

# A Multi-Country Analysis of Multidimensional Poverty in Contexts of Forced Displacement

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## Abstract

Despite the many simultaneous deprivations faced by forcibly displaced communities, such as food insecurity, inadequate housing, or lack of access to education, there is little research on the level and composition of multidimensional poverty among them, and how it might differ from that of host communities. Relying on household survey data from selected areas of Ethiopia, Nigeria, Somalia, South Sudan, and Sudan, this paper proposes a Multidimensional Poverty Index (MPI) that captures the overlapping deprivations experienced by poor individuals in contexts of displacement. Using the MPI, the paper presents multi-country descriptive analysis to explore the

relationships between multidimensional poverty, displacement status, and gender of the household head. The results reveal significant differences across displaced and host communities in all countries except Nigeria. In Ethiopia, South Sudan, and Sudan, female-headed households have higher MPIs, while in Somalia, those living in male-headed households are more likely to be identified as multidimensionally poor. Lastly, the paper examines mismatches and overlaps in the identification of the poor by the MPI and the \$1.90/day poverty line, confirming the need for complementary measures when assessing deprivations among people in contexts of displacement.

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# A Multi-Country Analysis of Multidimensional Poverty in Contexts of Forced Displacement

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The data that support the findings of this study are openly available at the World Bank Microdata Library at <https://microdata.worldbank.org/index.php/home>.

# 1. Introduction

As of December 2019,<sup>1</sup> UNHCR estimates that nearly 80 million people were forcibly displaced due to conflict and violence, or as a result of natural disasters. Among them, close to 46 million people are internally displaced in their home country, and 26 million are living as refugees<sup>2</sup> in a host country (UNHCR 2020). Some have moved for short periods, while others have been forcibly displaced for years or decades. In 2019, fewer than half a million forcibly displaced individuals had returned to their homes – signaling the chronicity and longevity of displacement that has increased throughout the last decade, partly due to political instability in North Africa and the Middle East, Sub-Saharan Africa and in countries such as the República Bolivariana de Venezuela, Afghanistan or Myanmar. And while the displaced population only amounts to 1% of the global population, these communities are disproportionately affected by deprivation, often chronic. UNHCR (2020) estimates that over 80% of all displaced people reside in countries and areas affected by acute food insecurity and malnutrition, and many of the internally displaced and refugee families live in temporary housing or camps with basic living conditions and limited access to services and employment.

Many governments and organizations are searching for solutions to respond to the growing number of displaced people within and across countries and to address concerns around human well-being and safety. Such attempts require timely and representative data on internally displaced persons (IDPs) and refugees that accurately reflect their unique situation and capture specific issues related to forced displacement. While various studies have looked at poverty among refugees and IDPs from a monetary perspective, they do not capture the overlapping deprivations experienced by many in forced displacement, such as lack of access to education, food insecurity, and inadequate housing. Forcibly displaced individuals may be more likely to live in overcrowded houses with poor infrastructure, leading to poor health outcomes (IOM 2013). They also might have difficulty accessing social services or schooling because of a lack of identification or other barriers. These challenges also differ based on the gendered experience of the individual. Labor market integration and social integration – two major considerations for forcibly displaced communities – feature long-standing gendered concerns (Blau, Kahn, & Souza 2003, Blau, Kahn, & Papps 2011, OECD 2018). Women may struggle more than their male counterparts to find opportunities for decent work (ILO 2009). Women and girl IDPs may also become more vulnerable to other forms of exploitation and marginalization as a result of their deprivations, such as human trafficking, child marriage, and sexual-based violence (IOM 2020, Kelly 2021, Kelly et al. 2021). Despite this, to date, there have been very few studies that have looked at multidimensional poverty among forcibly displaced populations (Temgoua Noumedem et al 2020, Loaiza Quintero et al 2018), and even fewer that then apply a gendered lens.

This paper adds to the emerging scholarship by developing a tailored Multidimensional Poverty Index (MPI) for a multi-country study of refugees and internally displaced populations in subnational regions of Ethiopia, Nigeria, Somalia, South Sudan, and Sudan. The aim is to better understand differences between the forcibly displaced communities and host communities with

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<sup>1</sup> Provisional estimates from UNHCR suggest it is likely that the 80 million figure has been surpassed as of mid-2020.

<sup>2</sup> Throughout the paper we refer to refugees as inclusive of refugees and people in refugee-like situation, as per the classification by UNHCR.

regards to who is poor, how poor they are, and the composition of their poverty. Based on the Alkire-Foster (AF) method, the index provides a summary measure of poverty for the population that can be disaggregated by displacement status and gender of the household head to analyze the variation in deprivations. The MPI can be further broken down by indicator to show the proportion of the population who are poor and deprived in each area. These features of the MPI can inform better policy responses, with interventions and programs targeting the most deprived communities and indicators with the highest headcount ratios.

The paper proceeds as follows. Section 2 of the paper reviews some of the existing literature to provide the background and motivation for the analysis, including a summary of the different country contexts covered by the data analyzed in this paper. Section 3 outlines the Alkire-Foster method and the selected dimensions and indicators used to construct the MPI, followed by Section 4, which introduces the data. Section 5 presents the findings, first for results at the national level and then results disaggregated by displacement status. Section 6 analyzes differences in multidimensional poverty by gender of the household head to improve understanding of the gendered aspects of multidimensional poverty in these contexts. Section 7 compares the MPI results with monetary poverty, with some concluding remarks discussed in Section 8.

## **2. Background and literature review**

### **2.1 Poverty and forced displacement**

By 2019, there were about 51 million IDPs across the world, most of them – 46 million – displaced by conflict and violence, with around five million displaced due to natural disasters (IDMC 2020). According to estimates by UNHCR (2020), the number of refugees reached over 20 million as of the end of 2019. While in many cases, conflict and natural disasters have been temporary, resulting in fluctuations in the number of people fleeing their homes in any given country, the global number of IDPs and refugees has grown almost every year over the last two decades. UNHCR estimates that the number of refugees has doubled over the last ten years.

Nearly all IDPs live in low- and middle-income countries, and many have experienced secondary displacement. Overall, about half live in urban areas, with one-fourth in major urban areas (i.e., populations exceeding 300,000). Since almost all IDPs are in developing countries, governments are often resource-constrained in terms of providing assistance and access to services, and in some cases, government authorities may be a cause of displacement (World Bank Group 2020). For refugees, the situation is more varied, with most staying close to their country of origin while a smaller minority fled to countries further away. UNHCR (2020) estimates that three-quarters of all refugees were hosted by neighboring countries. To reflect the increase in forced displacement over the last decade and enable sustainable and long-term solutions to refugee situations, the UN Statistical Commission approved a new indicator, SDG Indicator 10.7.4, in early 2020 to measure and track the “proportion of population who are refugees, by country of origin” (UNHCR 2020).

While the specific challenges for displaced communities depend on the country or host community context, often, in new locations, key challenges confronting IDPs and refugees include food insecurity, lack of livelihood opportunities, and tensions and competition over resources with host communities. The multiplicity of deprivations faced by displaced

communities and their host neighbors warrants a multidimensional lens on the experience of poverty, as a complement to a monetary poverty analysis.

While most studies note the varied socio-economic issues facing displaced populations, they still tend to discuss poverty largely in monetary terms (Chaaban et al 2013, Oruc 2015, Verwimp 2012, Zetter and Ruaudel 2014) or in terms of single or specific dimensions of non-monetary well-being. However, a small number of recent studies have attempted an analysis of multidimensional poverty in these communities. For instance, Temgoua et al. (2020) analyze the relationship between internal displacement and poverty status according to the global MPI for Iraq. Loaiza Quintero et al. (2018) develop an MPI for Antioquia in Colombia to study the situation of internally displaced persons due to armed conflict. This paper builds on those studies by taking a cross-country MPI approach to explore patterns of multidimensional poverty among IDPs and refugees in five African countries.

## **2.2 The role of gender in poverty and forced displacement**

Gender plays a prominent role in contexts of forced displacement. Although men typically suffer higher mortality rates due to conflict, the demographics of internal displacement still reflect overall gender parity, with the global male-female ratio of IDPs remaining largely half-and-half over the last decade (UNHCR 2020). Moreover, this increased mortality of men and displacement of women can lead to a higher percentage of female-headed households among forcibly displaced populations (Buvinic et al 2013), and these households may be particularly vulnerable, especially in terms of income and social networks (Brück and Schindler 2009, Hanmer et al 2020). That women constitute half the IDP population but are nonetheless exposed to increased vulnerabilities and deprivations deserves serious attention.

Forcibly displaced and refugee women may suffer greater impacts on health and more instances of gender-based violence than their male counterparts (Kelly 2021, Kelly et al. 2021). Gendered challenges with food insecurity, lack of livelihood opportunities, and inaccessibility to land ownership, public services, and community structures also characterize poverty and forced displacement. Gender-specific challenges to obtaining livelihoods in protracted displacement settings – due to norm discrimination in the labor market, risk of sexual or physical violence, educational disparities, *inter alia* – provide a double burden for women hoping to integrate into their host community and lift themselves and their families out of poverty (Brück & Stojetz 2021). Exclusion from the formal labor market paired with the need for economic security may also lead to displaced women and girls engaging in sex work and transactional relationships that come with additional risks, such as violence, prejudice (against any form of commercial sex), and exposure to HIV/AIDS and other health concerns (ODI 2019b).

The disadvantages faced by women in developing countries are well-established, with women typically having fewer opportunities in the labor market (World Bank 2011) and being less likely than men to own land (World Bank 2011) or to have access to formal credit markets (King 2009). In addition to the disadvantages faced by women in general, female-headed households may be particularly disadvantaged (Klassen 2013), as female heads may carry a double burden of domestic work and income-generating activities (World Bank 2011). Empirical evidence on the relationship between poverty and female headship is ambiguous. Many studies find that female-headed households are poorer than male-headed ones (Buvinic and Gupta, 1997; Lampietti and Stalker, 2000), others find no evidence that female-headed households are disproportionate among the poor, and in many cases results are mixed (Quisumbing et al 2001, Munoz-Boudet et al. 2018, Brown & van de Walle 2020). When

looking at multidimensional poverty, studies in Burkina Faso and Togo have found large inequalities by gender – with women more deprived than men in the six dimensions studied (housing, basic utilities, assets, education, employment, and access to credit) – albeit coupled with regional variation (Agbodji et al 2013), though these results did not consider displacement status.

The lack of consensus concerning the poverty situation of female-headed households is due in part to the use of the inconsistent definition of headship and the heterogeneity of female-headed households (Milazzo and van de Walle, 2015). Understanding the routes that a family had towards having a female head is important to characterize this heterogeneity, especially in displacement situations where widowhood and separation from family members are common (Hanmer et al, 2021). As a result, the literature further disaggregates female-headed households to *de jure* and *de facto* heads. *De facto* female heads are households headed by a married female with a husband living either in the household or working outside the family. *De jure* female heads are households headed by widows, divorced, separated, and single women. Based on the disaggregated analysis, widow-headed households are frequently found to be significantly impoverished (Appleton 1996; Horrell and Krishnan 2007; van de Walle 2013; World Bank, 2001). In contrast, *de facto* female-headed households who receive transfers from a migrated male member are better off than *de jure* ones (Chant, 2010; Klassen et. Al, 2015; World Bank 2011). This suggests that distinguishing households headed by *de jure* and *de facto* females has the potential to improve the targeting of policies. This is particularly relevant in a forced displacement situation where female-headed households often have higher dependency ratios, fewer able-bodied adults, and more caregiving responsibilities.

The experience of children and adolescents growing up in forcibly displaced households also intersects with gender and multidimensional poverty. Displacement can disrupt cultural and gendered norms to present women with new opportunities for household decision-making and leadership (ODI 2019a). Even if gender norms and attitudes do not change on a structural level within IDP households, there is evidence that the behaviors of men and women in these households do indeed shift in response to the pressures that poverty and displacement status create (Assad et al. 2021, Rubiano-Matulevich 2021). Children and adolescents' long-term exposure to households with a more equalized division of domestic labor, as a result of violent or political conflict, warrants further investigation.

