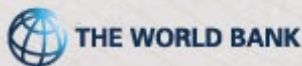


Refugees in Chad

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The Road Forward



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Foreword

This is an important report.

Surrounded by pervasive conflicts in neighboring countries, Chad has received large numbers of refugees, asylum seekers, and returnees since the early 2000s, from Western Darfur, the Central African Republic, and most recently the Lake Chad Basin. As of January 2021, the country—itself one of the poorest in the world—was hosting nearly half a million refugees, more refugees per capita than any of the other African countries eligible for World Bank support for refugee-hosting countries.

As these refugee situations become increasingly protracted, the challenge for Chad and its partners is to help refugees rebuild their lives and become self-sufficient while at the same time creating an environment in which refugees and Chadians can thrive together. But how can we transition from an approach based on humanitarian relief to one that provides an integrated response that can be sustained over time?

Refugees in Chad: The Road Forward provides some critical insights to answer this question. It draws on a unique data source, one of the first national household surveys in Africa to cover refugees and host communities as well as the general population. It provides a renewed understanding of the challenges and opportunities for refugees and host communities. And it highlights ways to achieve real impact on the ground.

The report is being published at a critical moment: in December 2020, the Government of Chad passed the country's first Asylum Law, which formalizes Chad's decades-long generosity in hosting refugees and ensures fundamental protections for refugees and asylum-seekers, including freedom of movement, the right to work, and access to health care, education, and justice.

We are also pleased to be able to stand in support of Chad under the IDA19 Window for Host Communities and Refugees (WHR) to expand social protection, in close cooperation with the UN High Commissioner for Refugees.

The report, from its methods and the evidence it brings to light, is a highly valuable resource for policy makers, development practitioners or humanitarian workers who wish to draw on its findings to inform policy dialogue, partnerships, and operations, not only in Chad but for other countries hosting refugees. It sets an important milestone in the effort to scale up the evidence-building work that is most needed across refugee-hosting countries.

Xavier Devictor

Practice Manager

Fragile, Conflicts, and Violence Global Theme

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The team worked under the supervision of Soukeyna Kane (World Bank Country Director for Burkina Faso, Chad, Mali, and Niger), Rasit Pertev (World Bank Country Manager for Chad), Francois Nankobogo (World Bank Manager), and Johan Mistiaen (World Bank Practice Manager). Mbili Ambaoumba (UNHCR Representative, Chad) provided management guidance and support during field visits. The work was financed by Trust Funds from the Fragility, Conflict, and Violence Cross-Cutting Solutions Area and the World Bank–UNHCR Joint Data Center.

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Abbreviations and Acronyms

ECOSIT4

The 4th National Harmonized Survey on Households' Consumption and Informal Sector (the Enquête sur la Consommation des ménages et le Secteur Informel).

GDP

Gross domestic product

INSEED

Institut national de la statistique, des études économiques et démographiques (National Institute of Statistics, Economics and Demographic Studies) (Chad)

MFI

Microfinance institution

MPI

Multidimensional Poverty Index

PARCA

Projet d'Appui pour les Réfugiés et aux Communautés d'Accueil (Refugees and Host Communities Support Project) (PARCA).

RHCH

Refugees and Host Communities Household Survey in Chad

UNHCR

United Nations Refugee Agency, Office of the United Nations High Commissioner for Refugees

WAEMU

West African Economic and Monetary Union

WFP

World Food Programme

Refugees

Individuals who have been granted asylum or another form of international protection

HOST COMMUNITIES

Villages within a 15-kilometer radius of a refugee camp

NEARBY HOST COMMUNITIES

Villages less than 5 kilometers from a refugee camp

DISTANT HOST COMMUNITIES

Villages within 5–15 kilometers of a camp refugee

Ardebe



MILE

Guéréda



Noursi
Adya

Iriba

IRIDIMI

TOULOUM

Maybd

AM NABAK
CAMP

XIII

5 km
Nearby host
communities

5- 15 km
Distant host
communities

Host communities

SUDAN

N

Overview

12th

Country with the most refugees in the world

5th

Country in Sub-Saharan Africa

Nearly
500,000
refugees

Chad hosts the 12th most refugees in the world and the 5th most in Sub-Saharan Africa (SSA) after Uganda, Ethiopia, Sudan, and the Democratic Republic of Congo. Though it is one of the poorest countries in the world, Chad hosts nearly 500,000 refugees, of whom about 75 percent are Sudanese, 21 percent are from the Central African Republic (Central Africans), and 4 percent are from Nigeria and other neighboring countries. Most of the refugees have been in Chad for more than 15 years, thanks to the government's progressive approach to hosting refugees and the substantial contributions of international development partners, particularly the United Nations Refugee Agency, the Office of the United Nations High Commissioner for Refugees (UNHCR).

In December 2020, the Government of Chad adopted the Asylum Law N° 027 /PR/2020, which protects refugees and asylum seekers within the republic. This law ensures their freedom of movement and rights to education, health, and access to justice. The Asylum Law makes the country a global pioneer in committing to protect refugees and asylum seekers.

Because of the enormous, and abiding presence of refugees, it is increasingly important for Chad to transition from humanitarian aid to a more integrated approach to managing the refugee situation over the longer term. Today, a growing refugee population, the quasi-permanence of the refugee camps, Chad's challenging socioeconomic situation, and erosion of the financial resources provided by donors call for concentrated attention to building the self-reliance of refugees and integrating them into local communities. A successful proactive approach would facilitate the emergence of sustainable livelihood opportunities for refugees, the socioeconomic development of host villages, positive spillover effects on the rest of the country,

and reduced financial pressure on the government and external partners.

The foundational question that *Refugees in Chad: The Road Forward* seeks to answer is: **What can be done to help refugees rebuild their lives and become self-sufficient, and to create an environment in which refugees and host communities can thrive together?**

The first step is to collect hard data. In 2018–19, Chad became one of the first countries in Africa to include refugees and host communities in a national household survey.¹ The Refugees and Host Communities Household Survey expanded the national Household Consumption and Informal Sector Survey² to a representative sample of refugees and host communities. It covered the two main refugee groups in Chad—Sudanese in the east and Central Africans in the south—and host villages in the east. Indeed, these two refugee groups represent 96% of all refugees in Chad. The survey did not cover the group of refugees from Lake Chad due to security concerns affecting enumerators at the time of the survey.

The second step is to draw evidence from this unique data source to support policy decisions and inform design and conduct of such projects as the World Bank’s Refugees and Host Communities Support Project, PARCA (*Projet d’Appui pour les Réfugiés et aux Communautés d’Accueil*). This report:

1. Illuminates the variations in the demographic background of the refugee groups. Assistance programs can thus be tailored to meet the unique needs of specific groups.
2. Examines the current welfare of refugees relative to host communities and the Chadian population as a whole.
3. Explores sources of the incomes of refugees and hosts and identifies possible areas of income growth.
4. Investigates the causes of welfare gaps within the refugee groups: to what extent do the most well-off refugees do better than the poorest, and why?
5. Assesses the continuing relationship between refugees and their hosts, with particular attention to areas of tension.
6. Provides policy options to ensure immediate basic livelihoods for refugees in the short term and enhance sustainable income growth in the long term.

-
1. At the time of the survey, the other countries were Uganda and Niger.
 2. Round 4, ECOSIT4 (*Enquête sur la Consommation des ménages et le Secteur Informel au Tchad*). The survey was carried out jointly with the National Statistics Office (*Institut national de la statistique, des études économiques et démographiques, INSEED*) and the UNHCR in Chad.



Who Are the Refugees?

This is the first question that must be answered in establishing any refugee-focused policy. To have meaningful impact on policy, the search for the answer should not simply consider refugees to be a single homogenous community but must explore their heterogeneity. Similarly, it should investigate both similarities and differences between refugees and host communities. The results will shape the selection of policies adapted to particular demographic groups and shed light on feasible venues for integrating refugees within local communities.

We found that the Sudanese and the Central African refugees were quite distinct. The Sudanese population was more static and characterized by large household size and a high ratio of women to men, especially across groups of prime working age. A majority of Sudanese refugees have been in Chad for more than 15 years. The more dynamic Central African refugee group had a large share of widows and young single men. Escalating violence, clashes, and military operations continue to send new waves of Central Africans across the border, so that the dynamic of this refugee group in Chad is constantly changing. Family size, household composition, and the stability of the refugee population could have major implications for the design of food aid and employment-support programs.

Although more than half of both Sudanese and Central African refugee households were headed by women, the link between female-head and household livelihood was very different for the two groups due to difference in marital status. Among Central African refugees, widows and divorcees made up nearly 75 percent of female-headed households. They had weak links, if any, to male-owned or controlled incomes and resources. But among Sudanese refugees, about 60 percent of female household heads were married—which might be explained by a high incidence of polygamous marriages where the husband was nonresident. This group had more potential for income from private transfers and access to other resources via their husbands.

Nearly half of all the refugees were under the age of 15, and the share was similar in host communities. This highlights the need for education and health care services for both groups. Addressing this need is important to enhance peaceful cohabitation and ease integration of the refugees into local populations.

The refugees tended to have more education than residents of host communities: Like the Chadian population in general, one-third of adult refugees, whether Central African or Sudanese, had at least primary education. However, in host communities, only about 10 percent of adults had that much education.

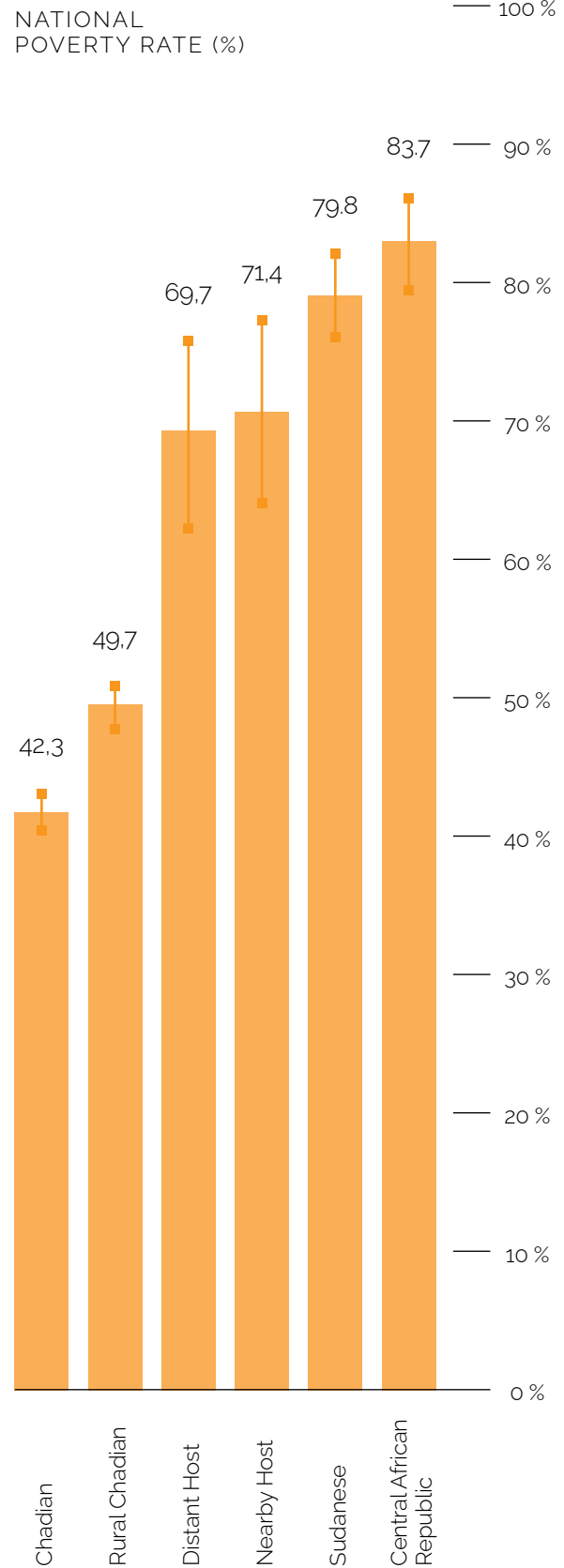
What is the welfare status of refugees relative to Chadians?

XVIII

The second crucial question for informing a long-term development and integration plan is the extent to which refugees fall behind their hosts in both monetary and nonmonetary terms. The answer requires distinguishing among the welfare of refugees, of Chadians in refugee-hosting areas and of those in the general population.

Poverty was as prevalent among the Sudanese and Central African refugees as among their host communities and was twice as high as in the general Chadian population. About 80 percent of refugees and host community residents were unable to satisfy basic food and nonfood needs,³ compared to 42 percent of Chadians generally.

3. Note that poverty was also high in remote areas in Chad that do not host refugees, e.g., Barh Signaka department (see World Bank 2015).



Note: 95 % confident interval in brackets.

Though poverty rates were similar across refugee groups and host communities, Central Africans consistently consumed less than their Chadian counterparts, and they did so at every point along the consumption distribution. But for Sudanese refugees, the level of consumption was similar to that of their host communities, except among the most well off. The annual consumption per capita among the most well off Sudanese refugees was approximately half that of peers in host communities. This large disparity between Sudanese refugee households in the top of the consumption distribution and their peers in host communities suggests there may be a ceiling that restricts the income growth opportunities of Sudanese refugees.

Food insecurity was a serious threat for all refugees and their hosts, but it was worst for the Central Africans. At the time of the survey, nearly half the Sudanese and their host communities did not meet minimum daily calorie intake requirements—but this was triple the rate for Chadians as a group. Close to 65 percent of the Central Africans were vulnerable to food insecurity. They were also less likely to receive food aid: 72 percent of the Central African households received food aid, compared to 91 percent of Sudanese households.

Nonetheless, refugees fared relatively better than their hosts on measures of multidimensional poverty because the former benefitted from greater access to education, health care, and basic services, mostly provided by nongovernmental organizations (NGOs) and international donors. Although health care, education, and other services have since been extended to host communities, some service disparities persist. For instance, 80 percent of refugee children were enrolled in primary education but only 30 percent of children in host communities.

Moreover, primary school enrollment was even higher among refugee children than among Chadian children in the general population. And nearly 80 percent of Sudanese and Central African refugees were able to seek health care when needed, compared to 55 percent of Chadians in host communities. However, it is important to realize that only 40 percent of Chadians in the general population had access to health care. To some extent, host communities also benefitted from basic services offered by NGOs and international donors.

What are possible sources of income growth for refugees?

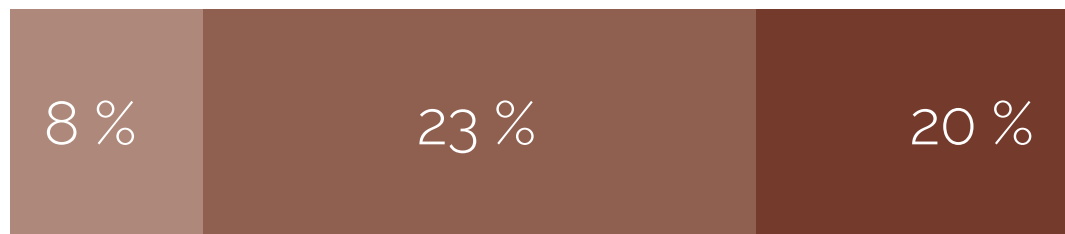


The key to helping refugees become self-reliant in the long run is expanding their opportunities for sustainable growth in income. Such opportunities are currently scarce, though agricultural production and small businesses are possibilities.

Aid alone was not sufficient to sustain minimum livelihoods, contributing about 50 percent of the income of the average refugee household. Another 20 percent was derived from irregular unskilled low-wage labor. The rest came from agricultural production, small businesses, and remittances.

Agricultural production, a predominant source of income in host communities, had also been a main activity of refugees in their countries of origin. Moreover, multivariate regression analyses that keep other factors constant found that refugee households with income from agricultural production were likely to consume 16 percent more than households without. However, refugees in Chad had very little access to land. While nearly 90 percent of

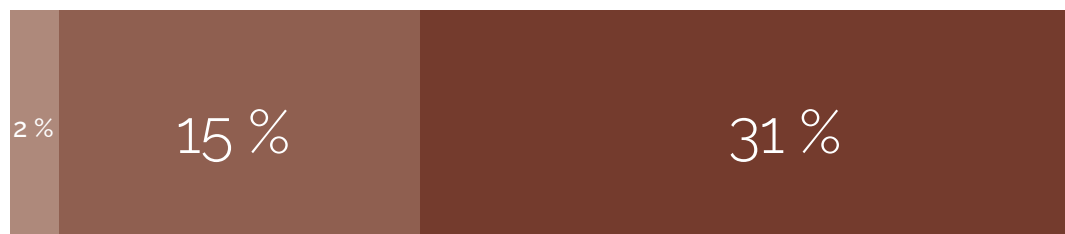
Sudanese



PERCENTAGE OF HOUSEHOLD INCOME

- Other sources (e.g. remittances)
- Unskilled low-wage labor
- Agriculture production + Small businesses
- Aid

Central African Republic



Chadians owned at least one plot, that was true for only 4 percent of Sudanese and 7 percent of Central African refugees.

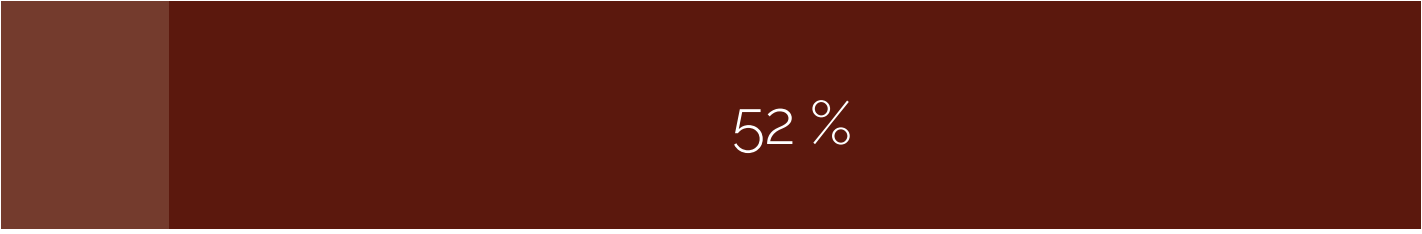
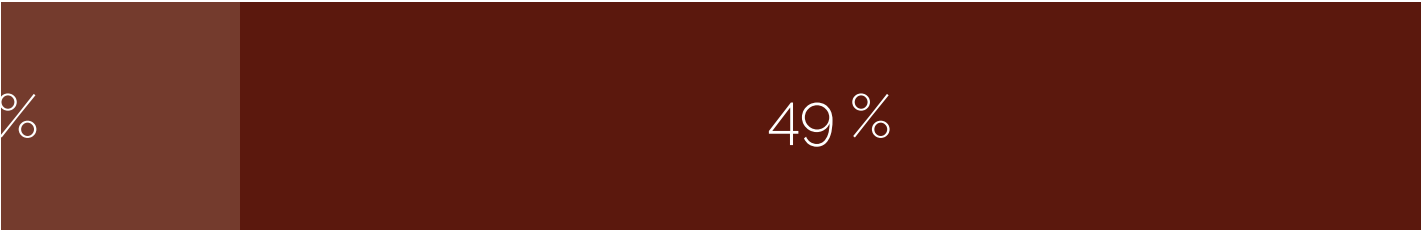
Contrary to a widely held perception, there are land rental markets in areas hosting refugees. About 50 percent of Sudanese refugee households were active in agricultural production, and of these, 90 percent rented at least one plot. Yet such ad hoc rental transactions restricted opportunities for long-term refugee investment in land and agricultural productivity. Refugees were also less likely to own plows, draft animals, or acquire other equipment to help increase productivity.

Small business could be another area for income growth for both refugees and host communities. Refugees, especially the Central Africans, were more likely than their hosts to operate small businesses like retail trade, food manufacture, goods repairs, and some type of transportation. Nearly 20 percent of the income of Central Africans was derived from household enterprises. However, these were mostly small scale, lacked equipment, and required only small initial investments. Both refugees and hosts faced similar challenges to business growth, particularly heavy market competition and little access to credit.

Although wages⁴ contributed a relatively large share of household income, given the low-paid casual unskilled work they had, it was unlikely to be a sustainable income source for either refugees or hosts. When local demand for labor remains unchanged, a large influx of refugees in remote areas could lower wages, especially for the unskilled. Moreover, in the long run, there are few opportunities for job creation to absorb the excess labor in most refugee-hosting areas.

Refugees and their host communities were usually on the brink of welfare loss because of shocks. Among households, 80 percent had experienced at least one shock in the previous three years, most likely health shocks, natural disasters, and high food prices. However, coping strategies varied. Refugees often relied for support on social networks, such as friends, family, NGOs, and religious groups; Chadians were able to count on both social capital and savings.

4. Wage income refers to income from casual labor in agriculture, transportation, construction, domestic work, and retail trade.



How have some refugee households achieved higher incomes?

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After years of rebuilding their lives in Chad, refugees were clearly still highly vulnerable to poverty and food insecurity, with few opportunities for income growth. However, an important finding was the heterogeneity in welfare among refugees: some refugees succeeded in doing relatively well. Though many were poor, some were not.

This observation poses important questions for policy makers: In similar circumstances, how did some refugee households achieve higher incomes? What were the drivers? Understanding the answers can guide policies not only to accelerate growth in refugee incomes but also help the poorest refugees escape poverty.

Our hypothesis is that refugees who achieved higher incomes may have advantages because of initial assets, social capital, human capital assets and sources of income. The initial assets they managed to bring to Chad, even if limited, may have helped them rebuild their lives and support new investment. While refugees often benefitted from similar assistance programs, those with more social capital, such as extended families in the camps or networks with people outside the camps, may be able to borrow more and cope more effectively with shocks. Human capital assets, such as language and other skills, may help them achieve income growth. These factors together may create sources of income that can be used to enhance consumption and lift households out of poverty.

We found that initial assets had long-term impacts. Refugees who had arrived in the camps in Chad with assets exhibited higher consumption years later. Keeping factors such as family structure constant, a refugee household that crossed the border with valuable assets, like cash or jewelry, more than 10 years previously was likely to consume 19 percent more today than a household that had arrived without assets. The welfare effects of initial assets were similar for both Sudanese and Central Africans.

In contrast, social networks based on family connections within the camps did not appear to yield welfare returns for refugees. It may be that such connections provide reliable social and financial support but also represent additional responsibilities that weigh on household resources, or that in the camp, all households subject to correlated shocks so there is no scope for insurance. Social networks based on connections with people living outside the camps were, on the other hand, associated with an 11 percent relative boost in Central African household consumption per capita.

The capacity of refugees to borrow highlighted the importance of access to credit. This indicator probably absorbed the welfare impacts of the social networks described. Among the Sudanese, a household that can obtain a loan equivalent to one month's income could be expected to have 14 percent higher consumption than a household that cannot borrow; among Central African refugees, the consumption boost was 24 percent.

Except for wages, additional sources of income were associated with higher refugee consumption, particularly for Central Africans. Wage income is negatively correlated with consumption, signaling that casual labor was a last resort for refugees seeking to make ends meet. Similarly, more education did not seem to yield better welfare, at least among the Central Africans. This may imply a constraint in the labor market.

What is the relationship between refugees and host communities?

Our analysis in this case focuses on the relationship between the largest refugee group in Chad, the Sudanese, and their hosts. Although this survey design choice was dictated primarily by the survey budget,

it is true that the Sudanese are the largest refugee group and have a relatively long and stable relationship with host communities that dates to the arrival of the first Sudanese refugees in 2003.

