection dimension

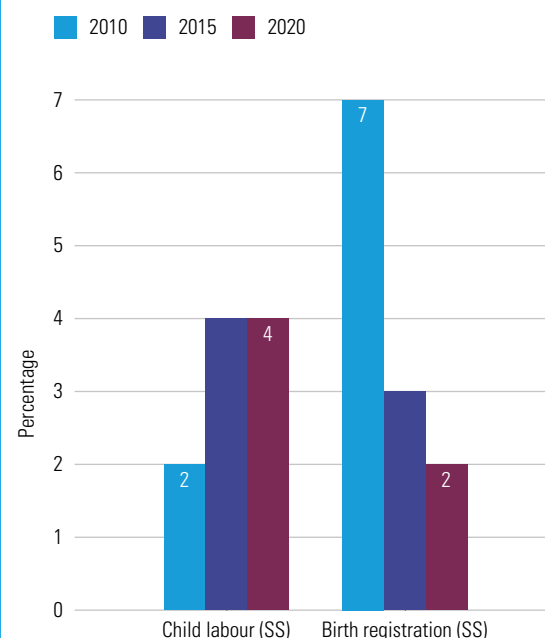
The United Nations Convention on the Rights of the Child makes clear that children have the right to protection. This MODA report considers deprivation in this dimension using two sub-component indicators with child-level data:²⁴

1. Birth registration: Whether a child's birth has been formally registered and/or parents reported that they had a birth certificate.
2. Child labour: Whether a child (under 18 years of age) was economically active or absent from school as a result of having to work.

As with other dimensions, children deprived in either sub-component are counted as deprived in the dimension. Birth registration deprivation decreased from 7 per cent to 2 per cent between 2010 and 2020, whereas child labour increased from 2 per cent to 4 per cent (Figure 61).

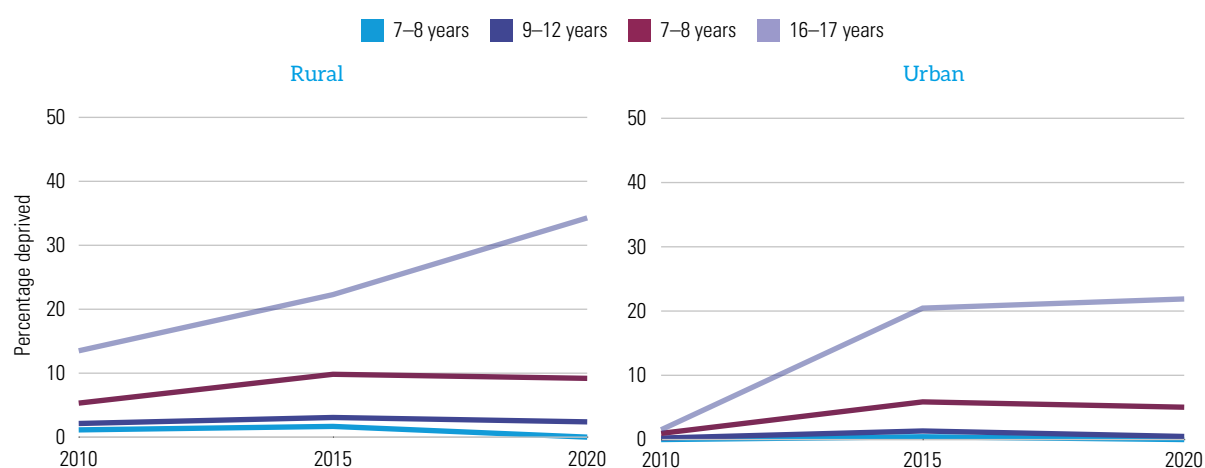
This general trend, however, hides considerable differences between age groups. Work engagement levels have remained relatively low among very young children but have increased considerably among older children (16- to 17-year-olds) living in both urban and rural areas (Figure 62). This finding tallies

Figure 61: Percentage of children deprived of the protection indicators in Zanzibar, 2010–2020



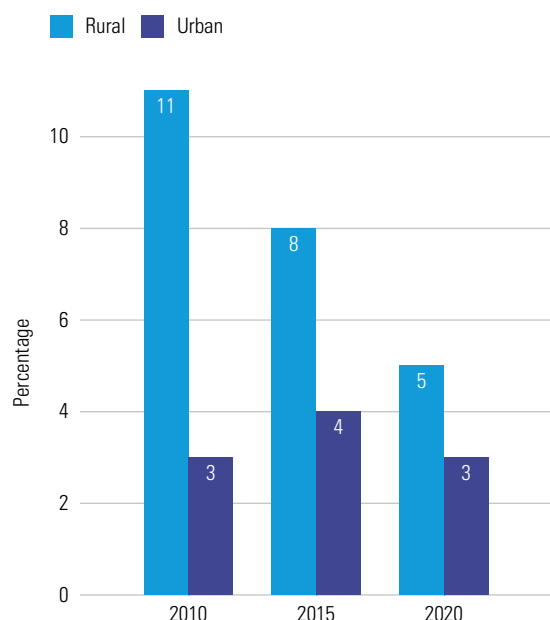
Note: SS = Statistically significant change between 2010 and 2020 ($p < 0.001$).
Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Figure 62: Percentage of children whose main activity is paid work or who missed school owing to work (child labour deprivation) in Zanzibar, 2010–2020



Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

²⁴ A third indicator was considered – that of early marriage. This was not included in the final dimension indicator because of very low numbers of early marriage among children under 18 years of age (below 5 per cent). Such low rates mean examination of overlaps with other dimensions and with monetary poverty will not be reliable. While this is clearly an important issue, more meaningful analyses are probably best done on older adults to see how early marriage may have affected their prospects.

Figure 63: Trends in protection deprivation by place of residence in Zanzibar, 2010–2020

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

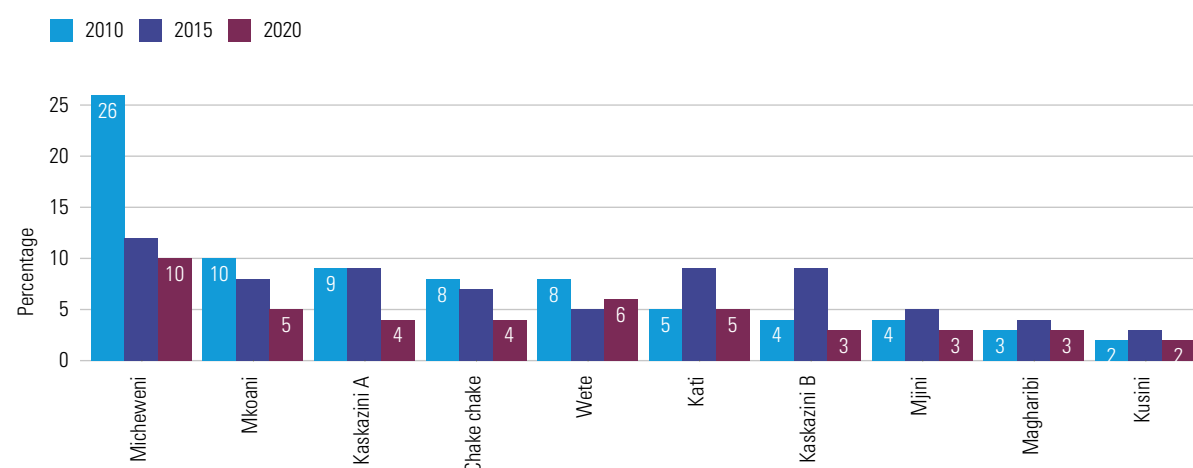
with the results in the education dimension because of the strong overlap between child labour and school enrolment.²⁵

Protection deprivation by place of residence

This dimension is one for which prevalence is low in both urban and rural areas with the latter seeing sustained reductions between 2010 and 2020 (see Figure 63). In 2020, 11 per cent of rural children and 3 per cent of urban children were deprived, showing that recent programmes to encourage families to register children's births have been successful. Data from the HBS confirm information from the 2015/16 DHS, which showed that 97 per cent of children under 5 years of age in Zanzibar had their births registered (MoHCDGEC, 2016).

Protection deprivation by district

Figure 64 shows the level of deprivation across districts in Zanzibar. One district in particular (Micheweni) was an outlier in 2010, with over a quarter of children deprived in the protection dimension, but this had fallen to 10 per cent in 2020. Despite this impressive reduction, Micheweni

Figure 64: Trends in protection deprivation by district in Zanzibar, 2010–2020

Note: The 2015 and 2020 data for Magharibi A and Magharibi B have been merged in this graph, as in the 2009/10 HBS the two separate districts had not been created yet.

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

²⁵ It is worth noting that the trends for these two indicators are not the same, as there is still a minority of children who are engaged in child labour while also attending school, according to the household head.

remained the district with the highest prevalence of deprivation in 2020, with a rate twice that of the next highest (Mkoani). This is due to high rates of both child labour and birth certificate deprivation (see Figure 78 in Appendix 3). In no district of Zanzibar were deprivation rates higher in 2020 than in 2015, suggesting progress has been maintained and sustained.

Protection deprivation by monetary poverty status

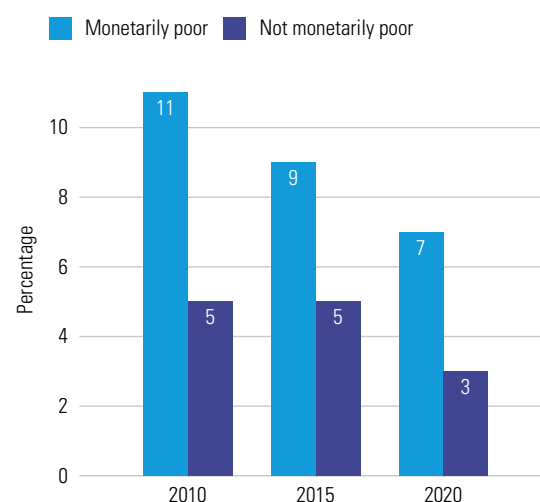
Regarding the overlap with monetary poverty status, both poor and non-poor children have seen improvements, with less than 10 per cent of children in both groups deprived in 2020 (Figure 65).

3.10 Trends in deprivation in the health dimension

As with nutrition and education, ensuring children are not deprived in the health dimension is an important part of any measure of MD child poverty. There are several ways health deprivation could be presented, e.g., through limited or no access to health services owing to a lack of availability, or because households cannot afford to use them. In some instances, health services may be considered culturally inappropriate or not desirable, thus limiting demand, e.g., gender restrictions between patients and providers and the reluctance shown in some communities to accept vaccinations via the Expanded Programme on Immunization (see MacDonald, 2015).