## 2.3 Country contexts

The countries with subnational regions covered in this study, using data from 2017 or 2018, are Ethiopia, Nigeria, Somalia, South Sudan, and Sudan. All are located in Sub-Saharan Africa, have undergone or are currently involved in armed conflict, and are affected by environmental issues such as drought, famine or flooding. Despite some commonalities, each faces a unique set of social, political and economic challenges, which cannot be accurately covered in this study. However, to contextualize the findings, a brief introduction of the country context is presented alongside the poverty estimates by the \$1.90/day measure and the global Multidimensional Poverty Index (MPI).<sup>3</sup>

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<sup>3</sup> An international measure of acute multidimensional poverty, aligned with the 2030 Agenda, that captures deprivations in health, education, and living standards for more than 100 countries (Alkire and Jahan 2018; Alkire, Kanagaratnam and Suppa 2020).

Displacement in **Ethiopia** has been driven by historical conflicts such as civil wars during the 1970s and 1980s, and more recently by the border conflict with Eritrea and the current crisis in the Tigray region. Droughts and severe weather also contribute to displacement, with over 80% of the population dependent on agriculture for their livelihoods. More than 10 million people were affected by the 2015-16 drought, with lasting problems around food security and subsequent droughts leading to widescale displacement from the worst affected northern and central regions.<sup>4</sup> Climate change, and scarcity of pastures, food and water have escalated displacement and fueled conflict over resources. Many IDPs have moved to cities in search of better opportunities, leading to rapid urbanization and secondary displacements. Although the situation somewhat stabilized in 2019 following a comprehensive peace deal between regions that enabled the return of an estimated 1.2 million IDPs, a new violent conflict in the Northern part of Ethiopia in late 2020 has led to a wave of new displacements. According to estimates, there were over 1.8 million internally displaced people in Ethiopia by the end of 2019 (IDMC 2020), making up roughly 1.6% of the population (World Bank 2020a). According to the latest estimates, 32.4% of the population was living on less than \$1.90 per day in 2015 (World Bank 2020b) and 83.5% were multidimensionally poor in 2016 according to the global MPI (Alkire, Kanagaratnam, and Suppa 2020). As of 2016, 25.6% of the population resided in households headed by women.<sup>5</sup> Regarding violence against women and girls, estimates from UN Women show a 40% prevalence of child marriage and 65% of females subjected to genital mutilation or cutting,<sup>6</sup> while nearly a third of women and girls have experienced physical or sexual violence.<sup>7</sup>

Besides the large number of internally displaced people, Ethiopia has welcomed refugees fleeing conflict and droughts in surrounding countries. Due to its open-door policy, the country hosted millions of refugees escaping the violence of the war in South Sudan, as well as people fleeing increasing droughts in Somalia (Nguyen 2019) or persecution in neighboring Eritrea. While the country adheres to international law, the rights and freedom of movement among refugees have been limited until the January 2019 revision of the national refugee law, which enables them to access work, primary education, obtain work permits, driver's license, register legal events such as births and marriages, and access banking.<sup>8</sup>

In **Nigeria**, large parts of the country have seen violence and instability since the emergence of Boko Haram in 2009, which have staged attacks, bombings, and kidnappings in the northern regions of the country. Boko Haram's terrorist insurgency has also committed targeted violence against women and girls – infamously in the 2014 Chibok schoolgirls' kidnapping – and instrumentalized women's social roles and norms in their ideological and strategic frameworks (HRW 2014, Zenn & Pearson 2014). Northern Nigeria has also faced troubles due to the dramatic shrinking of Lake Chad over the last 45 years, leading to large-scale migration and concentration around remaining water sources in the region. As violence heightened under Boko Haram, millions of people left the northern states for other parts of Nigeria, and surrounding countries. Additionally, inter-ethnic conflict and conflict between farmers and semi-nomadic herders have led to further displacement in recent years as violence has

<sup>4</sup> <https://www.un.org/africarenewal/news/drought-ethiopia-10-million-people-need#:~:text=Ethiopia%20is%20in%20the%20grip%20of%20its%20worst%20drought%20in%20recent%20history.&text=Humanitarian%20needs%20in%20Ethiopia%20have,failures%20and%20widespread%20livestock%20deaths>.

<sup>5</sup> <https://data.worldbank.org/indicator/SP.HOU.FEMA.ZS>.

<sup>6</sup> <https://evaw-global-database.unwomen.org/fr/countries/africa/ethiopia>.

<sup>7</sup> <https://www.unodc.org/easternafrika/en/addressing-violence-against-women-and-girls-in-ethiopia.html>.

<sup>8</sup> <https://www.unhcr.org/uk/news/press/2019/1/5c41b1784/unhcr-welcomes-ethiopia-law-granting-rights-refugees.html>



escalated. As of December 2019, the number of internally displaced people is estimated to be more than 2.7 million (IDMC 2020), around 1.3% of the total population (World Bank 2020b), while an additional 300,000 Nigerian refugees are hosted in surrounding countries (UNHCR 2020). The World Bank (2020b) estimates that 39.1% of the population was living on less than \$1.90 a day in 2018, while 46.4% were estimated to be poor by the global MPI in the same year (UNDP & OPHI 2020). In Nigeria, 18% of the population resided in households headed by women as of 2018.<sup>9</sup> The UN Women database on gender-based violence shows that over 17% of women and girls are subject to lifetime physical and/or sexual intimate partner violence, over 43% of girls are subject to child marriage, and the prevalence of female genital mutilation is over 18%.<sup>10</sup>

The total number of IDPs in **Somalia** as of December 2019 was more than 2.7 million – roughly 17.5% of the total population (World Bank 2020a), almost all of whom were displaced by natural disasters, conflict and violence (IDMC 2020). In 2020, UNHCR reported that floods and droughts explained about 80% of the internal displacement, while conflict explained 18%.<sup>11</sup> The country has seen nearly three decades of recurrent conflict since the collapse of the government in 1991. Recent years have seen the rise of the terrorist militia al-Shabaab, leading to large-scale displacement in the country. Somalia is heavily dependent on international assistance and humanitarian aid, and economic opportunities for the population are scarce. As a result, and due to the impacts of climate change such as increased flooding and severe droughts, the last decade has observed worsening acute food insecurity and famines that have forced many people to leave their homes. Migration of the rural population, who are dependent on agriculture, land and livestock, has led to rapid urbanization and many informal settlements. As more people are fleeing their homes to find refuge in other parts of the country, gender-based violence has seen an increase, with 99% of survivors being female and 76% of all survivors being internally displaced. The most common forms of violence against women include female genital mutilation – prevalent among 98% of the Somali population – as well as forced marriage, rape, and physical, verbal and emotional abuse, among others (UNFPA Somalia 2019).

**South Sudan** seceded from Sudan in 2011, following more than two decades of civil war that led to widespread economic instability. A political conflict in 2013 sparked the beginning of the armed conflict in Juba, which – following a failed peace treaty in 2015 – has since spread to the northern part of the country, forcing millions to flee their homes. Coupled with continued inter-communal conflict over the years in other parts of the country, the violence in South Sudan was followed by acute food insecurity, which further aggravated displacement as people have fled famine. A renewed peace agreement in 2018 has seen a decrease in violent conflict, however as of December 2019, there were still 1.6 million internally displaced people (IDMC 2020), equal to around 14.4% of the total population (World Bank 2020a). In addition, UNHCR (2020) reports nearly 2.2 million South Sudanese refugees and asylum seekers in surrounding countries as of November 2020. According to the most recent monetary poverty estimates for South Sudan from 2009, 44.7% of the population was living on less than \$1.90 a day (World Bank 2020b) while in 2010, 91.9% of people were poor by the global MPI (UNDP and OPHI 2020).

**Sudan** has seen violent conflict since its independence in 1956, with two civil wars which have lasted for decades. The War in Darfur erupted in early 2003 between armed groups and

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<sup>9</sup> <https://data.worldbank.org/indicator/SP.HOU.FEMA.ZS>.

<sup>10</sup> <https://evaw-global-database.unwomen.org/fr/countries/africa/nigeria>.

<sup>11</sup> <https://data2.unhcr.org/en/dataviz/1?sv=1&geo=192>

government forces and has lasted for 17 years until a recent peace treaty in 2020. The war caused tens of thousands of civilian casualties, and millions were forced to flee their homes due to the conflict and general economic instability due to years of fighting that inflated commodity prices. Moreover, much of Sudan is covered by desert and arid land, posing further difficulties as most people rely on agriculture for their livelihoods. Overuse of the land, droughts and flashfloods have contributed to displacement as people escape food insecurity and natural disasters. As of December 2019, there were 2.4 million IDPs in Sudan (IDMC 2020), around 5.6% of the total population (World Bank 2020a). Sudan also has one of the largest refugee populations in Africa, with many people from surrounding countries such as Ethiopia and South Sudan, and even as far as the Syrian Arab Republic and the Republic of Yemen, seeking safety from violence and conflict. As of 2014, 12.2% of the population was living on less than \$1.90 a day (World Bank 2020b) and 52.3% were MPI poor in the same year (UNDP and OPHI 2020). Widespread displacement and poverty following decades of conflict has also contributed to gender-based violence, particularly against the most vulnerable population groups such as IDP girls and women. According to the UN Women database, the prevalence of child marriage in Sudan is 34%, while 87% of the population are subject to female genital mutilation.<sup>12</sup>

### 3. Methodology

#### 3.1 Alkire-Foster method

The Multidimensional Poverty Index (MPI) constructed for this analysis is based on the Alkire-Foster (AF) method of multidimensional poverty measurement (Alkire and Foster 2011). The AF method allows for the construction of individual- and household-level deprivation profiles that can then be used to identify multidimensionally poor people. There are three key statistics for any MPI: incidence or headcount ratio (H), which is the proportion of the population who are multidimensionally poor; intensity (A), which is the average share of weighted deprivations experienced by the poor; and the MPI or adjusted headcount ratio, which is the product of the incidence and intensity ( $MPI = H \times A$ ).

The AF method uses a dual-cutoff counting approach to poverty measurement. First, households (or individuals) are classified as deprived or non-deprived according to deprivation cut-offs, specific to each indicator. The deprivations for each individual are weighted and aggregated into a weighted deprivation score. Next, a cross-dimensional poverty cut-off  $k$  is used to identify people with a deprivation score equal to or greater than the threshold as multidimensionally poor.

The MPI can be broken down by indicator to show the composition of multidimensional poverty, a feature of dimensional detail that brings added policy relevance to the analysis. The censored headcount ratio is the percentage of the population that is both poor and deprived in a given indicator. The MPI can be calculated by adding up the weighted censored headcount ratios of each indicator:  $MPI = \sum [w_j(h_j)]$  for all  $j$ , where  $w_j$  add up to 1. The percentage contribution of a given indicator to the MPI is calculated as the indicator's censored headcount ratio, multiplied by its weight, and divided by the MPI.

In addition, the MPI can be disaggregated by different population groups, such as urban or rural areas, age groups, subnational regions or, in the case of this work, host communities and

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<sup>12</sup> <https://evaw-global-database.unwomen.org/fr/countries/africa/sudan>

forcibly displaced communities. Formally, the AF method can be used to analyze differences by different population subgroups (e.g. displaced and non-displaced) by having the value of the *MPI* of society  $u = \{1, \dots, U\}$ , denoted as  $MPI(X_u)$ , which can be disaggregated by  $\ell$  mutually exclusive and exhaustive subgroups  $\ell = 1, \dots, m$  as:

$$MPI(X_u) = \sum_{\ell} \frac{n_u^{\ell}}{n_u} MPI(x_u^{\ell})$$

where  $n_u$  is the population in society  $u$ , and  $MPI(x_u^{\ell})$  denotes the *MPI* of subgroup  $\ell$  in society  $u$  with a population sized  $n_u^{\ell}$ . For notational convenience, we omit the parameters of the poverty

identification function in the above equation to highlight on which data a particular estimate depends. The equation above states that society-level *MPI* can also be obtained as a population weighted average of the disaggregated subgroup-specific *MPIs*. In turn,  $H$  can be disaggregated following the same procedure. Moreover,  $A$  can also be disaggregated in a similar way replacing the society and subgroup population sizes by the number of poor people in the corresponding levels.

Most importantly, the AF method allows flexibility around the selection of dimensions, indicators, deprivation cut-offs, weights and poverty cut-offs to reflect different contexts and priorities. This enables users to create poverty measures tailored to the specific needs and conditions of the population of interest. As such, it is possible to create global, regional, national or even state level multidimensional poverty indices, as well as ones designed specifically for children, women, or in this case, forcibly displaced populations.

