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Central Statistical Organization

Snapshot

Analysis of Multidimensional Poverty among Households and the Overlapping Dimensions of Deprivation in Children in Yemen 2024

Using Results from the Multiple Indicator Cluster Survey – Yemen, 2022 - 2023

April 2025

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Table of Contents

Introduction	4
Methodology	5
Household Poverty: The MPI Framework	5
Child Poverty: The MODA Framework	6
Multidimensional Household Poverty using MPI – Key Findings	8
Multidimensional Child Poverty using MODA – Key Findings	12
Key recommendations	19

The first Goal of the Sustainable Development Goals

No Poverty

Introduction

The 2030 Agenda for Sustainable Development prioritizes eradicating poverty (SDG 1), in all its forms, and promoting decent living standards for all by 2030. However, in conflict-affected countries like Yemen, child and household poverty has become increasingly critical. Years of protracted conflict and economic instability have left children disproportionately vulnerable to multiple deprivations, which can have long-lasting effects on their development and perpetuate cycles of poverty. Yemen's socioeconomic situation has significantly worsened over the past decade, with monetary poverty rising from 35 percent in 2005/ 6 to 80 percent by 2022, leaving over two-thirds of the population in need of humanitarian assistance. Despite these alarming figures, monetary poverty alone does not reflect the full scope of deprivation, as many children and households face simultaneous challenges across critical areas such as nutrition, health, education, and protection.

Poverty in Yemen is not limited to a lack of financial resources; it encompasses deprivation in multiple dimensions, such as nutrition, health, education, protection, and access to basic services. These deprivations compromise children's access to essential services such as healthcare, education, and protection from harm. Addressing child poverty in Yemen thus requires a holistic approach that goes beyond monetary measures to consider the overlapping dimensions of deprivation that affect both households and children.

The most recent poverty analysis, based on 2014 data, focused exclusively on monetary poverty, leaving a significant evidence gap. This gap limits the capacity to develop well-informed policies and weakens efforts to integrate an equity-focused approach into response strategies and programming. This summary report addresses that gap by presenting the key figures of multidimensional poverty in Yemen, with a specific focus on children and households. The analysis that has been conducted in the main report is based on the most recent 2022- 2023 Multiple Indicator Cluster Survey (MICS) data.

Methodology

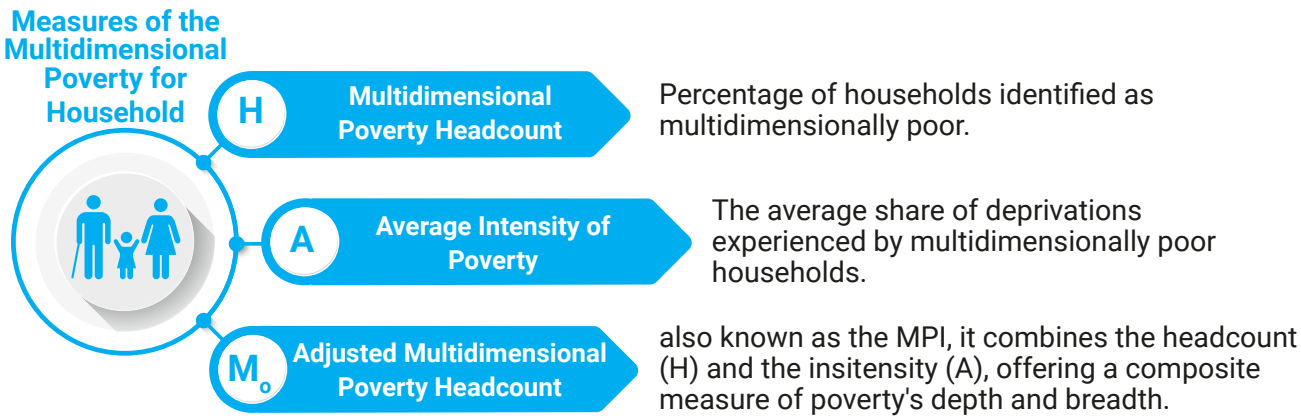
This summary report examines multidimensional poverty in Yemen through two key frameworks: **the Multidimensional Poverty Index (MPI) for households and the Multiple Overlapping Deprivation Analysis (MODA) for children.** Using data from the 2022–2023 Multiple Indicator Cluster Survey (MICS), the analysis provides insights into poverty›s prevalence, intensity, and characteristics at both household and child levels.

The MICS dataset encompasses representative data of all 22 governorates in Yemen and provides comprehensive data on **key dimensions** of well-being, including **health, nutrition, education, sanitation, and housing**. The parameters for this multidimensional poverty analysis were established through an extensive consultative process involving poverty experts, CSO Yemen, and UNICEF Yemen. This collaborative approach ensured that the analysis is tailored to Yemen's context and relies on nationally agreed-upon definitions, making it both contextually relevant and methodologically robust.

Household Poverty: The MPI Framework

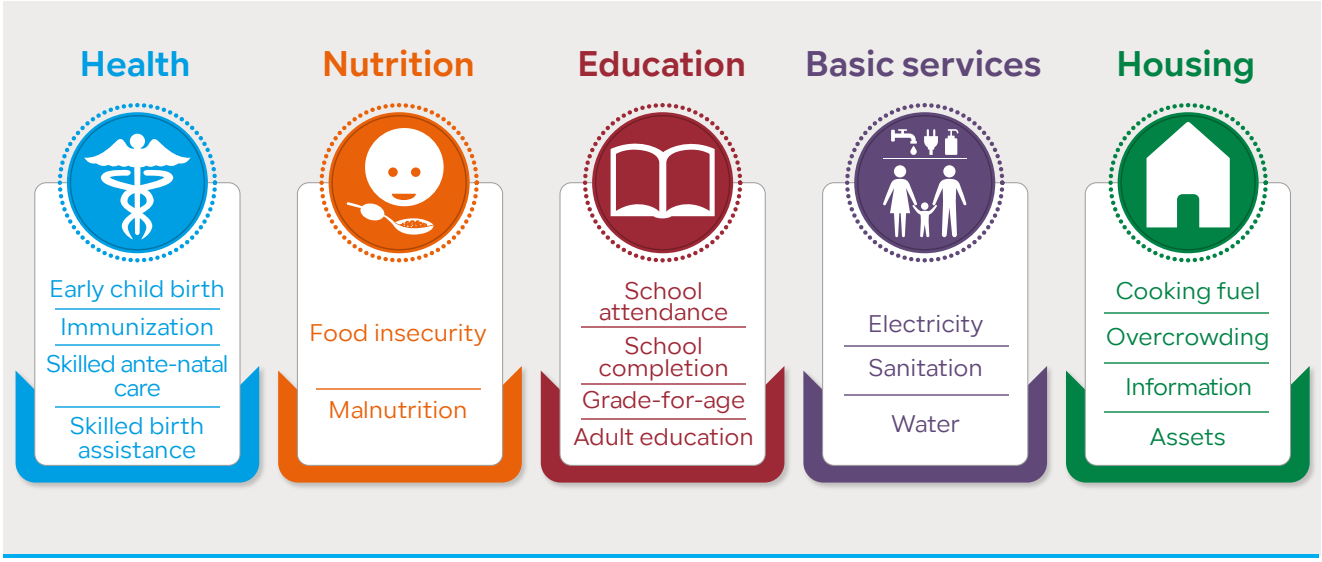
The Alkire-Foster method was employed to calculate the Multidimensional Poverty Index for households. The methodology was adapted to national circumstances and identifies poverty based on weighted deprivations across **five dimensions (see fig 1).** Each dimension contributes equally to the MPI (1/ 5), and each individual indicator within a dimension is also weighted equally. This means that indicators within the dimension Health obtained a weight of 1/ 20 and the indicators within the dimension Nutrition have obtained the weight of 1/ 10. To identify deprivations across households, a specific threshold is established for each indicator **(see Table 5 in Annex A).**

The multidimensional household poverty threshold is set at one third of the weighted deprivation indicators or 33.33 percent. Based on this threshold, the analysis produced three **key measures:**



The household poverty analysis is subject to certain limitations stemming from data unavailability and collection processes. Firstly, data for the health and nutrition dimensions are restricted to children under five years of age, leaving gaps in understanding these issues for other population groups. Secondly, data from governorates within the Sana'a and Aden hubs were collected at different times, which may influence the comparability of indicators, particularly those sensitive to temporal changes, such as food insecurity.