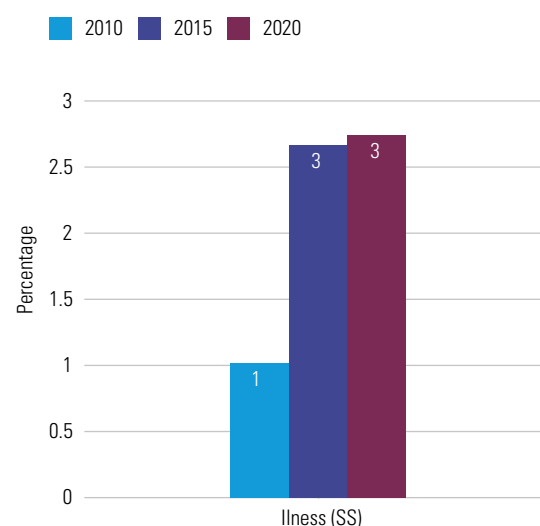
For this MODA report, the comparability of data to assess health deprivation across each round of the HBS was a challenge. Having considered several options (see Chapter 2), a decision was made to use a single comparable indicator based on child-level data which showed whether a child who had had a recent illness²⁶ failed to receive medical care or advice, or had only received care from a traditional healer (Figure 66). The selection of this indicator is not intended to underplay the value and knowledge of traditional healers, but rather is designed to reflect the unmet needs for more formal health-care systems. While it is low at 3 per cent in 2020, a gradual increase in deprivation over time in the

Figure 65: Trends in protection deprivation by monetary poverty status in Zanzibar, 2010–2020



Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

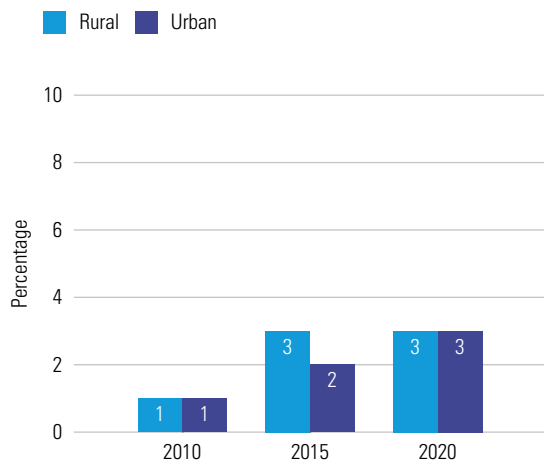
Figure 66: Percentage of children deprived of the health indicators in Zanzibar, 2010–2020



Note: SS = Statistically significant change between 2010 and 2020 ($p < 0.001$).

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

26 These included illnesses like malaria, diarrhoea, anaemia, pneumonia, eye or skin diseases and accidents.

Figure 67: Trends in health deprivation by place of residence in Zanzibar, 2010–2020

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

health dimension between 2010 and 2015 and then remaining unchanged between 2015 and 2020 is cause for concern.

Health deprivation by place of residence

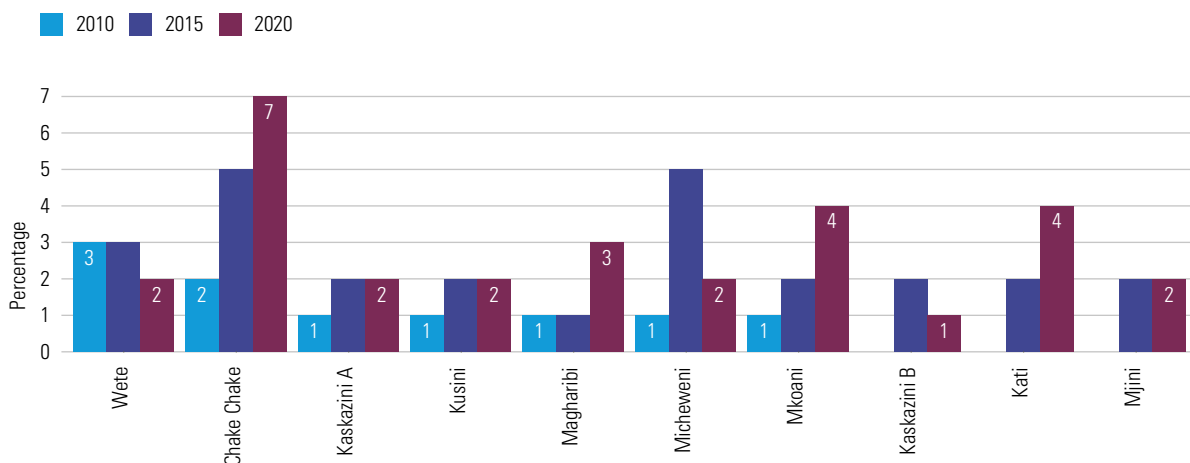
Figure 65 shows that regarding the health dimension, children across Zanzibar fare extremely well – in both urban and rural areas – with almost universal access to health care when required.



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Health deprivation by district

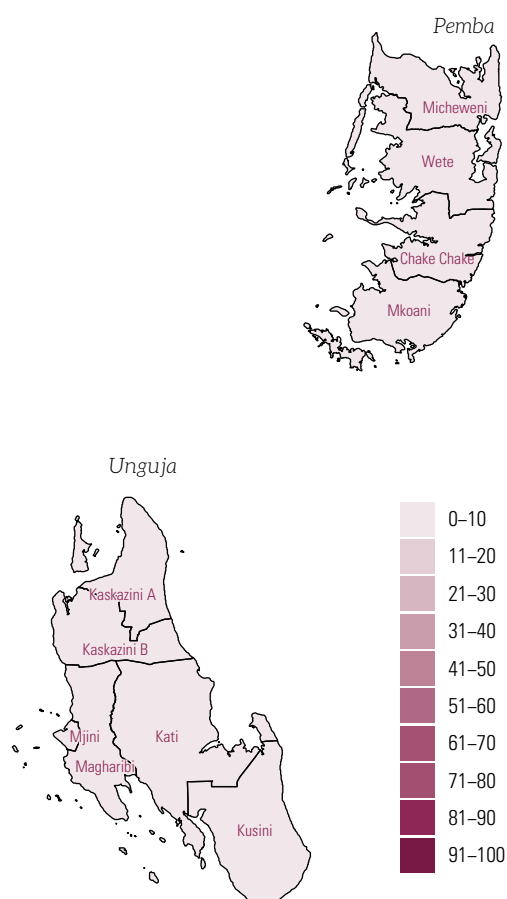
When considering health deprivation across districts, a more fragmented pattern emerges (Figure 68), with the district of Chake Chake, where 7 per cent of children are deprived, appearing as an outlier. Except for Wete, Micheweni and Kaskazini B, all districts indicate an increase in health deprivation. However, overall, health deprivation across Zanzibar remains low, at least as measured in this MODA report.

Figure 68: Trends in health deprivation by district in Zanzibar, 2010–2020

Note: The 2015 and 2020 data for Magharibi A and Magharibi B have been merged in this graph, as in the 2009/10 HBS the two separate districts had not been created yet.

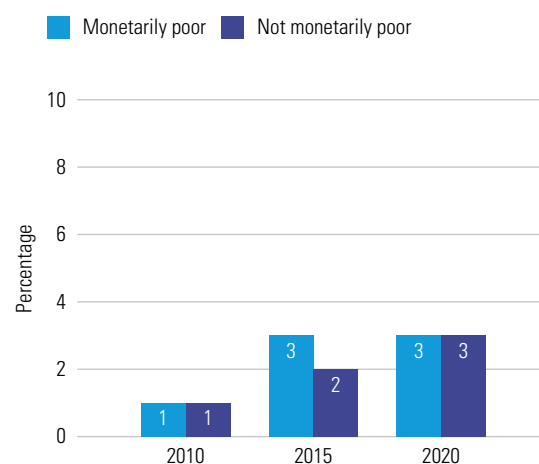
Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Figure 69: Health dimension: percentage of children in Zanzibar deprived, by district, 2020



Source: Authors' calculations using HBS 2019/20 (OCGS, 2020)

Figure 70: Trends in health deprivation by monetary poverty status in Zanzibar, 2010–2020



Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Health deprivation by monetary poverty status

Also impressive with regard to achievements in the health dimension is the apparent lack of difference between monetarily poor and not-poor children, where both groups had rates of 3 per cent in 2020 (Figure 70). This suggests an effective universality of access for all children in Zanzibar, albeit with questions to be asked of the Chake Chake district, where deprivation rates are twice those of the other districts.



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4 Patterning of deprivation in Zanzibar, 2020

The previous chapter presented trends in deprivation between 2010 and 2020 across seven dimensions which make up this comparative 2010–2020 MODA report. It presented the overlaps between each dimension and monetary poverty for each year (Figure 14 (page 26)), showing that in general, large proportions of monetarily non-poor children are deprived in one or more dimensions.

This confirms earlier work by UNICEF and other researchers (OCGS and UNICEF, 2019) that suggests that MD poverty can complete and inspire different aspects that are not exposed by traditional monetary poverty measures, and that many children and their families lack sufficient resources to avoid harmful deprivation, particularly with regard to housing, water and sanitation, and nutrition. It also showed the disparities between urban and rural areas of Zanzibar and across the individual districts.

Chapter 4 focuses on the patterning of deprivation in Zanzibar in 2020, across household- and individual-level characteristics. Household-level characteristics include information on the head of household, such as their age, sex, marital status and level of education (a proxy measure of socioeconomic status) and the household monetary poverty status. An indicator of household type is also presented, based on the numbers of adults and children in the household; this is important as it breaks household composition down into policy-relevant groups, showing what types



of households are vulnerable or at risk from certain deprivations, e.g., a single parent/adult with more than one child. Child-level characteristics used include their age, sex and parental vital status (alive, dead or living away), whether the child reports a disability,²⁷ and whether the child is an orphan or vulnerable child. Note that data on certain dimensions are based on household-level data, so this may mask intra-household inequalities, if present. Where dimensions are based on individual-level data (e.g., education, protection and health), sex and other disparities may be observed more clearly.

Table 5 (page 61) shows the prevalence of child deprivations according to household-level characteristics.

Table 6 (page 62) shows interesting patterns when child deprivation is looked at through the characteristics of individual children. One would not expect there to be significant differences based on age (or sex) for dimensions assessed at the household level (e.g., housing), but younger children (aged under 2) are more likely to be housing-deprived – due, most likely, to their having younger parents (and younger household heads, who we saw previously as being the most likely to be housing-deprived). Sex differences were only apparent with regard to education deprivation, with boys (21 per cent) more likely than girls (15 per cent) to be deprived. This is further unpacked in Chapter 3.8 (see Figure 53, page 49).

Parental vital status shows a more varied relationship across all dimensions, with children who have only their mother alive more likely to be deprived in the nutrition, education and communication dimensions. The loss of a parent for any child is traumatic and linking information about the parental vital status and the risk of deprivation is important, especially when it means the balance of adults and children in the home is affected, thus raising the risk of deprivation and poverty.

Disability presents challenges for children everywhere, so it is interesting that in Zanzibar, for the education dimension, children with a reported disability do not appear to be at a particular disadvantage compared to children who do not report a disability. However, future analysis should

be considered, exploring this relationship for specific disabilities and using various educational deprivation indicators. Rates of housing, water and sanitation, and nutrition deprivation are higher for children with a disability.

Table 6 (page 62) shows the prevalence of child deprivations by individual-level characteristics. The data are presented as a heat map, to distinguish high and low prevalence rates. The darker shades of colour denote high levels of deprivation, and lighter shading denotes lower deprivation rates.