The dynamics of the relationship between Central African refugees and host communities may be different because of the relatively shorter history, the smaller number in the Central African group, and the greater volatility in the influx of the Central Africans into host areas.

Relative to official assessments, refugees and their hosts both consider themselves poorer. About 95 percent of the Sudanese believed they were poor; the official rate was 80 percent. Similarly, 81 percent in the host community believed they were poor compared to an official rate of 70 percent.

Perceptions and official measures did agree about the causes of poverty: the scarcity of jobs and, especially among Sudanese refugees, lack of access to land. As the most important reason for poverty, 54 percent of refugees cited lack of employment. This implies that refugees have a strong need to work and did not usually attribute poverty to insufficient assistance.

Nearly half the residents in host communities perceived their problems in food security and welfare to be worse now than 20 years ago before Sudanese refugees arrived, but they did not appear to blame the refugees.

We randomized hosts into two groups: one was asked to compare their current welfare and food security with the situation 20 years ago, and the other to compare the current situation with that prevailing before the refugees arrived. There was no significant difference in the responses of the two groups.

What is the road forward?

The study findings led to five main recommendations. The first is to ensure in the short run the basic livelihoods of refugees; the other four are focused on sustainable income growth. Together, the recommendations call for an immediate, bold investment that can have significant, long-lasting impact on the welfare of refugees and ultimately ease the pressure for aid.

XXIV

1. Continue food aid

At the time of the survey, 63 percent of Central African and 47 percent of Sudanese refugees could not access the minimum daily calorie intake requirements. The prevalence of food insecurity was similar in host communities. Thus, the immediate top priority of both donors and the government in structuring the assistance program is food aid.

Suggestions

- + Extend coverage in host communities, financed by the government or government and donors.
 - + Allocate food aid on a per capita or adult-equivalent basis to take into account large variations in household family size and age distribution.
- The following actions should be undertaken with caution:**
- + Target food programs to reduce costs very carefully. Any targeting error—e.g., food-insecure households mistakenly identified as nonbeneficiaries—can have irreversible consequences on households already on the brink of destitution. Assistance programs can be targeted when refugees have more access to viable sources of income.
 - + Partly or fully substitute cash transfers for food aid. In recent years, there has been a major shift because of the many advantages of cash over food in-kind.⁵ In Chad, it is important that any shift to cash transfers take into account the capacity of local food supply in refugee-hosting areas to avoid pushing up food prices. A cash program could be rolled out swiftly in areas where food markets are liquid, like N'Djamena. For refugee camps in areas that are remote but have potential for agricultural production, such as the Southern part of the country, a shift to cash transfers should be implemented gradually and complemented by programs supporting local agricultural production for both refugees and host communities. However, in secluded areas where agroecological conditions for enhancing food production are harsh, such as north-east Chad, food may be more effective than cash in improving food security for refugees.⁶
-
5. See Gentilini (2016) for a comparative assessment of 14 impact evaluations in 11 developing countries that compared cash and food in-kind modalities.
 6. To assess the food needs of both refugees and host communities, the UNHCR jointly with WFP conducted the annual SMART SENS survey in March 2021, and the JAM survey is planned for June 2021. The survey results could potentially inform the design of appropriate and tailored interventions.

2.

Adopt a “graduation” approach

For the past 15 years, the government and development partners have been supporting refugees through a variety of programs, many delivered as separate food, water, education, and health services projects. Few are designed to improve labor productivity. It has been proved that combining complementary programs into a single comprehensive approach—a “graduation” approach—can meet immediate household needs and help spur transition to more secure and sustainable incomes. In Chad, the World Bank is now conducting a randomized control trial to evaluate the impacts of a multifaceted intervention on beneficiary welfare, the results of which could inform design of an effective graduation program.

Suggestions

- + Introduce a comprehensive graduation approach that combines complementary programs for cash transfers, productive assets, and training for refugees and host communities. (The graduation cash component would be a top-up to the food or cash support proposed above, to be used for productive investments.)
- + For the cash component, consider both lump-sum payments and short-term installments. This would allow refugees to use the larger amounts for investments and the smaller amounts to smooth consumption during shocks.
- + For productive assets, consider agricultural tools, agricultural inputs, or livestock. However, for this component, success depends on sources of household income and locations of

refugee camps for logistic implementation of the programs.

- + For the training component, design the capacity-building programs to complement the other components and take into account the demographic characteristics of each refugee group.

3.

Provide long-term leases on land or allocate land that has potential for cultivation

As noted, agricultural production has the highest potential for sustainable growth of refugee income. Our multivariate regressions showed that refugee households that were able to work in agricultural production did a better job of achieving sustainable welfare levels and closing the welfare gap with host communities. The prerequisite for boosting refugee agricultural income is access to land, the lack of which is a key reason for refugee poverty.

Suggestions

- + Negotiate long-term land leases for refugees. To achieve sustainable growth and economies of scale, a system should be established to make large areas of land available to refugees on long-term leases. Donors could rent the land on behalf of refugees, and the refugees could pay an annual fee based on the size of the plots they are allocated.

- + Relocate refugees, on a voluntary basis, to cultivable land. There is considerable space for agricultural expansion in Chad, where only 12 percent of potentially cultivable land is being used. Refugees can provide additional labor for agricultural expansion. Although land tenure is a politically sensitive issue in Chad, one option is to rent a cultivable area from the government, relocate refugees who wish to explore new areas, and secure longer-term settlement with opportunities for growth in agricultural incomes.
- + Target Chadian host communities through government and donor programs when promoting agricultural productivity. Including Chadians in host communities as beneficiaries would also offer local communities incentives to host refugees.

4. Enhance microfinance and mobile financial services

Supports from a graduation intervention could be a catalyst to spur investment, but ultimately access to credit is needed. In preparing this ambitious agenda it is important that no vulnerable groups, refugees, and host communities are left behind when opportunities arise. Thus, access of refugees and Chadians in host communities to microfinance and mobile financial services should be a priority.

Supply-side suggestions

- + Expand financial inclusion and microfinance and mobile financial services throughout Chad. The World Bank (2019) provides an exhaustive

list of recommendations to boost the financial sector in Chad through regulation, market competition, and pricing.

- + Extend coverage of microfinance institutions (MFIs) and mobile money to refugee hosting areas, which often have a high concentration of potential users, of whom nearly 50 percent have mobile phones.
- + Adopt flexible forms of identification, such as refugee identification (ID) cards. If refugees are to be additional sources of profit to MFIs, flexible forms of collateral are also needed.
- + For both refugees and host communities, facilitate savings and credit associations, particularly around income-generating activities. Given how much impact such programs can have on household welfare,⁷ it is important to train refugee savings groups in, e.g., electing group managers to establishing rules for saving, lending, and record-keeping.

Demand-side suggestions

- + Create refugee ID cards that can be used like the national ID cards, which are required for opening mobile money accounts or accessing microfinance credit. This may require the UNHCR to work closely with the government so that refugees are fully recognized by national authorities and financial institutions.
- + Introduce refugees and host communities to the financial concepts behind savings and credit associations and MFIs and the benefits of mobile banking.

7. See Karlan et al. (2017) for impact evaluations in Ghana, Malawi, and Uganda. See Beaman et al. (2014) for Mali.

5. Facilitate refugees freedom of movement

All proposals above are intended to enhance food security and boost income growth for refugees and host communities so that they can ultimately be self-reliant. However, though access to land and microcredits can help refugees to attain subsistent farming, it will take more than that for them to achieve income growth that is sustainable. Also needed are infrastructure networks that link refugee-hosting areas to larger markets for goods and services where refugees can trade and diversify their production and businesses. While currently such investments are prohibitively expensive, one option is to allow refugees to move to areas that already have the necessary infrastructure and markets. Refugee households that received remittances from members working outside the camps were likely to have significantly higher consumption than households without remittances.

Suggestions

- + Enforce the new Asylum Law to grant refugees freedom of movement. That will allow them to work outside the camps, protect their labor status, and ensure they have fair job opportunities.
- + Ensure that national authorities recognize refugee ID cards as an official form of identification to facilitate refugee movement and settlement in Chad.

6. Address knowledge and data gaps

Effective policies supporting refugees and Chadians must be based on knowledge and data on the social and economic conditions and root causes of poverty faced by both population groups.

Suggestions

- + Include refugees in national household surveys to close the data gaps and provide comparable data on the living conditions of refugees and Chadian. The inclusion of refugees has been conducted in ECOSIT 4 and should continue to be implemented in subsequent national household surveys (e.g. ECOSIT5 under preparation).
- + Set-up an early-warning system and a monitoring and evaluation system of refugee-support programs to inform and guide policy makers to anticipate and proactively respond to different crisis affecting refugees and Chadians.
- + Coordinate among government and international development agencies to systematically compile all evidence and lessons learnt on refugee-related programs.

Chapter 1

Introduction



Samar—not her real name—greeted us at her dwelling on a hot October afternoon. We sat on a straw mat spread on the ground next to her clay-walled house and listened to her story while two of her children played nearby—the oldest was on her way to fetch firewood with some of her friends. Like many of her neighbors in Goz Amer Camp, Samar had no land or savings. She had been looking for small manual jobs to supplement the aid her family received, but not much was available. The farming season was over. Even small jobs, such as disking the soil or hauling goods to the market, were more difficult to come by. Samar didn't work yesterday. Nor has she worked today. It is difficult to live this way, especially because the amount of aid was dwindling.

“Where can I get food and money today?” she asked grimly. “What am I going to do tomorrow?”

Samar is not alone. She is one of hundreds of thousands of refugees in Chad, most of whom have been residing here for more than 15 years, since the day they fled their conflict-ravaged homeland.

Her question pierces through the core policy discussion in Chad. Refugees are here to stay, and more are coming soon. What can be done to help them rebuild their lives and take control of their future?

Ultimately, like most other people, refugees want to have a home, a stable income, and a promising future for their children. This entails a comprehensive and coordinated approach by governments and the donor community to create an environment that supports refugees as they find their footing in Chad, become self-sufficient, and integrate smoothly within the local community and the local labor market.

“Refugees in Chad: The Road Forward” offers rigorous evidence and concrete recommendations for the continuing policy discussion in Chad. This chapter provides background on the crisis, reviews refugee-management policies so far, and describes the data and methodology supporting the report. Subsequent chapters offer answers to key questions: Who are the refugees? How far behind Chadians are they in both monetary and nonmonetary welfare measures? In similar circumstances, how do some refugee groups achieve higher incomes than others? What are the current relationships between refugees and host communities? The answers to such questions may shape policies that are more suitable for certain refugee groups and shed light on feasible venues for integrating refugees into local communities.



Motivation and Objectives

Over the past decade, Chad—a landlocked country in the Sahel region that is one of the poorest countries in the world—has been significantly affected by forced displacement. Chad hosts nearly 500,000 refugees from the Central African Republic, Sudan, and, recently, Nigeria (Figure 1.1); a majority of the first two national groups have been in Chad for more than 15 years. There are also an estimated 336,000 internally displaced Chadians and nearly 100,000 Chadian returnees, exerting even more pressure on an already fragile economy.⁸ Most refugees are hosted in isolated and lagging regions along Chad’s borders. COVID-19

has heightened the vulnerability of the refugee population, especially women and children. Given the risk of political instability among all its neighbors, Chad is likely to soon receive more refugees.

Chad is hosting refugees in a challenging socio-economic context. After the discovery of oil in 2003, the country’s gross domestic product (GDP) doubled, although the impressive economic growth did not improve the welfare of the population. In 2020, about 40 percent of Chadians were still living on less than US\$1.90 a day at 2011 purchasing power parity. Chad is also among the 20 poorest countries in the world based on gross national income per capita.⁹ Following the 2014 plunge in global oil prices and a series of poor investments over the years, Chad is in a state of fiscal, economic, and social crisis. Since late 2016, government austerity measures have intensified social tensions, and strikes among civil servants have disrupted key social services. As elsewhere in the world, in 2020 the COVID-19 pandemic has hit Chad’s economy hard: GDP growth for the year was estimated at a negative 1 percent, and growth per

Figure 1.1. Composition of the Refugee Population in Chad

Source: <https://data2.unhcr.org/en/country/tcd>.

370,774

Sudanese

capita at negative 3.7 percent. But the economy was fragile even before the pandemic. In 2019, growth per capita was a mere 0.2 percent.

There is an urgent need not just to manage the perilous situation but also to establish a development and integration approach that can effectively support the increasing inflow of refugees.

A combination of a growing refugee population (Figure 1.2), the extended existence of refugee camps in which a majority of the refugees have long been living, a challenging national socio-economic situation, and rapidly decreasing donor resources calls for a stronger focus on the building self-reliance and the integration of refugees into local communities.

Such an approach could result in sustainable livelihood opportunities for refugees, socioeconomic development in host villages, and the potential of positive spillovers to the rest of the country, as well as relieving the financial pressure on the government and external partners.

The transition from a humanitarian aid approach to managing the refugee situation to an approach based on development and integration requires a comprehensive understanding of the well-being and livelihoods not only of refugees, but also of host communities and the Chadian population. Host communities often face similar socioeconomic challenges. Both refugees and host communities have significant unmet needs in nutrition and access to basic services, such as health, education, water, and sanitation.

8. <https://data2.unhcr.org/en/country/tcd>.

9. 2020 data, World Development Indicators (WDI) database. <https://datatopics.worldbank.org/world-development-indicators/>.

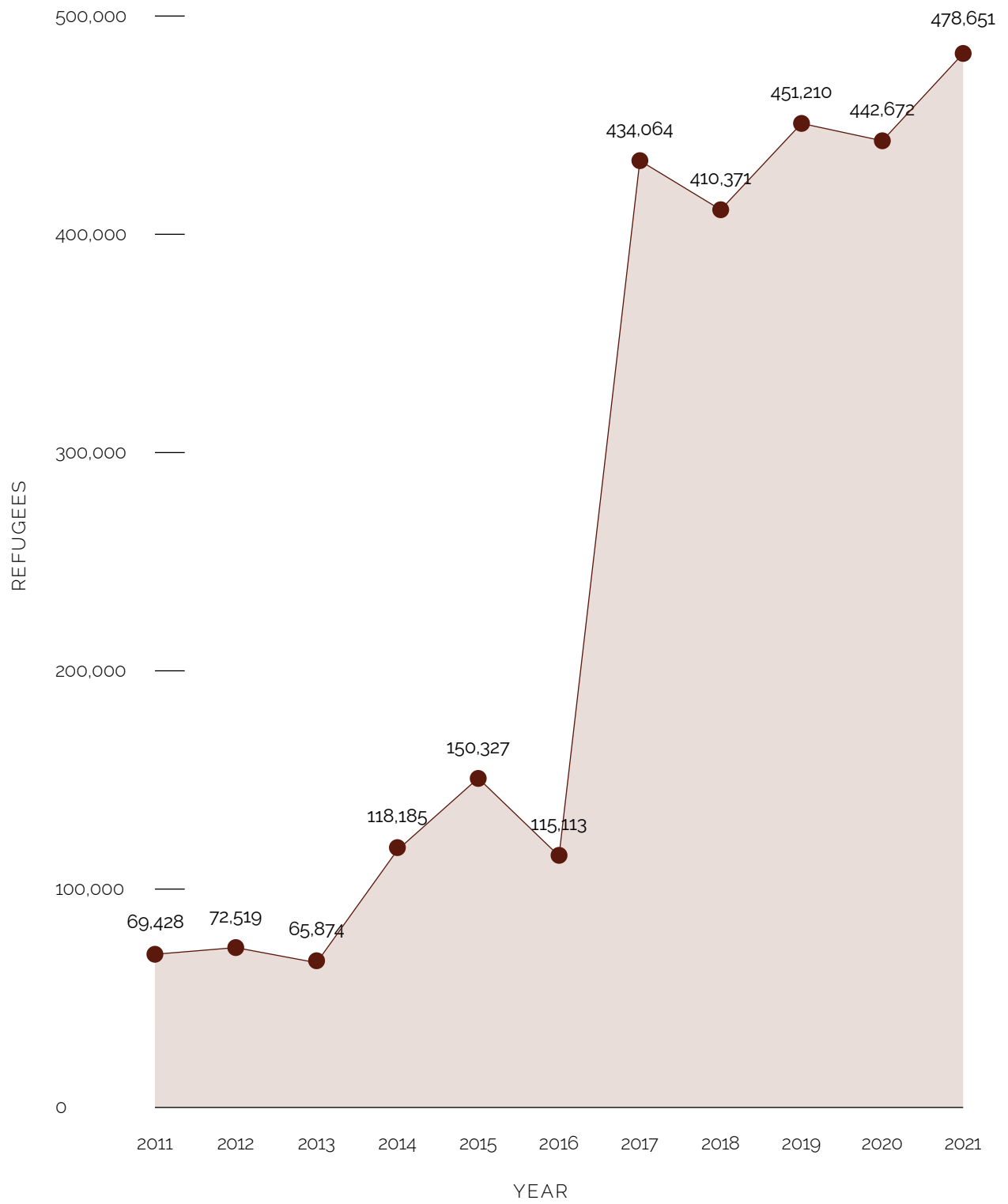
867
Others

104,132
Central African Republic

16,231
Nigerian

243
Democratic Republic of the Congo

Figure 1.2. Number of Refugees in Chad, 2010–22



Source: <https://data2.unhcr.org/en/country/tcd>

Similarly, while the welfare of the Chadian population is, on average, higher, they still suffer many hardships, including shortages in both job opportunities and human capital achievement. Thus, to integrate refugees into the domestic labor market, economy, and society, it is critical to understand how they compare with host communities and the Chadian population as a whole in education, skill sets, assets, and employment. The development community has made enormous efforts to collect socioeconomic data on refugees and, to some extent, on host villages. However, there has been no comprehensive information about multidimensional aspects of welfare for not only refugees and host communities but also the general Chadian population that might reveal the major issues facing each group.¹⁰

The objective of this study is to collect hard data and empirical evidence to support policy decisions on how to help refugees rebuild their lives and become self-sufficient while creating an environment in which refugees and host communities can thrive together.

Chad is one of the first countries in Africa to include refugees and host communities in a national household survey.¹¹ In 2018–19, the Refugees and Host Communities Household Survey expanded the national survey to include a representative sample of refugees and host communities. The survey covers the two main refugee groups in the country—the Sudanese in the east and the Central Africans in the south—and host villages in the east. This unique data source is used to explore the current welfare of refugees relative to host communities and the general Chadian population, identify potential areas of income growth, and assess the relationship between refugees and their hosts. The findings can help shape the design of refugee-focused policies and programs.

Background of the Refugee Crisis

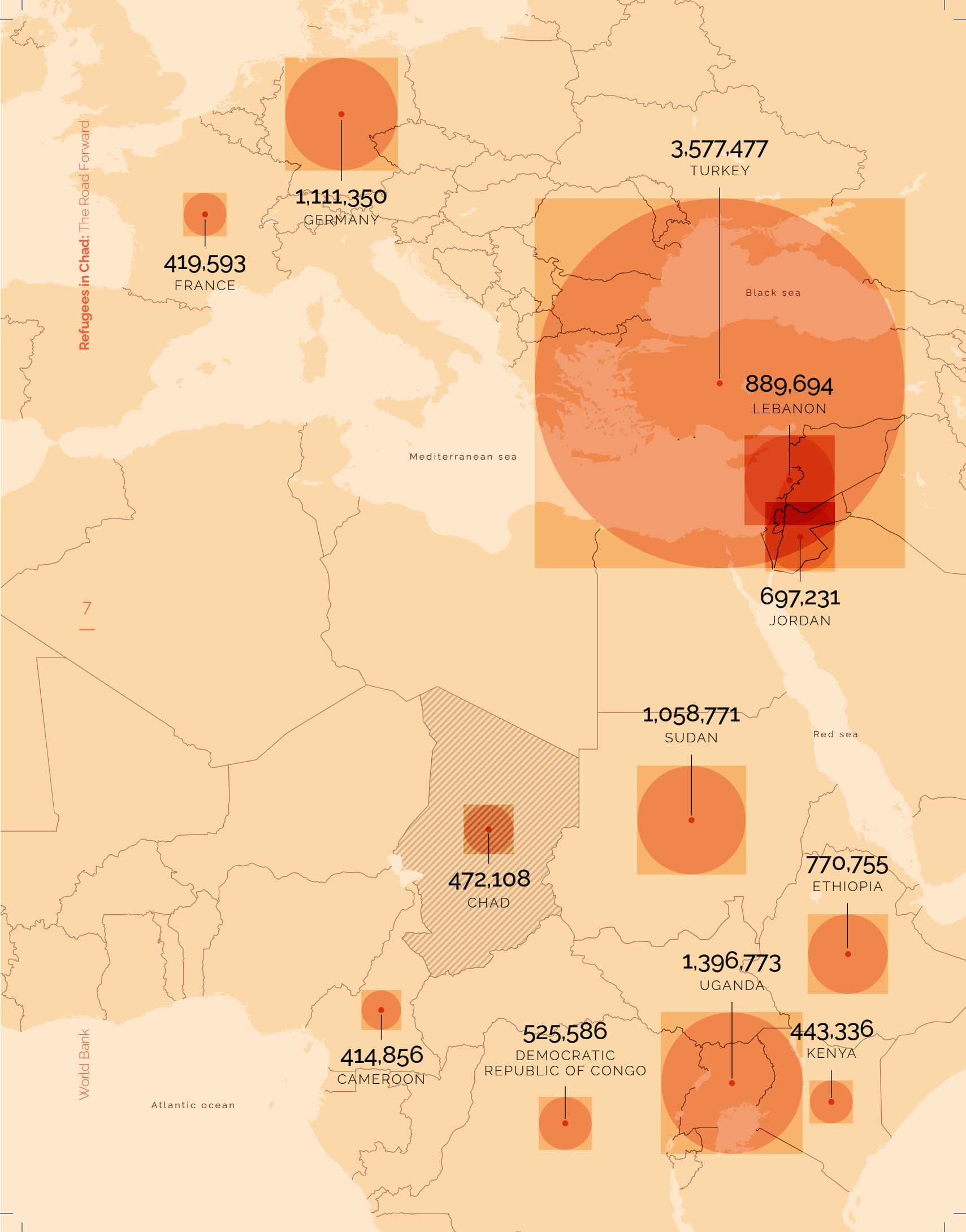
With nearly 500,000 refugees by December 2020, Chad hosts the 12th most refugees in the world and the 5th most in Africa, after Uganda, Ethiopia, Sudan, and the Democratic Republic of Congo (Map 1.1). Most refugees arrived in Chad between 2003 and 2004 after conflicts broke out in the Central African Republic and Sudan; they have been settled in camps and villages in isolated and lagging regions along Chad’s eastern and southern borders.

The long-term settlement of refugees in Chad may stem from security and economic problems in their countries of origin (Jacobsen 2005). A return may not be considered safe by refugees from regions in which conflicts continue, as in the Central African Republic, or by particular ethnic groups, as in Sudan. Even as the Darfur peace agreement was being reached in Sudan, there was constant fear that peace was not being realized evenly across post-conflict Sudan and that pockets of resistance might pose dangers for returnees.¹² The economies of the Central African Republic and Sudan have also been devastated by years of conflict, making the rebuilding of livelihoods challenging. This is especially difficult for refugees who for most of their lives have lived in Chad.

10. There is currently a household survey based on a short questionnaire (Registre Social Unifié) that covers refugees and host communities under the Development Inclusif des Zones d’Accueil (Inclusive Development of Host Communities, DIZA) and PARCA.