Figure 1 List of dimensions measuring multidimensional household poverty in Yemen



Child Poverty: The MODA Framework

The Multiple Overlapping Deprivation Analysis methodology was employed to understand child poverty. MODA is child-centered and applies a life-cycle approach. Its dimensions and indicators are therefore defined based on pre-defined age groups **(see Figure 2). For this analysis, children 0- 4 years old and children 5- 17 years old were separated.** Deprivations were assessed across **five to six dimensions** depending on the age group, with thresholds tailored to each indicator (see Table 6 in Annex A).

A child is deprived in a dimension if the child falls below the threshold of any indicator within it. For example, children aged 0- 4 are considered deprived in **«Nutrition»** if they live in a household who has experienced food insecurity or if the child is wasted. This notion is based on the union approach.

The multidimensional child poverty threshold is set at two dimensions. If a child is deprived in at least two dimensions out of the five or six dimensions, the child is considered multidimensionally poor. Based on this threshold, the analysis produced **three key measures:**

Measures of the Multidimensional Poverty for Child

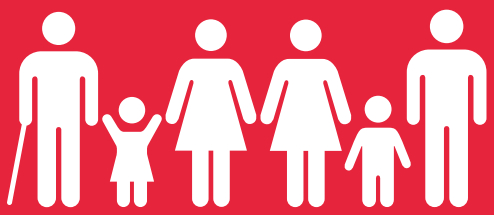
H	Multidimensional Deprivation Headcount	Percentage of children identified as multidimensionally poor according to the threshold.
A	Average Intensity among Multidimensionally deprived children	The average number of deprivations faced by multidimensionally poor children.
M_0	Adjusted Multidimensional Deprivation Headcount	Integrates the headcount (H) and intensity (A) to reflect the extent and severity of child poverty.

The child poverty analysis is subject to certain limitations stemming from data unavailability and collection processes. Firstly, data for the health and nutrition dimensions are restricted to children under five years of age and data leaving gaps in understanding these issues for other population groups. Secondly, data on child labour had to be imputed because questions related to child labour were administered to only one randomly selected child in each interviewed household. Thirdly, indicators related to nutrition were limited because responses with regards to food consumption were compromised.

Figure 2 List of dimensions measuring multidimensional child poverty in Yemen

Multidimensional Household Poverty using MPI – Key Findings

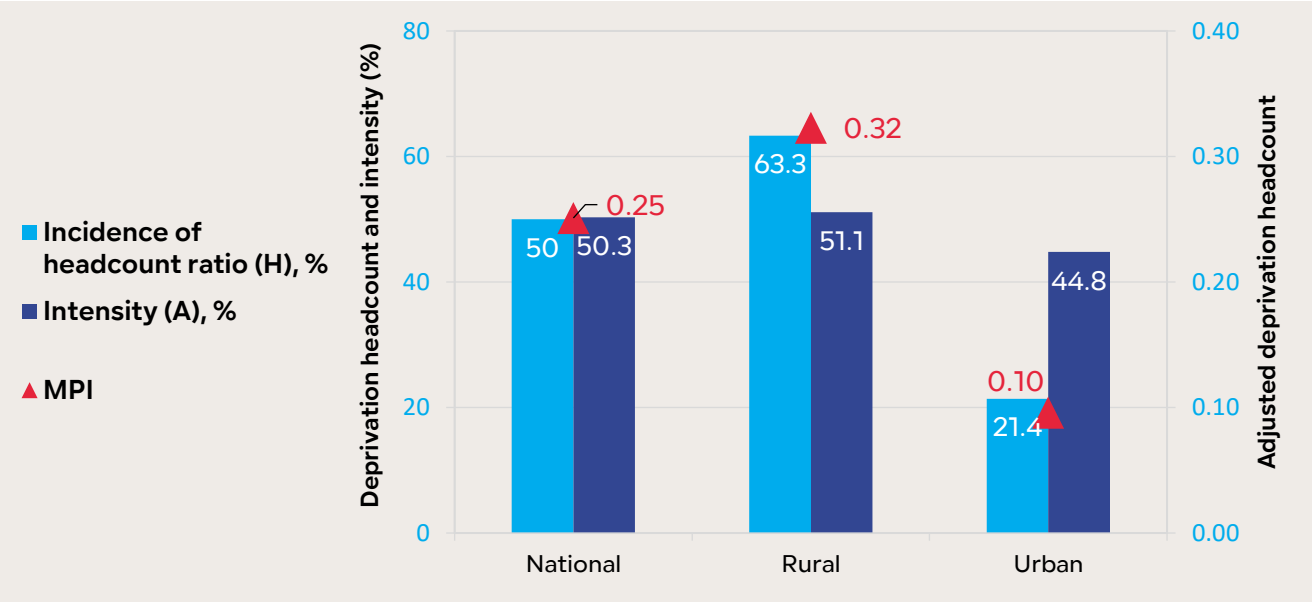
Half of the Yemeni households are multidimensionally poor, and the majority lives in rural areas.



A household is considered to be multidimensionally poor in Yemen if they experience simultaneous deprivations in at least one third of the dimensions, as defined in **Figure 1**.

Based on this threshold, half of all households in Yemen are multidimensionally poor, with an average deprivation level of **50.3 percent**, resulting in a (MPI) of **0.25**. A closer look at the disaggregated data reveals stark disparities between rural and urban areas. Rural households face a much higher MPI of **0.32** compared to **0.10** in urban areas. This gap is largely attributed to differences in the incidence of poverty, **63.3 percen**t of rural households are multidimensionally poor, compared to **21.4 percent** in urban settings. Although the severity of deprivation among poor households is relatively similar, the significantly higher incidence of poverty in rural areas underscores their heightened vulnerability.

Figure 3 Measures of household poverty with k=33%, at the national level and by area of residence



Source: Experts and national team's calculation based on Yemen MICS 2022- 2023.
Note: All the differences in deprivation rates are statistically significant at 1% according to the Chi-squared test of independence.

The analysis revealed that the distribution of poverty across areas of residence or governorates remain consistent regardless of changes to the threshold. The observed disparities persist whether the threshold is set at **20 percent** , **50 percent** , or national standard of **33 percent** , demonstrating the robustness of the results. Nationally, poverty rates decrease as the threshold becomes more stringent. The poverty rate is **77.9 percent** at the **20 percent** threshold and declines to **23.0 percent** at the **50 percent** threshold. The rural-urban poverty gap remains pronounced across all thresholds. At the **20 percent** threshold, the poverty rate in urban areas is **55.4 percent** compared to **88.3 percent** in rural areas. At the **50 percent** threshold, the urban poverty rate is **6.2 percent** while the rural rate is **30.9 percent**.

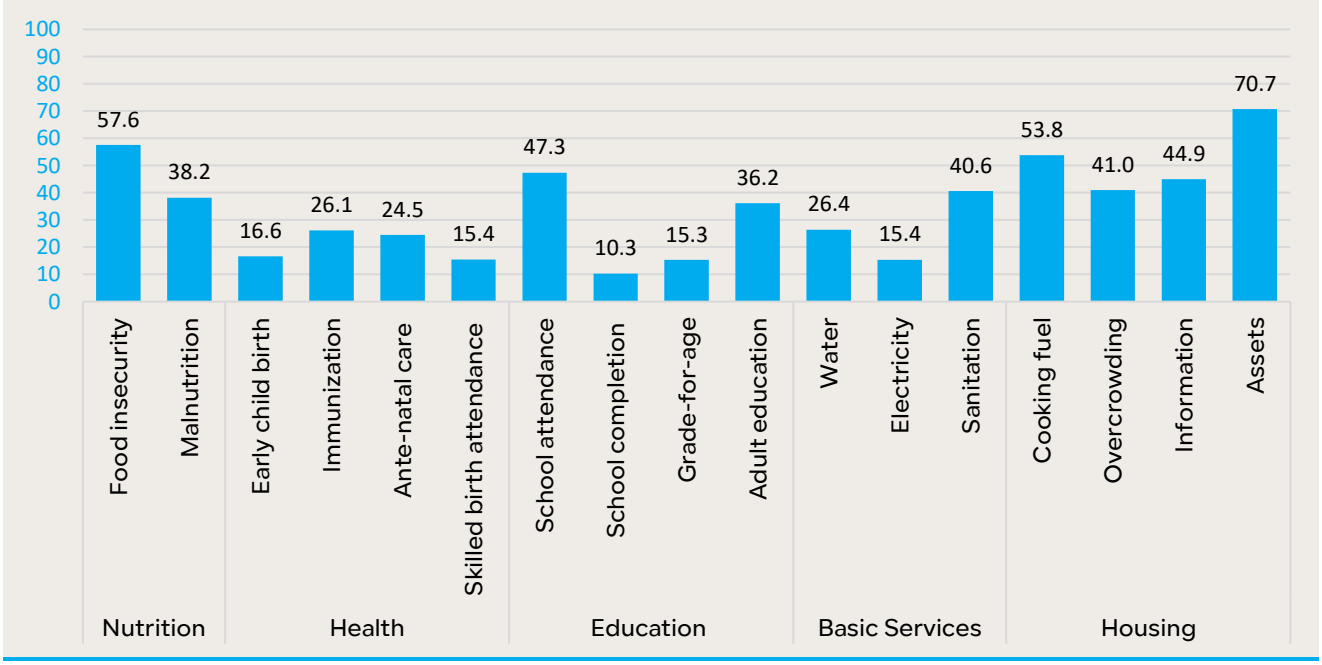
Deprivation in the dimension Housing and Nutrition are contributing most to household poverty.