### 3.2 Structure of the measure

Multidimensional poverty measures can cover a range of non-monetary areas such as education, health, employment, living standards, or financial security. The design of the *MPI* for forcibly displaced communities (shown in Table 1) was guided by discussion with experts in both multidimensional poverty and forced displacement, but constrained by the available data. The final structure was agreed following the construction of five trial measures, and includes the same three dimensions as the global *MPI* (and Human Development Index), with an additional dimension of financial security. The *MPI* measure analyzed in this paper includes a total of 15 indicators that cover important non-monetary aspects of poverty among displaced populations.

Given the importance of education in reducing the intergenerational transmission of poverty and increasing the likelihood of employment, two indicators were included to capture educational attainment in households: i) completed **years of schooling** among adolescents and adults, and ii) **school attendance** among primary school age children. Related to the presence of universal basic provisions, we include indicators to capture lack of access to **clean drinking water** and **sanitation** (SDG 6), inadequate **housing** (SDG 11), access to **electricity** (SDG 7), **clean fuel** for cooking (SDG 7), and **safe disposal of household waste**. Such basic conditions are often not available to refugees or IDPs living in temporary accommodation or settling in places outside their place of origin. Many of the living standards indicators also proxy other conditions such as indoor air pollution, respiratory illness as a result of unclean fuels, transmission of diseases due to poor sanitation, waste management, overcrowding or housing conditions, that were not included due to the lack of sufficient data.

Besides capturing basic deprivations associated with acute poverty, the MPI for forcibly displaced communities includes additional indicators specific to the problems faced by IDPs and refugees. **Unemployment** is included as people forcibly displaced often face multiple barriers to entering the labor market due to the inability to obtain legal identification or work permits, as well as language or cultural barriers. While unemployment is not a perfect measure, data on informality, subemployment or sub-optimal working conditions, which are also common among displaced populations, was not available. IDPs and refugees often lack documentation to obtain access to basic services, thus the MPI includes two indicators to reflect such deprivations: **legal identification**, and **access to banking**. The cutoffs were set to ensure that households have at least one member with legal identification or access to banking who can help provide access to employment, social assistance and services such as health care and education. **Food insecurity** is a key indicator of deprivation among IDP and refugee communities, causing possible adverse impacts on health and well-being of individuals, especially children under the age of 5, as well as direct deprivations of inadequate foodstuffs. Additionally, given the interest in gendered dynamics of forced displacement and poverty, the MPI includes indicators on deprivations affecting women, such as **pregnancy care** (combining information on prenatal care and assisted delivery) and **early marriage**, and indicators with a gendered dynamic such as **physical safety**. The indicator on early marriage was considered an important addition, with young girls being increasingly vulnerable as a result of displacement, and due to the close links with early pregnancy, both of which can limit opportunities for education and employment, and increase reliance on family ties.

Some additional indicators, such as underemployment, access to roads and transportation, land and livestock ownership and internet access, were also considered, but following conceptual discussions, review of the available data, and redundancy analysis, they were dropped from the list of indicators.

The deprivation cut-offs identify individuals as deprived or non-deprived according to set criteria; however, for some of the indicators (years of schooling, school attendance, pregnancy care, early marriage and unemployment), data is only collected from a subset of the sample, such as women with young children or household members aged 15 and above. Eligibility for the MPI indicator is thus determined based on this available subsample, while the size of eligible populations is considered carefully in indicator selection. For MPI indicators with a subsample, households with no eligible members (who were asked the question) are considered non-deprived (see Alkire et al 2015, ch.7). For example, a household with only male family members cannot lack pregnancy care, thus, they are not deprived in that dimension.

*Table 1: Structure of the Measure*

Dimension	Indicator	Household is Deprived if...	Weight
Education	Years of Schooling	No eligible household member has completed at least 6 years of schooling <sup>13</sup>	1/8
	School Attendance	Any child of primary school age is not attending school up to class 6.	1/8
Health	Food Security	In the past 7 days, there was ever a time when there was not enough food or money for food	1/16

<sup>13</sup> Eligibility is determined by primary school starting age in the country. Those aged 6 years or older than the starting age are considered to be eligible. For starting the age in each country, see <http://uis.unesco.org/>.

	Pregnancy Care	A woman who gave birth in the last 2 years did not visit a clinic while pregnant or have a trained assistant during delivery	1/16
	Physical Safety	Any member feels unsafe at home or walking alone <sup>14</sup>	1/16
	Early Marriage	A member was married before age 19	1/16
Living Standards	Garbage Disposal	Main method of solid waste disposal is dumping, burying in own compound, burning, or other	1/24
	Drinking Water	Main source of drinking water is unsafe, or it takes more than 20 minutes (round-trip) to get water <sup>15</sup>	1/24
	Electricity	It does not have electricity	1/24
	Cooking Fuel	Main energy source for cooking is solid fuels	1/24
	Housing	It is an unimproved housing type	1/24
	Sanitation	Main toilet facility is unimproved, or shared with other households <sup>16</sup>	1/24
Financial Security	Unemployment	Any member 15 or older is unemployed and looking for work <sup>17</sup>	1/12
	Legal Identification	No member has a form of legal identification	1/12
	Bank Account	No member has a bank or mobile money account	1/12

The MPI presented here uses equal nested weights with all four dimensions considered to be equally important, and all indicators within a dimension receiving an equal share of the total weight. The cross-dimensional poverty cut-off is defined as  $k=50\%$ , with those deprived in half or more of the weighted indicators identified as multidimensionally poor.

## 4. Data

Data on forcibly displaced populations are scarce, with many household surveys excluding refugees and IDPs from the sample framework. To ensure that MPI results are representative of these communities and that they can be disaggregated for comparative analysis, an initial review of possible data sets was conducted. Feasibility was determined based on the availability of sufficient sample sizes for forcibly displaced persons for quantitative analyses, as well as inclusion of many of the indicators (on health, education, living standards, etc.)

<sup>14</sup> A household is deprived if the respondent reports feeling moderately or very unsafe when alone at home, walking alone after dark, or walking around during the day. In Sudan, the indicator on the 'feeling safe from crime and violence when at home' was not available, and the indicator only considers answers to the questions on safety when walking alone.

<sup>15</sup> Unprotected dug well, unprotected spring, carts with tank, tanker-truck, surface water, or other are considered as unsafe water sources according to international guidelines. See <https://washdata.org/monitoring/drinking-water>.

<sup>16</sup> Pit latrine without slab, bucket, hanging toilet, and no facility (open defecation) are considered as unimproved sanitation facilities according to international guidelines. See <https://washdata.org/monitoring/sanitation>.

<sup>17</sup> According to the ILO definition, those who did not participate in employment in the last four weeks (and have no work to return to) are actively looking for work and are available to start, or those currently waiting to start work are classed as unemployed. See [https://www.ilo.org/ilostat-files/Documents/description\\_UR\\_EN.pdf](https://www.ilo.org/ilostat-files/Documents/description_UR_EN.pdf).

usually used in MPIs, or which were determined as relevant to this context. One advantage of the chosen surveys was that they were intended to look at forced displacement, so they oversampled that population. After review, five surveys were selected that best suited the proposed analysis (see Table 2).<sup>18</sup>

It is essential to note that the classification of “IDP” and “non-IDP/host community” of the survey respondents varies by country. In Ethiopia and Sudan, the comparator groups include refugees and IDPs living in camps: in Ethiopia, refugees in camps, and their host communities within a 5-km radius; in Sudan, IDPs in Abu Shouk and El Salaam camps and host communities in the nearby city of Al-Fashir. In Nigeria, the comparator groups refer to the IDPs and host communities (non-displaced population in the enumeration areas) of six Northeastern states. In Somalia, the sample is representative of the whole Somali population living in secure areas and covers the IDP sample, which considers households living inside and outside settlements, and the non-displaced sample (which, unlike the other four surveys, does not require the household to be in the vicinity of the displaced sample households). In South Sudan, the sample covers IDP and host communities in urban areas of seven of South Sudan's ten prewar states.

Data was also collected on reason for displacement, albeit with differences across surveys. In Ethiopia, refugees in camps identified armed conflict, increased violence, crime and insecurity, ethnic/political/religious violence and drought, famine, and floods as the main reason for displacement. In Nigeria, the majority of respondents indicated armed conflict between Boko Haram and armed forces in their village or nearby as the most important reason for displacement, although some migrated due to lack of access to home, land or livestock. In Somalia, new respondents who reported being IDPs were asked about why they left their permanent residence. Most fled due to drought, famine, flood or other environmental issues, or armed conflict, violence, and increased insecurity in their area of residence. This was also the case in South Sudan. In Sudan, the majority indicated lack of safety as the most important reason for displacement, with lack of access to education services and health services also being an important reason.

*Table 2: Summary of the Datasets*

Country	Survey	Sample Design	Geographical coverage	Population coverage	Retained sample
Ethiopia	Skills Profile Survey (2017)	Multi-stage stratified random sample	Refugee camps and proximity in Tigray Afar, Gambella, Benishangul Gumuz, and Somali regions	Refugees of four main nationalities (Eritrean, South Sudanese, Sudanese, and Somali)	26,517 (96.5%)
N.E Nigeria	IDP Survey (2018)	Multi-stage stratified random sample	Six Northeastern states (Adamawa, Bauchi, Borno, Gombe, Taraba, and Yobe)	IDPs and host communities	17,543 (97.7%)
Somalia	High Frequency Survey (2017)	Multi-stage stratified random sample	Somalia (within secure areas)	IDPs and host communities	27,287 (82.3%)

<sup>18</sup> For more information on survey coverage, design and the data for each survey, see <https://microdata.worldbank.org/index.php/catalog>.

Sudan	IDP Profiling Survey (2018)	Stratified cluster sampling	Abu Shouk and El Salam camps, and neighboring and non-neighboring Al-Fashir	IDPs and host communities	17,645 (95.2%)
South Sudan	High Frequency Survey Wave 4 (2017)	Stratified two-stage cluster design	Urban areas of seven of the ten pre-war states (Western Equatoria, Central Equatoria, Eastern Equatoria, Northern Bahr-El-Ghazl, Western Bahr-El-Ghazal, Warrap, Lakes state).	IDPs and host communities	4,554 (92.8%)

Data was available for all selected MPI indicators in every country except South Sudan, where the question on access to a bank account was not included in the survey. The MPI for South Sudan is thus constructed without this indicator, and the remaining indicators in the financial security dimension are re-weighted accordingly, receiving 1/6 of the weight each.

## 5. Findings

### 5.1 Key findings

The focus of this study is to analyze the level and composition of multidimensional poverty among forcibly displaced communities across countries and compared to host communities, respecting each of the survey designs. Table 3 shows the headline figures for the MPI disaggregated by displacement status. Overall, the highest level of poverty can be found in the Somalia population covered, where over 63% of IDPs and nearly 45% of the host community are identified as multidimensionally poor, while the lowest overall poverty is in the population covered in N.E Nigeria, with 23% of IDPs and 17% of non-IDPs suffering from poverty. As expected, many countries show large inequalities, with displaced persons being poorer across all five countries according to MPI and incidence of multidimensional poverty, with statistically significant result for all countries but Nigeria and South Sudan. In addition, there is large variation in the level of poverty between the two groups across countries. For instance, the difference in the incidence between displaced and host communities ranges from 6 percentage points in Nigeria (not significant) to 15 and 19 percentage points in South Sudan and Somalia, and to over 30 percentage points difference in Ethiopia and Sudan, where 46% of refugees and 44% of IDPs are poor compared with 13% and 9% of the host community, respectively. Interestingly, we find that the intensity of poverty (average share of weighted deprivations experienced by the poor) is similar across displaced and non-displaced populations in all countries, with the only significant difference between IDPs and host communities appearing in Nigeria.