11. At the time of the survey, the other countries are Uganda and Niger.

12. The process involved the Abuja Agreement in 2006, the Doha Agreement in 2011, and the Juba Agreement in 2020.



Atlantic ocean

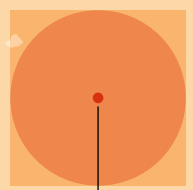
Mediterranean sea

Black sea

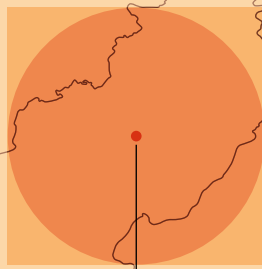
Red sea



Caspian sea



979,435
IRAN



1,425,473
PAKISTAN



860,432
BANGLADESH

Indean ocean

Map 1.1. Host countries with more than 400,000 refugees.
Source: <https://www.unhcr.org/refugee-statistics/>



LIBYA

NIGER

Tibesti

Borkou

Ennedi ouest

Ennedi est

Kanem

Bahr el Gazel

Batha

Wadi Fira

SUDAN

Lac

Ouaddai

NIGERIA

Hadjer-Lamis

Guéra

Sila

N'Djamena

Chari-Baguirmi

Mayo-Kebbi Est

Salamat

Mayo-Kebbi Ouest

Tandjilé

Moyen-Chari

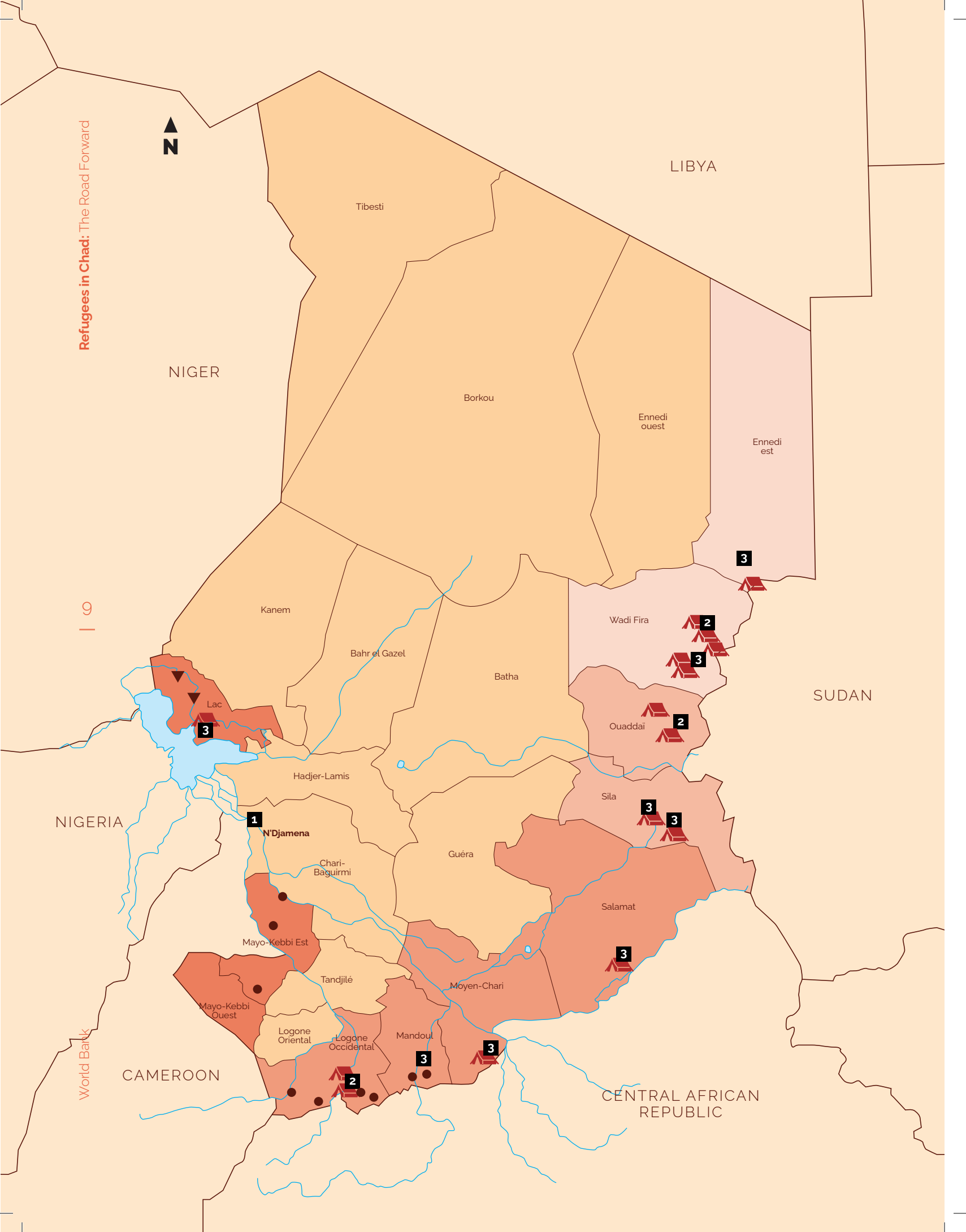
Logone Oriental

Logone Occidental

Mandoul

CAMEROON

CENTRAL AFRICAN REPUBLIC





Republic of Chad

The three main refugee areas in Chad are the eastern border, the southern border, and the Lake Chad region (Map 1.2).




The Eastern Border

More than 370,000 Sudanese refugees, about 75 percent of all the refugees in Chad, live along the eastern border. The refugee crisis started there in 2004, when escalating conflict in the Darfur region of Sudan forced hundreds of thousands of refugees to cross the border into Chad. In five regions in the east (Ennedi Est, Ouaddaï, Salamat, Sila, and Wadi Fira), 12 refugee camps, one installation site, and several villages were set up to accommodate 331,918 Sudanese refugees, most of whom remained in Chad for more than a decade. The biggest settlement is the Bredjing Camp, which hosts about 10 percent of Chad's total refugee population. For the camps, the median size is relatively large at about 24,000 refugees (UNHCR and CNARR 2018). In 2017, the United Nations High Commissioner for Refugees (UNHCR) and the governments of Chad and Sudan signed a tripartite agreement to set the basis for voluntary returns. However, few refugees have taken up this option because security in Darfur is still questionable, and livelihood opportunities in the original villages of refugees are still uncertain (Watson, Dnalbaye, and Nan-Guer 2018).

The eastern regions that host Sudanese refugees suffer from harsh agroecological conditions and are highly vulnerable to climate change. The area presents a graduation from Sahelian to Sudano-Sahelian ecology, with steppe-type vegetation in the upper north, bush-scrub in the center, and more wooded and grassy cover toward the southern end. There is little rainfall, especially toward the north on the eastern border, where the average annual rainfall is near the minimum for crop production at only 300 millimeters (about 12 inches). While the rainy season typically lasts from July to September, the distribution of the rain is highly sporadic. Moreover, the large refugee population has contributed to pasture overgrazing and environmental degradation (FEWS NET 2011). Climate change is another threat to these regions, where the average temperature in the next few decades is expected to rise 7° to 10°F (Boyce and Hollingsworth 2015).

Map 1.2. Location of Refugee Camps in Chad

Source: UNHCR 2020.

1 Branch Office	Uncovered area
2 Sub Office	SO Iriba
3 Field Office	N'Djamena area
 Refugee Camps	SO Goré
 IDP's Site	SO Farchna
 Host villages	

The Southern Border

The southern regions of Chad host more than 100,000 Central African refugees who fled from politico-military conflict in 2003. A decade later, escalating violence in the northern Central African Republic caused nearly 70,000 Chadian returnees to cross the border.¹³ Six camps; other settlement sites; villages in Logone Occidental, Logone Oriental, and Moyen-Chari; and the periurban area of the capital, N'Djamena, house the Central African refugees. Of the camps in the south, Belom is the largest, housing about 20,000 refugees. The median population of settlement sites is about 9,000—much smaller than the sites in the east. Frequent clashes between armed groups and communities in the northern part of the Central African Republic, and especially the post-election outbreak of violence there in January 2021 continue to send waves of refugees fleeing to Chad.

The southern regions have been relatively fertile, but are still insecure. The natural vegetation is composed of savannah bush and grasses; average annual rainfall is relatively high at 800 to 1,000 millimeters a year, and the rainy season is longer, from May to September, than in the north. Soils are moderately fertile, but there are pockets of erosion across the regions (FEWS NET 2011).

Moreover, the various waves of Central African refugees and Chadian returnees has added pressure on land and water supplies, and also disrupted the movement of cattle (World Bank 2017).

The Lake Chad Region

Starting in 2009, the Boko Haram insurgency has evolved into a regional crisis affecting all the countries in the Lake Chad Basin. As of December 2020, more than 16,000 Nigerian refugees had found shelter along the western border in Lac Region (UNHCR and CNARR 2018). Given the severe insecurity in this region, an upward trend in displacement is expected (World Bank and UNHCR 2016).

This semidesert region has one of the harshest climates in the Sahel. A combination of low precipitation (only about 250 millimeters a year) and poor soil quality means that rainfed millet is one of the few crops that can survive there. Yet, even rainfed millet production is highly vulnerable to the erratic distribution of the rains in this region, and the location is thus at high risk of food insecurity. The displaced population is thus putting additional pressure on the already scarce resources.

13. <https://data2.unhcr.org/en/country/tcd>.



Refugee Management in Chad

The government of Chad has adopted a progressive approach to hosting and protecting refugees through a combination of laws and institutional arrangements. The country is a party to the 1951 Convention Relating to the Status of Refugees and the 1967 Protocol Relating to the Status of Refugees. In August 1981, the government ratified the 1969 Convention Governing the Specific Aspects of Refugee Problems in Africa. In 1991, the country acceded to both the 1954 Convention on the Status of Stateless Persons and the 1961 Convention on the Reduction of Statelessness. In 2011, Chad became party to the African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (UNHCR 2013). Chad recently became the first country to contextualize the Global Compact for Safe, Orderly, and Regular Migration under the auspices of the United Nations.¹⁴ Some Chadian laws protect the rights of refugees. For example, the 2015 Law on Civil Status allows access to birth certificates for refugees born on Chadian territory. In 2018, the country adopted the Global Compact and launched its Comprehensive Refugee Response Framework (CRRF) in line with its Commitment made during the adoption of the New York Declaration of 2016. Moreover, in December 2020, the Chadian National Assembly adopted the Asylum Law N° 027 /PR/2020 for the protection of refugee and asylum seekers in the republic of Chad. This law will ensure protection, freedom of movement, the right to education, health and access to justice.¹⁵ The adoption of this law makes the country a pioneer in respecting its commitments to protect refugees and asylum seekers.

The government agency at the heart of Chad's refugee-related operations is the National Commission for the Reception and Reintegration of Refugees and Returnees (*Commission Nationale d'Accueil et de Réinsertion des Réfugiés et des Rapatriés*). The commission is housed in the Ministry of Territorial Administration and Autonomous Communities (*Ministère de l'Administration du Territoire et des Collectivités Autonomes*) and is supported by line ministries, local authorities, and the United Nations High Commissioner for Refugees (UNHCR). The commission participates with the UNHCR and international partners in such activities as registering new arrivals, issuing documents,¹⁶ and managing refugee camps and settlement sites. Moreover, it acts as a technical advisor to the government in working out long-term solutions, including voluntary repatriation agreements, resettlement, and local integration. Other ministries, such as the Ministry of Women, Social Action, and National Solidarity (*Ministère de la Femme, de l'Action Sociale, et de la Solidarité Nationale*) and the Ministry of the Economy and Development Planning (*Ministère de l'Economie et de la Planification du Développement*), ensure that refugees, internally displaced persons, and returnees are covered by Chad's development strategies, including the National Social Protection Strategy and the National Development Plan.

14. See "Chad," International Organization for Migration, Geneva, <https://www.iom.int/countries/chad>.

15. <https://news.un.org/fr/story/2020/12/1085302#:~:text=L'Agence%20des%20Nations%20Unies,ce%20pays%20d'Afrique%20centrale>,

16. However, national authorities, particularly law enforcement agents, do not fully recognize the refugee identification document.

Local and regional authorities also help implement national strategies and allocate local investment funds. Among these, the regional action committees (*comités régionaux d'action*) are crucial liaisons between local communities and regional and national government structures (World Bank 2018).

While ensuring security in refugee areas is an enormous financial commitment for Chad's government, the government also relies heavily on external partners to manage the situation and provide assistance to refugees. In 2016, nearly 3 percent of Chadian GDP was allocated to security to combat transnational terrorism and support regional stabilization and peacebuilding initiatives (World Bank 2018). International partners, notably the UNHCR, have supported the government in providing services in all refugee camps around the borders of Chad since the beginning of the Darfur crisis. There are multiple donor refugee support programs from, e.g., the United States Bureau of Population, Refugees and Migration, the European Union's Humanitarian Office, the United Nations Central Emergency Response Fund, Canada, Switzerland, the Educate a Child Program, Germany, and the Bill & Melinda Gates Foundation. These donors also provide substantial additional funding through humanitarian interventions through the World Food Programme (WFP), the World Bank, other United Nations agencies, and international and national governmental organizations.

However, since 2014 financial resources from external partners have been falling rapidly. Due to limits to the sustainability of humanitarian interventions and the pressures to divert resources to other global humanitarian crises, in recent years donors have been finding it difficult to mobilize financial resources for refugees in Chad. In early 2014, the WFP had to cut food rations by 50 percent because of severe budget constraints (World Bank 2017). As of January 2021, less than half Chad's operational budget was funded (UNOCHA 2021).

Survey Instrument

The findings presented in this report are based on the **2018/19 Refugees and Host Communities Household Survey in Chad (RHCH)** conducted by the World Bank¹⁷ and the National Institute of Statistics, Economics and Demographic Studies (INSEED) with support from the UNHCR in Chad.

The RHCH survey expanded the national official survey, the 2018/19 the *Enquête sur la Consommation des ménages et le Secteur Informel (ECOSIT4)*, to include a representative sample of refugees and host communities while collecting nationally representative data of the Chadian population. As this survey shares similar questionnaire and field implementation with the national 2018/19 ECOSIT4, it is possible to compare refugees and the general Chadian population.

The RHCH survey covers a comprehensive set of topics, e.g., demographic information, consumption, labor, access to services, and sources of income. Additional questions were specifically designed for refugees such as basic education, maternal health, experiences and welfare in country of origin, and subjective food security. The RHCH data was collected at the same time as the ECOSIT 4 data; first wave data collection was from June to September 2018, and the second wave from January to April 2019. Box 1 provides more information of both surveys.

17. Poverty and Equity Global Practice, World Bank.

Box 1. The ECOSIT4 and RHCH Surveys

The Chad ECOSIT4 is part of the joint effort between the INSEED, the World Bank, and the West African Economic and Monetary Union (WAEMU) Commission to conduct new nationally-representative household surveys in each of the 8 WAEMU member countries plus Chad and Guinea. For Chad, the new survey, ECOSIT4, has three advantages: (1) it meets international standards for poverty measures, (2) it is comparable to the household surveys conducted in other WAEMU countries, and (3) it will be comparable to the next ECOSIT survey planned for 2021/22. The ECOSIT4 2018/19 is representative at national, regional, and urban/rural levels.

The RHCH followed the same survey preparation, questionnaire, and fieldworks as the ECOSIT4.

Both surveys have 20 modules

1. Sociodemographic	12. Assets
2. Education	13. Private transfers
3. Health	14. Shocks
4. Employment	15. Social assistance
5. Nonlabor income	16. Agriculture
6. Savings	17. Livestock
7. Consumption	18. Fishing
8. Food security	19. Agricultural equipment
9. Nonfood expenditure	20. Subjective poverty
10. Household enterprise	
11. Lodging	

The RHCH survey has questions specifically for refugees embedded in modules 2, 3, 11, 15, 16, 19; and subsections for refugees in modules 3 (maternal health), 4 (employment in country of origin), 8 (subjective food security), 12 (assets), and 20 (subjective poverty). Module 15 contains an additional subsection for host communities about their perception of social programs refugees received.

The RHCH survey is representative of the two main groups that represent 96 percent of the refugee population in Chad: the Sudanese population in the east, and the population of the Central African Republic in the south. The survey did not cover the refugee group in Lake Chad because of concerns about the safety of the enumerators when survey was conducted.

The survey is also representative of the host communities in the east. Host villages are defined as Chadian villages within 15 km from the refugee camps. The budget for the RHCH survey can only cover host communities of one of the two main refugee groups, and the Sudanese group was selected for two reasons: (1) This refugee group accounts for 75 percent of the total refugee population, and (2) The Sudanese have been settled in camps at least since the Darfur crisis in 2003, and thus have a longer and more stable relationship with the host communities.

The survey used two sampling frames and was stratified by four domains. The first sampling frame was based on the UNHCR's registration list to determine samples for the refugee populations in the east and the south; the second used the list of Chadian villages within 15 km of the Sudanese camps and data from the 2009 Population Census to draw a sample of the host population. The four stratified domains are: Central African refugee groups in the south, Sudanese refugee groups in the east, nearby host villages (within 5 km of Sudanese camps) in the east, and distant host villages (5–15 km from Sudanese camps) in the east. Box 2 describes how sampling weights were calculated.

Host villages were selected, in consultation with INSEED and UNHCR about road conditions and means of travel, based on their expected interaction with the refugees. The definition of nearby host villages (within 5 km of a camp), was based on the idea that people from these communities would be able to travel to the camps every day for access to markets and, where available, schools.

Similarly, the definition of distant host villages (5–15 kilometers from the camp) follows the same discussion and the idea that people from these communities would be able to travel to a camp and return home the same day after gaining access to markets or services such as health checkups.

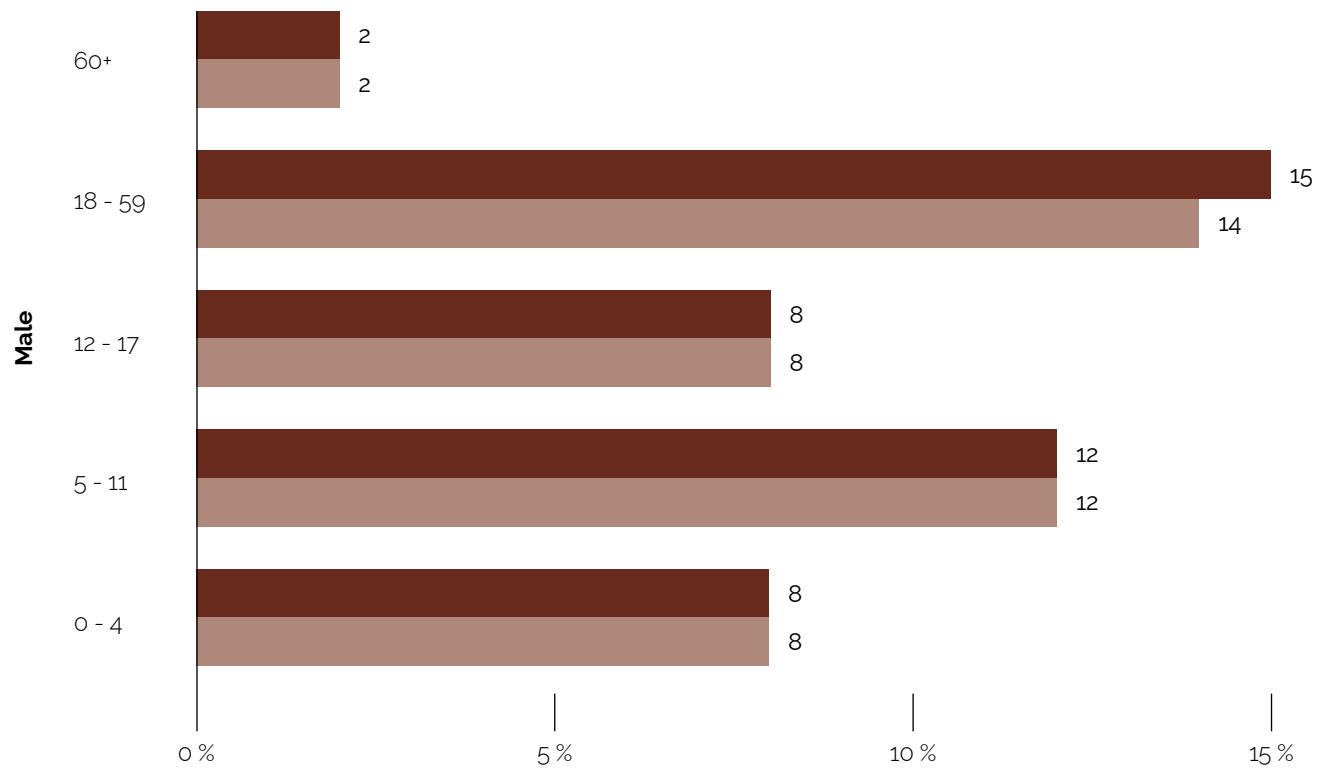
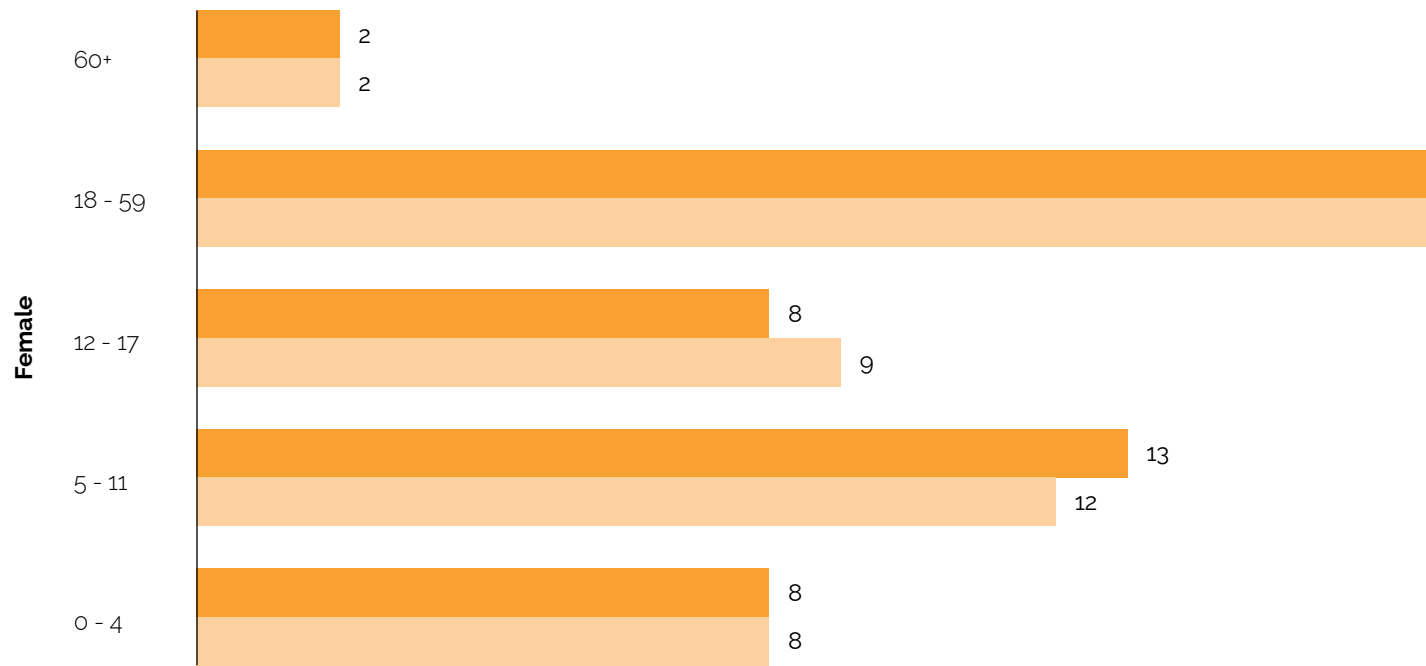
For each domain, a two-stage stratified sampling method was applied. In the first stage, refugee camps and host villages were selected using a Probability Proportional to Size with-replacement sampling method. Once camps and host villages were selected, the UNHCR provided lists of refugee households in each camp to serve

as the household listing for these areas. INSEED established household listings for the host villages selected. Refugee and host households were randomly selected in the second stage. Based on this method, the RHCH data cover 600 Central African households in the south, 600 Sudanese households in the east, and 600 host community households in the east. The households were distributed across 12 camps in the south, 12 camps in the east, 30 host villages within 5 km of a camp, and 22 host villages 5–15 km from a camp. Table 1.1 presents findings for each domain. Figure 1.3 compares indicators from the RHCH survey and from the UNHCR administrative data on which the RHCH sample was based. Annex A provides details on response rates for selected camps.