The dimensions of Housing and Nutrition each account for approximately **28 percent** of the MPI, while the remaining dimensions collectively contribute about **14 percent** each. The dimensions driving poverty also vary between area of residence. In rural areas, the dimension of Housing is the largest contributor **(29.2 percent)**, followed by Nutrition **(26.2 percent)** and access to Basic Services **(18.9 percent)**. Whereas in urban areas, the dimension of Nutrition is the main contributor **(33.2 percent)**, followed by housing **(26.7 percent)** and education **(16.4 percent)**.

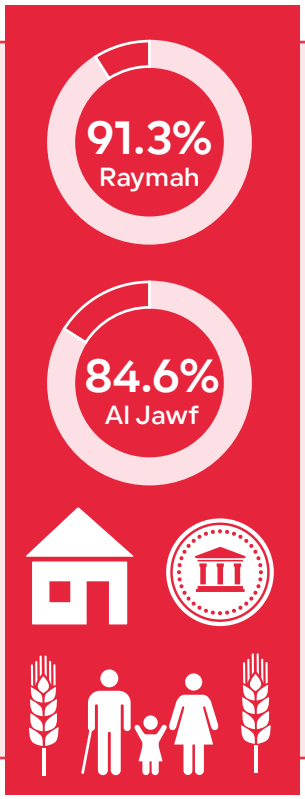
Figure 4 highlights the key deprivation headcount ratios, supporting the finding that the highest levels of deprivation stem from the **Housing and Nutrition dimensions.** Around **70 percent** of households lack transportation assets or reliable livelihoods, **57.6 percent** face food insecurity, and **53.8 percent** rely on solid fuels for cooking. Other housing-related deprivations contribute significantly, with **44.9 percent** lacking information assets and **41 percent** living in overcrowded conditions.

Education-related indicators reveal that **47.3 percent** of households have children aged 6- 12 not attending school, and **36.2 percent** of households do not have any adults who completed their first six years of education. Health-related deprivations indicate that approximately **25 percent** of households lack adequate antenatal care or infant immunization, **15.4 percent** have births unattended by skilled professionals, and **16.6 percent** experience at least one case of early childbirth.

Figure 4 Household headcount ratio (%), by indicator

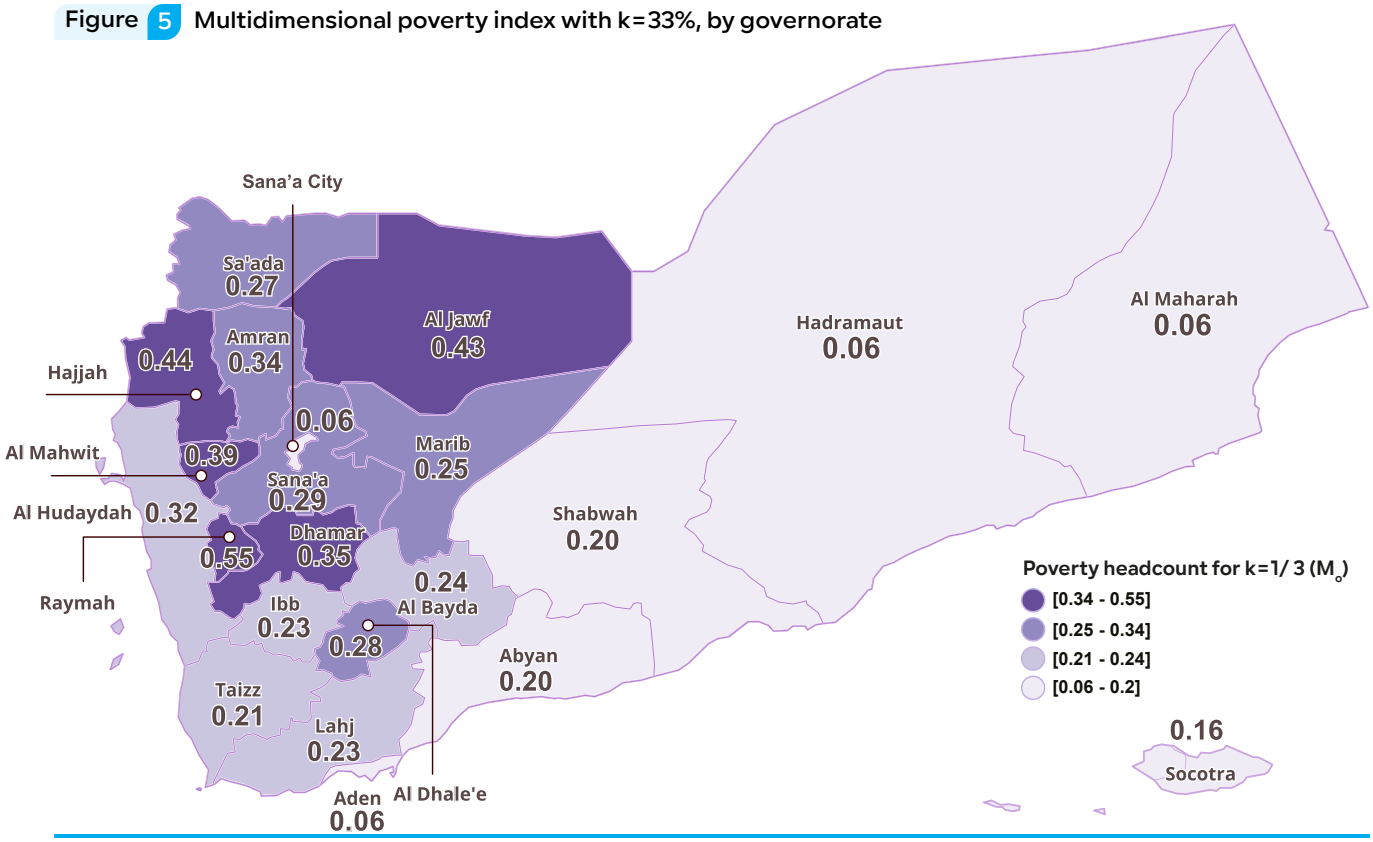


Source: Experts and national team's calculation based on Yemen MICS 2022- 2023.



Raymah and Al Jawf have the highest incidence of multidimensional poverty among households, with rates of **91.3 percent** and **84.6 percent**, respectively. In contrast, the lowest poverty rates are observed in Hadramaut **(12.5 percent)**, Aden **(13.8 percent)**, Sana'a City **(14.3 percent)**, and Al Maharah **(15.2 percent)**. In the remaining governorates, household poverty rates range between **36.1 percent and 78.4 percent.** The MPI reflects a similar pattern, with Raymah registering the highest index rate at **0.55**, followed by Hajjah **(0.44)** and Al Jawf **(0.43)**, while Hadramaut, Aden, Sana'a City, and Al Maharah report the lowest MPI levels at 0.06 **(see Figure 5).**

Figure 5 Multidimensional poverty index with k=33%, by governorate



Source: Experts and national team's calculation based on Yemen MICS 2022- 2023.
Note: All the differences in deprivation rates are statistically significant at 1% according to the Chi-squared test of independence.