*Table 3: Main results disaggregated by displacement status*

Country	Displacement status	MPI	Confidence interval	Incidence (H)	Intensity (A)	Population share (sample)
<b>Ethiopia</b>	Host Community	0.073	(0.057, 0.090)	12.8%	57.3%	12.0%
	Refugee	0.270	(0.233, 0.307)	45.5%	59.4%	88.0%

<b>N.E Nigeria</b>	Host Community	0.107	(0.045, 0.169)	17.0%	62.7%	71.5%
	IDP	0.139	(0.103, 0.175)	23.3%	59.8%	28.5%
<b>Somalia</b>	Non-IDP	0.286	(0.245, 0.327)	44.8%	63.8%	64.3%
	IDP	0.396	(0.337, 0.454)	63.3%	62.5%	35.7%
<b>South Sudan</b>	Host Community	0.119	(0.057, 0.180)	19.5%	60.9%	86.7%
	IDP	0.203	(0.004, 0.402)	34.1%	59.5%	13.3%
<b>Sudan</b>	Host Community	0.054	(0.033, 0.074)	9.4%	57.0%	67.5%
	IDP	0.255	(0.232, 0.277)	43.6%	58.5%	32.5%

Note: Own elaboration based on data from the High Frequency Surveys of Ethiopia (2017), Nigeria (2018), Somalia (2017), South Sudan (2017) and Sudan (2017).

Another important trend concerns the Ethiopia and Sudan samples, which surveyed refugee and/or IDP households in camps, whereas the Nigeria, Somalia, and South Sudan data sets surveyed IDP populations distributed throughout the country. Of the five countries, Ethiopia and Sudan have the largest differences in MPI and incidence between the refugee/IDP populations and their host communities. Ethiopia has a nearly 33 percentage point difference in incidence between refugee households in camps and host community peers, while Sudan has a 34 percentage point difference in incidence between the IDP households in camps and their host community neighbors. Curiously, only in Ethiopia and Sudan do we see higher intensities of poverty among the refugee and IDP populations, whereas in Nigeria, Somalia and South Sudan, we observe, on average, a higher intensity of deprivations among the poor in the host community populations. More, the included areas of Ethiopia and Sudan also have the lowest rates of multidimensional poverty for the host communities, with incidences of 12.8% and 9.4%, respectively.

Delving further into the depth of poverty, Table 4 shows a breakdown of the poor population by intensity, ranging from 50% to 100%. In Sudan, 72% of the poor in host communities and 62% of the poor IDPs are in the lowest intensity band, relatively close to the poverty line. In Somalia, the country with the highest average intensity across both groups, the distribution is less concentrated, with only one-third of IDPs in the lowest band. Nearly 18% are deprived in 70% to 79% of the weighted indicators, and a further 6% of poor IDPs face deprivation in 80% or more of the weighted indicators.

Table 4: Intensity of deprivation among MPI poor by displacement status (%)

Intensity	Ethiopia		N.E Nigeria		Somalia		South Sudan		Sudan	
	Host	Refugee	Non-IDP	IDP	Non-IDP	IDP	Non-IDP	IDP	Non-IDP	IDP
<b>50-59%</b>	65.5	57.3	59.2	49.1	45.8	34.0	54.8	57.0	71.6	61.8
<b>60-69%</b>	31.0	34.2	35.0	35.7	33.6	42.4	21.4	36.7	21.6	29.7
<b>70-79%</b>	3.0	7.4	5.9	13.6	17.1	17.6	21.3	6.3	6.8	7.8
<b>80-89%</b>	0.5	1.1		1.7	3.1	5.6	2.6			0.8
<b>90-100%</b>					0.3	0.4				



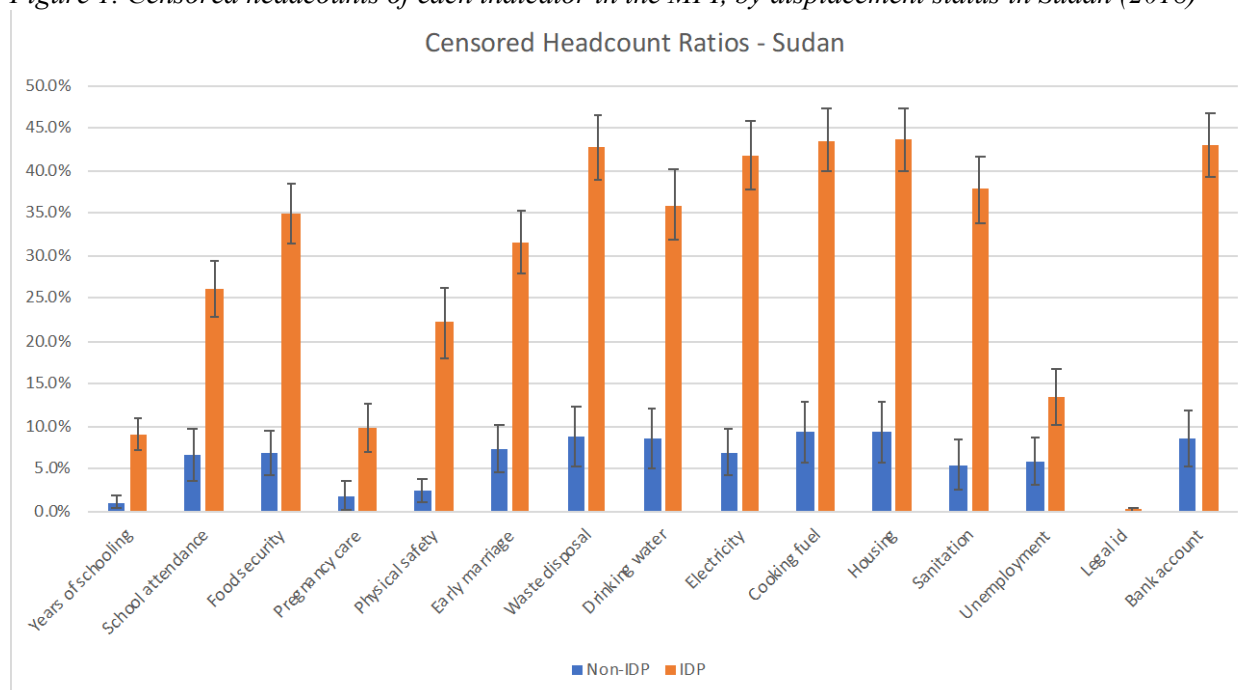
Source: Authors' calculations based on data from the High Frequency Surveys of Ethiopia (2017), Nigeria (2018), Somalia (2017), South Sudan (2017) and Sudan (2017).

## 5.2 Composition of poverty

Unpacking the headline numbers further, important patterns emerge about the composition of multidimensional poverty among forcibly displaced and host communities in these countries. Overall, the censored headcount ratios (proportion of people who are poor and deprived in a given indicator) are lower among non-displaced communities than among refugees and IDPs, but there are large differences in which indicators are the most salient in different countries. The indicators with the largest difference between the two populations are bank account and cooking fuel in Ethiopia, years of schooling in Somalia, electricity in Sudan, drinking water in South Sudan, and legal identification in Nigeria. These findings reinforce the need for policies and programming that take into account the measured experiences of IDPs and refugees. In this way, the MPI can function both as tool to monitor, track, and bear witness to the lived experiences of forcibly displaced communities, as well as advise on evidence-based interventions that address the needs of the local population.

Figure 1 shows the censored headcounts of each indicator in Sudan's MPI, with large differences appearing by displacement. MPI of IDP communities is considerably higher than that of the host communities, so it follows that the censored headcount ratios display a similar gap. The difference by indicator is particularly noticeable in the living standards dimension, where the electricity, cooking fuel, housing, and bank account indicators show over 34 percentage point difference between the censored headcount ratios for the IDP and host communities.

Figure 1. Censored headcounts of each indicator in the MPI, by displacement status in Sudan (2018)

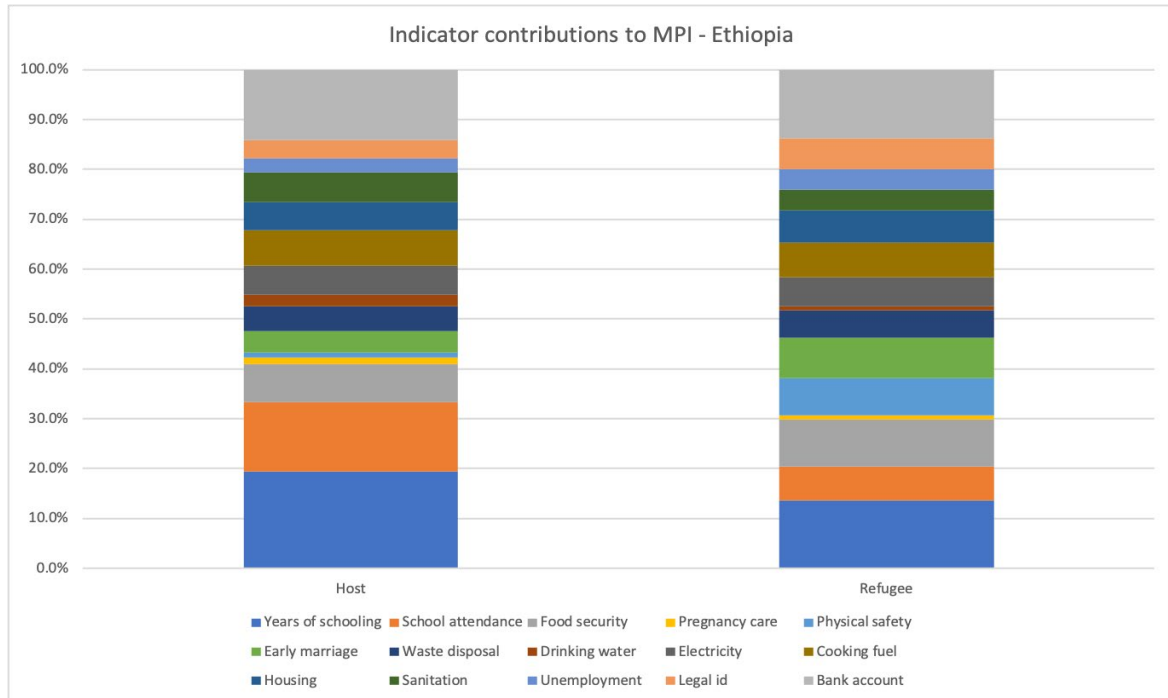


Source: Authors' calculations based on data from the High Frequency Surveys of Ethiopia (2017), Nigeria (2018), Somalia (2017), South Sudan (2017) and Sudan (2017).

As the Sudanese sample surveys IDPs living in the Abu Shouk and El Salam camps, we must understand these deprivations with the background that these settlements were created as emergency and crisis responses rather than durable, long-term solutions (Sudanese Government's Joint Mechanism for Durable Solutions 2019). Although Sudan does have a national electric grid that supplies electricity to the urban and peri-urban areas of the nearby city El Fasher, IDP communities living in the camps report limited connection to the city's electricity supply, reflected in the high deprivations in the electricity and cooking fuel indicators. The ad-hoc construction of dwellings in the two camps explains why 71% of the IDP households in Abu Shouk and 65% in El Salam live in tukuls or other permanent mud or wood structures (Sudanese Government's Joint Mechanism for Durable Solutions 2019: p.50), both of which register as unimproved housing types. Bank branches in El Fasher have limited capital for small businesses as their headquarters in Khartoum regard the area as too great a risk and IDPs themselves as riskier investments than their host community peers (UN-HABITAT 2009: p.8). Exposure to unclean cooking fuels and inadequate housing can lead to poor health outcomes, while lack of access to electricity and a bank account further excludes individuals from labor market integration and livelihood opportunities that would empower forcibly displaced persons to overcome their multiple, overlapping deprivations. Clearly, displacement status puts individuals at a greater risk of poverty than their host community neighbors, and we can unpack those risks in greater detail using the MPI.

Results can also be broken down to show the percentage contribution of each indicator to multidimensional poverty (see Figure 2). Among refugees in Ethiopia, lack of a bank account is the largest contributor to poverty, while among host communities, the largest contributor is years of schooling. While in absolute terms, the proportion of refugees who are MPI poor and experience deprivations in years of schooling is 27.9%, compared to the host community's smaller proportion of 10.0%, the indicator contributes more to poverty among the host community population, due to the weighting structure of the index and the lower levels of deprivation among the other indicators. This distinction reveals the complex, varied, and overlapping deprivations experienced by the poor when displacement status is taken into account – a complexity that is otherwise overlooked in monetary headline figures. Physical safety, early marriage, and legal identification are also larger contributors to poverty among refugees than among host communities. The gap in deprivations of physical safety by displacement status is particularly stark; in absolute terms the proportion of refugees who are MPI poor and experience deprivations in physical safety is 30.2%, compared to the host community's near-zero proportion of 0.9%.