Table 1.1. Survey Response Rate

Domain	Households Interviewed, Number	Response Rate, %
Sudanese refugees in the east	595	74.3 %
Central African refugees in the south	600	85.7 %
Nearby host communities (within 5 km of Sudanese camps)	380	96.6 %
Distant host communities (5–15 km from Sudanese camps)	220	95.5 %

Figure 1.3. Demographic Composition of Refugees, RHCH Survey and UNHCR Administrative Data, Percent of population



Source: UNHCR and CNARR 2017.

Box 2. Sampling Weights

The sampling weight for a given refugee camp i in a region j was calculated using the following standard formula:

$$w_{i,j} = 1 / \left[\left(\frac{k_j N_{i,j}}{N_j} \right) \cdot \left(\frac{n_{i,j}}{N_{i,j}'} \right) \cdot C \right]$$

where k_j is the number of camps in the sample; $N_{i,j}$ the number of households in camp i in region j based on UNHCR information as of August 31, 2017; N_j the total number of households in region j based on the initial camp information; $n_{i,j}$ the number of households selected in the sample for camp i in region j ; $N_{i,j}'$ the number of households in camp i in region j based on UNHCR registration list before fieldwork; and C is the correction factor for non-responses.^a

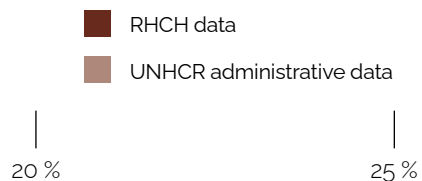
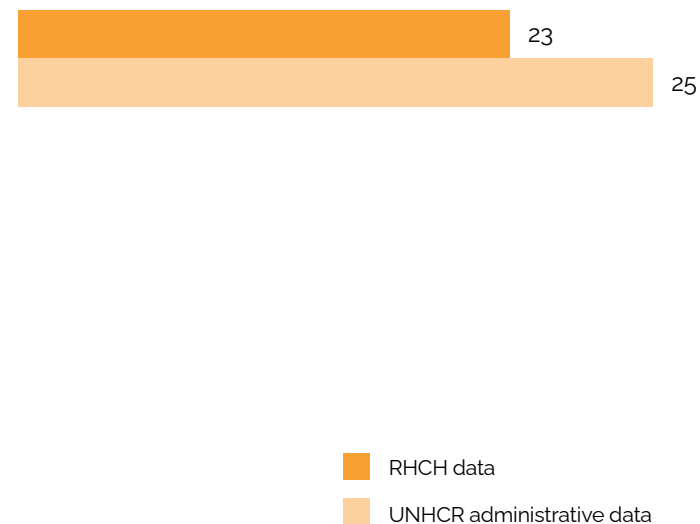
$$w_{a,b} = 1 / \left[\left(\frac{k_b N_{a,b}}{N_b} \right) \cdot \left(\frac{n_{a,b}}{N_{a,b}'} \right) \cdot C \right]$$

Similarly, the sampling weight for host village a at a distance of b was computed as follow:

where k_a is the number of host villages selected in the sample; $N_{a,b}$ the number of households in village a in distance category b based on the initial listing from INSEED¹⁸; N_b the total number of households at distance b based on the initial listing; $n_{a,b}$ the number of households selected in the sample for village a in distance category b ; $N_{a,b}'$ the number of households in village a at distance b based on INSEED's new listing before the fieldwork; and C is the correction factor of non-responses.^a

a. Because all nonrespondent households were replaced, the correction factor is set to 1.

18. Distance categories are (1) within 5 km and (2) within 5–15 km of the Sudanese camp.



Chapter 2

The Face of Refugees Present and Past

19



The foundational question for any refugee-focused policy is: Who are the refugees?

If policies are to be meaningful, this fundamental question should not treat refugees as a single monolithic community but explore the heterogeneity of refugee communities: How diverse are their demographic characteristics? The question should cover how similar to or how different from their host communities the refugees are. The answers can help policy makers to identify which policies are more suitable for certain demographic groups and venues are more feasible for integrating refugees into local communities.

This section highlights four findings:

- + The Sudanese and the Central African refugees were quite distinct. A large share of Central African refugees were widowed women and single men, and they spoke a wide range of languages. Sudanese refugees had larger households and a high ratio of women to men, particularly in the prime working age group.
- + Compared to host communities, refugees had more education; they were also more likely to have female-headed households and to work in nonagricultural sectors. The latter type of work could possibly be the result of the limited refugee access to agricultural land and input.
- + The share of children was high in both refugees and host villages; thus, both communities need more education and health care services. Addressing this need is important for peaceful cohabitation between the two groups and easing the integration of refugees into local populations.
- + In their countries of origin, agricultural production had been a main activity, particularly for the Sudanese refugees. Over 90 percent of Sudanese refugees generated income from farming in their home states compared to 65 percent among Central African refugees.



Current Demographic Profiles, Sudanese and Central African Republic Refugees

There were significant differences in the sociodemographic profiles of the Sudanese and Central African refugees in Chad that highlight the importance of tailoring support programs to the unique needs of each group. Sudanese refugees accounted for about 75 percent of the total refugee population in Chad and Central African refugees for another 21 percent. Sudanese refugees averaged 15 years in the camps and Central Africans 6 years—most of the Sudanese had fled the Darfur conflict in 2003, whereas for the Central Africans civil conflict were intensified much more recently, sending many more across the border into Chad. Different lengths of residence in the camps may imply a need for different support (Crawford et al. 2015; Kamau and Fox 2013; World Bank 2017). For example, a shorter period of residence in camps may be associated with a greater need among Central African refugees for trauma care or basic needs assistance, such as lodging or basic necessities, before settling in a new location. Meanwhile, long-term Sudanese camp residents may benefit more from programs focusing on job creation and productivity growth, including support in agricultural production, training, and productive assets.

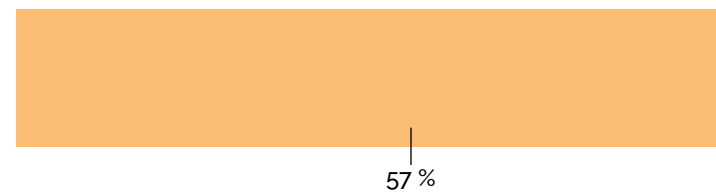
CHADIAN



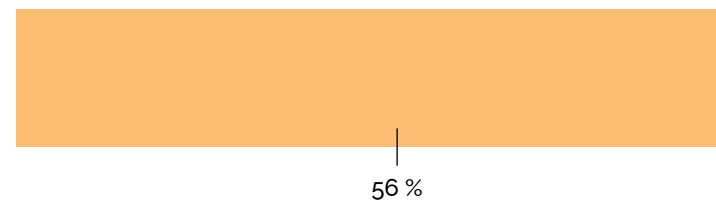
RURAL CHADIAN



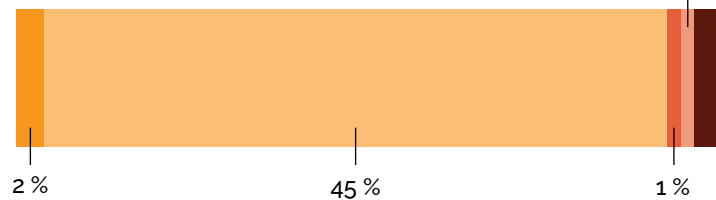
DISTANT HOST



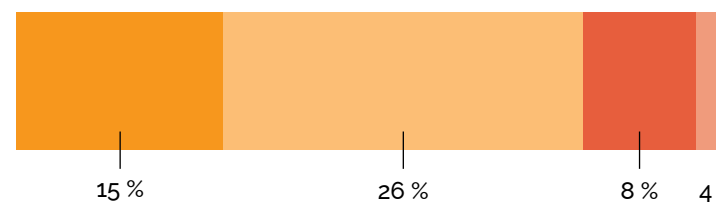
NEARBY HOST



SUDANESE



CENTRAL AFRICAN REPUBLIC



Consistent with the timeline of the refugee crisis, Central African refugee households comprised a larger share of widowed, divorced, or separated women, and single men than the Sudanese refugee group (Figure 2.1).

The average Central African refugee household size had 4 members, compared to 5 for Sudanese refugees. In fact, nearly 25 percent of Central African refugee households had only one member; the median age was 33. Sudanese refugee households typically consisted of parents with dependents: a third of households had 4–5 members, and nearly a fifth had 8 members or more (Figure 2.2).

Such large differences in household size, compounded by the variation in registration between the two refugee groups, might have implications for the design and operation of many social support programs. Sudanese were more likely to register for a refugee identification card, which was needed to receive both cash and noncash supports. At the time of the survey, 66 percent of Sudanese refugees had registered, while 48 percent of Central African refugees had done so. The difference in household size should also be taken into account in designing social protection programs that allocate benefits by household, such as lodging, rather than by individual, such as food.

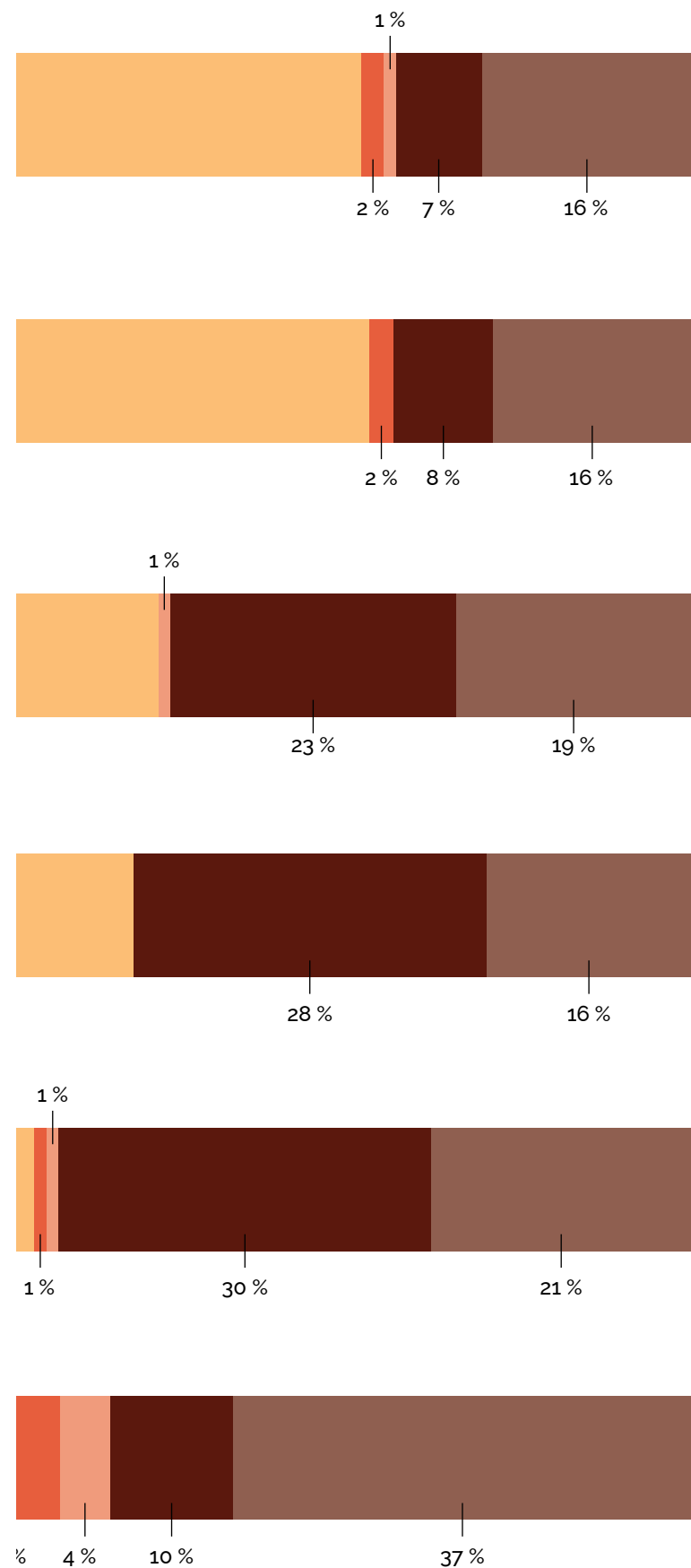
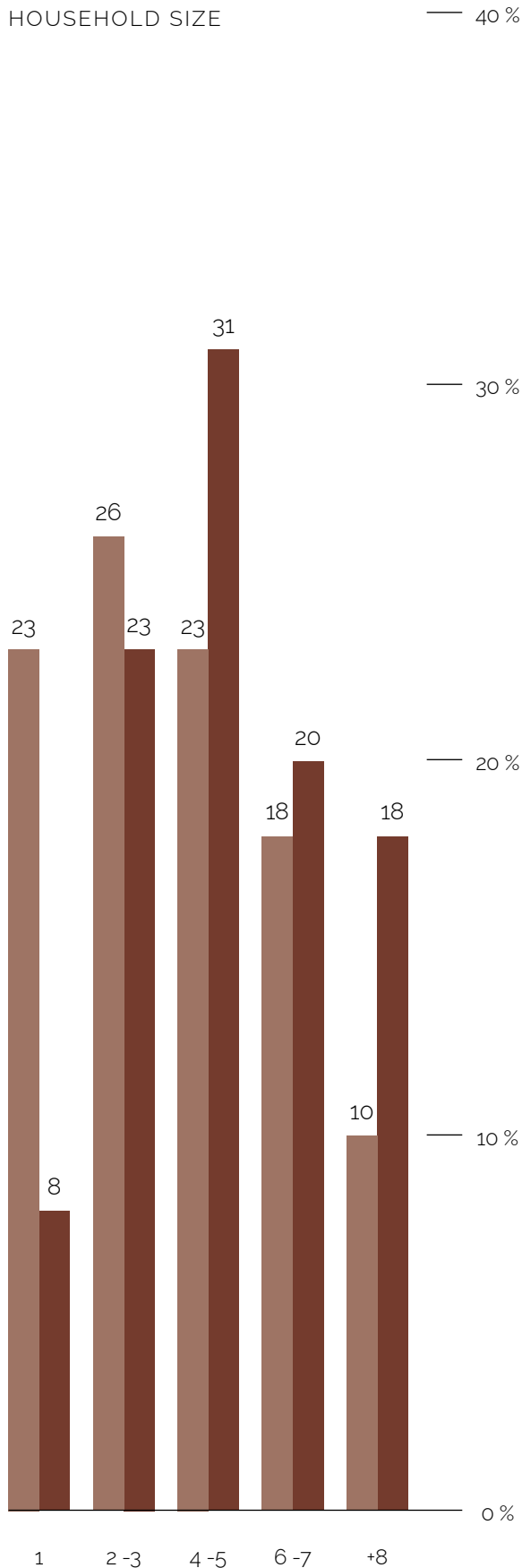


Figure 2.1. Sex and Marital Status of Household Heads, Percent





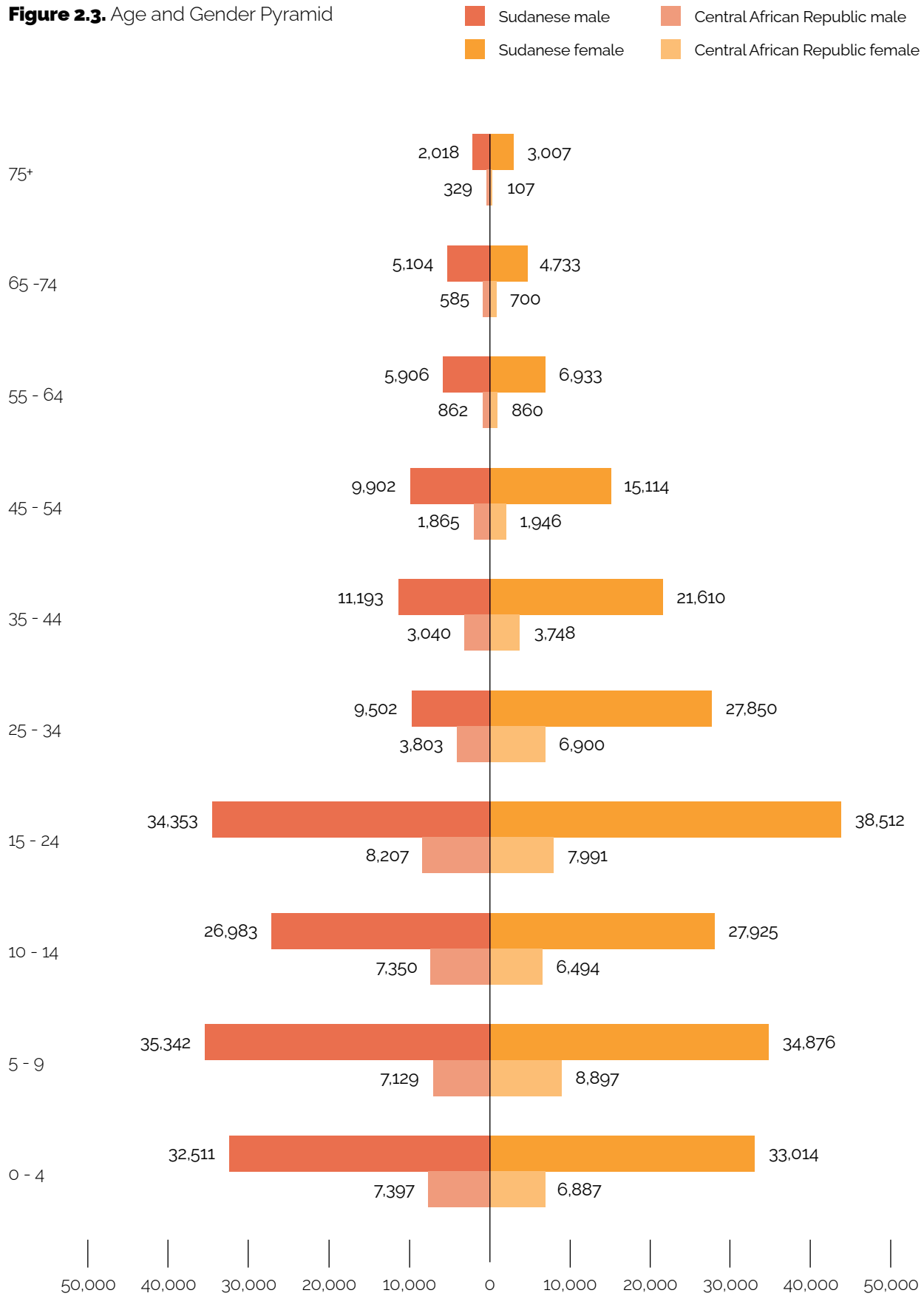
Nearly half of all the refugees were children, and the share of children was comparable in host communities, underlying the need for children’s health and education services for all. Among Central African refugees, 52 percent were younger than 15, as were 49 percent of Sudanese refugees (Figure 2.3). In nearby host communities, children accounted for 54 percent of residents and in distant host communities for 57 percent. Clearly, there is a need across the board to provide both schooling and access to children’s health services such as immunization and checkups.

The refugee population consisted overwhelmingly of women, with a high ratio of women to men particularly in the prime working age group, and a high share of female-headed households. For every 100 Central African men aged 25–54, there were 144 women and the ratio soared to 211 among Sudanese refugees (Figure 2.3). So many women of prime working age suggest giving special attention to job types and training catered to women, who are likely responsible not only for income generation but also for childcare and housework. Moreover, 51 percent of Central African and 52 percent of Sudanese refugee households are headed by women, far more than the 44 percent in nearby host villages and 43 percent in distant villages (Figure 2.1). A large share of female-headed households could mean an additional layer of challenges for refugee population. Around the world, female-headed households tend to be more marginalized, have greater food insecurity, and have fewer assets and poorer livelihood outcomes—mostly because of cultural and social restrictions on women’s involvement in every aspect of life activity (see Kpoor 2019; Negesse 2020; Doocy and Lyles 2017).

Figure 2.2. Distribution of Household Size, Percent of households

■ Central African Republic ■ Sudanese

Figure 2.3. Age and Gender Pyramid

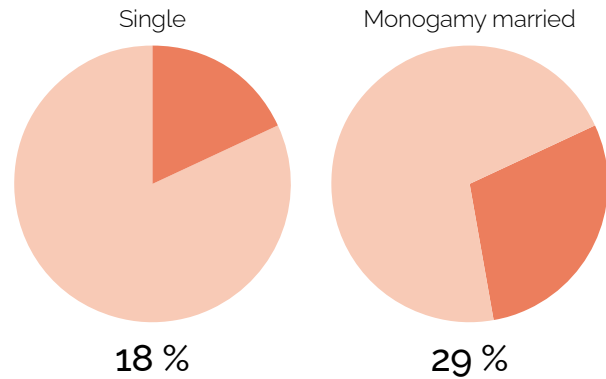


But in the Sudanese and Central African refugee groups the link between female-headed households and livelihoods was very different due to the differences in marital status. Among Central African refugees, widows and divorcees made up nearly 75 percent of female household heads (Figure 2.1). Thus, they had few or no links to male-owned or controlled incomes and resources. But for Sudanese refugees, about 60 percent of woman-headed households were married (Figure 2.1)—a pattern perhaps explained by a high incidence of polygamous marriages (Figure 2.4) where the husband was nonresident. For this group, there was potential income from private transfers and access to other resources via the husbands (Beegle and van de Walle 2019; Brown and van de Walle 2021).

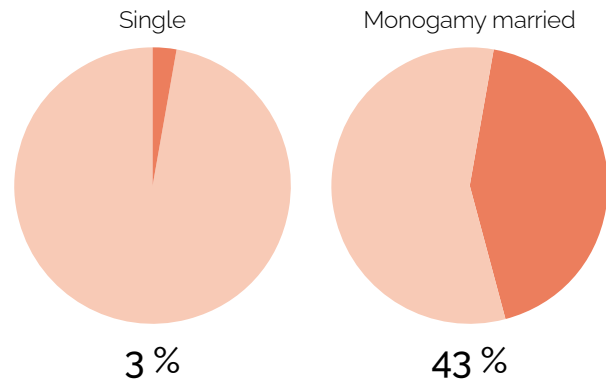
Adult Central African refugees spoke more languages than Sudanese. However, language diversity may not prevent refugees from accessing services and the job market in Chad as indicated in the literature (Bischoff et al. 2003; Chuah et al. 2018; Green 2017). In Chad, both refugee groups shared languages with host communities: Sudanese refugees often speak Chadian Arabic and Central African refugees speak French in addition to their languages. Common languages in the Sudanese refugee community are Massalt and Zaghwa, and Zaghwa was also spoken by 16 percent of people in nearby host communities. Meanwhile, four distinct languages were popular among Central African refugees: Arabe, Sangom, Foulbe, and Kaba (Figure 2.5).

