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MINISTÉRIO DA PLANIFICAÇÃO E DESENVOLVIMENTO



Multidimensional Child Poverty in Moçambique (2014/15–2022)

Final Report

Foreword

This study presents the evolution of Multidimensional and Monetary Child Poverty in Mozambique (2014/15-2022), based on data from the 2014/15, 2019/20 and 2022 Household Budget Survey.

It is the result of close collaboration between the Ministry of Planning and Development (MPD), specifically, from the National Directorate of Economic Policies and Development (DNPED), of UNICEF Mozambique from UNICEF in Mozambique (MCO), the World Institute of Development Economics Research (UNU-WIDER) and the Development Economics Research Group at the University of Copenhagen (UCPH-DERG). The analysis and preparation of the report also benefited from the contributions of the group of multisectoral reference, composed of representatives of various government institutions and international - including the Department of Planning and Studies of the Ministry of the Interior (MINT-DPED), the National Institute for Disaster Risk Reduction and Management (INGD), the Ministry of Education and Culture (MINEC), the Ministry of Health (MISAU), the Ministry of Labor, Gender and Social Action (MTGAS), the World Health Organization (WHO) and representatives of civil society (ROSC).

Using the latest country-level data and robust analytical tools, the report delivers a comprehensive overview of the situation of children in Mozambique regarding poverty and deprivation. The analysis considers geographical contexts, gender differences and different age groups, providing an opportunity to take stock of the nation's progress in achieving the Goals of Sustainable Development (SDG) for children.

According to this report, in Mozambique, many children and adolescents continue to live in monetary poverty or suffer from multiple deprivations. Alarming, one in three children it simultaneously faces monetary and multidimensional poverty. Although the results reveal that the policies implemented by the Government during the period 2014/15-2022 had positive effects on regarding multidimensional poverty, progress over time has been slower than desired, especially given the challenges that the country has faced in the last ten years, characterized by tensions social and political shocks, unforeseen economic shocks and natural disasters.

We believe that accurate and up-to-date information and analysis, such as that contained in this report, are a key step towards the success of any poverty reduction strategy. The findings presented here offer a critical view on the areas that require immediate and decisive action by the Government and its development partners, motivating them to make further efforts to improve the situation of children in Mozambique, as an investment in the future of the country.

We sincerely hope and trust that the information and results contained in the report will support concrete actions by all stakeholders to improve the well-being of each child in Mozambique.

Minister of Planning and Development (MPD-DNPED)

Acknowledgments

The Multidimensional Child Poverty in Mozambique (2014/15-2022) is produced in close collaboration with the Ministry of Planning and Development (MPD), UNICEF Mozambique Country Office (MCO), the World Institute for Development Economics Research (UNU-WIDER) and UNICEF Office of Research-Innocenti. The core team responsible for coordinating and drafting the report consisted of Director Angelo Nhalidede (MPD-DNPEP) and , as strategic lead, and the Inclusive Growth in Mozambique (IGM) child poverty research team, led by Prof. Finn Tarp (UCPH-DERG), with Finório Castigo, Maimuna Ibahimo, Ancha Raivua and Cândida Mula, from MPD-DNPED, Vincenzo Salvucci, Giulia Barletta and Irmak Günal from UCPH-DERG, and Ricardo Santos and Telça Massingue from UNU-WIDER. Beatrice Targa, Laia Cirera and Alessandro Ramella provided technical support throughout the process.

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Executive summary

Since 2015, Mozambique has faced a series of socio-economic, natural, and health shocks that have compounded existing regional and social inequalities. Recent crises, including macroeconomic and fiscal shocks, the COVID-19 pandemic, numerous climate disasters, and ongoing conflicts, have resulted in economic slowdown, rising poverty rates, and increased inequality. In a country where over half of the population are children, these challenges have severe implications for their well-being.

This report provides an updated and comprehensive analysis of child poverty and deprivation in Mozambique using the latest data from the Household Budget Surveys (IOF) of 2019/20 and 2022. It builds on previous findings from 2014/15 contained in the report “Multidimensional Child Poverty in Mozambique” published in 2020 (UNICEF, 2020), to present the levels and trends of child poverty across different age groups, regions, and genders, over the 2014/15-2022 period. The analysis employs the Multidimensional Poverty Index (MPI) methodology, alongside the Multidimensional Overlapping Deprivation Analysis (MODA) approach, to assess the scale and severity of deprivations in key areas of child well-being. Moreover, monetary child poverty is also analysed and assessed in association with multidimensional poverty, using various metrics.

The analysis adopts a life-cycle perspective, emphasizing the unique needs and challenges encountered at each stage of childhood. Consistent with previous child multidimensional poverty reports, this study focuses on three age groups: 0-4 years, 5-12 years, and 13-17 years. The assessment of child poverty encompasses eight socioeconomic dimensions: family; nutrition; education; labour; health; water, sanitation and hygiene (WASH); participation; and housing. These dimensions are evaluated using seventeen well-being indicators tailored to each specific age group. The multidimensional poverty thresholds adopted in the report to distinguish between multidimensionally poor and non-poor children differ depending on the methodology in use, MPI or MODA: in the MPI framework, children are considered poor if their deprivation exceeds one third of the weighted well-being indicators, whereas in the MODA framework children are considered poor if they are simultaneously deprived in two or more dimensions. The headline figures presented in the report are estimated using the MPI methodology, with complementary analyses adopting the MODA approach.

The primary objective of this report is to present findings on the levels and trends of child poverty in Mozambique from 2014/15 to 2022, drawing upon data from the 2014/15, 2019/20 and 2022 household budget surveys (IOF), and utilising both monetary and multidimensional poverty analyses. The report aims to provide a comprehensive overview of the main areas of deprivation affecting children, explore the associated factors, and assess the impact of multiple crises on their ability to reach their full potential.

Overall, the analysis shows high child poverty rates in Mozambique. In 2022, **out of 16.4 million children**, nearly **13 million (77%)** experienced either multidimensional or monetary poverty. It also shows that the incidence of multidimensional child poverty in Mozambique has remained largely stagnant from 2014/15 to 2022, showing only marginal improvements over the past years. In 2014/15, 46,3% of Mozambican children were considered multidimensionally poor. By 2019/20, this figure had decreased slightly to 44,0%, and, **in 2022**, it further declined to **41,3%**. In absolute numbers, given the extraordinarily rapid population growth experienced by Mozambique, this means that in 2014/15 about 6.1 million children were multidimensionally poor, **not being able to fully meet their basic rights**; this number increased to 6.9 million children in 2019/20, but it slightly decreased to **6.8 million children in 2022**. At the same time,

the intensity of multidimensional poverty has slightly increased over the years from 45,7% to 46,3% in 2022, indicating that the number of deprivations experienced by the poor has increased on average over time.

Multidimensional child poverty and deprivation rates in most indicators continue to be markedly higher in rural areas compared to urban areas, with **multidimensional poverty incidence being three to four times higher in rural than in urban areas** from 2014/15 to 2022. Furthermore, **child poverty rates remain consistently higher in the northern and central regions**, when compared to the **southern region**. Children in the poorest provinces (Niassa, Cabo Delgado, Nampula, Zambézia) are significantly more likely to experience poverty than those in the richest province, Maputo City.

More than two-thirds of Mozambican children still lack access to adequate sanitation, with deprivation in this indicator reaching a level as high as 82.2% in rural areas in 2022. Furthermore, more than 60% of children in the 13-17 age range have not completed primary education (seven years) at the national level in both 2019/20 and 2022, with the deprivation rate exceeding three-quarters of the total 13-17 children population in rural areas. There are stark gender disparities in the level of deprivation in the Marriage indicator: about 12% of underage girls (13-17 years old) are married, while that percentage is only about 1 to 2% for boys in both 2019/20 and 2022.

Among all children aged between 0 and 17 years, the WASH dimension continues to present the highest deprivation rates across all three survey rounds, with approximately three-quarters of children being deprived in both 2019/20 and 2022. This dimension also shows an enormous disparity in deprivation rates across regions and provinces in 2022, ranging from an alarming 93,7% in Niassa to about 8% in Maputo City. Despite a steady decrease in deprivation in the Housing dimension, from 77,7% in 2014/15 to 69,6% in 2022, it remains among the dimensions with the highest deprivation rates. The education dimension, on the other hand, saw an initial improvement between 2014/15 and 2019/20, but this positive trend was reversed in 2022.

With respect to the number of dimensions, most Mozambican children are deprived in more than one dimension at the same time (about 76% in both 2019/20 and 2022). In both 2019/20 and 2022, one-quarter of children suffered from three simultaneous deprivations, while a third faced four or more deprivations. Across both survey years, less than 13% of children were not deprived in any dimension. In rural areas, the share of children suffering from four or more deprivations has decreased from 39,5% in 2014/15 to 35,8% in 2022. This share has seen less than 1% decrease in urban areas.

Monetary poverty incidence remains a significant challenge for children in Mozambique, with **over 70% of children living in monetary poverty both in 2019/20 and in 2022**. That means that over 70% of Mozambican children in 2019/20 and in 2022 did not have consumption levels compatible with acquiring a basic food basket (providing approximately 2150 kcal) and some basic non-food items, using the national poverty lines (which, in 2019/20 and 2022 were equivalent to 58.4 and 61.3 Meticaís/person/day, respectively).¹ **Children in Mozambique are notably more vulnerable to monetary poverty compared to adults across all age groups**. As of 2022, approximately three-quarters of children in rural areas live in monetary poverty, a figure that peaked at over 80% in 2019/20. In 2022, at the national level, around one third (33%) of

¹ This is equivalent to about 2.5 international USD in purchasing power parity (PPP), or slightly less than 1 USD at market exchange rate.

children experience **both monetary and multidimensional** poverty, being deprived in multiple dimensions while also facing consumption poverty. This still underscores the persistent challenge of addressing child poverty from both the monetary and multidimensional points of view.

Systemic shocks, such as the **hidden debt crisis** and the **COVID-19 pandemic**, contributed to a **spike** in child monetary poverty, with rural children more affected by the debt crisis and urban children by the pandemic.

Climate shocks resulted in higher child labour, increased deprivations in housing and participation, and an overall rise in child monetary poverty.

Conflict shocks have had devastating impacts on children, particularly affecting family stability, nutrition, education, health, housing, and monetary poverty.

The report concludes with several policy recommendations: on the one hand, it is recognised that some structural interventions aimed at rural areas appear as necessary, especially in the centre-north. On the other hand, it emerges as urgent the need to reinforce resilience to shocks, address the vulnerability of families and expand the social protection network. It is also suggested that improving the collaboration and partnerships between Government and development partners could be fruitful, mainly through a multisectoral approach, and focusing on sustainable/long-term results. From the overlapping dimension analysis, it also emerges that it is fundamental to continue with the development of key infrastructures: deprivation rates in the dimensions of water, sanitation and hygiene, and in housing conditions, are extremely high, and present huge regional disparities; strengthening public investment in these areas is therefore essential. It is also important to think about ways to address simultaneous deprivations in a specific way; for example, by identifying children who suffer from many simultaneous deprivations and responding to these forms of deprivation organically.

Based on the analysis presented in this report, six key recommendations emerge:

A. Address hotspots of high child poverty prevalence:

Structural policies that address monetary child poverty and the associated indicators of prevalence, relative to which the urban/rural incidence gap is highest, may have a higher impact in mitigating the severity of conditions in these hotspots: housing; water and sanitation, education (especially barriers to primary school completion), and access to health (particularly access to health facilities).

B. Address, also, urban hotspots of child poverty growth:

Given the different nature of urban and rural poverty it is advisable that increases in deprivation rates are addressed with policy interventions tailored to the specific urban realities, making use of more dynamic economies and better and denser, albeit probably more congested, social infrastructures in urban environments.

C. Adopt integrated Child Development approaches during the life of the child, as they address overlapping deprivations and have high potential impact:

Interventions which adopt a multistakeholder approach and engage the social sectors may better target overlapping dimensions (namely WASH, Housing, Nutrition and Education).

- D. Increase resilience to shocks by addressing monetary child poverty and those deprivations they impact the most:

The likelihood of repeated climate shocks highlights the need for a stable, predictable and increasingly wider provision of social services, starting with the most vulnerable. While not emerging directly from the findings of this report, this approach is widely recognised as a more effective approach than project-based one-off interventions.

- E. Strengthening evidence generation to better address child poverty:

A robust and continuous effort to generate evidence on child poverty, particularly its drivers, manifestations and geographic disparities across Mozambique, is a key policy instrument for developing effective strategies to reduce child poverty.

- F. Fiscal and institutional capacity constraints

Much remains to be done to address the many interlinked issues and challenges identified in this report. Despite some progress in multi-dimensional deprivation, child poverty remains a huge burden in terms of both welfare and lost opportunities with a view to the building of much needed human capital for future progress in Mozambique.

While a careful assessment of the broader macro-economic, fiscal and institutional situation and constraints of Mozambique, has been outside the scope of the report, it is pertinent to highlight that given the daunting size and many dimensions of the challenge at hand fiscal constraints and availability of funding will have to be considered and factored carefully into actions taken at national, regional, provincial and local levels. Accordingly, careful project design and implementation monitoring as well as the mobilization of funds will throughout have to be integral parts of initiatives taken in the coming decades in line with the Government priorities set out in the 2025-2044 National Development Strategy (ENDE).

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List of Abbreviations

AF	Alkire-Foster
BdR	<i>Boletim da República</i> – Bulletin of the Republic
DEEF	<i>Direcção de Estudos Económicos e Financeiros</i> – Direction of Economic and Financial Studies
DHS	Demographic and Health Surveys
DNPED	<i>Direcção Nacional de Políticas Económicas e Desenvolvimento</i> – Direction of Economic and Development Policies
GdM	<i>Governo de Moçambique</i> – Government of Mozambique
GDP	Gross Domestic Product
ILO	International Labour Organization
IMASIDA	<i>Inquérito de Indicadores de Imunização, Malária e HIV/SIDA</i> – Immunization, Malaria, and HIV/AIDS Indicators Survey
INE	<i>Instituto Nacional de Estatística</i> – National Statistics Institute
IOF	<i>Inquérito sobre Orçamento Familiar</i> – Household Budget Survey
IOM	International Organization for Migration
MEF	<i>Ministério de Economia e Finanças</i> – Ministry of Economics and Finance
MODA	Multidimensional Overlapping Deprivation Analysis
MPI	Multidimensional Poverty Index
OPHI	Oxford Poverty Human Development Initiative
SDG	Sustainable Development Goals
SSA	Sub-Saharan Africa
UIS	UNESCO Institute for Statistics
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization

UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations Children's Fund
UNU- WIDER	United Nations University World Institute for Development Economics Research
WASH	Water, sanitation and hygiene
WHO	World Health Organization

1. Introduction

Since the end of the seventeen-year-long civil war that plagued the country until 1992, Mozambique experienced a period of robust economic growth, particularly from 2000 to 2015. During this time, GDP per capita more than doubled, economic opportunities expanded, and poverty rates declined significantly. However, the benefits of this growth were not evenly distributed, leading to persistent regional and social inequalities. After this long-lasting growth spell came to an end around 2015, Mozambique has been facing a series of socio-economic, natural and health shocks that compounded the challenges of an already uneven growth pattern. These crises have led to a marked economic slowdown, rising poverty rates and relatively high levels of economic inequality (Mahdi et al. 2018, 2019; World Bank, 2018; 2020; Egger et al., 2023; Salvucci and Tarp, 2023; 2024; DEEF, 2016; DNPED, forthcoming, GdM, 2024).

The Fifth National Poverty Assessment (DNPED, forthcoming) and the National Development Strategy (GdM, 2024) show that, at the national level, the monetary poverty rate increased drastically from 2014/15 to 2019/20 (from 46.1 to 68.2%), showing a modest improvement in 2022 (from 68.2% to 65%). On the other hand, the incidence of multidimensional poverty, which is by nature less volatile, continued decreasing from 2014/15 to 2022 for the whole population, though at a slower pace when compared to the previous years. While this indicates that the crises and the economic downturn started in 2015 have had serious implications for all Mozambicans, this could disproportionately affect children, who make up more than half of the country's population (INE, 2024).

Children are likely to experience poverty and deprivation differently from the rest of the population. Indeed, some of the indicators of children's multidimensional well-being require a long time to show improvements and are directly related to public goods provided by the state, such as health and education. Children are also dependent on others for their well-being and have little control over resources, which might make them more vulnerable (see also Ferrone et al., 2019; Mahrt et al., 2020). The Government of Mozambique is committed to ensuring *“all opportunities and facilities in order to facilitate the child's physical, mental, moral, spiritual and social development, in conditions of freedom and dignity”* (Law on the Promotion and Protection of the Rights of the Child (BdR, 2008)). Mozambique is also at the forefront of the strive to meet the SDG 1 of the Agenda 2030², which states the commitment to reduce child poverty by half by the end of 2030.

In this effort, the Government of Mozambique is supported by a number of developing partners, notably UNICEF, that leads and monitors the global effort under the Sustainable Development Goals (SDG) to halve multidimensional child poverty by 2030. UNICEF commits to mobilising actors at all levels, global, regional and national, to measure and address all dimensions of child poverty. Since 2014, UNICEF has chaired the Global Coalition to End Child Poverty, raising awareness, accelerating efforts at all levels and, at the national level, supporting Governments' efforts to reach the child poverty SDG. UNICEF works with Governments and other partners to

² In September 2015, all the members of the United Nations adopted the 2030 Agenda for Sustainable development, committing to a set of 17 universal goals and targets to be fulfilled worldwide by 2030 – the Sustainable Development Goals (SDGs) – to be used by its member states to frame their political policies and agendas (the 'Agenda 2030'). More information <https://sdgs.un.org/goals>.

support policies that have been proven to contribute to this goal: child-sensitive social protection programmes, including child benefits shown to positively impact health, education and nutrition deprivations. At the national level, UNICEF supports the Government of Mozambique in its goals of reducing child poverty.³ In 2020, UNICEF, in collaboration with the Ministry of Economy and Finance (MEF), published the first report on Multidimensional Child Poverty in Mozambique, based on the 2014/15 Household Budget Survey (*Inquérito aos Agregados Familiares sobre Orçamentos Familiares – IOF 2014/15*) (UNICEF, 2020).

That report indicated that while until 2015 the country experienced substantial poverty reduction, in 2014/15 almost one in two children aged 0-17 was multidimensionally poor. The analysis also finds that children are more likely to be poor from the monetary point of view than adults, regardless of their age group (0-4, 5-12, 12-17).⁴ In addition, the 2014/15 data revealed that there are entrenched geographic inequalities in child poverty and deprivation, with children born in the poorest provinces (i.e. Niassa, Cabo Delgado, Nampula and Zambézia) being 45 times more likely to be poor than those born in Maputo City (UNICEF, 2020).

The persistent and severe deprivations faced by Mozambican children—ranging from malnutrition and inadequate living conditions to a lack of access to quality education—have long-lasting impacts that perpetuate the cycle of poverty. The 2020 Multidimensional Child Poverty Report highlighted that, despite decades of socio-economic progress, children in Mozambique continue to face significant structural challenges (UNICEF, 2020). Given recent shocks and economic downturns, the urgency of addressing child poverty in Mozambique cannot be overstated. An updated assessment of multidimensional poverty is essential to understand how these factors have impacted children's well-being. By identifying the key areas of deprivation and their underlying causes, this report aims to provide a comprehensive analysis that informs effective policy interventions, addressing both longstanding and emerging issues.

This report aims to provide updated and comprehensive evidence of multidimensional child poverty and deprivation in Mozambique, using the latest two waves of IOF data, collected in 2019/20 and 2022. The analysis focuses on the levels and trends of child poverty from 2014/15 to 2022 at the national level for different age groups, while also providing evidence at different levels of spatial disaggregation (urban/rural, regional) and across genders. The headline estimates are based on multidimensional child poverty calculated using the Multidimensional Poverty Index (MPI), based on the Alkire-Foster (AF) methodology, complemented by the Multidimensional Overlapping Deprivation Analysis (MODA) to present the scale and distribution of child poverty by dimensions. This report also presents an analysis of the overlap between different dimensions of poverty, and multidimensional and monetary poverty, employing the standard measures of monetary child poverty based on the national poverty line on consumption per capita and the results from the national poverty assessment.⁵ In addition, this analysis aims

³ See <https://www.unicef.org/mozambique/en>.

⁴ This is mainly because in poorer families there are consistently more children, so that if one only focuses on the children population then the percentage of poor children is higher than if the whole population is considered.

⁵ Monetary or consumption poverty is evaluated using the Cost of Basic Needs (CNB) methodology, which is adopted in all National Poverty Assessments. In them, household consumption is assessed based on daily expenses, self-consumption, monthly and annual expenses, etc., including both food and non-food items. The consumption aggregate obtained at household level is then compared to the poverty lines

to discuss the impact of shocks on children's well-being that occurred from 2014/15 to 2022, including macroeconomic and fiscal challenges, the COVID-19 pandemic, climate shocks, and conflicts.

The report is structured as follows: the following chapter (Chapter 2) presents the methodological approach used to calculate multidimensional child poverty and the data sources used. Chapter 3 presents the headline results for the levels and trends of child poverty by children's age groups using the MPI and examines deprivation in relevant dimensions and indicators, providing insight into these factors by area, age group and sex. Chapter 4 presents the results from the overlapping child deprivations, focusing on how different dimensions intersect and also examining any overlaps between multidimensional and monetary poverty. Chapter 5 analyses the impact of various shocks, namely macroeconomic and fiscal shocks, the COVID-19 pandemic, climate shocks and conflicts on child poverty and deprivations. Chapter 6 presents potential strategies to address child poverty within the current national context, proposes potential strategies to mitigate the effects of the shocks, and concludes the report, discussing key policy recommendations arising from the results presented. Consequently, the present report also aims at informing government policy and programming regarding shock responsiveness and support in the implementation of different ongoing efforts.

calculated in each survey. These lines measure the cost of acquisition of a basic basket that includes both food products (capable of providing approximately 2150 kcal/person/day) and non-food products. Then, if a family has consumption levels greater than the estimated poverty line, it is not considered poor; in case it has lower consumption levels, it is considered poor from the consumption/monetary point of view. If the aggregate household consumption is below the poverty line, then all family members are considered poor.

2. Data sources and methodology

This report employs a comprehensive methodology to analyse levels and trends of multidimensional child poverty in Mozambique from 2014/15 to 2022. The chosen approach follows the analytical framework established in the previous Multidimensional Child Poverty Report (UNICEF, 2020) and encompasses two primary methodologies: the Multidimensional Poverty Index (MPI) for estimating multidimensional child poverty, and the Multidimensional Overlapping Deprivation Analysis (MODA) for examining the scale and distribution of child poverty across various welfare dimensions, as well as any overlaps between these dimensions and monetary poverty. To target aspects of well-being most relevant in distinct stages of a child's life, the report considers three populations of children, aged 0–4, 5–12, and 13–17.

Data sources

The analytical framework employed in this study draws upon data from the 2014/15, 2019/20 and 2022 household budget surveys (IOF), administered by the Mozambique National Statistics Institute (INE). By leveraging these three rounds of surveys, the study aims to present updated figures for 2019/20 and 2022 while also providing a longitudinal examination of child poverty trends from 2014/15 to 2022.

The authors of the report acknowledge the availability of alternative data sources, such as the DHS surveys. However, the standard DHS data for Mozambique is only available for 2011 and 2022. Although more focused DHS-family surveys, like the AIDS Indicator Survey (AIS) in 2015 and the Malaria Indicator Survey (MIS) in 2018, were conducted, they lack the comprehensive scope needed to measure multidimensional poverty across various dimensions, as provided by the IOF data. As their names suggest, the AIS and MIS concentrate on specific health-related indicators, while the broader 2011 and 2022 DHS surveys cover a wider range of topics. Crucially, the DHS data do not include consumption measures, making it impossible to analyse the overlap between multidimensional poverty indices and monetary poverty indicators.

Additionally, this analysis continues to use IOF data for consistency with the previously published child poverty report (UNICEF, 2020). This approach ensures methodological alignment and comparability of results over time by maintaining the same indicators and dimensions, elicited with the same questions and categories throughout the IOF survey rounds. While the DHS provides valuable insights into child deprivation, switching to a different survey would entail a methodological shift and a change in how indicators are constructed, even if similar dimensions were measured. By continuing to use IOF data, the report maintains a coherent framework for assessing multidimensional child poverty at regular points in time (2014/15, 2019/20, and 2022), ensuring both continuity and analytical rigour.

An interesting avenue for future research would be the development of multidimensional child poverty measures using the DHS data. By attempting to harmonize the indicators from the IOF and DHS surveys as closely as possible, researchers could explore the time trend of multidimensional poverty in greater detail. This approach would offer valuable insights into the evolution of child poverty over time while leveraging the broader range of DHS data for a more nuanced analysis and a richer understanding of poverty dynamics.

Attempts have been pursued to measure child deprivation using both IOF data and DHS data, for example in Mahrt et al. (2020) and in Arndt et al. (2018), in which the same welfare indicators have been selected in both surveys whenever this was possible, sometimes adapting the indicator definitions or the deprivation categories, and coherent results were obtained. The use

of the DHS data also allowed to perform international child deprivation comparisons, given the widespread use and availability of DHS-type statistics in several developing countries.

Nonetheless, differences remain between the two available data sources, IOF and DHS, in the Mozambican case. As an example, IOF questionnaires only ask whether a person is currently married, whereas the DHS questionnaires, in addition to the current marital status, also ask retrospectively to women about the age of first co-habitation with husband/partner. When questions are asked to different pools of respondents and/or in fundamentally different ways, then results can significantly differ. Using different sources of data, different results are obtained, in the Mozambican case but not only there, with respect to early/child marriage estimates, lower using IOF data, higher using DHS data (see Liang et al. (2021) for additional evidence obtained from 98 low- and middle-income countries).

The IOF data, which is used in this analysis, provides information on daily, monthly, and yearly consumption expenditures, housing characteristics, health status, education, employment and other aspects of Mozambican households, with representativeness at the national, urban/rural, regional, and provincial levels. Notwithstanding the similarities between the 2014/15, 2019/20 and 2022 IOFs, some differences exist. The IOF 2014/15 data was collected as a mini-panel dataset, with the same households (about 11.500) being interviewed three times during the data collection period of twelve months. The initial plan was to interview the same households once in each of the four quarters of the survey, but, for different reasons, the third survey quarter did not take place, and INE only made data from the remaining three survey quarters (Q1, Q2, and Q4) available. However, for monetary poverty measurement purposes, a decision was taken by MEF to ignore the longitudinal nature of the data, and to append the three available survey quarters of the IOF 2014/15 as a pooled cross-section (that is, considering the same households interviewed in different quarters as different households). This choice made the IOF 2014/15 largely comparable to the remaining household budget surveys. This approach was followed also with respect to child multidimensional poverty measurement (UNICEF, 2020).⁶ For further details on the IOF 2014/15, please refer to DEEF 2016 and INE 2015. After 2014/15, the design of household budget surveys went back to the method used prior to the IOF 2014/15: households were interviewed only once over the twelve months survey period for the IOF 2019/20 and the IOF 2022, which have a sample size of about 13.300 and 15.300 households respectively (INE, 2015; 2021; 2023).

The sample sizes in terms of children in 2014/15, 2019/20 and 2022 are 30.924, 33.764 and 35.667, respectively. Across all three survey rounds, most of these children (around 80%) live in households with at least 5 members, and approximately two in three children reside in rural areas (see Table 1 **Error! Reference source not found.** for more details on children's characteristics).

⁶ However, given that many child deprivation indicators for the IOF 2014/15 are available only for the first round of the panel, part of the analysis for IOF 2014/15 has been restricted to this period, which anyway contains information for the entire sample of households (see Mahrt et al., 2020).

Table 1: Description of sample by children's characteristics, 2014/15-2022

Survey year	Disaggregation Criterion	Category	Percentage of Children	Sample (Children)
2014/15	All			30,924
	Child's age	0-4 years	31.7	9,390
		5-12 years	41.9	14,432
		13-17 years	26.4	7,102
	Child's sex	Male	50.0	15,289
		Female	50.0	15,635
	Household size	1-2	1.2	353
		3-4	17.2	5,072
		5-6	34.7	10,493
		7+	46.9	15,006
	Place of residence	Rural	71.0	15,898
		Urban	29.0	16,026
2019/20	All			33,764
	Child's age	0-4 years	30.2	9,832
		5-12 years	48.5	16,286
		13-17 years	21.3	7,646
	Child's sex	Male	50.8	16,860
		Female	49.2	16,904
	Household size	1-2	1.6	503
		3-4	20.0	6,558
		5-6	35.7	11,869
		7+	42.7	14,834
	Place of residence	Rural	67.9	17,550
		Urban	32.2	16,214
2022	All			35,667
	Child's age	0-4 years	31.1	10,475
		5-12 years	47.6	16,777
		13-17 years	21.3	8,415
	Child's sex	Male	49.6	17,645
		Female	50.4	18,022
	Household size	1-2	1.8	625
		3-4	22.3	7,876
		5-6	38.7	13,278
		7+	37.2	13,888
	Place of residence	Rural	68.2	16,118
		Urban	31.8	19,548

Note: The sample of children is not weighted, while the percentages are obtained applying survey weights.

Source: Authors' calculations based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

Methodology

In the present report, the Multidimensional Poverty Index (MPI), based on the Alkire and Foster (AF) methodology, serves as the foundation for estimating multidimensional child poverty. Developed by the Oxford Poverty Human Development Initiative (OPHI), this approach enables global and regional comparisons within the Sustainable Development Goals (SDG) framework. By analysing deprivation indicators, the MPI provides insights into the diverse dimensions of child poverty. For consistency with the approach adopted in the national poverty assessments (DEEF, 2016; DNPED, forthcoming), this report adopts the MPI for headline estimates of multidimensional child poverty.

Complementing the MPI, the MODA framework developed by UNICEF draws upon the international framework of child rights to construct dimensions of child well-being (Ferrone et al., 2019; UNICEF 2020). MODA offers a comprehensive understanding of child poverty by exploring overlapping deprivations across multiple dimensions. In addition, in the report we also analyse the existing overlaps between multidimensional and monetary poverty. In this report, monetary poverty is computed having the methodology used in the national poverty assessments as reference (DEEF, 2016; DNPED, forthcoming); this is estimated using consumption per capita as the relevant welfare measure, and the national poverty line as the relevant threshold to distinguish between poor and non-poor. In more detail, monetary poverty is evaluated using the Cost of Basic Needs (CNB) methodology, which is adopted in all National Poverty Assessments. In them, household consumption is assessed based on daily expenses, self-consumption, monthly and annual expenses, etc., including both food and non-food items. The consumption aggregate obtained at household level is then compared to the poverty lines calculated in each survey. These lines measure the cost of acquisition of a basic basket that includes both food products (capable of providing approximately 2150 kcal/person/day) and non-food products. The national poverty line values have evolved over time, passing from 8.3 Meticaïs/person/day in 2002/03 to 17.9 in 2008/09, to 29.2 in 2014/15, to 58.4 in 2019/20, and to 61.3 Meticaïs/person/day in 2022. Once the value of the poverty line has been established, if a family has consumption levels greater than the estimated poverty line, it is not considered poor; in case it has lower consumption levels, it is considered poor from the consumption/monetary point of view. If the aggregate household consumption is below the poverty line, then all family members are considered poor.

Dimensions and Indicators

This report, consistent with the previous Multidimensional Child Poverty Report (UNICEF, 2020), adopts 8 dimensions and 17 indicators of child poverty and deprivation. The dimensions and indicators of multidimensional child poverty reflect the relevance in determining the deprivation of children in Mozambique and the availability of data throughout the period of analysis. The initial selection process was a collaborative effort involving the Ministry of Economics and Finance (MEF), UNICEF, and UNU-WIDER, in close consultation with key stakeholders during the Inception Workshop, hosted by UNICEF in Maputo, Mozambique, in 2016. Maintaining this consistent methodology ensures continuity and comparability in the analysis of child poverty over time, accurately reflecting the conceptualisation and understanding of child deprivation within the Mozambican context.

To capture the diverse needs of children across different life stages, the study divides the population into three age groups: 0-4, 5-12, and 13-17. This categorisation allows for targeted assessments of wellbeing outcomes relevant to each age cohort. Deprivations, on the other hand, are divided into eight dimensions: family; nutrition; child labour; education; health; water, sanitation and hygiene (WASH); participation; and housing. Within each dimension, one or more indicators are defined to measure dimensional deprivation.

In this report, in line with the previous analysis and the Global MPI, the cut-off point between non-poor and poor children is defined as suffering from a third or more of the weighted deprivation

indicators.⁷ For the MPI analysis, each indicator is assigned a weight by age groups, so that dimensions are assigned an equal weight, and within each dimension, each indicator has an equal weight (which can be equal or different across different age groups).

Table 2: Deprivation dimensions, indicators, thresholds and weights by age groups

Dimension	Indicator	Threshold	Weight by age group		
			0-4	5-12	13-17
Family	Parents	At least one parent dead	(1/6)	(1/7)	
	Marriage	Child ever married or in a marital union			(1/7)
Nutrition	Stunting	Height for age less than -2 standard deviation from WHO reference	(1/18)		
	Underweight	Weight for age less than -2 standard deviation from WHO reference	(1/18)		
	Wasting	Weight for height for age less than -2 standard deviation from WHO reference	(1/18)		
Education	Enrolment	Did not attend school in the last year		(1/7)	
	Primary	Did not complete primary education			(1/7)
Child Labour	Child labour	Engages in child labour according to UNICEF/International Labour Organisation definition (UNICEF, 2023d)		(1/7)	(1/7)
Health	Bed net	Did not sleep under a bed net	(1/12)		
	Distance to health facility	More than 30 min to the nearest health facility	(1/12)	(1/7)	(1/7)
WASH	Drinking Water	Unimproved source of drinking water	(1/18)	(1/21)	(1/21)
	Distance to water	More than 30 min to the nearest water source	(1/18)	(1/21)	(1/21)
	Sanitation	Unimproved sanitation type	(1/18)	(1/21)	(1/21)
Participation	Information	No information/communication device (TV, radio, any phone, or computer)	(1/6)	(1/7)	(1/7)
Housing	Crowding	More than four people per room	(1/18)	(1/21)	(1/21)
	Floor and roof	Both floor and roof of primitive materials	(1/18)	(1/21)	(1/21)
	Electricity	Primary source of lighting is not electricity	(1/18)	(1/21)	(1/21)

Note: For the MPI analysis, each indicator is assigned a weight by age group; dimensions have equal weight, and each indicator within a dimension has equal weight. For the MODA calculations, a child is considered deprived in a dimension if they are deprived in any of the indicators within that dimension, so that dimension/indicator weights are not relevant in this case.

Source: Authors' elaboration based on UNICEF (2020).

For the MODA calculations, a child is considered deprived in a dimension if they are deprived in any of the indicators within that dimension. However, in this report, both the MPI and the MODA use the same method for calculating the indicators and the same indicators across age groups, so that at the indicator level the two methodologies produce identical results. The adopted dimensions, indicators, their thresholds and weights by age groups are presented in Table 2 **Error!**

⁷ Check UNDP and OPHI (2019), Global Multidimensional Poverty Index 2019: Illuminating Inequalities. New York and Oxford: United Nations Development Programme (UNDP) and Oxford Poverty and Human Development Initiative (OPHI).

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Multidimensional Poverty Index (MPI)

The AF methodology computes multidimensional poverty by calculating the weighted deprivation count for each child and comparing that to a defined poverty cut-off point. Then, it aggregates individual outcomes across multiple dimensions in a single index. As mentioned above, in the present analysis the cut-off between non-poor and poor children, k , is set to $k=1/3$. That is, children who are deprived in more than a third of the weighted indicators are considered multidimensionally poor. The choice of this cut-off is based on critical aspects of child well-being in Mozambique, on the literature on multidimensional child poverty estimation (Alkire & Robles, 2016) and, especially, on the cut-off used as a benchmark in the Global MPI analyses (UNDP and OPHI, 2019). The headcount ratio, or poverty incidence (H), is the share of children that are identified as multidimensionally poor, i.e. having a weighted deprivation count higher than the cut-off k . This measure bears fundamental relevance, but it does not fully reflect multidimensional poverty levels or trends, since it does not capture the changes in the number of deprivations faced by the poor. The poverty intensity measure (A) captures this by measuring the average weighted deprivation count among those who are identified as multidimensionally poor. The final AF poverty index, M^0 , is expressed as the product of the incidence and the intensity of poverty, $M^0 = HA$ (see Table 3 for more details).

Table 3: Definition of multidimensional poverty indices

Index	Definition
Incidence	Percentage of those considered multidimensionally poor because they are deprived in more than one-third of weighted indicators.
Intensity	The number of deprivations experienced by the poor, where 100 per cent is the maximum possible deprivation intensity.
Poverty index	The product of poverty incidence and poverty intensity, ranging between 0 and 1.

The analysis of child poverty using the AF methodology requires a restriction of the sample to exclude children who have missing values in any of the indicators that are relevant for the respective age group. While for most indicators missing values are scarce, the anthropometrics indicators (stunting, underweight, wasting) have relatively higher numbers of missing values for all three survey waves, especially for the latest survey round. About 17,2% of children in the IOF 2014/15 have at least one of the anthropometric indicators missing, while this percentage is only 7, 6% in the IOF 2019/20 and slightly above 20% in the IOF 2022.⁸ The indicator referring to child labour also presents some missing data, but to a lesser extent compared to the anthropometrics indicators. Slightly more than 4% of the sample of children aged 5 to 17 have missing

⁸ It should be noted that, over time, the missing observations with respect to the anthropometric indicators has increased; this has to do with the fact that INE has progressively entrusted other teams, with more experience in this field and connected to UNICEF, with the task of measuring the various anthropometric variables; however, since the different team visits happen on different days, it frequently occurs that the children initially listed are not available on a subsequent visit, or they are coded differently, creating identification problems.

observations for child labour in IOF 2014/15 and IOF 2022, while the share is only 1.8% in IOF 2019/20.⁹

Multidimensional Overlapping Deprivation Analysis (MODA)

The methodology adopted when applying the MODA framework follows closely that of the Bristol method (Gordon et al., 2003), however, MODA adds emphasis on the life cycle of children by differentiating dimensions and indicators by age group. In addition, the MODA methodology also adopts analytical tools derived from the AF method, so that it suitably complements the MPI analysis (Ferrone et al., 2019; UNICEF, 2020). After establishing the relevant indicators, in the MODA analysis indicators are aggregated into dimensions using the union approach, whereby, differently from the MPI, a child is considered deprived if they are deprived in any of the indicators within a dimension. Dimensions are then weighted equally in the analysis.¹⁰ The MODA methodology is particularly valuable for decomposition analysis and group comparisons. For instance, two groups may exhibit similar headcount ratios but differ in the intensity of deprivation. The group with a higher intensity will have a higher adjusted headcount ratio, highlighting the greater level of deprivation experienced by its members.

Beyond analysing single deprivations, MODA also focuses on the proportion of children experiencing deprivation in at least n dimensions (generally two), which illustrates the multidimensional poverty headcount ratio. Moreover, MODA examines the intersections and overlaps among these dimensions, providing a comprehensive understanding of the compounded effects of various deprivations on the well-being of children.

⁹ As noted by Mahrt et al. (2020), children aged 0 to 4 whose anthropometrics measurements are missing tend to be poorer than their counterparts in IOF 2014/15. This is confirmed in the IOF 2022, where the share of missing anthropometric measurements is even higher. In particular, 75.7% of children whose anthropometrics indicators are missing are poor in monetary terms, compared to 70.7% of children aged 0-4 for whom these indicators are reported in the survey. The difference in monetary poverty incidence for children aged 5 to 12 whose labour data are not observed is even higher, with 80.0% of children with missing data being consumption poor, vis-à-vis 69.0% of children with non-missing labour data. The non-random nature of missing data might imply that our measurements may underestimate multidimensional child poverty in the country. Tables including the share of missing values by indicator and province for each survey round can be found in Appendix A (Tables A.1, A.2 and A.3).

¹⁰ The MODA methodology also generates three key sets of multidimensional results derived from the AF method: the headcount ratio, the intensity of deprivation, and the adjusted headcount ratio. While these three measures are named in the same way as in the MPI analysis described above, it is important to note that the criteria to aggregate the indicators are different for the MODA and the MPI. As mentioned above, the MODA uses the union approach to aggregate indicators into dimensions, whereby a child is deprived if they are deprived in any of the indicators of that dimension. Conversely, the MPI defines as multidimensionally poor those children whose weighted deprivation count is higher than the established cut-off (1/3), independently of the dimensions in which the indicators are placed. In the MPI, the weights are applied to the indicators so that each indicator within a dimension has equal weight. This means that, for the same cut-off, the MPI and the MODA methodologies present different results in terms of headcount ratio, intensity, and adjusted headcount ratio. To avoid confusion and for consistency with the National Poverty Assessments, in this report we refer to headcount ratio, intensity and adjusted headcount ratio exclusively when referring to the results computed with the AF method for the MPI.

Data limitations

The 2022 survey presented some limitations with respect to nutrition/anthropometric indicators, namely Stunting, Underweight, and Wasting. The nutrition/anthropometric module of the IOF 2022 presented a different set of member identifiers compared to the other modules (while the household identifiers coincided). This prevented the various databases from being joined at the individual level and thus impeded the accurate computation of simultaneous deprivation estimates, as required by the MPI and MODA methodologies. With support from INE and UNICEF, a "fuzzy" merging procedure was employed to link most under-five children across the datasets. This method allowed successfully matching 97% of the children based on children's full names. The minimal differences between the full sample and the matched sample affirm the reliability of the malnutrition estimates. For additional details on this data issue, see the Methodological Note in Appendix B.

3. Child Poverty in Mozambique

This chapter offers a detailed examination of the levels and trends of child poverty in Mozambique. It explores the primary components of multidimensional child poverty and assesses deprivation across different indicators and dimensions. Furthermore, it provides insights into these factors by area, age group, and sex, highlighting the diverse experiences of child poverty within the country.

Child poverty by indicator and dimension

Table 4 and Table 5 illustrate the deprivation rates for each indicator by area and relevant age groups in 2019/20 and 2022. With the exception of the Parents indicator for both 2019/20 and 2022, and the Distance to health facility indicator in 2022, deprivation rates are markedly higher in rural areas compared to urban areas, and they broadly show an increasing trend from the southern to northern regions¹¹.

Table 4: Deprivation rates by indicator and area (%), 2019/20

Dimension	Indicator	Age	National	Rural	Urban	North	Centre	South
Family	Parents	0-12	8.7	8.4	9.5	7.1	9.5	10.5
	Marriage	13-17	6.5	7.9	4.1	7.6	6.7	4.4
Nutrition	Stunting	0-4	37.5	41.7	27.2	44.9	39.4	14.2
	Underweight		14.8	16.8	10.0	18.6	11.8	3.1
	Wasting		3.9	4.1	3.4	5.7	3.0	2.0
Education	Enrolment	5-12	12.9	15.5	7.2	18.6	11.8	3.1
	Primary Education	13-17	63.9	77.5	40.9	76.8	68.2	36.2
Labour	Labour	5-17	15.0	19.1	6.6	14.9	17.4	9.5
Health	Bed net	0-4	30.6	36.2	17.3	23.2	36.7	30.7
	Health facility	0-17	31.2	44.9	2.3	31.7	34.5	22.1
WASH	Water	0-17	45.6	58.6	18.1	51.4	52.4	16.9
	Water distance		8.7	11.5	2.6	12.2	6.9	5.5
	Sanitation		70.1	83.6	41.7	76.6	75.9	42.7
Participation	Information	0-17	29.5	37.4	12.9	40.0	30.4	5.6
Housing	Crowding	0-17	9.5	11.5	5.3	5.7	13.2	8.6
	Floor/roof		54.2	68.9	23.2	69.3	59.7	9.3
	Electricity		65.0	83.1	27.0	67.6	75.2	35.2

Source: Authors' calculations based on IOF 2019/20 data.

The latest rounds of IOF reveal that more than two-thirds of Mozambican children still lack access to adequate sanitation, with deprivation rates reaching levels as high as 83,6% in rural areas in 2019/20. Furthermore, more than 60% of children have not completed primary education at the national level in both 2019/20 and 2022, with the deprivation rate exceeding three-quarters in rural areas.

¹¹ For more information regarding the statistical significance of the differences over time for main indicators, see Table B2. in Additional Annexes.

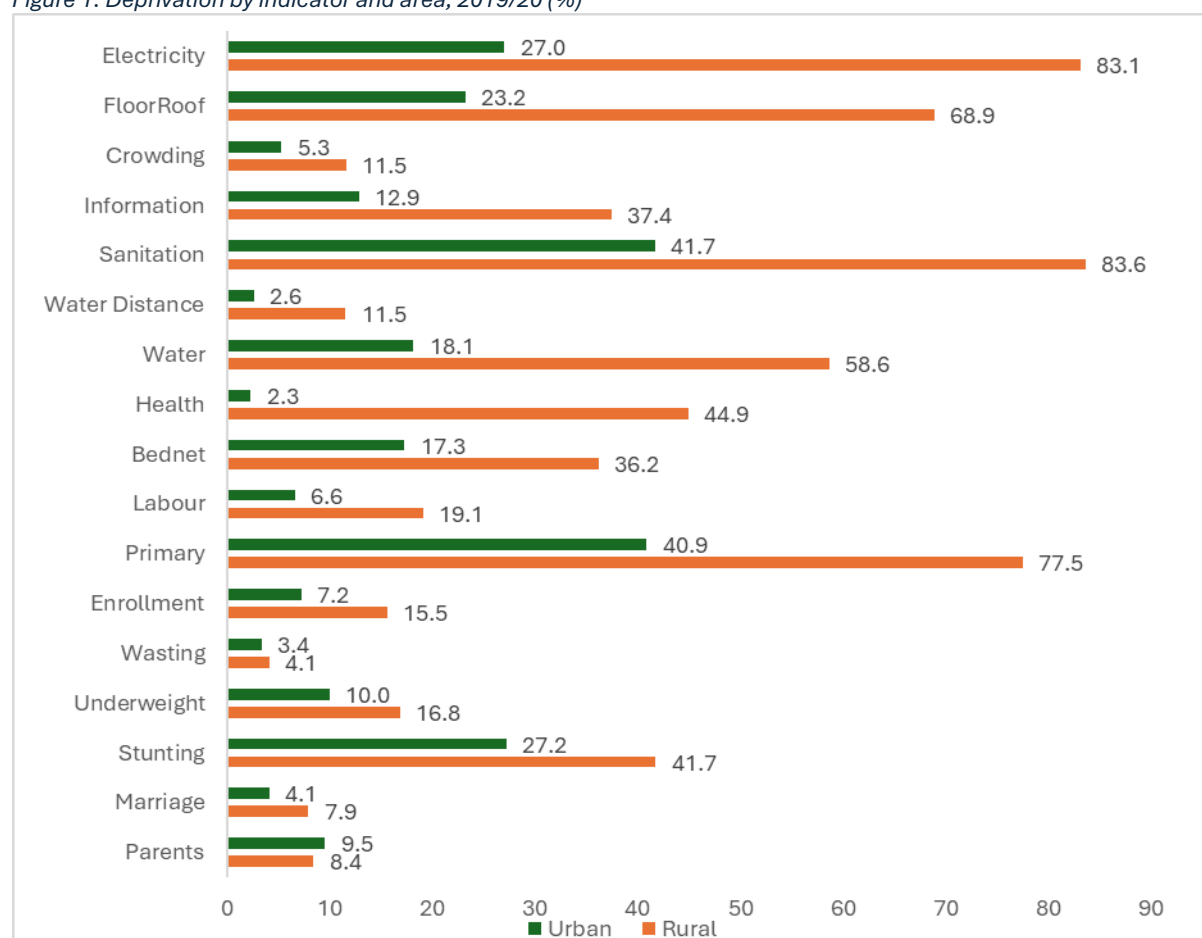
Table 5: Deprivation rates by indicator and area (%), 2022

Dimension	Indicator	Age	National	Rural	Urban	North	Centre	South
Family	Parents	0-12	8.5	8.4	8.9	7.8	9.0	8.7
	Marriage	13-17	6.8	8.6	3.9	8.9	7.3	3.0
Nutrition	Stunting	0-4	35.1	38.3	26.6	41.3	35.6	18.4
	Underweight		14.4	16.1	9.9	17.7	14.9	4.7
	Wasting		6.0	6.4	5.0	7.5	5.5	4.1
Education	Enrolment	5-12	22.7	26.7	14.1	34.9	19.7	4.7
	Primary Education	13-17	60.3	73.8	38.2	77.3	63.9	29.9
Labour	Labour	5-17	11.6	15.4	4.0	10.1	14.6	7.6
Health	Bed net	0-4	35.5	40.9	21.1	40.7	32.8	30.8
	Health facility	0-17	29.4	28.6	31.2	30.3	30.5	25.0
WASH	Water	0-17	40.5	51.2	17.5	48.8	44.8	12.4
	Water distance		7.1	9.0	3.1	11.3	4.7	4.4
	Sanitation		69.6	82.2	42.6	80.1	74.4	35.9
Participation	Information	0-17	34.1	41.6	17.8	44.4	36.2	8.1
Housing	Crowding	0-17	7.6	8.9	4.8	5.4	8.9	8.8
	Floor/roof		52.4	66.0	23.2	69.8	55.6	8.3
	Electricity		60.5	77.7	23.5	64.4	69.8	29.3

Source: Authors' calculations based on IOF 2022 data.