*Figure 2. Percentage contribution of each indicator to the MPI, by displacement status in Ethiopia (2017)*



Source: Authors' calculations based on data from the High Frequency Surveys of Ethiopia (2017), Nigeria (2018), Somalia (2017), South Sudan (2017) and Sudan (2017).

## 6. Gender differences in multidimensional poverty

Next we examine differences in multidimensional poverty outcomes by the gender of the household head. Existing literature points out the limitation of household level MPI analysis in masking the intrahousehold distribution of deprivations, and thus being less sensitive to gender based differences in individual outcomes within the family unit, which might lead to underestimation of inequality and gender gaps (Espinoza-Delgado and Klasen 2018; Franco 2017; Klasen and Lahoti 2020, Rodriguez, 2016). However, as the MPI identifies poverty at the household level, our initial analysis focuses on disaggregated results by the gender of the household head.<sup>19</sup> We acknowledge that this approach has several limitations since most women reside in male-headed households, and the composition of households can change after displacement due to separation of family members, and widowhood. Regardless, the analysis at the household level remains relevant given the high prevalence of female-headed households that emerge after displacement, with the analysis showing large differences across countries between households based on the gender of the head. Following Hanmer et al (2021), we also show the results disaggregated by type of female head and by households' earnings profile, building on other work detailing the interaction between female headship and marital status (Brown and van de Walle 2020). Analysis of the individual-level and intrahousehold differences among forcibly displaced and host communities living in multidimensional poverty is detailed in subsequent papers.<sup>20</sup>

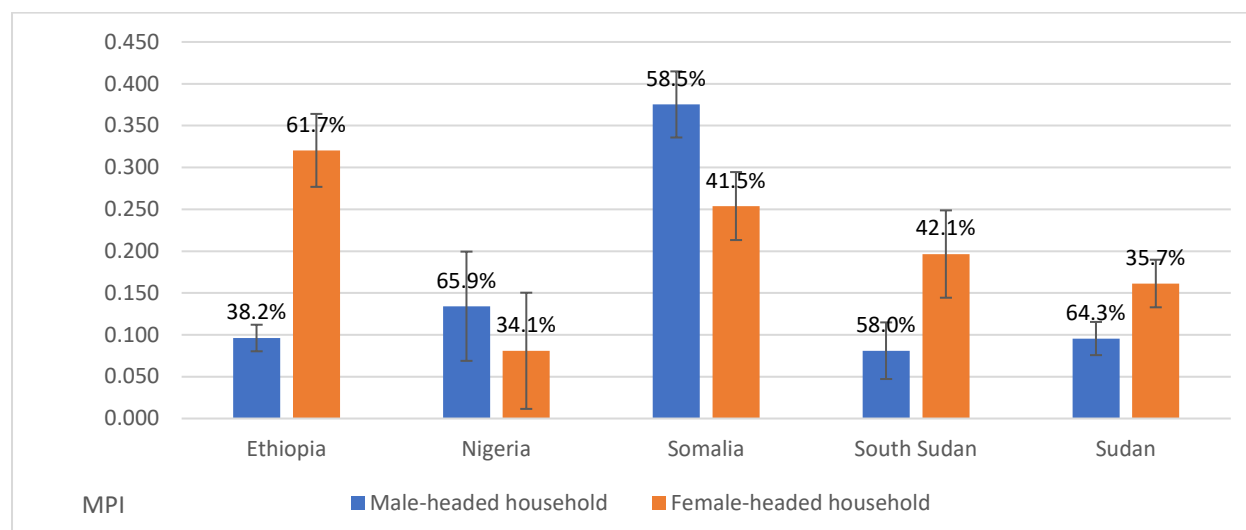
Figure 3 shows the MPI for people living in female- and male-headed households across the populations surveyed in all five countries. Those in female-headed households are significantly more likely to be poor compared to those in households headed by males in Ethiopia, South

<sup>19</sup> That MPIs are generally household-level – and indeed, as this one is – is largely due to data constraints (Klasen and Lahoti 2020).

<sup>20</sup> See forthcoming paper by Adamasu, Alkire, and Scharlin-Pettee (2021).

Sudan and Sudan, while the opposite is true for Somalia, where people living in male-headed households have a higher MPI. In Nigeria, there is no statistically significant difference between the poverty levels of the two groups. These differences also hold for incidence of multidimensional poverty, where female-headed households are 39 percentage points poorer in Ethiopia, and 17.6 and 10.3 percentage points poorer in South Sudan and Sudan, respectively.

Figure 3. MPI for male- and female-headed households by country



Source: Authors' calculations based on data from the High Frequency Surveys of Ethiopia (2017), Nigeria (2018), Somalia (2017), South Sudan (2017) and Sudan (2017). Note: Population shares of headship included above each bar.

With the above results, it is important to consider the gender differences by displacement status as the gender of the household head may be correlated with disruption in family structures that occurred after displacement. Looking at the sample composition by headship at the country level, 45% of the population in Ethiopia, 34.3% in Nigeria, 49.8% in Somalia, 44.7% in South Sudan, and 41.6% in Sudan live in female-headed households. Disaggregation by displacement status shows that there is a higher proportion of the population living in female-headed households in displaced communities in Ethiopia (51.4 % of refugees vs 32.2% of hosts), South Sudan (53.3% of IDPs vs 43.6% of non-IDPs), and Sudan (47% IDPs vs 30% non-IDPs).

Table 5 shows the MPI, incidence (H) and intensity of poverty (A) by the gender of the household head and displacement status for the five countries. Disaggregating the household gender differences by displacement, we find interesting results across four countries. In Ethiopia, the observed gender difference that hurts female-headed households is driven by the difference in MPI among refugees. The difference in MPI between displaced households is largest in Ethiopia, with an MPI of 0.355 for those in female-headed refugee households and an MPI of 0.111 for those in male-headed refugee households. Further, there is a 40 percentage point difference in the incidence of poverty among refugees, with 57.9% of those in female-headed households and only 19.1% of those in male-headed households being multidimensionally poor. Interestingly, there is no statistically significant difference between the poverty levels of the two groups among host community households.

In South Sudan, individuals living in female-headed households are more likely to be poor compared to their male-headed counterparts both in IDP and non-IDP households. Female-

headed IDP households are worse off than their male-headed counterparts with regards to the incidence of poverty by about 29.2 percentage points, although weakly significant. The corresponding difference in incidence between the two groups is 15.1 percentage points among non-IDP households. In Somalia, we find significant differences in MPI and incidence of poverty between female- and male-headed households among both IDPs and non-IDPs. The differences observed are in favor of female-headed households. Looking at the incidence of poverty, there is a 17.2 percentage points difference among IDPs with 70.7% of those in male-headed households and 53.6% of those in female-headed households being MPI poor. Similarly, there is a 19.9 percentage points difference among non-IDPs in Somalia, with 52.8% and 32.9% of those in male- and female-headed households live in multidimensional poverty, respectively.

In Sudan, considering the whole population, the results indicate the presence of a statistically significant difference by gender of the head in incidence of multidimensional poverty (10.3 percentage point) and MPI (0.063). However, disaggregating the results by displacement status reveals no significant difference between male- and female-headed households among both IDPs and non-IDPs. Finally, individuals in Nigeria have no significant difference in their poverty incidence, intensity, or MPI based on the gender of the household head. Although the difference is insignificant, we can see that people living in female-headed IDP households have a higher MPI (0.171) compared to their male-headed IDP counterparts (0.138), while the opposite is true for non-IDPs in Nigeria, where female-headed households have a lower MPI (0.080) than male-headed households (0.144).

The finding that individuals living in female-headed displaced households are more likely to be multidimensionally poor raises questions related to the gender composition of the household. The sex ratio<sup>21</sup> of female-headed households is lower than that of male-headed households among refugees in Ethiopia and IDPs in South Sudan, suggesting a higher proportion of females are residing in female-headed displaced households in the two countries. This further suggests that a higher share of women and girls are identified as poor in households headed by females.

*Table 5: Multidimensional Poverty outcomes by gender of the household head and displacement status*

	Refugees/IDPs			Hosts/Non-IDPs			All		
	HH headed by			HH headed by			HH headed by		
	Female	Male	Diff.	Female	Male	Diff.	Female	Male	Diff.
<b>MPI</b>									
Ethiopia	0.355	0.111	<b>0.244***</b>	0.073	0.058	0.014	0.341	0.099	0.242***
N.E Nigeria	0.171	0.138	0.033	0.080	0.144	-0.065	0.107	0.143	-0.035
			-			-			-
Somalia	0.335	0.443	<b>0.108***</b>	0.206	0.34	<b>0.134***</b>	0.254	0.375	<b>0.121***</b>
South Sudan	0.298	0.119	<b>0.179*</b>	0.183	0.084	<b>0.099***</b>	0.201	0.088	<b>0.113***</b>
Sudan	0.262	0.230	0.033	0.080	0.046	0.034	0.158	0.095	<b>0.063***</b>
<b>H (%)</b>									
Ethiopia	58.1	19.1	<b>39.1***</b>	12.7	10.0	2.7	55.9	17.0	<b>38.9***</b>

<sup>21</sup> The sex ratio is obtained by dividing the number of males by the number of females in the household.

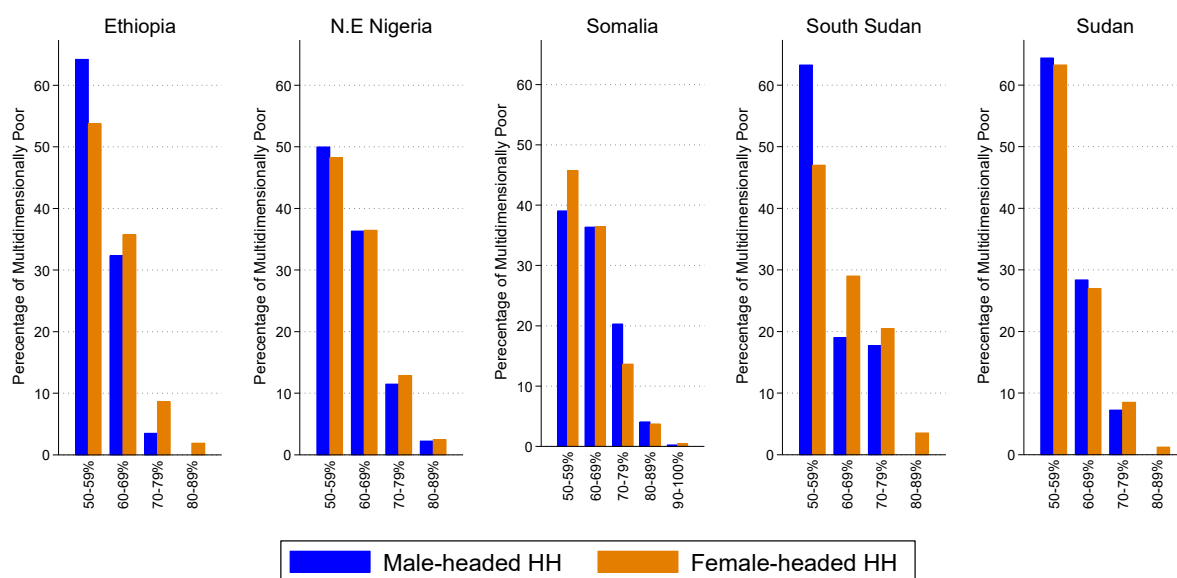
N.E Nigeria	29.0	22.5	6.5	14.0	22.5	-8.6	18.5	22.5	-4.0
Somalia	53.6	70.7	<b>-17.2**</b>	32.9	52.8	<b>-19.9***</b>	40.7	59.0	<b>-18.3***</b>
South Sudan	49.7	20.5	<b>29.2*</b>	29.3	14.2	<b>15.1***</b>	32.5	14.9	<b>17.6***</b>
Sudan	44.7	39.5	5.2	13.7	8.3	5.4	27.0	16.6	<b>10.3***</b>
<b>A (%)</b>									
Ethiopia	61.1	58.1	<b>3.0***</b>	57.4	58.6	-0.013	61.1	58.1	<b>2.9***</b>
N.E Nigeria	59.0	61.2	-2.2	57.1	64.1	-7.0	58.0	63.3	<b>-5.3*</b>
Somalia	62.5	62.6	-0.1	62.4	64.4	<b>-2.0**</b>	62.5	63.0	-1.3
South Sudan	59.9	58.3	1.7	62.5	59.1	<b>3.4**</b>	61.9	59.0	<b>2.9**</b>
Sudan	58.7	58.2	0.6	58.2	55.2	3.0	58.6	57.1	<b>1.5*</b>

Source: Authors' calculations based on data from the High Frequency Surveys of Ethiopia (2017), Nigeria (2018), Somalia (2017), South Sudan (2017) and Sudan (2017). H is the incidence of multidimensional poverty; A is the intensity of multidimensional poverty and  $MPI=H \times A$ . Asterisks indicate statistical significance at 1% \*\*\*, 5% \*\* and 10% \* levels.