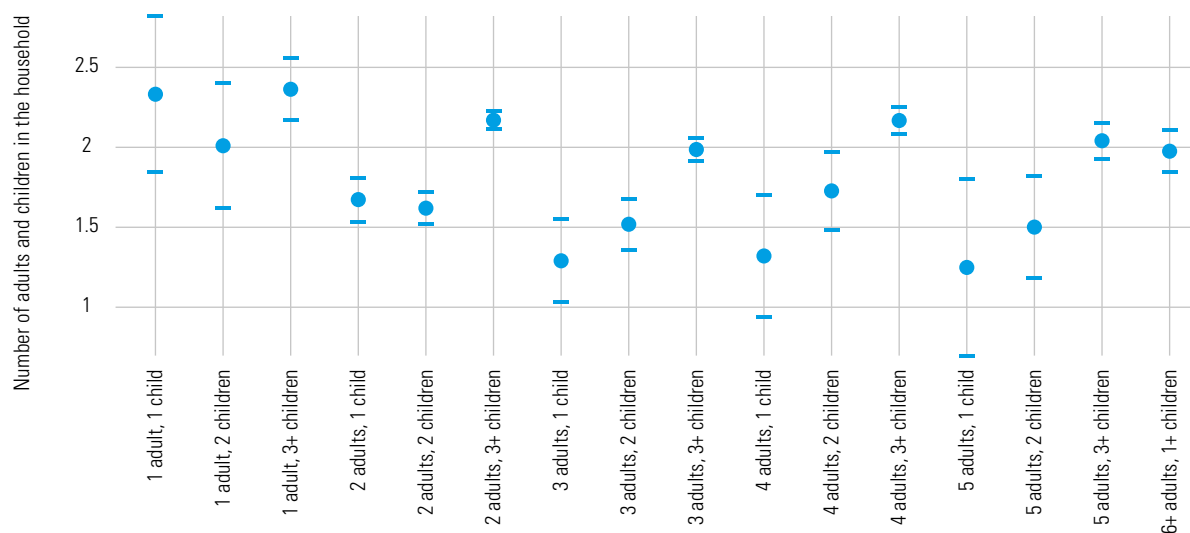
Table 5 (page 61) shows how household-level characteristics relate to deprivation in different dimensions. For example, regarding the housing dimension, the sex of the head of household shows little difference, but their education attainment does, with children in households whose heads have no formal education being much more likely to be deprived. The sex of the household head does matter with regard to the nutrition, water and sanitation, and communication dimensions, pointing to particular vulnerabilities of children living in female-headed households, which can be addressed through policy.

The marital status of the household head shows that those who are either divorced or widowed have lower rates of housing deprivation (probably due to their being older and thus more established), but higher rates of nutrition and education deprivation, so security in one dimension cannot always guarantee protection in another. This is one reason why MD poverty indicators consider deprivation across several dimensions instead of deprivation in a single dimension.

Vulnerability to deprivations based on the age of the household head varies depending on the dimension. Households with younger heads are more likely to be deprived with regard to the housing and, water and sanitation dimensions but not the other dimensions; older household heads may be more secure in housing and, water and sanitation but are at greater risk with regard to nutrition.

Where there is most variation is with regard to household type, a variable based on the number of adults and children in the household. One might expect that in households with fewer adults and more children strain is placed on resources, resulting

²⁷ This information was obtained by asking the household respondent if the child had problems seeing, hearing, walking, remembering or concentrating, self-caring (e.g., feeding) or communicating.

Figure 71: Mean number of deprivations experienced by children in Zanzibar, by household type, 2020

Note: Dots show the average number of deprivations experienced. Bars above and below dots show 95 per cent confidence intervals.

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

in a greater chance of deprivation. Households with more adults than children, it might be assumed, would have more resources and thus be at less risk of deprivation. If the housing dimension is again taken as an example, it is clear that the lowest rates of deprivation are among households with more adults and fewer children. Given that the indicator for this dimension includes a sub-component of overcrowding, it is worth comparing households with five or six members in different combinations of the number of adults and children. Nearly three quarters (73 per cent) of households with two adults and more than three children are housing-deprived, compared to one third (36 per cent) of households with three adults and two children, one quarter (24 per cent) of households with four adults and one child, and one fifth (20 per cent) of households with five adults and one child. Because many of these household types represent a small percentage of the sample, the findings need to be considered cautiously, but the pattern is generally consistent. Moreover, this pattern holds if one considers the mean number of

deprivations experienced across all household types, as shown in Figure 71.

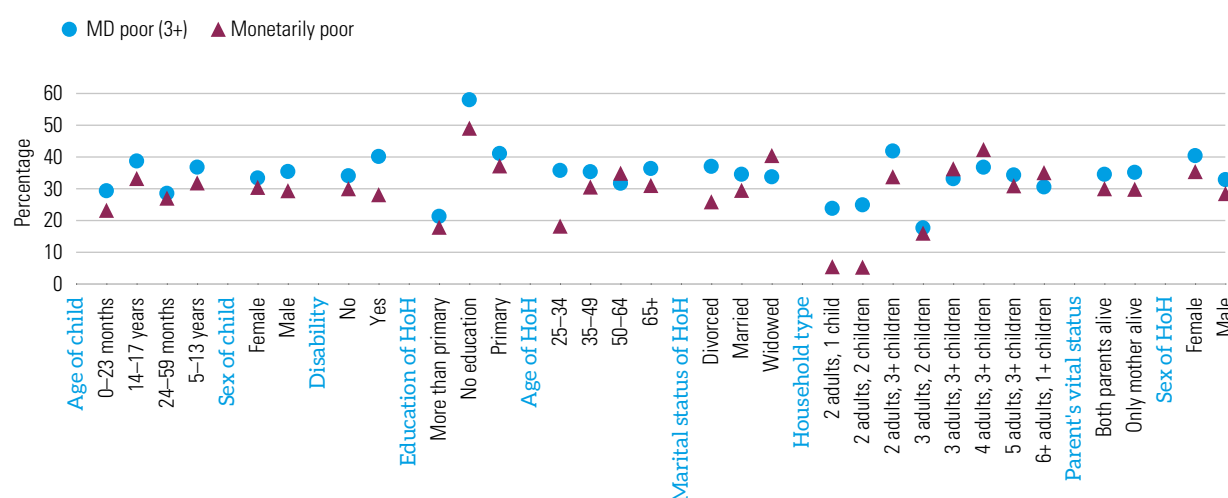
Finally, it is worth reiterating the value of MD poverty measures in highlighting groups that need policy attention over and beyond existing poverty monitoring approaches, such as those that use monetary poverty measures. Figure 72 (page 62) shows the percentage of children in monetary and MD poverty by the categories mentioned above. We would expect a 5-percentage point difference between estimates of monetary and MD poverty (the gap between the two measures at the Zanzibar level is 4 percentage points), which is generally the case. Overall, the risk of monetary poverty and MD poverty follows similar patterns. However, future research should consider the drivers of the differences in MD and monetary poverty estimates for children who live in households where the household head is aged 25–34 years (representing 14 per cent of all children) and households with two adults and one to two children (which also represent 14 per cent of all children).²⁸

²⁸ Categories that represent fewer than 4 per cent of the population were omitted, with the exception of the household composition variable (which shows the number of children and adults).

Table 5: Patterning of child deprivations across Zanzibar by household-level characteristics, 2020

| | | Housing deprivation (%) | Nutrition deprivation (%) | Water and sanitation deprivation (%) | Education deprivation (%) | Communication deprivation (%) | Protection deprivation (%) | Health deprivation (%) | MD poor (3+) (%) |
|--|------------------------------------|-------------------------|---------------------------|--------------------------------------|---------------------------|-------------------------------|----------------------------|------------------------|------------------|
| Household residence | Urban (40%) | 49 | 41 | 39 | 15 | 5 | 3 | 3 | 19 |
| | Rural (60%) | 77 | 64 | 52 | 20 | 8 | 5 | 3 | 45 |
| Sex of head of household | Male (79%) | 66 | 52 | 45 | 18 | 6 | 4 | 3 | 33 |
| | Female (21%) | 64 | 64 | 53 | 20 | 12 | 5 | 3 | 40 |
| Marital status of head of household | Married (87%) | 67 | 53 | 46 | 18 | 7 | 5 | 3 | 35 |
| | Divorced (5%) | 58 | 71 | 49 | 18 | 11 | 4 | 2 | 37 |
| | Widowed (7%) | 54 | 62 | 50 | 21 | 10 | 4 | 3 | 34 |
| Head of household education attainment | No education (18%) | 77 | 75 | 63 | 28 | 16 | 10 | 3 | 58 |
| | Primary (34%) | 76 | 62 | 51 | 20 | 6 | 4 | 3 | 41 |
| | More than primary (39%) | 55 | 42 | 38 | 13 | 4 | 3 | 3 | 21 |
| Age of head of household | 25–34 (14%) | 69 | 58 | 51 | 10 | 4 | 3 | 3 | 36 |
| | 35–49 (45%) | 69 | 53 | 47 | 18 | 8 | 4 | 2 | 35 |
| | 50–64 (31%) | 62 | 53 | 43 | 21 | 7 | 6 | 3 | 32 |
| | 65+ (9%) | 59 | 60 | 48 | 20 | 8 | 5 | 4 | 36 |
| Household type | 1 adult, 1 child (1%) | 28 | 76 | 52 | 31 | 27 | 17 | 3 | 39 |
| | 1 adult, 2 children (1%) | 45 | 69 | 38 | 13 | 21 | 13 | 3 | 36 |
| | 1 adult, 3 or more children (2%) | 66 | 73 | 58 | 21 | 9 | 6 | 3 | 41 |
| | 2 adults, 1 child (4%) | 61 | 42 | 47 | 8 | 4 | 2 | 3 | 24 |
| | 2 adults, 2 children (9%) | 44 | 50 | 49 | 7 | 8 | 2 | 2 | 25 |
| | 2 adults, 3 or more children (34%) | 73 | 57 | 51 | 18 | 10 | 5 | 3 | 42 |
| | 3 adults, 1 child (1%) | 18 | 50 | 34 | 15 | 5 | 3 | 5 | 17 |
| | 3 adults, 2 children (3%) | 36 | 53 | 37 | 14 | 4 | 7 | 1 | 18 |
| | 3 adults, 3 or more children (18%) | 68 | 54 | 43 | 22 | 3 | 5 | 3 | 33 |
| | 4 adults, 1 child (1%) | 24 | 55 | 31 | 4 | 10 | 0 | 7 | 17 |
| | 4 adults, 2 children (2%) | 41 | 61 | 40 | 16 | 9 | 4 | 2 | 24 |
| | 4 adults, 3 or more children (11%) | 79 | 55 | 50 | 22 | 4 | 4 | 3 | 37 |
| | 5 adults, 2 children (1%) | 41 | 52 | 28 | 17 | 9 | 3 | 0 | 26 |
| | 5 adults, 3 or more children (7%) | 74 | 55 | 43 | 21 | 3 | 6 | 3 | 34 |
| | 6+ adults, 1+ children (6%) | 72 | 50 | 41 | 18 | 9 | 4 | 3 | 31 |
| Monetary poverty | Not monetarily poor (70%) | 58 | 46 | 41 | 15 | 5 | 3 | 3 | 25 |
| | Monetarily poor (30%) | 85 | 75 | 60 | 26 | 12 | 7 | 3 | 57 |
| Zanzibar | | 66 | 55 | 47 | 18 | 7 | 4 | 3 | 34 |