Based on the analysis, the following characteristics have been identified among multidimensionally poor households (see Figure 6):

Rural households face a higher MPI compared to urban households. This is mainly driven by the discrepancy in the poverty incidence rather than the poverty intensity.

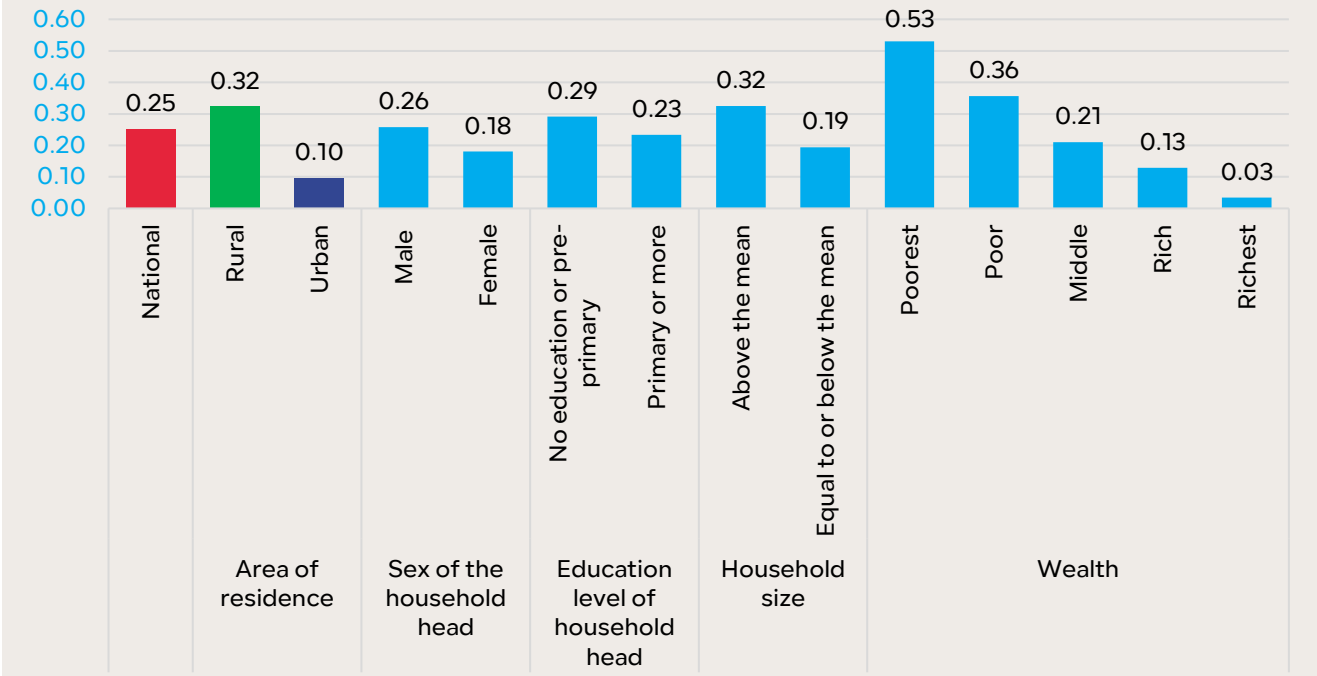
The key contributors to household poverty vary by area of residence, while Housing **(29.2 percent)** and Nutrition **(26.2 percent)** are the main drivers of in rural areas, urban poverty is primarily driven by Nutrition **(33.2 percent)**, followed by Housing **(26.7 percent)**.

Multidimensional poverty is lower in female-headed households. Male-headed households exhibit slightly higher poverty rates **(50.9 versus 40 percent)**. Male-headed households face greater deprivations in health-related indictaors, while female-headed households face greater deprivation in the dimensions of housing and basic services.

The higher the education level of the household head, the lower the level of multidimensional poverty among households. The MPI for households with an educated household head is **0.23**, compared to **0.29** for those without. The poverty headcount shows that **58.5 percent** of household without an educated household head are multidimensionally poor, compared to **46.3 percent** of households the head has completed at least the first six years of education.

Larger households and those in the poorest wealth quintile experience the highest MPI values. Larger-than-average households have an MPI of **0.32** and a poverty headcount of **62 percent**, compared to smaller-than-average households with an MPI of **0.19** and a poverty headcount of **40.6 percent** . The disparity is even more pronounced across wealth quintiles. More than **93 percent** of households in the poorest quintile are multidimensionally poor, with an MPI of **0.53**, while only **8.8 percent** of households in the richest quintile are multidimensionally poor, recording a very low MPI of **0.03**.

Figure 6 Multidimensional poverty index with k=33%, by profiling variables



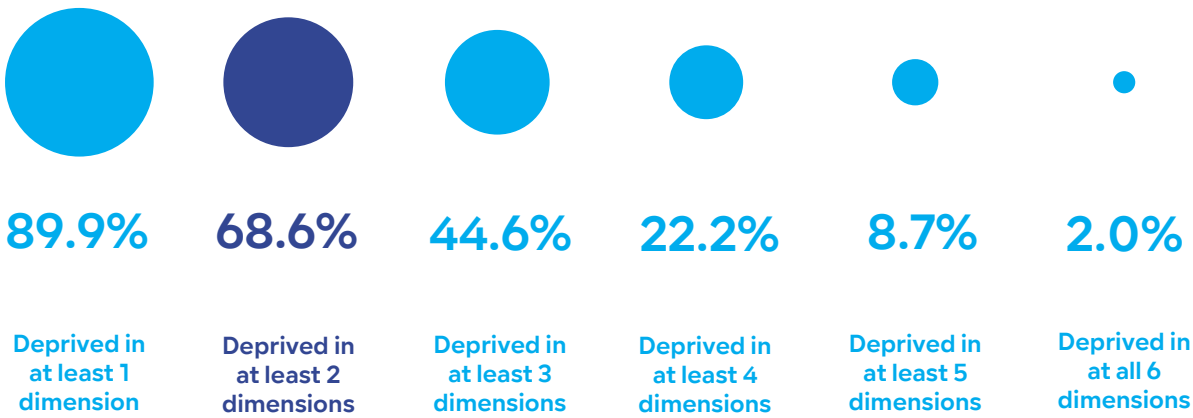
Source: Experts and national team's calculation based on Yemen MICS 2022- 2023.
Note: All the differences in deprivation rates are statistically significant at 1% according to the Chi-squared test of independence.

Multidimensional Child Poverty using MODA – Key Findings

Multidimensional child poverty is widespread in Yemen

Nearly 90 percent of children in Yemen experience deprivation in at least one dimension, while **68.6 percent** are deprived in two or more, thus considered multidimensionally deprived according to the national threshold. However, as the number of overlapping deprivations increases, the proportion of affected children declines sharply, with **22.2 percent** deprived in four or more dimensions and only **2.0 percent** experiencing deprivation in all six dimensions simultaneously **(see Figure 7)**.

Figure 7 Multidimensional poverty incidence at different cut-off rates (%), 0- 17 years

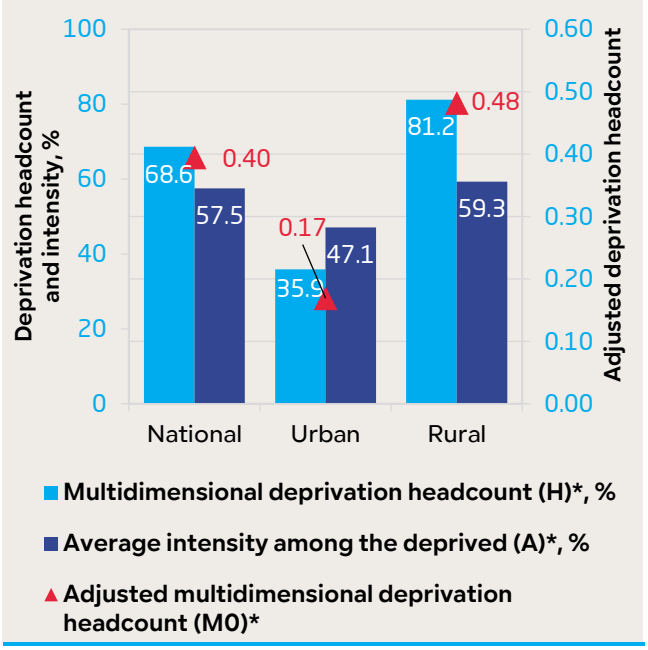


Source: Experts and national team's calculation based on Yemen MICS 2022- 2023.