The urban-rural divide is particularly pronounced in Health, WASH and Housing indicators, with disparities in the deprivation rates exceeding 40 percentage points for many of the indicators in these dimensions. For instance, in 2022, over three-quarters of children in rural areas still lacked access to electricity, compared to 23,5% of their urban peers. Similar disparities are observed across different regions, creating a stark contrast between northern and southern regions. In the North, nearly one in two children lacked access to safe drinking water, compared to 12,4% in the South. Results are depicted in Figure 1 and Figure 2.

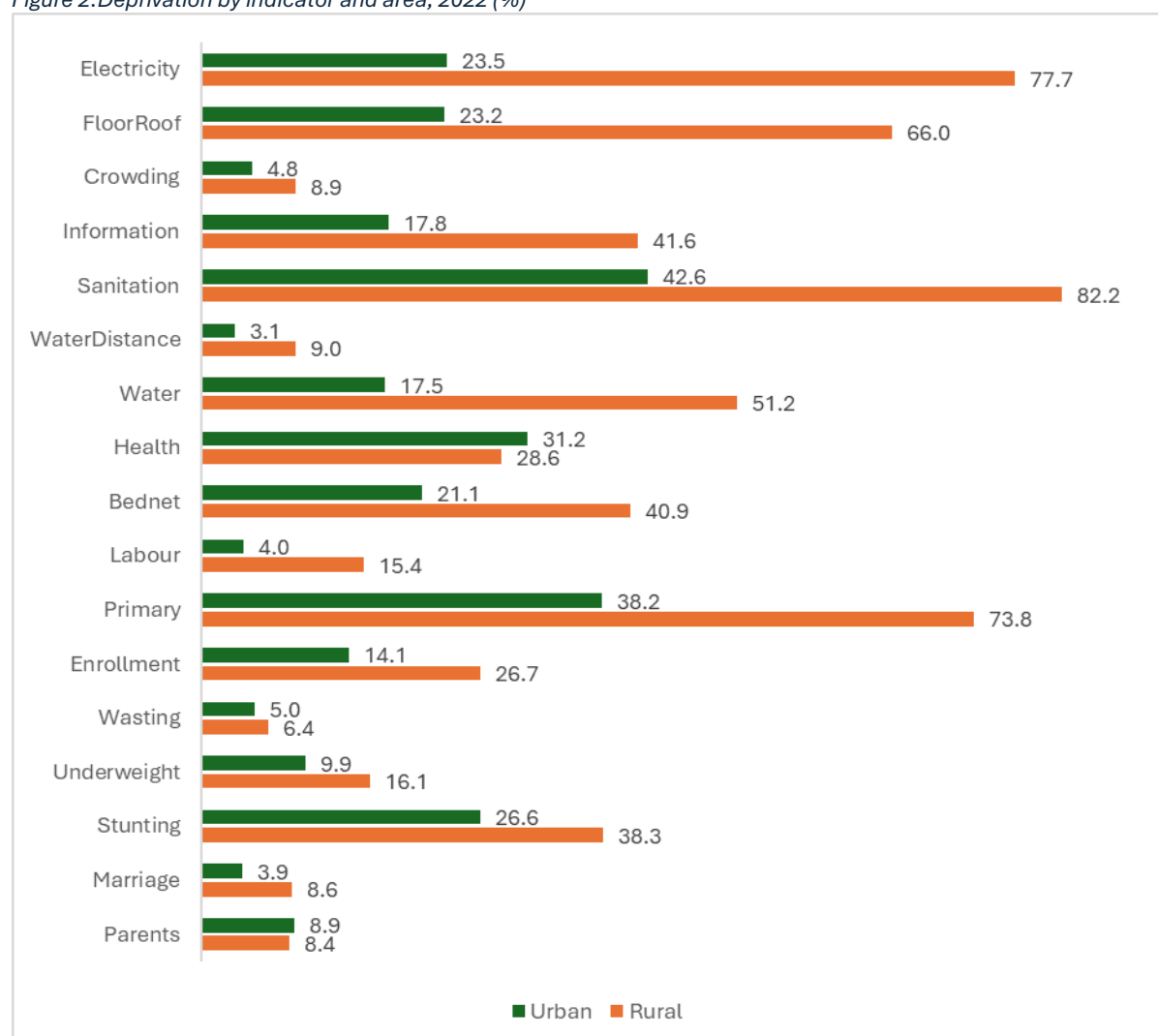
Figure 1: Deprivation by indicator and area, 2019/20 (%)



Note: For more information regarding the statistical significance of multidimensional poverty indicators, see Table B2 in the Additional Annexes.

Source: Authors' calculations based on IOF 2019/20 data.

Figure 2: Deprivation by indicator and area, 2022 (%)



Note: For more information regarding the statistical significance of multidimensional poverty indicators, see Table B2 in the Additional Annexes.

Source: Authors' calculations based on IOF 2022 data.

Gender differences (see Figure 3, Figure 4 and Figure 5, and Table A. 4, Table A. 5 and Table A. 6 in Appendix A) in deprivation rates by indicator continue to be minimal across various indicators throughout the years, with the notable exception of the Marriage indicator. Girls experience significantly higher deprivation rates, with rates averaging 12,2% compared to approximately 1,3% for boys in 2019/20 and 2022. This disparity is even more pronounced in the North of the country, where the deprivation rate for girls rises to about 15% for the latest survey rounds. Another indicator for which gender differences are relevant is Stunting: boys are more deprived than girls throughout the survey period (40,4% versus 35,5% in 2019/20 and 38,2% versus 32,2% in 2022).¹²

¹² This is a consistent finding in many studies on Sub-Saharan African countries, see for example Thompson (2021), Wamani et al. (2007), Thurstans et al. (2020), Vaidik and Wenzel (2018), Bork and Diallo (2017), Samuel et al. (2022), Ekholuenetale et al. (2022), Quamme and Iversen (2022); and for Mozambique, see Garcia Cruz et al. (2017), Deutsch and Silber (2019), Salvucci (2016).

Box 1: The challenge of child marriage: a persistent issue

One of the deprivation indicators adopted in this report is *Child Marriage*, which refers to any formal marriage or informal marital union between a child (under 18 years of age) and an adult or another child.

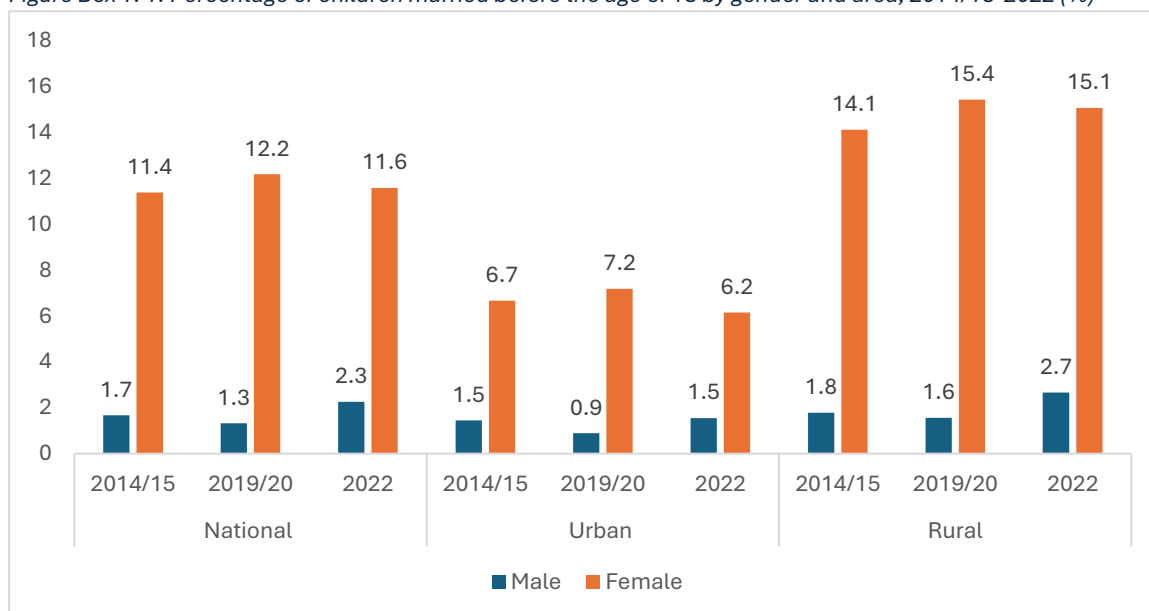
Child marriage can have dramatic and life-long consequences for girls' development: it can result in early pregnancy, interrupted schooling, limited opportunities for career and vocational advancement and an increased risk of domestic violence. In addition, girls who marry underage tend to have lower health and economic outcomes than their peers, and these disadvantages can be passed down to their children, entrenching socio-economic vulnerabilities (UNICEF, 2023a).

Despite a decline in this practice in the last few decades, child marriage remains widespread. As of 2023, globally about one in five girls aged 20 to 24 were married when underage, a share decreasing from one in every four girls about ten years ago (UNICEF, 2023a). However, much of this progress has been driven by India and other South Asian countries, while the situation in other parts of the world, such as much of Africa, has virtually stalled. According to the recent estimates, in Eastern and Southern Africa, about 9% of women aged 20 to 24 were married by age 15, while 32% were married by age 18 (UNICEF, 2023a).

While boys and girls who marry in childhood do not face the same risks and consequences due to biological and social differences, this practice is a violation of human rights for both sexes. Reflecting ingrained gender inequalities and social norms, child marriage is globally six times more common among girls than among boys (UNICEF, 2023b).

In Mozambique, the issue of child marriage is widespread. Surveys adopting the standard measure of child marriage, i.e. the percentage of women aged 20 to 24 years who were first married or in a union before age 18 (UNICEF, 2023c), find the prevalence of child marriage in the country to be even higher than the global average. The DHS and IMASIDA surveys, implemented in 2011 and 2015 respectively, found that about 50% of girls get married before turning 18 in Mozambique (UNFPA, 2020).

Figure Box 1. 1: Percentage of children married before the age of 18 by gender and area, 2014/15-2022 (%)



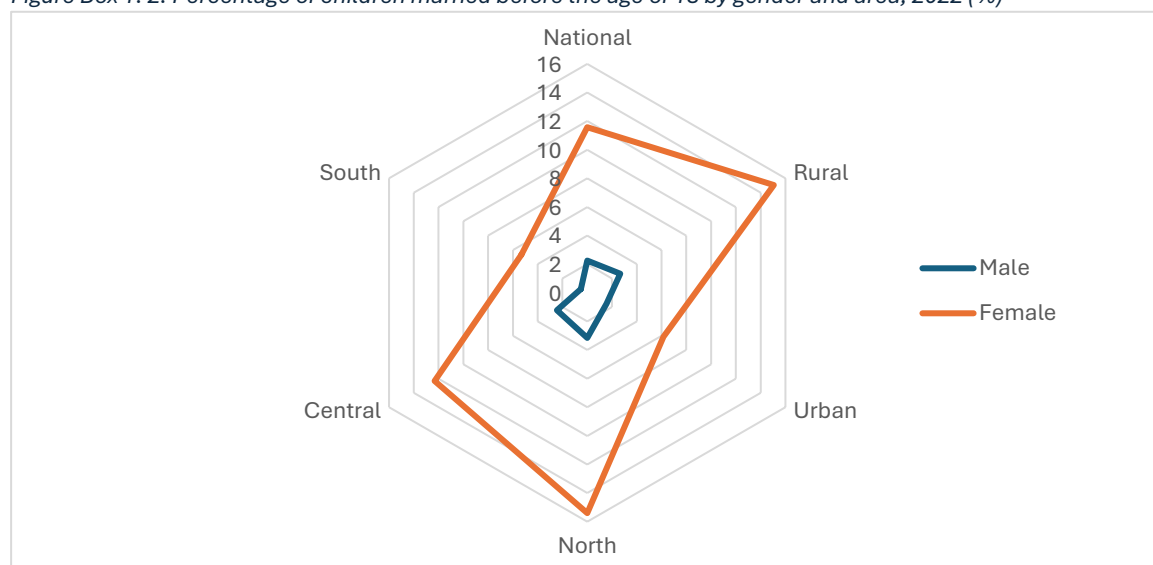
Source: Authors' calculations based on IOF 2014/15, IOF 2019/20 and IOF 2022 data

Other data, such as the population census and the IOF data employed here, ask about the marriage status of children aged 13 to 17 when the child is still underage. This is likely to underestimate the extent of this harmful practice in Mozambique, given that, fearing prosecution, households may not report the true marital status of their children. The 2017 Census finds that 28% of girls aged 15 to 17 had already been married or in a union. This percentage has decreased by only 2 percentage points since 1997 (UNFPA, 2020).

Despite the potential issues of underestimation mentioned above, the IOF data analysed in this report give updated and crucial insights into this issue in the country. At the national level, the prevalence of child marriage has virtually stagnated for girls and slightly increased for boys. In particular, while little change has occurred at the national level, there has been an increase of about 1 percentage point in the prevalence of this practice in rural areas for both boys (from 1.8% to 2.7%) and girls (from 14.1% to 15.1%) from 2014/15 to 2022. The share of girls aged 13-17 in a marriage or union continues to be more than twice as high in rural areas in 2022, with almost one every seven girls (15.1%) in a child marriage compared to only 6.2% in urban Mozambique.

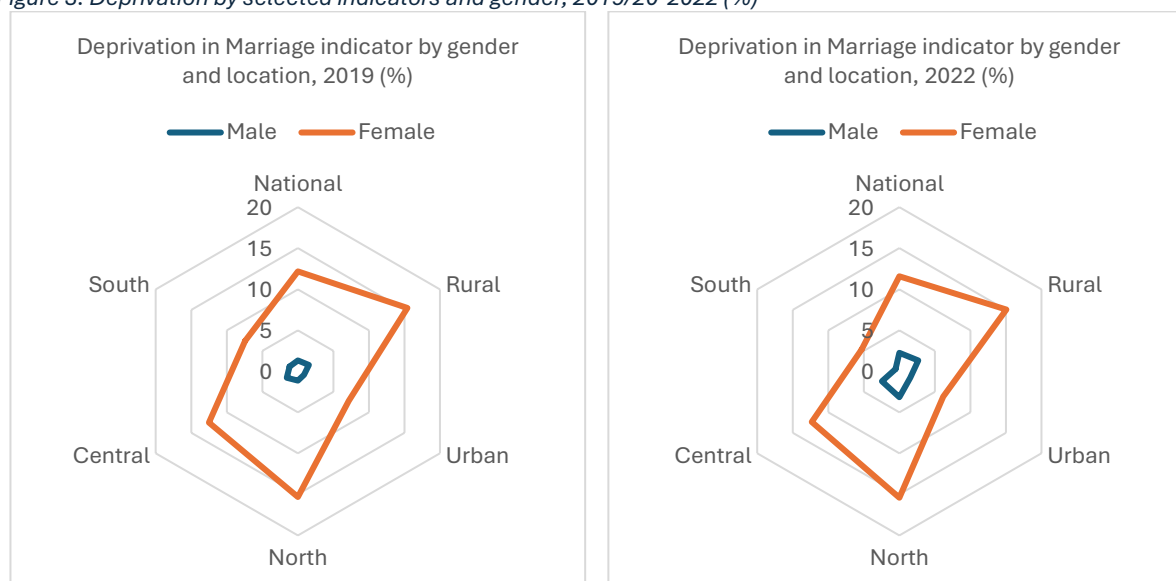
The “gender abyss” of child marriage (UNICEF, 2020) has not shown any decline in the past years, with the share of married girls being 5 to 7 times higher than that of married boys. In particular, at the national level, 2.3% of boys are married or in a union, while the share is 11.6% for girls. The gap is the largest in absolute terms in rural areas (2.7% vs. 15.1%) and in the North of the country (3.2% vs. 15.4%), while it is lower in urban areas (1.5% vs. 6.2%) and in the South (0.5% vs. 5.3%).

Figure Box 1. 2: Percentage of children married before the age of 18 by gender and area, 2022 (%)



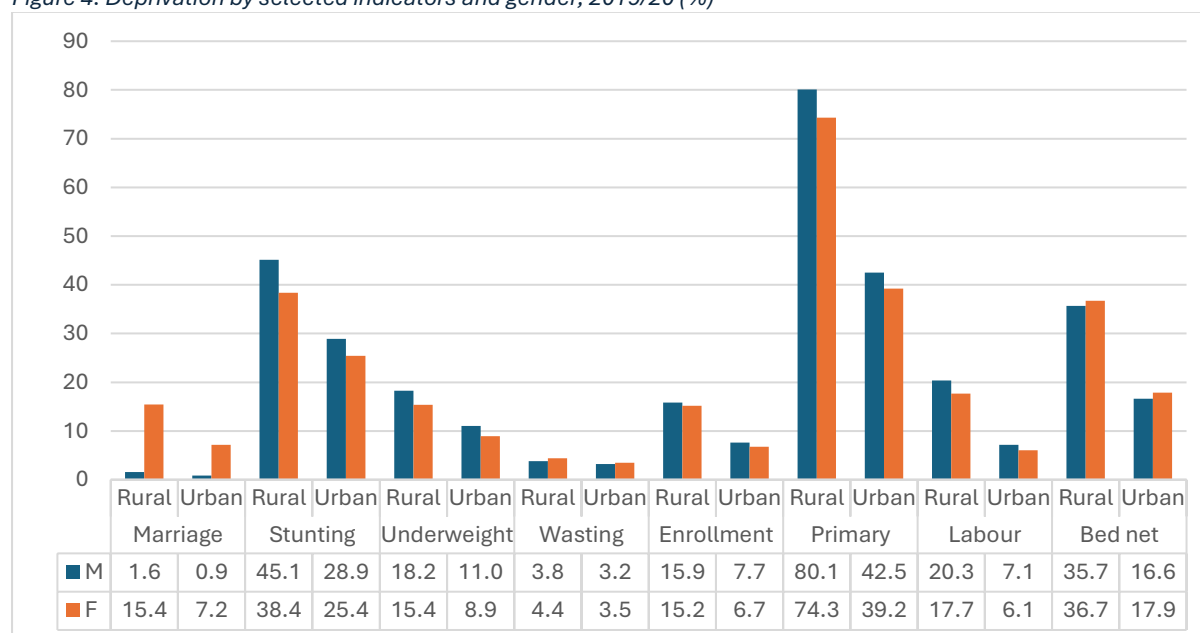
Source: Authors' calculations based on IOF 2022 data.

Figure 3: Deprivation by selected indicators and gender, 2019/20-2022 (%)



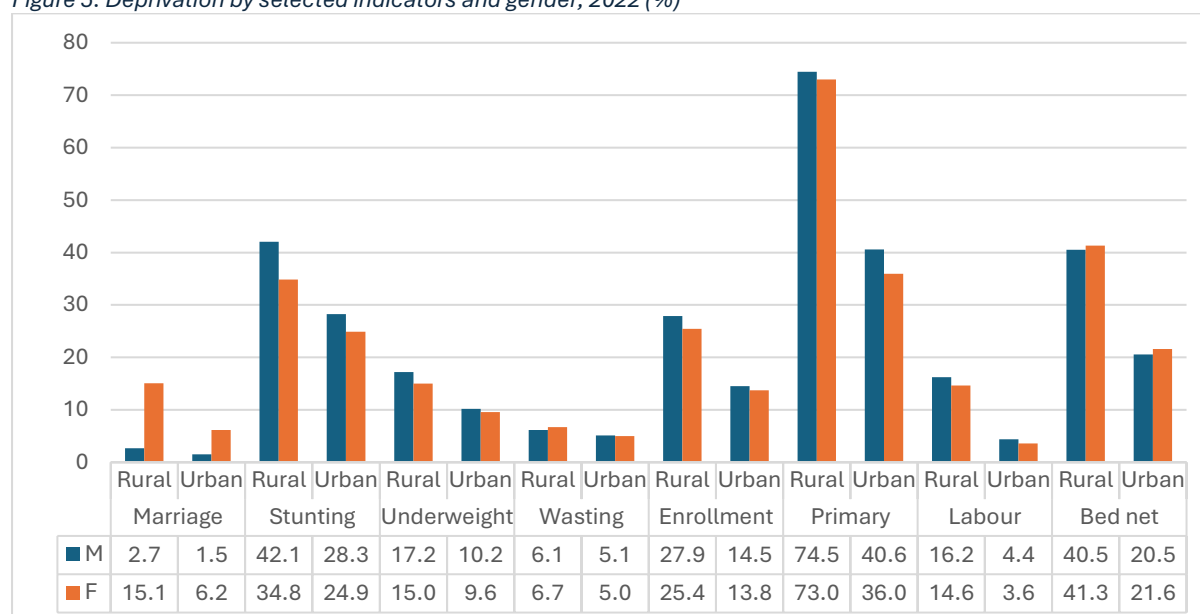
Source: Authors' calculations based on IOF 2019/20 and IOF 2022 data.

Figure 4: Deprivation by selected indicators and gender, 2019/20 (%)



Source: Authors' calculations based on IOF 2019/20.

Figure 5: Deprivation by selected indicators and gender, 2022 (%)



Source: Authors' calculations based on IOF 2022 data.

Figure 6 reports the changes in deprivation rates across various indicators from 2014/15 to 2022. Notable trends include a modest decrease in the stunting rate, which fell from 42,4% in 2014/15 to 35,1% in 2022. The underweight indicator also shows a slight decrease (15,7% in 2014/15 to 14,4% in 2022), while wasting increased from 4,4% in 2014/15 to 6,0% in 2022. Moreover, Figure 6, panels a, b, and c, presents in more detail trends in deprivation for each indicator in the Education, WASH, and Housing dimensions.

Between 2014/15 and 2019/20, there has been a significant decrease in deprivation rates in enrolment, which is likely a result of Mozambique's development experience in previous years and the government's sustained efforts to enhance access to education. This positive trend also aligns with other international data, where both gross and net enrollment rates show improvements (UIS, 2024). For instance, according to UNESCO Spotlight on Basic Education Completion and Foundational Learning Report between 2015 and 2020, the number of students enrolled in primary education increased by over 22%, from 5.9 million to 7.2 million students in Mozambique (2023).

Between 2019/20 and 2022, the immediate adverse effects of various socio-economic, climate and health shocks, including the COVID-19 pandemic, climate disasters and conflicts, are observed in the rise in deprivation rates for enrolment. These events disrupted the education system, leading to the closure of schools, reduced attendance and therefore decreased enrolment rates. While the initial improvement in enrollment reflects successful government initiatives and broader developmental progress, the subsequent rise in deprivation rates underscores the vulnerability of these gains to external shocks.

While enrolment rates can quickly fluctuate in response to immediate crises; the slower response change in completion rates to these shocks can be attributed to the cumulative nature of educational attainment, which is less sensitive to short-term disruptions and more reflective of long-term trends in the education system.

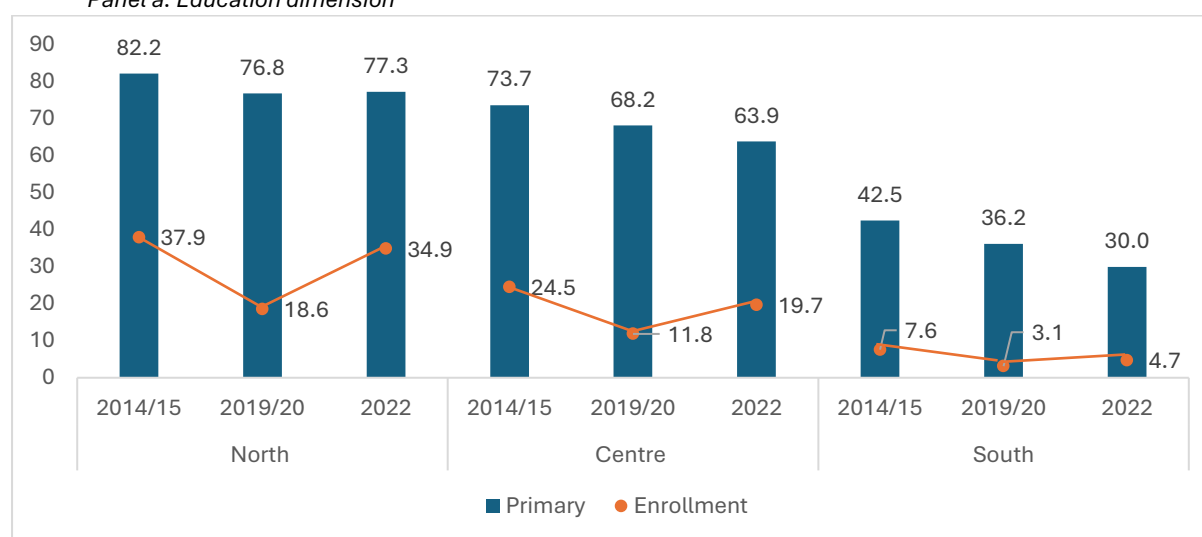
Looking at the WASH dimension, Figure 6 panel b shows that there has been a modest decline in deprivation rates in all indicators within this dimension, except for the level of deprivation in

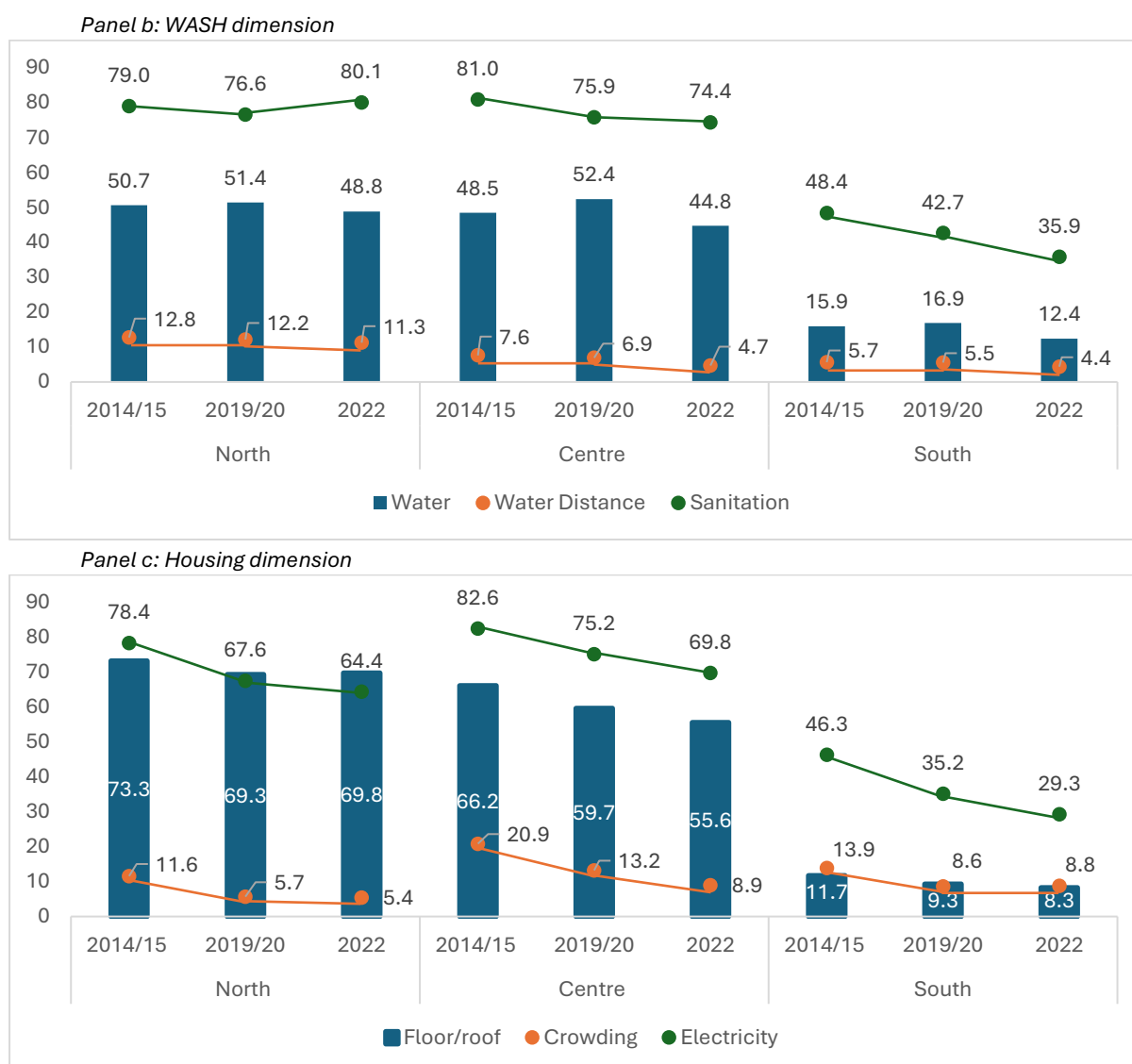
Sanitation in the North of the country. However, for all indicators, the decline has been relatively minor. About one in two children lack access to safe water in the northern provinces, and the deprivation rate is only marginally lower in the Centre. Children in the South face much lower deprivation rates, declining from 15,9% in 2014/15 to 12,4 in 2022. Access to adequate sanitation is especially concerning, given that about three out of four children are still deprived in 2022 in the North (80,1%) and Centre (74,4%). This rate is less than half in southern Mozambique, where the decline in deprivation rates has also been more marked, reaching 35,9% in 2022. The indicator referring to the distance from the nearest water source has declined only marginally across regions.

Panel c presents deprivation rates in the indicators of the Housing dimension, i.e. Floor/roof, Crowding, and Electricity. The decline in deprivation rates is steeper in the Electricity indicator, with a decrease of more than 10 percentage points in all regions. In particular, the deprivation rate drops from 46,35% in 2014/15 to 29,3% in 2022 in southern Mozambique. In the North and Centre, however, more than 60% of children lack access to electricity in their homes in 2022. The share of children deprived in Crowding and Floor/roof declines especially in the Centre from 2014/15 to 2022, but the rate of deprivation in Floor/roof remains at a very high level in 2022 (55,6%). Indeed, both in Central and Northern Mozambique more than one in every two children lives in a house where both the floor and roof are made of primitive materials. The situation is very different in the South, where this percentage is only 8,3% in 2022. On the contrary, regional differences are not very prominent in the Crowding indicators, which varies from 8,9% (Centre) to 5,4% (North) in 2022.

Figure 6: Deprivation in the indicators in the Education, WASH, and Housing dimensions, 2014/15-2022 (%)

Panel a: Education dimension





Source: Authors' calculations based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

All WASH indicators show a gradual decrease in deprivation from 2014 to 2022. However, despite these improvements, deprivation rates remain still high. For instance, deprivation in sanitation decreased around 4 percentage points from 2014/15 to 2022, yet two-thirds of Mozambican children are still deprived in this indicator.

Moreover, the crowding indicator demonstrates a marked decline, reducing from 16,2% in 2014/15 to 7,6% in 2022. The deprivation rate for access to electricity also improve significantly, by decreasing almost 15 percentage points, from 73,6% in 2014/15 to 60,5% in 2022.

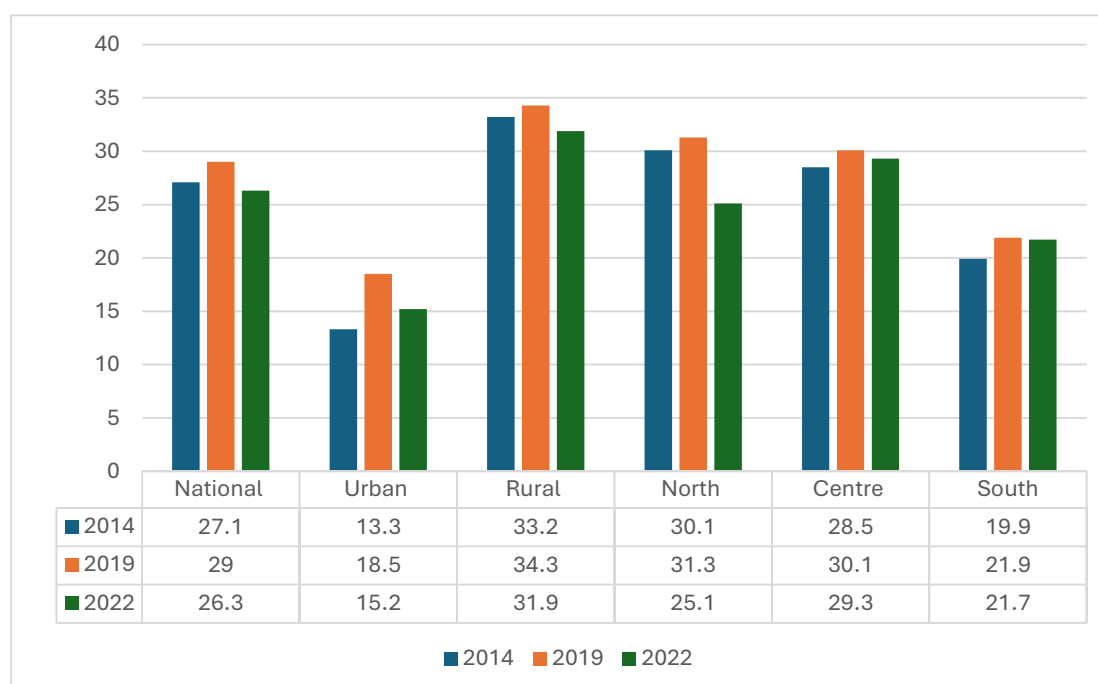
Box 2: How distant are primary schools from the children they should cater to?

All the rounds of IOF data analysed in this report (IOF 2014/15, IOF 2019/20, IOF 2022) include information on how distant the nearest primary school is from the households interviewed. Along the lines of the data collected on distance from water sources and health centres, this information is elicited by asking a household member how long it takes to walk to the facility in question.

While the data on distance from water sources and health centres inform two of the indicators adopted in this report, a decision was made not to include an indicator on distance from schools in the analysis. There are two key reasons behind this choice. First, the IOFs only gather information about distance from primary schools, and therefore an indicator built on this data would only apply to children for whom access to primary school is relevant. This includes children in primary school ages (6 to 12) and older children who have not completed primary. However, some older children could be attending secondary school and given that primary and secondary education are often not offered in the same facilities, adopting this indicator for children in the age group 13-17 could be misleading in representing access to relevant education. In addition, the IOF surveys gather information on education that is arguably more relevant and informative than the mere physical distance from schooling facilities, i.e. enrolment status and level of education completed. These two indicators are those adopted in this report to inform the Education dimension.

However, the presence of a primary school on the territory is an important indicator of access to a key public service, and it is informative to understand how the availability of primary education has evolved over time. Figure Box 2. 1 shows the share of children whose households are further than a 30-minute walk from primary schools. Overall, at the national level, there has been only a marginal decrease from 2014/15 to 2022, with about one in every four children still living further than a 30-minute walk from the nearest primary school facility in 2022.

Figure Box 2. 1: Share of children whose household is located further than a 30-minute walk from the nearest primary school



Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

In rural areas schools are located much further from children on average, with almost one in three children living further than 30 minutes away (31.9%) versus only 15.2% of children in urban areas. The gap between the North and the South of the country, which was about 10 percentage points in 2014/15, has decreased to about 3 percentage points in 2022. However, as mentioned elsewhere, it is important to note that the security situation in the Northern province of Cabo Delgado has made data collection impossible in the areas of the province that are more affected by the ongoing conflict, leading to potential underestimation of this indicator.

Table Box 2. 1: Average and median distance from the nearest primary school by year and location

	Average			Median		
	2014	2019	2022	2014	2019	2022
National	33.1	32.9	29.9	20	20	20
Urban	21.2	25.7	21.7	15	20	15
Rural	37.9	36.3	33.8	25	25	20
North	35.3	33.9	29.7	20	20	20
Centre	34.4	34.6	31.3	20	25	20
South	26.5	26.6	27.1	16	20	20

Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

Multiple reasons could concur to explain the apparent stagnation in this indicator. Indeed, while various new primary schools have been opened in the country over the years in analysis, a series of shocks have implied that many schools were closed, or their infrastructure was seriously damaged. Cases in point are the multiple climate shocks that hit Mozambique from 2014 to 2022. Cyclone Idai, which made landfall in central Mozambique in March 2019, caused widespread destruction and the damage or destruction of about 3400 classrooms, affecting more than 300.000 children (UNICEF, 2019).

Violent conflicts also took a toll on education in the country and continue to present serious challenges. The ongoing conflict in Northern Mozambique has caused the closure of more than 100 schools in Cabo Delgado and Nampula provinces (UNICEF, 2024), with already 120.000 students affected in 2021 (Deutsche Welle, 2021). In addition, the IOF data does not allow us to estimate the impact of conflict-related internal displacement on access to education. Indeed, by late 2022, about one million people were internally displaced in Northern Mozambique, with 51% of this population being children (IOM, 2022).

Box 3: Child labour in Mozambique: definition and characteristics

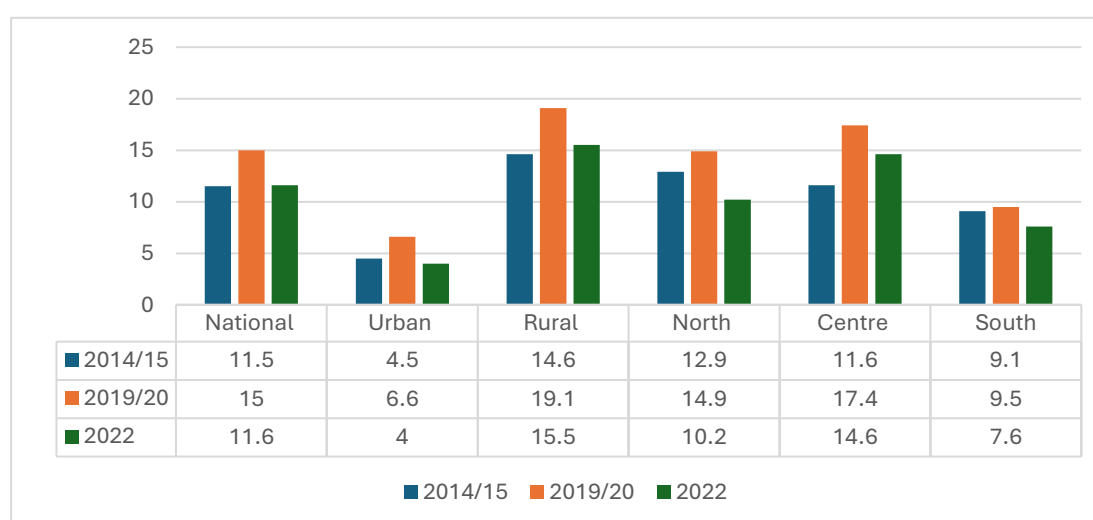
Child labour remains a persistent global problem. Worldwide, it is estimated that before the COVID-19 pandemic about 1 in 10 children were involved in child labour, that is about 63 million girls and 97 million boys. Nearly half of these children were taking part in work that is deemed to be hazardous, directly putting their health and safety at risk (ILO and UNICEF, 2021). Worryingly, progress against child labour has stalled on the global level since 2016. Because of the global crisis following the COVID-19 pandemic, an additional 8.9 million children are estimated to be in child labour by the end of 2022 (ILO and UNICEF, 2021). There are however stark regional differences: while there has been progress in Asia and the Pacific and Latin America and the Caribbean, in sub-Saharan Africa (SSA) both the percentage and the absolute number of children in child labour has increased from 2016 to 2020. Indeed, by 2022 about 1 in every 4 children were involved in child labour in SSA (UNICEF, 2023d).

Not all types of work are considered child labour or harmful to children. Following the international conventions defined in the 19th International Conference of Labour Statisticians and adopted by UNICEF and ILO, we define child labour as “work that children are too young to perform and/or work that, by its nature or circumstances, is likely to harm children’s health, safety or morals”. Light labour that does not harm children’s health, safety and development, and does not prevent attending school or other types of training programmes is not considered child labour. In this report we adopt the standard thresholds defined by UNICEF (2023d), which categorizes the following as child labour:

- Age 5 to 11 years: At least 1 hour of economic work or 21 hours of unpaid household services per week.
- Age 12 to 14 years: At least 14 hours of economic work or 21 hours of unpaid household services per week.
- Age 15 to 17 years: At least 43 hours of economic work per week.

Based on this definition, the prevalence of child labour in Mozambique has remained unchanged from 2014/15 to 2022. The share of children involved in child labour peaks in 2019/20, reaching about 15%, and then reverts to levels seen in 2014/15, with about 1 in every 9 children involved in child labour at the national level. Child labour is about three times more common in rural areas compared to urban ones and tends to be more common in the Centre and North compared to the South.

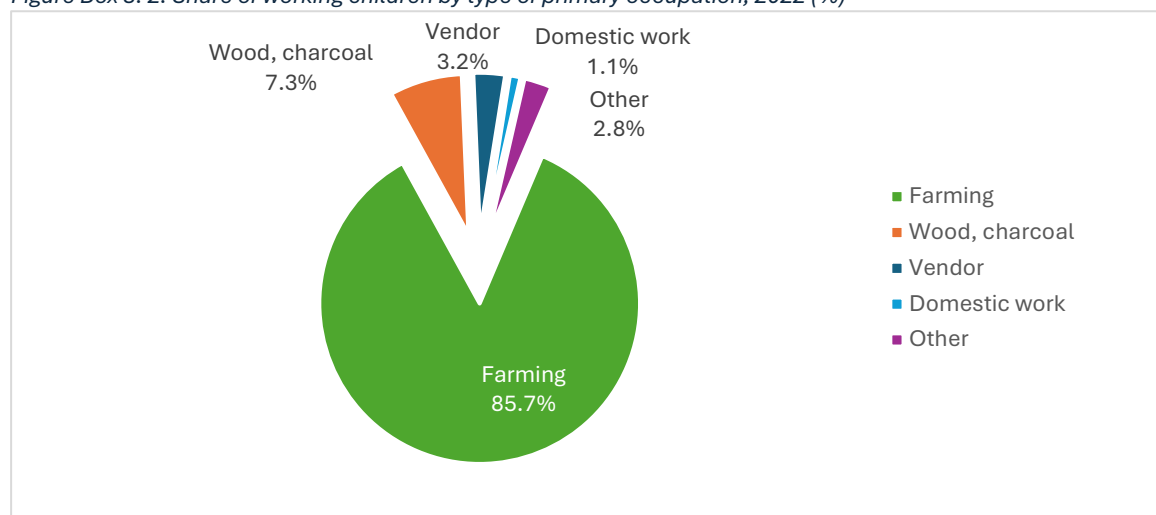
Figure Box 3. 1: Share of children involved in child labour by year and area (%)



Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

As is also the case worldwide (ILO and UNICEF, 2021), the vast majority of child labour occurring in Mozambique is in the agricultural sector, with more than 85% of working children reporting farming as their main occupation. This share is even higher than the global average, which is about 70% of children involved in child labour working in agriculture (ILO and UNICEF, 2021). A non-negligible percentage of working children (7.3%) works as lumberjacks, bricklayers, and other similar occupations in 2022, while 3.2% work as vendors in markets and stalls.

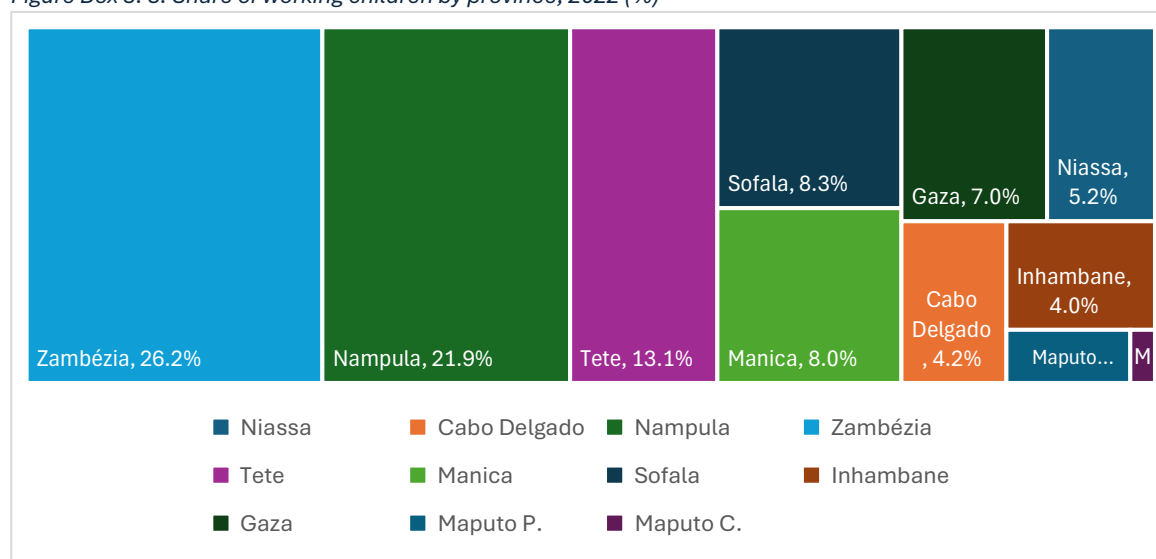
Figure Box 3. 2: Share of working children by type of primary occupation, 2022 (%)



Source: Authors' calculation based on IOF 2022 data.

Figure Box3.3 presents the geographical distribution of working children across provinces of Mozambique. Zambézia (26.2%) and Nampula (21.9%) are home to a very large share of the children involved in child labour, both because of a high prevalence of the practice in these provinces and because of their sizeable population. About 13% of working children live in Tete, while only less than 2% live in Maputo City and Maputo Province combined.

Figure Box 3. 3: Share of working children by province, 2022 (%)



Source: Authors' calculation based on IOF 2022 data.