Note: The proportion of children with a certain household-level characteristic is provided in brackets in the second column.
Source: Authors' analysis of HBS 2019/20 (OCGS, 2020)

Figure 72: Percentage of children in monetary and MD child poverty by children's characteristics, 2020

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Table 6: Patterning of deprivation across Zanzibar, by child-level characteristics, 2020

| | | Housing deprivation (%) | Nutrition deprivation (%) | Water and sanitation deprivation (%) | Education deprivation (%) | Communication deprivation (%) | Protection deprivation (%) | Health deprivation (%) | MD poor (3+) (%) |
|------------------------------------|--------------------------|-------------------------|---------------------------|--------------------------------------|---------------------------|-------------------------------|----------------------------|------------------------|------------------|
| Child's sex | Male (51%) | 66 | 54 | 46 | 21 | 7 | 5 | 3 | 35 |
| | Female (49%) | 66 | 55 | 47 | 15 | 7 | 4 | 3 | 33 |
| Child's age | 0-23 months (14%) | 72 | 53 | 49 | N/A | 5 | 0 | 2 | 29 |
| | 24-59 months (20%) | 67 | 55 | 48 | N/A | 8 | 0 | 2 | 29 |
| | 5-13 years (48%) | 66 | 55 | 47 | 26 | 7 | 2 | 3 | 37 |
| | 14-17 years (18%) | 59 | 55 | 42 | 31 | 7 | 19 | 4 | 39 |
| Parents vital status ²⁹ | Both parents alive (95%) | 67 | 55 | 47 | 18 | 7 | 4 | 3 | 35 |
| | Only mother alive (4%) | 50 | 63 | 47 | 26 | 10 | 6 | 3 | 35 |
| Child has a disability | Yes (6%) | 70 | 66 | 55 | 14 | 6 | 3 | 2 | 40 |
| | No (94%) | 66 | 54 | 46 | 18 | 7 | 5 | 3 | 34 |
| Zanzibar (100%) | | 66 | 55 | 47 | 18 | 7 | 4 | 3 | 34 |

Note: The proportion of children with a certain child-level characteristic is provided in brackets in the second column.

Source: Authors' analysis of HBS 2019/20 (OCGS, 2020)

29 Children who came from other family types were not presented because of insufficient sample size (1 per cent).

5

Going beyond monetary poverty

Analysis of the 2019/20 HBS to assess MD child poverty presents several important messages for policymakers. First and at the most general level, while the proportion of children exposed to monetary poverty or severe deprivation of basic needs has decreased steadily, it remains the case that a significant share of Zanzibar's monetarily *non-poor* children also experience deprivation.

Meaningful measures of MD poverty (among children) must continue to reflect both monetary and non-monetary dimensions, but with dimensions, indicators and thresholds for indicators designed with children and their age-related needs in mind. Continued focus on monetary poverty alone misses the unmet needs of substantial numbers of children.

Historically, research has shown the importance of investing in services like health and education, which children are disproportionately reliant on. Investment in Zanzibar has paid off in recent years as demonstrated by the low rates of health and education deprivation. However, there are important issues regarding the quality of information about these deprivations and the quality of services that need to be considered. The data in the HBS with which to construct more reliable measures of health deprivation could be improved to reflect the health status of individuals, their access to services and the quality of those services available. Are children who report being sick and not treated in this position because their households cannot afford to take them



Improved sources of water and sanitation, as well as good nutrition, are important determinants of child health.

to the medical facilities, or purchase medication when ill? Alternatively, are there other reasons (e.g., the accessibility and acceptability of services) provided? Better data to indicate the availability (or lack of) appropriate and affordable health care is recommended.

Finally, improved sources of water and sanitation, as well as good nutrition, are important determinants of child health (Checkley et al., 2004; Schmeer and Piperata, 2017). The high deprivation rates in other dimensions presented in this report and child mortality rates are considerably above those of high- and middle-income countries (Sakamoto, 2020; UNICEF Tanzania, n.d.). The low levels of health deprivation found in this report are partly due to the dearth of meaningful data on child health (a consistent data issue across a wide range of analyses³⁰), so it is very likely that this report understates the level of health deprivation. A high-level consultation with a range of policymakers and child practitioners would help identify the key challenges Zanzibar's health services face when caring for children and improve the evaluation and monitoring of child health and the quality of universal health coverage for children (SDG 3).

Similarly, for education, while data on enrolment and attendance are now regularly collected in the HBS, additional data on the nature and quality of education received could also be gathered. This could be information about meeting the costs of additional school needs (e.g., uniforms, stationery and school trips). Linking such information to school dropout, early marriage and child work/labour will inform users about the key drivers of education deprivation across different age groups.

This report reaffirms the importance of education across all ages, since children in households where the head has no education are more than three times as likely to be monetarily poor as those whose head had a secondary education. Attendance is important, but so are questions about the quality of education (both in school and at home) and there are questions that could be included to address this gap. In terms of policy recommendations, this would include a continued focus on and investments in getting children into school and pre-school, in keeping them there and in ensuring the quality of education is improved (e.g., through rigorous and certified training of teachers).

In terms of household-related deprivations, it was apparent that overcrowding appears to be a driving factor in shelter deprivation. The importance of this element of the dimension should be apparent, following the impact of the COVID-19 pandemic. Governments around the world are increasingly informed about the importance of housing conditions as part of a suite of indicators providing important information for measures of MD poverty (Brewer et al., 2021; Amebelul et al., 2021; Lu et al., 2022). Tackling overcrowding, for example, would require housing infrastructure investments and the establishment of occupancy standards in Zanzibar. This may prove controversial initially, given the apparent acceptability of high occupancy rates, as evidenced by the rates of overcrowding observed across all consumption quintiles in both urban and rural areas.

Analysis of the HBS shows that Zanzibar has made impressive progress, but there is still work to do. Noticeable disparities exist across the individual districts, and in disaggregating the data, as this report has, policymakers can see most accurately which groups or districts are most exposed to individual elements of MD poverty. Disaggregating data by policy-relevant groups (e.g., household structure, presence of members with additional needs, and orphans and vulnerable children), means gaps and disparities can be observed and addressed, thus meeting the expectations of the SDGs to ensure that no one is left behind in the development process.

³⁰ The 2014–2015 UNICEF MODA analysis also suggested that rates of health deprivation were very low (see UNICEF, n.d.).



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Policy focus

Housing and water and sanitation

Analysis of HBS data shows that access to improved and nearby water sources declined between 2010 and 2020, and that the prevalence of deprivation remains high, particularly in the sanitation dimension, mainly due to the sharing of facilities. Continued investment in improving access to non-shared sanitation facilities and to ensuring access to improved water sources in both wet and dry seasons is recommended.

In housing, the overcrowding element appears to drive deprivation, alongside the quality of building materials. Grants and financial support to improve dwelling quality are obvious policy options (especially in rural areas), as is the construction of affordable housing, which would ease overcrowding in urban areas. Overcrowding has very real implications for children's health and well-being and is an issue that merits significant policy attention.

Nutrition

Nutrition deprivation in this report is driven primarily by food insecurity and meal frequency indicators, which are strongly correlated with overall consumption levels. There are other ways in which household food (in)security is assessed. Anthropometric data from the Tanzania DHS (which includes information on Zanzibar) shows that the issue of a 'double burden' of malnutrition is growing, with health systems increasingly having to tackle both undernourished children (i.e., who may experience wasting or stunting or are underweight) and adults who may be overweight or obese. It is recommended that investments be made in nutrition-related education, both in schools and via the health system, so that children and their families are aware of the potential challenges and burden of obesity-related chronic diseases, such as diabetes.

Communication

Rural areas and outlying districts are most likely to be deprived in this dimension, due to a lack of access to either landline or mobile telephones. In 2010, over half the poor were also communication-deprived, with this falling to 12 per cent by 2020. In 2020, around 1 in 20 not-poor children in Zanzibar were also communication-deprived, suggesting that coverage of technologies like mobile telephones should be improved.

Education

Zanzibar continues to have issues with education dropout and non-enrolment. Enrolment rates are low among older children, with 13 per cent of 16- to 17-year-olds in 2020 reportedly never attending school; this figure has remained relatively unchanged over the past 10 years. Literacy deprivation levels are relatively low (10–15 per cent) but have not improved significantly for older children (16- to 17-year-olds) since 2015. This points to a need for greater investment in the quality of education, especially since there is some evidence that literacy deprivation for children aged 9–12 years *increased* from 37 per cent to 43 per cent between 2015 and 2020. Authorities should also understand why households are unable or unwilling to enrol children in school, as the reasons may include affordability and acceptability of the services available. Families may prefer to educate children at home or at alternative learning centres (e.g., madrassas).

Child protection

The vast majority of children in Zanzibar have a birth certificate or have had their birth registered (SDG 16.9) and only a small minority of children below the age of 13 are compromising their education to take up paid work. However, in 2020, 10 per cent of rural children aged 13 to 15 years either missed school due to work or identified paid work as their main activity. The risk of this happening to children in urban areas in 2020 is only 5 per cent, but in both urban and rural areas there is no sign of progress regarding this. This finding tallies with the future education challenges identified. Future policies should make sure that older children are able to acquire skills and training, which will improve their lifetime prospects. This will require the collection of further information on training as well as more detailed information on both paid and unpaid work activities within and outside the household, to ensure that these activities do not jeopardise children's education, health and development.

Health

As explained above, the HBS currently lacks information on the quality of important health services as well as on the provision and affordability of medical treatment. This is likely to result in the underestimation of health problems among children. For example, almost all of Zanzibar's children are exposed to dangerous toxins daily. Over 90 per cent of children in Zanzibar live in households using a polluting fuel such as coal, crop residue and wood for cooking which has negative implications for children's health (WHO, 2014 and 2018) and signals a priority area for intervention by government and health agencies. Among households where the head has some tertiary education, deprivation rates in this area are much lower (73 per cent) but are still highly prevalent.

6

Integrating monetary and MD child poverty measures in national statistics

This report used data from three rounds of the HBS to develop a MODA report to show trends in MD child poverty in Zanzibar between 2010, 2015 and 2020. It also explored how deprivations across different dimensions overlapped with monetary poverty and how these were patterned across urban and rural areas and the districts of Zanzibar.

The HBS provides a means of representing children in official poverty statistics and highlights the importance of developing indicators and measures designed to reflect children's needs and rights, as distinct from those of adults. This is important for developing more effective anti-poverty policies and programmes, and for reporting on progress towards international initiatives, like the SDGs via Voluntary National Reviews, or VNRs (End Child Poverty Global Coalition, 2022).

Many of the MD poverty indicators available in many household surveys, including the HBS, were not created specifically to investigate the needs of children. This does not mean that they do not contribute to our understanding of MD child poverty, but there is great potential for expanding the type and range of child-specific indicators in the HBS.