The results reveal that in all countries, female-headed IDP/refugee households have a higher incidence of poverty and MPI than female-headed households that are not displaced. We also note the emerging pattern that, for female-headed households in camps (Ethiopia, Sudan) multidimensional poverty appears higher and more intense than for their female-headed counterparts living outside camps. In Ethiopia and Sudan, there is a 28 and 18 percentage point difference in incidence between female-headed households in camps and in the host community, respectively, whereas the differences between the female-headed IDP households and female-headed host community households of Nigeria, Somalia, and South Sudan are 12 percentage points or smaller. This finding among female headship is particularly notable in Sudan, considering the fact that its neighbor South Sudan sees overall bigger differences in magnitude of multidimensional poverty between male- and female-headed households within the country overall, as well as when disaggregated by displacement status. This suggests that, in determining a household's level of multidimensional poverty, the gender of the household head interacts not only with displacement status, but type of displacement status (e.g. living in camps or resettled) and that our multi-country comparison succeeds in capturing the diversity of IDP experiences.

Looking at the breadth of poverty, Figure 4 reveals that male- and female-headed households in Somalia are likely to suffer a similar intensity of poverty (average deprivation share among the poor), which suggests that the observed difference in MPI is generally driven by the difference in the incidence of poverty. In contrast, there is a significant difference in intensity between the two groups in Ethiopia and South Sudan, with only 46% of the poor female-headed households being in the lowest intensity band in the latter, compared to 63% of male-headed households. More, in South Sudan, nearly 24% of the multidimensionally poor female-headed households are deprived in 70% or more of the weighted indicators, while only 17% of poor male-headed households have such high intensity. The direction of the overall difference in Ethiopia and South Sudan can be explained by the difference in the share of poor households with an intensity of 70% or more by female- versus male-headed households, with a higher proportion among the former (9.5% vs 3.5% in Ethiopia, and 23.5% vs 17% in South Sudan).

*Figure 4: Distribution of intensities among MPI poor male- and female-headed households: by country*



Source: Authors' calculations based on data from the High Frequency Surveys of Ethiopia (2017), Nigeria (2018), Somalia (2017), South Sudan (2017) and Sudan (2017).

Considering the relative contribution of each indicator to multidimensional poverty between the two types of households, we see that being deprived in the indicators of bank account and school attendance in Ethiopia; bank account and years of schooling in Sudan; years of schooling and school attendance in Nigeria; and legal identification and school attendance in South Sudan are the main contributors of poverty to both types of households. In South Sudan, early marriage contributes more to poverty in female-headed households, while school attendance contributes more to poverty in male-headed households. In Nigeria, the relative contributions of early marriage and lack of legal identification are greater in female-headed households. The source of deprivation is slightly different for male- and female-headed households in Ethiopia, where lack of physical safety, early marriage, and lack of legal identification contribute more to female-headed households, while years of schooling and school attendance are much larger contributors to poverty in households headed by men.

Table 6 refines the above analysis by looking within displaced households, and presenting data at the individual level for selected indicators. This is important as household level deprivations can mask inequalities within the household unit (for instance, a household where four children are attending school and one is not would be considered deprived, similar to households where no children are in school). Looking at the three countries, years of schooling and early marriage are key indicators in analyzing the gender differences in poverty among forcibly displaced individuals. with a significantly higher percentage of displaced females deprived in years of schooling compared to males. In terms of marriage, females are significantly more likely to get married at early age compared to males. The prevalence of child marriage in South Sudan and Sudan is particularly high with 75% and 50% of displaced female individuals getting married before they turn 18, respectively, which is significantly higher than the national pre-conflict average of 45% in South Sudan (Buchanan, 2019) and 38% in Sudan (Nagar et. al., 2017). While child marriage has been common in these countries, the extended conflict might have interacted with this practice as child marriage is seen as a negative coping mechanism for families to rising poverty and food insecurity, and protection against sexual violence (Buchanan, 2019). This often directly affects girls' educational attainment as many drop out of school, due in part to early marriage.

Table 6: Percentage of displaced individuals deprived in selected indicators by gender

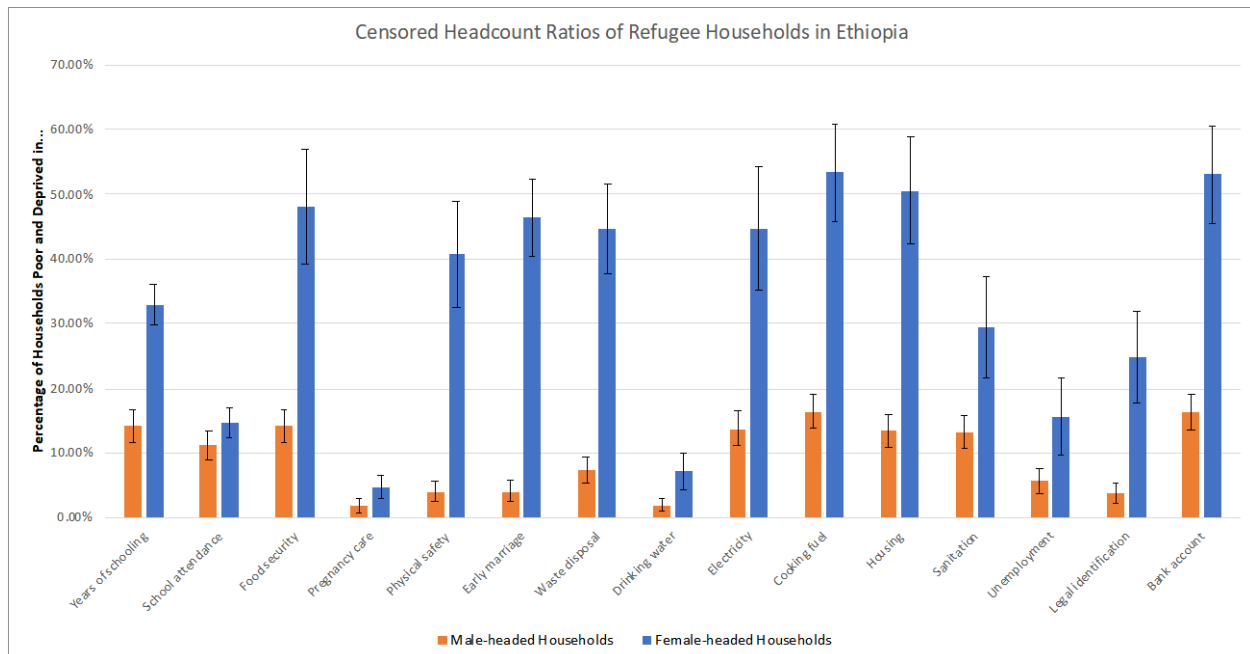
	Ethiopia		South Sudan		Sudan	
	Male	Female	Male	Female	Male	Female
Years of schooling	55	78***	36	63***	32	46***
School attendance	16	19**	21	29	23	23
Early marriage	3	13***	8	75***	6	50***
Unemployment	7	5***	2	0*	3	3
Legal id	45	46	48	74***	10	10

Source: Authors' calculations based on data from the High Frequency Surveys of Ethiopia (2017), Nigeria (2018), Somalia (2017), South Sudan (2017) and Sudan (2017). Asterisks indicate statistical significance of mean differences between male and female at 1% \*\*\*, 5% \*\* and 10% \* levels.

Returning to patterns of household headship, Figure 5 breaks down the variation in censored headcount ratios among refugee households in Ethiopia, depending on the gender of the household head. The largest differences between households headed by men and women is for early marriage (42.3 p.p.), waste disposal (37.2 p.p.), and housing (37.1 p.p.), whereas the pregnancy care and school attendance have the smallest differences (3.3 p.p and 3.0 p.p.). Considering that girls and women of reproductive age are more likely than their male counterparts to live in income-poor households below the international poverty line (Boudet et al. 2018), the interaction of multidimensional poverty, gender of the household head, and displacement status in Ethiopia cannot be neglected. The observed gender difference disadvantaging female-headed households in terms of the MPI and incidence in Ethiopia derives from the difference among refugees. The breakdown of indicators here opens up questions for policy makers to ask how and why these differences in waste disposal and housing are occurring for households with different genders in headship, given that both contemporaneous features of displacement rather than indicators such as early marriage that denote deprivation which may have occurred before or as part of displacement. Thus, to see this interaction further, we extend our analysis by type of female heads and household earnings profile.

Figure 5. Censored headcount ratios of refugee households in Ethiopia, by sex of the household head



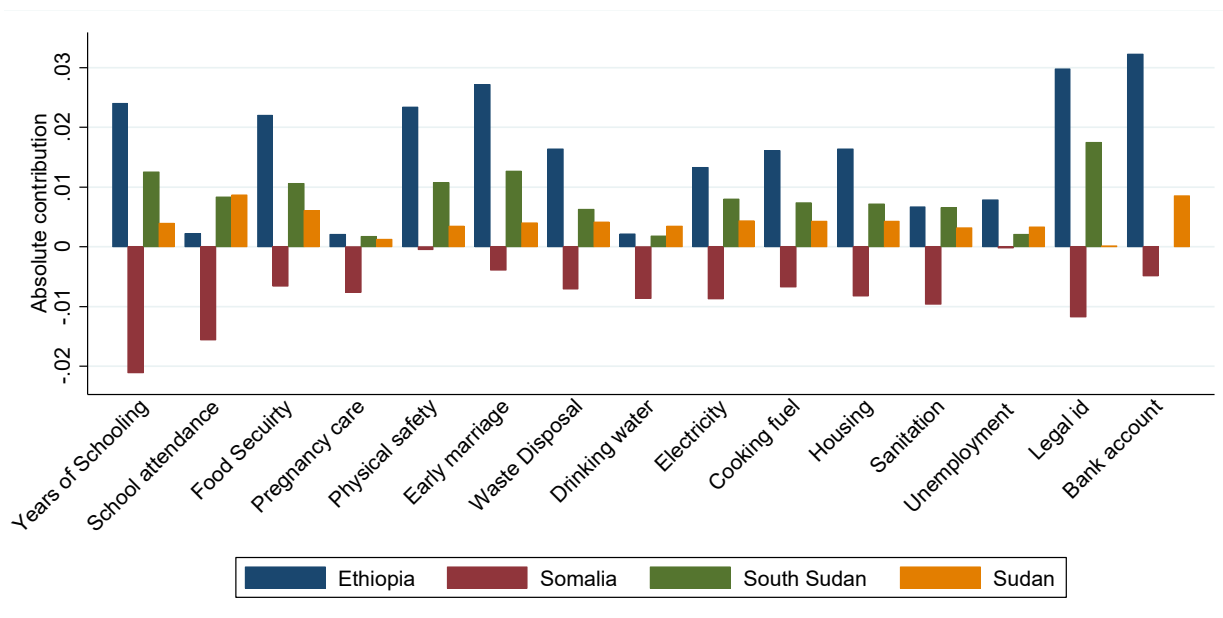


Source: Authors' calculations based on data from the High Frequency Surveys of Ethiopia (2017), Nigeria (2018), Somalia (2017), South Sudan (2017) and Sudan (2017).

To uncover the main drivers of the observed gender based differences in multidimensional poverty at country level, we study the absolute contribution of the gender difference in each indicator to the overall household gender gap (see Figure 6), calculated as the difference between the censored headcount ratio for males versus females. We find that in Ethiopia, the gender gap that disadvantages female-headed households is mostly driven by the difference in financial insecurity measures (lack of legal ID and bank account) and health measures (early marriage, physical safety, and food insecurity), which is further reinforced by the differences in the living standard and education measures. Female-headed refugee households are more food insecure, live in unimproved housing, have lower access to electricity, are more likely to be married at an early age, and have lower access to legal identification and a bank account.