Table 6: Deprivation rates by indicator and survey year, and change over the 2014/15-2022 period

Dimension	Indicator	IOF 2014/15	IOF 2019/20	IOF 2022	Overall change IOF2014/15 to IOF2022
Family	Parents	9.6	8.7	8.5	-1.1
	Marriage	6.3	6.5	6.8	0.3
Nutrition	Stunting	42.4	37.5	35.1	-7.3
	Underweight	15.7	14.8	14.4	-1.3
	Wasting	4.4	3.9	6.0	1.6
Education	Enrolment	25.9	12.9	22.7	-3.2
	Primary Education	68.1	63.9	60.3	-7.8
Labour	Labour	11.5	15.0	11.6	0.1
Health	Bed net	38.6	30.6	35.5	-3.1
	Health facility	32.8	31.2	29.4	-3.4
WASH	Water	42.5	45.6	40.5	-2.0
	Water distance	9.0	8.7	7.1	1.9
	Sanitation	73.5	70.1	69.6	-3.9
Participation	Information	24.9	29.5	34.1	9.2
Housing	Crowding	16.2	9.5	7.6	-8.6
	Floor/roof	57.2	54.2	52.4	-4.8
	Electricity	73.6	65.0	60.5	-13.1

Note: For more information regarding the statistical significance of differences in multidimensional poverty indicators over time, see Table B2 in the Additional Annexes.

Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

The scale and intensity of child poverty

Table 7 presents multidimensional poverty outcomes, namely incidence, intensity and poverty index, and monetary poverty, by area, age group and sex.¹³ In 2019/20, Mozambique's multidimensional poverty index at the national level was recorded at 0.205, with 44,0% of all children deprived in at least one-third of the weighted indicators. Among these multidimensionally poor children, the average deprivation spanned 46,7% of the weighted indicators. This intensity of poverty is consistent by gender and age groups, and only slightly lower in urban areas and the southern regions, at 42,4% and 42,5%, respectively. Consequently, the observed differences in the poverty index across various areas, gender and age groups are primarily driven by the incidence rather than the intensity of poverty. Moreover, comparisons between the multidimensional and consumption poverty are analysed more in detail in Monetary Poverty and Deprivations Section of Chapter 4.

With a slight decrease, similarly in 2022, the poverty index level was 0.192, with 41,3% of children experiencing deprivation in at least one-third of the weighted indicators. The average intensity of deprivation among these children was slightly lower than in 2019/20, and equal to 46,7%. The intensity patterns by gender, age groups and regions mirrored those of 2019/20, showing minimal

¹³ For more information regarding the statistical significance of differences in multidimensional poverty incidence, intensity and index, at different levels, for different characteristics and over time, see Table B2 and Table B6 in the Additional Annexes.

variation. Incidence of poverty, on the other hand, varies more significantly across regions and areas, which essentially drives the differences in the poverty index.

Overall, the analysis shows that the incidence of multidimensional child poverty in Mozambique has remained largely stagnant from 2014/15 to 2022, showing only marginal improvements over the past eight years. In 2014/15, 46,3% of Mozambican children were considered multidimensionally poor. By 2019/20, this figure had decreased slightly to 44,0%, and in 2022, it further declined to 41,3%. In absolute numbers, given the extraordinarily rapid population growth experienced by Mozambique, this means that in 2014/15 about 6.1 million children were multidimensionally poor; this number increased to 6.9 million children in 2019/20, but it slightly decreased to 6.8 million children in 2022. At the same time, the intensity of multidimensional poverty has increased over the years from 45,9% to 46,7% in 2022, indicating that the number of deprivations experienced by the poor has increased over time on average.

Figure 7 Children in multidimensional poverty (MPI)

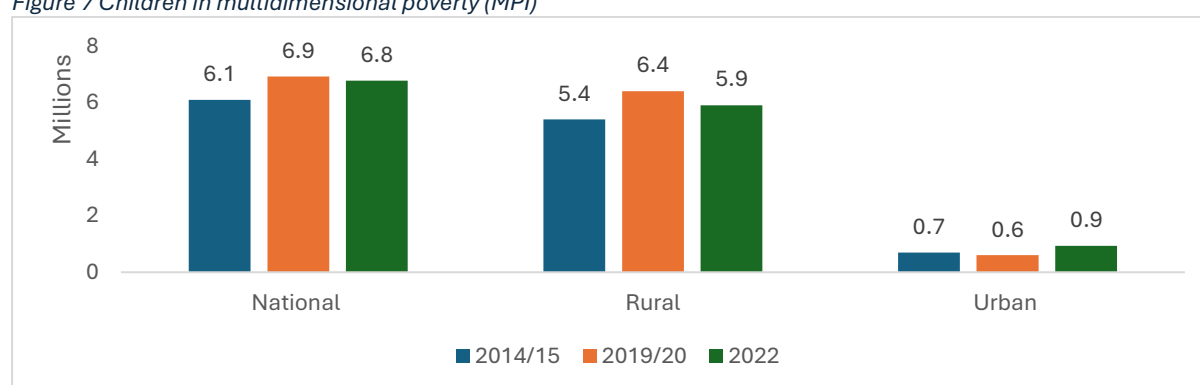


Table 7: Child multidimensional and monetary poverty by area, region and sex, 2014/15-2022

	Incidence (%)			Intensity (%)			Poverty Index (Incidence x Intensity)			Monetary poverty (%)		
	2014	2019	2022	2014	2019	2022	2014	2019	2022	2014	2019	2022
National	46.3	44.0	41.3	45.7	46.7	46.3	0.212	0.205	0.192	49.0	73.9	70.3
Rural	57.6	58.9	52.4	45.9	47.1	46.7	0.265	0.278	0.245	52.5	80.9	72.9
Urban	18.6	12.3	18.3	44.4	42.4	44.1	0.082	0.052	0.080	40.5	59.3	64.7
North	59.2	51.0	53.0	46.9	47.7	46.9	0.277	0.243	0.249	58.0	82.3	74.5
Centre	51.2	50.3	45.0	45.4	46.4	46.3	0.232	0.233	0.209	48.5	73.5	70.2
South	14.6	15.0	11.9	41.1	42.5	41.7	0.060	0.064	0.050	35.4	57.7	61.7
Niassa	58.5	52.1	52.9	46.3	47.5	45.7	0.271	0.247	0.242	64.0	78.5	76.0
Cabo Delgado*	60.6	48.2	48.1	47.6	46.0	47.3	0.288	0.222	0.228	50.4	86.6	83.7
Nampula	58.9	51.8	54.8	46.8	48.3	47.2	0.276	0.250	0.259	58.7	81.8	70.3
Zambezia	59.1	60.5	55.0	45.8	46.9	46.8	0.271	0.284	0.257	60.0	81.7	75.9
Tete	54.9	46.8	46.1	46.3	46.8	47.5	0.254	0.219	0.219	39.3	65.3	69.2
Manica	39.1	34.5	31.3	44.0	44.6	43.6	0.172	0.154	0.137	38.8	70.8	63.4
Sofala	40.8	43.8	33.0	43.5	45.1	44.8	0.178	0.198	0.148	42.4	66.0	63.8
Inhambane	30.5	31.9	22.7	41.6	43.4	42.8	0.127	0.139	0.097	48.8	70.4	70.2
Gaza	16.2	19.1	18.7	40.6	42.1	41.2	0.066	0.080	0.077	47.7	80.2	69.7
Maputo Province	6.1	4.0	3.3	40.5	38.5	39.4	0.025	0.016	0.013	20.8	41.9	53.9
Maputo City	1.3	0.8	1.5	38.5	36.6	35.8	0.005	0.003	0.005	18.1	27.6	50.0
Age 0-4	44.9	45.6	43.2	45.8	45.7	45.6	0.206	0.208	0.197	50.5	75.2	71.9

Age 5-12	44.8	41.3	38.4	45.1	45.7	45.9	0.202	0.189	0.176	50.2	75.6	71.5
Age 13-17	51.8	48.0	45.3	46.9	49.8	47.8	0.243	0.239	0.216	44.1	68.4	65.2
Male	47.3	44.8	41.8	45.6	46.7	46.2	0.216	0.209	0.193	49.7	75.2	70.9
Female	45.4	43.2	40.9	45.8	46.7	46.5	0.208	0.201	0.190	48.4	72.7	69.7

*Note: For more information regarding the statistical significance of differences in multidimensional poverty incidence, intensity and index, at different levels, for different characteristics and over time, see Table B2 and Table B6 in the Additional Annexes. * It should be noted that for Cabo Delgado, after 2017, households in the conflict-affected districts could not be surveyed due to security concerns. This implies that multidimensional child poverty is likely underestimated for the province in 2019/20 and 2022. See Appendix A for a complete list of included districts in the Northern regions, Cabo Delgado, Niassa and Nampula, for 2014/15, 2019/20 and 2022. Moreover, see Table B8 and Figure B4 in the Additional Annexes for a simulation analysis in which the multidimensional and monetary poverty trends in Cabo Delgado are simulated and estimated for a worst-case scenario in which all children from conflict-affected districts (not surveyed in 2019/20 and 2022) were considered as deprived from the multidimensional point of view, and poor from the monetary point of view.*

Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

The data continues to reveal persistent structural and geographical inequalities in multidimensional child poverty, with children in rural areas experiencing higher levels of multidimensional poverty across all three survey periods. In 2014/15, 57,6% of rural children were multidimensionally poor compared to 18,6% in urban areas. This disparity remained largely unchanged in 2019/20 (58,9% rural versus 12,3% urban) and 2022 (52,4% rural versus 19,3% urban), highlighting that rural poverty incidence is three to four times higher than urban poverty incidence. Although the urban-rural divide persists across the country, it is important to note the different trends over time by area: Rural poverty incidence decreased steadily from 57,6% in 2014/15 to 52,4% in 2022; while urban poverty incidence shows some fluctuating trends and remains largely stagnant between 2014/15 and 2022 (18,6% in 2014/15 to 18,3% in 2022).¹⁴

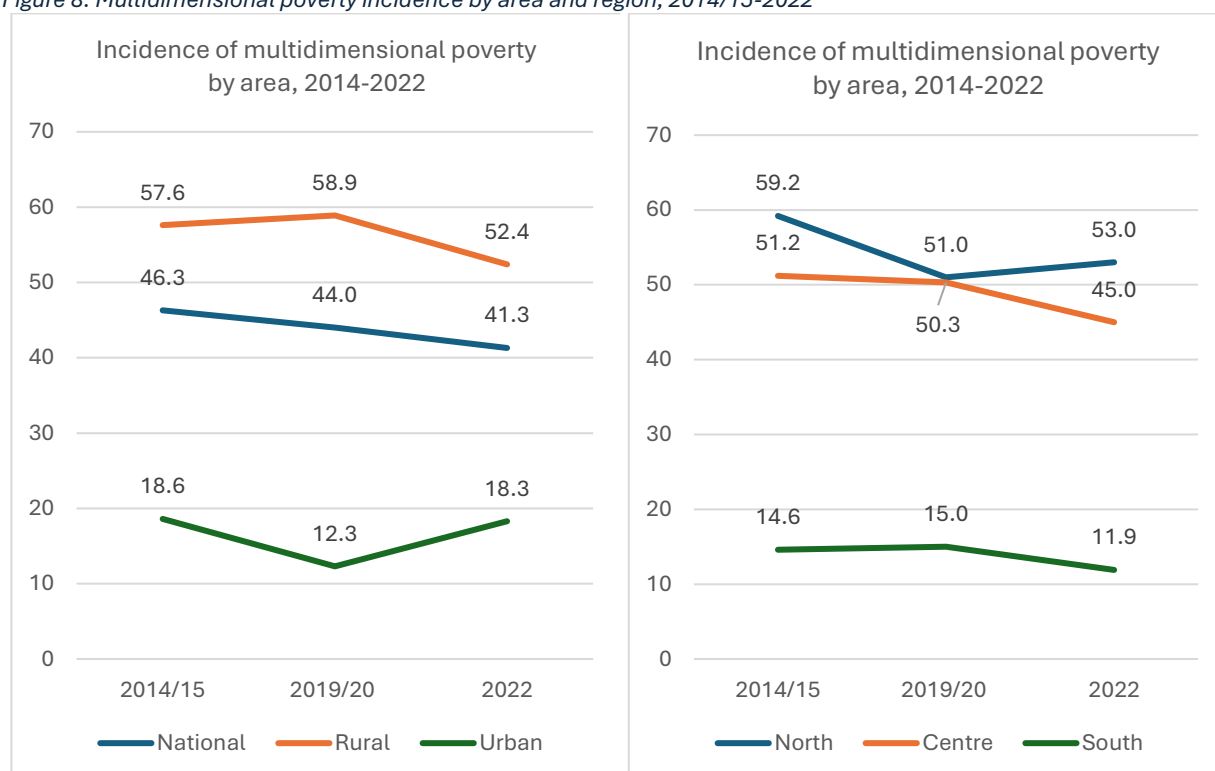
Given that most of the Mozambican population lives in rural areas, also the number of poor children is much higher there than in urban areas. The number of multidimensionally poor children increased drastically from about 5.4 million in 2014/15 to about 6.4 million in 2019/20; this number then decreased again to approximately 5.9 million children in 2022. Conversely, in urban areas, the number of multidimensionally poor children decreased between 2014/15 and 2019/20 from about 700 thousand to 600 thousand, increasing again to about 940 thousand in 2022.

Significant regional differences in multidimensional child poverty rates also persisted over the years. In 2014/15, 59,2% of children in the northern region were multidimensionally poor. This incidence dropped to 51,0% in 2019/20 but it increased slightly to 53,0% in 2022. The central region saw a decline from 51,2% in 2014/15 to 50,3% in 2019/20, and further to 45,0% in 2022. The southern region maintained relatively lower rates of poverty, with about 15% in both 2014/15 and 2019/20, decreasing further to 11,9% in 2022 (Figure 7).¹⁵

¹⁴ For more information regarding the statistical significance of differences in multidimensional poverty incidence, intensity and index, at different levels, for different characteristics and over time, see Table B2 and Table B6 in the Additional Annexes.

¹⁵ Note: For more information regarding the statistical significance of differences in multidimensional poverty incidence, intensity and index, at different levels, for different characteristics and over time, see Table B2 and Table B6 in the Additional Annexes.

Figure 8: Multidimensional poverty incidence by area and region, 2014/15-2022



Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

Data at the provincial level, further underscore the uneven distribution of child poverty across Mozambique. In 2014/15, the provinces of Niassa, Cabo Delgado, Nampula, and Zambezia all reported high poverty rates of around 60%. By 2019/20, Zambezia recorded the highest incidence at 60,5%, while Niassa, Cabo Delgado and Nampula showed lower rates at around 50%. In contrast, Maputo City consistently maintained the lowest poverty rate, at about 1% across all three survey years. By 2022, Niassa, Nampula and Zambezia continued to have high incidence rates, surpassing 50% (See Table 7 and

Figure 9)¹⁶.

On the other hand, gender differences continued to be relatively small (see Table 7). Moreover, although more pronounced than gender differences, the variation in the poverty incidence across different age groups is also relatively minor: over the years, older children (aged 5-12 and 12-17) experienced reductions in multidimensional poverty rates, whereas poverty rates for children aged 0-4 remained mainly unchanged. This stagnation highlights the resistance to change in specific indicators and dimensions for this age group, such as nutrition (see Table 7).

For what concerns the province of Cabo Delgado, some additional consideration is needed: as mentioned earlier and also discussed later in the chapter on shocks and child poverty, a conflict started in the northern part of the province during 2017, and it is still ongoing. This entails that, after 2017, households in the conflict-affected districts could not be surveyed due to security concerns (the complete list of included districts for the survey rounds considered is in Appendix A). This implies that multidimensional child poverty is likely underestimated for the province in 2019/20 and 2022. That is because, in order to maintain representativeness at province level, INE surveyed more households in the non-conflict-affected districts. However, it is expected that households in conflict-affected districts may be on average more deprived than households in non-conflict-affected districts. Therefore, a simulation analysis was carried out (see Table B8 and Figure B4 in the Additional Annexes) in which the multidimensional and monetary poverty trends in Cabo Delgado are simulated and estimated for a worst-case scenario in which all children from conflict-affected districts (not surveyed in 2019/20 and 2022) are considered as deprived from the multidimensional point of view, and poor from the monetary point of view.

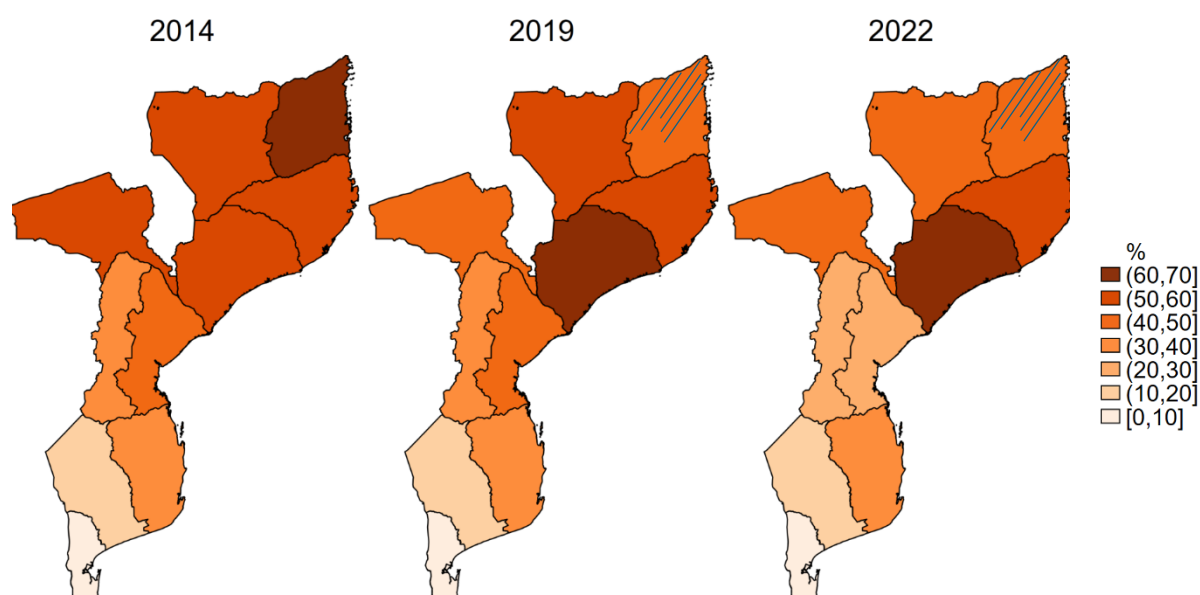
This exercise clearly provides a less optimistic picture for Cabo Delgado, which in this simulated scenario passes from a multidimensional poverty incidence of 60.6 per cent in 2014/15 to 62.8 per cent in 2022. If we limit the analysis only to the districts surveyed in the three surveys, instead, we get a decreasing trend in multidimensional poverty incidence; this highlights that in non-conflict-affected districts there were indeed developments over time with respect to the welfare indicators considered in the study. In any case, even when we consider the worst-case scenario just highlighted for the province of Cabo Delgado, the multidimensional poverty incidence trend at national level is not significantly altered (see Table B8 and Figure B4 in the Additional Annexes).

Considering as deprived all children from conflict-affected districts is clearly an extreme case. However, reports exist that show the dire living conditions of the people escaping from the conflict and internally displaced (see Table B8 and Figure B4 in the Additional Annexes). So, this assumption may unfortunately be not too far from the reality of the children from conflict-affected districts in Cabo Delgado.

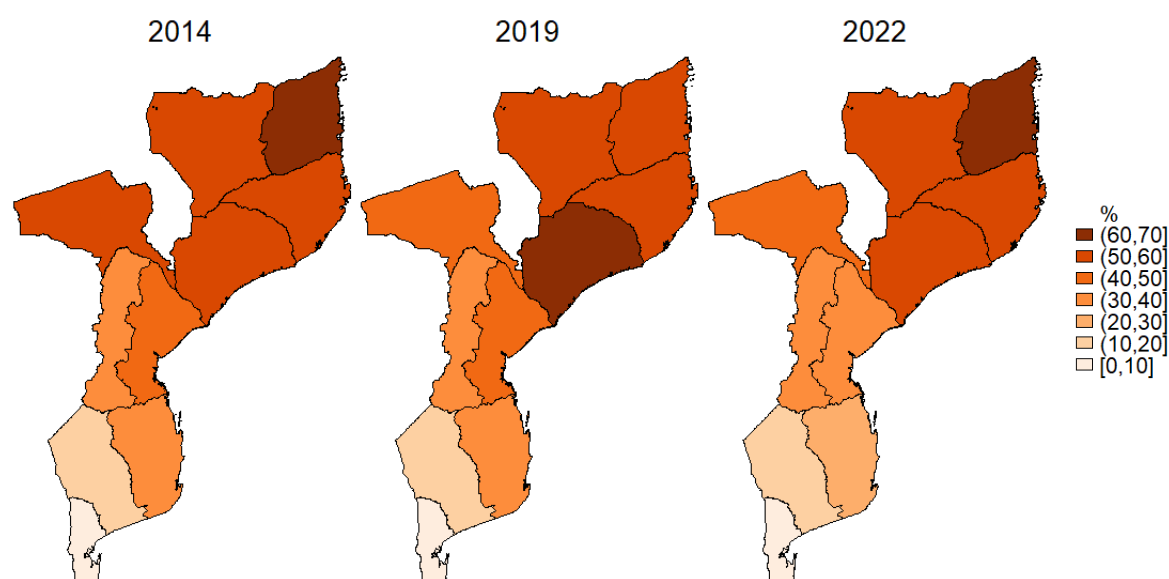
¹⁶ It should be noted that for Cabo Delgado, after 2017, households in the conflict-affected districts could not be surveyed due to security concerns. This implies that multidimensional child poverty is likely underestimated for the province in 2019/20 and 2022. See Appendix A for a complete list of included districts in the Northern regions, Cabo Delgado, Niassa and Nampula, for 2019/20 and 2022. Moreover, see Table B8 and Figure B4 in the Additional Annexes for a simulation analysis in which the multidimensional and monetary poverty trends in Cabo Delgado are simulated and estimated for a worst-case scenario in which all children from conflict-affected districts (not surveyed in 2019/20 and 2022) are considered as deprived from the multidimensional point of view, and poor from the monetary point of view.

Figure 9: Multidimensional poverty incidence by province, 2014/15-2022

Panel a) Estimates using actual survey data



Panel b) Estimates using simulated data for Cabo Delgado



Note: It should be noted that for Cabo Delgado, after 2017, households in the conflict-affected districts could not be surveyed due to security concerns. This implies that multidimensional child poverty may be underestimated for the province in 2019/20 and 2022. See Appendix A for a complete list of included districts in the Northern regions, Cabo Delgado, Niassa and Nampula, for 2014/15, 2019/20 and 2022. Moreover, see Table B8 and Figure B4 in the Additional Annexes for additional information on the simulation analysis in which the multidimensional and monetary poverty trends in Cabo Delgado are simulated and estimated for a worst-case scenario in which all children from conflict-affected districts (not surveyed in 2019/20 and 2022) are considered as deprived from the multidimensional point of view, and poor from the monetary point of view.

Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

4. Overlapping Child Deprivations

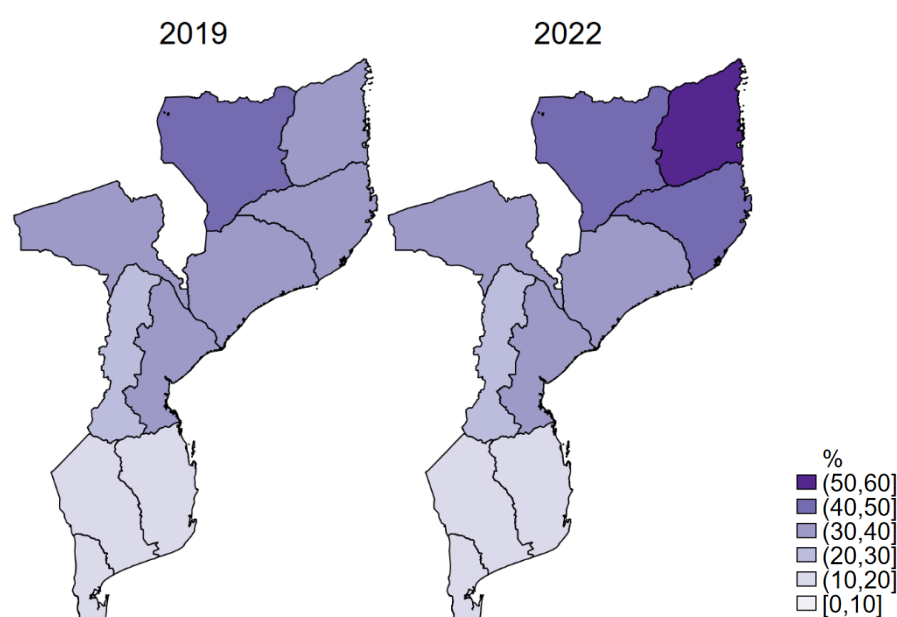
This section examines children experiencing deprivations simultaneously in multiple dimensions. Specifically, it explores the number of dimensions in which children are deprived, multidimensional deprivation indices, and the overlap among various dimensions. Additionally, it includes an analysis of monetary poverty and its overlap with multidimensional poverty. As mentioned in the methodology section when referring to MODA, the deprivation in each dimension is calculated by using the union approach.

Single deprivation analysis

Single deprivation analysis focusing on deprivation dimensions reveals significant trends in child poverty in Mozambique from 2014/15 to 2022. Among all children aged between 0 and 17 years, the WASH dimension continues to show the highest deprivation rates across all three rounds of the survey, with approximately three-quarters of children being deprived in both 2019/20 and 2022. Despite a steady decrease in deprivation in the housing dimension, from 77,7% in 2014/15 to 69,6% in 2022, it still remains among the dimensions with the highest deprivation rates. These trends further indicate the challenges in addressing structural challenges to decrease deprivation rates across these infrastructure-dependent dimensions.

The education dimension, on the other hand, saw an initial improvement from 38,8% in 2014/15 to 30,6% in 2019/20, but this positive trend was reversed in 2022, with deprivation rates increasing to 35,5% in 2022. Given the regional disparities in deprivation, this trend may be mainly due to shocks the country has been through (i.e. the COVID-19 pandemic, climate shocks and conflicts). For instance, conflict-affected regions such as Cabo Delgado, exhibit higher deprivation rates compared to other parts of the country (See Figure 10). We mentioned in Chapter 3 that the trends in the education dimension reflect the different trends followed by its component, that is school enrolment and primary education completion. The enrolment indicator shows an initial improvement and then a worsening, reflecting fluctuating trends in access to education. Conversely, deprivation in the primary education indicator steadily decreases. While enrolment rates can quickly fluctuate in response to immediate shocks, the slower response change in completion rates to these shocks can be attributed to the cumulative nature of educational attainment, which is less sensitive to short-term disruptions and more reflective of long-term trends in the education system.

Figure 10: Deprivation rates in the education dimension, 2019/20-2022

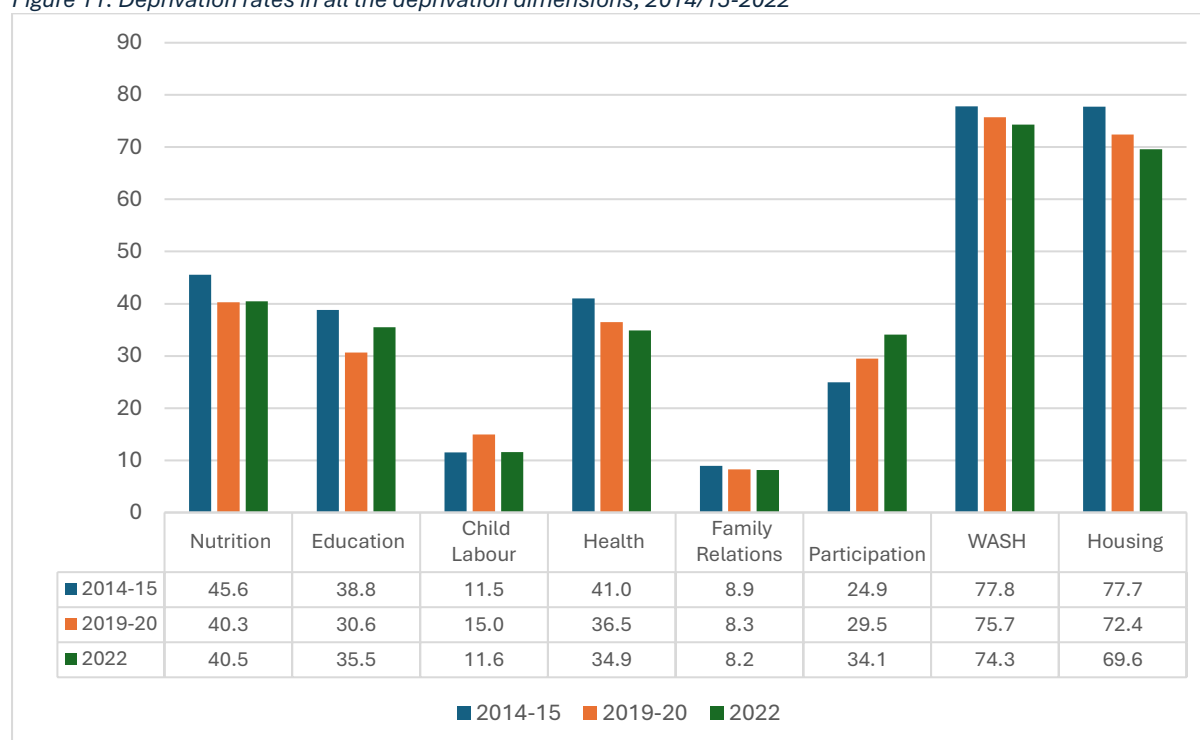


Source: Authors' calculation based on IOF 2019/20 and IOF 2022 data.

The health dimension similarly reflects a stagnant trend over the same period, with deprivation rates showing minimal improvement from 41,0% in 2014/15 to 36,5% in 2019/20, and then a slight decrease to 34,9% in 2022. Conversely, the family dimension consistently showed the lowest deprivation rates, declining gradually from 8,9% in 2014 to 8,3% in 2022. The only dimension for which deprivation steadily increases is participation; examining the deprivation rates for the indicators included in this dimension (not shown) it is possible to notice that the indicator for which deprivation increased the most is possession of a radio, whereas deprivation in the possession of a TV, a computer, or of a mobile phone steadily decreased; however, the increase in deprivation in the former was not offset by the decrease in deprivation in the latter indicators. Results for the deprivation rates in all the deprivation dimensions, between 2014/15 and 2022, are presented in Figure 11.¹⁷

¹⁷ For more information regarding the statistical significance of differences in deprivation dimensions over time, see Table B7 in the Additional Annexes.

Figure 11: Deprivation rates in all the deprivation dimensions, 2014/15-2022



Note: For more information regarding the statistical significance of differences in multidimensional poverty dimensions over time, see Table B7 in the Additional Annexes.

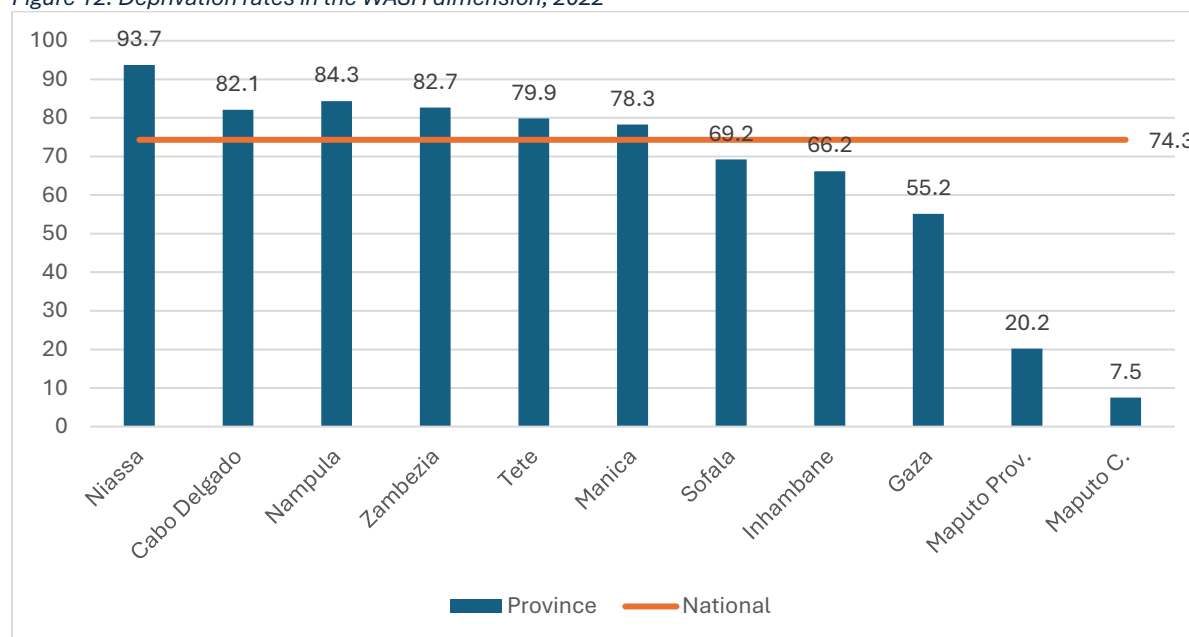
Note: In the MODA framework, a child is considered deprived in a dimension if they are deprived in any of the indicators within that dimension.

Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

While the national analysis of deprivation rates in Housing and WASH dimensions from 2014/15 to 2022 shows persistent challenges, a closer examination of the 2022 data reveals significant provincial disparities. These disparities highlight the uneven distribution of infrastructure and resources across Mozambique, which directly impacts the well-being of children.

The WASH dimension shows an enormous disparity in deprivation rates across provinces in 2022, with Niassa exhibiting an alarming rate of 93,7% deprivation. Children in Cabo Delgado, Nampula and Zambezia also suffer from high deprivation rates above 80%. In stark contrast, Maputo City, with the lowest deprivation rate, stands at just 7,5%. This within-country inequality highlights severe challenges in accessing clean water and sanitation facilities in the most affected regions (Figure 12).

Figure 12: Deprivation rates in the WASH dimension, 2022

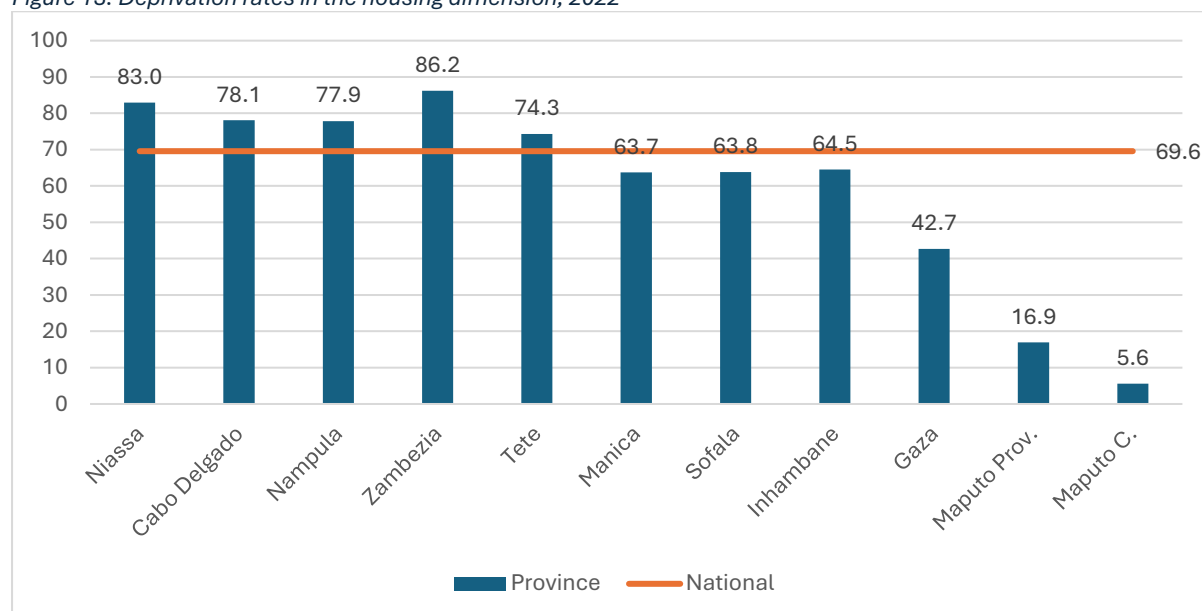


Note: It should be noted that for Cabo Delgado, after 2017, households in the conflict-affected districts could not be surveyed due to security concerns.

Source: Authors' calculation based on IOF 2022 data.

Moreover, the housing deprivation rates in 2022 also vary widely across different provinces, underscoring substantial regional inequalities. For instance, provinces such as Zambezia and Niassa have housing deprivation rates exceeding 80%, whereas provinces like Gaza, Maputo Province and Maputo City have deprivation rates below the national average, at 42,7%, 16,9% and 5,6%, respectively.

Figure 13: Deprivation rates in the housing dimension, 2022

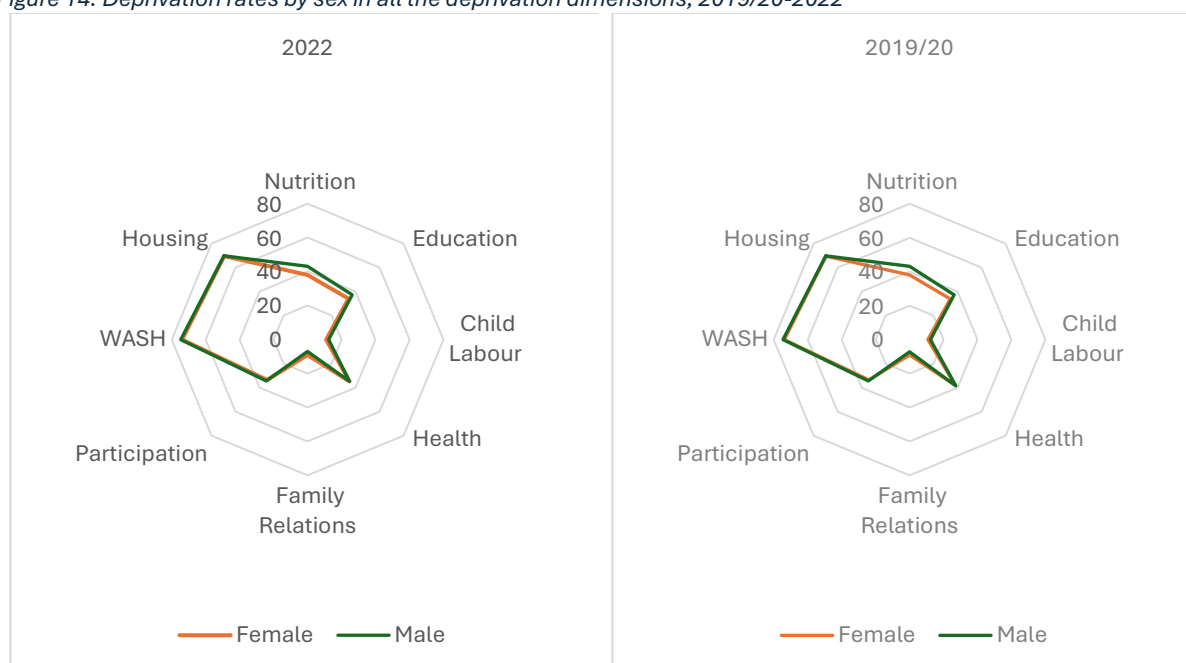


Note: It should be noted that for Cabo Delgado, after 2017, households in the conflict-affected districts could not be surveyed due to security concerns.

Source: Authors' calculation based on IOF 2022 data.

Gender disparities in child deprivation across Mozambique analysed focusing on deprivation dimensions rather than indicators are confirmed to be relatively small (Figure 14). However, in the nutrition dimension, which is the one with the largest difference by gender, boys consistently present higher deprivation rates, about 43% compared to 38% for girls in both 2019/20 and 2022. Similarly, in education, boys are more deprived, with deprivation rates averaging 32,3% in 2019/20 and 37,1% in 2022, compared to 28,9% and 33,9%, respectively, for girls. In terms of child labour, boys also exhibit slightly higher deprivation, with rates decreasing from 16,1% in 2019/20 to 12,3% in 2022, while girls' rates decreased from 13,7% to 10,9% during the same period. In the family dimension, however, girls show higher deprivation rates, especially due to higher early marriage rates; approximately 10% in 2019/20 and 9% in 2022, compared to boys around 7% in both years.

Figure 14: Deprivation rates by sex in all the deprivation dimensions, 2019/20-2022



Source: Authors' calculation based on IOF 2019/20 and IOF 2022 data.

Multiple deprivation analysis

In 2014/15, most Mozambican children (81,6%), or about 4 in 5 children at national level, were deprived in more than one dimension simultaneously. The IOF 2019/20 and 2022 data confirm that to this day, more than 3 out of 4 of children in Mozambique continue to suffer deprivation in more than one dimension, about 76% in both 2019/20 and 2022.

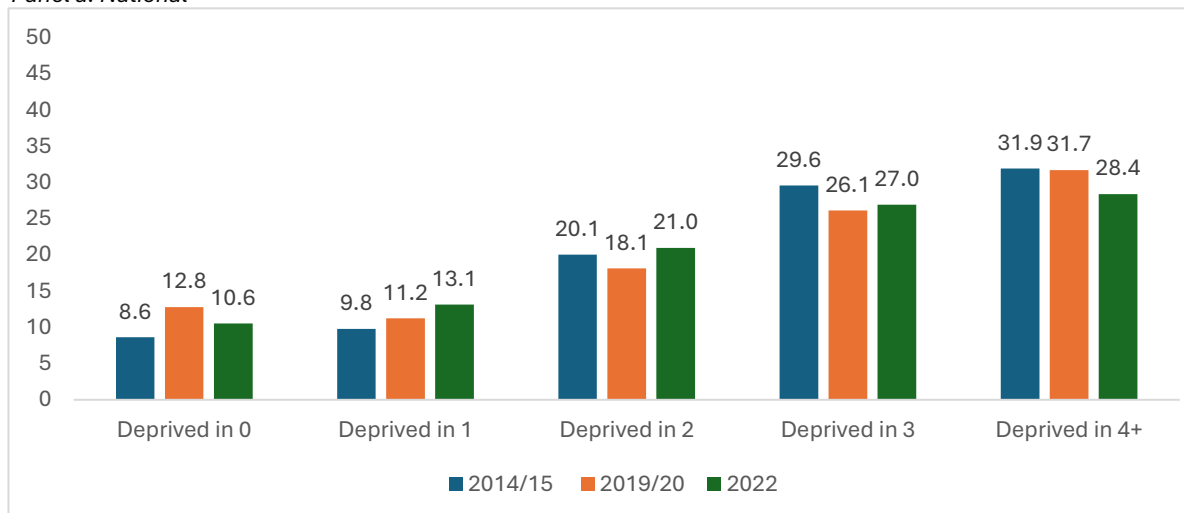
In both 2019/20 and 2022, more than one-quarter of children suffered from three simultaneous deprivations, while approximately 1 in 3 children faced four or more deprivations. Across both survey years, less than 15% of children were not deprived in any dimension.

Children living in rural areas remain significantly more deprived than their urban counterparts. From 2014/15 to 2022, around 90% of rural children are deprived in 2 or more dimensions. This figure stands at 40,5% in 2019/20 and 47,7% in 2022 for children living in urban areas. In addition, the share of children suffering from four or more deprivations has decreased from 39,5% in 2014/15 to 35,8% in 2022 in rural areas. This share has seen less than 1% decrease in urban areas.

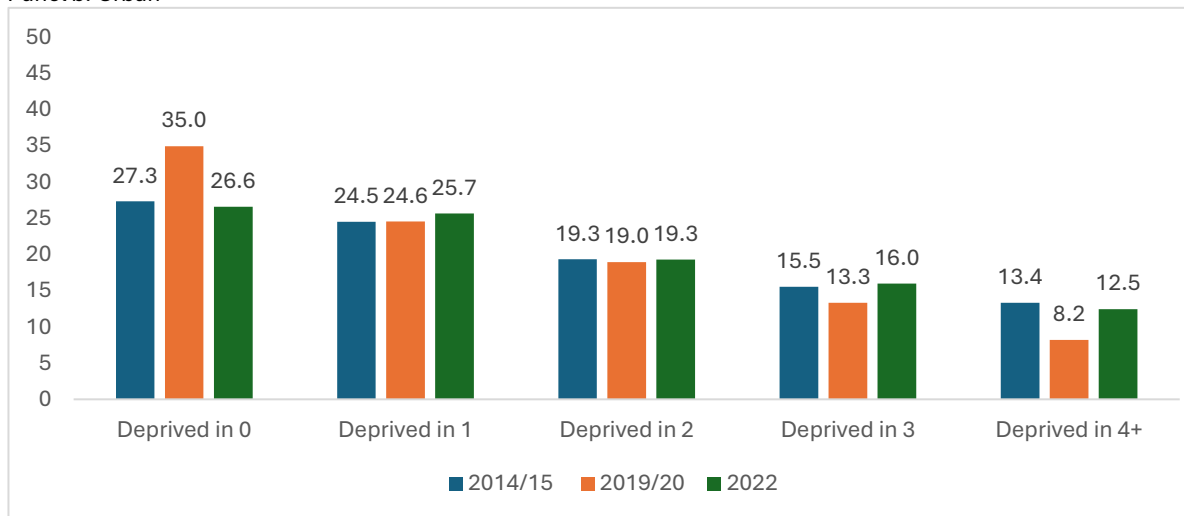
Across all survey years, while fewer children suffer from a greater number of deprivations simultaneously, the intensity of deprivation increased at national, urban and rural levels. The intensity of deprivation is particularly high for rural children, approximately equal to 66%. The main results for deprivation in multiple dimensions, at the national, urban and rural levels, and for the three survey rounds, are presented in Figure 15, panels a, b, and c.

Figure 15: Share of deprived children by number of deprivation dimensions and location (%), 2014/15–2022

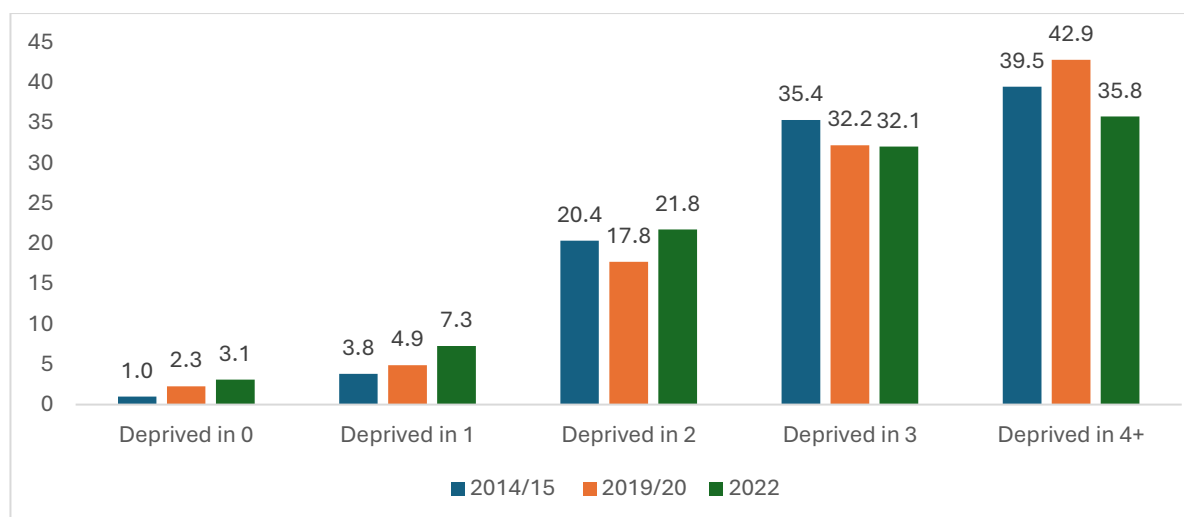
Panel a: National



Panel b: Urban



Panel c: Rural



Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

Focusing on the latest survey round, the IOF 2022, Table 8, Table 9 and Table 10 present the share of children deprived in two dimensions simultaneously, highlighting the most frequently observed intersections of two deprivations for children of each age group. In particular, about a third of the children aged 0 to 4 that are deprived in the Nutrition dimensions are at the same time also deprived in either WASH or Housing. Almost half of children aged 0 to 4 are simultaneously deprived in Health and also deprived in WASH or Housing, while the share of older children (both 5-12 and 13-17) that experience these two sets of deprivations at the same time are less than a quarter. WASH and Housing are two deprivations that tend to go together. This overlap is at its highest for young children, with almost 70% of children aged 0-4 that are deprived in the Housing dimension also being deprived in WASH, while it is less pronounced for the older age groups. However, almost half of the children aged 13-17 that are deprived in the Education dimensions tend to experience this deprivation at the same time as those in WASH or Housing.