Figure 2.5. Languages Spoken by Adult Refugees, Percent

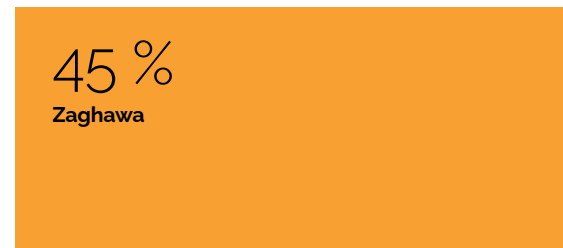
CENTRAL AFRICAN REPUBLIC



SUDANESE



Sudanese



Central African Republic

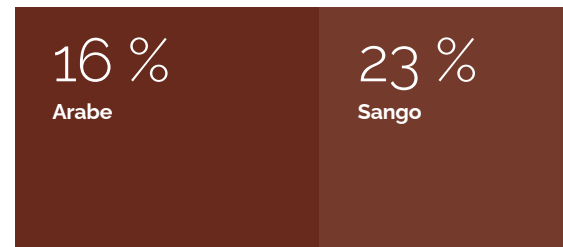
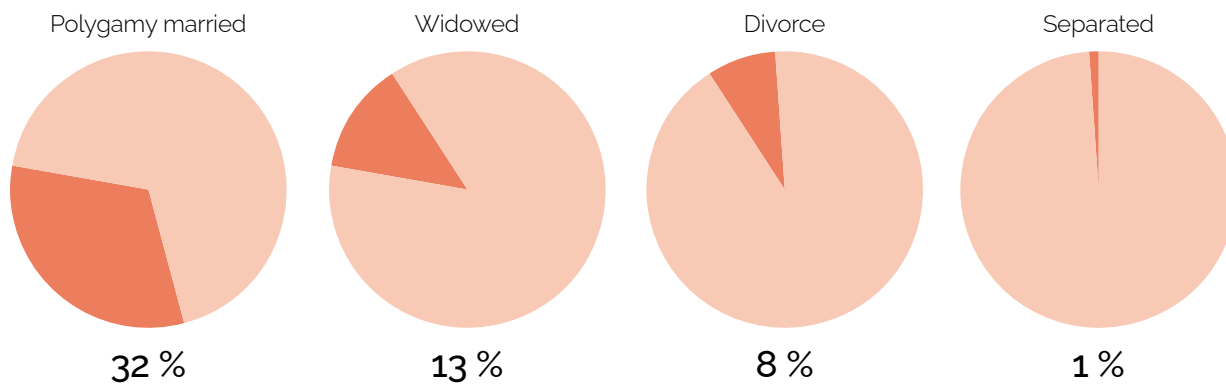
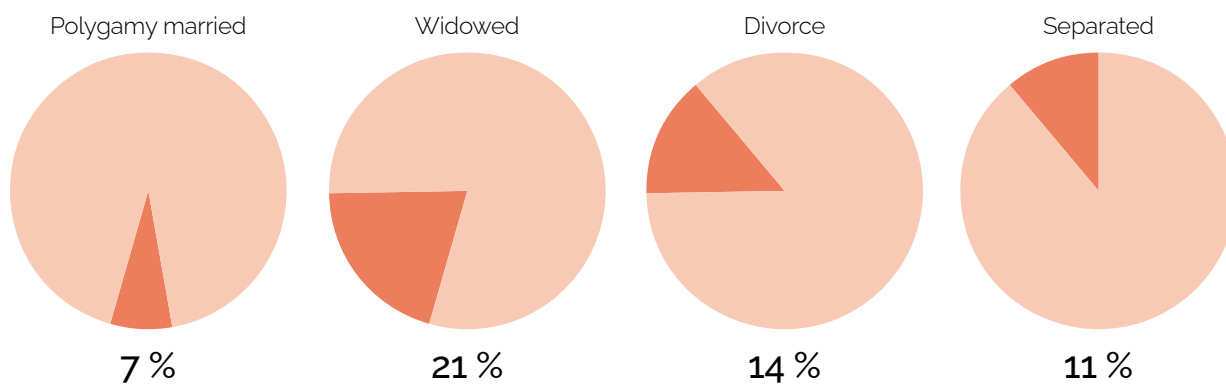


Figure 2.4. Marital Status, Refugee Household Head, Percent



% OF POPULATION AGED 18+

1%
Arabe

35%
Massalit

19%
Other

21%
Foulbe

10%
Kaba

30%
Other

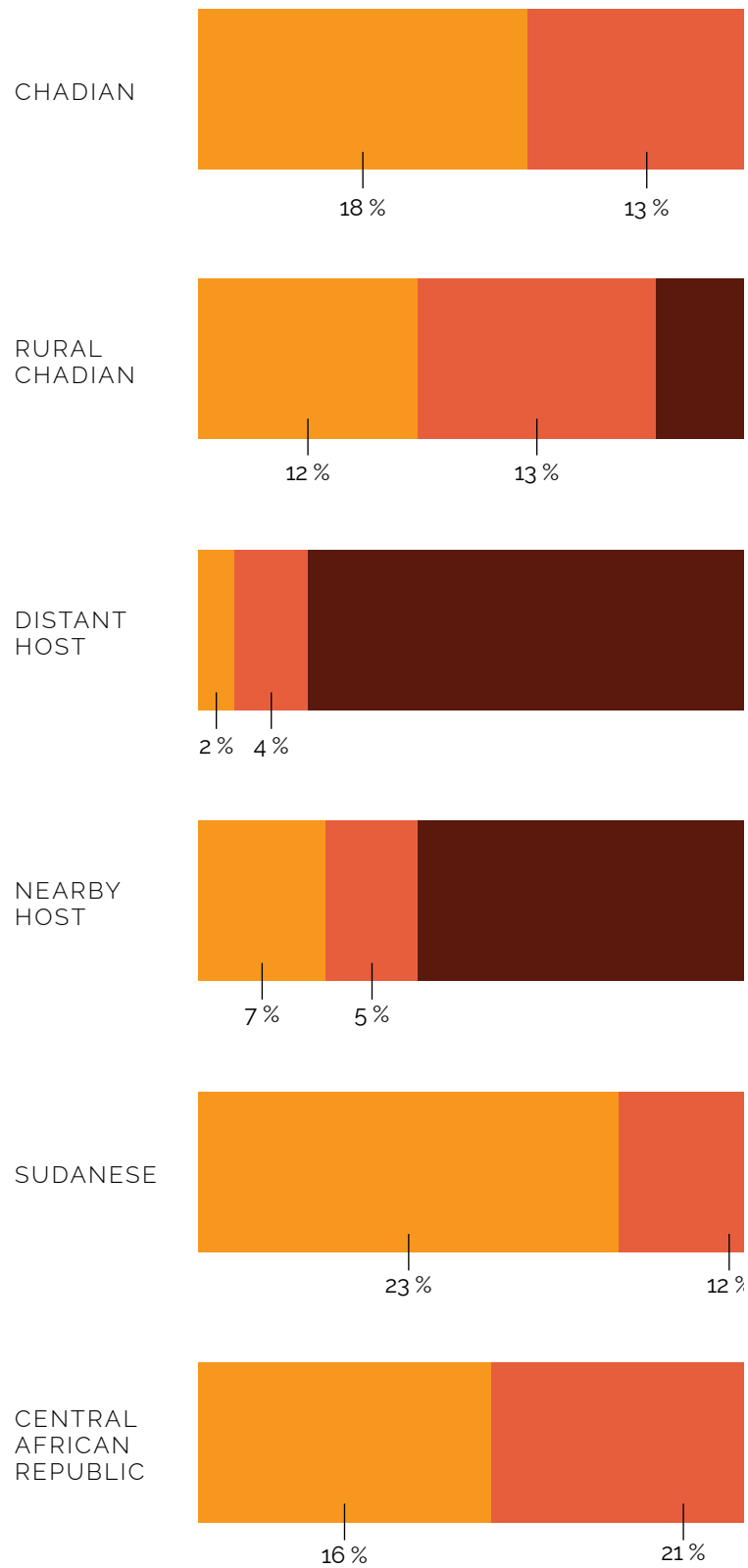
Adult refugees had significantly more education than host communities; their achievement was comparable to the general Chadian population. At least one adult refugee in three, whether Central African or Sudanese, had primary education or higher (Figure 2.6), similar to the average for Chad, but in host communities, only about 10 percent of the adult population had that much education.

Almost all adult refugees participated in the labor force, mostly in agriculture, although the share of the workforce in this sector was significantly lower than host communities. According to the ILO definition, nearly 93 percent of Central African and 97 percent of Sudanese adult refugees were employed.¹⁹ Agriculture was the main sector of employment for both the refugee and the host communities. This sector provided jobs to more than 90 percent of adults in host communities, and about 59 percent of Central African and 67 percent of Sudanese refugees. This large difference in share of workers in agriculture sector may stem from the fact that refugees had minimal access to land and agricultural inputs, a situation that will be discussed more thoroughly in section 3.3.

Central African refugees were more likely than Sudanese to be involved in the service sector. Central Africans constituted 16 percent of the labor force in trade and Sudanese 9 percent (Figure 2.7). This also reflects the sectors in which they worked in their countries of origin. Among Chadians, the shares of workers in trade, transportation, and other services were comparable to those of refugee workers, although this share was substantially lower in host communities.

19. Employment is defined as all working-age individuals who work during a specified brief period, such as the previous seven days, including self-employment. See “Indicator Description: Employment by Status in Employment,” ILOSTAT, International Labour Organization, Geneva, <https://ilostat.ilo.org/resources/concepts-and-definitions/description-employment-by-status/>.

Figure 2.6. Highest Education Attainment, Adult Population, Percent



Secondary or more Primary No education



69%



75%



94%



88%



12%

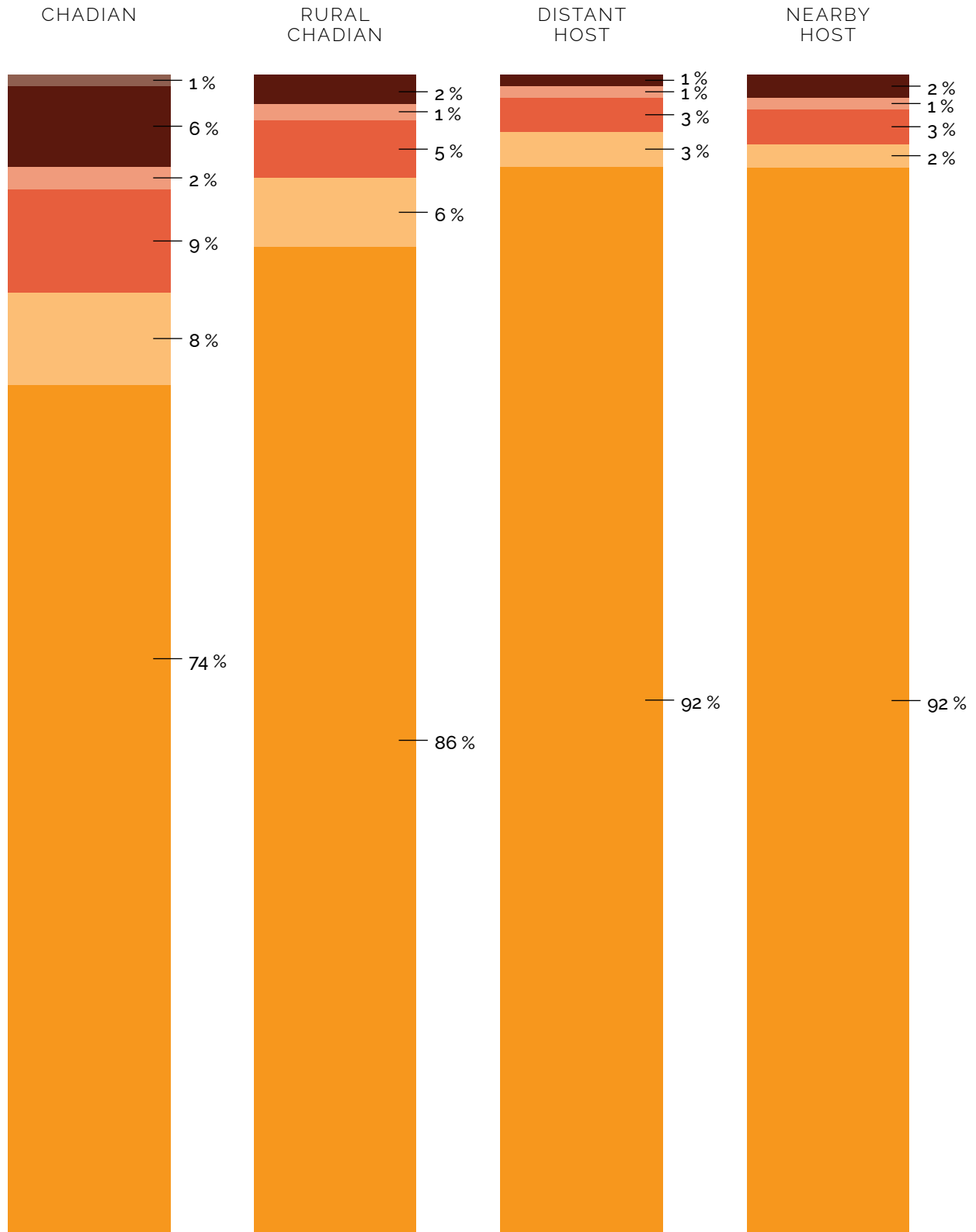
65%

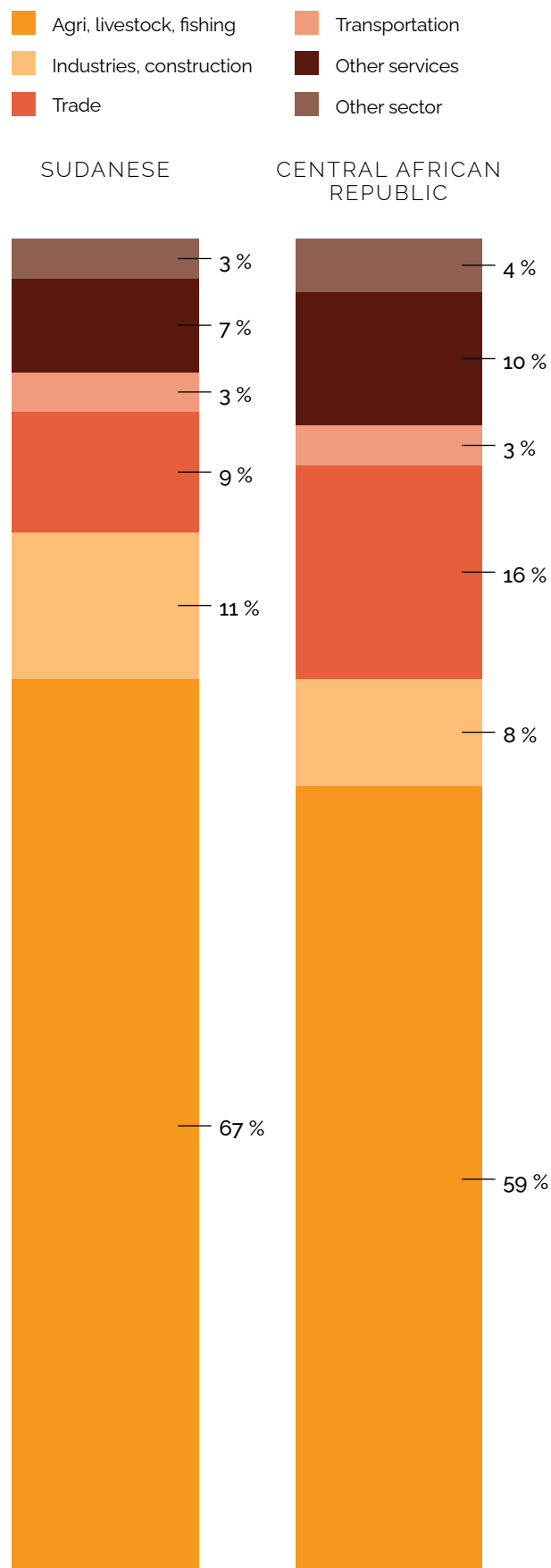


11%

63%

Figure 2.7. Sector of Employment, Adult Population, Percent





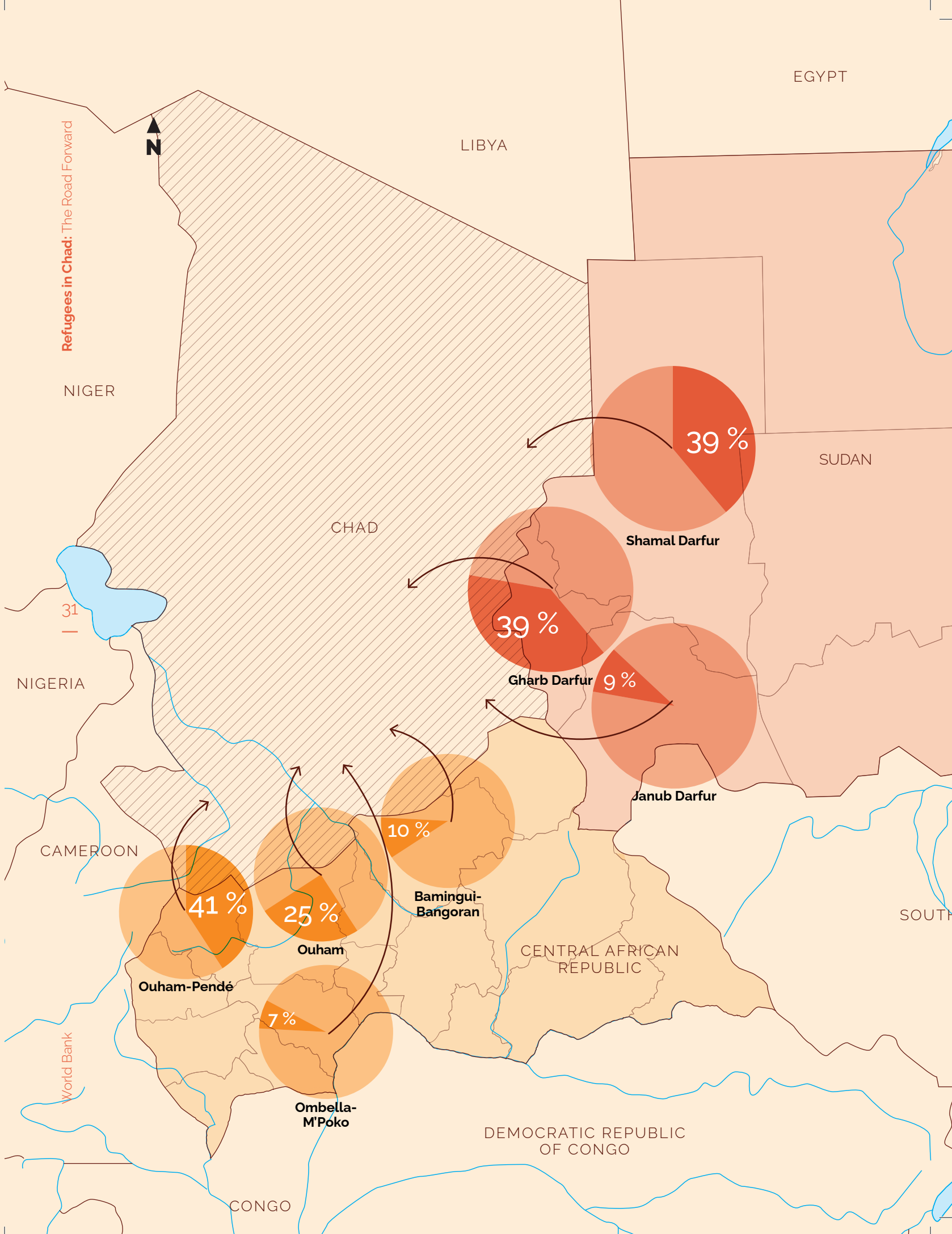
Profile of Refugees in their Countries of Origin

Correlating to the length of time spent in the camps, 77 percent of the Central African refugee community were first movers (rather than being born in the camp); at the time of the survey their age averaged 23. For Sudanese refugees, the share of first movers was smaller at 53 percent, and older, at 33.

Within their countries of origin, refugees were not highly concentrated in a single location.

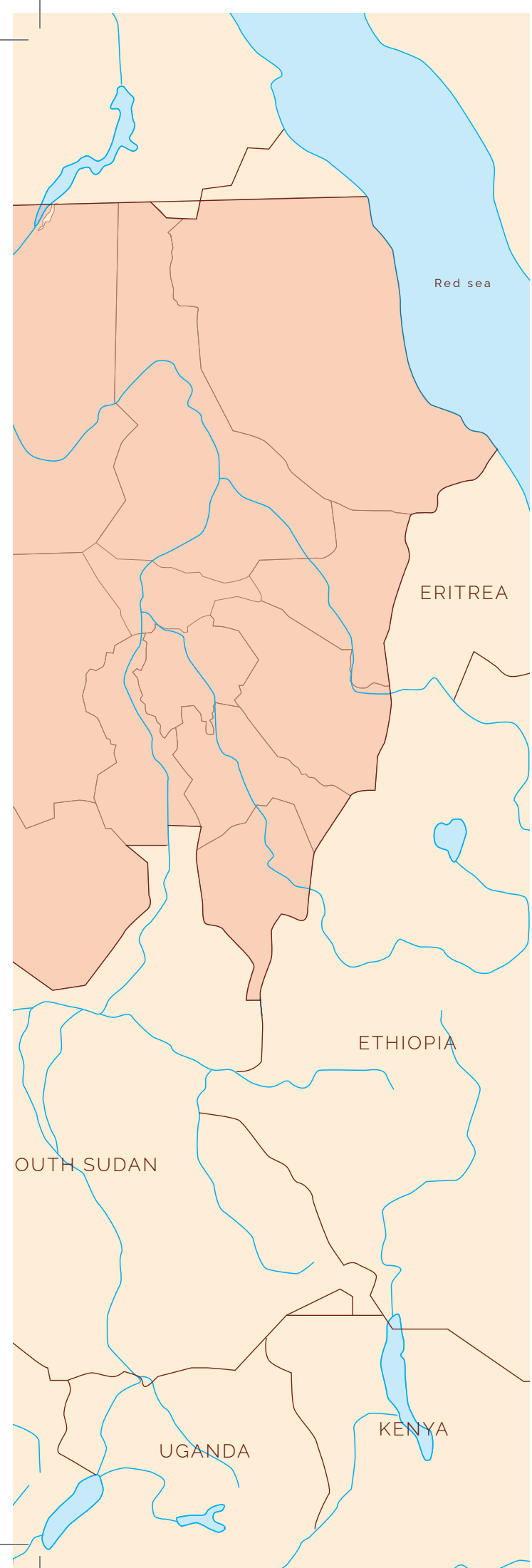
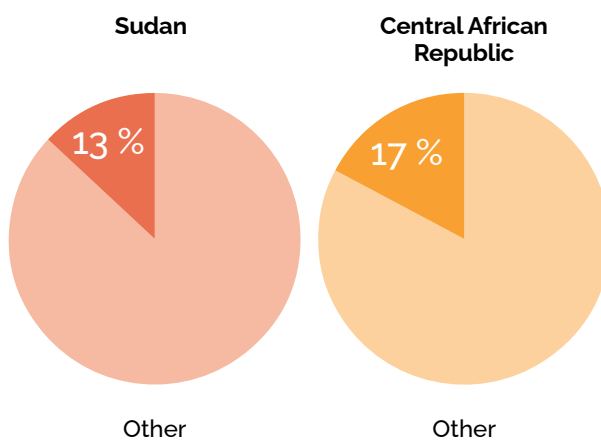
About 80 percent of Sudanese refugees²⁰ came from two states: Shamal (northern) Darfur and Gharb (western) Darfur (Map 2.1). Both states border Chad. However, 9 percent of Sudanese refugees traveled from Janub (southern) Darfur, a state neighboring the Central African Republic and South Sudan, which suggests a longer, more perilous journey to Chad. Of the Central African refugees, 76 percent arrived from Ouham-Pendé, Ouham, and Bamingui-Bangoran—all three prefectures border Chad (Map 2.1). But 7 percent came from Ombella M'Poko, a southern prefecture close to the Democratic Republic of Congo, another fragile country, thus making the journey to the north more challenging.