There are several methods countries can use to assess MD child poverty, including MODA (used in this report), the Multidimensional Poverty Index and variations of the so-called 'Bristol Deprivations Approach'. Such approaches use household survey data, like the HBS or DHS, to present valuable information about which dimensions children





Implementing the Consensual Approach is straightforward and can be done using existing survey platforms by introducing a short module of 20–25 questions.

experience deprivations in, such as those presented in this report. Although these methods can be applied to data collected in a wide range of surveys such as DHS, HBS and Multiple Indicator Cluster Surveys,³¹ they generally have some shortcomings. Firstly, the deprivation indicators they use are primarily a result of data availability, rather than a reflection of national consensus over children's necessities. Moreover, because of how questions are phrased, it is difficult to know whether children are deprived in certain dimensions because of choice or low levels of household resources. Finally, the cut-off used to identify MD poverty (three in this report) is generally completely arbitrary.

However, other methods and approaches can be used to tackle these issues. These enable countries to develop indicators that directly address SDG 1.2, which calls for measures to reflect poverty in all its dimensions, for children and adults, *according to national definitions*. One method, called the Consensual Approach, provides real potential, as it allows for meaningful comparison across all country settings (Nandy and Main, 2015; Pomati and Nandy, 2019; Pomati et al., 2020).

The Consensual Approach entails asking the population what they consider to be the necessities of life that no one should be excluded from having or being able to do due to a lack of resources. It asks about material needs (such as clothing, food and housing) and about the ability of people to participate in important customary norms (e.g., looking after sick or elderly relatives and attending funerals and weddings). It also asks if people cannot have items or participate in activities considered necessities by a majority of the population and, if they do not, whether it is due to a lack of resources. As such, the Consensual Approach identifies when people are deprived not by choice (e.g., choosing not to have a mobile telephone or television) but by a lack of resources. It allows for the development of indicators relevant to the needs and rights of children and adults and introduces a democratic element into definitions and measures of poverty (adult and child). Finally, the Consensual Approach uses both consumption and deprivation data to derive a deprivation cut-off, instead of relying on arbitrary decisions. Implementing the

³¹ See <https://mics.unicef.org/surveys>


Consensual Approach is straightforward and can be done using existing survey platforms, like the HBS, by introducing a short module of 20–25 questions (see Appendix 4). The approach was used recently and successfully in Uganda in 2019 (Government of

Uganda et al., 2019a and 2019b). Key insights on other important aspects of children’s lives are currently poorly reflected in many surveys, including the DHS and HBS summarised in Table 7. Further details are also provided in Appendix 1 (page 73).

Table 7: Key requirements for future data collection

| Dimension | Additional questions |
|-------------------|---|
| Health | <p>Tried and tested questionnaire items (Consensual Approach, see Appendix 4):</p> <ul style="list-style-type: none"> • A visit to a health facility when ill and all the medication prescribed to treat the illness. • A visit to a dentist/optician/specialist when needed and all the treatment prescribed. <p>More information should also be collected on immunization coverage (e.g., whether children received important vaccines, see SDG 3) as well as the level of care provided for the specific disease that affected the child.</p> |
| Housing | <p>Tried and tested questionnaire items (Consensual Approach):</p> <ul style="list-style-type: none"> • Enough money to repair a leaking roof for the main living quarters. • Enough money to repair or replace any worn-out furniture. • Enough money to repair or replace broken electrical goods, e.g., a refrigerator. <p>More questions about the reliability of electricity supply to meet children’s needs should be developed. Example:</p> <ul style="list-style-type: none"> • Children can study when it is dark outside. |
| Nutrition | <p>Tried and tested questionnaire items (Consensual Approach):</p> <p>All children in the household have enough resources to consume:</p> <ul style="list-style-type: none"> • Three meals a day. • A good meal with meat/fish/vegetarian equivalent once a week and on other special occasions. • Fresh fruit and vegetables every day. <p>Anthropometric failure indicators: Stunting, wasting, underweight, double burden (Pomati and Nandy, 2020)</p> |
| Education | <p>Tried and tested questionnaire items (Consensual Approach):</p> <ul style="list-style-type: none"> • Books at home suitable for the child’s age (including reference and story books). • Educational toys and games. • All fees, uniform of correct size and equipment required for school (e.g., books, school bag, lunch/lunch money, stationery). • The ability to participate in school trips or events that cost money. • A desk and chair for homework for school-aged children. • Bus/taxi fare or other transport (e.g., bicycle) to get to school. |
| Protection | <p>The key priority here is to develop more detailed information on labour activities, as well as hours and types of unpaid work for each household member. The survey should also collect information on whether and how this affects children’s schoolwork and general after-school activities. Better information on paid and unpaid (including domestic) work will lead to a better estimate of child labour, identifying children who are engaged in work unsuitable for their capacities or in work that may jeopardize their education, health and development. The joint ILO, UNICEF and World Bank project Understanding Children’s Work (http://www.ucw-project.org/) currently provides a wide range of research and resources to improve the measurement of child labour.</p> |



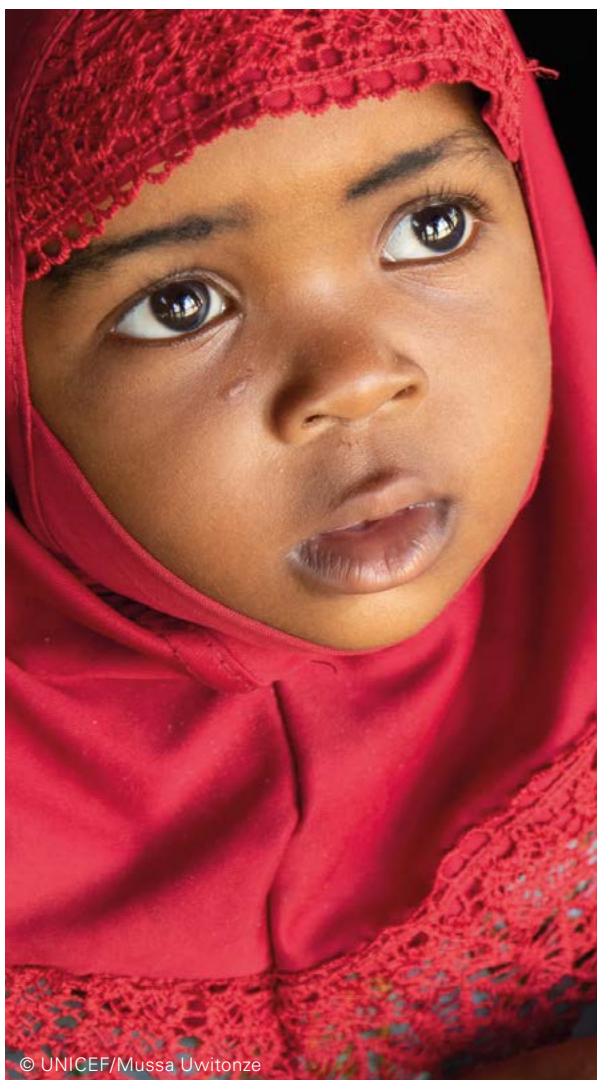


7

Conclusions

Zanzibar's children have seen considerable improvements in their living standards. Both monetary and MD poverty have decreased substantially since 2010 – MD poverty among children fell from 53 per cent to 47 per cent in 2015, and to 34 per cent in 2020. According to OCGS, child monetary poverty also fell, from 40 per cent in 2010 to 30 per cent in 2020. The proportion of children who experienced *both* monetary and non-monetary poverty fell from 36 per cent in 2010 to 17 per cent in 2020.

Children in Zanzibar in 2020 benefited from considerable improvements in dietary diversity and were more likely to live in homes made from appropriate materials. Children in Zanzibar today are more likely to be enrolled in school and less likely to be behind in their education. However, too many of Zanzibar's children remain deprived of key basic needs. Overcrowding in homes remains widespread and food insecurity is still prevalent. The proportion of children deprived in terms of water and sanitation has not improved, and in some instances appears to have worsened, i.e., neither access to improved sanitation nor access to improved water sources improved between 2010 and 2020. Although school enrolment has improved, around 20 per cent of children were not literate in 2020 and one in seven children was not attending school.



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Although decreases in monetary and non-monetary poverty have been witnessed across districts, this situation across districts varies considerably. More than half of all children in areas like Micheweni experience poverty (either monetary or MD) compared to just over 10 per cent in better-off areas like Mjini.

Decreasing deprivations in the water and sanitation, nutrition and housing dimensions represent the greatest challenge for Zanzibar in the next 10 years. Children who are deprived of appropriate water or sanitation and experience inadequate nutrition and housing account for the greatest share of multidimensionally poor children, defined as experiencing deprivations in three or more dimensions. Virtually all children experiencing MD poverty in 2020 in Zanzibar experienced at least

one of these deprivations. Moreover, 48 per cent of multidimensionally poor children experience these three deprivations while not experiencing any of the other deprivations. Although dietary diversity has improved in the last 10 years, household food insecurity and meal frequency, water source and time to collect water deprivation, sanitation and overcrowding, have not. There are, however, clear signs of progress in housing material deprivation, which has reduced significantly over the past 10 years.

With regard to education, there has been a considerable increase in enrolment among younger pupils and a reduction in the percentage of children lagging behind in their education. However, boys suffer higher deprivation than girls within the different sub-component indicators. Enrolment levels are much lower among older children, with 13 per cent of 16- to 17-year-olds never having attended school. This issue has remained relatively unchanged over the past 10 years. Literacy levels have also not shown improvement yet. Looking ahead, much will depend on whether the greater number of enrolled children stay in school, which will likely lead to lower literacy deprivation among older children and lower levels of child labour. Education quality is also clearly an issue, given the overlap between children in school and yet being deprived in the literacy element of the education dimension.

Health, protection and communication deprivations remain very low in Zanzibar, although more questions should be developed to investigate these issues further. Suggestions on how this might be done are presented in Chapters 5 and 6.

The HBS and the human capital and technical expertise within OCGS represent invaluable resources for bringing together both monetary and MD indicators. The unique combination of information in one survey shows that there is a clear overlap between monetary poverty and child deprivation and that improving resource levels in Zanzibar's households will help improve the living standards of children. However, this report also shows that important aspects of children's lives, such as living in a non-overcrowded household and access to suitable water sources, may depend on household characteristics that go beyond household economic resources, such as local infrastructure and local planning.

Appendix 1: Recommendations for future data collection

Housing dimension

In addition to indicators about housing quality and overcrowding, future MODA analysis should consider inclusion of additional items that households could be asked about. The capacity of a household to keep their dwelling in a good state of repair and safe (e.g., fix a leaking roof or maintain important household items) is important. A household lacking sufficient resources to maintain the integrity of their dwelling, places children at risk of exposure to problems such as damp. Several countries ask whether households have enough money to:

- repair a leaking roof for the main living quarters;
- repair or replace any worn-out furniture; and
- repair or replace broken electrical goods, e.g., a refrigerator.

Response categories to these questions include options as to whether households lack the resources because they cannot afford them or because they do not want them, and this is important in ascertaining whether the lack of an item is due to poverty (i.e., deprivation) or choice. Distinguishing when a lack of something is a deprivation or a personal choice is critical for understanding poverty.³²

Furthermore, a more in-depth set of questions about access to electricity would improve the assessment of housing deprivation. The considerable increase in households connected to the Zanzibar Electricity Corporation's grid, as well as the increased use of solar panels in rural households in the last 10 years, has been documented by the HBS and OCGS reports, yet it may be worth considering asking respondents not just whether they have access to electricity, but also whether power is available during day and night, and whether it is possible to use electrical household goods and lighting when it is dark. Households may be connected to the electrical grid or have solar panels, but these may be inadequate for meeting children's needs (such as being able to study when dark,

use of refrigerators for conserving food, etc.) so specific questions can address the impact of lack of consistent access to electricity on children's needs and development.