In South Sudan, gender gap that disadvantages female-headed households is mainly explained by the differential in the financial insecurity and health measures, but cumulative gaps in the living standard and education indicators also contribute to the overall gap at the household level. In South Sudan, IDPs in general do not feel safe in camps, in particular female-headed households are more likely to feel unsafe. In addition, early marriage and lack of legal ID are issues among female-headed households.

*Figure 6: Absolute contribution of the gender gap in each indicator to the overall gap, by country*



Source: Authors' calculations based on data from the High Frequency Surveys of Ethiopia (2017), Nigeria (2018), Somalia (2017), South Sudan (2017) and Sudan (2017). Notes: A positive number means that the gender gap in that indicator is in favor of male-headed household (female-headed households are worse off), and a negative number means that the gap is in favor of female-headed households. The sum of all indicator gaps gives the overall gender gap.

Similar patterns are observed in Sudan, except that lack of legal ID does not contribute to the household level gender gap. In contrast, in Somalia, the gender gap that favors female-headed households is driven by the differential in education and living standard measures. In general, in countries where female-headed households are worse off, the gap in lack of legal ID, lack of bank account, early marriage, and physical safety are larger than the gap in other indicators. In Somalia where the gap is in favor of female-headed households, the gap in education is a much larger contributor to the gender gap, followed by gap in lack of legal ID.

As noted above, female-headed households are generally poorer than their male-headed counterparts in Ethiopia, South Sudan and Sudan. Existing literature shows heterogeneity among households headed by married women living with a husband or a nonresident (*de facto*) and those headed by divorced, separated, and single women (*de jure*) (Klasen et al., 2015; Milazzo and Walle, 2015). Thus, to explore heterogeneity of multidimensional poverty among households headed by female, we further disaggregated by *de facto* and *de jure* female heads (see Table 7).

Table 7: Multidimensional Poverty outcomes by *De facto* and *De jure* female-headed households and displacement status

	Refugees/IDPs			Hosts/Non-IDPs		
	Female household head		Difference	Female household head		Difference
	De facto	De jure		De facto	De jure	
<b>MPI</b>						
Ethiopia	0.392	0.238	0.154***	0.085	0.064	0.021

N.E Nigeria	0.158	0.190	-0.032*	0.082	0.068	0.015
Somalia	0.353	0.263	0.090	0.211	0.185	0.026
South Sudan	0.227	0.399	-0.172	0.194	0.161	0.033
Sudan	0.269	0.233	0.036	0.092	0.055	0.037
<b>H (%)</b>						
Ethiopia	64.2	38.5	25.7***	15.0	11.2	3.8
N.E Nigeria	25.9	33.5	-7.6	14.3	12.1	2.1
Somalia	55.8	44.8	11.0	33.9	29.3	4.6
South Sudan	37.5	67.0	-29.5	31.2	25.3	5.9
Sudan	45.7	40.2	5.5	15.3	10.5	4.7
<b>A (%)</b>						
Ethiopia	61.0	61.7	-0.7	56.9	57.8	-0.9
N.E Nigeria	61.0	56.8	4.2*	57.4	55.4	2.0
Somalia	63.3	58.7	4.5*	62.3	63.2	-0.9
South Sudan	60.5	59.5	1.0	62.1	63.6	-1.6
Sudan	58.9	58.0	0.9	60.3	52.3	8.0***

Source: Authors' calculations based on data from the High Frequency Surveys of Ethiopia (2017), Nigeria (2018), Somalia (2017), South Sudan (2017) and Sudan (2017). *De facto* - female-headed households whose head is a married female to a husband in the household or working away from the family. *De jure* - female-headed households whose head is a female widow, divorced or unmarried woman. H is the incidence of multidimensional poverty; A is the intensity of multidimensional poverty and  $MPI=H*A$ . Asterisks indicate statistical significance at 1% \*\*\*, 5% \*\* and 10% \* levels.

We find differences, with *de facto* female-headed households being worse off in Ethiopia and *de jure* being worse off in Nigeria. In Ethiopia, refugee individuals in *de facto* female-headed households (MPI of 0.392) are significantly more likely to be poor than *de jure* female-headed households (MPI of 0.238). Looking at the incidence of poverty, there is a 25.7 percentage points difference among female heads, with 64.2% of those in *de facto* and 38.5% of those in *de jure* households being MPI poor among Ethiopian refugees. In contrast, the results in Nigeria suggest that individuals in *de facto* female-headed IDP households are less likely to be poor compared to *de jure* female-headed IDP households, although the difference is only significant at the 10% level. For non-displaced households, we find no significant differences in poverty between *de facto* and *de jure* female heads across the five countries. In South Sudan, *de jure* IDP households have a higher MPI and incidence of poverty compared to *de facto* and although the difference is large, it is not statistically significant due to the small sample size.

Next, we turn to an analysis by earning profiles. Although women are increasingly able to access labor markets, households that mostly depend on women's contribution may be more likely to fall into poverty. Gender norms, wage gaps, and their disproportional presence in lower-paying occupations are among the factors driving this result. Following Hanmer et al (2021), we classify households according to the number and gender of the income contributors. A household member can contribute to the family income through paid employment, self-employment, farm-business work, trade, remittances or aid. Based on this definition, we classify households in seven mutually exclusive categories: no earners; dependent on remittances only; single earner (male or female); multiple earners (majority female, equal contribution or majority male).

Table 8 shows the disaggregation of poverty headcount ratios by earnings profile and displacement status, highlighting that households without income contributors are more likely to be poor compared to other types of families, regardless of the country. Among IDPs, households with a single female earner also emerge as vulnerable. For example, in Sudan, while

55% of female-single IDP earners are considered multidimensionally poor, the equivalent figure is 16 percentage points lower (39%) in IDP households dependent on multiple male earners. Similarly, in Somalia, 70% of female-single earner households are poor, which is the highest poverty rate among IDP and non-IDP households.

Households that depend mostly on women's earnings seem more likely to fall into poverty. For example, in Ethiopia, poverty rates among female-single earners and multiple-female earners in refugee households are the highest (52% and 57%, respectively). These rates are strikingly high and pass even the poverty rate of households without earners. In contrast, 23% of refugee households whose income depend on a single male earner and 16% of those that depend on multiple male earners are poor. However, it is worth noting that regardless of the earnings category, the odds of falling into poverty are larger among refugee or IDP households with at least one earner compared to their host communities.

*Table 8. Poverty headcount ratios by earnings profile and displacement status*

	Ethiopia		N.E Nigeria		Somalia		Sudan	
	Host community	Refugees	Host community	IDP	Host community	IDP	Host community	IDP
No earners	40%	51%	62%	50%	32%	64%	7%	45%
Remittance recipients only	7%	8%	76%	69%	16%	37%	-	-
Female single earner	12%	52%	23%	37%	35%	70%	24%	55%
Male single earner	8%	23%	4%	14%	24%	50%	8%	39%
Majority female earners	3%	57%	9%	28%	9%	28%	15%	45%
Equal contribution	10%	24%	17%	16%	23%	63%	8%	41%
Majority male earners	5%	16%	15%	19%	20%	52%	9%	39%

Source: Authors' calculations based on data from the High Frequency Surveys of Ethiopia (2017), Nigeria (2018), Somalia (2017), South Sudan (2017) and Sudan (2017).

Overall, the results show that besides gender, displacement status and the number of household contributors plays a key role in the identification and level of poverty. In comparison with female-headed non-displaced households, more female-headed displaced households are classified as multidimensionally poor. According to the number and gender of the household income contributors, we find that refugee and IDP households are the most vulnerable regardless of the family classification. Among displaced populations, households dependent on a unique earner or on female earners are disproportionately more likely to fall into poverty, compared to other households with at least one earner. These findings indicate that differentiation by gender of the head, displacement status and subgroups of headship have important implications for policy and targeting.

## 7. MPI and monetary poverty

We now compare the results using monetary and multidimensional poverty measures, as both can provide us with different insights into the short-term and long-term hardships that households face in displacement situations. Monetary poverty is calculated using the international poverty line of US\$1.90 per capita per day and an aggregate of consumption per capita (Pape et al 2017) from the sum of expenditures on food items, non-food items and the

value of consumption flow of durable goods.<sup>22</sup> While monetary poverty can measure temporal resource holdings, multidimensional poverty, as a more comprehensive measure, includes chronic and exacerbating sources of poverty. This difference explains the existence of mismatches between individuals identified as monetary versus MPI poor, which are often more prominent in poorer countries (Evans et al 2020). This section examines these differences in the contexts of displacement.

*Table 9. Percentage of the sample in each poverty category: Rows sum to 100%*

	Non-poor by both measures	Only Monetary Poor	Only Multidimensional Poor	Monetary and multidimensional poor
Ethiopia	38%	23%	12%	27%
N.E Nigeria	13%	69%	4%	15%
Somalia	20%	32%	14%	34%
Sudan	33%	47%	4%	17%

Source: Authors' calculations based on data from the High Frequency Surveys of Ethiopia (2017), Nigeria (2018), Somalia (2017), South Sudan (2017) and Sudan (2017). This table presents the distribution of households in each of the categories in the columns. Thus, each row adds up to 100%. South Sudan is excluded from this analysis as monetary data is not available for the country.

Given that monetary and multidimensional poverty identify different populations, a household can be classified as: non-poor according to both measures; poor only by the monetary measure; poor only by the multidimensional measure; or poor by both measures (see Table 9). The results confirm the expectation that monetary and multidimensional poverty measures do not always capture the same people. Ethiopia has the largest overlap between the two measures, with 65% of individuals receiving the same classification (38% are non-poor, and 27% are poor according to both measures). This considerable overlap could be explained by Ethiopia having the most prolonged conflict and largest number of fatalities among the countries, leading to a loss in assets and livelihoods, which in turn affected long-term welfare and decrease employment and economic opportunities, that impact available short-term resources. Thus, the overlap may reflect the long-lasting as well as the short-term effects of conflict and economic hardships.

On the other hand, Nigeria is the country with the smallest overlap, where only 15% of the sample is classified as poor by both measures and 13% as non-poor. The majority, 69% of people, are only monetary poor, and 4% are multidimensionally poor only. The lack of overlap might be explained by the relatively recent start of the displacement situation in 2014, when Boko Haram appeared in the north-eastern part of the country. Pape et al (2018) identify two groups of IDPs in this situation: one group representing 74% of the IDP population that was more engaged in wages and non-farm business before displacement, and another group representing about 26% of the population, that had significantly more unemployed women. Most of the displaced populations from the first group live in host communities with good access to basic services such as sanitation and water, and safety nets. However, they are disproportionally more likely to be female-headed households and lack access to education, health services, and may face more stringent labor-market barriers. In other words, this group has relatively better housing conditions, but may lack short-term resources that reduce their consumption expenditure.

<sup>22</sup> In summary, expenditure in these three categories is computed based on the quantities and prices of a selected list of items in each category. See more details about the computation of the consumption aggregate in Appendix A of the Somali Poverty Profile (Pape et al, 2017). A similar procedure was followed in the other countries of analysis.

Next, we analyze poverty rates by demographic category and by displacement status (Table 10). In Ethiopia, the monetary measure shows evidence of large differences in poverty rates between refugees and the host community. For example, while 63% of refugee households with a female household head are monetary poor, only 7% of the female-headed households in the host community are identified as poor by the \$1.90 a day measure. This gap between the refugee community and the host community is also large among households headed by men. When turning to the multidimensional measure, a similar pattern emerges, with 55% of refugees in female-headed households being poor in Ethiopia, while only 14% are poor using the multidimensional measure in the host community. These results are consistent in Nigeria among male household heads. Among female household heads, we find no differences between IDPs and non-IDPs using the monetary poverty measure; however, there is a sizable gap between these two groups when using the MPI.

To explore the role of possible disruptions to family structures as part of the displacement, Table 10 also presents descriptive analysis by *de jure* and *de facto* head. We find that regardless of the type of female head, IDP households are significantly more likely to be classified as poor according to both the monetary and the multidimensional measures. Another striking finding is that *de facto* headed households are more likely to be monetary and multidimensionally poor in Ethiopia, while the opposite is the case in Nigeria.