20. This discussion excludes those born in the camps.





Map 2.1. Where Are Refugees From, Percent

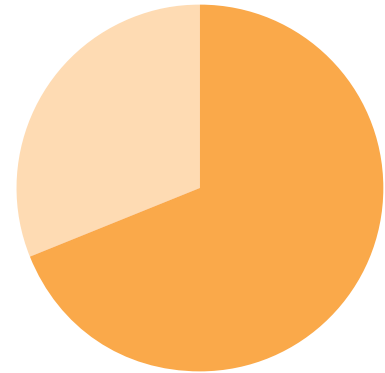


Of refugees aged at least 18 upon arrival in the camp, nearly 70 percent of Sudanese refugees had previously worked, but only 42 percent of Central African refugees had done so (Figure 2.8). Such a low employment level, particularly for Central African refugees, might be the result of the highly insecure situation in their countries of origin.

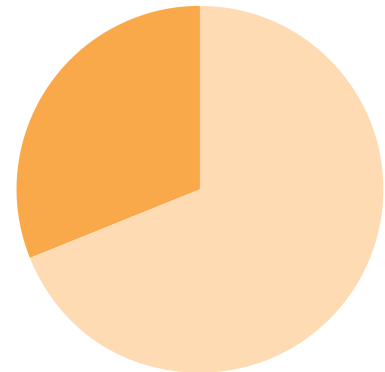
An overwhelming number of Sudanese worked in agriculture; Central African refugees worked in both agriculture and services. More than 90 percent of Sudanese refugees generated income from farming in their home states compared to 65 percent of Central African refugees (Figure 2.9). However, 25 percent of Central African refugees had been involved in trade. This level of Central African employment in trade was also reflected in their sectoral employment in Chad (Figure 2.7).

SUDANESE

Work
69 %

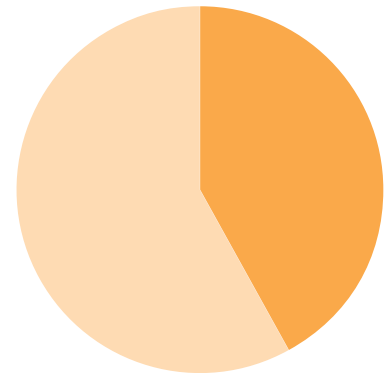


Not work
31 %



CENTRAL AFRICAN REPUBLIC

Work
42 %



Not work
58 %

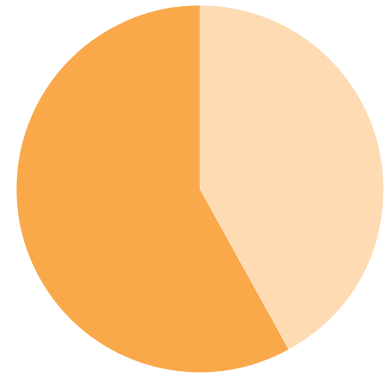


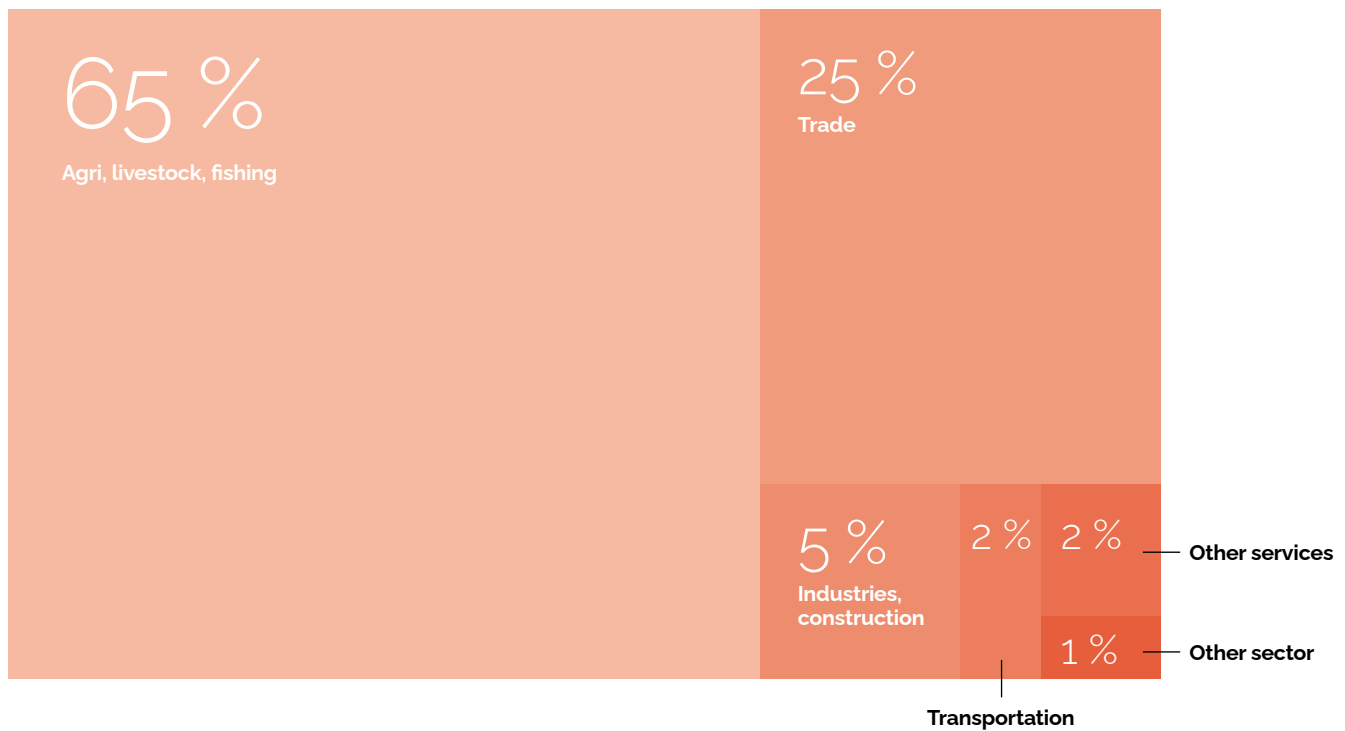
Figure 2.8. Refugee Employment Status, Country of Origin, Percent

Figure 2.9. Refugee Sectors of Employment, Country of Origin, Percent

Sudanese



Central African Republic



Chapter 3

The Welfare of the Refugees and of the Chadian Population



Chapters 1 and 2 not only discuss who the refugees are but also make it clear that they are likely to stay in Chad for a foreseeable period of time. The next question for a longer-term integration plan is therefore: Where do the refugees stand in terms of welfare compared to the Chadians? How far did they fall behind? The goal of these questions is to articulate how much help the refugees need.

Therefore, this chapter analyzes in depth the current welfare of refugees, both monetary and nonmonetary, in relation to host communities and the general Chadian population. In this section, monetary welfare includes poverty estimates and degree of food security; nonmonetary welfare takes into account access to services, employment, and mechanisms to cope with shocks.

The key findings are as follows:

- + Poverty was prevalent among Sudanese and Central African refugees, among Chadian host communities, and twice as high as the general Chadian population. Nearly 80 percent of refugees and residents of the host community people lived below the basic requirement of food and nonfood needs.²¹ This number was 42 percent for Chadians.
- + Food insecurity was a serious threat for both refugees and host communities but worst for Central African refugees. Nearly half of Sudanese refugees and Chadian host communities were vulnerable to food insecurity – defined as not able to meet the minimum of 2,400 calories per day. This prevalence was triple that of the general Chadian population. For Central African refugees, close to 65 percent could not access the minimum daily calories.
- + Compared to host communities, refugees often had better access to basic services, particularly health, education, water, and sanitation. Some of these services, such as health care and education, have been extended to host communities. Nonetheless, some disparities of service delivery between refugees and host communities continued to persist.

+ Although disparities in health services still existed between refugees and host communities, access to health services was still significantly higher for host communities than for the general Chadian population, highlighting the enormous efforts of NGOs and international donors to provide services to both refugees and host communities.²²

+ Income generation opportunities were extremely limited for refugees, and aid alone was not sufficient to sustain minimum livelihoods. Refugees had very little access to land even though agricultural production was a predominant economic activity in areas hosting refugees. Instead, refugees often opted to engage in low-paid casual unskilled work, and small businesses with limited capital investments.

+ Health shocks, natural disasters, and high food prices were the top three shocks persistently challenging livelihood: 80 percent of households had experienced at least one shock over the past three years. However, household coping strategies varied: refugees often counted on their social network such as friends, family, NGOs, and religious groups, for support; host communities and Chadians in general were more likely to rely on both social capital and savings.

21. Note that other remote areas in Chad also had high poverty rates, although they do not host refugees, among them Barh Signaka department (see World Bank 2015).

22. Since the survey, assistance programs such as health, education, water, sanitation, and hygiene (WASH) have continuously been extended to narrow the gap in service delivery between refugees and host communities.

Poverty and Food Security

The poverty estimates for refugees in this report are based on the methodology used to obtain the official poverty estimates for Chad in 2019 (see Box 3 for a brief description). This approach is the outcome of the joint effort between the World Bank, INSEED, and the WAEMU Commission. Throughout this report, *poverty* refers to national poverty unless indicated otherwise.

Poverty was nearly twice as high among refugees as the official national poverty rate in Chad, but host communities were as poor as the refugees. About 84 percent of Central African and nearly 80 percent of Sudanese refugees did not have enough resources to meet the minimum daily requirements of 2,400 calories and basic nonfood needs. There is no statistical difference in poverty estimates between Central African and Sudanese refugees: the former were *not* significantly poorer (Figure 3.1). More importantly, poverty among refugees was nearly twice the 42 percent level of the Chadian population (Table 3.1). However, it is critical to note that host communities around the camps for Sudanese refugees were as poor as the refugees when statistical significance is taken into account.²³

23. Note that poverty was also high in remote areas in Chad that do not host refugees, e.g., Barh Signaka department (see World Bank 2015).

Table 3.1. National Poverty, 2019

	Headcount
CENTRAL AFRICAN REFUGEES	83.7 %
SUDANESE REFUGEES	79.8 %
NEARBY HOST COMMUNITIES	71.4 %
DISTANT HOST COMMUNITIES	69.7 %
RURAL CHADIAN POPULATION	49.7 %
CHADIAN POPULATION	42.3 %

Box 3. Measuring Poverty

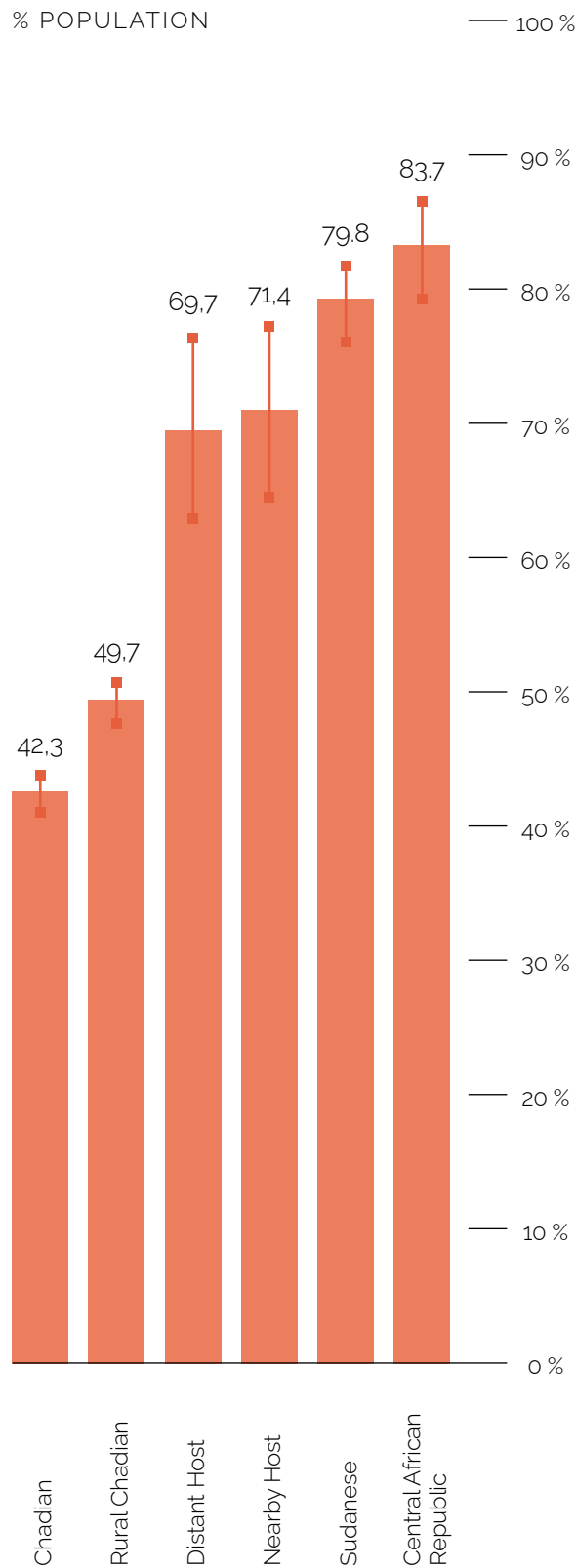
To ensure that poverty measures for refugees and Chadians, including host communities, are comparable, the analysis followed the technical approach used to obtain the official poverty estimates for Chad in 2019. The methodology is the outcome of a joint effort of the INSEED, the World Bank, and the WAEMU Commission.

Poverty measures are based on two building blocks: consumption aggregates and poverty lines. The consumption aggregate—annual household consumption—is calculated by aggregating food consumption, nonfood consumption of nondurable goods and services, the use value of durable goods, and the imputed rent of owner-occupied and rent-free households. Food consumption is derived from purchases in the market, household own-production (cereals, vegetables, meat, etc.), food received from private or public transfers, and food consumed away from home. The second component, nonfood consumption, covers household and personal expenses and spending on health and education. When refugees receive free education and health care, expenses on health and education are imputed based on the median values spent by Chadian households in the same location. To measure the annual use value of each durable asset, purchasing value, replacement value, depreciation rate, and interest rate are taken into account. Finally, rent value is applied based on imputation from location and lodging conditions, such as construction materials and access to services.

The poverty line is the value of the welfare indicator that allows individuals to satisfy their minimum vital needs. Our approach follows the cost of basic needs proposed by Ravallion (1998) and is constructed in two steps:

1. The food poverty line is estimated from a basket of food items that provides each individual with 2,400 kilocalories, which is within the internationally accepted standard.
2. A share of nonfood expenditure is added to the food poverty line to constitute the national poverty line. (See World Bank 2021 for details.)

Depth	Severity
45.9 %	29.8 %
32.1 %	15.9 %
27.2 %	14.0 %
28.6 %	14.8 %
15.1 %	6.3 %
12.6 %	5.2 %

Figure 3.1. Poverty Rate, Percent

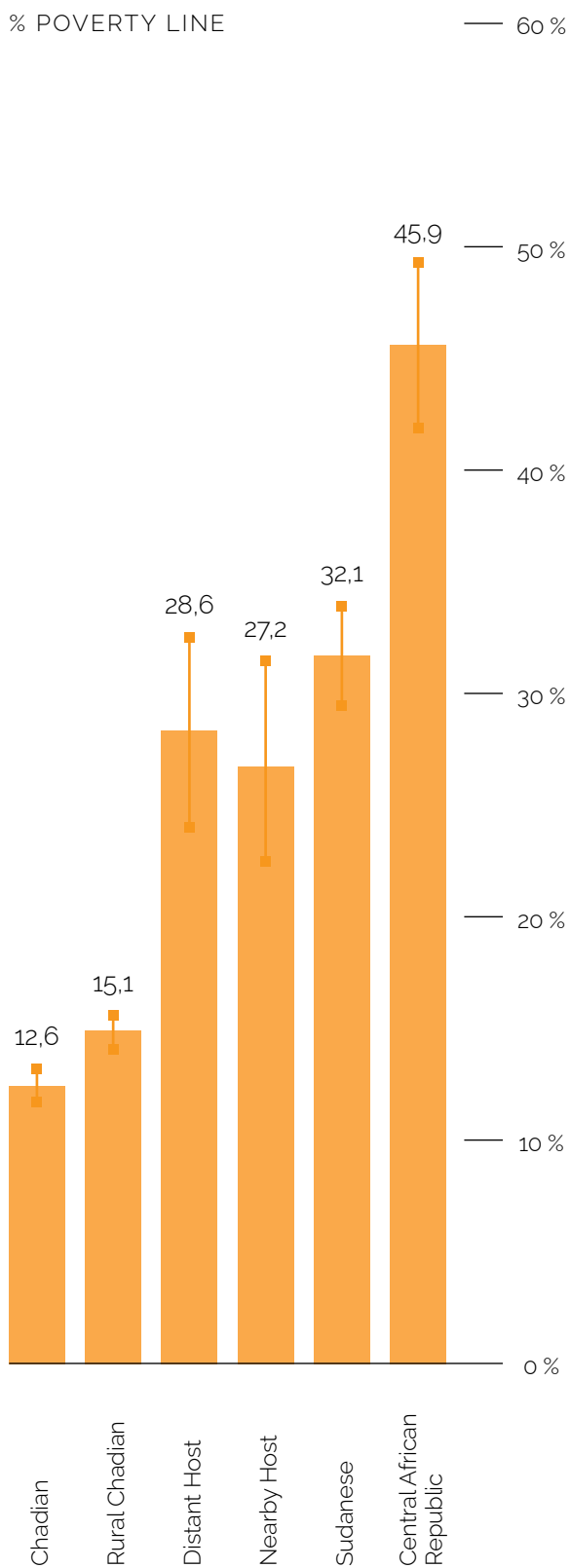
Note: 95 % confident interval in brackets.

Though Central African refugees were in much deeper poverty than everyone else, poverty depth for Sudanese refugees and host communities was also substantial. Poverty depth tells an important story not just about poverty generally but about how far a poor person falls below the poverty line (Figure 3.2) and how much help he or she will need to rise out of poverty. The national poverty line in 2019 for Chad is 242,094 FCFA per person per year, or 684 FCFA per person per day. This is equivalent to \$2.30 at 2011 purchasing power parity—slightly higher than the international extreme poverty line of \$1.90. A 46 percent poverty depth for Central African refugees means that, on average, the Central Africans were living on 315 FCFA below the daily poverty line, barely half the minimum requirement of basic consumption.²⁴ Meanwhile, a typical Sudanese refugee would live on 219 FCFA less than the daily minimum, still a significant gap to reach the poverty line. For comparison, an average Chadian would be 86 FCFA below the poverty line. But, as noted, poverty depth among Chadian host communities is statistically as large as one among Sudanese refugees.

However, when considering the multidimensional aspect of deprivation, though refugees were as badly-off as rural Chadians, they were still doing relatively better than host communities. While refugees were significantly poorer according to the consumption-based poverty measures discussed above, the Multidimensional Poverty Index (MPI) indicates that the levels and intensity of multidimensional poverty experienced by refugees and Chadians were similar. Moreover the MPI for refugees was significantly lower than one for host communities (Figure 3.3). This is because the MPI takes into account multiple deprivations such as health and educational outcomes, access to services and assets (see Annex B for MPI component details). In this regard, refugees often benefited from social assistance programs provided by NGOs and international donors. While some of these programs have been extended to Chadian host communities, disparities in service delivery still existed. Section 3.2 discusses service delivery programs.

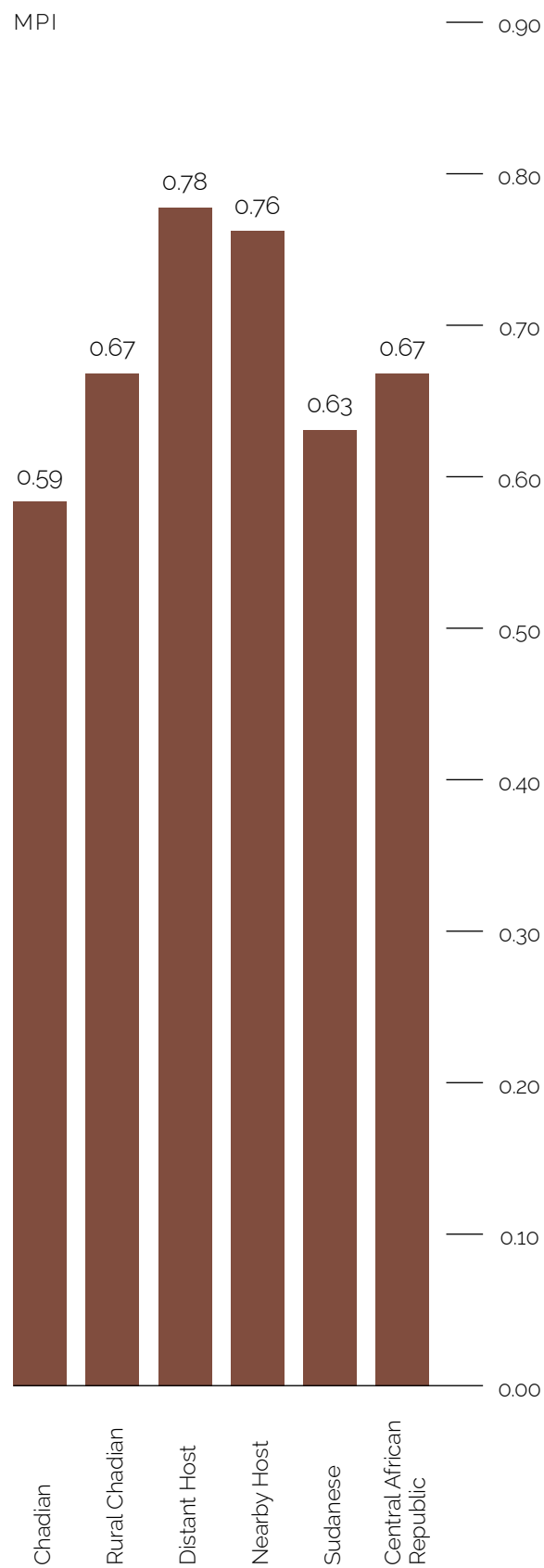
24. Poverty depth is presented as a proportion of the poverty line. Poverty severity is the square of poverty depth.

Figure 3.2. Poverty Depth, Percent



Note: 95 % confident interval in brackets.