More than half of Yemen´s children are multidimensionally poor, according to the national definition. In Yemen, multidimensional child poverty is defined as the simultaneous experience of at least two deprivations. Nationally, this accounts for **68.6 percent** of the population below the age of 18. The intensity of these deprivations is **57.5 percent** , resulting in an adjusted deprivation headcount (M0) of **0.395 (see Figure 8).**

The analysis shows that child poverty is lower in urban areas compared to rural areas. Less than **36 percent** of children living in urban areas are deprived, compared to **81.2 percent** in rural areas. The average intensity also differs between both areas, although to a lesser extent. In urban areas the intensity of **47.1 percent** , while in rural areas it is **59.3 percent**. These findings reveal substantial disparities, with rural children bearing a disproportionately higher burden of deprivations (**see Figure 8**).

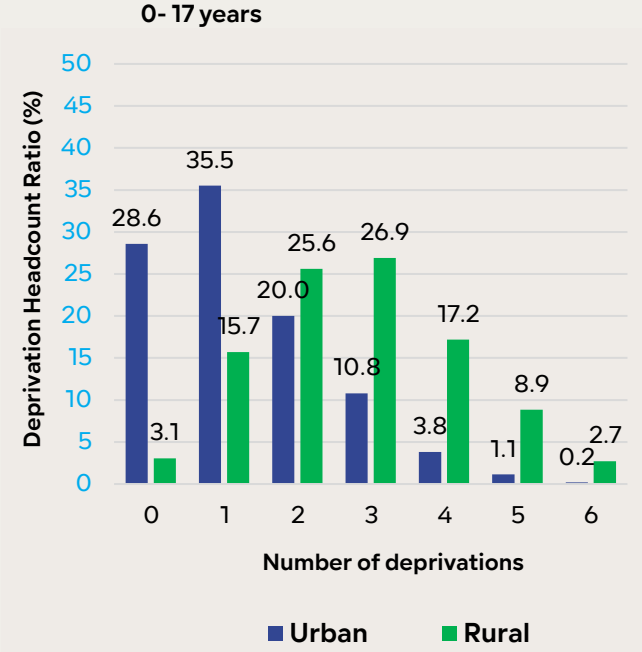
Figure 8 Multidimensional child poverty indices with k=2, at national level and by area of residence, 0- 17 years



Source: Experts and national team's calculation based on Yemen MICS 2022- 2023.

Figure 9 illustrates the urban-rural divide in child deprivation in Yemen. In urban areas, **28.6 percent** of children face no deprivations, and **35.5 percent** experience only one. Rural children, on the other hand, are more vulnerable, with just **3.1 percent** experiencing no deprivations and most facing multiple deprivations simultaneously. The contrast is particularly stark at higher levels of deprivation as **8.9 percent** of rural children face five dimensions of deprivation and **2.7 percent** face all six, compared to just **1.1 percent** and **0.2 percent** in urban areas respectively. This confirms that rural children face much more severe and compounded multidimensional deprivation.

Figure 9 Multidimensional child deprivation distribution (%), by area of residence, 0- 17 years



Source: Experts and national team's calculation based on Yemen MICS 2022- 2023.
Note: All the differences in deprivation rates are statistically significant according to the Chi-squared test of independence.

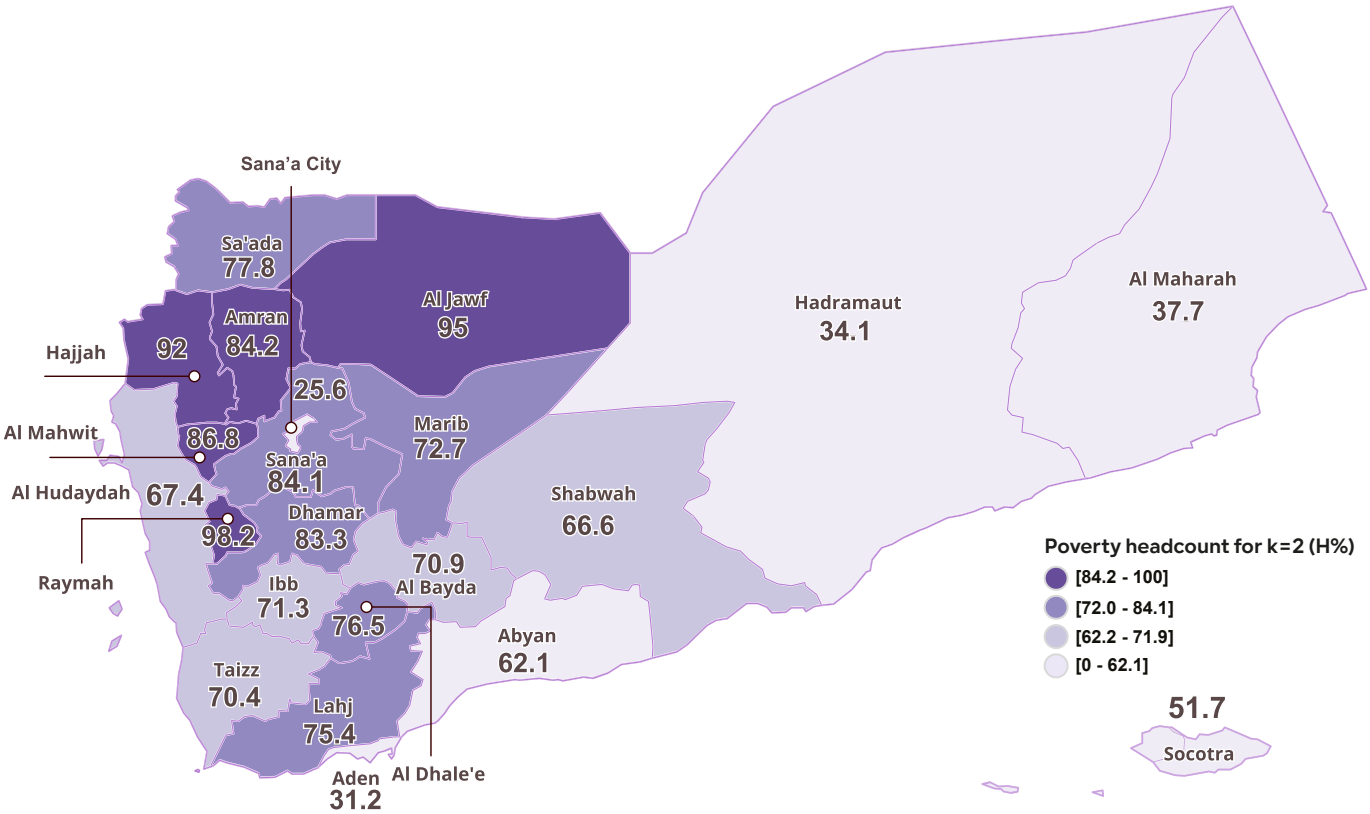
The analysis highlights stark disparities in multidimensional poverty among all children across Yemen:

- **Regional disparities are also particularly pronounced.** Governorates like Raymah, Al Jawf, and Hajjah show the highest deprivation rates, with Raymah recording a staggering **98.2 percent** headcount. In contrast, Sana'a City and Aden report the lowest deprivation levels, with headcounts of **31.2 percent** and lower **(see Figure 10)**.

- **Wealth is negativily correlated with multidimensional poverty,** as **96.7 percent** of children in the poorest households face deprivations, in contrast to only **24.4 percent** in the wealthiest households **(see Figure 11)**.