The legal environment, as well as the disproportionate role in caring and housework responsibilities, may act as a disadvantage for households with a relatively larger number of women contributing to the household income. The third set of poverty rates shown in Table 10 explores this hypothesis. In Ethiopia, for example, households where women are contributing more to the household income and those with no earners are the most vulnerable groups in both the refugee and the host community. This pattern is consistent using both measures of poverty. On the other hand, households where most earners are male and where the primary income source is remittances are less likely to be poor, especially among refugees.

Overall, monetary poverty and multidimensional poverty identify different households as poor. In spite of these salient differences, people living in refugee/IDP households are consistently poorer according to both the monetary and the multidimensional poverty measures. When we compare the rankings of the population subgroups according to each measure, we find that households with a single female earner or no earners are consistently identified as poorer according to each of the measures.

Table 10. Poverty by demographic characteristics for Ethiopia and Nigeria

Panel A. Ethiopia						
	% of monetary poor			% of multidimensional poor		
	Refugee	Host Community	All	Refugee	Host Community	All
Female hhh	63%	7%	58%	55%	14%	53%
Male hhh	49%	20%	38%	18%	10%	17%
De jure female hh	47%	17%	39%	34%	11%	32%
De facto female hh	68%	19%	66%	61%	17%	60%

No earners	64%	29%	63%	51%	40%	50%
Remittance recipients only	19%	4%	16%	8%	7%	8%
Female single earner	47%	15%	41%	52%	12%	47%
Male single earner	54%	27%	44%	23%	8%	19%
Majority female earners	66%	1%	43%	57%	3%	50%
Equal contribution	46%	6%	27%	24%	10%	20%
Majority male earners	41%	4%	16%	16%	5%	13%

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Panel B. N.E Nigeria

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	% of monetary poor			% of multidimensional poor		
	IDPs	Non-IDPs	All	IDPs	Non-IDPs	All
Female hhh	91%	91%	91%	28%	8%	14%
Male hhh	90%	76%	80%	21%	22%	22%
De jure female hh	99%	77%	96%	32%	9%	20%
De facto female hh	85%	80%	89%	25%	7%	11%
No earners	83%	98%	94%	50%	62%	58%
Remittance recipients only	100%	99%	96%	69%	76%	73%
Female single earner	98%	91%	92%	38%	24%	32%
Male single earner	96%	93%	94%	14%	4%	7%
Majority female earners	88%	86%	83%	28%	9%	14%
Equal contribution	93%	81%	83%	16%	17%	17%
Majority male earners	78%	56%	57%	19%	15%	16%

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Source: Authors' calculations based on data from the High Frequency Surveys of Ethiopia (2017), Nigeria (2018), Somalia (2017), South Sudan (2017) and Sudan (2017).

## 8. Conclusion

This paper contributes to the literature by analyzing multidimensional poverty among refugees and internally displaced populations. We observe that forcibly displaced communities are poorer than host communities in each of the five countries' sub-populations covered in the surveys, with the difference in incidence between displaced and non-displaced population ranging between 15 and 19 percentage points in South Sudan and Somalia to over 30 percentage points in Ethiopia and Sudan. Displaced communities also experience greater deprivations in nearly every indicator, although there is significant variation in which indicators are the most salient, with having a bank account and cooking fuel in Ethiopia, years of schooling in Somalia, electricity in Sudan, drinking water in South Sudan, and legal identification in Nigeria showing the largest differences between the two populations. The results also indicate gender differences in the experience of multidimensional poverty, with female-headed households more likely to be poor than male-headed households in most of the countries. In addition, displaced households headed by women have a higher incidence of poverty and MPI than non-displaced female-headed households. Particularly, female-headed households in camps have higher multidimensional poverty and intensity compared to their counterparts living outside camps. Dissaggregating further, we find heterogeneity among de facto and de jure female heads. This variation lends itself to further research questions about

targeted policies and interventions and the evidence-based approaches required to address the deprivations faced by men and women and boys and girls living in forcibly displaced households.

The comparison with monetary poverty shows the differences and complementarity of the measures, can provide a first step to better understand the different conditions and challenges faced by forcibly displaced communities, and suggests potential policy responses for addressing them. The findings demonstrate the value added of the multidimensional monetary poverty measure to analyze the overlapping deprivations, particularly in contexts of forced displacement. The MPI's indicators allow policy makers to identify the arenas for intervention, and further analysis decomposing each country's MPI in greater detail and disaggregating by geographic and administrative areas, as well as age groups, would benefit targeting measures.

In general, the results offer compelling evidence in support of a more disaggregated multidimensional poverty analysis. Our findings indicate that differentiation by gender of the household head, displacement status and subgroups of headship have implications for policy and targeting. This is important with the existing limitation of data (particularly in situations of displacement) to capture gender differences in multidimensional poverty. Due to data limitations, our analysis of differences is limited to the gender of the household head and type of headship. Although the analysis at the household level remains relevant given the high prevalence of female-headed households in displacement situations, individual level analysis is invited as individual level data becomes available.

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## Appendices

Table A1: Population share by displacement status and marital status of female headship (%)

	IDPs/Refugees		Hosts/non-IDPs	
	De facto	De jure	De facto	De jure
Ethiopia	72.73	22.25	1.97	3.0%
N.E Nigeria	17.65	12.51	57.71	12.13
Somalia	29.71	7.75	49.00	13.55
South Sudan	9.39	6.66	56.91	27.05
Sudan	34.87	8.13	37.77	19.23

Table A2: Censored headcounts of each indicators in the MPI, by the gender of the household head in Ethiopia (2017)

Ethiopia	Male-headed HH		Female-headed HH		Difference
	h0	SE	h0	SE	
Years of Schooling	14.0	0.013	33.3	0.02	-19.2***
School attendance	10.9	0.011	12.7	0.01	-1.8
Food Security	14.2	0.013	49.4	0.04	-35.2***
Pregnancy care	1.8	0.006	5.2	0.01	-3.4***
Physical safety	4.3	0.008	41.8	0.04	-37.5***
Early marriage	4.1	0.008	47.6	0.02	-43.5***
Waste Disposal	8.1	0.011	47.4	0.03	-39.3***
Drinking water	2.0	0.004	7.2	0.01	-5.2***
Electricity	14.4	0.013	46.3	0.04	-31.9***
Cooking fuel	17.0	0.014	55.7	0.03	-38.7***
Housing	14.0	0.013	53.3	0.04	-39.3***
Sanitation	13.5	0.013	29.6	0.04	-16.1***
Unemployment	5.9	0.010	15.4	0.03	-9.5***
Legal id	4.6	0.008	40.4	0.05	-35.8***
Bank account	16.8	0.014	55.6	0.03	-38.7***

Notes: h0 is the proportion of male- and female-headed households deprived in various indicators, SE- standard errors. Asterisks indicate statistical significance at 1% \*\*\*, 5% \*\*, and 10% \* levels.

Table A3: Censored headcounts of each indicators in the MPI, by the gender of the household head in Nigeria (2018)

Nigeria	Male-headed HH		Female-headed HH		Difference
	h0	SE	h0	SE	
Years of Schooling	17.7	0.042	12.5	0.016	5.2
School attendance	19.7	0.055	13.6	0.021	6.1
Food Security	20.0	0.053	13.9	0.023	6.1
Pregnancy care	9.1	0.024	5.5	0.028	3.7
Physical safety	1.1	0.004	1.1	0.006	0.0
Early marriage	7.8	0.036	10.9	0.051	-3.2

Waste Disposal	21.3	0.052	17.2	0.037	4.1
Drinking water	9.1	0.055	5.7	0.028	3.4
Electricity	20.4	0.053	7.8	0.036	12.7*
Cooking fuel	22.5	0.051	18.4	0.041	4.1
Housing	14.2	0.061	5.4	0.026	8.8
Sanitation	17.4	0.032	17.0	0.037	0.5
Unemployment	7.1	0.038	3.0	0.016	4.2
Legal id	4.5	0.013	9.4	0.046	-4.9
Bank account	22.4	0.051	18.1	0.040	4.3

Notes: h0 is the proportion of male- and female-headed households deprived in various indicators, SE- standard errors. Asterisks indicate statistical significance at 1% \*\*\*, 5% \*\*, and 10% \* levels.

*Table A4: Censored headcounts of each indicators in the MPI, by the gender of the household head in Somalia (2017)*

Somalia	Male-headed HH		Female-headed HH		Difference
	h0	SE	h0	SE	
Years of Schooling	49.6	0.033	32.7	0.030	16.9***
School attendance	45.7	0.028	33.3	0.030	12.5***
Food Security	33.6	0.030	23.1	0.027	10.6***
Pregnancy care	26.9	0.025	14.6	0.022	12.3***
Physical safety	7.6	0.016	6.9	0.016	0.8
Early marriage	33.0	0.027	26.8	0.032	6.3*
Waste Disposal	55.7	0.030	38.9	0.032	16.9***
Drinking water	43.2	0.033	22.2	0.023	20.9***
Electricity	49.6	0.034	28.5	0.028	21.1***
Cooking fuel	55.5	0.036	39.3	0.033	16.1***
Housing	54.6	0.031	34.6	0.032	20.0***
Sanitation	49.8	0.035	26.7	0.029	23.0***
Unemployment	5.2	0.011	5.0	0.012	0.2
Legal id	46.3	0.034	32.1	0.032	14.1***
Bank account	25.8	0.038	20.0	0.023	5.9

Notes: h0 is the proportion of male- and female-headed households deprived in various indicators, SE- standard errors. Asterisks indicate statistical significance at 1% \*\*\*, 5% \*\*, and 10% \* levels.

*Table A5: Censored headcounts of each indicators in the MPI, by the gender of the household head in South Sudan (2017)*

South Sudan	Male-headed HH		Female-headed HH		Difference
	h0	SE	h0	SE	
Years of Schooling	7.9	0.018	17.9	0.033	-10.0***
School attendance	10.0	0.026	16.7	0.036	-6.7
Food Security	13.3	0.023	30.3	0.044	-17.0***
Pregnancy care	4.6	0.016	7.3	0.024	-2.7
Physical safety	12.8	0.025	30.0	0.043	-17.2***

Early marriage	4.3	0.021	24.6	0.041	-20.3***
Waste Disposal	14.6	0.028	29.7	0.040	-15.0***
Drinking water	3.5	0.017	7.9	0.029	-4.4
Electricity	13.2	0.026	32.5	0.044	-19.3***
Cooking fuel	14.9	0.028	32.5	0.044	-17.6***
Housing	13.9	0.026	31.2	0.042	-17.2***
Sanitation	12.6	0.028	28.3	0.044	-15.8***
Unemployment	1.5	0.007	3.2	0.012	-1.6
Legal id	9.0	0.021	23.0	0.032	-14.0***

Notes: h0 is the proportion of male- and female-headed households deprived in various indicators, SE- standard errors. Asterisks indicate statistical significance at 1% \*\*\*, 5% \*\*, and 10% \* levels.

*Table A6: Censored headcounts of each indicators in the MPI, by the gender of the household head in Sudan (2018)*

Sudan	Male-headed HH		Female-headed HH		Difference
	h0	SE	h0	SE	
Years of Schooling	2.5	0.004	5.6	0.009	-3.1***
School attendance	10.8	0.015	17.7	0.019	-6.9***
Food Security	12.1	0.014	21.8	0.021	-9.7***
Pregnancy care	3.6	0.009	5.6	0.011	-2.0
Physical safety	6.6	0.011	12.1	0.017	-5.5***
Early marriage	12.9	0.015	19.3	0.021	-6.4***
Waste Disposal	15.7	0.017	25.6	0.025	-9.9***
Drinking water	13.2	0.016	21.6	0.018	-8.4***
Electricity	14.0	0.016	24.5	0.021	-10.5***
Cooking fuel	16.6	0.018	27.0	0.024	-10.3***
Housing	16.6	0.018	26.9	0.024	-10.2***
Sanitation	13.2	0.015	20.8	0.023	-7.6***
Unemployment	7.0	0.012	11.0	0.022	-4.0*
Legal id	0.0		0.2	0.001	0.0
Bank account	16.0	0.017	26.2	0.025	-10.2***

Notes: h0 is the proportion of male- and female-headed households deprived in various indicators, SE- standard errors. Asterisks indicate statistical significance at 1% \*\*\*, 5% \*\*, and 10% \* levels.