Figure 3.3. The Multidimensional Poverty Index



Moreover, refugees and host communities were particularly vulnerable to food insecurity.²⁵ Compared to the Chadian general population, both refugees and Chadian host communities devoted more of their budget to food, making them more vulnerable to food insecurity. Close to two-thirds of Central African and nearly half of Sudanese refugees did not have the minimum 2,400 calories intake per day. The share of the host communities with risks of food insecurity was comparable to that of the Sudanese refugees (Figure 3.4); about 15 percent of the Chadian general population faced food shortages.

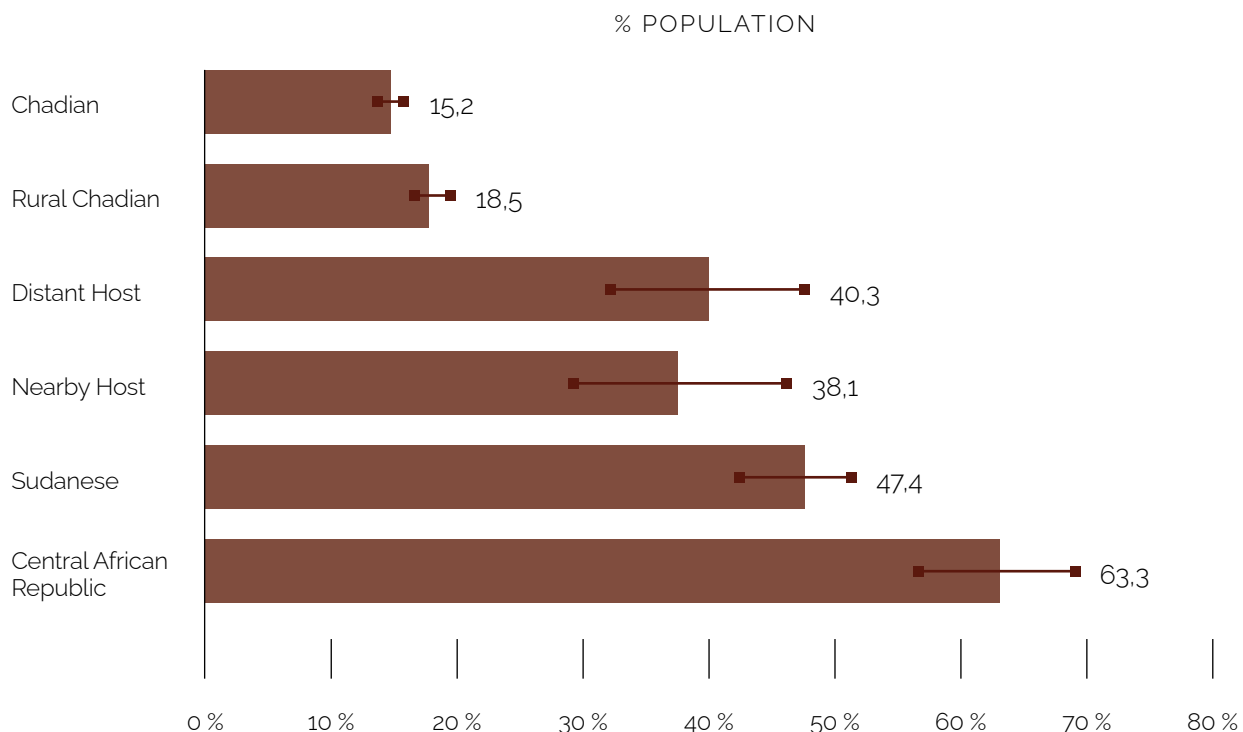
Refugees faced another challenge: low diversification of food intake. Arguably, limited food options affect the diet and nutrition of individuals that is necessary to maintain a healthy lifestyle and sustain physical and cognitive development, particularly for children. The analysis relies on the Herfindahl index (HI), also known as the Hirschman or the Hirschman-Herfindahl index, as an inverse measure of variety in food consumption.²⁶ The HI ranges from $1/n$ to 1, and reaches a maximum value of 1 if consumption is entirely concentrated on a single food item. In other words, the HI measures diversity: the higher the value of the index, the lower the diversity (Lee and Brown 1989). Figure 3.5 suggests that Sudanese and Central African refugees had a less diverse food basket than host communities and Chadians generally.

Among refugees and host communities, nearly 20 percent of the food budget was concentrated in just two staple foods. For Central African refugees, these were sorghum and manioc flours and for Sudanese, millet and sorghum. In comparison, the Chadian general population spent 12 percent of their food budget on millet and sorghum. Despite being in close proximity and co-existence for the past decades, host communities had a different food basket than Sudanese refugees: they allocated about 16 percent of the food budget to millet and less than 2 percent to sorghum. This may be because the food aid program in the camps may not reflect local tastes. However, for both refugees and host communities, it is clear that with a diet highly dependent on a few food items, they are more vulnerable to the volatility of food prices and production, which can lead to food insecurity.²⁷

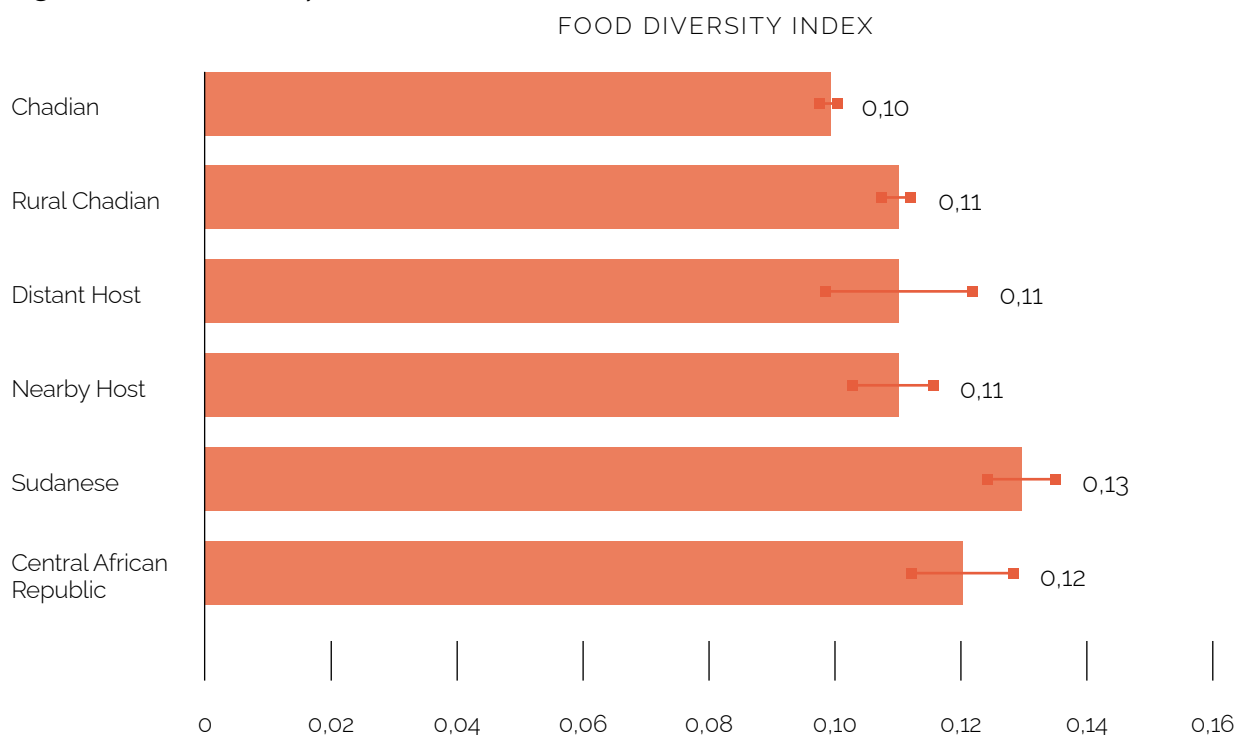
25. The share of the population below the food poverty line.

26. The HI is calculated as the sum of squared food shares: $HI_h = \sum_{i=1}^n s_{ih}^2$ where the **HI** of household **h** is the sum of the budget shares **s** of each individual food item **i** consumed in household **h**. The **HI** ranges from $1/n$ to 1.

27. Food aid was often insufficient to cover refugee dietary needs. Our data shows all refugees are net food buyers.

Figure 3.4. Food Insecurity, Percent of population

Note: 95 % confident interval in brackets.

Figure 3.5. Food Diversity Index

Note: 95 % confident interval in brackets.

Assets and Access to Services

Not only were refugees and host communities much more likely to be poor, they also had few modern assets, particularly for communication and transportation, which further reduced their ability to access information and improve incomes. Fewer than 4 percent of refugees from the

Central African Republic and Sudan owned a radio, compared to 16 percent for rural Chadians (Figure 3.6). This low rate of radio ownership is indicative of the limited access to information of the world outside of the camps such as policies, economy and security. Not surprisingly, refugees were unlikely to own a bicycle or a motorcycle given the cost. Lack of access to transportation restrict mobility to explore employment options when occasion arises.

Nevertheless, it is encouraging that the booming telecommunication sector has expanded to penetrate even hard-to-reach areas like the camps. More than 50 percent of Sudanese refugees owned a mobile phone—a level comparable to that of host communities and rural Chadians although only 36 percent of Central African refugees had phones. Mobile phones

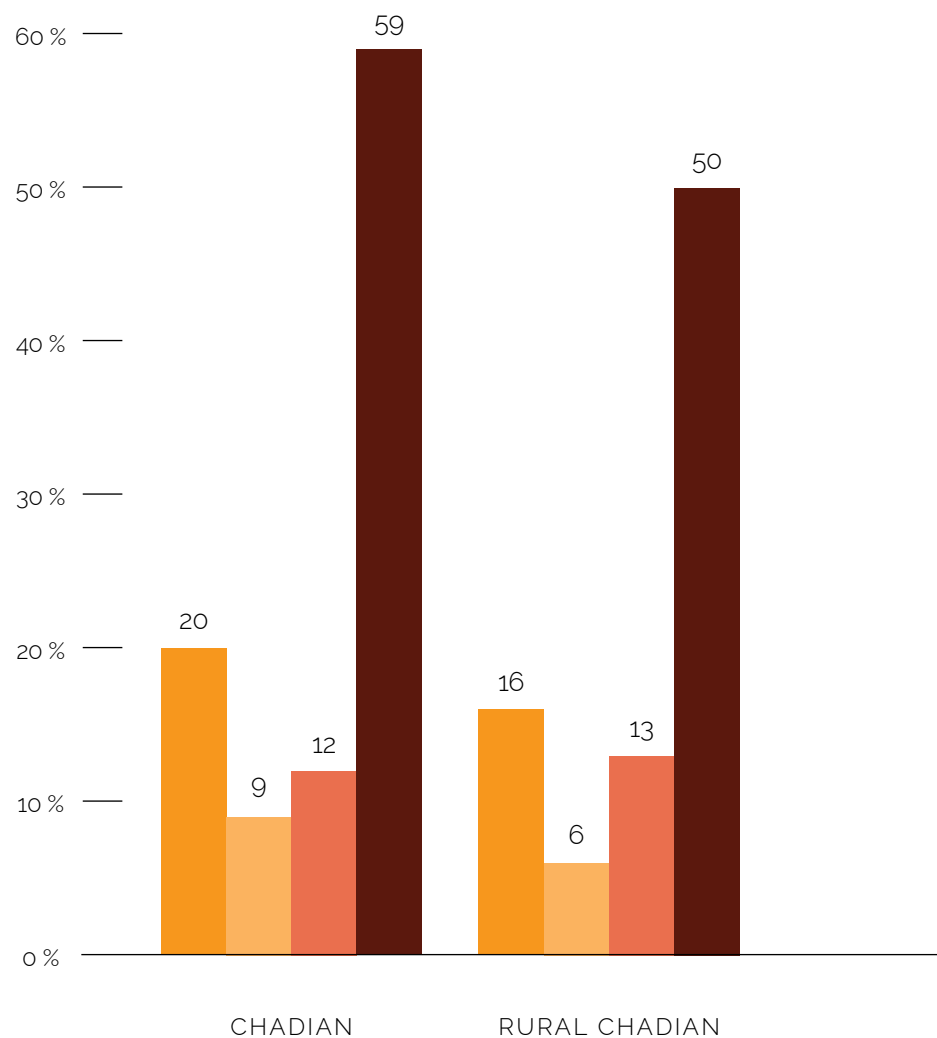


Figure 3.6. Asset Ownership, Percent of households

- Radio
- Motorcycle
- Bicycle
- Mobile

can play an important role for refugees in developing and maintaining social capital and helping them integrate into the local community (Bacishoga, Hooper, and Johnston 2016; Diminescu et al. 2009; Hyde-Clarke 2013; Leung 2011).

However, refugees benefited from assistance programs that cover a wide range of supports, from food to health and education. Over 70 percent of Central African and 90 percent of Sudanese refugee households received food in-kind or benefited from nutrition program (Figure 3.7). This support was particularly important given the pervasive food insecurity and poverty in the camps. However, host communities suffered equivalent food insecurity and poverty but with few government or donor benefits.

Some of these supporting programs such as health and education have been extended to host communities, but disparities of service delivery between refugees and host communities persist. Figure 3.7 illustrates that host communities had significantly less access to assistance programs such as health, education, water, and sanitation than Central African and Sudanese refugees.²⁸ This could remain a potential source of tension, especially when the needs for services are comparable.

28. Since the time of the survey, assistance programs such as health, education, water, sanitation, and hygiene (WASH) have continuously been extended to host communities and to narrow the gap in service delivery between refugees and host communities.

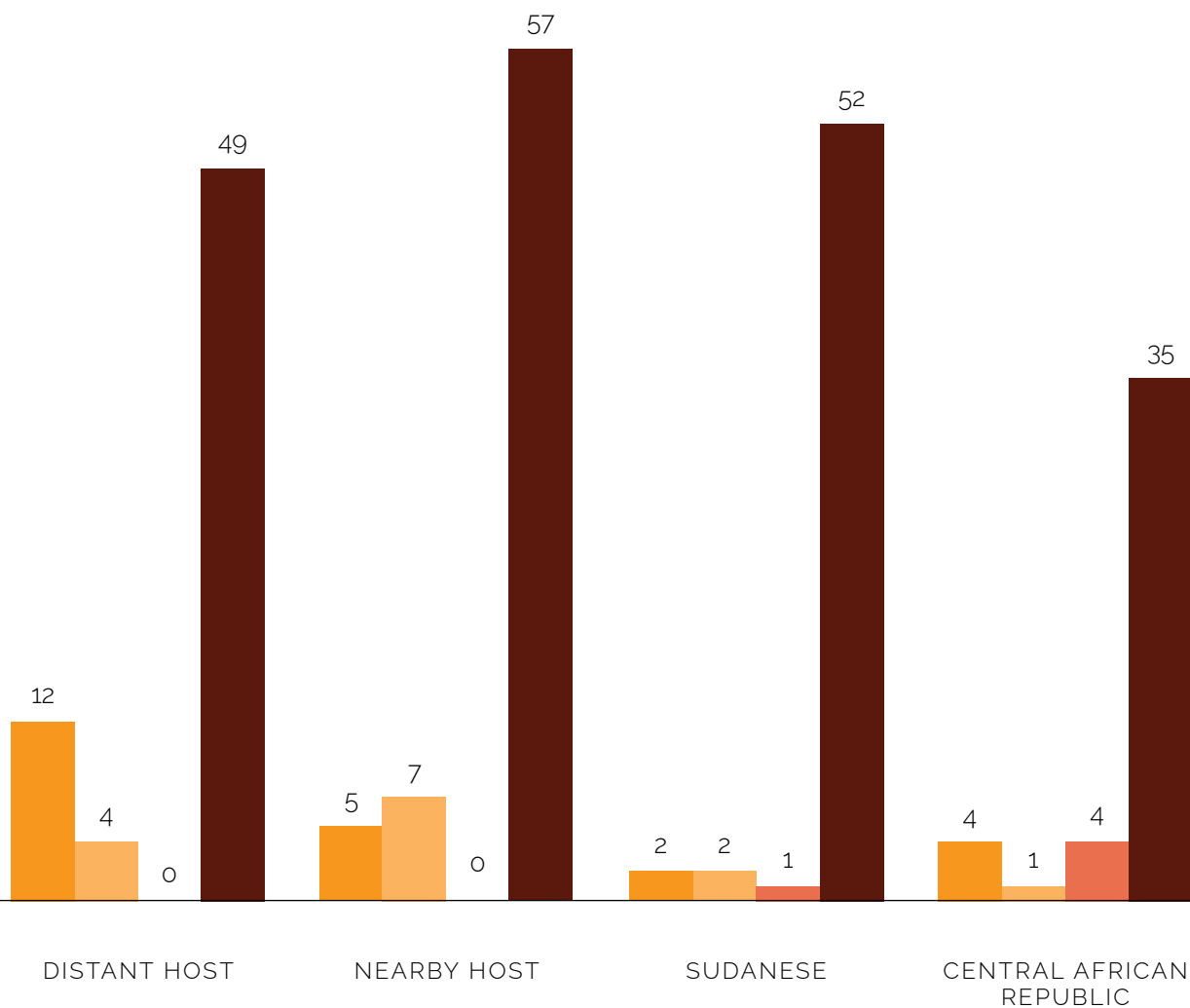
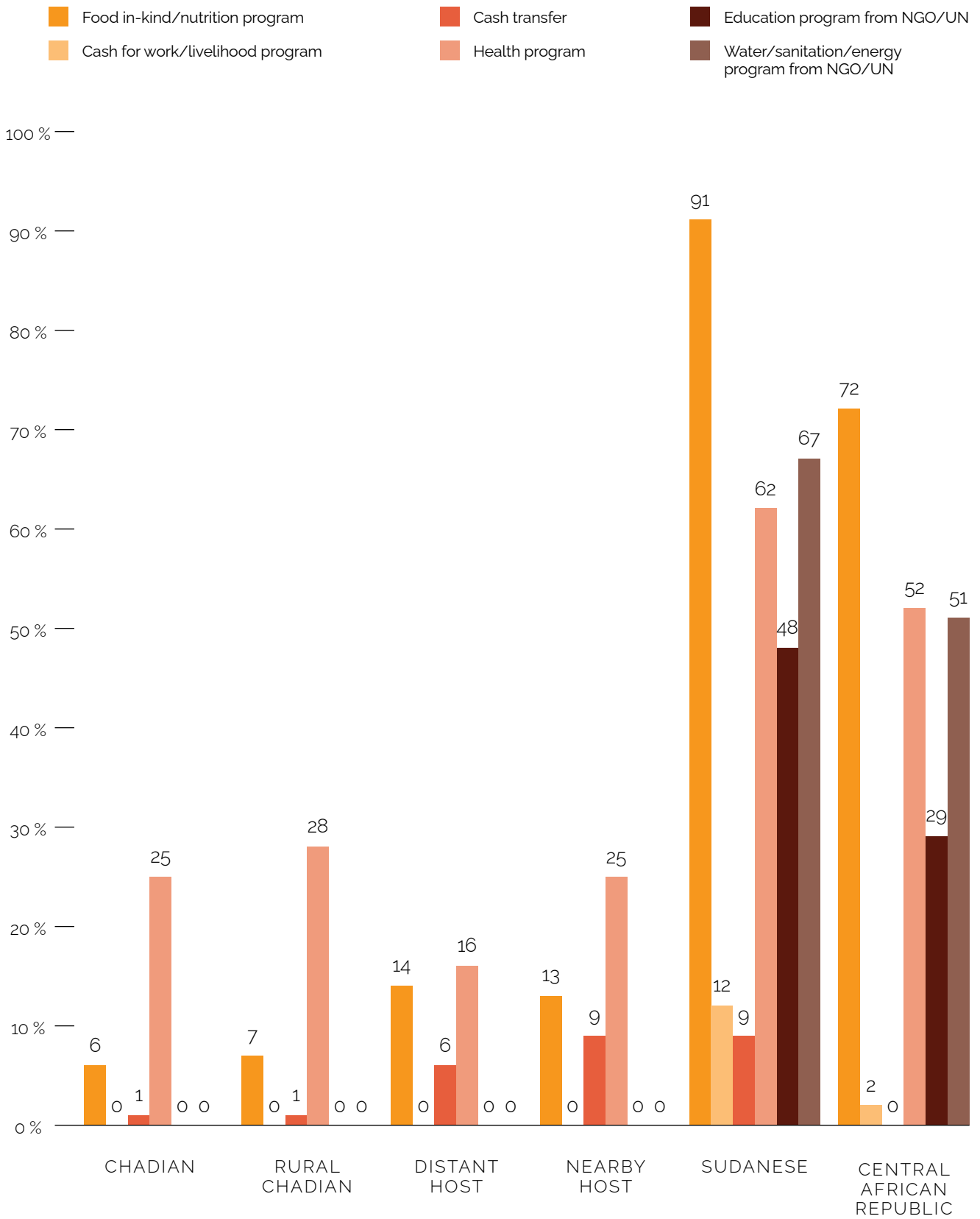


Figure 3.7. Social Programs for Refugee Households, Percent of households





Compared with host communities, refugee children had significantly higher school enrollment rates and a shorter distance to school. In primary education, more than 80 percent of refugee children were enrolled—a rate even higher than among the general Chadian children (Figure 3.8). Such a high enrollment rate may be linked to availability and proximity to school, often provided in the camps by NGOs and international donors. Over 90 percent of refugee children lived within 2 km of school (Figure 3.9). Although schools in refugee camps were often open to children in host communities, only 30 percent of those children enrolled, primarily because of the travel distance. Nonetheless, two key challenges remained: how to prevent children from dropping out of school and the availability of higher education. Only 16 percent of Central African and 30 percent of Sudanese refugee children moved on to secondary school. This is consistent with the situation in Chad generally where much effort has been exerted not only to keep children in school but also to build schools and train teachers for secondary and higher education. In fact, Chad has one of the lowest human capital indexes in the world: a Chadian child is expected to reach only 30 percent of his or her potential by adulthood. In recent years, the government of Chad has also made substantial efforts to include refugees in the education system. Since 2018, the government has opened more than 100 of its schools to refugee children (UNHCR 2019).