Table 8: Overlaps between dimensions for children aged 0-4, 2022 (%)

	Nutrition	Health	Family	Participation	WASH	Housing
Nutrition	40.4	20.8	1.6	18.3	34.7	33.5
Health	20.8	51.1	1.7	20.2	43.1	40.9
Family	1.6	1.7	3.5	1.9	3.0	2.8
Participation	18.3	20.2	1.9	36.8	34.2	34.0
WASH	34.7	43.1	3.0	34.2	78.3	68.4
Housing	33.5	40.9	2.8	34.0	68.4	74.7

Source: Authors' calculation based on IOF 2022 data.

Table 9: Overlaps between dimensions for children aged 5-12, 2022 (%)

	Education	Labour	Health	Family	Participation	WASH	Housing
Education	22.1	3.5	6.9	2.8	11.8	20.0	19.6
Labour	3.5	12.1	3.3	2.0	5.0	11.0	10.8
Health	6.9	3.3	29.1	3.6	9.4	22.3	20.2
Family	2.8	2.0	3.6	12.5	5.2	9.4	8.6
Participation	11.8	5.0	9.4	5.2	33.2	30.3	30.3
WASH	20.0	11.0	22.3	9.4	30.3	73.6	62.1
Housing	19.6	10.8	20.2	8.6	30.3	62.1	68.6

Source: Authors' calculation based on IOF 2022 data.

Table 10: Overlaps between dimensions for children aged 13-17, 2022 (%)

	Education	Labour	Health	Family	Participation	WASH	Housing
Education	60.1	11.7	17.1	5.1	22.6	49.3	47.1
Labour	11.7	14.0	3.9	1.0	5.0	12.2	11.7
Health	17.1	3.9	27.5	2.3	7.5	19.5	17.6
Family	5.1	1.0	2.3	6.8	3.0	6.0	5.6
Participation	22.6	5.0	7.5	3.0	27.6	24.6	24.8
WASH	49.3	12.2	19.5	6.0	24.6	66.3	53.8
Housing	47.1	11.7	17.6	5.6	24.8	53.8	60.4

Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

While the tables above highlighted simultaneous deprivation in sets of two dimensions, we focus here on the overlap between multiple dimensions at the same time. An overlap that recurs frequently for all children regardless of their age group is the one between the WASH, Health and Housing dimensions, with about 24% of all children experiencing these three deprivations at the same time (see Figure 16). For each of the age groups, Figure 17, Figure 18, Figure 19 present the overlap between the three dimensions highlighted above and an additional one, relevant for the specific age group. For children aged 0 to 4, Figure 17 shows that about 17% of children are deprived in WASH, Health, Housing and Nutrition at the same time and only about 8% of children are not deprived in any of these dimensions. Looking at children aged 5 to 12, Figure 18 reports that 2,5% of the children that are deprived in the WASH, Health and Housing dimensions, are simultaneously also engaging in child labour. About 13% of the children in the oldest age group are deprived at the same time in WASH, Health, Housing and Education (Figure 19).

Figure 16: Overlap of WASH, Health and Housing, all children (0-17)

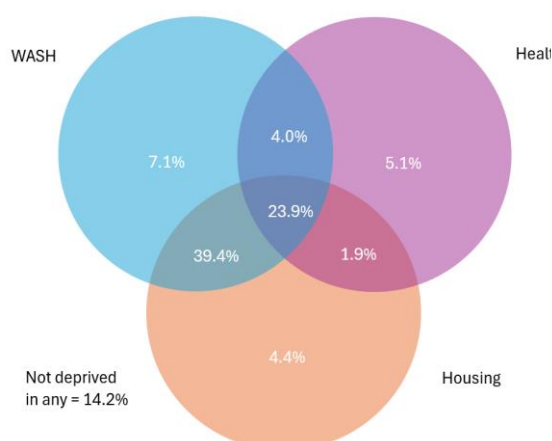


Figure 17: Overlap of WASH, Health, Housing, and Nutrition, children aged 0-4

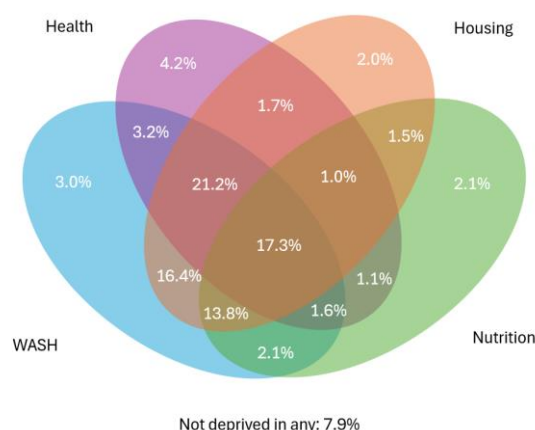


Figure 18: Overlap of WASH, Health, Housing, and Labour, children aged 5-12

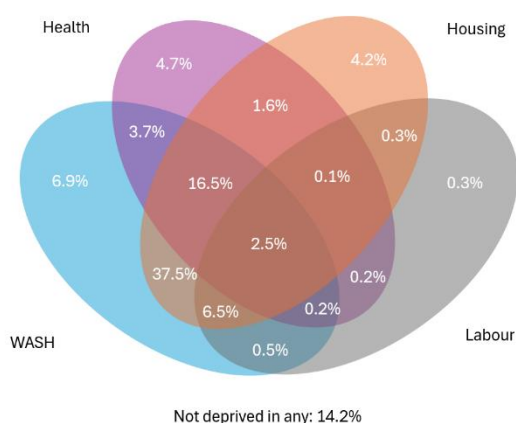
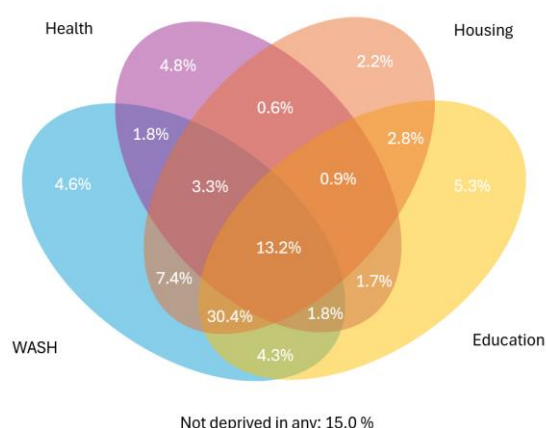


Figure 19: Overlap of WASH, Health, Housing, and Education, children aged 13-17



Source: Authors' calculation based on IOF 2022 data.

Monetary poverty and deprivations

Monetary poverty incidence remains a significant challenge for children in Mozambique, with Mozambican children constituting a disproportionate share of the poor population. As introduced, in this report, monetary poverty is computed applying the same methodology used in the national poverty assessments (DEEF, 2016; DNPED, forthcoming); this is estimated using consumption per capita as the relevant welfare measure, and the national poverty line as the relevant threshold to distinguish between poor and non-poor. In particular, monetary or consumption poverty is evaluated using the Cost of Basic Needs (CNB) methodology. That is, household consumption is assessed on the basis of daily expenses, self-consumption, monthly and annual expenses, etc., including both food and non-food items. The consumption aggregate obtained at household level is then compared to the poverty lines calculated in each survey. These lines measure the cost of acquisition of a basic basket that includes both food products (capable of providing approximately 2150 kcal/person/day) and non-food products. The national poverty line values have evolved over time, passing from 8.3 Meticaís/person/day in 2002/03 to 17.9 in 2008/09, to 29.2 in 2014/15, to 58.4 in 2019/20, and to 61.3 Meticaís/person/day in 2022. Once the value of the poverty line has been established, if a family has consumption levels

greater than the estimated poverty line, it is not considered poor; in case it has lower consumption levels, it is considered poor from the consumption/monetary point of view. If the aggregate household consumption is below the poverty line, then all family members are considered poor. According to the latest rounds of IOF, the IOF 2019/20 and 2022, over 70% of children live in monetary poverty (Table 11). That means that if we only consider the population of children aged 0-17, then 7 out of 10 children have consumption levels below the value that would allow to have access to a basket of basic food products (capable of providing approximately 2150 kcal/person/day) and basic non-food products.

Children in Mozambique are notably more vulnerable to monetary poverty compared to adults. This trend is evident across all age ranges: 0–4, 5–12, and 13–17 years. Each of these age groups consistently exhibits higher levels of monetary poverty compared to the general population. The differences are more marked among younger children (ages 0–12), where the poverty rates are notably higher than for other age groups (Table 11).

Moreover, the rural child poverty rate remains alarmingly high in Mozambique. As of 2022, approximately three-quarters of children in rural areas lived in monetary poverty, a figure that peaked at 80,9% in 2019/20. In contrast, urban child poverty rates stood at 59,2% in 2019/20 and 64,7% in 2022. This drastic difference underscores the heightened vulnerability of children in rural regions. Over the years, this urban-rural gap has persisted, reflecting enduring structural challenges that rural areas face in improving living conditions and economic stability (Table 11).

Table 11: Monetary poverty by area and age group, 2014/15-2022

	National			Urban			Rural		
	2014/15	2019/20	2022	2014/15	2019/20	2022	2014/15	2019/20	2022
Age 0-4	50.5	75.2	71.9	43.9	62.1	67.6	52.9	80.7	73.6
Age 5-12	50.2	75.6	71.5	41.8	60.9	66.0	53.5	82.3	74.0
Age 13-17	44.1	68.4	65.2	34.3	52.9	59.4	49.5	77.5	68.8
Age 0-17	49.0	73.9	70.3	40.5	59.2	64.7	52.5	80.9	72.9
All	43.9	68.2	65.0	34.8	52.8	58.4	48.1	76.5	68.4

Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

Figure 20, panel a, illustrates the geographical distribution of monetary poverty among the general population and children. The data reveal substantial disparities between provinces, with child monetary poverty rates ranging from an alarming 83,7% in Cabo Delgado to 50,0% in Maputo City. Despite the geographical variations, the level of monetary child poverty is consistently higher than that of the general population across all regions in Mozambique.

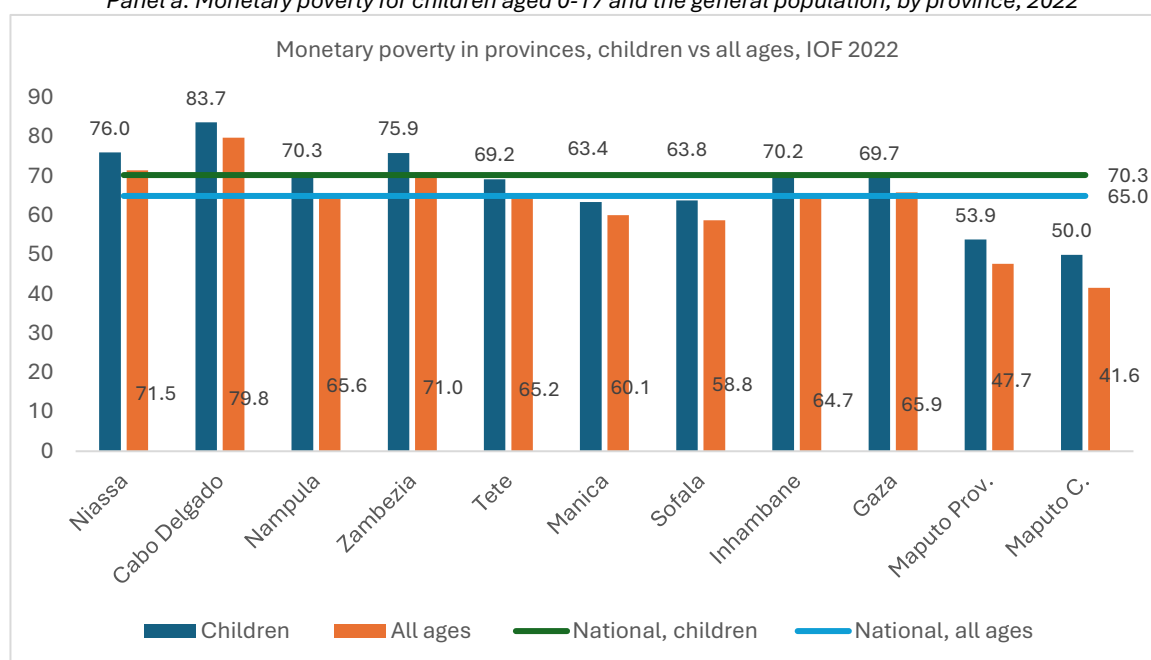
For instance, in provinces like Niassa, 76,0% of children live in monetary poverty compared to 71,5% of the general population. Similarly, in Zambezia, 75,9% of children are monetarily poor compared to 71,0% of the general population. These figures underscore the pronounced vulnerability of children in regions with high poverty rates.

Figure 20, panel b, shows the evolution of monetary poverty over time, comparing children to the general population of Mozambique. As discussed in Figure 20, panel a, the share of children living in monetary poverty is constantly higher than the general population. Child monetary poverty follows a trend similar to that of the national population, with poverty rates higher in rural areas for all the years in analysis. Monetary poverty sharply increases from 2014/15 to 2019/20 and then modestly decreases at the national level from 2019/20 to 2022. However, between the two most recent IOFs, monetary poverty increases in urban areas (from 59,2% to 64,7% for children and from 52,8% to 58,4% for all urban Mozambicans) while it decreases in rural areas (from 80,9% to 72,9% for children and from 76,5% to 68,4% for the general rural population).

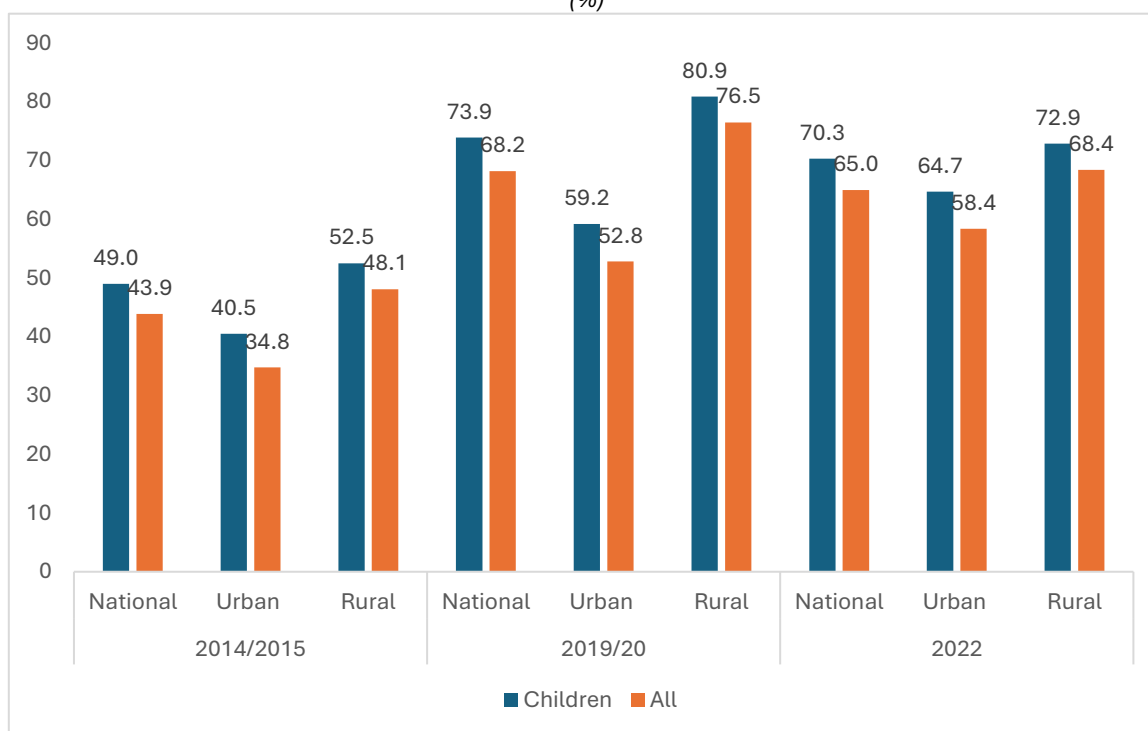
Figure 20, panel c, shows the evolution of monetary poverty at the national level for children of different age groups (0-4, 5-12, and 13-17) compared to the general population of Mozambique over time. As mentioned in Figure 19, panels a and b, the monetary poverty rate sharply increases from 2014/15 to 2019/20 before marginally decreasing from 2019/20 to 2022 for both children and the general population. In addition, the share of children living in poverty is constantly higher than that of all Mozambicans. This is particularly true for the younger age groups, with about 3 in every four children aged 0 to 4 and 5 to 12 living in monetary poverty in 2019/20. This share modestly decreases in 2022 to about 71% for the two younger age groups, compared to 65,2% for children aged 13 to 17 and 65,0% for the general population.

Figure 20: Monetary poverty for children and the general population

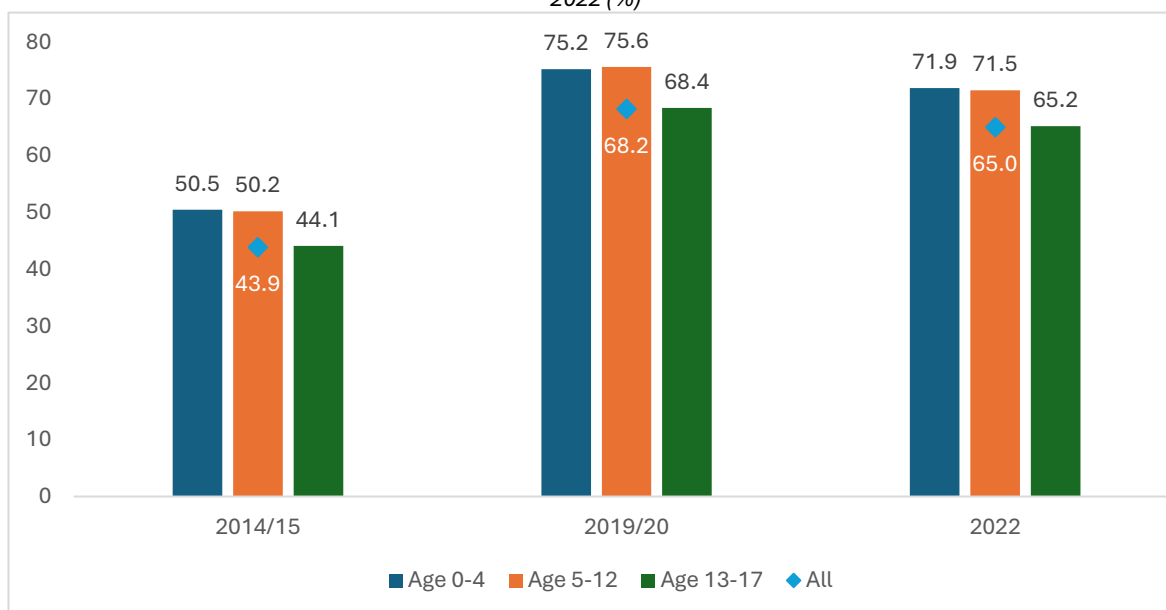
Panel a: Monetary poverty for children aged 0-17 and the general population, by province, 2022



Panel b: Monetary poverty for children aged 0-17 and the general population, by area of residence, 2014/15-2022 (%)



Panel c: Monetary poverty for children aged 0-4, 5-12, 13-17, and the general population, national level, 2014/15-2022 (%)



Note: It should be noted that for Cabo Delgado, after 2017, households in the conflict-affected districts could not be surveyed due to security concerns. This implies that monetary poverty may also be underestimated for the province in 2019/20 and 2022. See Appendix A for a complete list of included districts in the Northern regions, Cabo Delgado, Niassa and Nampula, for 2014/15, 2019/20 and 2022. Moreover, see Table B8 and Figure B4 in the Additional Annexes for a simulation analysis in which the multidimensional and monetary poverty trends in Cabo Delgado are simulated and estimated for a worst-case scenario in which all children from conflict-affected districts (not surveyed in 2019/20 and 2022) are considered as deprived from the multidimensional point of view, and poor from the monetary point of view.

Source: Authors' calculation based on IOF 2022 data.

Table 12 and Figure 21 presents the overlap between monetary poverty and multidimensional poverty for the cut-off of two or more dimensions. In 2022, at the national level, 58,5% of children were both monetarily poor and deprived in at least two dimensions. Although this figure indicates a slight reduction from 2019/20 (63,4%), it still underscores the persistent challenge of addressing child poverty both at monetary and multidimensional levels.

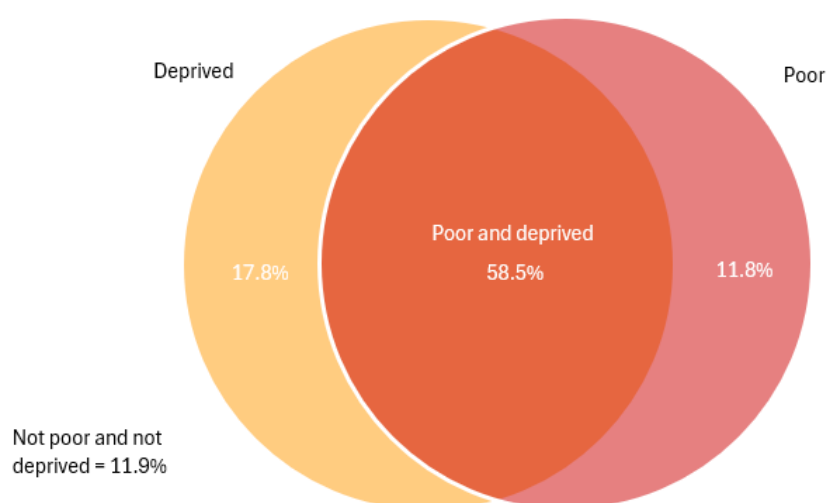
Additionally, in 2022, 17,8% of children were deprived in more than 2 dimensions without being monetarily poor, highlighting the pervasive nature of child poverty that extends beyond financial constraints for children. Notably, across all survey years, only less than 15% of Mozambican children experienced neither monetary nor multidimensional poverty.

Table 12: Overlap between monetary poverty and multidimensional poverty (children deprived in 2 or more dimensions) by location and year

	National			Urban			Rural		
	2014 / 15	2019 / 20	2022	2014 / 15	2019 / 20	2022	2014 / 15	2019 / 20	2022
Poor and deprived	45.5	63.4	58.5	31.0	34.4	39.2	51.5	77.1	67.5
Poor only	3.5	10.5	11.8	9.5	24.9	25.6	1.1	3.7	5.4
Deprived only	36.1	12.6	17.8	17.2	6.0	8.6	43.7	15.6	22.1
Not poor and not deprived	14.9	13.5	11.9	42.3	34.8	26.7	3.8	3.5	5.0
	North			Centre			South		
	2014 / 15	2019 / 20	2022	2014 / 15	2019 / 20	2022	2014 / 15	2019 / 20	2022
Poor and deprived	55.4	73.9	67.2	46.3	65.5	61.6	27.8	36.6	32.6
Poor only	2.7	8.3	7.3	2.2	8.1	8.6	7.7	20.9	29.0
Deprived only	34.5	10.0	19.6	41.8	16.6	20.1	26.2	8.2	8.6
Not poor and not deprived	7.5	7.7	5.9	9.7	9.9	9.7	38.3	34.3	29.8

Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

Figure 21: Overlap between monetary poverty and multidimensional poverty (children deprived in 2 or more dimensions), 2022



Source: Authors' calculation based on IOF 2022 data.

As shown in Table 12, the overlap between monetary and multidimensional poverty is considerably and systematically higher in rural areas across all survey years: 51,5% in 2014/15, 77,1% in 2019/20 and 67,5% in 2022. In contrast, urban areas exhibit lower overlaps with 31,0% in 2014/15, 34,4% in 2019/20 and 39,2% in 2022.

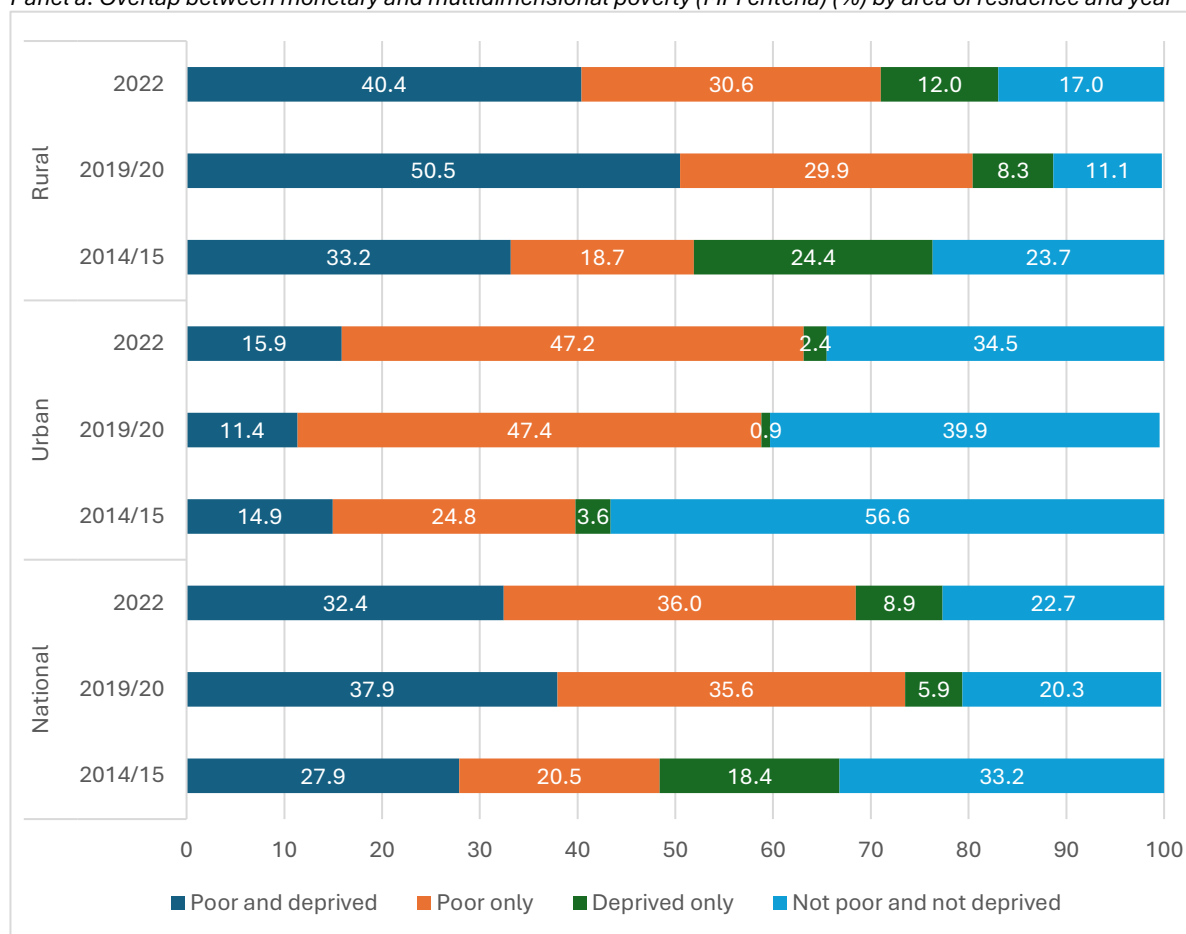
However, it is important to note that the share of children that are poor only in monetary terms has increased substantially from 3,5% in 2014/15 to 10,5% in 2019/20 and rising further to 11,8% in 2022. This divide is also evident in children experiencing neither form of poverty. In urban areas, the share of children that are not poor nor deprived are 34,8% for 2019/20 and 26,7% for 2022; whereas this level drops to 5,0% in rural areas in 2022 (and 3,5% in 2019/20) (Table 12).

The same trend is observed at the regional level, where overlap between monetary and multidimensional poverty increases moving from the south to the north of the country. In particular, the share of Mozambican children who are poor and deprived is more than double in the North (73,9% in 2019/20 and 67,1% in 2022) compared to the South (36,6% in 2019/20 and 32,6% in 2022) (see Table 12).

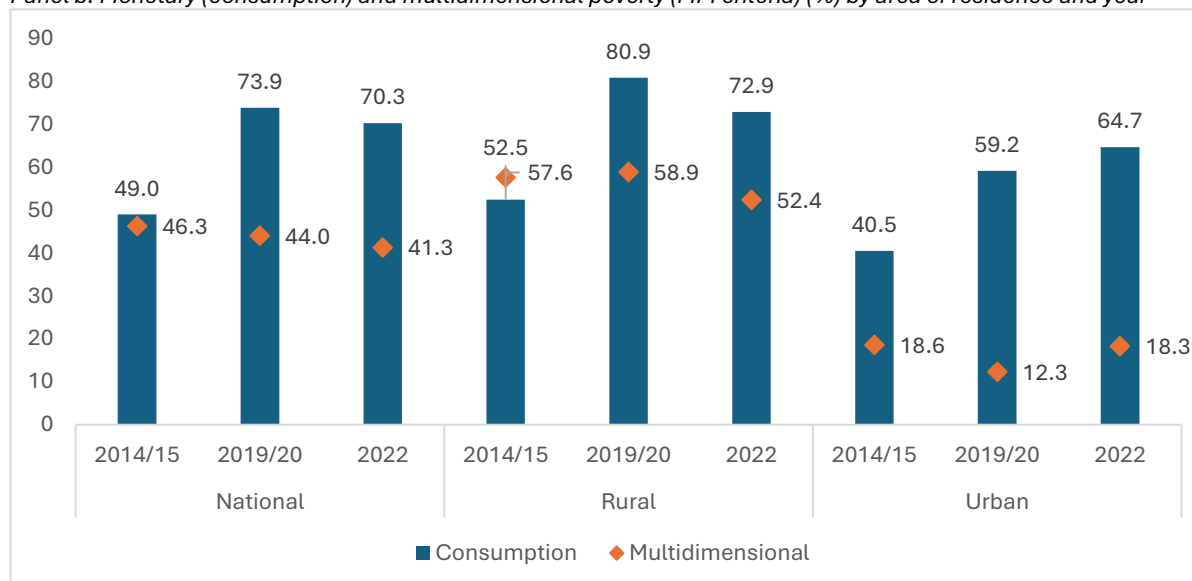
Complementary to the approach of calculating multidimensional poverty for the cut-off of two or more dimensions, Figure 21, panel a, shows the overlap between monetary and multidimensional poverty incidence computed in the framework of the MPI method as the relevant criteria. The MPI considers as deprived those children for which the weighted deprivation, as measured based on the different welfare indicators and independently of the dimensions in which they are placed, is above a third of the total. Despite methodological differences, both approaches reveal a persistent urban-rural gap and a common temporal trend: at national and rural level a general worsening of the welfare situation between 2014/15 and 2019/20, followed by an improvement in 2022; and a deterioration of welfare in urban areas between 2014/15 and 2022. (Figure 21, panel a). More details on the differences between two approaches are provided in the Additional Annexes.

Figure 21, panel b and panel c, focus on children under 18 only and compares the rate of monetary and multidimensional poverty for this population over time at the national, rural, urban and provincial levels. As mentioned in Chapter 3, monetary poverty has slightly decreased from 2014/15 to 2022 at the national level. In rural areas multidimensional poverty increases slightly from 2014/15 to 2019/20 and then decreases again to 52,4% in 2022, indicating that in rural areas more than one in every two children is multidimensionally poor in 2022. In urban areas the decrease is more marked from 2014/15 to 2019/20, reaching 12,3%, but so is the subsequent increase to 18,3% in 2022, reverting to levels close to those observed for 2014/15. The share of children living in monetary poverty is much higher across years and geographical regions and shows a marked increase in 2019/20. In 2022 it decreases slightly at the national level (from 73,9% in 2019/20 to 70,3% in 2022) and more so in rural areas (from 80,9% to 72,9%), while there is an increase of 5,5 percentage points in urban areas (from 59,2% to 64,7%).

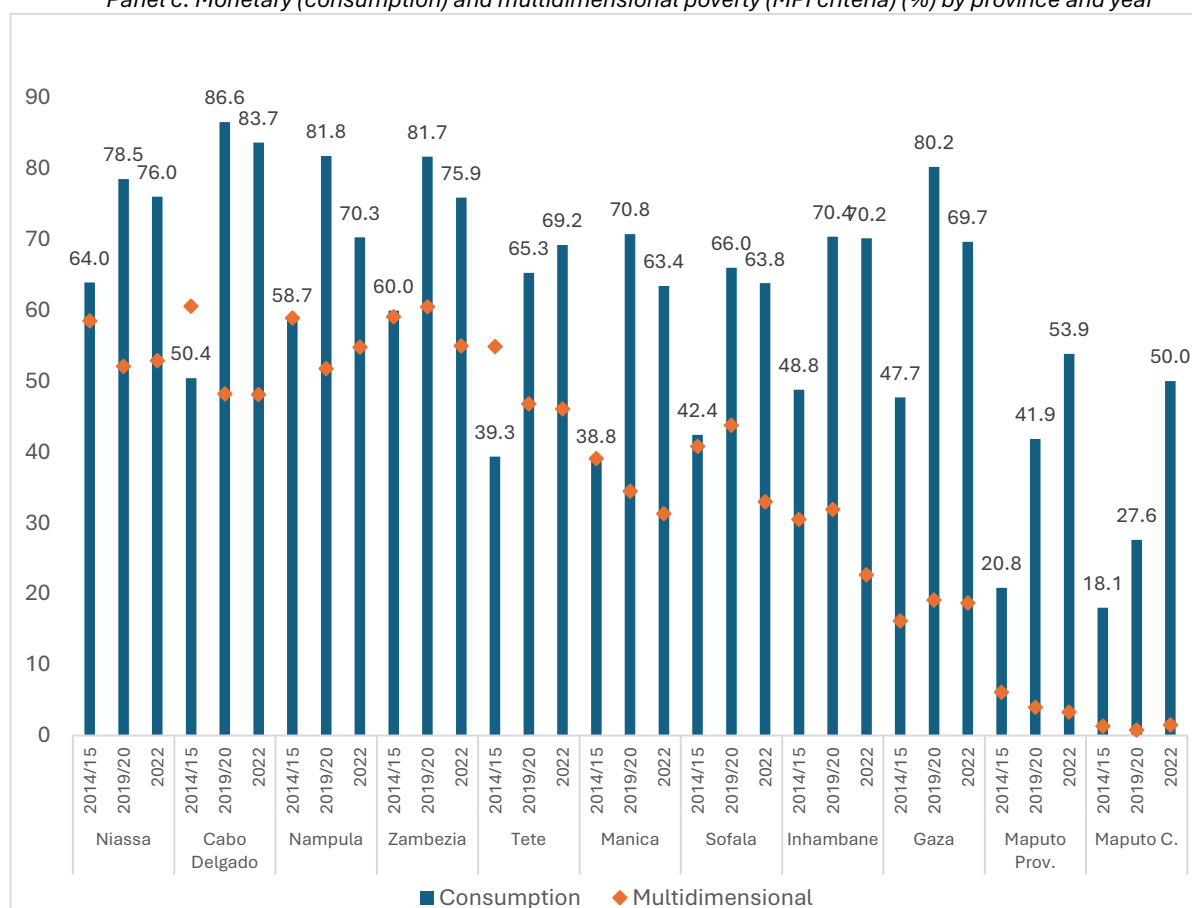
Figure 22: Monetary and multidimensional poverty (MPI criteria) (%) by area of residence and year
 Panel a: Overlap between monetary and multidimensional poverty (MPI criteria) (%) by area of residence and year



Panel b: Monetary (consumption) and multidimensional poverty (MPI criteria) (%) by area of residence and year



Panel c: Monetary (consumption) and multidimensional poverty (MPI criteria) (%) by province and year



Note: In the MPI framework, children are considered as deprived if the weighted deprivation, as measured based on the different welfare indicators and independently of the dimensions in which they are placed, is above a third of the total. Monetary poverty is estimated using consumption per capita as the relevant welfare measure, and the national poverty line as the relevant threshold to distinguish between poor and non-poor.

It should be noted that for Cabo Delgado, after 2017, households in the conflict-affected districts could not be surveyed due to security concerns. This implies that multidimensional child poverty may be underestimated for the province in 2019/20 and 2022. See Appendix A for a complete list of included districts in the Northern regions, Cabo Delgado, Niassa and Nampula, for 2014/15, 2019/20 and 2022. Moreover, see Table B8 and Figure B4 in the Additional Annexes for a simulation analysis in which the multidimensional and monetary poverty trends in Cabo Delgado are simulated

and estimated for a worst-case scenario in which all children from conflict-affected districts (not surveyed in 2019/20 and 2022) were considered as deprived from the multidimensional point of view, and poor from the monetary point of view. In this simulated scenario, multidimensional poverty incidence for Cabo Delgado passes from 60.6 per cent in 2014/15 to 54.5 per cent in 2019/20 and to 62.8 per cent in 2022; monetary poverty passes from 49.6 to 86.8 and to 87.2 per cent during the period 2014/15-2022.

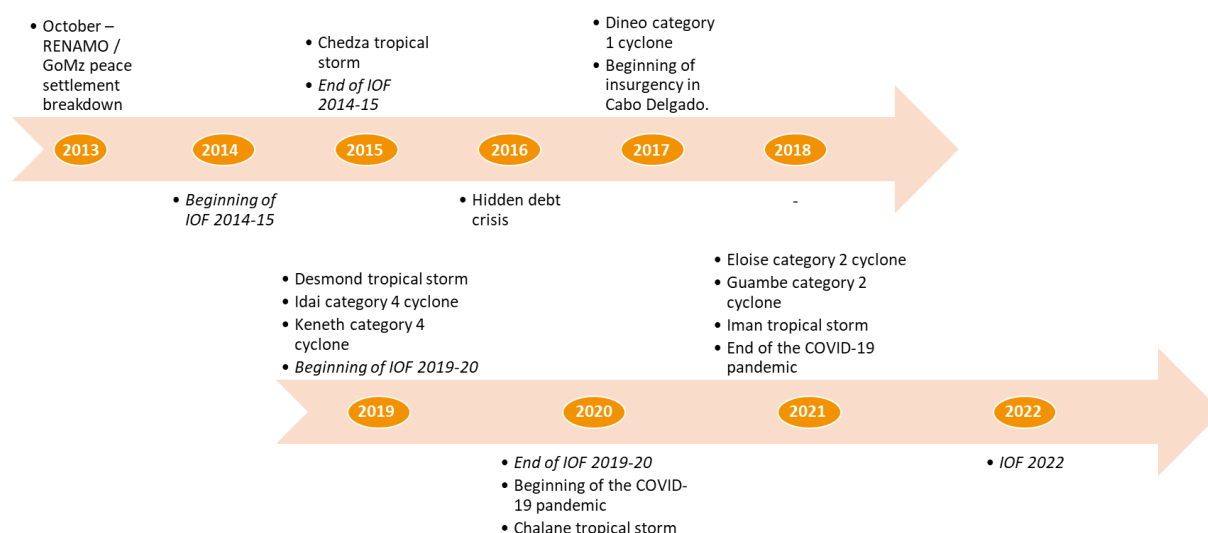
Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

5. Shocks and Child Poverty

This chapter revisits the main shocks that struck Mozambique between 2014 and 2022, namely macroeconomic and fiscal shocks, the COVID-19 pandemic, climate shocks and conflicts. Focusing on each shock, it assesses likely effects on multidimensional and monetary child poverty. Furthermore, when possible, it provides insights by area and age group.

Multiple shocks in Mozambique

Between 2014 and 2022, Mozambique experienced multiple shocks. At the time of the 2014 IOF, the country was already dealing with the aftermath of the RENAMO/GoMz peace settlement breakdown, a conflict which began in October 2013 and continued until 2018. In 2016, Mozambique went through a hidden debt crisis, a fiscal and financial shock with an inflationary (or cost-of-living) impact over all families and their children. In 2017, an armed insurgency flared up in Cabo Delgado causing widespread damage and displacing part of the population. In 2020 and 2021, the country was hit by the COVID-19 pandemic, initially a health-related shock with serious economic and social consequences. Diverse climate shocks (cyclones, floods and droughts), most notably the highly destructive Idai and Kenneth cyclones, ravaged through the territories where they passed during the 2014/15 to 2022 period.



These shocks can be divided in two groups. The first set of shocks, namely the macroeconomic and fiscal shock and the COVID pandemic, had a systemic nature. They impacted the whole country in the form of an inflationary shock in the case of the hidden debt crisis and of the nationwide lockdowns in the case of COVID. The second set of shocks, namely the climate and conflict shocks, had a localized nature. While their impact was arguably deeply experienced by

children living in impacted areas, those living in areas outside of the range of impact of those shocks were arguably not directly affected.

The different nature of the shocks demands different methodological approaches to assess their impact. Data constraints also dictate what method can be applied. In this section we apply different methodologies to assess effects of each shock. In this study we apply the following methods to assess the impacts of each shock on child deprivations, and on multidimensional and monetary poverty: simulation analysis, as per Salvucci and Tarp (2024) to estimate the impact of the macroeconomic fiscal and financial shock; propensity score matching and inverse probability weighted regression adjustment (IPWRA) approaches, as per Salvucci and Tarp (2023), to estimate the impact of COVID; an ANCOVA difference-in-differences regression approach, as per Salvucci and Santos (2020), to estimate the impact of climate shocks, and; a descriptive regression approach to assess correlates between exposure to conflict related events and violence and child poverty dimensions and incidence.

The following subsections describe each shock and discuss their effects on children. The methodologies applied are further described in Appendix C.

The Hidden Debt Crisis

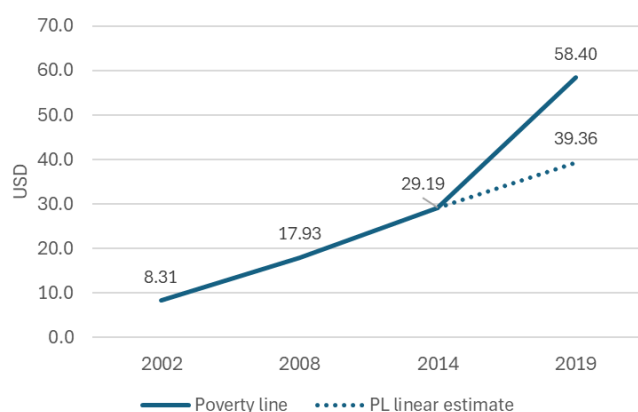
Systemic macroeconomic and fiscal shocks with an inflationary effect, such as the one that impacted Mozambique in the aftermath of the uncovering of the hidden debt, have direct effects on the cost-of-living of households with children both in the Global North and the Global South (Richardson et al. 2023, Roantree, Maître and Russell 2024). To the degree inflation manifests through marked increases in the level of food prices, they have dire effects on children and their health (Headey and Ruel 2024, Woldemichael, Kidane and Shimeles 2022). The increase in the cost-of-living, particularly that of the poor households, can be seen in a shift in the real monetary value of the poverty line. As goods and services became more expensive, especially basic goods and services, children from the poorest households found themselves further in poverty, with others becoming poor.

As government expenditure can have significant impacts on child monetary and multidimensional poverty reduction, fiscal shocks can also have an indirect effect. Analysing Ethiopia's fiscal and transfer system, Ambel et al. (2023) found that public provision of education and health constitute in-kind transfers reducing poverty, compensating for indirect taxes that disproportionately hurt poorer households (and their children). Forced to consolidate and lower debt burdens, governments will be pushed to adopt policies that, whatever option is chosen will come with political, economic and social costs (Kose et al. 2022). Debrun and Kinda (2016) find that a country experiencing high and rising borrowing costs and interest payments would be more likely to enact a more aggressive fiscal consolidation than one benefitting from persistently low interest rates – even though both consolidation paths would be consistent with solvency. Mamman, Sohag & Abubakar (2023), using a panel data from 48 African countries, find evidence that increased debt service worsens both poverty and inequality. Chipunza & Ntsalaze (2024), in a study on thirty-five Sub-Saharan African governments, including Mozambique, found, also, that public indebtedness distorts the positive impact of per capita income on government healthcare financing. By reducing the fiscal space, shocks akin to the one experienced by Mozambique in the wake of the hidden debt crisis, may, therefore, reduce the government's capacity to act towards the reduction of child multidimensional and monetary poverty.

In 2016, Mozambique experienced a macroeconomic shock with persistent effects, later called the “hidden debt crisis” (Gebregziabher and Sala 2022; Egger, Salvucci and Trap 2023). A succession of events, described in Williams and Isaksen (2016) but also in appendix E of World Bank (2021) led to a suspension of significant flows of official development aid, in 2015 and 2016. This, compounded with pre-existent Foreign Direct Investment reduction dynamics, consistent current account deficits and an already increasing debt service, led to a reduction of net foreign reserves, making it impossible for the Mozambican Central Bank to impede the Metical to depreciate from around 40 MZN/USD to close to 80 MZN/USD. A more comprehensive description of the macroeconomic dynamics can be found in Appendix C1, below.

As discussed by Salvucci and Tarp (2024), there is a clear and evident link between the exchange rate hike and the price levels of food. As they show, there is strong evidence that the price rise was exceptionally high for some essential goods, including maize maise and bread, with the prices of partially imported goods increasing more than those of mainly locally produced goods.¹⁸

Figure 23: Poverty lines per survey



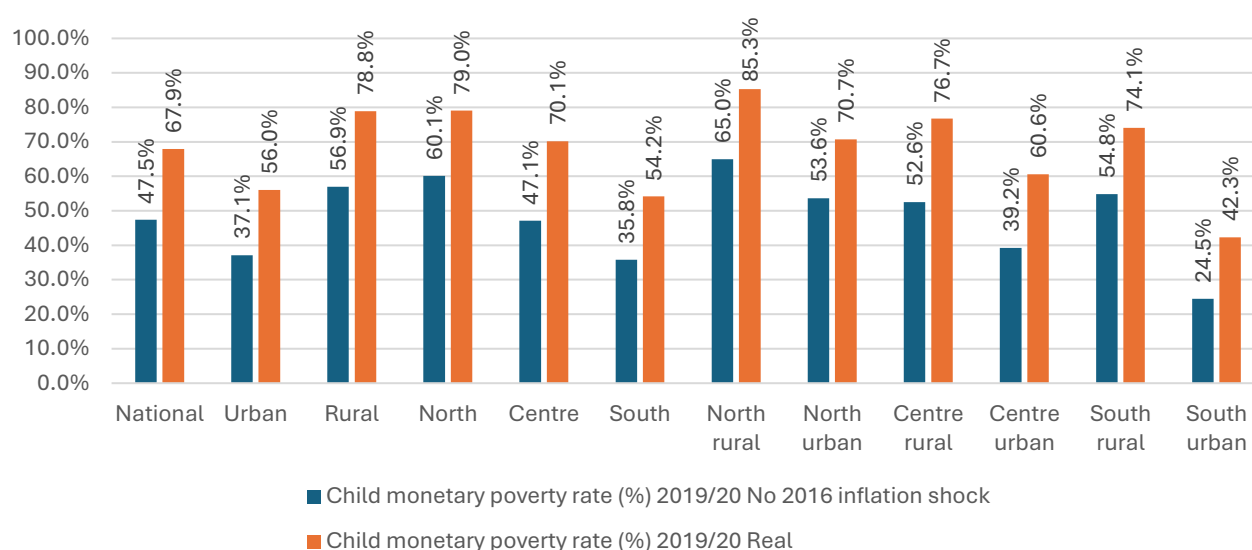
Source: Salvucci and Tarp (2024)

The significant increase in general prices and, most notably, in food prices, would, most likely, induce an increase in the cost of the basket of basic goods, and, therefore, a significant increase in the poverty line¹⁹. Salvucci and Tarp (2024) show such an increase, rising from 29.19 USD/day in the 2014/15 poverty assessment to 58.40 USD/day in 2019/20 (equivalent to an average annual increase of 15.5%), as presented in Figure 23. Had real living costs continued to increase at the pre-“hidden debt” crisis pace and according to estimates by Salvucci and Tarp (2024), this study assumes a (counterfactual) poverty line of 39.36 USD/day in 2019/20.