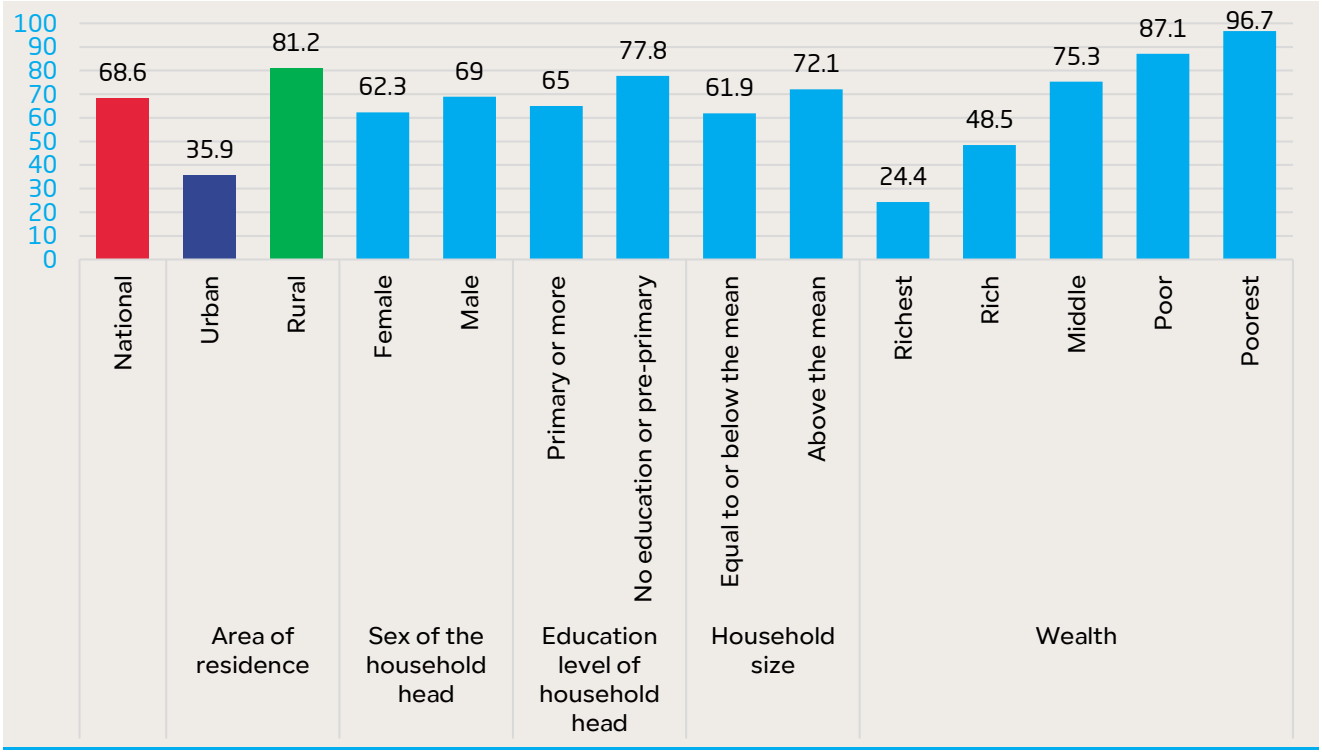
- **Household characteristics further influence child poverty,** with higher deprivation levels among children in households headed by less-educated individuals (**77.8 percent** compared to **65 percent** for those with primary education or above). Male-headed households also report slightly higher deprivation rates than female-headed ones, and larger households exhibit slightly higher deprivation rates compared to smaller ones **(see Figure 11)**.

Figure 10 Deprivation headcount ratio with k=2 (H, %), by governorate, 0- 17 years

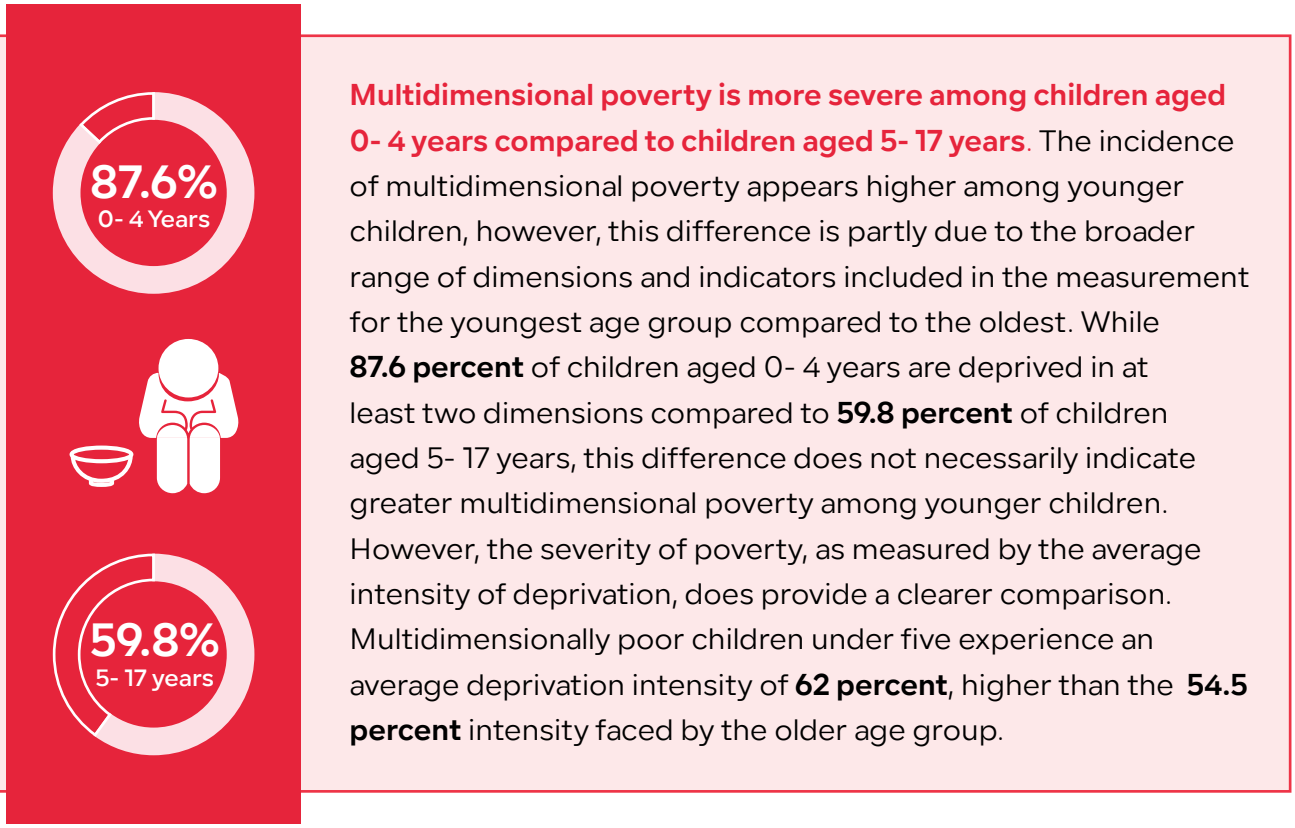


Source: Experts and national team's calculation based on Yemen MICS 2022- 2023.
Note: All the differences in deprivation rates are statistically significant at 1% according to the Chi-squared test of independence

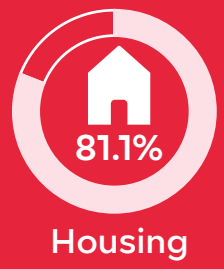
Figure 11 Multidimensional deprivation headcount with k=2 (%), by various profiling variables, 0- 17 years

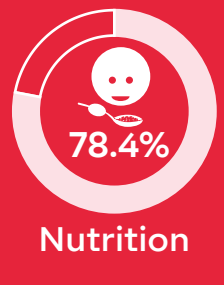


Source: Experts and national team's calculation based on Yemen MICS 2022- 2023.
Note: All the differences in deprivation rates are statistically significant at 1% according to the Chi-squared test of independence.