Nutrition dimension

Additional questions could be asked of households regarding their food needs and whether a lack is due to choice or insufficient resources. Such questions could ask if the household has enough resources to allow children in the household to consume:

- three meals a day;
- a good meal with meat, fish or a vegetarian equivalent once a week and on other special occasions; and
- fresh fruit and vegetables every day.

These questions directly indicate both the quantity (in terms of number of meals) and quality (regularity of protein, fresh fruit and vegetables) of food consumed by the household and have been shown to be both valid and reliable indicators of food (in)security. Additional questions could ask if caregivers have had to forego food themselves so that their children could eat healthily.

A collection of anthropometric data can be used to create three conventional measures of undernutrition. These are low height for age, or stunting, a measure of chronic or prolonged food and nutrition deprivation; low weight for height, or wasting, a measure of more immediate or acute nutrition deprivation; and low weight for age, or underweight, used as a summary measure of stunting and wasting and a key indicator of progress towards SDG 2 on zero hunger. The 2015/16 Demographic Health Survey found that 24 per cent of children under 5 years of age in Zanzibar experienced chronic malnutrition in the form of stunting and a much lower proportion, 4 per cent, exhibited signs of wasting (acute malnutrition).³³ This should be monitored and added to the nutrition indicators in the future.

³² A copy of the module of questions establishing enforced lack and thus deprivation used in Uganda's National Household Survey is provided in its appendices; items can be modified according to the context of each country (Government of Uganda et al., 2019b).

³³ The 2018 Tanzania National Nutrition Survey reports stunting rates of 21.5 per cent for Zanzibar and wasting rates of 6 per cent (MoHCDGEC et al., 2018).

Communication dimension

The communication dimension is well served by existing questions in the HBS, but as technologies change, young people increasingly make greater use of mobile devices like smartphones. It may also be worth asking directly whether children/young people of secondary school age have their own cell phone or information technology device that they can use for education and social purposes.

Education dimension

Given how vital education is to children's personal and wider development and the fact that the home is a critical location for children's learning, the additional questions suggested are intended to reflect the wider learning environment. These consider whether households have the resources to support children's participation in school activities and also to continue their learning at home. Additional questions could include if households have:

- books at home suitable for the occupant children's ages (including reference and story books);
- educational toys and games;
- all fees, uniforms of correct size and equipment required for school (e.g., books, school bags, lunch or lunch money and stationery);
- the ability to participate in school trips or events that cost money;
- a desk and chair for homework for school-aged children; and
- bus or taxi fares or other transport (e.g., bicycle) to school.

Protection dimension

Protection comes in many forms and the indicators presented here relate to more formal processes (e.g., birth registration). Other important forms of protection relating directly to children's physical needs that could be considered include whether they have sufficient clothing for everyday and occasional needs (e.g., clothes for attending important social events like weddings, funerals and birthdays), such as:

- two pairs of properly fitting shoes, including a pair of all-weather shoes;
- some new clothes (not second hand or handed on/down); and
- two sets of clothing.

Moreover, detailed information on labour activities and unpaid work (including household chores) for each household member will likely improve estimates of child labour³⁴. International Labour Organization (ILO) Conventions 138 and 182, as well as the joint ILO, UNICEF and World Bank project Understanding Children's Work, provide a wide range of research and resources to improve the measurement of child labour (Understanding Children's Work, n.d.; Guarcello et al., 2010). This body of literature and surveys such as UNICEF's Multiple Indicator Cluster Surveys provide age-specific criteria for categorizing the type and amount of paid and unpaid work as child labour.

Finally, special consultation of experts and policymakers in labour, education, mental and physical health and child development, as well as members of the public, could lead to a better understanding of the types of work that may jeopardize children's education, health and general development in the specific context of Zanzibar. This would lead to the collection of better information in the HBS for the measurement of child labour.

Health dimension

Assessing health deprivation consistently and comparably is challenging and it may be that the HBS does not contain the data with which to do this. Rather, the DHS may contain more direct information or more variables at child level than the HBS. It is also important that questions intended to reflect access to health care relate to factors that shape demand for health care, including accessibility, acceptability and affordability. Thus, the suggested questions below ask households if they are able to take children for treatment and afford necessary medications when prescribed:

- a visit to a health facility when ill and all the medication prescribed to treat the illness; and
- a visit to a dentist/optician/specialist when needed and all the treatment prescribed.

Making clear if households lack this as a result of choice, lack of resources or lack of relevant local facilities would provide a clearer indicator of deprivation for this important dimension.

34 For more information on Tanzania Mainland, see https://www.dol.gov/sites/dolgov/files/ILAB/child_labor_reports/tda2020/Tanzania.pdf

Appendix 2: Further details on selection of indicators

The final list of indicators in Table 1 (page 15) is the result of a long process that involved input and consultation with the OCGS to provide robust and comparable estimates of changes in indicators between 2010 and 2020. Comparable data availability was the main limiting factor.

For example, it was impossible to compute a comparable indicator for the availability of handwashing facilities due to changes in the question and available answers between 2010 and 2020. Traditionally, one-year MODA analyses have also included an information deprivation indicator (defined as lacking books, television and radio). Given a general increase in access to the internet and online learning materials and following an initial analysis of trends, it was agreed that this indicator as originally designed is not comparable across time and is now of limited value. This is also because the survey contains limited detail about the types of books in the household and which types of television and radio programmes are consumed. Instead, the focus shifted to household capacity to communicate using technologies like telephones (landline or mobiles), which can be consistently compared between 2010 and 2020.

The indicator of cooking fuel use was not included in the analysis. This indicator refers to the percentage of children who live in households using a polluting fuel for cooking. Such fuels include coal, crop residue and wood. This is an important indicator of the impact of burning dirty fuels on children's health (WHO, 2014, 2018). However, over 90 per cent of children in Zanzibar live in such households, with most cooking done outdoors. The HBS lacks important information about ventilation within the home and the frequency of cooking with polluting fuels, therefore this indicator is not particularly useful for analysis. We will discuss

this deprivation when considering future challenges and how to include suitable questions in future HBS to improve this indicator.

Rates of early marriage and malaria and/or diarrhoea also showed very low rates (3 per cent and below) for two consecutive survey years and were therefore excluded from the analysis as analyses of changes in trends and relationship with monetary poverty would have been unreliable. Instead, an indicator of unmet medical care needed when ill with malaria, diarrhoea, anaemia, pneumonia, eye or skin diseases and accidents was adopted (see Table 1, page 15). The data available in the HBS to reflect 'health deprivation' in a meaningful sense are limited. Other data sources, such as the DHS, which include information about children's contact with public health services, for example, through receipt of basic vaccinations, might be more reliable to understand 'health deprivation' in a fuller, more comparable way. Finally, improved sources of water and sanitation as well as good nutrition are important determinants of child health (Checkley et al., 2004; Schmeer and Piperata, 2017) so the high rates of deprivation in other dimensions presented in this report as well as rates of child mortality considerably above those of high and middle income countries (Sakamoto, K., 2020; UNICEF Tanzania, n.d.) demonstrates the dearth of meaningful data on child health in the HBS, which understates the level of health deprivation and is a consistent data issue across a wide range of analyses.³⁵

Other indicators not included were information on time to school which was not comparable across the three HBS data sets. Information on children's heights and weights, which would have allowed the identification of stunted, wasted and underweight children, was collected for the first time in 2020 precluding longitudinal analysis.

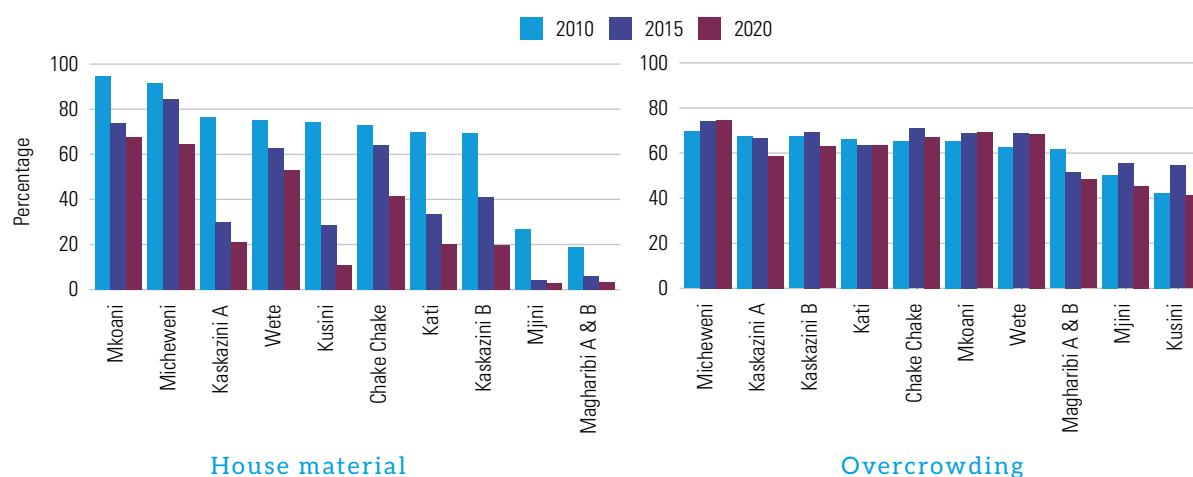
³⁵ The 2014/15 UNICEF MODA analysis also suggested that rates of health deprivation were very low (see UNICEF, n.d.).

Appendix 3: District rates of child deprivation for all indicators by dimension

The charts below show child deprivation for each dimension-specific indicator. Districts are ordered by the amount of dimension-level deprivation.

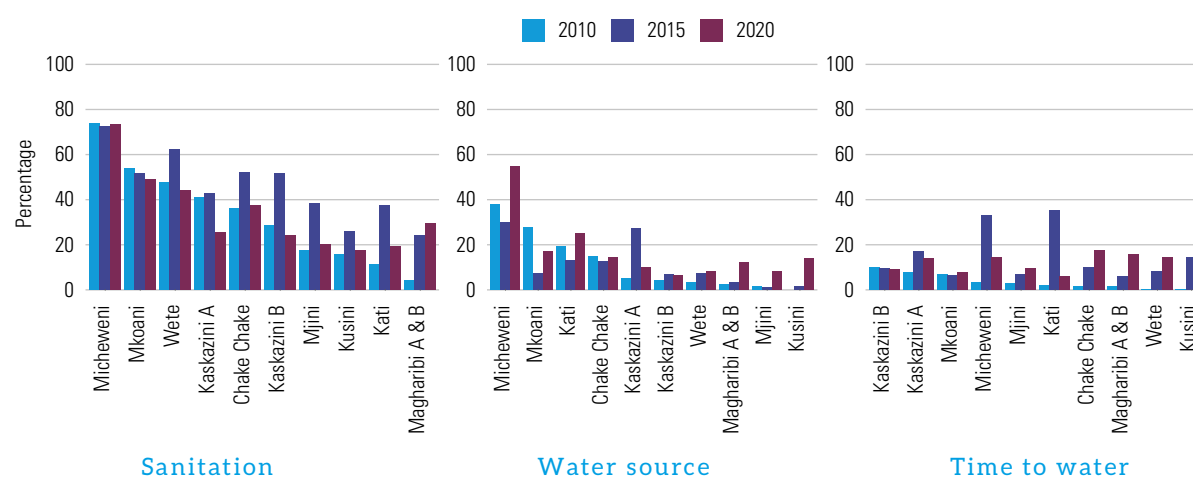
It should be noted that all graphs showing deprivation by district have merged Magharibi A and Magharibi B, given that in the 2009/10 HBS the two separate districts had not been created yet.