¹⁸ With an estimate of only close to 30 percent of households being net-sellers of agricultural goods in 2019/20, the authors found an expected negative impact of the food price increases on the mean household of all categories, but more so among urban households and among those in the Southern region of Mozambique.

¹⁹ See footnote 5, above, for a full technical explanation of the Mozambican national poverty line.

Figure 24: Monetary child poverty rate variation (pp); no 2016 inflation shock vs real inflation



Source: Salvucci and Tarp (2024)

The simulated impact of the inflationary shock, presented in Figure 24, suggests an increase of 17 to 24 percentage points in monetary child poverty in 2019/20. Children living in rural areas are expected to have experienced higher impacts, with a calculated effect of 22 percentage points increase due to the inflationary shock. Children from the rural north, with calculated increases in poverty prevalence of 20 percentage points and, even more so, of the rural central provinces, with an increase of 24 percentage points, may have been more strongly affected by this shock.

It should be noted that while this simulation captures the increase in the cost of living, it is blind to the differentiated negative effects of the other shocks that are discussed below and may explain part of the increase in poverty prevalence suggested in this simulation exercise.

As mentioned above, it is less evident how the macroeconomic and fiscal shock affected the multiple dimensions of deprivation studied in this report. It is difficult to measure effects on access to services, as the fiscal erosion is more likely to affect the quality of service and compromise the widening of access to more children and only at a much later stage to a withdrawal of services. The possible impacts are therefore more likely to be shown by the deterioration of indicators such as those capture in the demographic and health survey or the MICS, rather than in multidimensional poverty analysis such as this one. Nevertheless, some evidence can be found in recent research. In their assessment of the impacts of the multiple crises affecting Mozambique from 2009 to 2018, Egger, Salvucci and Tarp (2023) found an improvement in access to basic services throughout and a stall in the asset ownership and housing conditions from 2015. Nevertheless, they find an increase in households with asset deprivation and argue about the possibility of asset erosion to allow for consumption smoothing among some households, as they experienced hiking food prices.

In summary, we find that the inflationary shock that arose from the hidden debt crisis induced a likely countrywide increase of 17 to 24 percentage points in monetary child poverty, from 2014/15 to 2019/20. Children in rural areas, particularly in the north and central regions, were among the most affected. These results are aligned with previous literature, discussed above in this subchapter.

These impacts result from increase in living costs alone. However, other shocks impacted consumption levels themselves, during the 2014-15 to 2019/20 period. Also as discussed, while literature on fiscal and financial shocks highlights the erosion of fiscal space as a channel to the slowdown or inversion of improvements in the dimensions of child deprivation, it is likely these effects are diluted in time and could not be assessed. In the end of this chapter, we discuss the joint impacts of all shocks.

The COVID-19 pandemic

On 31 December 2019, the Municipal Health Commission reported a novel respiratory disease akin to pneumonia in Wuhan City, mainland China. Shortly after, it was reported outside China, and in less than a month, the first cases had already been reported in the United States and Europe. On 30 January 2020, the World Health Organization (WHO) declared this outbreak of novel coronavirus a ‘public health emergency of international concern’ and on 11 March 2020 declared it officially as a global pandemic. Only on 22 March 2020 was the first COVID-19 case reported in Mozambique.

It is necessary to look as far as the Spanish Flu of 1918-1920 to find a reference point to what the world experienced with the COVID-19 pandemic, a century after, from 2020 to 2022. Notably and contrary to what happened with that previous pandemic, children were less likely than adults to develop the most severe symptoms or to require hospitalization (Garcia-Prats et al., 2021). This does not exclude that children were among the worst affected by the pandemic, due to secondary effects, including the lockdown measures and the need to re-allocate resources to fight the pandemic.

Among secondary effects, literature speaks about the worsening of child poverty and food insecurity (Sinha et al., 2020; Cummins, 2020; Garcia-Prats et al., 2021; Abdelkhalek et al., 2022; Squarcina & Carraro, 2024; Carraro & Gwyther, 2024); disruption of already strained routine child health services and damage to already imperilled healthcare workforces (Garcia-Prats et al., 2021); a wave of mental health challenges to health workers but also to people forced into lockdown and personal and economic stresses (Garcia-Prats et al., 2021); erosion of the social determinants of health themselves (Abrams et al., 2022); interruption of education (Sinha et al., 2020; Van Lancker & Parolin, 2020; Garcia-Prats et al., 2021); and increased risks of violence, abuse, exploitation, and neglect (Garcia-Prats et al., 2021). It is important to note, as it was done by Parolin & Lee (2022), Abrams et al. (2022) and by Egger et al. (2023), among others, that, while COVID-19 was a cause of poverty and a shock differently experienced by the poorest, increasing pre-COVID levels of poverty and inequality also led to increasingly harmful effects of the pandemic.

A complete description of the evolution of COVID-19 in Mozambique can be found in appendix C2, below.

COVID-19 may have impacted child poverty in Mozambique through three mechanisms: (1) the onset of the health shock itself; (2) the intensity of harm (measured through fatalities); (3) the effects of different levels of stringency and specific control measures put in place during the pandemic. UNICEF in its 2022-2026 country programme for Mozambique (UNICEF 2022a) highlights the pandemic as a probable cause of the poverty increase experienced by Mozambicans from 2014 to 2020. It highlights the significant effort needed to activate Mozambique’s vaccination infrastructure and reallocate resources to respond to COVID and alerts for a post-COVID reduction in child immunization coverage. It also raises attention to the

likely effects of school closures and other lockdown measures on enrolment, education attainment and learning by children (UNICEF 2023e).

Research conducted by IGM simulated possible macroeconomic and microeconomic impacts (Barletta et al. 2022; Betho et al. 2022). At the macroeconomic level, Betho et al. (2022), found a suggestion that COVID-19 may have induced a total loss of 3.6 per cent in GDP growth in 2020 and that a loss in total employment of 1.9 per cent down, when compared to a scenario without COVID-19. The main channel of the expected loss was a demand reduction for Mozambican products by the rest of the world, affecting two economic sectors, trade and accommodation, and mining, the most. The production factors of capital and urban labour were, expectedly, more affected than rural labour. The microeconomic impacts of these macroeconomic effects were simulated by Barletta et al. (2022), focusing on two possible channels: direct wage losses and employment losses. Both these channels were expected to induce significant reduction in household consumption and increases in poverty incidence.

Salvucci and Tarp (2023) applied propensity score matching and inverse probability weighted regression adjustment (IPWRA) approaches to compare selected welfare indicators before and during the first phases of the pandemic, using the IOF 2019/20 dataset. They estimated that actual total household consumption decreased, in levels, by about 25 meticaís (per person per day, about 0.40 USD/person/day) during the period March–November 2020 and that food and non-food consumption reduced by about 7 and 15 meticaís, respectively, in the same period. These estimates would correspond to a rise in the consumption poverty rate after March 2020 by more than five percentage points, within the range estimated by Barletta et al. (2022). Other estimates included an increase of about three percentage points in the stunting prevalence among under-5 children. The authors also found that in terms of actual total consumption and poverty numbers, urban areas were more deeply affected than rural areas, the most impacted areas being the urban areas of the southern region.

As the authors pointed out and revealed above, the southern region of Mozambique had the most COVID-19 cases registered, particularly in urban areas, where the stringent government-enforced control policies put in place more likely had an impact. These results are being confirmed by Salvucci and Tarp (forthcoming), using the IOF 2019/20 and IOF22 surveys. They find that at the national level, consumption levels and poverty rates worsened during the COVID-19 pandemic compared to the pre-COVID-19 period, partially recovering at the end of the pandemic. They also find that consumption and poverty improved in 2022, even concerning pre-COVID-19, in rural areas and the northern region, while in the urban areas and the southern region, consumption and poverty were negatively affected throughout the pandemic, with signs of having worsened after its final stages.

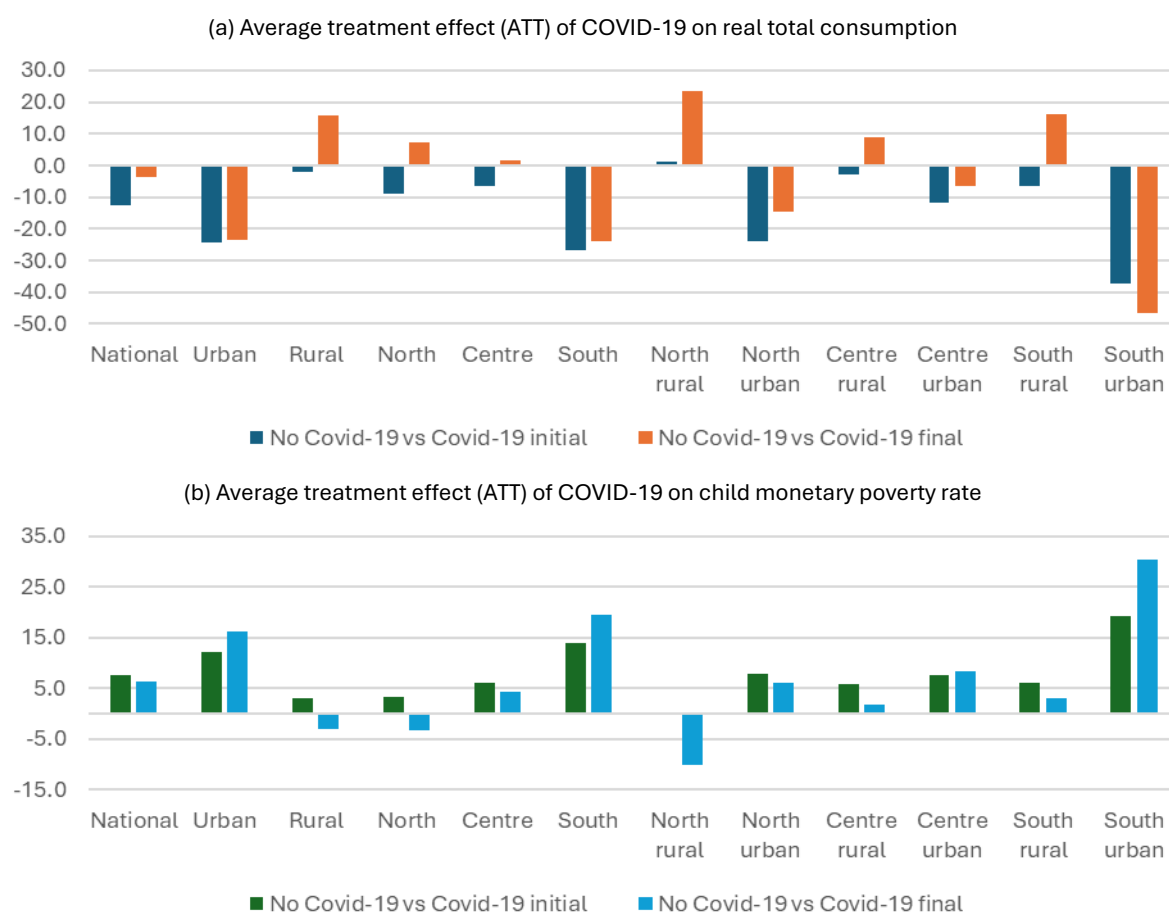
These studies already provide a sobering view of the effects of the COVID-19 health shock on monetary and some dimensions of multidimensional poverty between 2019/20 and 2022. While giving good guidelines on how to do it, they did not focus specifically on children and child poverty.

Building on Salvucci and Tarp (forthcoming), this study expanded the analysis of the impacts of COVID-19 on child monetary poverty. The application of IPWRA, as recalled by the authors, seems particularly useful in the pandemic context, as it permits estimating unbiased treatment effects when there are confounding effects due to selection bias. It also allows for the comparison of outcomes when multiple treatments are considered. Figure 25 presents the results, with a control group, represented by the group of households interviewed in the first

quarter of the IOF19 (IOF19-Q1), and only two treatments, that is, COVID-19 initial phases (IOF19-Q2-Q4) and COVID-19 final phases (IOF22). The report presents impacts on consumption in relative terms (in percentages) instead of levels and on the incidence of child monetary poverty in percentage points.

Figure 25: Impacts of COVID-19

Average treatment effect on the treated (ATT) for real total consumption (a) and consumption poverty rate (b), before the start of COVID-19, during its initial phases and after its final phases, inverse probability weighted regression adjustment (IPWRA), national, urban/rural, regional, and regional-urban/rural level, children 0-17



Note: No COVID-19 = November 2019-February 2020 (2019/20-Q1); COVID-19 initial phases = March-November 2020 (2019/20-Q2-Q4); COVID-19 final phases = January-December 2022. IPWRA = inverse probability weighted regression adjustment. The study dropped a few outliers for real total consumption (less than 30 observations). The ATT for real consumption is reported in relative terms (%).

Source: Authors' calculations based on the 2019/20 and 2022 Mozambican household budget surveys.

Figure 25 shows that the initial COVID-19 phases corresponded to a big shock on children's welfare and that of their households. While the onset of the pandemic and related containment measures mainly occurred in 2020, right after the end of the 2019/20 IOF campaign, the welfare situation in 2022 was still negatively affected. Consumption is estimated to have decreased by 12.6 per cent during the initial COVID-19 phases, while the reduction computed comparing the pre-COVID-19 and the final COVID-19 phases is comparably lower, 3.6 per cent. Moreover, compared to the pre-COVID-19 months, child monetary poverty is estimated to have increased by 7.5 and 6.4 percentage points in the initial and final COVID-19 phases, respectively; all effects are statistically significant.

The national dynamics appear to be decomposed by at least two main sub-national trends: i) a welfare improvement in rural areas (mostly in the final phase of the pandemic), mainly in the north, where consumption and poverty improved even concerning pre-COVID-19 months (in 2022 consumption levels increased by 23.7 per cent in the rural North, by 9.0 per cent in the rural Centre, and by 16.2 per cent in the rural South, compared to pre-COVID-19); and by ii) a sensible worsening in all urban areas, with a severe downturn in the southern region, where consumption and poverty were negatively affected by the start of the pandemic and, especially, by its related restrictive measures; and where both welfare measures continued to deteriorate even in 2022 (consumption decreased by 46.6 per cent in the urban South between pre-COVID-19 months and 2022, whereas poverty is estimated to have increased by 30.5 percentage points in the same period).

While this analysis presents impacts on child monetary poverty, there are indications that COVID also impacted children in other dimensions. As presented in Figure 10, above, there was an increase in the prevalence of deprivation in Education from 30.6 percent in 2019/20, to 35.5 percent in 2022. Figure 4 and Figure 5 show that this increase was driven by an increase in the percentage of unenrolled school-aged children in the period that mediated the two respective IOF surveys: from around 15 per cent in rural areas and 7 per cent in urban areas in 2019/20 to around 26 per cent in rural areas and 14 per cent in urban areas in 2022. As it will be discussed below, there is no strong evidence that this enrolment reduction was caused by the various climate shocks. There are some suggestions that the conflict experienced in the northern provinces of Cabo Delgado, mostly, but also with increases in displaced populations and occasional violent events in Nampula, may be linked to the higher increase in Education deprivations in these two provinces. Further analysis may help disentangle the relative contribution of these two different shocks.

Overall, the impacts here assessed are aligned with previous literature on the effects of COVID on child poverty and on child deprivation in education. However, limits in the IOF data and indicators chosen precludes an assessment of other likely impacts, namely on child protection and on health. It should be noted that the two health deprivation indicators (not sleeping under a bed net and distance to a health facility) do not capture the COVID induced stresses on the health system including the reduction in immunization coverage. Unfortunately, the IOF questionnaires do not include questions on vaccination. The addition of these could be considered for future IOF surveys.

Climate shocks

There is now a wide consensus that climate change is happening and is a common concern of humankind (UNFCCC, 2024). The first stocktaking exercise, conducted under COP 18 in Doha, United Arab Emirates, noted “that human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming of about 1.1 °C” (UNFCCC, 2024:4). It also expressed serious concern to the fact that 2023 was to be the warmest year on record. This comes in the path of what was the warmest decade on record by a clear margin, both on land and in the oceans, 2011–2020 (WMO, 2023).

Human-caused climate change impacts are being felt worldwide, in every region. However, those who have contributed the least to climate change are among the most vulnerable to the impacts (UNFCCC, 2024). In Africa, 2023 was among the three warmest years in the 124-year record, with a mean temperature 0.61° C higher than the 1991–2020 average and 1.28°C higher than the 1961–1990 average. Climate extreme events are becoming more frequent and severe

and are disproportionately affecting African economies and societies. On average, climate-related hazards cause African countries to lose 2%–5% of their GDP annually, with many diverting up to 9% of their budgets to the response (WMO 2024).

The impacts of climate change (and climate disasters) on children are far and wide, from worsening health (including on asthma and allergies; physical trauma and posttraumatic stress disorder from disasters; increased anxiety about the future; and increased exposure to infectious diseases), weakened health systems and higher health costs (Ragavan et al., 2020; Helldén et al., 2021; Suter & Aagaard, 2023), but also lack of access to adequate food and clean water (Ragavan et al., 2020; Suter & Aagaard, 2023), child undernutrition (Brown et al., 2020), weakening education and learning (Suter & Aagaard, 2023; Ford & von Rusdorf 2023; Miller et al., 2024), increased child labour (Miller et al., 2024), frailer public infrastructure systems (Suter & Aagaard, 2023), loss of informal social safety-nets due to displacement and migration (Suter & Aagaard, 2023) and overall child poverty (Diwakar et al., 2019).

Mozambique sits as the 16th country under highest risk of facing a humanitarian crisis needing international assistance, with an INFORM Risk Index score of 6.9 (out of 10) for 2025, (INFORM 2024). With an INFORM Climate Change risk index of 7.2 (out of 10), it sits as the 9th country under highest climate risk. From 2015 to 2023, according to the International Best Track Archive for Climate Stewardship (IBTrACS), Mozambique was hit by six tropical storms, one category 1 cyclone, three category 2 cyclones, one category 3, two category 4 cyclones, both in 2019 (Idai and Keneth) and one category 5 cyclone, Freddy (one of the longer duration cyclones on record), already in 2023. A more comprehensive description of the events can be found in appendix C3, below.

Building on Salvucci and Santos (2020), this study applies an ANCOVA difference-in-differences regression approach, applied, however repeated cross-sections. This approach follows methodologically studies such as Callaway & Sant’Anna (2021), Deb et al. (2024), D’Haultfœuille et al. (2023), Kim & Lee (2019), Morin (2024) or Villa (2016). The methodology is further described in appendix C3.

Figure 26 presents the statistically significant²⁰ estimates of effects of each cyclone on the prevalence of each dimension of deprivation, on multidimensional poverty (MPI) incidence and on monetary poverty for each age group. It shows that the age group 5-12 was affected the strongest, particularly with increases in the prevalence of Child Labour (above 5 per cent), of deprivation in Participation (around 4 per cent), of deprivation in Housing (with the highest increase, of 18 per cent, attributed to cyclone Dineo), with increases of 3 to 7 percent in Child Multidimensional Poverty and consistent increases in Child Monetary Poverty of 5 to 11 per cent.

Child Monetary Poverty consistently increased for all age groups and because of almost all the cyclones, with a range of increase between close to 6 and up to 18 percent. Participation was the deprivation dimension to most consistently increase, followed by Housing and Child Labour.

²⁰ Figure 37 present the values of the differences-in-differences estimates of cyclone effects with p-values of 10% or lower.

Figure 26: Impacts of cyclones by age group (estimated changes in deprivations and poverty)



Source: Author's calculations using ArcGIS and STATA, IOF datasets from INE and cyclone paths from IBTrACS.

Some results are relatively puzzling. Firstly, the study finds mostly non-significant impacts on Nutrition, Education and even Water and Sanitation. More puzzling is the indication of reduction in the prevalence of Health deprivation among children because of the cyclones, to the exception of the latest cyclone, Guambe. A possible reason is the time that lagged between the IOF surveys, before and after the events, and the events themselves. The time that lagged after each cyclone and the following IOF survey gains importance as this is one where shock- response interventions, among other, could be put in place to mitigate effects of the cyclones²¹. Another

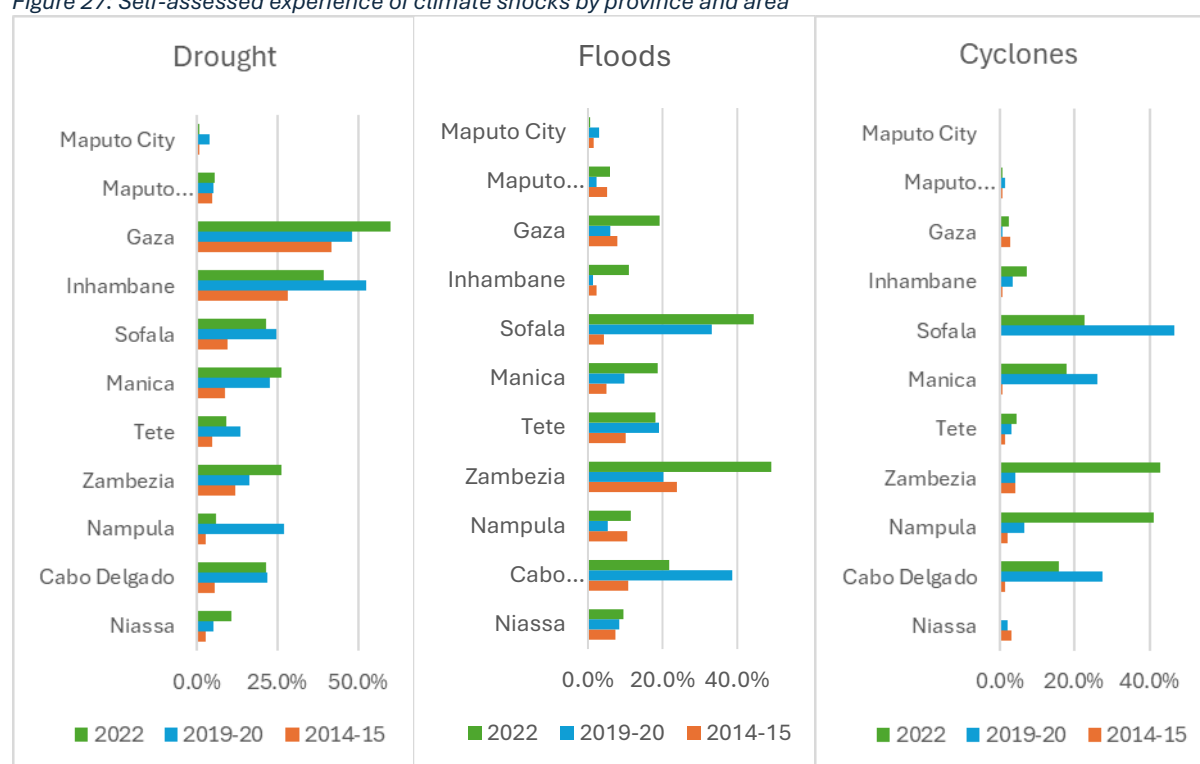
²¹ This can be the case of the impact of cyclones on the prevalence of Health deprivations on children, mostly driven by the reported distance to a health facility. In the IOF questionnaires, survey participants were queried on the distance, in minutes and by foot, to the nearest health facility ("unidade sanitária"). The data suggests a reduction in the distance to such units. A possible reason for this reduction may be the setting-up of health facilities in resettlement and hard-to reach-communities, as part of the shock-response interventions (suggested by reports such as IOM 2023).

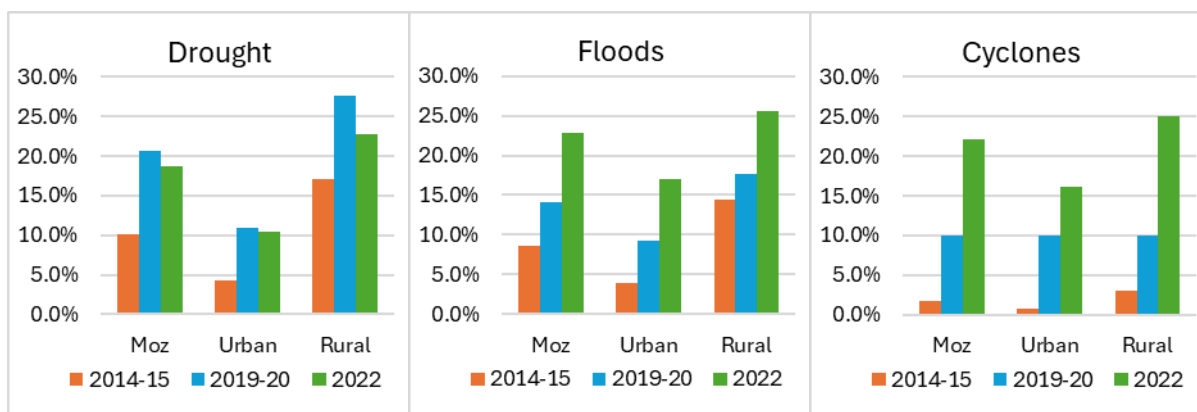
possible reason, that could, among others, explain the relative lack of significant estimates of impacts on Education deprivation prevalence, is the relative blindness of the indicators themselves to effects of shocks, as discussed above.

An analysis of the impacts of climate shocks in Mozambique should not be restricted to cyclones. The country has suffered successive floods, and the drought risk has increased significantly in the later years. In-depth analyses of these shocks may elucidate their impacts on child deprivations and poverty between 2014 and 2022. The IOF surveys analysed, from 2014 to 2019, include questions on subjectively assessed shock experiences, impacts, losses and coping mechanisms. These may allow some insights.

Figure 27 reports the self-assessed experience of climate shocks. As reported by surveyed households, close to half of residents in Gaza and Inhambane experienced droughts in the year before each of the IOF surveys. Equally close to half of residents in Sofala, Zambézia and Cabo Delgado experienced floods, while close to half of residents of Sofala, Zambézia and Nampula experienced cyclones in the year before each survey. Contrasting with Figure C3.1, in appendix C3, it suggests that households under the path of the cyclones either classified the shock they experienced as cyclone, as flood or both. Also, according to the self-assessment, rural areas were relatively more vulnerable to climate shocks than urban areas.

Figure 27: Self-assessed experience of climate shocks by province and area

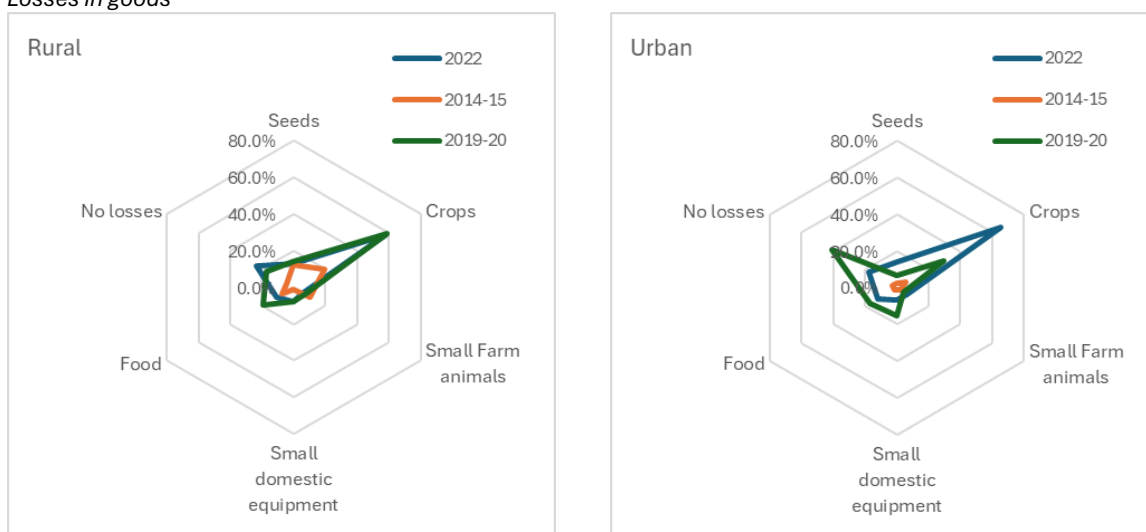




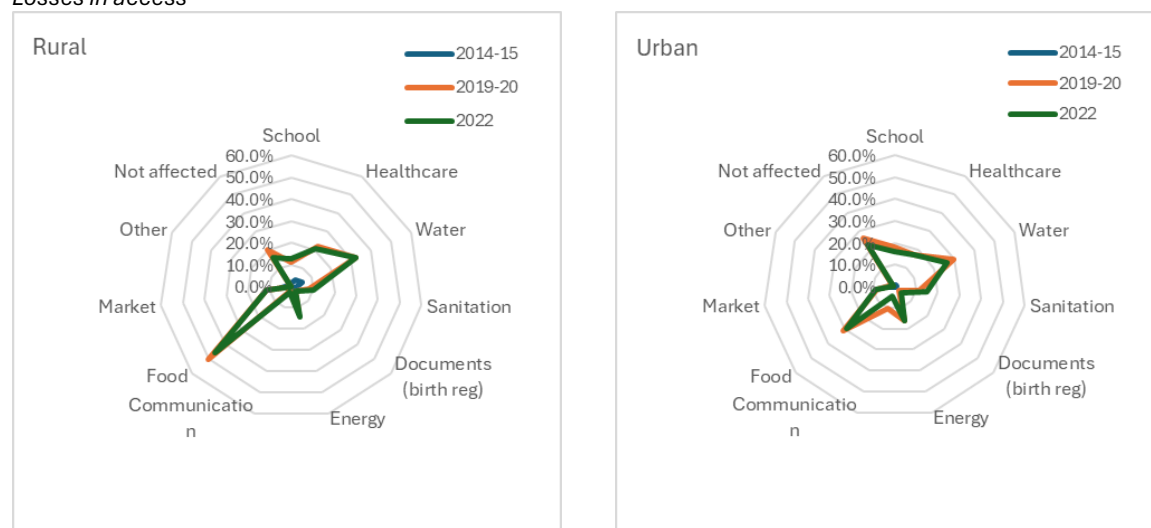
Source: authors calculations using IOF datasets from INE.

Figure 28 offers insights on the self-assessed losses in goods and access as a consequence of the experienced shocks. Very notably, food insecurity features as a key concern with reported losses in crops raising from 19.5% of rural residents and 6.6% of urban residents in 2014-15 to 65.6% of rural residents and 29.8% of urban residents in 2019-20. A more in-depth analysis reveals that losses in crops was mostly communicated in Gaza (rising from 32.5% in 2014-15 to around 69% in 2019-20 and 2022) a province where residents mostly reported droughts, in Tete (73.3% in 2019-20), Zambezia (rising from 24.1%, to 51.5% and to 72.5%, throughout the three surveys), Nampula (51.8% in 2019-20 and 63.9% in 2022) and Cabo Delgado (48.2% in 2019-20 and 64% in 2022). Residents in these last three provinces reported to have, mostly been affected by floods and cyclones. It is important to note that Cabo Delgado, mostly, but also, to a lesser degree Nampula, is also suffering the effects of conflict. Deteriorated access to food, due to shocks, was reported by around 50% of rural residents and 30% of urban residents, while deteriorated access to safe water was reported by around 30% of residents in both areas. Reported deterioration of access to safe water was highest in Sofala (above 45% in 2019-20 and 2022), Cabo Delgado (around 38% in 2019-20 and 2022), Zambezia (above 32.8% in 2019-20 and 2022) and Nampula (35,7% in 2022). These records, again, correlate with higher prevalence of respondents that reported to have been affected by climate shocks (although we cannot overlook possible impacts of conflict in Cabo Delgado and Nampula). Notably, around 40% of urban residents reported no losses due to shocks and around 20% of surveyed Mozambicans reported not to have suffered from worsen access to services due to shocks.

Figure 28: Self-assessed losses in goods and access by area
Losses in goods



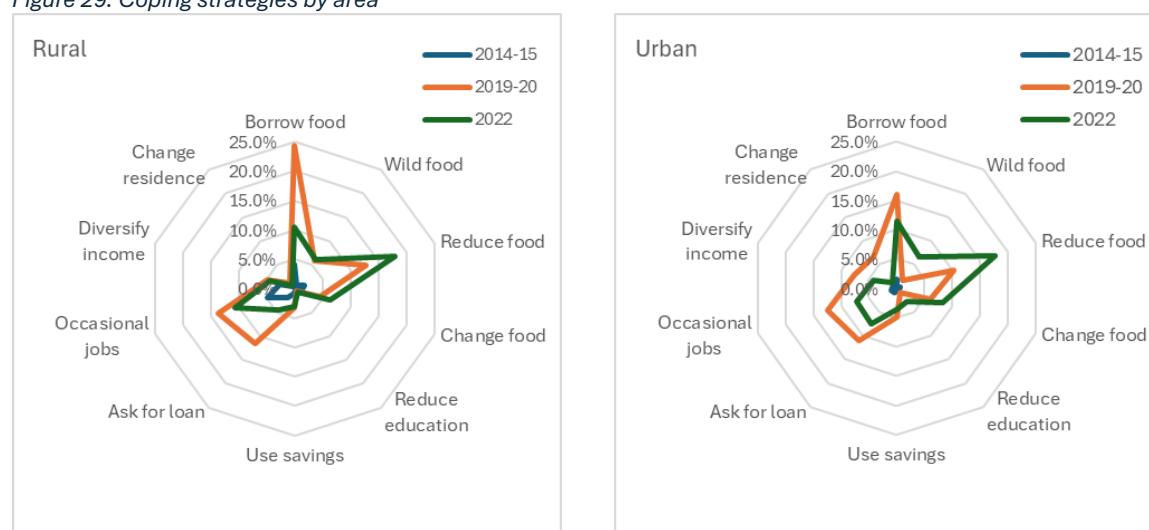
Losses in access



Source: authors calculations using IOF datasets from INE.

Figure 29 shows the main coping strategies IOF respondents reported to have used in response to shocks. While no strategy appears to dominate, three strategies had more use: ask for borrowed food, reduce food consumption and take occasional jobs (“ganho-ganho”). Among those that reported to have experienced shocks, asking for borrowed food was, on average, adopted by 24.3% of rural residents and 15.9% of urban residents in 2019-20, with residents from Niassa (38.3%), Zambesia (35.3%) and Nampula (33.6%) among those that adopted this strategy the most. Reduction of food consumption was reported to have been significantly more adopted as a strategy in 2022 than in the previous surveys, increasing from 12.7% to 18.1% between the two latest surveys, in rural areas, and from 10.1% to 17.7% in urban areas. It was mostly adopted by 38.6% residents in Manica in 2022; by 24.1% and 28.4% of residents in Sofala in 2019-20 and 2022, respectively; by 26.9% of residents in Gaza in 2022 and 23.3% of households in Inhambane in 2022. This strategy appears, therefore, to be used by both those affected by droughts, cyclones and floods. The pursuit of occasional jobs was a strategy adopted in 2019-20, reportedly more than around the other IOF surveys, by between 12.5% and 13.7% residents of urban and rural areas, respectively. Notably, the strategy was adopted by 21.4% and 23.6% of Niassa residents in 2019-20 and 2022, respectively; by 19.3% and 26.5% of Tete residents around the same dates; adopted by 21.4% of Zambesia residents, and 20.2% of Manica in 2019-20, and adopted by 16.9% of Cabo Delgado residents in 2022. Here the correlation with the type of shock appears weaker. Notably, only around 1 per cent of respondents reported to have taken children out from school, only less than 1.5 per cent (less than 2.8 per cent in rural areas) reported to have reduced education expenditure, only around 1 per cent reported to have adopted child labour practices and only less than 1 per cent reported to have reduced health expenditure.

Figure 29: Coping strategies by area



Source: authors calculations using IOF datasets from INE.

A reflexion on coping strategies suggests that they would lead to effects on nutrition outcomes and increase nutrition deprivation. However, such impacts were not found in the empirical analysis conducted in this study. It may become evident through an analysis of impacts of drought and, also, by exploring the new data, only gathered in IOF 2022, of anthropometric data from school-age children (age 6 to 14) and from women aged 15 to 49.

The figures presented in appendix D illustrate the difference in the experience of shocks by those in monetary and multidimensional poverty and non-poor children. Figure D1 shows that in urban areas, there are significant differences between the reported experience of shocks by poor and non-poor while in rural areas the difference is less significant. This difference cannot be attributed to the shock itself, as it hits every household with equal probability, but to the personal objective and subjective conditions of poor and non-poor.

Figures D2, D3, D5 and D6 suggest that differences in the reported experience of losses in goods, services and access between poor and non-poor households (and their children) are not significant.

However, there is a suggestion in figures D4 and D7 that poor households are more likely to resort to the borrowing of food, the reduction of food consumption and the acceptance of occasional work (ganho-ganho) as coping strategies, while less able to diversify income sources or ask for loans than non-poor households. This indicates lower resilience to risks and higher risk of health and nutritional erosion by the poorest households and their children, compounding their vulnerability as climate (and other shocks) increase in frequency and severity.

Conflict

The impacts of conflict on children have been widely documented. The groundbreaking “Impact of Armed Conflict on Children” report (Machel 1996) led by former First-Lady of Moçambique Graça Machel systematically highlighted various aspects of how children’s deprivations arise or worsen because of conflict. They are also summarized in the “six grave violations” (Office of the Special Representative of the Secretary-General for Children and Armed Conflict, 2013). Beyond the tragedy of being fatally victimized, children are impacted by conflict in different ways, some of them overlapping. Children can be conscripted, pressed, kidnapped or forced into joining armed groups. They are among the most vulnerable when entire families and communities are

forced to displace, to escape violence, some of them having to flee without adult relatives accompanying. Children are among the victims of conflict related sexual exploitation and gender-based violence. They fall victims of landmines and unexploded ordinance. They are vulnerable to communicable diseases, including sexually transmitted, but also to the effects of conflict on access to food and water, leading to diseases such as cholera and severe malnutrition (also Brown et al 2020, among others). Maternal and neo-natal health are also affected by the arise of violence and conflict, in the process of displacement and within host communities and displacement camps. The impacts of conflict affect also children's right to education, due to attacks and kidnappings while at school, but also due to the disruption of education, both in the areas under attack, due to displacement and due to the pressures imposed on hosting communities and IDP camps to respond to the education needs of children. In forced displacement realities, evidence was found that among host community, IDP and returnee children, those from the latest two groups are found to be the most deprived with food insecurity particularly affecting IDP children (Biggeri et al., 2022).

A comprehensive description of the conflict events that afflicted Mozambique in the 2014-2022 period can be found in appendix C4, below.

A cursory analysis reveals that conflict in Mozambique has been a geographically localised shock. After the 2014-15 IOF, it mainly manifested in Cabo Delgado and, to a lesser extent, in the central provinces (particularly Sofala and Manica). It is also a protracted shock. Since 2017, for more than seven years, the northwestern districts of Cabo Delgado have experienced the highest levels of fatal conflict. Between 2014/15 and 2019/20, three districts, Mocímboa da Praia, Palma and Macomia, experienced, on average, more than two incidents per week; during the period, in these districts, together with Nangade and Muidumbe, the average number of fatalities per incident exceeded 2. Between 2019/20 and 2022, Nangade joined the previous three districts, Mocímboa da Praia, Palma and Macomia experiencing, on average, more than two incidents per week (Macomia experienced more than 4); during the period, the intensity of violence was highest in Palma (10.6 deaths per incident), Macomia (4.0), Quissanga (3.0), Mocímboa da Praia (2.9) and Mueda (2.8). On the other hand, throughout the seven years and in 9 of the remaining districts, no incidents were reported or reported fatalities were below one person per incident.

By applying the empirical regression analysis, also discussed in appendix C4 below, suggestions are found of negative impacts of conflict, especially the most violence and fatality inducing events. These can be found on estimates suggesting that the exposure to violent events with higher numbers of fatalities correlates with higher prevalence of Family deprivations reported in 2014-15, of Nutrition deprivations reported in 2014/15 and (to a less extent) in 2019/20; of Education deprivations in 2014-15 and 2022; of Health deprivations in 2014-15, of Housing deprivations in 2014/15 and 2022 and of Child Monetary Poverty incidence in 2014-15 and 2022. Other estimates, while statistically significant, are contradictory, and the robustness of all signals is relatively low. All these suggestions deserve further investigation.

Some of reasons may explain the difficulty in finding robust results. These lie, among others in data limitation due to forced displacement and sampling decisions regarding the 2019/20 and 2020 IOF surveys. Displaced families, by construction, are not accounted by the IOF surveys as INE builds its sampling grids using census locations and information. Because INE's surveying procedures do not encompass the possibility of finding, tracing or following households that move or moved, if a family migrates or is displaced between a census and an IOF survey and then selected into the IOF sample, it is not surveyed in the origin, not in the destination. Furthermore, while households were surveyed in the districts of Palma, Nangade, Mocimboa da Praia,

Muindunbe, Macomia, Meluco and Ibo for the IOF 2014/15 survey, none were surveyed for the 2019/20 and 2022 IOF surveys. As noted above, these districts were violence hotspots, at different given points of the conflict in Cabo Delgado. The impediments to surveying the most conflict afflicted districts lead to a non-random sample selection that is likely to bias the provincial statistics, in general, but also impedes the best assessment of impacts of conflict, limiting the robustness of results.

In view of these limitations, we would recommend the adoption of some mitigation strategies. A first is to consider including more robust methods to survey displaced populations to best assess the impacts of shock-driven displacement on children. The importance of surveying these hard-to-reach populations has driven the research community to seek to implement alternative methods, reviewed by studies such as Pennell et al. (2014), Firchow & Mac Ginty (2020), Tjaden (2021) or Verme (2023), including on ethical aspects of these methods. Among the methods suggested, we would recommend considering two complementary alternatives: mobile phone surveying, as discussed by Tjaden (2021), or, more extensively by Firchow & Mac Ginty (2020); and surveying among host households and communities and in camps hosting Internally Displaced People (IDP) as described, for example, by Suarez-Orozco (2019), George & Adelaja (2022) or Barros (2024), the latest on Mozambique. Complementary to the mobile phone strategy, we recommend the implementation of a sentinel panel of households from shock-prone districts, as described by Delgado & Palmieri (1994) on Guatemala, Bernal et al. (2012) on Colombia or Kabadi et al. (2015) on Tanzania, among others. A similar methodology is being explored, currently, by the Vulnerable Lives Survey project led by the Inclusive Growth in Mozambique programme.

The second is to resume surveying the districts dropped from the sample grid due to conflict. An analysis of effects in these areas, currently directly affected by conflict, would only be possible, if ever (i.e. not too late), as soon as it is safe to run household surveys in those areas.

As noted in the case of climate shocks, IOF surveys don't allow tracking of displaced households and their children. However, it is possible to conduct some descriptive inference analysis of the detrimental effects of conflict on child deprivation and poverty.

Discussion

Between 2014 and 2022, Mozambique experienced multiple shocks with different characteristics and impacts across the country: a macroeconomic and fiscal shock (the hidden debt crisis), an equally systemic and countrywide health shock (the COVID-19 pandemic), several climate shocks (cyclones, floods and droughts) and conflict (most notably the insurgency in Cabo Delgado). In the previous sections, this report assessed the trends in child poverty from 2014 to 2022, reviewed the impacts found in the literature and the impacts evidenced by the IOF surveys ran in the period. This subsection systematizes the insights generated around what can be learned about impacts from shocks, possible policy lessons and, finally, what opportunities for data improvement exists.

Established by this report as the most prevalent dimension of child poverty in Mozambique, access to safe water and sanitation (WASH) are found, in the literature reviewed, to be significantly vulnerable to climate shocks. In this assessment, however, no significant effects could be attributed to the frequent climate shocks that affected Mozambique from 2014-2022. This comes in alignment with the steady decrease in the prevalence of deprivation during the

period and suggests a possible counter-balancing effect of the shock-responsive humanitarian interventions.

The second most prevalent dimension of child poverty, Housing is also one this study finds to be significantly vulnerable to climate shocks, namely cyclones, and to conflict.

Undernutrition, the third most prevalent dimension of child poverty is found by literature to be vulnerable to climate shocks and conflict and was also found to have been intensified by COVID. The evidence generated in this report partially reinforces this suggestion. The mechanisms found indicate the link between shock-induced food insecurity and children undernutrition with reported reductions in crops, access to food and the adoption of reduction in consumptions as a coping strategy. However, this study does not find significant impacts of the cyclones on the prevalence of deprivation in Nutrition. This is in alignment with the results of the poverty assessment. In Table 6, the report shows that the prevalence of Stunting and Underweight were found to have reduced from 2014 to 2022. This compensated an increase in Wasting prevalence that was driven by a significant worsening in this indicator between 2019 and 2022, a period when Mozambique was affected by COVID, the conflict in the North and cyclones Eloise and Guambe. As Wasting is the most sensitive indicator to sudden shocks, furthering the analysis will allow to best uncover and distinguish the vulnerabilities of children to shock-induced severe forms of undernutrition.

A final mention, on this dimension, must be made to the effects of displacement. The literature reviewed warn about instances of increased food insecurity experienced by displaced children, with a particular attention sought to children in IDP camps and returnees. Data limitations impede this study to reflect possible impacts of this nature on children. These need to be addressed with different tools, as discussed above.

Linked to under-nutrition, child health deprivations are, according to literature, highly correlated with all the types of shock that affected Mozambique from 2014 to 2022. Fiscal space erosion weakens state capacity to provide health services. Health shocks such as COVID-19, weakened health service staff, stressed health service processes and forced reallocation of resources. A documented example was the activation of countries' vaccination infrastructure for COVID-19 immunization, delaying vaccination against other diseases. Finally, conflict is reported to weaken child, maternal and neonatal health.

While the linkages of shocks to increased health deprivations for children are well established in the literature, the evidence generated in this report only established a clear link between exposure to violence due to the conflict in Cabo Delgado and higher prevalence of health deprivations suffered by children. Both health deprivation indicators, distance to health facilities and not sleeping under a bed net, are relatively blind to the effects of COVID-19. Furthermore, in the analysis conducted, a suggestion was found of reduction of health deprivations following cyclones – probably more a reflection of the shock-responsive humanitarian interventions than of the shock themselves. In fact, this study assesses that the prevalence of health deprivations among children reduced, even if slightly, from 41 to 35 percent in the 2014 to 2022 period. This leads to a recommendation of a reflection on adding and/or substituting health deprivation indicators able to better capture this dimension of child poverty and child health's vulnerabilities to shocks.

Another cornerstone of child development and that of human capital along the generations, Education is also a dimension found, by literature to be vulnerable to shocks. Fiscal shocks

erode state capacity to provide and respond to still growing cohorts of students seeking to enrol in school, learn and attain the qualifications needed to prosper as productive adults. Climate shocks weaken the education system and accrue to children's difficulties in accessing education. COVID-19, and particularly the need to put in place social distancing, led to school closures and other contingency practices that severely weakened learning. Conflict is also a thoroughly documented cause of higher education deprivations.