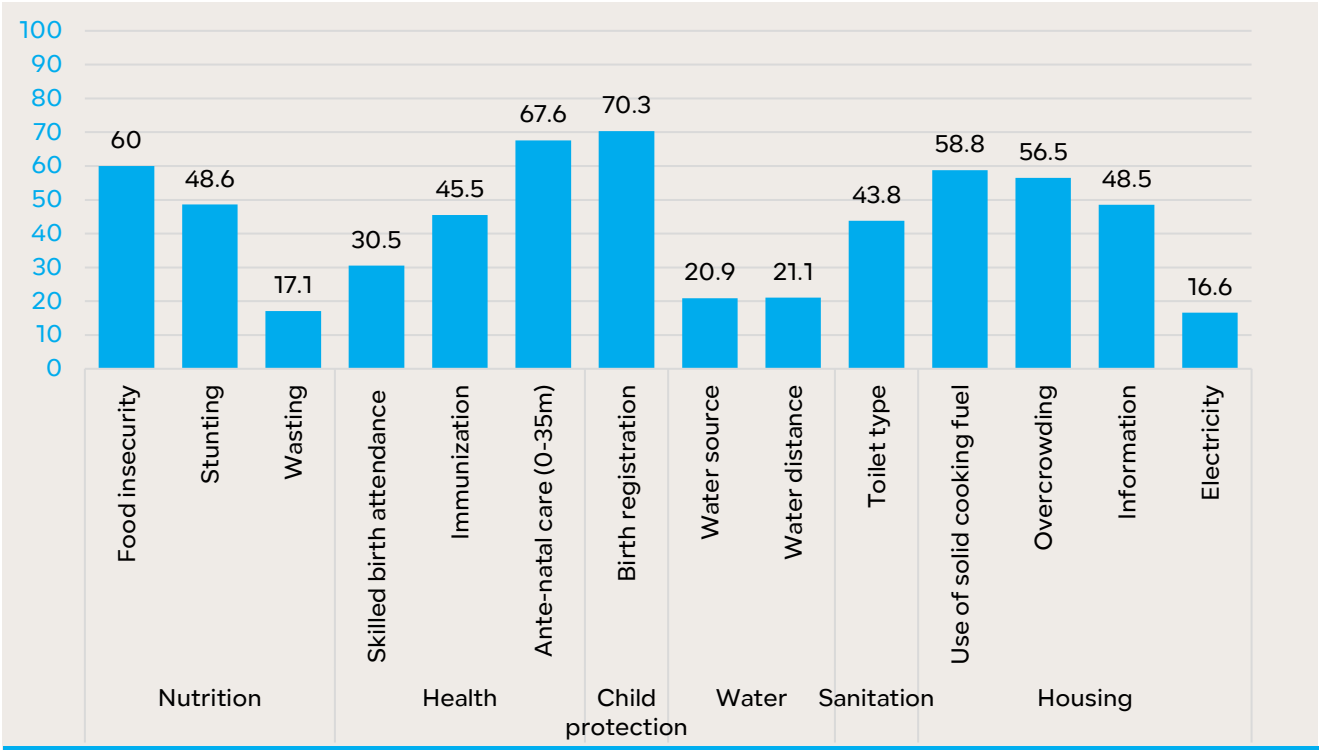
Multidimensional poverty is more severe among children aged 0- 4 years compared to children aged 5- 17 years. The incidence of multidimensional poverty appears higher among younger children, however, this difference is partly due to the broader range of dimensions and indicators included in the measurement for the youngest age group compared to the oldest. While **87.6 percent** of children aged 0- 4 years are deprived in at least two dimensions compared to **59.8 percent** of children aged 5- 17 years, this difference does not necessarily indicate greater multidimensional poverty among younger children. However, the severity of poverty, as measured by the average intensity of deprivation, does provide a clearer comparison. Multidimensionally poor children under five experience an average deprivation intensity of **62 percent**, higher than the **54.5 percent** intensity faced by the older age group.



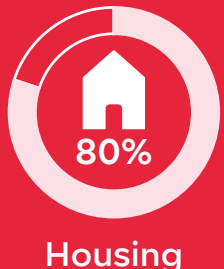


Multidimensional poverty among children under five is driven by housing- and nutrition-related deprivations. Among children under five years old, **81.1 percent** are deprived in the dimension Housing and **78.4** are deprived in the dimension Nutrition. Deprivations in the dimension Child Protection also shows a high deprivation rate of **70.3 percent** . In comparison, deprivations are somewhat lower in the Health dimension **(54.8 percent)**, Sanitation **(43.8 percent**), and Water **(29.4 percent)**. **Figure 12** further indicates the deprivation rates for each indicator within their corresponding dimension.

Figure 12 Deprivation headcount ratio (%) by indicator, 0- 4 years

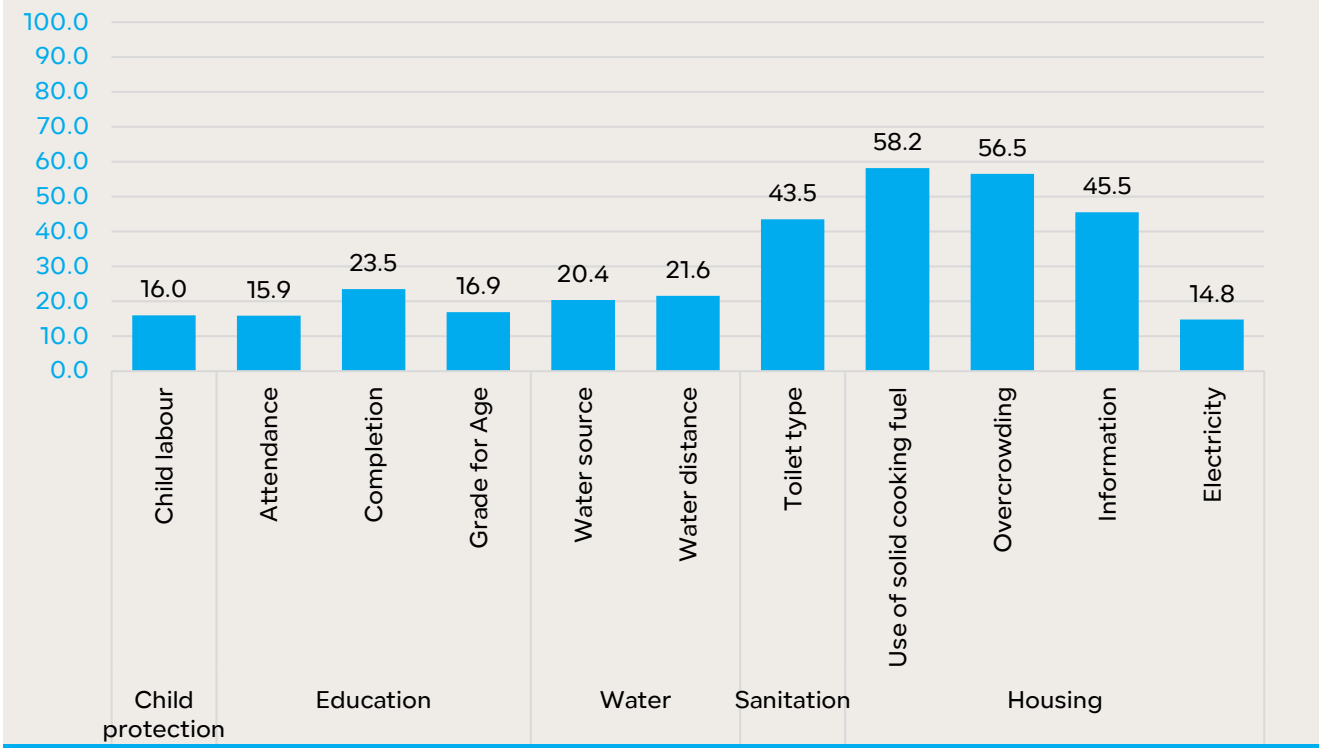


Source: Experts and national team's calculation based on Yemen MICS 2022- 2023.



For children aged 5 to 17 years, multidimensional poverty is primarily driven by housing-related deprivations, with nearly **80 percent** deprived in the **Housing** dimension. Deprivations in other dimensions are significantly lower, with **43.5 percent** experiencing deprivation in Sanitation, and around **29 percent** deprived in both **Education and Water**. **Child Protection** registers the lowest deprivation rate at **16 percent** . **Figure 13** provides a detailed breakdown of deprivation rates for each indicator within their respective dimensions.

Figure 13 Deprivation headcount ratio (%) by indicator, 5- 17 years



Source: Experts and national team's calculation based on Yemen MICS 2022- 2023.