Figure 73: Child housing deprivation by district, 2010–2020

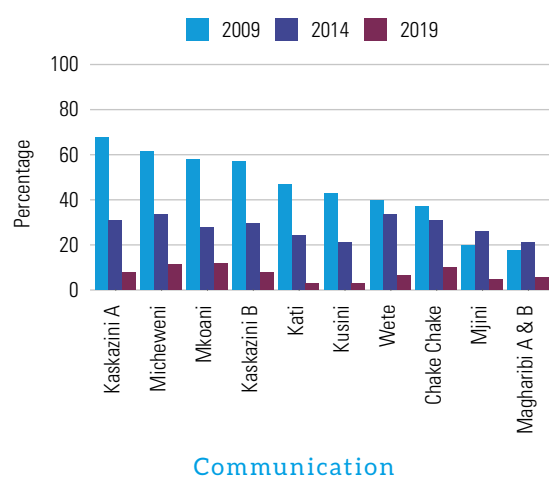


Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

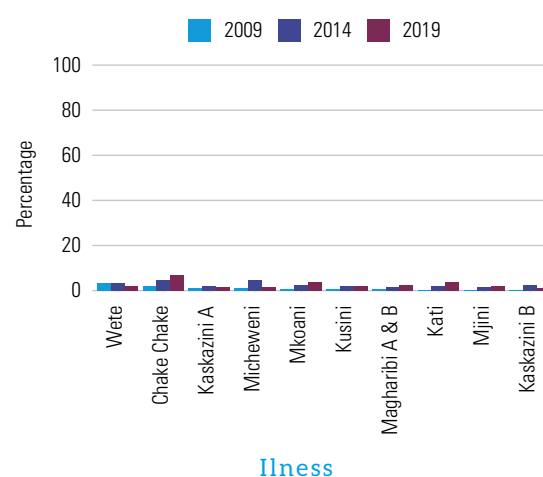
Figure 74: Child water and sanitation deprivation by district, 2010–2020



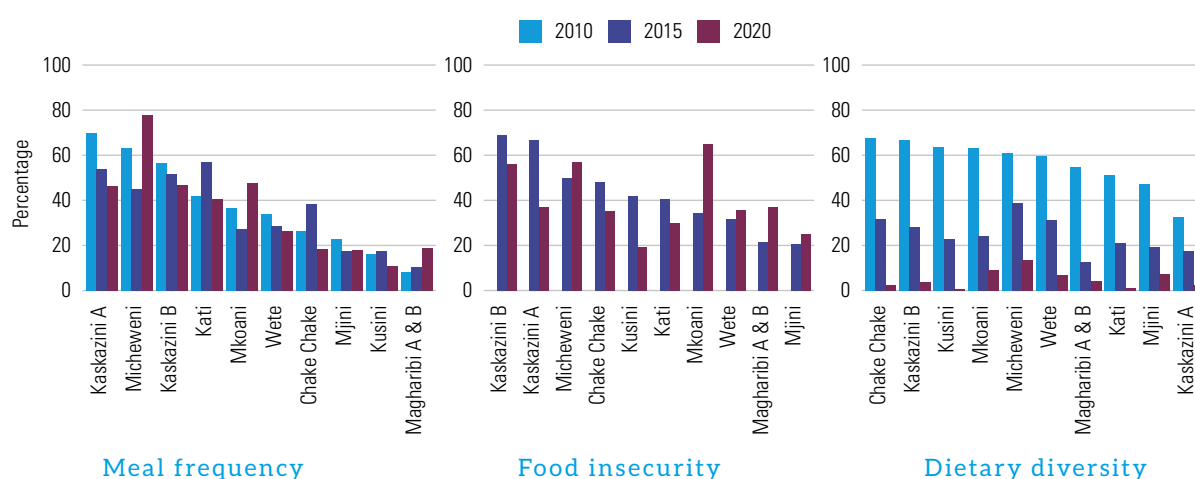
Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Figure 75: Child communication deprivation by district, 2010–2020

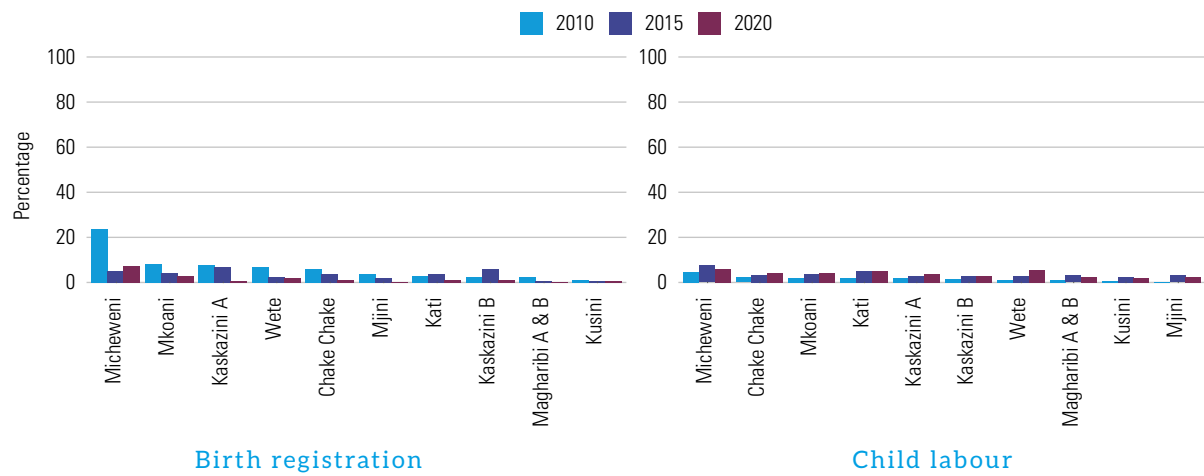
Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Figure 76: Child health deprivation by district, 2010–2020

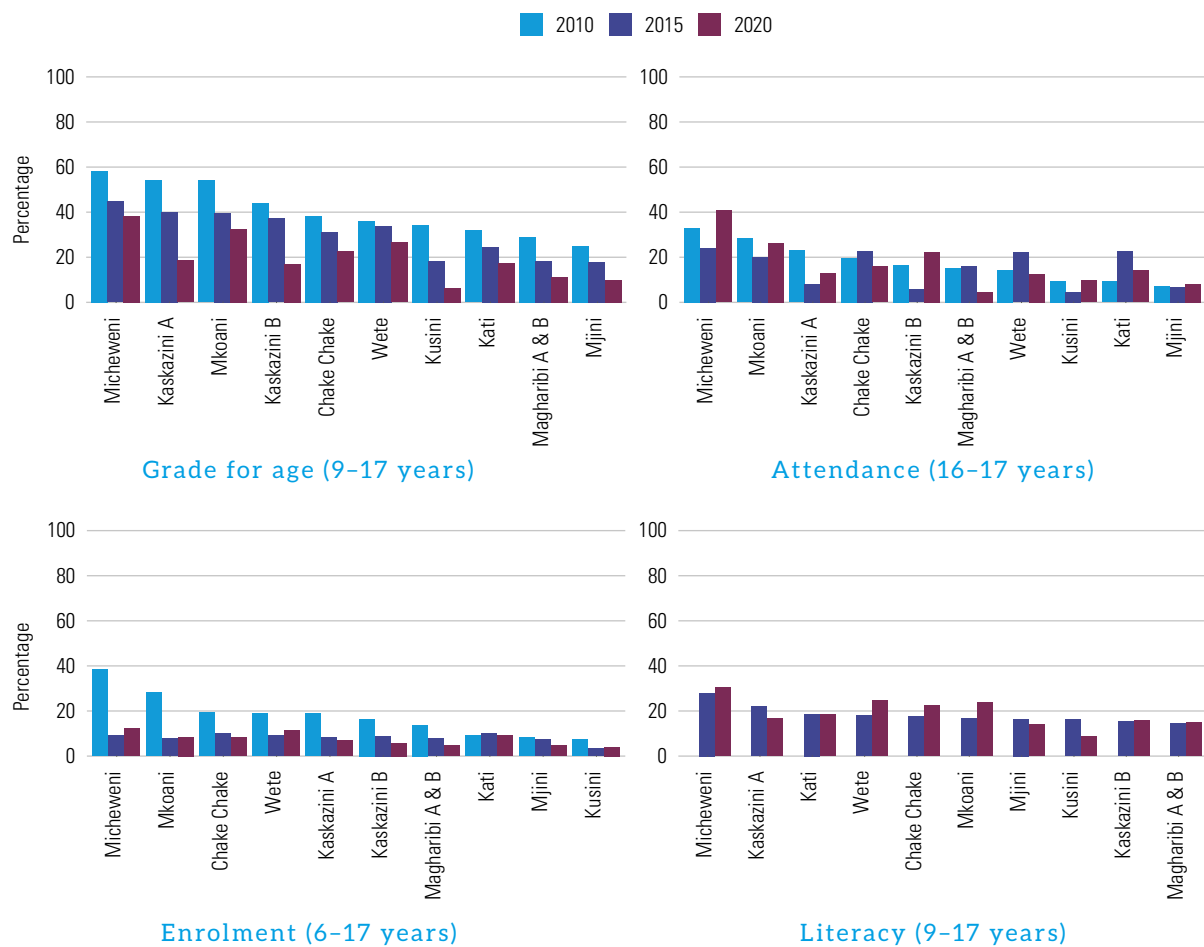
Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Figure 77: Child nutrition deprivation by district, 2010–2020

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Figure 78: Child protection deprivation by district, 2010–2020

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Figure 79: Child education deprivation by district, 2010–2020

Source: Authors' analysis of HBS 2014/15 (OCGS, 2016) and 2019/20 (OCGS, 2020)

Appendix 4: Potential additional questions, based on the Consensual Approach

Children's items (relevant to household members under 18 years of age)

Please say whether you think each of the following is essential for *all children (< 18 years) to be able to afford in order for them to enjoy an acceptable standard of living* in [COUNTRY] today. If you think it is essential, please say 'ESSENTIAL'. If you think it is desirable but not essential, please say 'DESIRABLE'. If you think it is not essential and not desirable, please say 'NEITHER'. So, the three possible answers are 'ESSENTIAL', 'DESIRABLE' or 'NEITHER'.