The evidence generated in this study confirms the negative impacts of conflict on Mozambican children. While no direct evidence could be found of it, there is a high likelihood that COVID-19 and school closures are linked with the increase in prevalence of education deprivations between 2019 and 2022. The lack of significant estimates of effects of climate shocks on Education may derive from a counter-balancing humanitarian response. However, it can also derive from a relative blindness of the indicators in use as they do not adhere to the timeline of the shocks: school enrolment happens before cyclone season and when enquiring for primary school completion of children age 13 to 17 is very imperfect in capturing possible drop-outs during primary school-age (6 to 12 years-old) due to a climate shock. As with health deprivations, a reflection on added indicator may be due.

Linked with education deprivations, increases in child labour are also found to be linked to climate shock and conflict. Evidence generated in this study establishes linkages between climate shocks, namely cyclones, and increased child labour. Rural households also reported resorting to occasional work (*ganho-ganho*) as a coping strategy in the wake of shocks, despite less than 1 per cent indicating they would specifically resort to child labour. Notably, child labour increased in the 2014-2020 period, when Idai and Kenneth hit Mozambique and is found to be more prevalent in cyclone-prone provinces such as Zambezia (26 per cent prevalence of child labour) and Nampula (22 percent of prevalence).

Finally, this study found that higher levels of Family related child deprivation correlated with higher exposure to violent conflict events and that climate shocks were found to consistently increase Participation deprivation. While there is evidence of impacts of shocks on most dimensions, the construction of a multidimensional index, together with the cut-off, make it less sensitive to shocks.

Child monetary poverty, however, is found, both in the literature and in the evidence generated in this study to be significantly responsive to shocks. Child monetary poverty, especially among those residing in rural areas was found to have increased because of the macroeconomic shock. One the other hand, the study finds that child monetary poverty of urban children rose because of COVID-19. Climate shocks and conflict were also significantly linked with increases in the incidence of child monetary poverty among children exposed to them.

In summary, in this chapter, the report shows strong indications that the multiple shocks significantly increased poverty and deprivations in Mozambique, mostly from 2014-15 to 2019-20, and less so, from 2019-20 to 2022. Their impacts ranged from 5 to close to 20 percentage points increases in monetary poverty and increases in housing, participation, child labour and health deprivations among children whose households were affected by climate shocks.

These results come in line with the main results of this report: significant contribution of each shock to the increase in child monetary poverty; lesser impact on multidimensional child poverty. While this study sought to assess the contribution of each shock, it is vital to assert that

each partial analysis is likely to have incorporated differentiated effects of the other shocks. A complete contributory analysis requires an in-depth joint study of the various shocks.

Not all shocks could be analysed, and some, such as conflict, could not be analysed to the extent desired. As mentioned above, Mozambique was struck not only by cyclones but also by floods and droughts. In addition, these shocks led to data loss due to factors such as the forced displacement of households. This analysis, therefore, can only shed light on the increased vulnerability of Mozambican children in 2022 compared to their condition in 2014 and some of the channels through which it happened. Nonetheless, they can also support an in-depth analysis of vulnerability to future shocks.

There are additional limitations to the poverty measurement methodology itself. While we still believe it is the best approach for allowing comparison and trend analysis, there is room for improvement. A more comprehensive approach to measuring child poverty could enhance our ability to capture the impact of shocks more effectively. This could include incorporating data from sources like DHS (especially relevant in the case of Mozambique, as the country just released the DHS 2022/2023) and other surveys, as well as complementing objective data with subjective or self-assessed poverty measures that encompass dimensions not currently captured. In summary, we acknowledge that there are aspects of poverty that remain difficult to measure accurately with the existing methodology. It is important to adapt the methodology to each country's context and refine it over time to better address these limitations.

The focus of our analysis was on children and their households. However, a final reflection could speak on policy options proposed by the literature as responses to shocks and their effects of child poverty. These shocks increased the stress on the financial capacity of economic agents, particularly the Government of Mozambique, to respond to the structural drives of child deprivation and poverty.

On the other hand, some results suggest that timely shock-responsive interventions may have mitigated and, to some degree, partially reversed expected increases in child deprivations. Against a backdrop of constrained fiscal capacity, the challenge is to implement time-sensitive, shock-preventive and shock-responsive, sustainable measures that strengthen households' capacities to care for the full development of children. Literature on shocks and their impacts on children suggest some options. Social assistance programmes proved to be a vital component in the response to COVID-19 (Roelen & Carter, 2022). Social protection programmes including school feeding programmes are proposed as an instrument to address climate shocks (Cummins, 2020; Ford & von Russdorf, 2023) and as a relevant policy tool in general to address child poverty (Cummins, 2021). Other social care programmes such as a foster-care initiative in the Democratic Republic of Congo (DRC), "Foyer Ekabana", were put in place to seek the reintegration of children made (more) vulnerable by conflict (Foussiakda & Kasherwa, 2020). Immediate and direct assistance to children and households in IDP camps is found to correlate with fewer deprivations (Biggeri et al., 2022). More generally, recent research in Mozambique found that the new Child Grant programme contributes to various improvements on child poverty and vulnerability: strong and significant increase in children's birth registration and improvements in nearly all dietary and infant and young child feeding practices; improvements in household expenditure, poverty incidence and food insecurity and of material wellbeing of older children (UNICEF 2022b). Evidence was found of lower impacts of COVID-19 on children whose households received the Child Grant when compared with the control group. Due to a relative short duration of the programme evaluation but also due to the overall poor health

environment and of surges of nutrition-harming diseases²², the study did not find significant impacts on the indicators of Nutrition deprivation (stunting, underweight and wasting). The promotion of women’s empowerment, expanding from access to economic resources to also addressing social institutions likely to constrain that access, the promotion of “back-to-school” interventions in post-conflict, post climate disasters and in response of related displacement events (but also post social distancing policies), add to child sensitive social protection as further responses to curb child poverty (Lawson et al., 2020) and respond to shocks.

While these measures seek to reduce child poverty in its multiple dimensions, it is important also to acknowledge possible limits and aspects to address towards the highest positive impact: the need to acknowledge and address the overall context of generalized poverty, the poor legal and organizational framework and the lack of adequate manpower and resources (Foussiakda & Kasherwa, 2020); the need to address children’s specific deprivations rather than treating them as mere members of the household (Biggeri et al., 2022); the need to achieve both coordination at the high and ground levels, but also training and engagement of local staff from health, social services and social protection branches of the administration, the need for payments to be high enough and regular, and the need of extending the duration of the programme to build resiliency (UNICEF 2022b). The implementation of social policy interventions in response to shocks is also found to be highly contingent on the social services and social protection infrastructure already in place prior. Various factors exacerbate the risk of exclusion: strong reliance on digital tools for assessment, stringent identification requirements, use of social registries as the sole mechanism for rolling out, use of standardised and household-level eligibility criteria, inadequate grievance response mechanisms and safeguarding protocols and abrupt discontinuation of support. Against this backdrop, already marginalizes groups, migrants and displaced are in particularly high risk of exclusion from these interventions (Roelen & Carter, 2022).

At the time of writing this report, Mozambique is still experiencing the effects of the macroeconomic shock, facing conflict in the Northern province of Cabo Delgado and will continue being one of the countries in higher risk of climate shocks and disasters. The multidimensional impacts of those shocks are, therefore, likely to continue compounding, together with their impact on monetary child poverty. The silver lining can come from a fiscally responsible, shock responsive and child sensitive policy intervention. The challenge isn’t small, but so are the costs of inaction and the returns of investment in the resilience and integral development of the newer generation of Mozambicans.

²² The evaluation found more than 40 percent of reported episodes of diarrhoea in the last two weeks at endline (UNICEF 2022b)

6. Conclusions and recommendations

Conclusions

The analysis conducted in this report reveals that the incidence of multidimensional child poverty in Mozambique has shown high child poverty rates in Mozambique. In 2022, out of 16.4 million children, nearly 13 million (77%) experienced either multidimensional or monetary poverty. It also shows slight improvements over the past decade, remaining relatively stagnant from 2014/15 to 2022. In 2014/15, 46,3% of children were identified as multidimensionally poor, which slightly decreased to 44,0% in 2019/20 and further to **41,3% in 2022**. In absolute numbers, given the extraordinarily rapid population growth experienced by Mozambique, this entails that in 2014/15 about 6.1 million children were multidimensionally poor, **not being able to fully meet their basic rights**; this number increased to 6.9 million children in 2019/20, but it slightly decreased to **6.8 million children in 2022**.

Across all age groups (0-17 years), the highest rates of deprivation were consistently found in the WASH dimension, affecting approximately three-quarters of children in both 2019/20 and 2022. The Housing (72,4% deprivation rate in 2019/20 and 69,6% in 2022) and Nutrition (about 40% deprivation rate in 2019/20 and 2022) dimensions followed, with substantial deprivation rates highlighting persistent challenges in these critical areas of children's well-being.

Deprivation rates among Mozambican children reveal significant geographical disparities. From 2014/15 to 2022, **rural poverty incidence is three to four times higher than urban poverty incidence**. Given that most of the Mozambican population lives in rural areas, also the number of poor children is much higher there than in urban areas. The number of multidimensionally poor children increased drastically from about 5.4 million in 2014/15 to about 6.4 million in 2019/20; this number then decreased again to approximately 5.9 million children in 2022. Conversely, in urban areas, the number of multidimensionally poor children decreased between 2014/15 and 2019/20 from about 700 thousand to 600 thousand, increasing again to about 940 thousand in 2022. Regionally, the northern and central regions exhibit higher poverty rates compared to the southern region. For instance, in 2022, 53,0% of children in the northern region and 45,0% in the central region were multidimensionally poor, whereas the southern region reported a lower rate of 11,9%. Children in the poorest provinces (Niassa, Cabo Delgado, Nampula, Zambézia) are significantly more likely to experience poverty than those in the richest province, Maputo City.

Gender differences in multidimensional poverty rates are relatively small, except for a few indicators/dimensions, such as nutrition, for which boys experience slightly higher rates than girls, and early marriage, for which the opposite occurs. Over the years, older children (aged 5-12 and 12-17) have seen reductions in poverty rates, while the rates for younger children (aged 0-4) have remained relatively unchanged. These findings indicate that age and gender, while important, show less variation in poverty rates compared to geographical disparities.

Moreover, a child in Mozambique has a higher chance of living in monetary poverty than an adult, with younger children (aged 0-12) being even more vulnerable. **Monetary poverty among children has worsened from 49,0% in 2014/15 to 70,3% in 2022, being consistently higher than the poverty rates for the general population.**

In 2022, a significant proportion of children experienced overlapping deprivations across multiple dimensions. Nearly one in four children faced simultaneous deprivations in WASH, Health, and Housing, with the youngest children (aged 0-4) particularly vulnerable to additional deprivations in Nutrition. Among older children, the overlap between deprivations in Education, WASH, and Housing was notable, nearly half of those aged 13-17.

In 2019/20 and 2022, around one third (33%) of children experienced both monetary and multidimensional poverty, being deprived in multiple dimensions while also facing consumption poverty. The overlap between monetary and multidimensional poverty remains substantial, with many children experiencing both forms of poverty simultaneously. Additionally, in 2022, 17,8% of children were deprived in more than two dimensions without being monetarily poor, highlighting that child poverty extends beyond financial constraints and includes various dimensions of well-being. These findings indicate that financial interventions alone are likely insufficient to address the comprehensive needs of children.

Systemic shocks – hidden debt crisis and the COVID-19 pandemic - contributed to a spike in child monetary poverty, with estimates suggesting a rise of 17% to 24% due to inflation and 8% to 6% during the pandemic's initial and final phases, respectively. Rural children, particularly in the northern and central regions, were disproportionately affected, while urban areas, especially in the south, suffered severe economic impacts from COVID-19 restrictions.

Climate shocks led to significant increases in child labor and deprivations in participation and housing. Children of the age group 5-12 were affected the strongest. Furthermore, evidence on coping strategies privileged by poor Mozambican families suggest an erosion of their resilience to impacts of shocks on Nutrition and Health. However, puzzling results were found regarding Health, Nutrition, Education, and even Water and Sanitation. While, according to literature, these are dimensions affected by climate shocks, this study found no significant empirical evidence of such impacts. This can be attributed to quick humanitarian responses but also to a relative blindness to the shocks of the indicators used in the multidimensional poverty analysis.

Conflict shocks have strong and unequivocal detrimental impacts on children. This has already been established in literature and, above all, in the Machel Report (Machel 1996). While data limitations led to less than robust results, this study found correlation between exposure to violence and higher prevalence of deprivations in the Family, Nutrition, Education, Health and Housing dimensions, together with Child Monetary Poverty.

Recommendations

Mozambique faces a demanding set of challenges as the Government seeks to fulfil its mandate of ensuring that all facilities and opportunities are in place so that children can develop physically, mentally, morally, spiritually and socially. After manifest progress in multidimensional and monetary child poverty, up to 2014/15, Mozambique has been afflicted by multiple shocks, some overlapping, across all possible typologies: macroeconomic, health, climate and conflict.

The compounded effect of these shocks, as this report has evidenced, led to a significant increase in child monetary poverty, a significant slowing in the previous progressive reduction of child multidimensional poverty and an erosion of the already narrow fiscal space offered for child sensitive public policy.

With this in mind, a set of priorities and policy options appear highly relevant, and we would recommend considering the following:

A) Address hotspots of high child poverty prevalence

Child poverty incidence, both multidimensional and monetary, is not harming Mozambican children to the same extent throughout the country. More than half of rural children and of children from Niassa, Nampula, and Zambezia were multidimensionally poor in 2022²³, while less than 20 percent of urban children, and less than 4 per cent of children in Maputo Province and less than 2 per cent of children in Maputo City are in a similar condition.

Structural policies that address monetary child poverty and the associated indicators of prevalence, relative to which the urban/rural incidence gap is the highest, may have a higher impact in mitigating the severity of the conditions in these hotspots: housing; water and sanitation, education (especially barriers to primary school completion), and access to health, (particularly access to health facilities).

B) Address, also, hotspots of child poverty growth

While the average nationwide child multidimensional poverty index fell from 2014 to 2022, including reductions in both sub-periods, the poverty dynamics were uneven, and new characteristics appeared. While Gaza is the province with the third lowest child multidimensional poverty incidence and intensity, it is the only province, in the country that witnessed an increase in the child multidimensional poverty index between 2014 and 2022, due to a severe and not fully recovered increase in the 2014-2019 period. In the latest period, from 2019 to 2022, there is also evidence of an increase in the index of almost 3 percentage points in urban areas, of 0.6 percentage points in the North (driven by Cabo Delgado, 0.6 percentage points, and Nampula, 0.9 percentage points) and with an increase of 0.2 percentage points in Maputo.

These most recent dynamics, mostly urban, point to the impact of COVID, particularly in Maputo City, but also to conflict in the Northern provinces of Cabo Delgado and Nampula. It is important to notice that, while poverty incidence is markedly different between provinces (with a range of 53.5 per cent in 2022), and between rural and urban areas (34.1 per cent), poverty intensity has a much smaller range (12.2 percent between the poorest and richest province and of just 2.6 percent between urban and rural areas). This indicates that the deprivation overlap among urban poor children is, in degree (even if different in kind) similar to that of rural poor children, with, however a clearer mark of exclusion.

Contrasting Tables 4 and 5, there is an indication that the period between 2019 and 2022 witnessed marked deterioration in access to health (increase of 28,9 percentage points) and to water (increase of 28.5 percentage points), and, to a lesser degree, of primary school enrolment (increase of 6.9 percentage points) in urban areas. There is evidence that deterioration in access to health manifested mostly in the South, while the reduction in enrolment manifested itself mostly in the North.

²³ Close to half of the children in Cabo Delgado and Tete are also multidimensionally poor.

In urban areas, policies aiming to reduce child poverty could focus on the dimensions where deprivation grew the most: the Education dimension to target deteriorating enrolment rates, and the health dimension to target increased deprivation in access to health facilities. Given the different nature of urban and rural poverty it is advisable that these increases are addressed with policy interventions tailored to the specific urban realities, making use of more dynamic economies and better and denser, albeit probably more congested, social infrastructures in urban environments.

- C) Adopt integrated Child Development approaches during the life of the child, as they address overlapping deprivations and have high potential impact.

The report found a strong overlap in the following deprivations: WASH, Housing, Health, Nutrition and Education. These are, notably, pillars of an Early Child Development approach, but also of key importance to children in the 13-17 age group. As noted in the previous recommendation, addressing these deprivations will lead to a prioritization of the hotspots of child poverty prevalence noted before.

These interventions require a multistakeholder coordinated approach, engaging, especially, the social sectors.

- D) Increase resilience to shocks by addressing monetary child poverty and those deprivations they impact the most.

Evidence found that the shocks that afflicted Mozambique during the 2014-2022 period increased significantly monetary child poverty, housing, participation, child labour and health deprivations.

Policies that address these deprivations, and policies such as cash transfers that existing literature has shown to have a cross-cutting effect on multiple deprivations, can reinforce child resilience to shocks.

The likelihood of repeated climate shocks highlights the need for a stable, predictable and increasingly wider provision of social services, starting with the most vulnerable. While not emerging directly from the findings of this report, this approach is widely recognised as a more effective approach than project-based one-off interventions.

Nevertheless, it is important to acknowledge that service delivery strengthening interventions are complementary and not substitutes to shock responsive interventions (such as shock-responsive cash transfers and food assistance in highly insecure areas), as the latter prevent the erosion of the same resilience the former seek to build.

- E) Strengthening evidence generation to help better address child poverty

A robust and continuous effort to generate evidence on child poverty, particularly its drivers, manifestations and geographic disparities across Mozambique, is a key policy instrument to developing effective strategies to reduce child poverty. Reliable, up-to-date data is essential to inform decision-making and ensure that policies and interventions are both effective and efficient in addressing the needs of the most vulnerable children.

It is crucial to consider child poverty and how children experience poverty in the planning, monitoring, and evaluation of policies and public service delivery. Strengthening evidence-based approaches will support more targeted interventions and more efficient resource allocation.

While this report has not analysed in depth the situation of internally displaced people due to data limitations, this remains a pressing challenge that requires further attention in government initiatives, particularly to ensure adequate responses to the needs of displaced children.

F) Fiscal and institutional capacity constraints

This report has focused on providing an up-to-date representation and analysis of child poverty in Mozambique, relying on IOF data developed over many years by INE in a coherent and nationally representative manner, to support evidence-based policy making.

It is clear from the many findings presented, including that nearly 13 million children out of 16.4 million experienced either multidimensional or monetary poverty in 2022, that much remains to be done to address the many interlinked issues and challenges identified. Despite some progress in multi-dimensional deprivation, child poverty remains a huge burden in terms of both welfare and lost opportunities with a view to the building of much needed human capital for future progress in Mozambique.

While the report has not addressed the broader macro-economic, fiscal and institutional situation and constraints of Mozambique, it is pertinent to conclude by highlighting that given the daunting size and many dimensions of the challenge at hand fiscal constraints and availability of funding will have to be considered and factored carefully into actions taken at national, regional, provincial and local levels. Accordingly, careful project design and implementation monitoring as well as the mobilization of funds will throughout have to be integral parts of initiatives taken in the coming decades in line with the Government priorities set out in the 2025-2044 National Development Strategy (ENDE).

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Appendix A – Additional tables

Table A. 1 Share of missing observations by indicator and province, IOF 2014/15

	National	Niassa	Cabo Delgado	Nampula	Zambezia	Tete	Manica	Sofala	Inhambane	Gaza	Maputo Province	Maputo City
Child labour	4.30	2.99	6.39	3.23	7.31	3.50	3.06	2.06	7.52	1.20	4.30	5.52
Primary education	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00
Enrolment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Marriage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parents	0.03	0.09	0.00	0.06	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00
Mosquito net	1.62	1.58	4.29	0.92	1.66	2.38	1.34	1.66	1.12	0.46	0.90	1.28
Underweight	13.65	11.07	15.09	9.20	20.32	16.67	13.15	10.74	16.36	11.01	11.41	13.94
Stunting	15.82	13.63	17.30	13.50	22.81	17.50	15.16	12.07	18.59	11.47	12.31	16.83
Wasting	15.47	13.14	16.20	13.57	22.28	17.38	14.49	11.85	17.66	10.40	11.41	18.91
Information	0.30	0.38	0.53	0.20	0.32	0.04	0.82	0.00	0.24	0.09	0.68	0.00
Floor/roof	0.04	0.00	0.26	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.13
Electricity	0.04	0.00	0.26	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.13
Crowding	0.04	0.00	0.26	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.13
Sanitation	0.04	0.00	0.26	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.13
Water	0.04	0.00	0.26	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.13
Water distance	0.04	0.00	0.26	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.13
Health facility	0.04	0.00	0.26	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.13

Source: Authors' calculation based on IOF 2014/15 IOF 2022 data.

Table A. 2: Share of missing observations by indicator and province, IOF 2019/20

	National	Niassa	Cabo Delgado	Nampula	Zambezia	Tete	Manica	Sofala	Inhambane	Gaza	Maputo Province	Maputo City
Child labour	1.81	0.89	3.32	5.20	1.17	1.50	1.01	0.56	0.89	0.52	2.51	1.51
Primary education	0.05	0.00	0.56	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00
Enrolment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Marriage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parents	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Mosquito net	2.84	1.58	8.70	2.39	1.18	4.52	2.23	1.27	2.10	3.38	2.77	2.88
Underweight	5.69	3.48	11.84	6.29	4.92	5.92	4.26	5.69	6.48	4.77	5.12	4.16
Stunting	6.86	5.49	13.04	9.24	5.73	6.84	4.26	8.14	6.48	4.92	5.26	4.64
Wasting	7.21	7.29	13.04	10.20	5.58	7.08	4.66	8.04	6.65	5.23	5.40	4.48
Information	1.54	1.36	2.10	2.39	0.99	0.56	2.79	1.64	0.93	0.58	1.95	1.14
Floor/roof	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.02	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00
Crowding	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sanitation	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water distance	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Health facility	0.03	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00

Source: Authors' calculation based on IOF 2019/20.

Table A. 3: Share of missing observations by indicator and province, IOF 2022

	National	Niassa	Cabo Delgado	Nampula	Zambezia	Tete	Manica	Sofala	Inhambane	Gaza	Maputo Province	Maputo City
Child labour	4.50	11.06	3.91	7.49	4.95	6.66	1.55	0.74	8.94	0.62	1.24	2.75
Primary education	0.10	0.00	0.00	0.46	0.11	0.30	0.00	0.00	0.00	0.00	0.00	0.12
Enrolment	12.87	12.45	13.12	14.55	13.76	12.70	12.33	13.82	10.33	11.90	12.08	12.46
Marriage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parents	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mosquito net	29.48	39.43	36.09	28.31	24.19	30.25	26.42	23.37	32.04	31.54	24.96	32.66
Underweight	21.78	32.67	32.78	23.52	23.21	19.30	13.58	13.74	23.61	23.02	14.67	18.08
Stunting	22.84	34.38	35.21	25.49	23.98	19.86	14.34	14.01	24.62	23.77	15.09	18.62
Wasting	23.04	34.38	34.99	26.64	24.40	19.98	13.87	14.01	25.30	24.66	14.95	18.22
Information	4.06	6.34	7.09	4.19	2.75	5.03	1.97	8.66	1.47	0.44	3.38	2.23
Floor/roof	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crowding	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sanitation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water distance	0.31	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.78	2.77
Health facility	0.01	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source: Authors' calculation based on IOF 2022 data.

Table A. 4: Deprivation by selected indicators and gender, 2014/15 (%)

	Marriage		Stunting		Underweight		Wasting		Enrolment		Primary		Labour		Bed net	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
National	1.7	11.4	47.0	38.1	16.7	14.7	4.2	4.6	26.1	25.6	69.2	66.8	12.3	10.7	39.1	38.2
Rural	1.8	14.1	50.1	40.6	18.6	16.2	4.3	5.2	30.0	29.9	80.3	80.3	15.4	13.7	43.2	42.3
Urban	1.5	6.7	38.1	31.1	11.3	10.3	3.9	3.2	15.7	15.1	47.8	43.4	4.9	4.0	27.3	26.5
North	1.6	13.9	54.3	45.5	21.3	18.0	6.4	6.8	38.9	36.9	81.7	82.9	14.1	11.7	34.6	31.4
Centre	1.8	12.2	47.9	39.0	16.6	15.5	3.4	4.2	23.6	25.3	73.3	74.1	11.9	11.3	41.1	41.6
South	1.6	7.3	30.0	21.6	7.8	6.0	2.2	1.6	8.3	6.9	47.3	37.7	10.3	7.9	42.5	42.3
Niassa	1.5	11.9	47.3	48.6	19.7	16.7	4.8	3.2	35.0	32.2	81.2	80.4	8.3	5.8	40.6	34.3
Cabo Delgado	1.8	13.5	56.1	48.4	20.9	17.1	2.7	4.2	41.8	36.2	85.5	85.0	16.0	17.1	26.0	26.5
Nampula	1.5	14.9	55.9	43.4	21.9	18.7	8.0	9.0	39.3	38.9	80.4	82.9	15.4	12.0	35.4	32.2
Zambezia	2.5	12.0	52.1	41.1	15.0	16.6	2.7	4.5	24.9	25.0	79.3	79.9	8.6	9.8	38.2	37.5
Tete	2.0	7.4	45.0	38.6	17.5	17.4	3.5	4.8	30.5	30.0	79.9	80.3	19.1	15.6	58.1	60.7
Manica	0.7	18.1	45.0	37.7	18.4	11.7	6.3	4.8	15.1	16.9	65.2	64.9	12.1	10.9	50.3	48.9
Sofala	0.8	12.1	44.9	36.0	17.5	14.3	2.1	2.3	19.4	27.8	61.1	65.9	10.2	9.8	17.3	17.4
Inhambane	2.0	9.7	29.4	21.4	8.5	7.0	3.7	0.4	12.1	9.4	51.0	42.5	11.7	11.2	39.9	37.6
Gaza	2.4	10.2	31.4	19.9	9.9	4.9	1.7	1.6	10.1	7.6	57.1	50.5	16.1	9.9	56.5	54.1
Maputo Province	0.7	5.9	27.1	19.3	5.0	6.0	0.8	1.9	4.7	5.1	40.1	35.8	8.2	6.4	34.0	38.2
Maputo City	1.4	2.8	33.2	28.8	7.4	6.6	3.0	2.7	4.9	4.2	37.9	20.1	1.4	1.9	35.2	36.7

Source: Authors' calculation based on IOF 2014/15 data.

Table A. 5: Deprivation by selected indicators and gender, 2019/20 (%)

	Marriage		Stunting		Underweight		Wasting		Enrolment		Primary		Labour		Bed net	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
National	1.3	12.2	40.4	34.5	16.1	13.5	3.6	4.1	13.3	12.5	67.0	60.5	16.1	13.7	30.1	31.1
Rural	1.6	15.4	45.1	38.4	18.2	15.4	3.8	4.4	15.9	15.2	80.1	74.3	20.3	17.7	35.7	36.7
Urban	0.9	7.2	28.9	25.4	11.0	8.9	3.2	3.5	7.7	6.7	42.5	39.2	7.1	6.1	16.6	17.9
North	1.1	15.3	49.3	40.3	21.0	16.1	5.3	6.2	19.4	17.7	78.3	75.2	16.0	13.8	22.9	23.6
Centre	1.6	12.5	41.6	37.2	16.1	14.3	3.0	3.0	11.5	12.2	68.7	67.7	18.3	16.4	36.1	37.4
South	1.1	7.4	14.8	13.7	3.8	5.0	1.4	2.5	4.1	2.2	44.5	28.4	11.2	7.7	30.4	31.0
Niassa	1.2	18.8	44.3	41.7	14.7	13.2	3.7	3.6	21.6	22.6	76.6	79.7	18.4	19.6	47.7	44.7
Cabo Delgado	1.8	21.0	50.7	38.8	17.5	17.5	2.4	2.2	18.4	16.7	85.6	77.5	17.4	13.8	10.8	11.6
Nampula	0.9	12.2	50.5	40.4	24.3	16.7	6.9	8.6	19.1	16.5	76.4	73.0	14.7	11.8	19.6	20.0
Zambezia	1.6	13.2	45.8	43.4	19.7	17.4	3.4	3.5	10.4	11.9	77.7	82.1	17.9	18.5	33.1	36.0
Tete	0.4	12.1	37.2	30.0	13.8	11.7	2.5	3.3	14.5	13.6	70.3	62.1	16.5	12.7	49.0	48.1
Manica	1.9	14.1	39.5	34.7	11.2	11.0	1.8	1.7	10.2	9.6	53.9	58.3	17.5	15.1	38.9	39.9
Sofala	2.5	10.3	37.3	32.9	13.2	12.4	3.7	2.5	11.8	13.7	61.7	57.0	21.9	17.3	27.4	25.5
Inhambane	0.6	8.6	18.2	18.8	3.4	5.5	0.5	3.3	5.9	3.5	53.8	33.6	19.0	14.4	41.1	39.8
Gaza	2.6	11.4	20.2	20.0	6.0	7.0	2.6	3.1	6.1	2.1	59.1	40.0	15.5	9.2	38.2	41.0
Maputo Province	1.0	5.0	8.5	8.0	3.1	4.3	1.6	1.9	1.8	0.8	34.9	19.9	4.4	3.4	20.4	23.1
Maputo City	0.1	3.6	13.0	9.0	1.8	2.7	0.5	1.9	1.9	3.1	23.3	17.5	3.5	1.8	20.5	18.6

Source: Authors' calculation based on IOF 2019/20 data.

Table A. 6: Deprivation by selected indicators and gender, 2022 (%)

	Marriage		Stunting		Underweight		Wasting		Enrolment		Primary		Labour		Bed net	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
National	2.3	11.6	38.2	32.2	15.3	13.6	5.8	6.2	23.7	21.7	62.0	58.5	12.3	10.9	34.9	36.0
Rural	2.7	15.1	42.1	34.8	17.2	15.0	6.1	6.7	27.9	25.4	74.5	73.0	16.2	14.6	40.5	41.3
Urban	1.5	6.2	28.3	24.9	10.2	9.6	5.1	5.0	14.5	13.8	40.6	36.0	4.4	3.6	20.5	21.6
North	3.2	15.4	44.3	38.4	18.4	17.0	7.7	7.4	37.0	32.9	77.4	77.1	10.6	9.7	42.3	39.2
Centre	2.4	12.3	38.8	32.6	15.9	13.8	5.0	6.1	19.8	19.6	63.9	63.8	15.5	13.7	30.4	35.2
South	0.5	5.3	20.5	16.4	4.8	4.6	4.2	4.0	5.9	3.6	34.9	25.1	8.3	6.8	30.8	30.9
Niassa	1.4	15.4	44.2	36.5	15.1	14.2	8.1	6.2	31.1	28.5	70.7	71.5	10.8	7.7	77.3	74.5
Cabo Delgado	4.2	22.3	37.3	44.0	22.5	24.9	10.8	8.5	39.7	32.5	78.2	80.7	7.5	4.0	52.8	40.3
Nampula	3.3	12.6	46.7	36.8	18.1	14.9	6.4	7.3	37.9	34.4	79.4	77.7	11.8	12.4	26.5	28.1
Zambezia	2.4	14.0	43.6	35.3	17.7	16.4	4.6	7.9	20.5	22.6	76.3	77.2	15.8	16.7	26.5	30.6
Tete	2.0	14.3	32.6	30.7	17.1	14.2	8.1	6.3	26.3	20.6	58.7	60.6	18.8	13.0	61.3	72.7
Manica	2.9	10.2	34.0	26.7	13.0	13.5	5.2	5.9	11.6	12.6	50.4	48.5	14.3	11.0	36.1	34.9
Sofala	2.6	8.8	38.5	34.0	13.1	8.0	2.4	2.2	16.7	17.1	56.8	54.0	12.5	10.0	1.4	1.6
Inhambane	0.7	8.5	24.2	20.7	2.8	4.0	2.6	2.6	8.9	4.2	39.6	35.4	9.3	10.1	44.3	40.1
Gaza	0.1	8.0	30.1	22.8	7.1	6.0	2.8	4.1	7.1	3.0	51.9	30.9	17.7	13.2	21.3	27.5
Maputo Province	0.6	2.5	14.2	10.7	5.6	4.6	6.8	4.8	3.6	3.9	26.8	19.8	3.2	2.1	26.2	27.8
Maputo City	0.7	2.6	11.5	12.7	3.0	2.5	3.5	4.1	3.0	2.4	16.5	11.0	1.4	1.4	31.4	27.1

Source: Authors' calculation based on IOF 2022 data.

Table A. 7: Deprivation rates by indicator and area (%), 2014/15

Dimension	Indicator	Age	National	Rural	Urban	North	Centre	South
Family	Parents	0-12	9.61	9.13	10.89	8.09	10.13	11.17
	Marriage	13-17	6.35	7.60	4.06	7.31	6.84	4.43
Nutrition	Stunting	0-4	42.42	45.23	34.45	49.76	43.41	25.64
	Underweight		15.65	17.38	10.80	19.58	16.05	6.89
	Wasting		4.44	4.76	3.52	6.57	3.82	1.85
Education	Enrolment	5-12	25.87	29.93	15.40	37.94	24.48	7.58
	Primary Education	13-17	68.05	80.30	45.63	82.24	73.69	42.55
Labour	Labour	5-17	11.52	14.56	4.46	12.96	11.62	9.07
Health	Bed net	0-4	38.61	42.77	26.91	32.96	41.35	42.38
	Health facility	0-17	32.85	35.80	25.60	41.30	32.78	19.16
WASH	Water	0-17	42.46	54.37	13.26	50.65	48.54	15.92
	Water distance		8.96	11.77	2.06	12.76	7.61	5.65
	Sanitation		73.53	85.59	43.96	79.05	80.98	48.39
Participation	Information	0-17	24.94	30.20	11.99	35.16	26.55	4.67
Housing	Crowding	0-17	16.23	20.05	6.87	11.58	20.85	13.88
	Floor/roof		57.24	71.20	23.02	73.25	66.16	11.75
	Electricity		73.57	91.31	30.07	78.36	82.56	46.31

Source: Authors' calculation based on IOF 2014/15 data.

Table A. 8: Overlaps between dimensions for children aged 0-4, 2019/20 (%)

	Nutrition	Health	Family	Participation	WASH	Housing
Nutrition	40.3	22.5	1.6	16.1	35.9	35.3
Health	22.5	50.9	2.2	19.2	45.2	44.7
Family	1.6	2.2	3.8	1.8	3.0	2.6
Participation	16.1	19.2	1.8	31.7	30.1	30.5
WASH	35.9	45.2	3.0	30.1	79.3	70.7
Housing	35.3	44.7	2.6	30.5	70.7	76.6

Source: Authors' calculation based on IOF 2019/20 data.

Table A. 9: Overlaps between dimensions for children aged 5-12, 2019/20 (%)

	Education	Labour	Health	Family	Participation	WASH	Housing
Education	15.8	2.5	6.7	1.9	7.1	14.5	14.5
Labour	2.5	14.4	6.4	1.8	5.6	13.3	13.0
Health	6.7	6.4	31.5	3.8	12.5	28.9	28.5
Family	1.9	1.8	3.8	11.8	4.2	8.8	8.0
Participation	7.1	5.6	12.5	4.2	29.8	28.1	28.4
WASH	14.5	13.3	28.9	8.8	28.1	76.1	66.7
Housing	14.5	13.0	28.5	8.0	28.4	66.7	73.1

Source: Authors' calculation based on IOF 2019/20 data.

Table A. 10: Overlaps between dimensions for children aged 13-17, 2019/20 (%)

	Education	Labour	Health	Family	Participation	WASH	Housing
Education	63.8	13.5	22.7	5.0	21.6	53.5	51.7
Labour	13.5	16.3	6.2	0.6	6.4	14.4	13.8
Health	22.7	6.2	28.1	2.3	10.4	25.4	24.4
Family	5.0	0.6	2.3	6.5	2.5	5.7	5.6
Participation	21.6	6.4	10.4	2.5	24.8	23.1	23.5
WASH	53.5	14.4	25.4	5.7	23.1	69.1	58.3
Housing	51.7	13.8	24.4	5.6	23.5	58.3	64.6

Source: Authors' calculation based on IOF 2019/20 data.

Table A. 11: List of Districts, Cabo Delgado, 2014/15, 2019/20 and 2022

	IOF 2014/15	IOF 2019/20	IOF 2022
Ancuabe	✓	✓	✓
Balama	✓	✓	✓
Chiúre	✓	✓	✓
Ibo	✓		
Macomia	✓		
Mecufi	✓	✓	✓
Meluco	✓		
Metuge	✓	✓	✓
Mocimboa da Praia	✓		
Montepuez	✓	✓	✓
Mueda	✓	✓	
Muidumbe	✓		
Namuno	✓	✓	✓
Nangade	✓		
Palma	✓		
Pemba	✓	✓	✓
Quissanga	✓	✓	

Source: Authors' calculation based on IOF2019/20 and 2022 data.

Table A. 12: List of Districts, Nampula, 2014/15, 2019/20 and 2022

	IOF 2014/15	IOF 2019/20	IOF 2022
Angoche	✓	✓	✓
Eráti	✓	✓	✓
Ilha de Mocambique	✓	✓	✓
Lalaua	✓	✓	✓
Larde		✓	
Liupo		✓	✓
Malema	✓	✓	
Meconta	✓	✓	✓
Mecubúri	✓	✓	✓
Memba	✓	✓	✓
Mogincual	✓	✓	
Mogovolas	✓	✓	✓
Moma	✓	✓	✓
Monapo	✓	✓	✓
Mossuril	✓	✓	✓
Muecate	✓	✓	✓
Murupula	✓	✓	
Nacala-a-Velha	✓	✓	
Nacala Porto	✓	✓	✓
Nacarua	✓	✓	✓
Nampula	✓	✓	✓
Rapale		✓	
Ribaué	✓	✓	✓

Source: Authors' calculation based on IOF2019/20 and 2022 data.

Table A. 13: List of Districts, Niassa, 2014/15, 2019/20 and 2022

	IOF 2014/15	IOF 2019/20	IOF 2022
Chimbunila		✓	✓
Cuamba	✓	✓	✓
Lago	✓	✓	✓
Lichinga	✓	✓	✓
Majune	✓	✓	
Mandimba	✓	✓	✓
Marrupa	✓	✓	✓
Maúa	✓	✓	✓
Mavago	✓	✓	
Mecanhelas	✓	✓	✓
Mecula		✓	
Metarica	✓	✓	✓
Muembe	✓	✓	✓
N'gauma	✓	✓	✓
Nipepe	✓	✓	
Sanga	✓	✓	✓

Source: Authors' calculation based on IOF2019/20 and 2022 data.

Appendix B – Methodological note: Data issues regarding the IOF 2022

We mentioned in the data section of the report that the analytical framework employed in this study draws upon data from the 2014/15, 2019/20 and 2022 household budget surveys (IOF), administered by the Mozambique National Statistics Institute (INE). The IOF data provides information on daily, monthly, and yearly consumption expenditures, housing characteristics, health status, education, and employment of Mozambican households, with representativeness at the national, urban/rural, regional, and provincial levels. The IOF 2014/15, IOF 2019/20 and IOF 2022 have a sample size of about 11.500, 13.300 and 15.300 households respectively (INE, 2015; 2021; 2023). The sample size of children in IOF 2014/15, 2019/20 and 2022 were 30924, 33764 and 35667 respectively.

In the methodology section, we reported that, consistent with the previous Multidimensional Child Poverty Report (UNICEF 2020), we adopt 8 dimensions and 17 indicators of child poverty and deprivation. The dimensions and indicators of multidimensional child poverty reflect the relevance in determining the deprivation of children in Mozambique and the availability of data throughout the period in analysis. The initial selection process was a collaborative effort involving the Ministry of Economics and Finance, UNICEF, and UNU-WIDER, in close consultation with key stakeholders during the Inception Workshop, hosted by UNICEF in Maputo in 2016. Maintaining this consistent methodology ensures continuity and comparability in the analysis of child poverty over time, accurately reflecting the conceptualization and understanding of child deprivation within the Mozambican context. We added that to capture the diverse needs of children across different life stages, the study divides the population into three age groups: 0-4, 5-12, and 13-17. This categorisation allows for targeted assessments of wellbeing outcomes relevant to each age cohort. Deprivations, on the other hand, are divided into eight dimensions: family; nutrition; child labour; education; health; water, sanitation and hygiene (WASH); participation; and housing. Within each dimension, one or more indicators are defined to measure dimensional deprivation. For the MPI analysis, each indicator is assigned weight by age group, so that each dimension and each indicator within a dimension has equal weight. For the MODA calculations, a child is considered deprived in a dimension if they are deprived in any of the indicators within that dimension. However, both the MPI and the MODA use the same method for calculating the indicators and the same indicators across age groups, so that at the indicator level the two methodologies produce identical results. The adopted dimensions, indicators, their thresholds and weights by age groups are presented in Table 2 of the present report.

In this note, we explore in more detail the main data issue that was found in the latest survey, the IOF 2022, concerning some of the selected child indicators. In particular, the nutrition/anthropometric indicators presented specific problems.

The data issue came from the fact that the nutrition/anthropometric module of the IOF 2022 presented a different set of member identifiers compared to the other modules (the household identifiers coincided). This prevented the analysts from joining the various databases at the individual level and therefore correctly computing simultaneous deprivation estimates, as required by the MPI and MODA methodologies.

Thanks to the support received from INE and UNICEF throughout the first half of 2024, it was possible to link most under-five children to the remaining databases using a “fuzzy” merging procedure. The Stata command “*reclink*” (Blasnik, 2010), was adopted. This command performs fuzzy merge methods to match observations between two datasets where no perfect identifiers exist. The command was applied to the complete names of the under-five children which

appeared in both the nutrition/anthropometric and other databases, with the constraint that the household identifier had to be the same in all modules. This procedure permitted to successfully match 9.011 children, leaving 283 unmatched children (approximately 3% of the total). Of these 9.011 children; 3.830 were perfect matches. In this procedure, the minimum overall matching score (minscore), which ranges from 0 to 1, was set for 0,9. Although lower values of minscore will expand the number of matches, it may lead to false matches. To minimize the risk of false matches, a high minscore was adapted in the analysis.

When malnutrition indicators are computed using either the sample of all the available children or only the sample of the matched ones, and results are compared, differences are minimal. This reinforces our confidence in the procedure and in the results presented in the report. Estimates are presented in Table B.1.

Table B. 1: Malnutrition estimates computed using the sample of all the available children or only the sample of the matched ones, 2022

	All available children			Only matched children		
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
Stunting	8,405	0.353	0.478	7,933	0.355	0.478
Wasting	8,416	0.061	0.239	7,946	0.060	0.238
Underweight	8,559	0.145	0.352	8,081	0.144	0.351

Note: Matching performed using the Stata command reclink applied to the complete names of the under-five children which appeared in both the nutrition/anthropometric and other databases of the IOF 2022.

Source: Authors' calculation based on IOF 2022 data.

Additional annexes

Table B2. Statistical significance of differences in main multidimensional poverty indices and indicators, over time

	2014/15- 2019/20	2014/15- 2022	2019/20- 2022
Multidimensional poverty Incidence	*	***	*
Multidimensional poverty Intensity	***	*	
Multidimensional poverty Index		***	*
Parents	**		
Marriage			
Stunting	***	***	**
Underweight			
Wasting		***	***
Enrollment	***	***	***
Primary Education	***	***	**
Labour	***		**
Health facility		**	
Bed net	***		***
Water			***
Water distance		***	**
Sanitation	**	***	
Information	***	***	**
Crowding	***	***	***
Floor/roof	**	***	**
Electricity	***	***	***

Note: * p<0.10; ** p<0.05; *** p<0.01.

Table B3. Multidimensional poverty incidence at various cut-offs, national level

Year	Cut-off			
	20%	30%	50%	70%
2014/15	65.4	48.4	13.8	1.3
2019/20	61.2	45.7	14.2	1.7
2022	60.1	42.9	12.6	1.4

Figure B1. Multidimensional poverty incidence at various cut-offs, national level

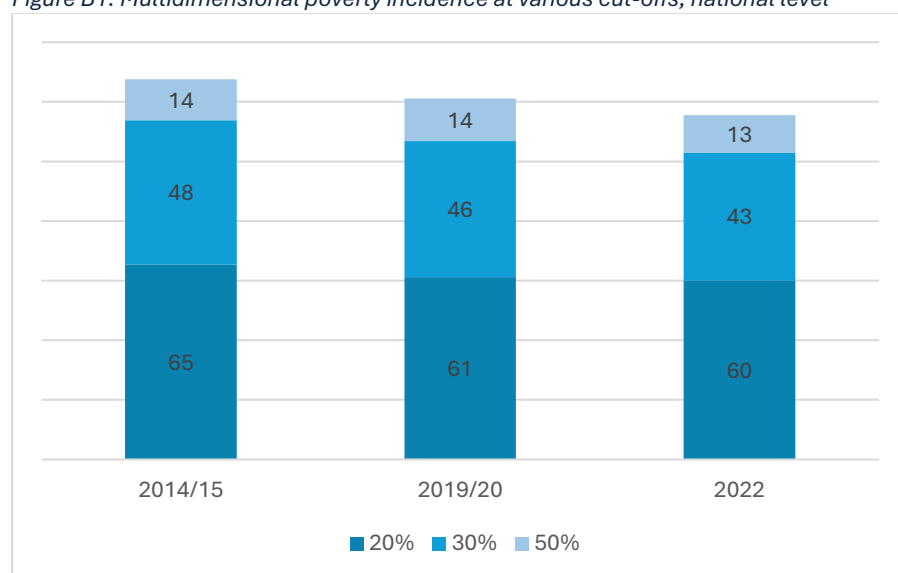


Table B4. Population estimates, by sex and area of residence, 2014/15-2022 (million)

Year	Age range	Total			Urban			Rural		
		Total	M	W	Total	M	W	Total	M	W
2014/15	0-17	13.2	6.6	6.6	3.8	1.9	1.9	9.4	4.7	4.7
2019/20	0-17	15.7	7.9	7.9	4.9	2.4	2.5	10.9	5.4	5.4
2022	0-17	16.4	8.2	8.2	5.1	2.6	2.6	11.3	5.7	5.6

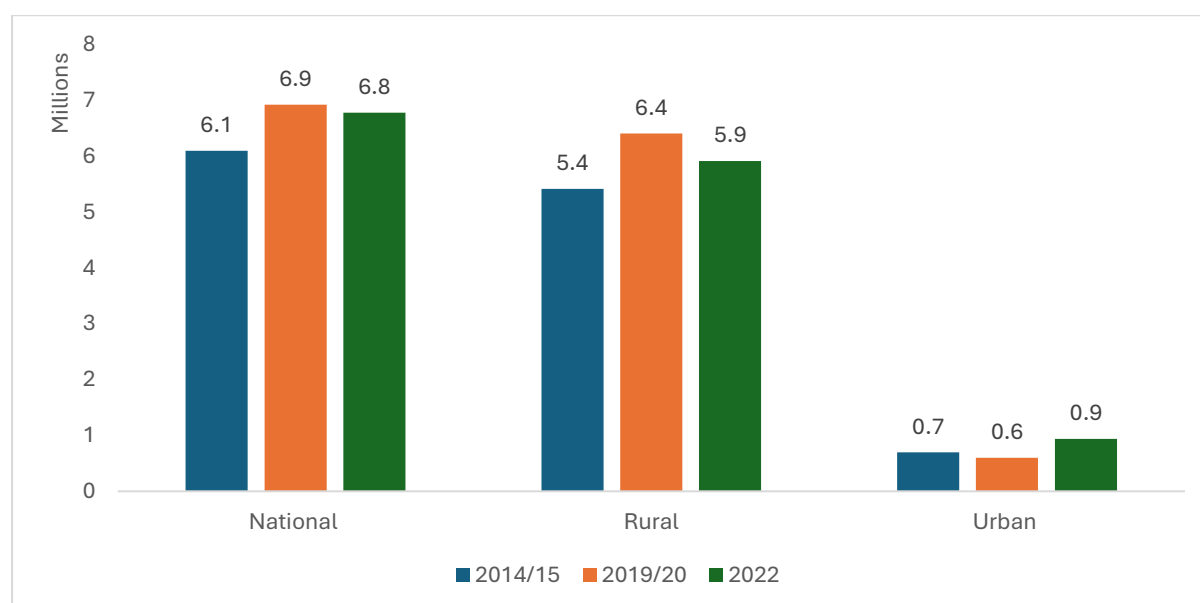
Note: Estimates based on INE's population projections, in turn based on the 2007 and 2017 censuses.