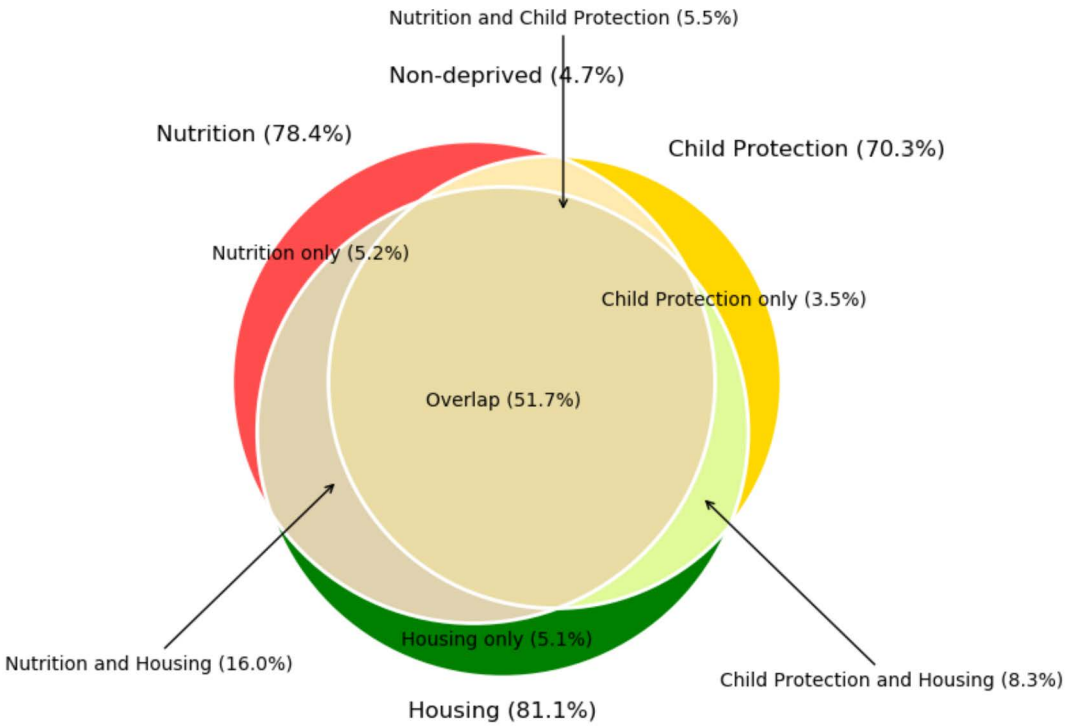
Figures 14 and 15 show how different types of deprivation overlap in children›s lives, highlighting why addressing single issues alone may be insufficient. The analysis examines the two age groups separately with each distinct and most relevant combinations of deprivations.

For children under 5, **Figure 14** shows the overlap between Nutrition, Child Protection, and Housing deprivations. The findings reveal severe multiple deprivations: over half of young children face all three deprivations simultaneously. Housing affects **81.1 percent** , Nutrition **78.4 percent** , and Child Protection **70.3 percent** . Only **4.7 percent** of children face none of these deprivations. The most common overlap is between Nutrition and Housing **(16 percent)**, followed by Child Protection and Housing **(8.3 percent)**.

For children 5- 17 years, **Figure 15** depicts the overlap between Water, Sanitation, and Housing deprivations. Housing remains the dominant deprivation, affecting **79.8 percent** of children, while Sanitation affects **43.5 percent** and Water **29.4 percent** . About **16.2 percent** face none of these deprivations, while **19.7 percent** experience all three simultaneously. The largest deprivation **(31.2 percent)** is in the dimension Housing alone, followed by the combined Housing and Sanitation deprivation **(20.7 percent)**.

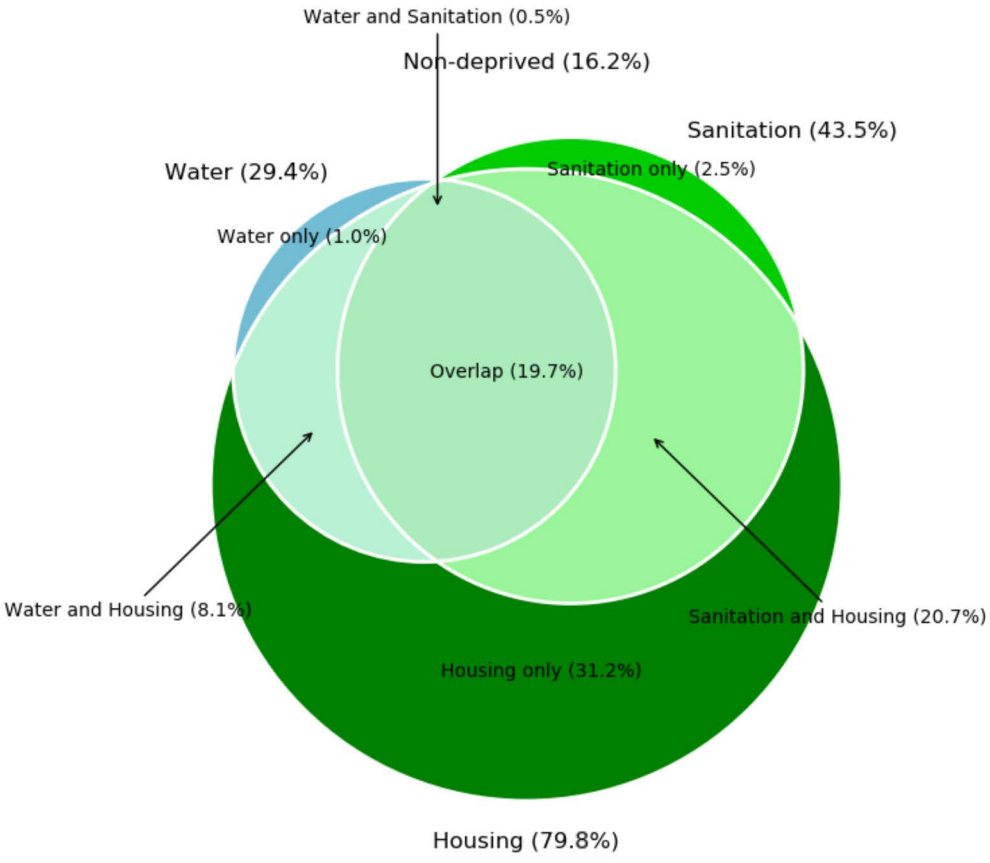
These figures highlight the need for coordinated interventions that address multiple deprivations simultaneously, rather than focusing on single sectors.

Figure 14 Three-way overlap between Nutrition, Child Protection and Housing, 0- 4 years



Source: Experts and national team's calculation based on Yemen MICS 2022- 2023.

Figure 15 Three-way overlap between Water, Sanitation & Housing, 5- 17 years



Source: Experts and national team's calculation based on Yemen MICS 2022- 2023.

Key recommendations

The analysis of multidimensional poverty in Yemen 2024 highlights the depth and complexity of deprivations affecting households and children. Based on the findings of the study, the following strategies have been formulated. More detailed action points are described in the main report.

01 Reduce the food security gap

- Support self-sufficiency in agriculture by funding local agricultural initiatives and ensuring small-scale farmers have access to inputs.
- Enhance rural livelihoods in agro-plant, livestock, and fisheries activities, ensuring environmental sustainability and strategic development.

02 Improve nutritional status and reducing child stunting and wasting

- Expand treatment programs and provide essential micronutrient supplements to combat child malnutrition, stunting, and wasting.
- Promote breastfeeding, improve access to nutritious diets, and encourage dietary behavior change to reduce malnutrition.

03 Improve health status for children and mothers

- Rehabilitate health facilities, enhance maternal and child health programs, and strengthen vaccination campaigns.
- Improve access to reproductive health services and train health workers to ensure quality care for mothers and children.

04 Improve the general education environment

- Invest in schooling facilities and increase the number of basic schools, provide qualified teaching staff, and introduce programs such as school feeding to stimulate enrollment and retention.
- Promote vocational education, encourage adult learning and ensure educational opportunities for all, including disabled children and those with special needs.

05 Ensure child protection is available to all children

- Simplify and incentivize birth registration by removing fees, increasing registration centers, and integrating them into health facilities.
- Address child labor through updated surveys and awareness campaigns about its societal risks.

06 Improve family living conditions

- Expand and rehabilitate water, sanitation and electricity networks, promote water conservation, develop sustainable wastewater treatment solutions.
- Expand economic empowerment programs, and create job opportunities to reduce unemployment and enhance living standards.

07 Launch an affordable housing program

- Launch an affordable housing program and regulate the housing sector to ensure adequate and sustainable housing for affected households.
- Encourage private sector investments in low-income housing, apply innovative urban planning technologies, and provide social security schemes to improve housing access for deprived families and female-headed households.

08 Generate updated data and evidence and articulate national poverty alleviation policies

- Develop a national poverty reduction strategy and conduct regular assessments of multidimensional poverty indicators.
- Perform updated household expenditure surveys, censuses, and data collection to inform policy decisions.

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Wherever he lives.
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A future.
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And never give up.

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