| Item | Essential | Desirable, but not essential | Neither | Don't know | Have it | Don't have, can't afford | Don't have, don't want | Don't have, for another reason | Don't know/ N/A |
|--|-----------|------------------------------|---------|------------|---------|--------------------------|------------------------|--------------------------------|-----------------|
| QC1. Three meals a day | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC2. Two pairs of properly fitting shoes, including a pair of all-weather shoes | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC3. Toiletries to be able to wash every day (e.g., soap, hairbrush/comb) | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC4. Books at home suitable for their age (including reference and story books) | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC5. Some new clothes (not second hand or handed on/ down) | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC6. Educational toys and games | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC7. A visit to a health facility when ill and all the medication prescribed to treat the illness | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC8. Own bed | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC9. Own blanket | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC10. Two sets of clothing | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC11. Presents for children once a year on special occasions, e.g., birthdays, Christmas, Eid | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC12. All fees, uniform of correct size and equipment required for school (e.g., books, school bag, lunch/lunch money, stationery) | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC13. Participation in school trips or events that cost money | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |

| Item | Essential | Desirable, but not essential | Neither | Don't know | Have it | Don't have, can't afford | Don't have, don't want | Don't have, for another reason | Don't know/ N/A |
|---|-----------|------------------------------|---------|------------|---------|--------------------------|------------------------|--------------------------------|-----------------|
| QC14. A desk and chair for homework for school-aged children | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC15. Bus/taxi fare or other transport (e.g., bicycle) to get to school | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC16. Own room for children older than 10 years of different sexes | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC17. Some fashionable clothes for secondary-school-aged children | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QC18. Own cell phone for secondary-school-aged children | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |

Household items (relevant to all household members)

Please say whether you think each of the following is essential for *everyone to be able to afford in order for them to enjoy an acceptable standard of living* in [COUNTRY] today. If you think it is essential, please say 'ESSENTIAL'. If you think it is desirable but not essential, please say 'DESIRABLE'. If you think it is not essential and not desirable, please say 'NEITHER'. So, the three possible answers are 'ESSENTIAL', 'DESIRABLE' or 'NEITHER'.

| Item | Essential | Desirable, but not essential | Neither | Don't know | Have it | Don't have, can't afford | Don't have, don't want | Don't have, for another reason | Don't know/ N/A |
|--|-----------|------------------------------|---------|------------|---------|--------------------------|------------------------|--------------------------------|-----------------|
| QH1. Enough money to repair or replace any worn-out furniture | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QH2. Enough money to repair or replace broken electrical goods, e.g., a refrigerator | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QH3. To be able to make regular savings for emergencies | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QH4. To be able to replace broken pots and pans for cooking | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QH5. Enough money to repair a leaking roof for the main living quarters | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QH6. Own means of transportation (e.g., car, bike, motorcycle, etc.) | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |

Adult items (relevant to household members over 18 years of age)

Please say whether you think each of the following is essential for *every adult (18+ years) to be able to afford in order for them to enjoy an acceptable standard of living* in [COUNTRY] today. If you think it is essential, please say 'ESSENTIAL'. If you think it is desirable but not essential, please say 'DESIRABLE'. If you think it is not essential and not desirable, please say 'NEITHER'. So, the three possible answers are 'ESSENTIAL', 'DESIRABLE' or 'NEITHER'.

| Item | Essential | Desirable, but not essential | Neither | Don't know | Have it | Don't have, can't afford | Don't have, don't want | Don't have, for another reason | Don't know/ N/A |
|---|-----------|------------------------------|---------|------------|---------|--------------------------|------------------------|--------------------------------|-----------------|
| QA1. A visit to a health facility when ill and all the medication prescribed to treat the illness | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QA2. Toiletries to be able to wash every day (e.g., soap, hairbrush/comb) | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QA3. Two pairs of properly fitting shoes, including a pair of all-weather shoes | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QA4. A small amount of money to spend each week on yourself | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QA5. Replace worn-out clothes by some new (not second hand) ones | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QA6. Meet with friends/family (relatives) for a drink/meal at least once a month | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QA7. Celebrations on special occasions, such as Christmas, Eid | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QA8. Attend weddings, funerals and other such occasions | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QA9. Access to safe, reliable public transport, such as buses and boats | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QA10. Enough money to pay school fees for children | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |
| QA11. Enough money to take children to a medical facility when sick | 1 | 2 | 3 | 8 | 1 | 2 | 3 | 4 | 8 |

Appendix 5: Patterning of child deprivations by indicator, 2020

Table 8: Patterning of child-deprivation indicators across Zanzibar, by household-level characteristics, 2020

| | | Overcrowding | House material | Meal frequency | Food insecurity | Dietary diversity | Water source | Time to water | Sanitation | School enrolment | School attendance | Literacy | Grade for age | Communication | Birth registration | Child labour | Illness | MD poor (3+) |
|--|---------------------------|--------------|----------------|----------------|-----------------|-------------------|--------------|---------------|------------|------------------|-------------------|----------|---------------|---------------|--------------------|--------------|---------|--------------|
| Household residence | Rural (60%) | 66 | 44 | 44 | 46 | 6 | 19 | 12 | 42 | 8 | 20 | 21 | 25 | 8 | 2 | 4 | 3 | 45 |
| | Urban (40%) | 48 | 4 | 16 | 31 | 4 | 13 | 14 | 25 | 5 | 7 | 17 | 11 | 5 | 0 | 3 | 3 | 19 |
| Sex of head of household | Male (79%) | 60 | 26 | 31 | 39 | 5 | 17 | 13 | 33 | 7 | 14 | 19 | 19 | 6 | 2 | 4 | 3 | 33 |
| | Female (21%) | 54 | 34 | 42 | 46 | 7 | 15 | 12 | 43 | 7 | 12 | 19 | 20 | 12 | 2 | 4 | 3 | 40 |
| Marital status of head of household | Married (87%) | 60 | 28 | 32 | 40 | 5 | 17 | 13 | 35 | 7 | 15 | 19 | 19 | 7 | 2 | 4 | 3 | 35 |
| | Divorced (5%) | 49 | 28 | 44 | 54 | 9 | 11 | 10 | 39 | 6 | 9 | 17 | 21 | 11 | 1 | 3 | 2 | 37 |
| | Widowed (7%) | 43 | 28 | 40 | 40 | 8 | 15 | 13 | 38 | 7 | 9 | 18 | 18 | 10 | 1 | 4 | 3 | 34 |
| Head of household education attainment | No education (18%) | 63 | 56 | 56 | 56 | 9 | 21 | 15 | 56 | 13 | 26 | 27 | 30 | 16 | 5 | 7 | 3 | 58 |
| | Primary (34%) | 67 | 33 | 34 | 49 | 6 | 17 | 11 | 42 | 7 | 16 | 22 | 23 | 6 | 1 | 4 | 3 | 41 |
| | More than primary (39%) | 51 | 14 | 24 | 29 | 4 | 15 | 13 | 23 | 5 | 8 | 14 | 12 | 4 | 0 | 3 | 3 | 21 |
| Age of head of household | 25–34 (14%) | 59 | 27 | 35 | 40 | 5 | 15 | 12 | 40 | 6 | 37 | 23 | 28 | 4 | 2 | 1 | 3 | 36 |
| | 35–49 (45%) | 63 | 28 | 34 | 40 | 6 | 17 | 13 | 35 | 7 | 15 | 20 | 19 | 8 | 1 | 3 | 2 | 35 |
| | 50–64 (31%) | 56 | 24 | 31 | 40 | 5 | 16 | 13 | 32 | 8 | 12 | 17 | 18 | 7 | 2 | 5 | 3 | 32 |
| | 65+ (9%) | 44 | 39 | 34 | 45 | 6 | 14 | 10 | 36 | 6 | 6 | 19 | 18 | 8 | 2 | 4 | 4 | 36 |
| Monetary poverty | Not monetarily poor (70%) | 51 | 18 | 25 | 33 | 3 | 15 | 13 | 28 | 6 | 11 | 17 | 15 | 5 | 1 | 3 | 3 | 25 |
| | Monetarily poor (30%) | 77 | 50 | 51 | 58 | 11 | 19 | 11 | 52 | 10 | 20 | 24 | 27 | 12 | 4 | 5 | 3 | 57 |
| Zanzibar (100%) | | 59 | 28 | 33 | 40 | 6 | 17 | 13 | 35 | 7 | 14 | 19 | 19 | 7 | 2 | 4 | 3 | 35 |

Note: The proportion of children with a certain household-level characteristic is provided in brackets in the second column.
Source: Authors' analysis of HBS 2019/20 (OCGS, 2020)

Table 9: Patterning of child-deprivation indicators across Zanzibar, by child-level characteristics, 2020

| | | Overcrowding | House material | Meal frequency | Food insecurity | Dietary diversity | Water source | Time to water | Sanitation | School enrolment | School attendance | Literacy | Grade for age | Communication | Birth registration | Child labour | Illness | MD poor (3+) |
|------------------------|--------------------------|--------------|----------------|----------------|-----------------|-------------------|--------------|---------------|------------|------------------|-------------------|----------|---------------|---------------|--------------------|--------------|---------|--------------|
| Child's sex | Male (51%) | 59 | 28 | 33 | 40 | 6 | 17 | 13 | 34 | 8 | 19 | 22 | 25 | 7 | 2 | 4 | 3 | 35 |
| | Female (49%) | 58 | 27 | 33 | 41 | 5 | 16 | 13 | 36 | 6 | 8 | 16 | 13 | 7 | 1 | 3 | 3 | 33 |
| Child's age (grouped) | 0–23 months (14%) | 63 | 30 | 31 | 38 | 6 | 16 | 12 | 38 | N/A | N/A | N/A | N/A | 5 | 0 | 0 | 2 | 29 |
| | 24–59 months (20%) | 58 | 28 | 34 | 40 | 6 | 17 | 13 | 36 | N/A | N/A | N/A | N/A | 8 | 0 | 0 | 2 | 29 |
| | 5–13 years (48%) | 60 | 28 | 33 | 41 | 5 | 17 | 13 | 36 | 1 | N/A | 23 | 22 | 7 | 2 | 1 | 3 | 37 |
| | 14–17 years (18%) | 53 | 24 | 34 | 40 | 6 | 14 | 12 | 32 | 19 | 14 | 10 | 13 | 7 | 4 | 18 | 4 | 39 |
| Parents alive/dead | Both parents alive (95%) | 60 | 28 | 33 | 40 | 6 | 17 | 13 | 36 | 7 | 14 | 19 | 19 | 7 | 2 | 4 | 3 | 35 |
| | Only mother alive (4%) | 41 | 25 | 39 | 43 | 9 | 17 | 15 | 36 | 7 | 14 | 20 | 18 | 10 | 1 | 6 | 3 | 35 |
| Child has a disability | Yes (6%) | 60 | 36 | 35 | 55 | 6 | 20 | 15 | 43 | 7 | 21 | 26 | 29 | 6 | 1 | 2 | 2 | 40 |
| | No (94%) | 59 | 27 | 33 | 40 | 6 | 16 | 13 | 35 | 7 | 14 | 19 | 19 | 7 | 2 | 4 | 3 | 34 |
| Zanzibar (100%) | | 59 | 28 | 33 | 40 | 6 | 17 | 13 | 35 | 7 | 14 | 19 | 19 | 7 | 2 | 4 | 3 | 35 |

Note: The proportion of children with a certain child-level characteristic is provided in brackets in the second column.

Source: Authors' analysis of HBS 2019/20 (OCGS, 2020)

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