Table B5. Number of poor children, by area of residence, 2014/15-2022

Number of poor children	2014/15	2019/20	2022
National	6097682	6926260	6781693
Rural	5414746	6406904	5912684
Urban	698737	601356	936354

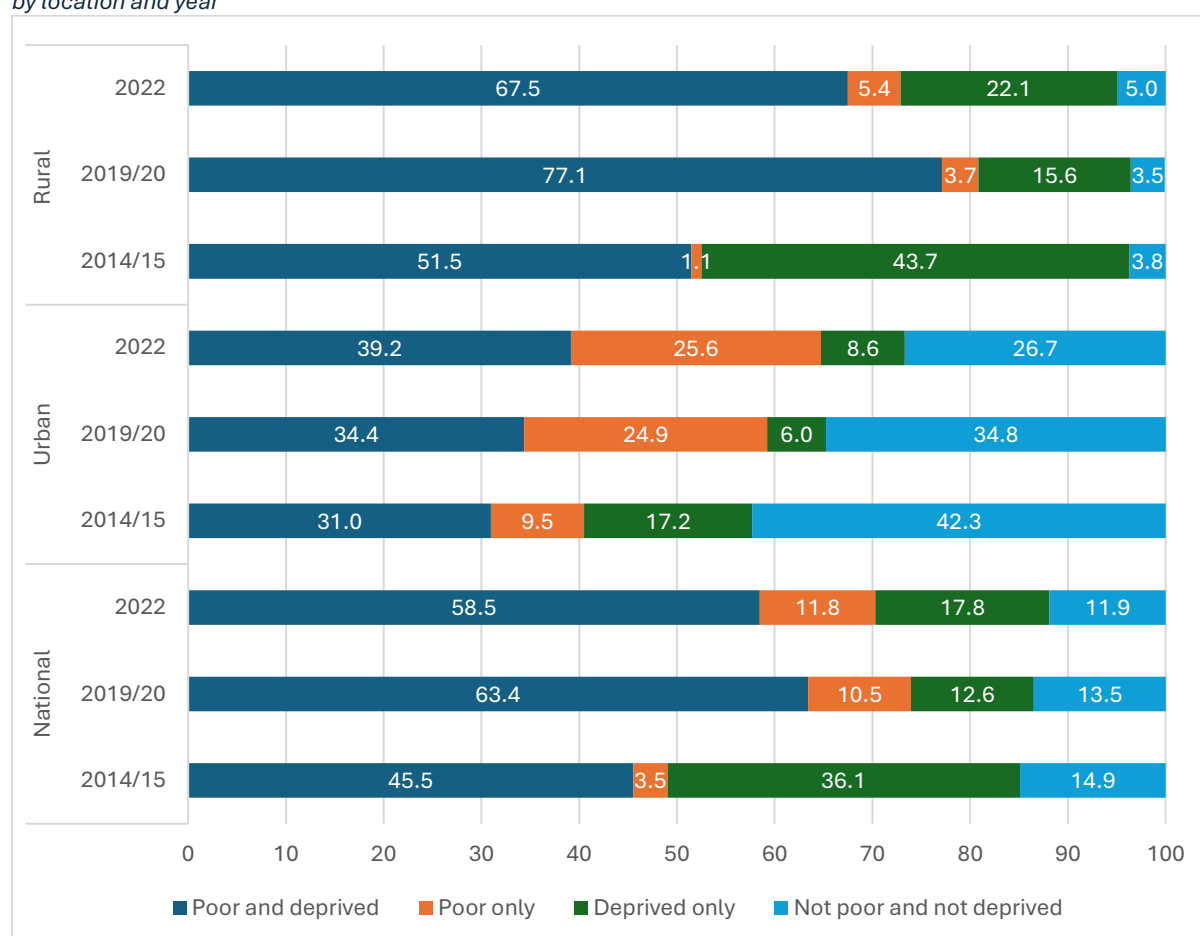
Note: Estimates based on the above population estimates. Due to rounding issues, urban and rural numbers do not always exactly sum up to national estimates.

Figure B2. Number of poor children, by area of residence, 2014/15-2022



Note: Estimates based on the above population estimates and on the multidimensional poverty incidence estimates.

Figure B3. Overlap between monetary and multidimensional poverty (children deprived in 2 or more dimensions) (%) by location and year



Note: In the overlapping deprivation framework used here, children are multidimensionally deprived if they suffer two or more deprivation dimensions at the same time. Monetary poverty is estimated using consumption per capita as the relevant welfare measure, and the national poverty line as the relevant threshold to distinguish between poor and non-poor.

Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

Different trends are observed if, instead of using the definition of multidimensional poverty corresponding to being deprived in two or more dimensions, we adopt the multidimensional poverty incidence computed in the framework of the MPI method as the relevant criteria (Figure 22, panel a). In the latter case, the percentage of simultaneously poor and deprived children, and of multidimensionally deprived only children, is significantly smaller in all areas; whereas the percentage of children that are only poor from the monetary point of view is markedly higher, especially in urban areas. This difference arises from the fact that the MPI considers as deprived those children for which the weighted deprivation, as measured based on the different welfare indicators and independently of the dimensions in which they are placed, is above a third of the total; whereas the overlapping deprivation criteria used above establishes that children are multidimensionally deprived if they suffer two or more deprivation dimensions at the same time. The two measures seldom coincide, and rarely provide similar deprivation profiles. Nonetheless, the persistent urban-rural gap still emerges in the two approaches, and so it does the temporal trend, which shows at national and rural level a general worsening of the welfare situation between 2014/15 and 2019/20, followed by an improvement in 2022; and a deterioration of welfare in urban areas between 2014/15 and 2022. (Figures 21 and 22, panel a).

Table B6. Statistical significance of differences in multidimensional poverty incidence, over time

	2014/15-2019/20	2014/15-2022	2019/20-2022
Multidimensional poverty Incidence, national level	*	***	*
Multidimensional poverty Incidence, rural		***	***
Multidimensional poverty Incidence, urban	***		***
Multidimensional poverty Incidence, North	***	***	
Multidimensional poverty Incidence, Centre		***	**
Multidimensional poverty Incidence, South		*	*
Multidimensional poverty Incidence, 0-4			
Multidimensional poverty Incidence, 5-12	**	***	*
Multidimensional poverty Incidence, 13-18	**	***	
Multidimensional poverty Incidence, male	*	***	*
Multidimensional poverty Incidence, female		***	

Note: * p<0.10; ** p<0.05; *** p<0.01.

Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

Table B7. Statistical significance of differences in multidimensional deprivation by deprivation dimension, over time

	2014/15-2019/20	2014/15-2022	2019/20-2022
Nutrition	***	***	
Education	***	***	***
Child Labour	***		***
Health	***	***	
Family Relations	*	**	
Participation	***	***	***
WASH		**	
Housing	***	***	*

Note: * p<0.10; ** p<0.05; *** p<0.01.

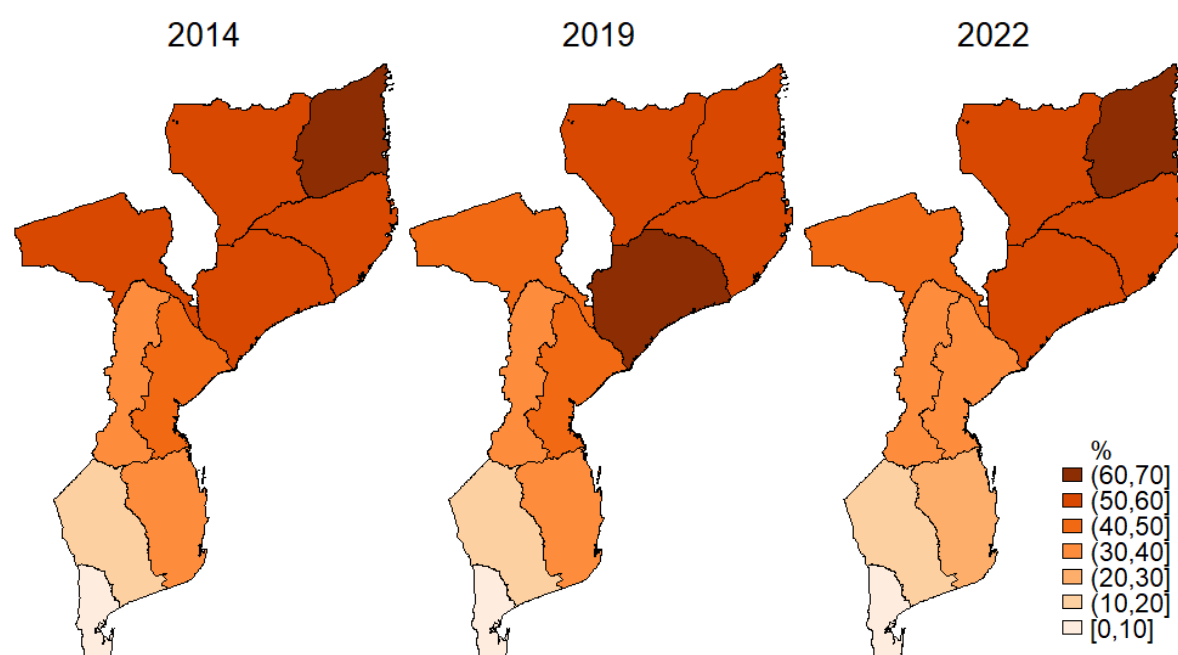
Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

Table B8. Simulating the multidimensional and monetary poverty trends in Cabo Delgado, in a worst-case scenario in which all children from conflict-affected districts (not surveyed in 2019/20 and 2022) are considered as multidimensionally deprived, 2014/15-2022

	2014/15	2019/20	2022
Multidimensional poverty Incidence (%), Cabo Delgado	60.6	54.5	62.8
Monetary poverty (%), Cabo Delgado	49.6	86.8	87.2
Multidimensional poverty Incidence (%), National	46.3	44.5	42.5
Monetary poverty (%), National	48.4	73.8	68.8
Number of poor children (millions), National	6.1	7.0	7.0

Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

Figure B4. Simulating the multidimensional poverty incidence trends in Cabo Delgado, in a worst-case scenario in which all children from conflict-affected districts (not surveyed in 2019/20 and 2022) are considered as multidimensionally deprived, 2014/15-2022



Source: Authors' calculation based on IOF 2014/15, IOF 2019/20 and IOF 2022 data.

The estimates outlined in Table B.8 and Figure B.4 were produced applying the following procedure: it was noted from Table A.11 that a number of districts were not surveyed in both 2019/20 and in 2022, because of the ongoing conflict in the region; INE had then decided to survey more households in the non-conflict-affected districts, so as to maintain representativeness at province level. However, it is expected that households in conflict-affected districts are on average more deprived than households in non-conflict-affected districts. Therefore, we simulated a worst-case scenario, in which all children from conflict-affected districts (not surveyed in 2019/20 and 2022) are considered as multidimensionally deprived in both 2019/20 and 2022. We did so by maintaining the total population weights for Cabo Delgado, for all years, unaltered, then by re-weighting children from non-conflict-affected districts to allow for the simulated presence of deprived children in conflict-affected districts. We used as a reference for the various weighting exercises the weighting structure and the total population weights at district level that existed in 2014/15, when all districts in Cabo Delgado had been surveyed. Therefore, by maintaining the total population weights for the province and in each year, we considered the growth of the population in 2019/20 and 2022 we weighted less the children from non-conflict-affected districts and simulated the presence of children from

conflict-affected districts, which were considered as multidimensionally deprived in both 2019/20 and 2022.

This exercise clearly provides a less optimistic picture for Cabo Delgado, which in this scenario passes from a multidimensional poverty incidence of 60.6 per cent in 2014/15 to 54.5 per cent in 2019/20 and to 62.8 per cent in 2022, more than two percentage points above the level of 2014/15. This may indicate that the effect of the conflict was not so strong by 2019/20, and the positive development in non-conflict-affected districts registered between 2014/15 and 2019/20 outweighed the negative ones related to the conflict. On the other hand, the negative effects of the conflict seem to have outweighed the positive developments in non-conflict-affected districts by 2022.

If we limit the analysis only to the districts surveyed in the three surveys, we get a trend in multidimensional poverty incidence which is close to the one presented in the main document: that is, 59.1 per cent in 2014/15, 49.0 per cent in 2019/20, and 48.1 per cent in 2022. This highlights that in non-conflict-affected districts there were indeed developments over time with respect to the welfare indicators considered in the study.

Similarly, even when we consider the worst-case scenario just highlighted for the province of Cabo Delgado, the multidimensional poverty incidence trend at national level is only slightly affected: the percentage of multidimensionally poor children reduces from 46.3 to 44.5 and then to 42.5 per cent between 2014/15 and 2022, closely resembling the main estimates presented in the document. However, the estimated number of poor children from the multidimensional point of view increases slightly, stabilising around 7.0 million children in both 2019/20 and 2022.

If in the worst-case scenario we also assume that children in conflict-affected districts are poor from the monetary point of view as well, then we find a significant increase in the poverty rate for the province, too, which passes from 49.6 to 86.8 and to 87.2 per cent during the period 2014/15-2022, i.e. increasing by about 40 percentage points. At national level the impact is still relatively small, but slightly more substantial than in the multidimensional case, since monetary poverty estimated at national level appear to increase from 48.4 to 73.8 and then to decrease to 68.8 per cent between 2014/15, 2019/20 and 2022.

Considering as deprived all children from conflict-affected districts is clearly an extreme case. However, reports exist that show the dire living conditions of the people escaping from the conflict and internally displaced.²⁴ So, this assumption may be not too far from the reality of the children from conflict-affected districts in Cabo Delgado.

²⁴ Available for example here: <https://www.internal-displacement.org/countries/mozambique/>; <https://www.internal-displacement.org/expert-analysis/7-years-into-the-conflict-solutions-to-displacement-in-cabo-delgado-remain-elusive/>; <https://dtm.iom.int/product-series/displacement-report-8>; <https://research.aston.ac.uk/en/publications/exploring-the-socio-economic-conditions-of-internally-displaced-p>.

Appendix C – Methodological note: Shocks and impact assessment methods

C1 – Macroeconomic shock

In 2016, Mozambique experienced a macroeconomic shock with persistent effects, later called the “hidden debt crisis” (Gebregziabher and Sala 2022; Egger, Salvucci and Trap 2023). The initial trigger of this crisis can be traced to a decision in the final years of President Guebuza’s second presidential term (Williams and Isaksen 2016 cited by Cruz et al. 2023, but also World Bank, 2021: appendix E). Three semi-public entities took out over US\$2 billion in loans from private foreign banks without submitting them to the Parliament for approval, a requirement set in the Mozambican Constitution²⁵. Once it became public knowledge, the existence of these loans led the IMF to suspend its support to Mozambique. Subsequently, foreign aid was frozen or significantly reduced, including all direct support to the state budget (already on a downward trajectory).

Figure C1. 1: Net official development aid

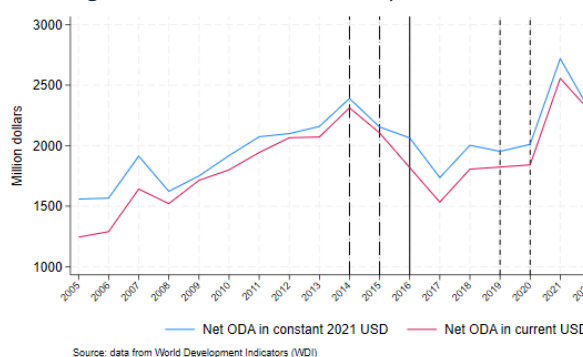
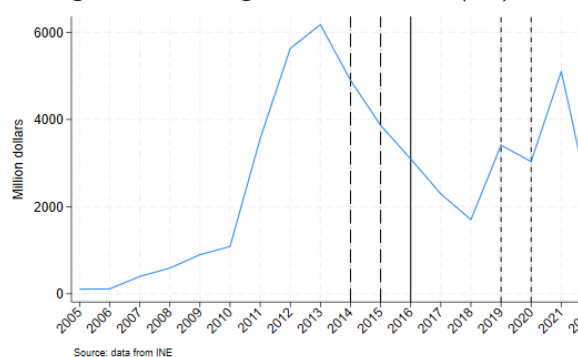


Figure C1. 2: Foreign Direct Investment (FDI)



The freezing of foreign aid exacerbated the ongoing decline in Official Development Aid (Net ODA) starting in 2014 (as per Figure C1.1), the reduction of Foreign Direct Investment (FDI) from 2013 (as per Figure C1.2), and the persistent Current Account deficit, which, although slightly mitigated since 2012 (see Figure C1.3), continued to be problematic. Additionally, Debt Service increased sharply from 2013 (see Figure C1.4).

Figure C1. 3: Current Account

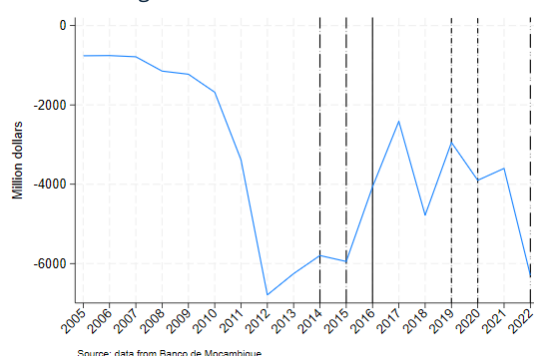
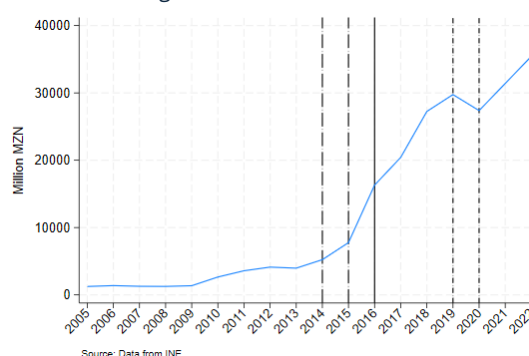


Figure C1. 4: Debt Service



²⁵ These three semi-public entities – Ematum, Proindicus and MAM – were established in the period 2012–2014.

These factors together, arguably, put unsurmountable pressure on the Metical²⁶, primarily through the inexorable erosion of Mozambique's stock of foreign currency reserves (as per Figure C1.5). Total reserves in foreign currency dropped in 2016 to levels not seen since 2010. From 2012, Mozambique's reserves had already fallen to a level that would only allow the country to pay close to three months of imports, the international benchmark²⁷ (as per Figure C1.6). However, the suspension of budget support and the official registry of the genuine debt service burden faced by the Mozambican Government further exacerbated the situation, leading to even greater reductions in the reserves.

Figure C1. 5: Net foreign reserves

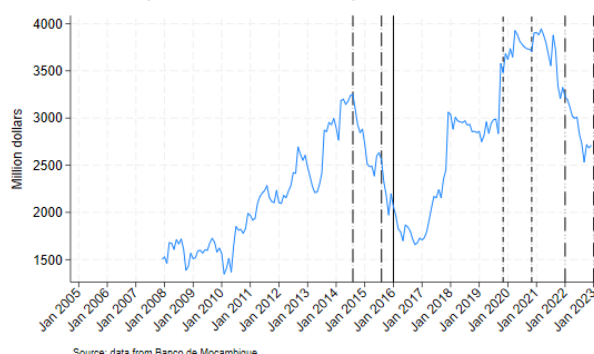
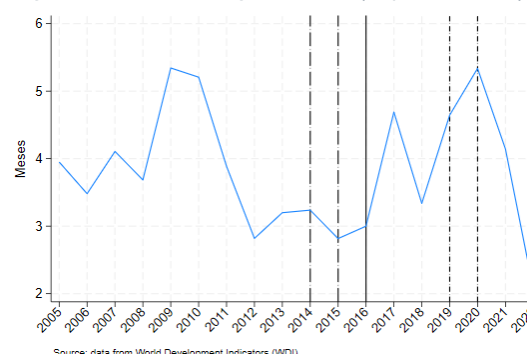


Figure C1. 6: Net foreign reserves (import months)



This made it impossible for the Mozambican Central Bank to sustain relatively stable exchange rates of the Metical (as seen in Figure 29). Dollar and Euro prices nearly doubled, from around 40 to almost 70 meticaïs per unit of each foreign currency. This result is also documented by World Bank (2023). So far, the level shock has proven to be permanent or, at the very least, sticky. Driven by imported inflation, the prices of goods and services increased significantly, with 12-month inflation staying above 20% for more than a year between 2016 and 2018.

Figure C1. 7: Exchange rates

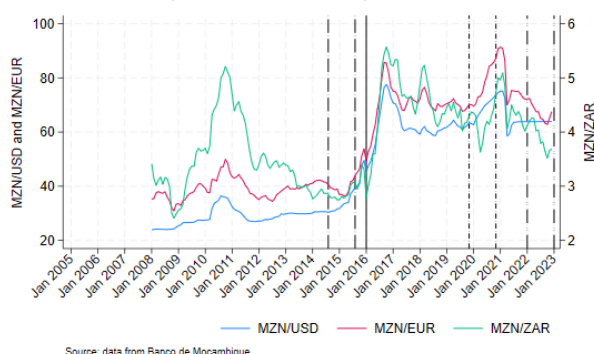
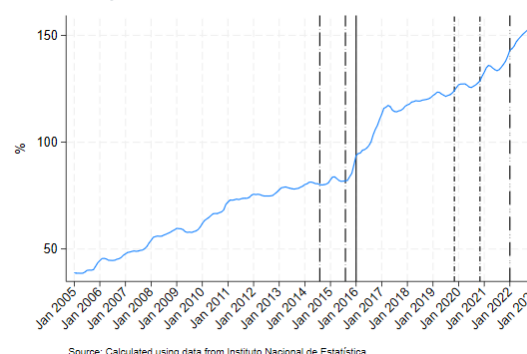


Figure C1. 8: Consumer Price Index



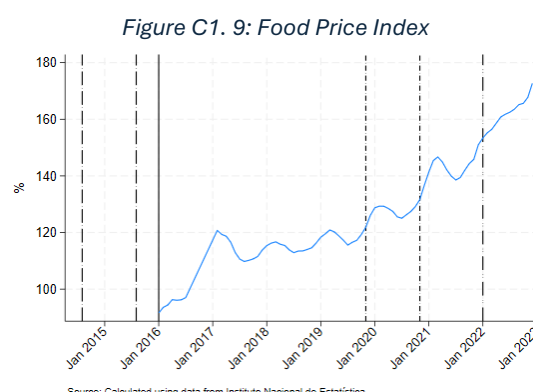
Most relevant to the assessment of the impacts of shocks on child poverty are the noticeable increases in prices (see Figure 30), most notably, the level of food prices (as per Figure C1.9)²⁸.

²⁶ This was the assessment issued by the Bank of Mozambique in the Press Release on the October meeting of the Monetary Policy Committee (Banco de Moçambique 2016)

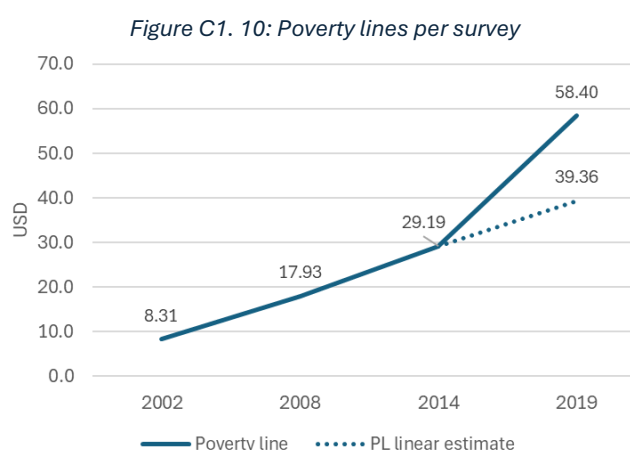
²⁷ As per <https://www.imf.org/en/News/Articles/2015/09/28/04/53/sopol040711b>, among others.

²⁸ While the Consumer Price Index is based on a consumption basket that does not perfectly mimic that of the poorest individuals, it is very likely that the price increases depicted in Figure 30 and Figure 31 strongly approximate the increase in the cost of living they face.

As shown below, after 2016, food price levels only rose significantly in 2020, during the first year of COVID-19, and, more recently, from the start of the war in Ukraine.



As discussed by Salvucci and Tarp (2024), there is a clear and evident link between the exchange rate hike and the price levels of food. As they show, there is strong evidence that the price rise was exceptionally high for some essential goods, including maize maize and bread, with the prices of partially imported goods increasing more than those of mainly locally produced goods.²⁹



Source: Salvucci and Tarp (2024)

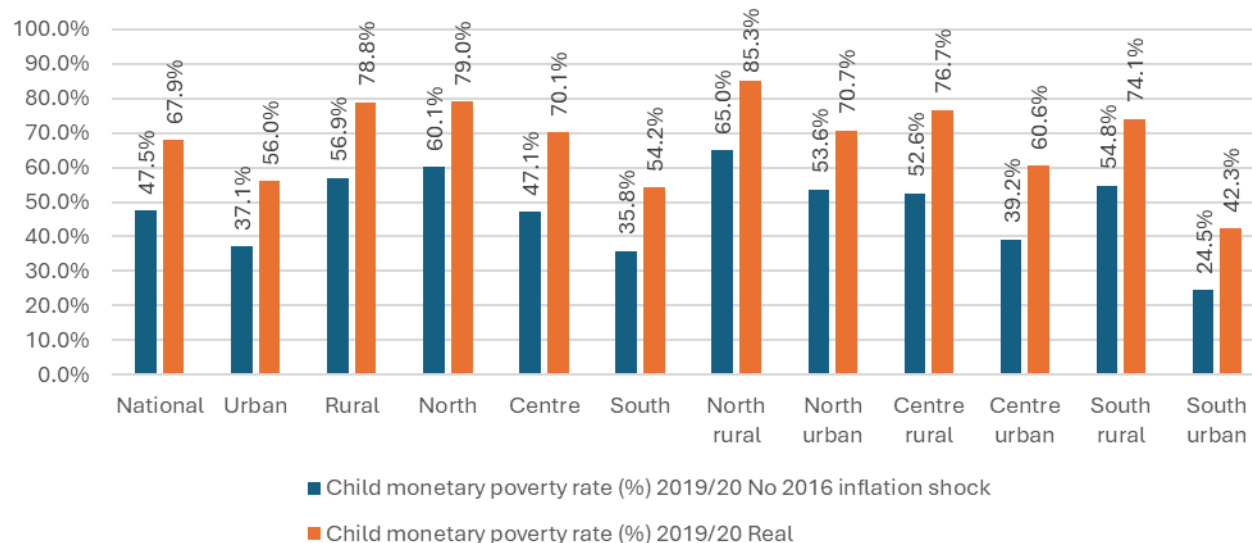
The significant increase in general prices and, most notably, in food prices, would, most likely, induce an increase in the cost of the basket of basic goods, and, therefore, a significant increase in the poverty line³⁰. Salvucci and Tarp (2024) show such an increase, rising from 29.19 USD/day in the 2014/15 poverty assessment to 58.40 USD/day in 2019/20 (equivalent to an average annual increase of 15.5%), as presented in Figure C1.10 (also Figure 23). Had real living costs continued to increase at the pre-“hidden debt” crisis pace and according to estimates by Salvucci and Tarp (2024), this study assumes a (counterfactual) poverty line of 39.36 USD/day in 2019/20.

²⁹ With an estimate of only close to 30 percent of households being net-sellers of agricultural goods in 2019/20, the authors found an expected negative impact of the food price increases on the mean household of all categories, but more so among urban households and among those in the Southern region of Mozambique.

³⁰ See footnote 5, above, for a full technical explanation of the Mozambican national poverty line.

Using the consumption per capita of households as measured by DNPED (forthcoming), the 2019/20 poverty line and the counterfactual, it is possible to calculate the corresponding levels of poverty incidence and compare them, as presented in Figure C1.11 (also figure 24).

Figure C1. 11: Monetary child poverty rate variation (pp); no 2016 inflation shock vs real inflation



Source: Salvucci and Tarp (2024)

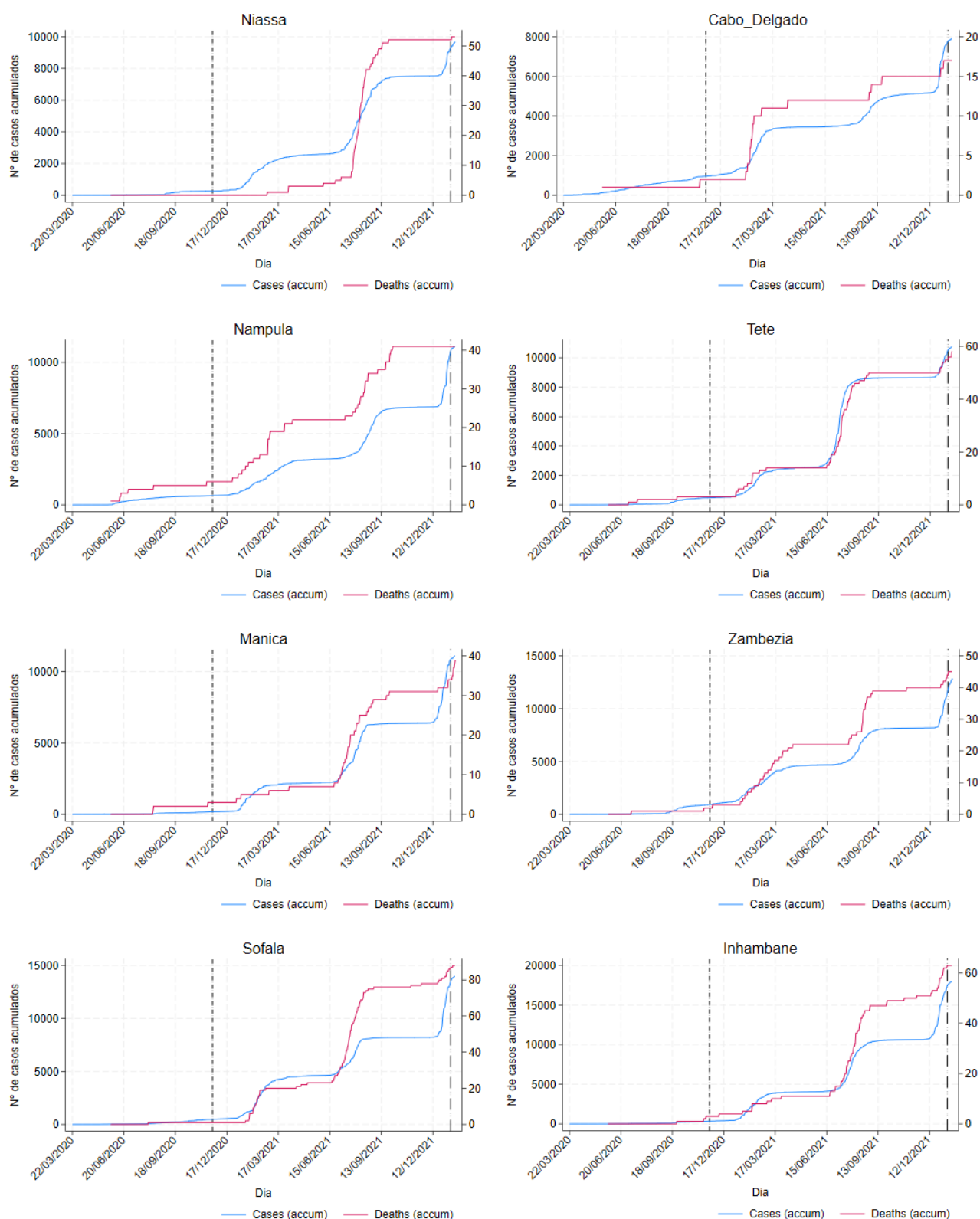
The simulated impact of the inflationary shock suggests an increase of 17 to 24 percentage points in monetary child poverty in 2019/20. Children living in rural areas are expected to have experienced higher impacts, with a calculated effect of 22 percentage points increase due to the inflationary shock. Children from the rural north, with calculated increases in poverty prevalence of 20 percentage points and, even more so, of the rural central provinces, with an increase of 24 percentage points, may have been more strongly affected by this shock.

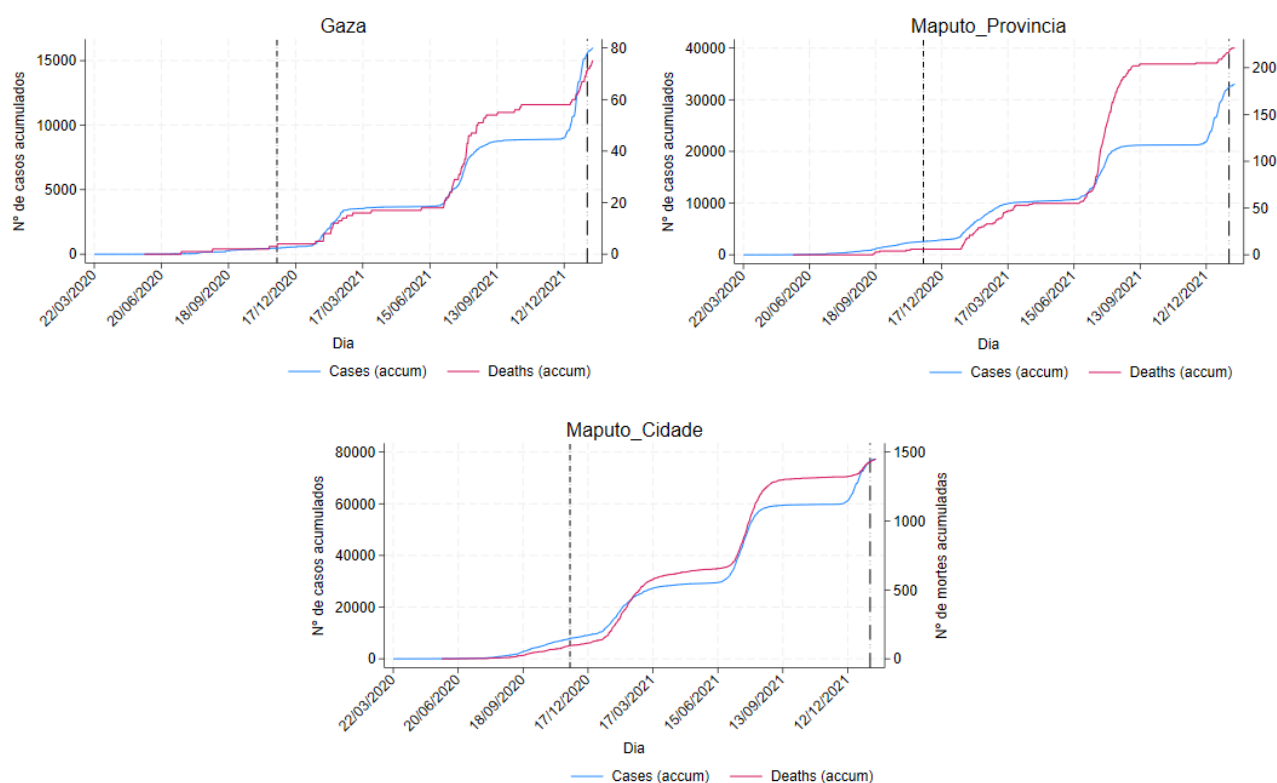
It should be noted that while this simulation captures the increase in living costs, it is blind to the differentiated negative effects of the other shocks that are discussed below and may explain part of the increase in poverty prevalence suggested in this simulation exercise.

C2 – Health shock

The first COVID-19 case in Mozambique was reported on 22 March 2020. From the very start, COVID-19 cases, recoveries, deaths, and people who were actively infected started being reported by Mozambique's National Health Institute (INS). IGM researchers started collating the information into a dataset with increasing encompassing data from 22 March 2020 to 20 January 2022.

Figure C2. 1: Incidence of COVID-19 - cases and deaths by province





Source: INS data collated by the Inclusive Growth in Mozambique programme

A second countrywide impact of COVID came from the lockdown measures. These are discussed by Mazive et al. (2021) and Egger et al. (2023), among others, on the factors that may have reduced compliance.³¹ Shortly after the first case in the country, control policies were put in place. Some noticeable measures were the closure of schools (total or partial) from 23 March 2020 to 4 August 2021 and the recommended closure of public transport or significant service reduction from 1 April 2020 to 6 December 2021. Other measures included the closure of workplaces and public events, cut-off size limits for gatherings, stay-home requirements, restriction of internal movement and international travel controls. Some of these measures had more impact in urban areas than rural areas, but only a national stringency index can be found, one that does not differentiate between these two types of areas.

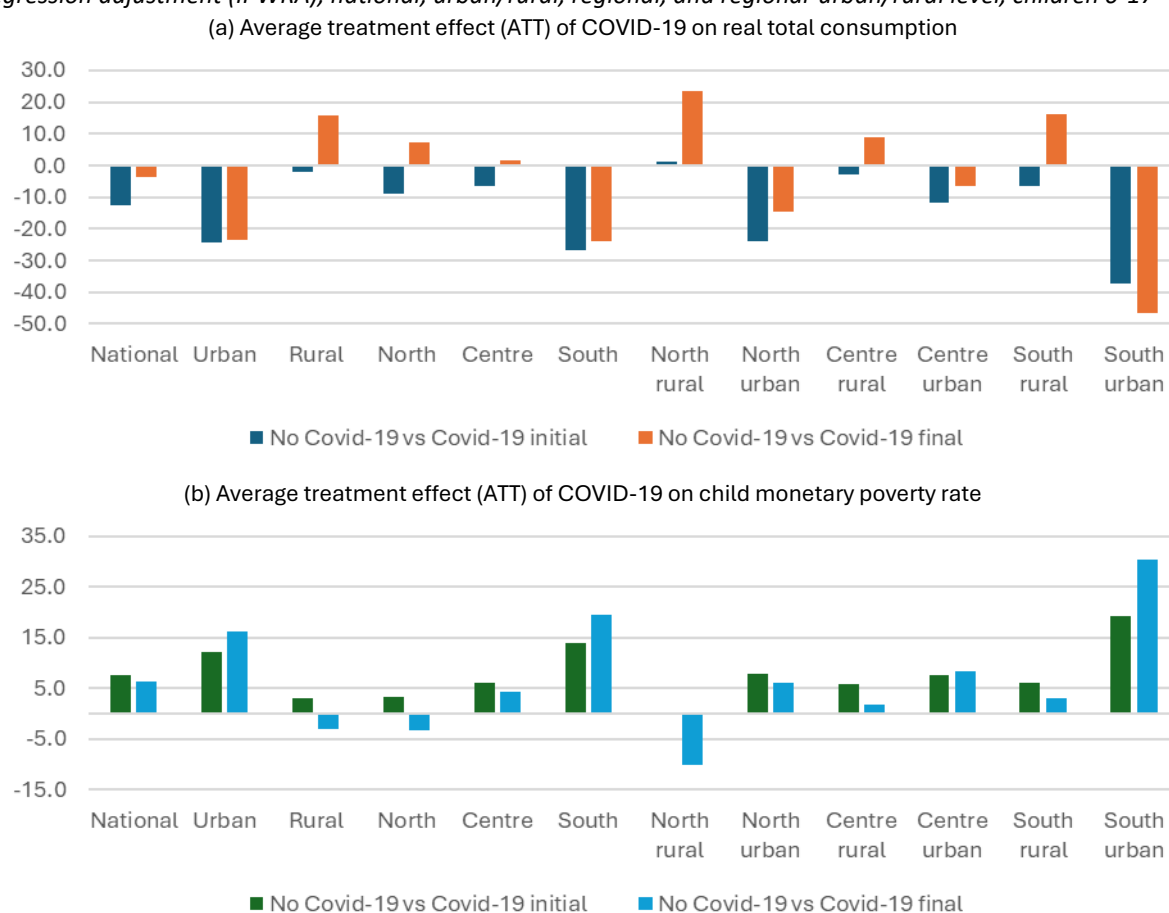
Building on Salvucci and Tarp (forthcoming), this study expanded the analysis of the impacts of COVID-19, from household monetary poverty (studied in Salvucci and Tarp, 2023) to child monetary poverty. The application of IPWRA, as recalled by the authors, seems particularly useful in the pandemic context, as it permits estimating unbiased treatment effects when there are confounding effects due to selection bias. It also allows for the comparison of outcomes when multiple treatments are considered. **Error! Reference source not found.** and **Error!**

³¹ In the latter study, authors created a lockdown readiness index based on whether family had access to (1) safe drinking water, (2) basic sanitation, (3) a source of reliable energy, (4) means of information or communication (e.g., a mobile phone) and (5) a form of employment that provides sufficient income not to go without cash on a frequent basis. Most notably, this lockdown readiness index is a subset of the multidimensional child poverty indicator, making evident the complexity relation between shocks and poverty.

Reference source not found. present the results, with a control group, represented by the group of households interviewed in the first quarter of the IOF19 (IOF19-Q1), and only two treatments, that is, COVID-19 initial phases (IOF19-Q2-Q4) and COVID-19 final phases (IOF22). The report presents impacts on consumption in relative terms (in percentages) instead of levels and on the incidence of child monetary poverty in percentage points.

Figure C2. 2: Impacts of COVID-19

Average treatment effect on the treated (ATT) for real total consumption (a) and child monetary poverty rate (b), before the start of COVID-19, during its initial phases and after its final phases, inverse probability weighted regression adjustment (IPWRA), national, urban/rural, regional, and regional-urban/rural level, children 0-17



Note: No COVID-19 = November 2019-February 2020 (2019/20-Q1); COVID-19 initial phases = March-November 2020 (2019/20-Q2-Q4); COVID-19 final phases = January-December 2022. IPWRA = inverse probability weighted regression adjustment. The study dropped a few outliers for real total consumption (less than 30 observations). The ATT for real consumption is reported in relative terms (%).

Source: Authors' calculations based on the 2019/20 and 2022 Mozambican household budget surveys.

Figure C2.2 shows that the initial COVID-19 phases corresponded to a big shock on children's welfare and that of their households. While the onset of the pandemic and related containment measures mainly occurred in 2020, right after the end of the 2019/20 IOF campaign, the welfare situation in 2022 was still negatively affected. Consumption is estimated to have decreased by 12.6 per cent during the initial COVID-19 phases, while the reduction computed comparing the pre-COVID-19 and the final COVID-19 phases is comparably lower, 3.6 per cent. Moreover, compared to the pre-COVID-19 months, child monetary poverty is estimated to have increased by 7.5 and 6.4 percentage points in the initial and final COVID-19 phases, respectively; all effects are statistically significant.

The national dynamics appear to be decomposed by at least two main sub-national trends: i) a welfare improvement in rural areas (mostly in the final phase of the pandemic), mainly in the north, where consumption and poverty improved even concerning pre-COVID-19 months (in 2022 consumption levels increased by 23.7 per cent in the rural North, by 9.0 per cent in the rural Centre, and by 16.2 per cent in the rural South, compared to pre-COVID-19); and by ii) a sensible worsening in all urban areas, with a severe downturn in the southern region, where consumption and poverty were negatively affected by the start of the pandemic and, especially, by its related restrictive measures; and where both welfare measures continued to deteriorate even in 2022 (consumption decreased by 46.6 per cent in the urban South between pre-COVID-19 months and 2022, whereas poverty is estimated to have increased by 30.5 percentage points in the same period).

C3 - Climate shocks

The 2014-2022 period started with a significant climate shock, studied by Salvucci and Santos (2020). Between December 2014 and January 2015, Mozambique, experienced heavy rainfall, with daily total reaching up to 100 mm. This intense rain caused significant swelling in several major rivers in Southern Africa, including the Zambezi, Licungo, and Shire, as well as other rivers in coastal Mozambique. On January 8th, an orange alert was issued, which was upgraded to an 'Institutional Red Alert' for Mozambique's Central and Northern regions on January 12th.

Only on 3rd March was the alert downgraded, to be entirely waived only four months later, on 10th April. Using a difference-in-difference approach, the authors found an estimated consumption reduction of 11–17% for those exposed to flooding. They found evidence suggesting that already poorer households suffered more than non-poor households and that households living in rural areas were affected significantly more than urban households. Poverty levels were estimated to have increased by about six percentage points because of the flooding.

From the floods of 2014/15 to the end of January 2023, Mozambique suffered the arrival of more than 11 tropical storms, of which one was a category one cyclone, 3 were category 2 and 2, both in 2019, were category four cyclones:

Table C3. 1: Cyclones - from 2014 to 2022

Name	Start	Landfall in Moz.	End	Max Intensity	Category
<i>IOF14-15 fieldwork: first quarter</i>					
Chedza	13.01.15	-	22.01.15	57 kt (Jan 16), 975 mb (Jan 16)	Tropical Storm
<i>IOF 14-15 fieldwork: fourth quarter</i>					
Dineo	11.02.17	15.02.17	17.02.17	85 kt (Feb 15), 955 mb (Feb 15)	Cyclone category 1
Desmond	17.01.19	21.01.19	22.01.19	45 kt (Jan 20), 989 mb (Jan 20)	Tropical Storm
Idai	04.03.19	04.03.19 15.03.19	16.03.19	115 kt (Mar 11), 940 mb (Mar 14)	Cyclone category 4
Keneth	21.04.19	25.04.19	29.04.19	125 kt (Apr 25), 934 mb (Apr 25)	Cyclone category 4
<i>IOF 19-20 fieldwork: all quarters</i>					
Chalane	20.12.20	30.12.20	04.01.21	70 kt (Dec 30), 975 mb (Dec 30)	Tropical Storm
Eloise	11.01.21	23.01.21	27.01.21	90 kt (Jan 23), 965 mb (Jan 23)	Cyclone category 2
Guambe	11.02.21	12.01.21	22.01.21	90 kt (Feb 19), 957 mb (Feb 19)	Cyclone category 2
Iman	02.03.21	-	11.03.21	50 kt (Mar 8), 989 mb (Mar 8)	Tropical Storm

IOF 2022 fieldwork: start of first quarter 12.01.22					
Ana	23.01.22	24.01.22	25.01.22	50 kt (Jan 24), 993 mb (Jan 24)	Tropical Storm
Gombe	08.03.22	11.03.22	15.03.22	99 kt (Mar 11), 959 mb (Mar 11)	Cyclone category 2
IOF 2022 fieldwork: end of first quarter 30.03.22; 2 nd to 4 th quarter					

Already outside of the scope of the surveys used in this report, Mozambique was hit by Freddy and Filipo:

Table C3. 2: Cyclones - after 2022

Name	Start	Landfall in Moz.	End	Max Intensity	Category
Freddy (1 st)	06.02.23	-	24.02.23	138 kt (Feb 19), 924 mb (Feb 19)	Cyclone category 5
Freddy (2 nd)	02.03.23	11.03.23	14.03.23	99 kt (Mar 8), 957 mb (Mar 8)	Cyclone category 3
Filipo	10.03.23	12.03.23	14.03.23	60 kt (Mar 11), 990 mb (Mar 12)	Tropical Storm

These storms have proven to be frequent (at least once every year since 2019), relatively localised, mostly with direct impacts in Mozambique's Central and Northern regions, and of diverse intensity. Most notably and focusing on cyclones alone, Idai and Kenneth hit Mozambique in between the IOF 14/15 and IOF 19/20 data collection fieldworks, and Eloise and Guambe between the IOF 19/20 and IOF 22 data collection fieldworks, allowing for quasi-experimental impact analysis.

Shapefiles of the cyclone's trajectories, with information on their radius of maximum wind (RMW³²) were sourced from the IBTrACS, based on the work by Knapp et al. (2010,1018). These and the geo-localization of participant households in the three IOF surveys allow for a first descriptive correlation analysis.³³ (overlying maps are presented in Figures C3.1 and C3.2).

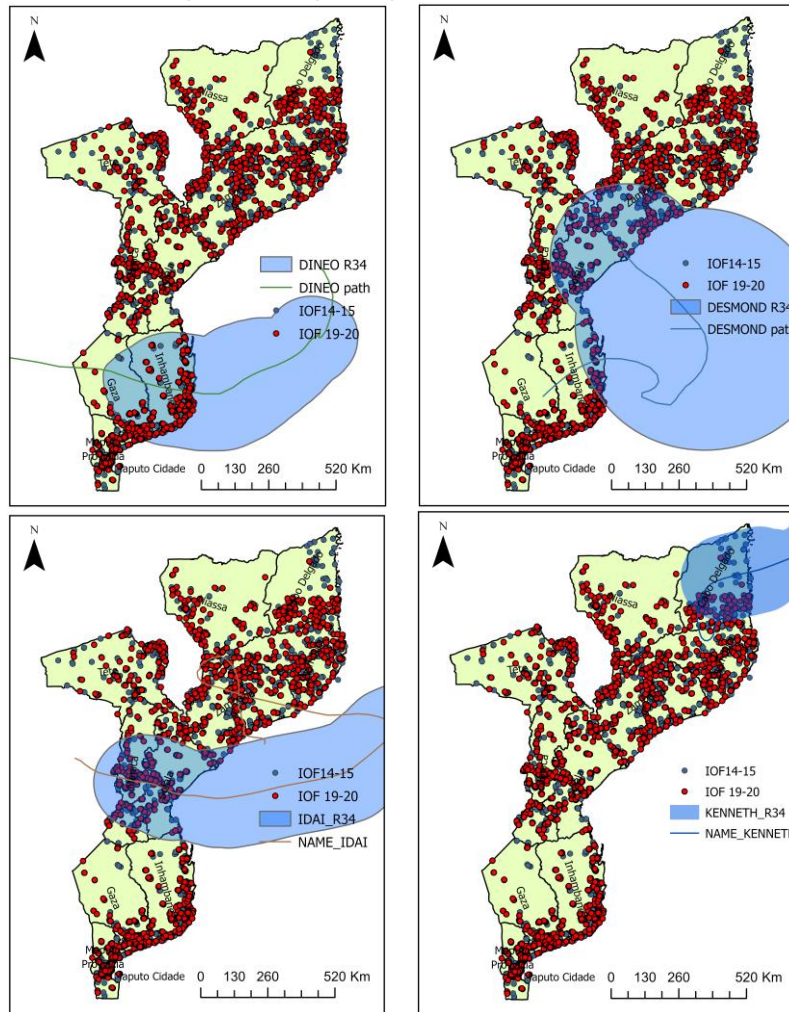
To support the impact analysis, and for each cyclone, the immediately preceding and following IOF survey datasets are utilized. It is assumed that households surveyed after the cyclone and located under the path of cyclone winds with speeds above 33 knots³⁴ were affected (they will be called "treated"), while those located in provinces hit by those cyclones and outside of said path were not affected (they will be called "controls"), closely following the one implemented in Salvucci and Santos (2020). Impacts are measured on each dimension of deprivation, child multidimensional poverty incidence and child monetary poverty for each age group.

³² The radius of maximum wind (RMW) is the distance between the centre of a cyclone and its band of strongest winds. It is a parameter in atmospheric dynamics and tropical cyclone forecasting. The highest rainfall rates occur near the RMW of tropical cyclones. The extent of a cyclone's storm surge and its maximum potential intensity can be determined using the RMW. As maximum sustained winds increase, the RMW decreases. Recently, RMW has been used in descriptions of tornadoes. When designing buildings to prevent against failure from atmospheric pressure change, RMW can be used in the calculations. (Source: Wikipedia - https://en.wikipedia.org/wiki/Radius_of_maximum_wind, accessed on 07 June 2024)

³³ As a caveat, however, the use of IOF surveys does not allow to assess impacts on displaced households and their children.

³⁴ Slightly above 61 km/hour.

Figure C3. 1: Cyclone paths from 2014 to 2020



Source: Maps generated by authors using ArcGIS, IOF datasets from INE and cyclone paths from IBTrACS.

This approach identified 2.9 thousand children residing, in 2014/15, in a territory that would, later, be affected by Dineo and 3.3 thousand were residing in 2019/20 in the territory that was affected by this cyclone³⁵. Similarly, it identified 5.4 thousand children residing, in 2014/15, in a territory that would, later, be affected by Desmond and 6.5 thousand were residing in 2019/20 in the territory that was affected by this cyclone³⁶; 4.6 thousand children residing, in 2014/15, in a territory that would, later, be affected by Idai and 5.5 thousand residing in 2019/20 in the territory that was affected by this cyclone³⁷, and; 2.0 thousand children residing, in 2014/15, in a territory that would, later, be affected by Kenneth and 2.3 thousand residing in 2019/20 in the territory that was affected by this cyclone. A similar exercise can be made to assess the number of children surveyed that resided in the areas hit by cyclones that made landfall in Mozambique between the 2019/20 and the 2022 IOF surveys. It identified 4.0 thousand children residing, in 2019/20, in a

³⁵ Among these, 534 in 2014/15 and 803 in 2019/20 also had their household residing on the path of Desmond.

³⁶ Among these, 2 437 in 2014/15 and 2 725 in 2019/20 also had their household residing on the path of Idai while 534 in 2014/15 and 803 in 2019/20 also had their household residing on the path of Dineo.

³⁷ Among these, 2 437 in 2014/15 and 2 725 in 2019/20 also had their household residing on the path of Desmond.

Tables C3.3 and C3.4 present the estimates of the δ coefficient, i.e., the treatment coefficient in each of the regressions of the effect of the cyclone in the column on the dimension or poverty indicator in line. While the shock is independent of children's and households' characteristics, this study does not claim that significant correlations are causal.⁴²

They show that the age group 5-12 was affected the strongest, particularly with increases in the prevalence of Child Labour (above 5 per cent), of deprivation in Participation (around 4 per cent), of deprivation in housing (with the highest increase, of 18 per cent, attributed to cyclone Dineo), with increases of 3 to 7 percent in Child Multidimensional Poverty and consistent increases in Child Monetary Poverty of 5 to 11 per cent.

Child Monetary Poverty consistently increased for all age groups and because of almost all the cyclones, with a range of increase between close to 6 and up to 18 percent. Participation was the deprivation dimension to most consistently increase, followed by Housing and Child Labour.

Some results are relatively puzzling. Firstly, the study finds mostly non-significant impacts on Nutrition, Education and even Water and Sanitation. More puzzling is the indication of reduction in the prevalence of Health deprivation among children because of the cyclones, to the exception of the latest cyclone, Guambe.

⁴² To assert an assessment of causality we require further robustness analysis, including added control of possible confounders.

Table C3. 3: Impact of cyclones - from 2014 to 2019

Age Group	0-4				5-13				13-18			
Dimension - Shock	Dineo	Desmond	Idai	Kenneth	Dineo	Desmond	Idai	Kenneth	Dineo	Desmond	Idai	Kenneth
Family	-0.05* (0.03)	-0.02* (0.01)	-0.01 (0.01)	-0.01 (0.02)	-0.06* (0.03)	-0.01 (0.01)	0.02 (0.02)	0.01 (0.02)	-0.01 (0.03)	0 (0.01)	0 (0.02)	0.05 (0.03)
Nutrition	0.01 (0.05)	0.01 (0.03)	0.01 (0.03)	-0.07 (0.05)								
Education					0.03 (0.02)	0.01 (0.02)	0.03 (0.02)	-0.02 (0.03)	0.08 (0.05)	0.02 (0.02)	-0.04 (0.03)	0.03 (0.03)
Child Labour					0.06** (0.03)	0.05*** (0.01)	0.01 (0.02)	0 (0.02)	0.02 (0.03)	0.07*** (0.02)	-0.01 (0.02)	-0.02 (0.04)
Health	-0.04 (0.05)	-0.04 (0.03)	-0.08*** (0.03)	-0.31*** (0.04)	0.04 (0.03)	-0.08*** (0.02)	-0.11*** (0.02)	-0.35*** (0.03)	0.03 (0.04)	-0.13 (0.03)	-0.09*** (0.03)	-0.37*** (0.04)
WASH	0.03 (0.05)	0.01 (0.01)	-0.03 (0.02)	0.03 (0.03)	0 (0.03)	0 (0.01)	-0.01 (0.01)	0.02 (0.02)	0.05 (0.05)	0.01 (0.02)	-0.02 (0.02)	-0.01 (0.03)
Participation	-0.01 (0.02)	0.02 (0.03)	0.02 (0.02)	0.08* (0.04)	0 (0.02)	0.04** (0.02)	0.01 (0.02)	0.05* (0.03)	-0.02 (0.03)	0.06** (0.03)	0.03 (0.03)	0.15*** (0.05)
Housing	0.21*** (0.05)	0.02 (0.01)	0.01 (0.02)	-0.02 (0.02)	0.18*** (0.03)	0.04*** (0.01)	0 (0.01)	-0.01 (0.02)	0.2*** (0.04)	0.04** (0.02)	0.01 (0.02)	-0.04 (0.03)
MPI incidence	0.01 (0.04)	0.02 (0.03)	0.02 (0.03)	0 (0.04)	0.07** (0.03)	0.04* (0.02)	-0.01 (0.02)	-0.05* (0.03)	0.07* (0.04)	0.03 (0.03)	-0.01 (0.03)	-0.03 (0.04)
Monetary Poverty	-0.08* (0.05)	0.01 (0.03)	0.08*** (0.03)	0.15*** (0.04)	0 (0.04)	0.03 (0.02)	0.07*** (0.02)	0.11*** (0.03)	0 (0.05)	0.04 (0.03)	0.03 (0.03)	0.18*** (0.05)

Source: authors' calculations using data from IOF 14/15 and IOF 19/20 and geographic data from IBTrACS; Note: estimated coefficients of interaction between cyclone and time (ex-post identifier) in linear regressions of dimensions in rows on cyclones in column (treatment), time (ex-post identifier), interaction, province, district, *posto administrativo* and rural/urban location of the households. Regressions are produced for each age group.

Table C3. 4: Impact of cyclones - from 2019 to 2022

Age Group	0-4			5-13			13-18		
Dimension - Shock	Chalane	Eloise	Guambe	Chalane	Eloise	Guambe	Chalane	Eloise	Guambe
Family	-0.01 (0.03)	0 (0.01)	0.05* (0.01)	-0.04** (0.02)	-0.02 (0.02)	-0.01 (0.02)	-0.03 (0.02)	0.01 (0.02)	0.05** (0.02)
Nutrition	-0.01 (0.05)	-0.05 (0.03)	-0.08* (0.03)						
Education				-0.05*** (0.02)	-0.16*** (0.02)	-0.03** (0.02)	0.05 (0.03)	-0.05 (0.04)	0.01 (0.04)
Child Labour				-0.05*** (0.02)	-0.12*** (0.03)	-0.1*** (0.03)	-0.06** (0.03)	-0.14*** (0.04)	-0.07** (0.03)
Health	-0.32*** (0.05)	-0.12*** (0.03)	0.25*** (0.03)	-0.4*** (0.02)	-0.02 (0.03)	0.22*** (0.03)	-0.3*** (0.03)	0.04 (0.04)	0.28*** (0.03)
WASH	0.03 (0.05)	-0.19*** (0.01)	-0.06 (0.02)	0.07*** (0.02)	-0.14*** (0.03)	-0.09*** (0.03)	0.05** (0.02)	-0.16*** (0.04)	-0.1*** (0.04)
Participation	0.02 (0.02)	-0.02 (0.03)	0 (0.02)	0 (0.02)	0.04 (0.03)	0.04* (0.02)	-0.03 (0.03)	-0.02 (0.04)	0.03 (0.03)
Residence	-0.02 (0.05)	-0.17*** (0.01)	-0.07* (0.02)	-0.01 (0.02)	-0.13*** (0.03)	-0.06** (0.03)	-0.01 (0.02)	-0.12*** (0.04)	-0.1*** (0.04)
MPI incidence	-0.01 (0.04)	-0.02 (0.03)	0.03 (0.03)	-0.15*** (0.02)	-0.12*** (0.03)	-0.02 (0.03)	-0.09*** (0.03)	-0.07* (0.04)	0.07* (0.04)
Monetary Poverty	0.02 (0.05)	0.18*** (0.03)	0.12*** (0.03)	0.02 (0.02)	0.11*** (0.03)	0.06** (0.03)	-0.01 (0.03)	0.07 (0.04)	0.06 (0.04)

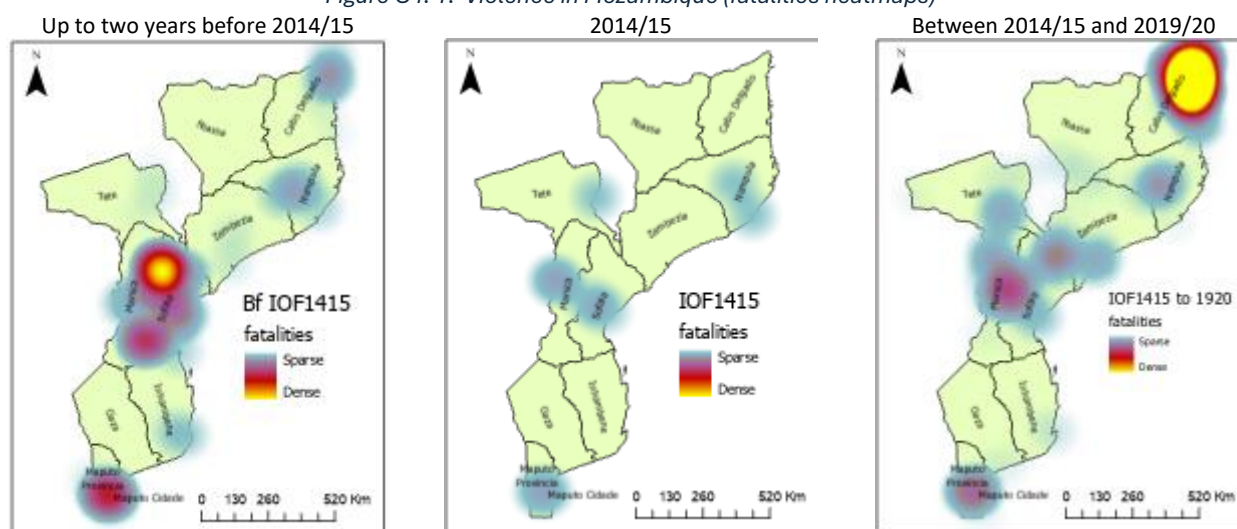
Source: authors' calculations using data from IOF 19/20 and IOF 2022 and geographic data from IBTrACS; Note: estimated coefficients of interaction between cyclone and time (ex-post identifier) in linear regressions of dimensions in rows on cyclones in column (treatment), time (ex-post identifier), interaction, province, district, *posto administrativo* and rural/urban location of the households. Regressions are produced for each age group.

A possible reason is the time that lagged between the IOF surveys, before and after the events, and the events themselves. The time that lagged after each cyclone and the following IOF survey gains importance as this is one where shock- response interventions, among other, could be put in place to mitigate effects of the cyclones⁴³. Another possible reason, that could, among others, explain the relative lack of significant estimates of impacts on Education deprivation prevalence, is the relative blindness of the indicators themselves to effects of shocks, as discussed above.

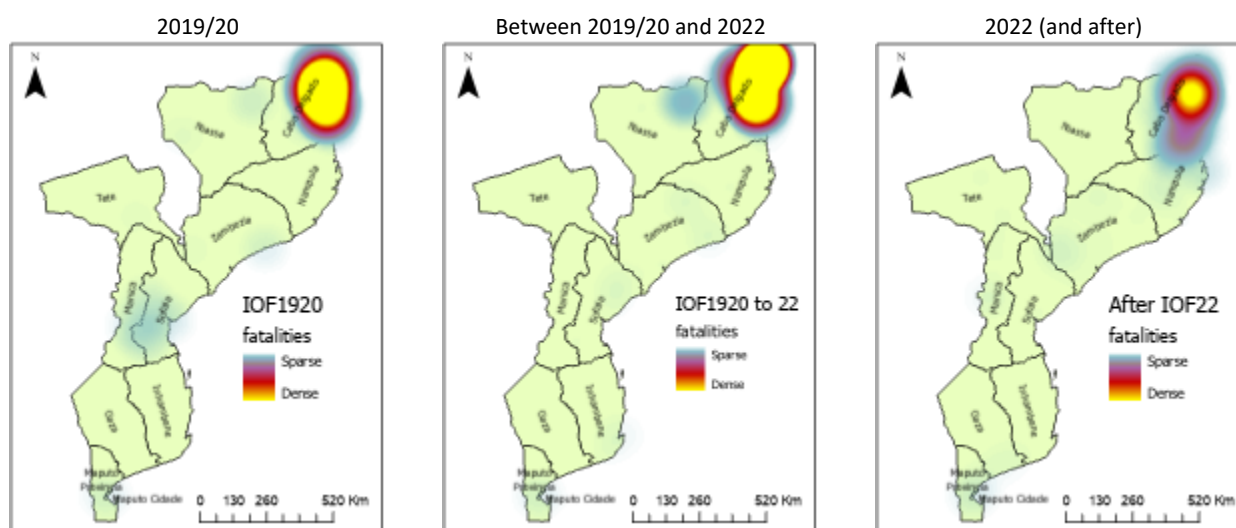
C4 - Conflict

Mozambique has been afflicted by a continuum of conflict during the 2014-2022 period. In 2014, Mozambique was being afflicted by a conflict in the central region stemming from the breakdown of the RENAMO/GoM peace settlement in October 2013 (Deutsche Welle 2013). This conflict ended in 2018, but in 2017, an insurgency had started in Cabo Delgado. While these were two different instances of conflict in Mozambique, the instances of violent conflict are akin in both cases, including contested territorial control by State and Non-State actors, violence between fighting forces and violence against civilians, among other factors.

Figure C4. 1: Violence in Mozambique (fatalities heatmaps)



⁴³ This can be the case of the impact of cyclones on the prevalence of Health deprivations on children, mostly driven by the reported distance to a health facility. In the IOF questionnaires, survey participants were queried on the distance, in minutes and by foot, to the nearest health facility (“unidade sanitária”). The data suggests a reduction in the distance to such units. A possible reason for this reduction may be the setting-up of health facilities in resettlement and hard to reach communities, as part of the shock-response interventions (suggested by sources such as



Source: maps produced by authors using ArcGIS and ACLED datasets.

The Armed Conflict Location and Event Data Project (ACLED) has collected and categorised information on the dates, actors, locations, fatalities, and types of all reported political violence and protest events in Mozambique from May 1997 to May 2024 (at the time of access), with regular updates. All events, if possible, are geolocated. In figure C4.1, the report presents Heat Maps of fatalities due to violent events recorded by ACLED around the dates of the three IOF surveys used to assess child poverty.

With the geolocation of IOF participant households, this study sought to assess the nature, frequency/intensity and severity of violent incidents where conflict happened, seeking to evaluate some degree of impact.

A cursory analysis reveals that conflict in Mozambique has been a geographically localised shock. After the 2014-15 IOF, it mainly manifested in Cabo Delgado and, to a lesser extent, in the central provinces (particularly Sofala and Manica). It is also a protracted shock. Since 2017, for more than seven years, the northwestern districts of Cabo Delgado have experienced the highest levels of fatal conflict. Between 2014/15 and 2019/20, three districts, Mocímboa da Praia, Palma and Macomia, experienced, on average, more than two incidents per week; during the period, in these districts, together with Nangade and Muidumbe, the average number of fatalities per incident exceeded 2. Between 2019/20 and 2022, Nangade joined the previous three districts, Mocímboa da Praia, Palma and Macomia experiencing, on average, more than two incidents per week (Macomia experienced more than 4); during the period, the intensity of violence was highest in Palma (10.6 deaths per incident), Macomia (4.0), Quissanga (3.0), Mocímboa da Praia (2.9) and Mueda (2.8). On the other hand, throughout the seven years and in 9 of the remaining districts, no incidents were reported or reported fatalities were below one person per incident.

In support of the analysis of impacts of conflict, this study sought of to generate estimates of effects of the experience of violence on the dimensions and incidence of multidimensional and monetary child poverty.

For this purpose, it considers each IOF survey dataset and previous ACLED-reported events in the IOF year and two years prior. It assumes as “treated” children and households surveyed after events of violence against civilians and witnessing violence against civilian events (as recorded by ACLED) within a 50 km radius of the location. The study considers the occurrence of violent events against civilians as the treatment, with two added measures of intensity: number of events and number of fatalities of these events. Impacts are measured on each dimension of deprivation, child multidimensional poverty incidence and child monetary poverty for each age group.

Table C4. 1: Violence in Mozambique (indicators)

Year	2012	2013	2014	2017	2018	2019	2020	2021
Percentage of children treated exposed to a violent event within a 50 km radius								
Niassa					48.4%	38.3%		100.0%
Cabo Delgado		5.8%		3.6%	1.1%	95.3%	11.7%	88.3%
Nampula		23.5%	6.1%	16.9%	13.4%	69.6%		100.0%
Zambezia		1.1%	17.8%		23.1%	48.2%	0.6%	99.4%
Tete	28.1%	2.3%	14.9%	22.1%		72.5%		100.0%
Manica	12.1%	73.6%		16.7%	14.6%	29.4%	84.0%	16.0%
Sofala		14.8%		13.0%		50.8%		100.0%
Inhambane				28.7%		40.6%		
Gaza						96.2%		
Maputo Provincia					15.4%	70.8%		100.0%
Maputo Cidade					5.0%	90.3%		100.0%
Mozambique	6.0%	13.5%	9.1%	10.0%	11.1%	61.0%	16.5%	83.5%
Average number of violent events that occurred close to exposed children								
Niassa					2.0	3.0		3.4
Cabo Delgado		2.4		4.0	2.0	5.0	2.0	2.1
Nampula		5.4	3.9	2.8	2.3	2.2		3.1
Zambezia		2.0	2.0		3.1	3.2	4.0	2.2
Tete	2.4	3.6	3.2	2.0		2.7		4.0
Manica	2.0	6.2		3.6	1.8	3.9	4.3	3.8
Sofala		4.1		2.1		4.8		3.0
Inhambane				2.0		2.0		
Gaza						3.2		
Maputo Provincia					2.1	2.3		4.0
Maputo Cidade					2.0	2.0		4.9
Mozambique	2.4	5.2	3.0	2.5	2.4	3.2	4.1	3.4
Average number of deaths due to violent events that occurred close to exposed children								
Niassa								0.5
Cabo Delgado				2.0	12.0	1.1		0.5
Nampula		0.7		1.5	8.6	1.9		
Zambezia		6.0			1.2	1.3		0.5
Tete	2.2			1.7				
Manica				0.4	3.6	1.6		0.6
Sofala				2.0		2.9		0.7
Inhambane				8.0		1.9		
Gaza						1.3		
Maputo Provincia						1.6		3.9
Maputo Cidade						2.0		4.0
Mozambique	2.2	0.7		2.4	2.7	1.5		1.4

Source: authors' calculations using ArcGIS, STATA and the ACLED datasets.

As it can be seen in Table C4.1, throughout the period under analysis, at least 6 per cent of the Mozambican children resided at less than 50 km from a violent event. In two years, 2019 and 2021, more than 60 per cent did so. On average, children that were exposed to violent events were exposed to at least 2 each year and with around one person killed in each event. However, as noted above, children in some provinces have been exposed more often to more events and to more violence in those events.

In a first, descriptive, regression approach, this study adopts the following specification:

$$Y_i = \alpha + \beta' C_i + \gamma' N_i + \delta' F_i + X_i + \varepsilon_i,$$

where Y is the variable of interest for impact assessment,

$C = \begin{bmatrix} C_{IOF \text{ year}} \\ C_{IOF \text{ year}-1} \\ C_{IOF \text{ year}-2} \end{bmatrix}$ is a vector of binomial variables with values of 1 if an event of violence against civilians happened in the year of reference and within the 50 km radius of the household,

$N = \begin{bmatrix} N_{IOF \text{ year}} \\ N_{IOF \text{ year}-1} \\ N_{IOF \text{ year}-2} \end{bmatrix}$ is a vector of continuous variables recording the number of events of violence against civilians that happened in the year of reference and within the 50 km radius of the household,

$F = \begin{bmatrix} F_{IOF \text{ year}} \\ F_{IOF \text{ year}-1} \\ F_{IOF \text{ year}-2} \end{bmatrix}$ is a vector of continuous variables recording the number of fatalities from events of violence against civilians that happened in the year of reference and within the 50 km radius of the household, β , γ , and δ are the vectors of coefficients of interest and X is a vector of variables identifying the province, district and *posto administrativo* locations of the household and whether it is localised in a rural or urban area.

It is essential to note that this empirical approach, while indicating correlation, does not allow for any inference of causality. The results presented in the tables below are preliminary and further analysis is needed to ensure their robustness to the presence of confounders and endogeneity.

While some correlates are statistically significant, the results are not robust enough to comfortably establish any degree of inference from them. Some suggestions are found of negative impacts of conflict, especially the most violence and fatality inducing events. These can be found on estimates of correlation with the prevalence of Family deprivations reported in 2014-15, of Nutrition deprivations reported in 2014/15 and (to a less extent) in 2019/20; in Education in 2014-15 and 2022; Health in 2014-15, Housing in 2014/15 and 2022 and child monetary poverty in 2014-15 and 2022. Other estimates, while statistically significant, are contradictory. All these suggestions deserve further investigation. Nevertheless, the robustness of all signals is relatively low.

Table C4. 2: Impacts of conflict

IOF 2014/15

Age Group		0-4								
Dimension	Shock	Conflict (binomial)			Events (number of)			Fatalities (number of)		
		Year	Year-1	Year-2	Year	Year-1	Year-2	Year	Year-1	Year-2
Family		-0.001 (0.002)	0.036 (0.031)		0.000 (0.000)	0.000 (0.000)	0.064 (0.082)	0.000 (0.000)		-0.075 (0.081)
Nutrition		-1.684 *** (0.331)	0.795 * (0.448)		0.022 (0.065)	0.040 * (0.024)	-1.468 *** (0.377)	0.081 ** (0.034)		1.480 *** (0.356)
Health		0.114 (0.454)	0.563 * (0.323)		-0.013 (0.045)	0.022 (0.018)	0.629 (0.509)	0.087 ** (0.034)		-0.603 (0.505)
WASH		0.266 ** (0.104)	0.055 (0.154)		-0.013 (0.011)	-0.051 *** (0.018)	-0.058 (0.094)	-0.150 *** (0.006)		0.019 (0.068)
Participation		-0.163 (0.558)	-0.229 (0.488)		-0.135 *** (0.051)	-0.019 (0.023)	-0.447 (0.740)	-0.113 *** (0.031)		0.386 (0.726)
Residence		-0.250 (0.213)	-0.072 (0.058)		-0.013 (0.011)	-0.001 (0.002)	-0.173 (0.220)	0.000 (0.001)		0.174 (0.220)
MPI incidence		0.117 (0.463)	0.625 * (0.360)		-0.122 ** (0.052)	-0.016 (0.023)	-0.244 (0.650)	-0.139 *** (0.023)		0.075 (0.644)
Monetary Poverty		-0.246 (0.487)	0.053 (0.355)		0.040 (0.060)	0.056 *** (0.021)	-0.532 (0.660)	0.079 ** (0.034)		0.580 (0.656)

Age Group	5-12											
Shock	Conflict (binomial)				Events (number of)				Fatalities (number of)			
Dimension	Year	Year-1	Year-2		Year	Year-1	Year-2		Year	Year-1	Year-2	
Family		-1.130 ***	0.225 *		0.021	0.011	-0.494 *		0.143 ***	0.468 *		
		(0.294)	(0.121)		(0.020)	(0.019)	(0.271)		(0.020)	(0.269)		
Nutrition												
Education		-0.593	0.131		0.025	0.044 **	-0.411		0.040	0.393		
		(0.399)	(0.230)		0.029	0.019	0.414		0.028	0.408		
Child Labour		0.229	-0.314 **		-0.008	-0.003	0.712 **		0.001	-0.702 **		
		(0.323)	(0.151)		0.014	0.017	0.352		0.006	0.349		
Health		-1.455 ***	0.129		-0.010	0.016	-1.231 ***		0.141 ***	1.174 ***		
		(0.213)	(0.203)		(0.010)	(0.010)	(0.249)		(0.020)	(0.239)		
WASH		1.173 ***	0.225 *		0.045 *	-0.036 ***	0.910 ***		-0.137 ***	-0.900 ***		
		(0.053)	(0.135)		(0.024)	(0.013)	(0.099)		(0.018)	(0.097)		
Participation		0.700 *	0.193		-0.029 *	-0.006	0.725		-0.092 ***	-0.822 *		
		(0.419)	(0.248)		(0.015)	(0.016)	(0.462)		(0.029)	(0.455)		
Residence		0.037	0.009		0.003	-0.011 ***	0.158 ***		0.004 ***	-0.157 ***		
		(0.043)	(0.111)		(0.029)	(0.004)	(0.054)		(0.001)	(0.059)		
MPI incidence		-0.138	0.160		-0.036 **	0.039 **	0.997 **		0.057 *	-1.086 **		
		(0.406)	(0.269)		(0.016)	(0.019)	(0.454)		(0.029)	(0.445)		
Monetary Poverty		0.491 **	1.039 ***		0.124 ***	0.055 ***	-0.310		0.071 **	0.239		
		(0.215)	(0.253)		(0.019)	(0.015)	(0.273)		(0.029)	(0.258)		

Age Group		13-18									
Dimension	Shock	Conflict (binomial)			Events (number of)				Fatalities (number of)		
		Year	Year-1	Year-2	Year	Year-1	Year-2	Year	Year-1	Year-2	
Family		-0.381 (0.409)	-0.037 (0.051)		0.000 (0.022)	-0.044 * (0.024)	-0.159 (0.253)		0.015 * (0.008)	0.144 (0.251)	
Nutrition											
Education		0.246 (0.355)	0.041 (0.285)		0.005 (0.038)	-0.059 *** (0.021)	0.472 (0.314)		0.020 *** (0.007)	-0.488 * (0.271)	
Child Labour		1.329 *** (0.218)	-0.226 (0.210)		-0.008 (0.011)	-0.040 * (0.024)	0.851 *** (0.308)		-0.028 (0.040)	-0.793 *** (0.286)	
Health		0.985 *** (0.195)	0.157 (0.243)		-0.002 (0.012)	-0.016 (0.023)	1.039 *** (0.232)		0.172 *** (0.008)	-1.100 *** (0.207)	
WASH		0.144 (0.355)	0.084 (0.150)		0.026 (0.020)	-0.032 (0.029)	0.013 (0.320)		-0.114 *** (0.040)	0.048 (0.308)	
Participation		1.341 *** (0.318)	0.652 * (0.359)		-0.001 (0.012)	0.002 (0.023)	0.580 (0.427)		-0.167 *** (0.008)	-0.736 * (0.391)	
Residence		0.344 (0.249)	0.207 ** (0.098)		0.073 *** (0.024)	-0.018 (0.014)	0.320 (0.216)		0.006 (0.005)	-0.290 (0.211)	
MPI incidence		0.950 * (0.513)	-0.420 (0.360)		0.014 (0.023)	-0.060 ** (0.026)	1.231 *** (0.402)		0.020 ** (0.009)	-1.145 *** (0.359)	
Monetary Poverty		-0.021 (0.507)	0.265 (0.513)		0.060 * (0.033)	0.078 *** (0.025)	-0.045 (0.457)		0.099 ** (0.040)	0.033 (0.405)	

IOF 2019/20

Age Group		0-4									
Shock	Conflict (binomial)			Events (number of)				Fatalities (number of)			
	Year	Year-1	Year-2	Year	Year-1	Year-2	Year	Year-1	Year-2		
Family		-0.008 (0.012)	-0.002 (0.013)	0.011 (0.005)	**	0.005 (0.009)	0.011 (0.007)	0.010 (0.015)	-0.001 (0.003)	-0.019 (0.011)	*
Nutrition		-0.008 (0.059)	0.015 (0.046)	-0.006 (0.014)		0.044 (0.028)	0.007 (0.047)	0.025 (0.019)	0.023 (0.013)	* (0.060)	
Health		0.034 (0.051)	0.048 (0.041)	0.021 (0.011)	*	-0.081 (0.035)	** (0.035)	-0.086 (0.017)	** (0.012)	0.004 (0.044)	**
WASH		0.006 (0.026)	0.005 (0.034)	0.009 (0.008)		0.004 (0.009)	-0.040 (0.018)	** (0.008)	-0.015 (0.002)	* (0.030)	
Participation		0.022 (0.057)	0.023 (0.041)	0.030 (0.013)	**	-0.057 (0.028)	** (0.037)	0.051 (0.016)	-0.041 (0.014)	*** (0.046)	
Residence		-0.014 (0.026)	0.017 (0.032)	0.009 (0.008)		-0.009 (0.012)	0.020 (0.029)	-0.014 (0.011)	0.000 (0.003)	-0.084 (0.036)	**
MPI incidence		0.017 (0.056)	0.034 (0.044)	0.022 (0.014)		-0.029 (0.027)	0.063 (0.038)	*	-0.011 (0.019)	0.004 (0.013)	-0.058 (0.050)
Monetary Poverty		-0.040 (0.038)	0.005 (0.041)	0.069 (0.011)	***	0.023 (0.018)	0.137 (0.039)	***	-0.011 (0.011)	0.014 (0.011)	-0.073 (0.050)

Age Group		5-12									
Dimension	Shock	Conflict (binomial)			Events (number of)			Fatalities (number of)			
		Year	Year-1	Year-2	Year	Year-1	Year-2	Year	Year-1	Year-2	
Family		0.023	0.002		-0.009	-0.023	-0.013	-0.005	-0.020	0.015	
		(0.029)	(0.030)		(0.007)	(0.019)	(0.019)	(0.013)	(0.016)	(0.027)	
Nutrition											
Education		0.029	0.003		0.002	0.004	-0.002	-0.004	-0.014	-0.012	
		(0.042)	(0.029)		0.008	0.020	0.027	0.014	0.017	0.036	
Child Labour		-0.027	0.009		0.021 **	-0.010	0.036	-0.051 ***	-0.018	-0.023	
		(0.033)	(0.025)		0.008	0.021	0.022	0.013	0.012	0.028	
Health		-0.033	-0.020		0.001	-0.034	-0.044	-0.055 ***	-0.016	0.054	
		(0.040)	(0.029)		(0.009)	(0.029)	(0.033)	(0.011)	(0.022)	(0.042)	
WASH		-0.030	-0.041 *		0.008	0.000	-0.042 ***	-0.015 **	-0.002	0.071 ***	
		(0.025)	(0.024)		(0.006)	(0.007)	(0.015)	(0.006)	(0.003)	(0.023)	
Participation		0.005	-0.019		-0.010	-0.036	0.027	0.013	0.000	-0.056	
		(0.045)	(0.033)		(0.010)	(0.025)	(0.034)	(0.014)	(0.018)	(0.042)	
Residence		-0.028	0.007		0.015 **	-0.006	-0.045 **	-0.033 ***	0.003	0.005	
		(0.029)	(0.027)		(0.007)	(0.011)	(0.022)	(0.013)	(0.007)	(0.028)	
MPI incidence		0.019	-0.027		0.014	-0.024	0.061 *	-0.035 **	-0.039 ***	-0.061	
		(0.047)	(0.036)		(0.010)	(0.026)	(0.034)	(0.015)	(0.013)	(0.043)	
Monetary Poverty		-0.017	-0.040		0.054 ***	0.050 ***	0.003	-0.020 *	-0.006	0.067	
		(0.033)	(0.035)		(0.008)	(0.017)	(0.035)	(0.011)	(0.007)	(0.041)	

Age Group		13-18								
Dimension	Shock	Conflict (binomial)			Events (number of)			Fatalities (number of)		
		Year	Year-1	Year-2	Year	Year-1	Year-2	Year	Year-1	Year-2
Family		0.018 (0.039)	-0.014 (0.027)	-0.003 (0.011)	0.019 (0.016)	-0.031 (0.038)	0.012 (0.014)	-0.046 (0.026)	*	0.069 (0.050)
Nutrition										
Education		-0.051 (0.076)	0.009 (0.043)	0.032 ** 0.014	0.020 0.037	-0.053 0.045	-0.033 0.021	0.012 0.037		0.031 0.049
Child Labour		-0.040 (0.054)	0.011 (0.040)	-0.002 0.015	0.060 0.039	-0.007 0.055	-0.006 0.028	-0.044 0.030		0.033 0.059
Health		-0.059 (0.062)	-0.017 (0.036)	0.002 (0.012)	0.019 (0.042)	0.033 (0.089)	0.002 (0.018)	-0.130 (0.039)	***	-0.082 (0.100)
WASH		0.013 (0.051)	0.008 (0.035)	0.011 (0.011)	0.024 (0.015)	* (0.046)	-0.058 (0.013)	-0.026 (0.012)	**	0.049 (0.051)
Participation		0.037 (0.060)	-0.008 (0.044)	-0.011 (0.016)	-0.110 (0.029)	*** (0.039)	0.054 (0.020)	-0.014 (0.041)		-0.076 (0.053)
Residence		-0.009 (0.048)	0.003 (0.041)	0.019 (0.011)	* (0.015)	-0.002 (0.060)	-0.032 (0.020)	-0.020 (0.032)		-0.007 (0.066)
MPI incidence		-0.046 (0.060)	0.014 (0.041)	-0.008 (0.015)	0.020 (0.022)	-0.040 (0.045)	0.006 (0.018)	-0.045 (0.037)		0.027 (0.057)
Monetary Poverty		-0.056 (0.052)	0.008 (0.046)	0.057 (0.013)	*** (0.027)	0.093 (0.070)	*** (0.015)	0.007 (0.035)		0.075 (0.079)

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Age Group		0-4								
Dimension	Shock	Conflict (binomial)			Events (number of)			Fatalities (number of)		
		Year	Year-1	Year-2	Year	Year-1	Year-2	Year	Year-1	Year-2
Family				0.085 (0.071)		0.001 (0.005)	0.013 (0.009)		0.000 (0.009)	
Nutrition				-0.326 ** (0.158)		0.001 (0.025)	-0.011 (0.022)		0.032 (0.034)	
Health				0.188 (0.173)		0.003 (0.011)	0.000 (0.026)		0.027 (0.025)	
WASH				-0.401 *** (0.138)		-0.002 (0.015)	-0.014 (0.020)		0.006 (0.018)	
Participation				-0.071 (0.193)		-0.032 (0.020)	-0.042 *** (0.015)		0.048 (0.034)	
Residence				0.003 (0.022)		-0.021 ** (0.008)	-0.020 (0.022)		0.018 (0.021)	
MPI incidence				-0.060 (0.174)		-0.023 (0.026)	-0.058 *** (0.018)		0.086 ** (0.034)	
Monetary Poverty				-0.055 (0.063)		0.073 *** (0.020)	0.040 * (0.021)		0.004 (0.028)	

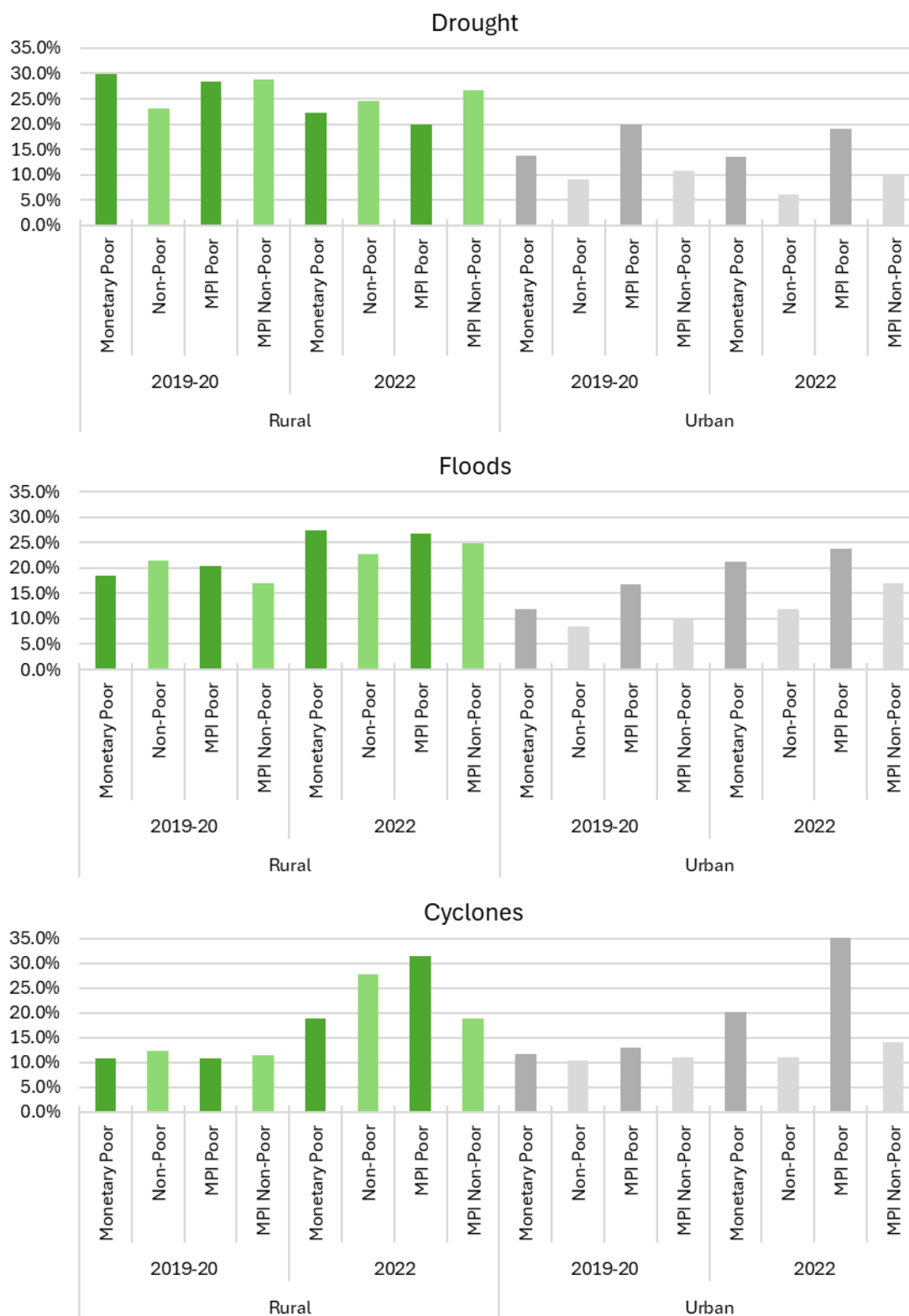
Age Group		5-12								
Dimension	Shock	Conflict (binomial)			Events (number of)			Fatalities (number of)		
		Year	Year-1	Year-2	Year	Year-1	Year-2	Year	Year-1	Year-2
Family				0.013 (0.102)		-0.005 (0.007)	0.023 * (0.013)		-0.026 *** (0.008)	
Nutrition										
Education				0.402 *** (0.146)		0.003 0.014	0.014 0.011		0.038 ** 0.019	
Child Labour				0.127 (0.081)		0.001 0.007	-0.005 0.011		0.024 0.021	
Health				0.024 (0.016)		0.002 (0.005)	-0.026 *** (0.009)		-0.012 (0.009)	
WASH				-0.350 ** (0.160)		-0.002 (0.012)	-0.019 (0.013)		0.029 *** (0.011)	
Participation				0.057 (0.150)		-0.025 * (0.014)	-0.006 (0.012)		0.009 (0.015)	
Residence				0.159 * (0.084)		-0.008 (0.008)	-0.047 *** (0.018)		0.023 ** (0.011)	
MPI incidence				0.059 (0.153)		-0.023 (0.016)	-0.008 (0.012)		0.026 (0.020)	
Monetary Poverty				0.333 ** (0.154)		0.066 *** (0.014)	0.016 (0.019)		0.021 (0.014)	

Age Group	13-18								
Shock	Conflict (binomial)			Events (number of)			Fatalities (number of)		
	Year	Year-1	Year-2	Year	Year-1	Year-2	Year	Year-1	Year-2
Family			0.009 (0.015)		-0.018 (0.011)	-0.010 (0.007)		0.001 (0.009)	
Nutrition									
Education			-0.036 (0.094)		-0.014 (0.014)	-0.014 (0.022)		0.023 (0.026)	
Child Labour		*	-0.301 (0.174)		0.016 (0.018)	-0.024 (0.017)		0.002 (0.018)	
Health			0.042 (0.030)		-0.006 (0.007)	-0.036 (0.012)	***	-0.008 (0.015)	
WASH		**	-0.497 (0.223)		0.008 (0.017)	0.004 (0.016)		0.022 (0.017)	
Participation			-0.157 (0.224)		-0.047 (0.017)	*** (0.011)	-0.024 (0.011)	**	0.005 (0.018)
Residence			0.220 (0.157)		-0.008 (0.011)	-0.006 (0.023)		0.027 (0.016)	*
MPI incidence			-0.087 (0.226)		-0.015 (0.012)	-0.052 (0.018)	***	0.011 (0.023)	
Monetary Poverty		*	0.401 (0.239)		0.068 (0.017)	*** (0.024)	0.032 (0.024)	0.041 (0.017)	**

Source: Authors' estimates based on IOF 14/15, IOF 19/20, IOF 22 and ACLED Mozambique dataset; Note: estimated coefficients of interaction between each variable in column and each deprivation or poverty incidence in rows, in linear regressions with variables in column, province, district, *posto administrativo* and rural/urban location of the households. Regressions are produced for each age group.

Appendix D – Subjective assessment of shocks and coping strategies of poor and non-poor

Figure D. 1: Share of poor and non-poor that reported having suffered drought, floods and cyclones, in 2019-20 and 2022



Source: Authors' calculations based on IOF 14/15, IOF 19/20, IOF 22

Monetary poor and non-poor children and their households

Figure D. 2: Reported losses by monetary poor and non-poor in rural and urban areas, 2019-20 and 2022



Source: Authors' calculations based on IOF 14/15, IOF 19/20, IOF 22

Figure D. 3: Reported loss of access by monetary poor and non-poor in rural and urban areas, 2019-20 and 2022



Source: Authors' calculations based on IOF 14/15, IOF 19/20, IOF 22

Figure D. 4: Coping strategies of monetary poor and non-poor in rural and urban areas, 2019-20 and 2022



Source: Authors' calculations based on IOF 14/15, IOF 19/20, IOF 22

Multidimensionally poor and non-poor children and their households

Figure D. 5: Reported losses by multidimensionally poor and non-poor in rural and urban areas, 2019-20 and 2022



Source: Authors' calculations based on IOF 14/15, IOF 19/20, IOF 22

Figure D. 6: Reported loss of access by multidimensionally poor and non-poor in rural and urban areas, 2019-20 and 2022



Source: Authors' calculations based on IOF 14/15, IOF 19/20, IOF 22

Figure D. 7: Coping strategies of multidimensionally poor and non-poor in rural and urban areas, 2019-20 and 2022



Source: Authors' calculations based on IOF 14/15, IOF 19/20, IOF 22



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