Figure 3.8. School Enrollment Rate, Percent

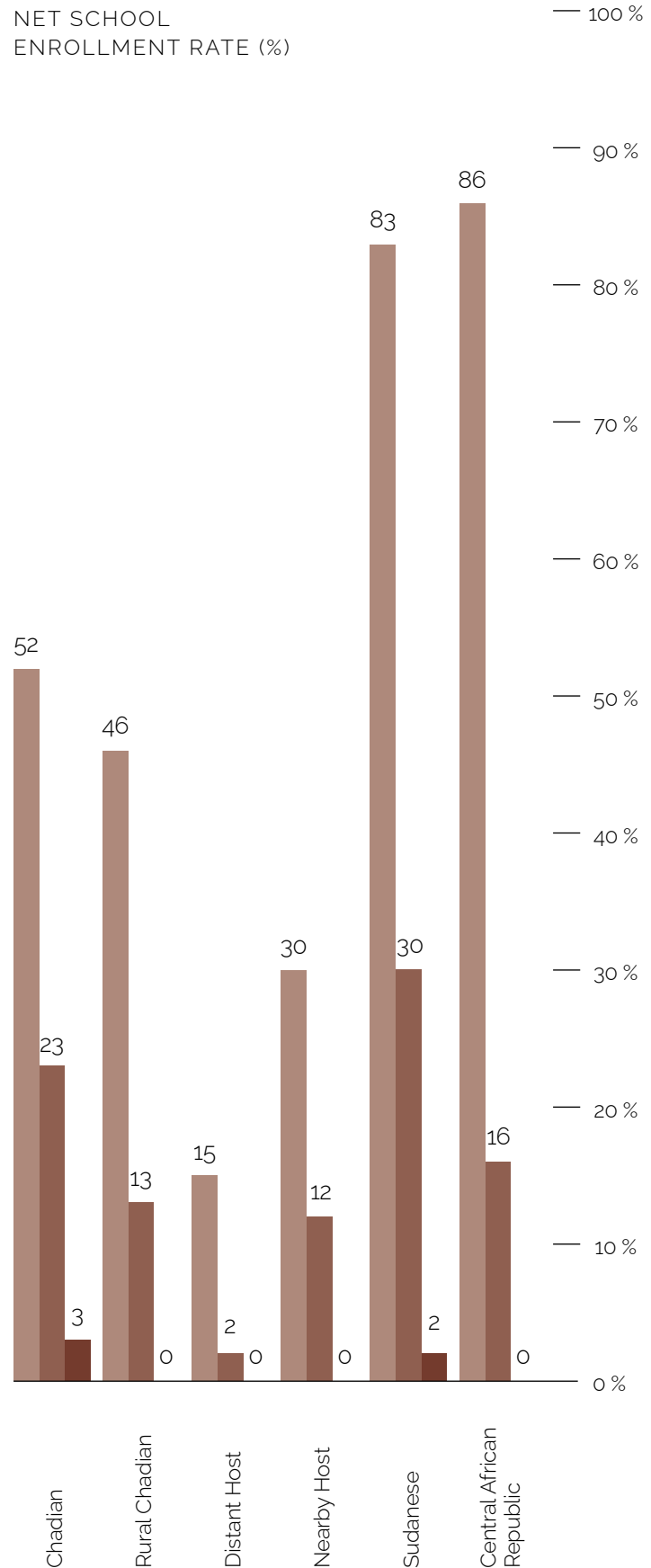
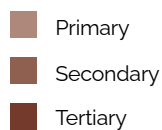
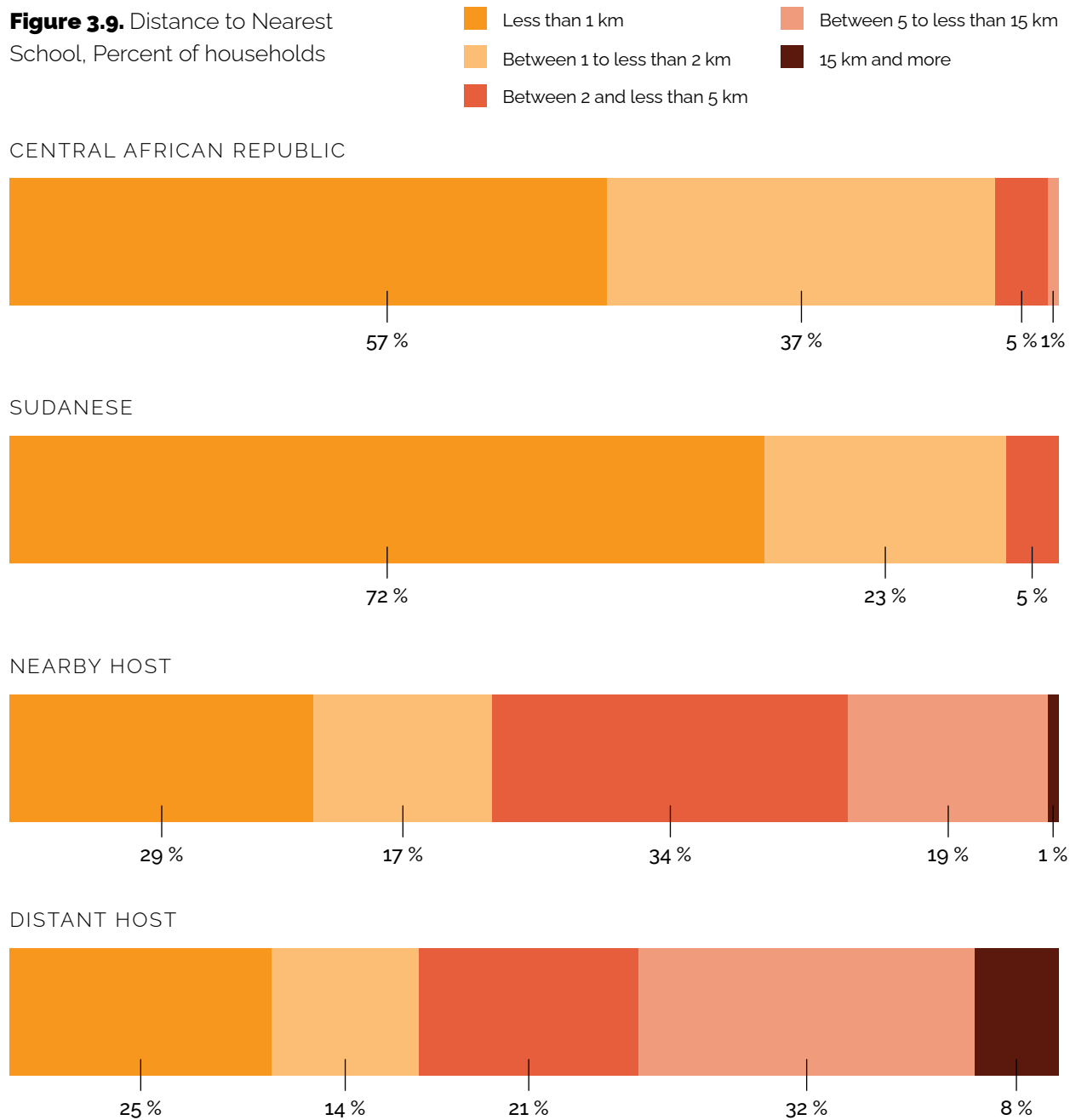


Figure 3.9. Distance to Nearest School, Percent of households



Although there were still disparities in health services between refugees and host communities, host communities had significantly more access to health services than the general Chad population, highlighting the enormous efforts of NGOs and international donors to provide services to both refugees and host communities. Nearly 80 percent of Sudanese and Central African refugees were able to seek health care when needed, compared to 55 percent in host communities. And access to health care

for Chadian living near the camps was significantly higher than for the general Chadian population where less than 40 percent had access (Figure 3.10). More than 50 percent of refugees in need of health care seek it from facilities operated by NGOs and donors, compared to 26 percent for nearby host communities and 10 percent for distant host communities. Refugees' closer proximity to health care center compared to host communities also implies that these centers were operated in or near the camps (Figure 3.11).

Figure 3.10. Access to Health Care Services, Percent of households

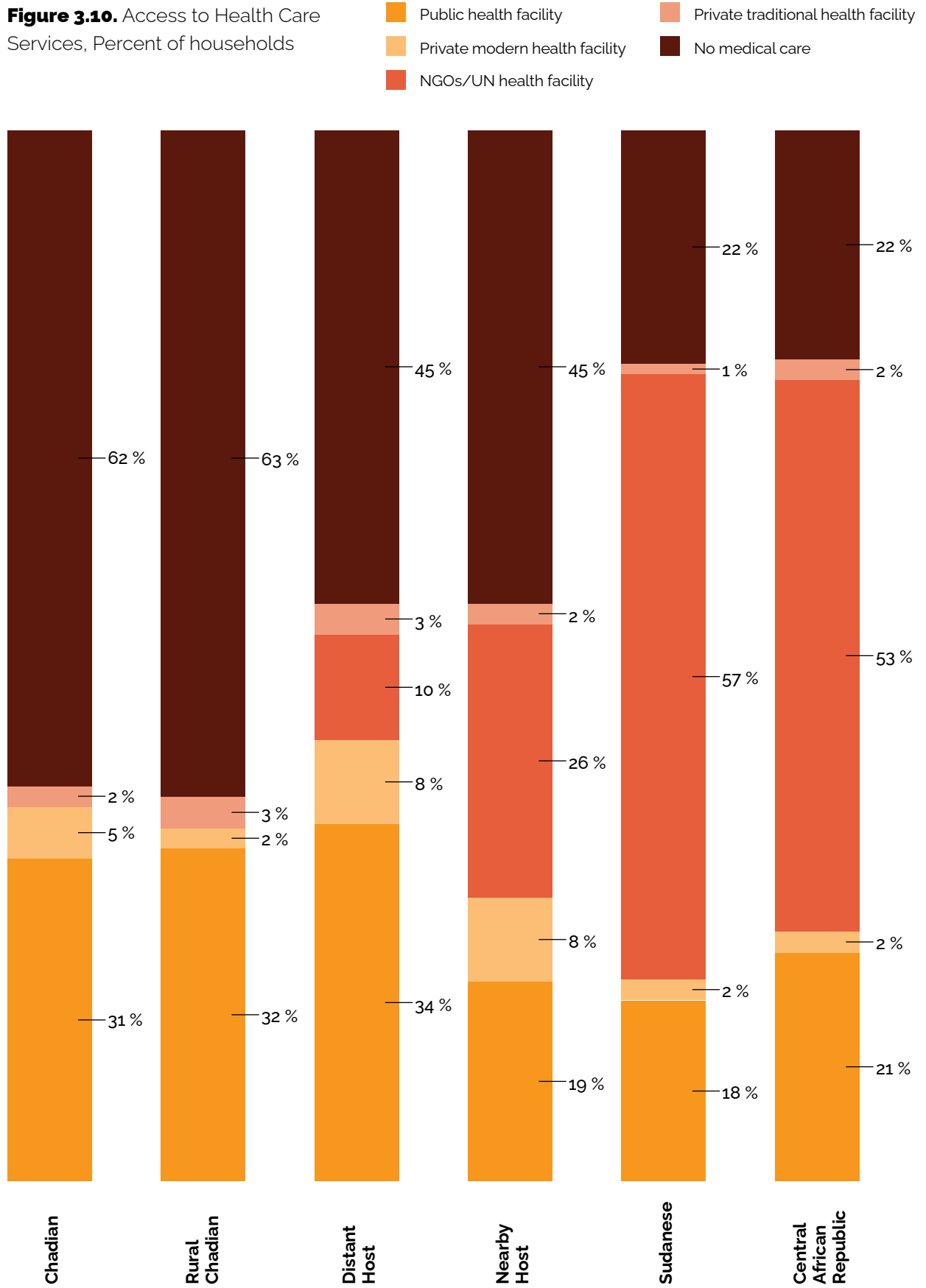
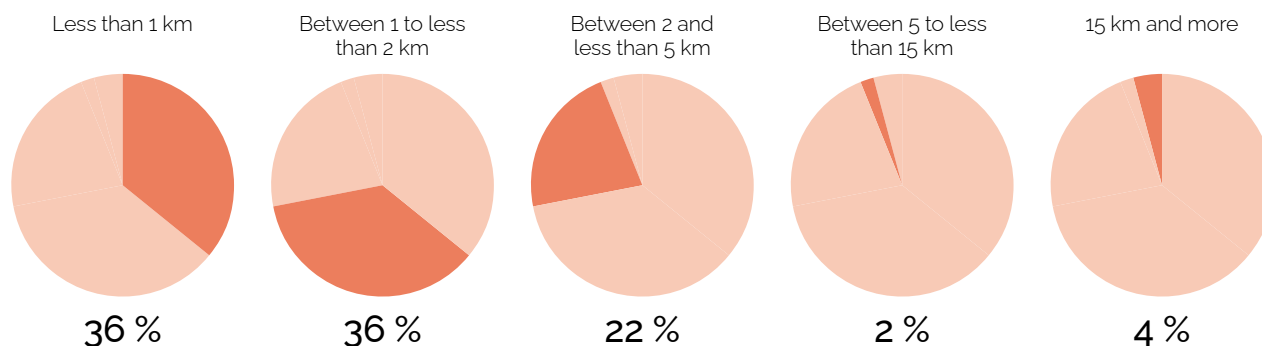
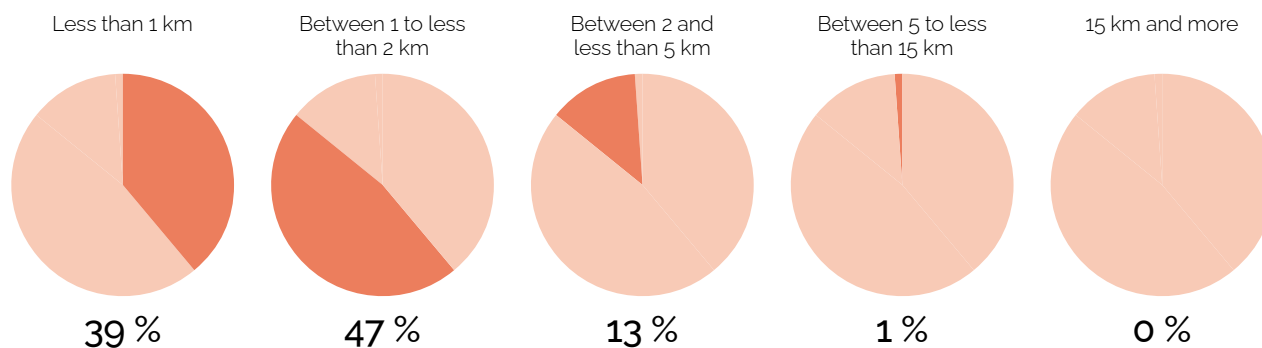


Figure 3.11. Distance to Health Care Center, Percent of households

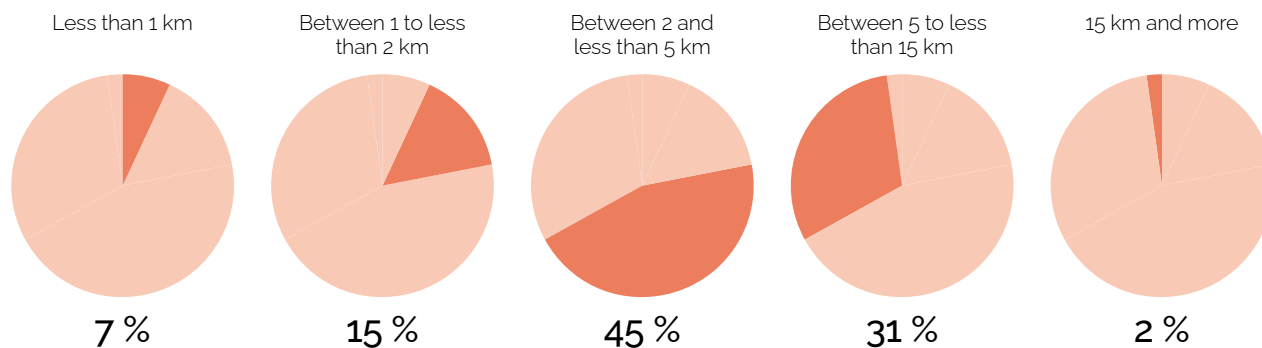
CENTRAL AFRICAN REPUBLIC



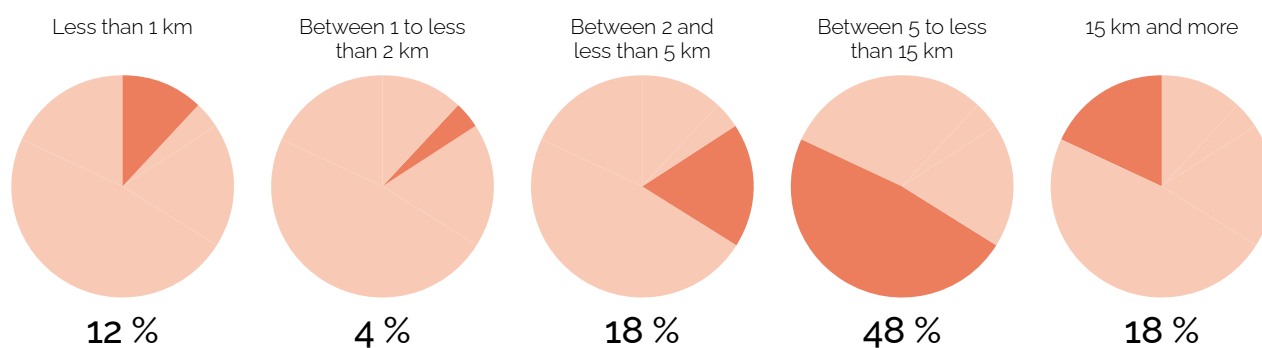
SUDANESE



NEARBY HOST



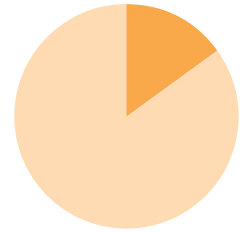
DISTANT HOST



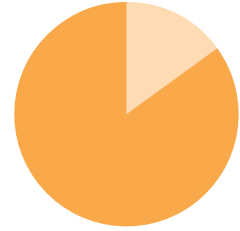
Access to clean water and sanitation was relatively high for Sudanese refugees although more limited for Central African refugees, and severely restricted for host communities and the general Chadian population. Over 70 percent of Sudanese refugees had access to a public water pipe although the quantity of water they can have is not guaranteed. Public water was available for only 16 percent of Central African refugees and of the Chadian population (Figure 3.12). Compounding this minimal access to clean water is lack of access to proper sanitation, heightening refugee exposure to water-related diseases like cholera and malaria, which have caused severe outbreaks in the past (Reliefweb 2017), and contagious diseases like COVID-19. Almost all refugees had only very basic sanitation methods, such as open pit, uncovered latrine, or no latrine at all. This was a problem throughout Chad (Figure 3.13).

CHADIAN

Yes
15 %

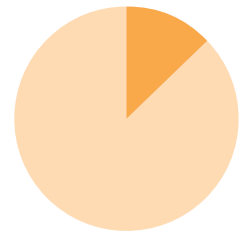


No
85 %

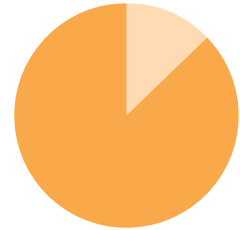


DISTANT HOST

Yes
13 %

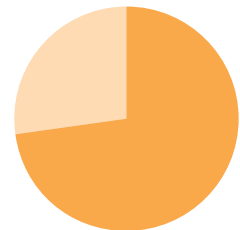


No
87 %



SUDANESE

Yes
73 %



No
27 %

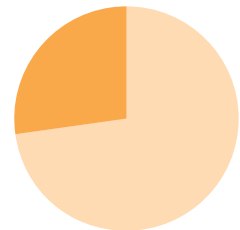
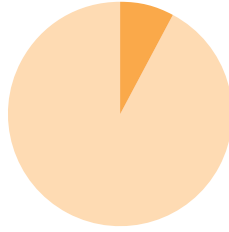


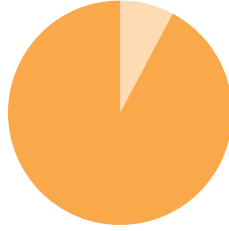
Figure 3.12. Access to Tap Water, Percent of households

RURAL CHADIAN

Yes
8 %

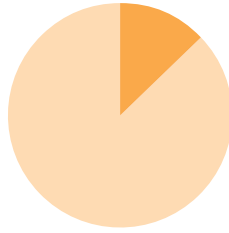


No
92 %

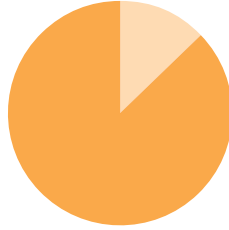


NEARBY HOST

Yes
13 %

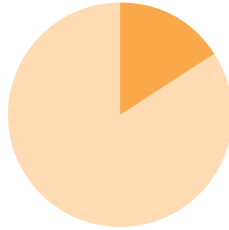


No
87 %



CENTRAL AFRICAN REPUBLIC

Yes
16 %



No
84 %

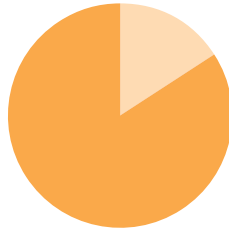
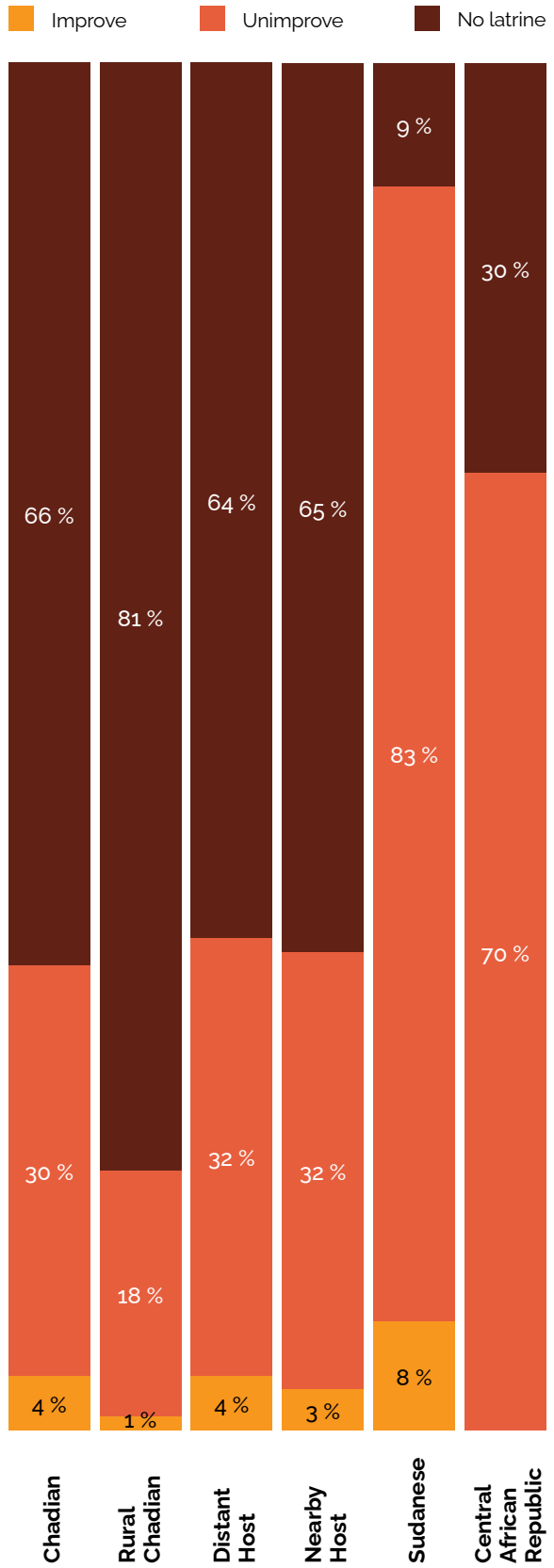


Figure 3.13. Access to Sanitation, Percent of households



Like Chadians, refugees relied on basic forms of energy, such as firewood and battery lamps, for daily household activities. Despite empirical evidence showing the link between access to electricity and employment and development outcomes (Chakravorty et al. 2014; Lipscomb et al. 2013; Dinkelman 2011), access to this modern form of energy was extremely low in Chad and in refugee camps. Instead, the main source of fuel was battery-operated lamps for lighting (Figure 3.14), and firewood for cooking (Figure 3.15). This

was true for all Chadian population and refugee groups. However, in refugee camps reliance on these basic types of energy can disproportionately affect women and girls, who were most likely responsible for collecting firewood—a task that put them at risk of sexual and gender-based violence as well as damaging the environment in host communities (Watson et al. 2018). We found that, in the eastern camps, for example, Sudanese refugees often had to walk up to 15 kilometers to find firewood.

Figure 3.14. Main Energy Source for Light, Percent of households

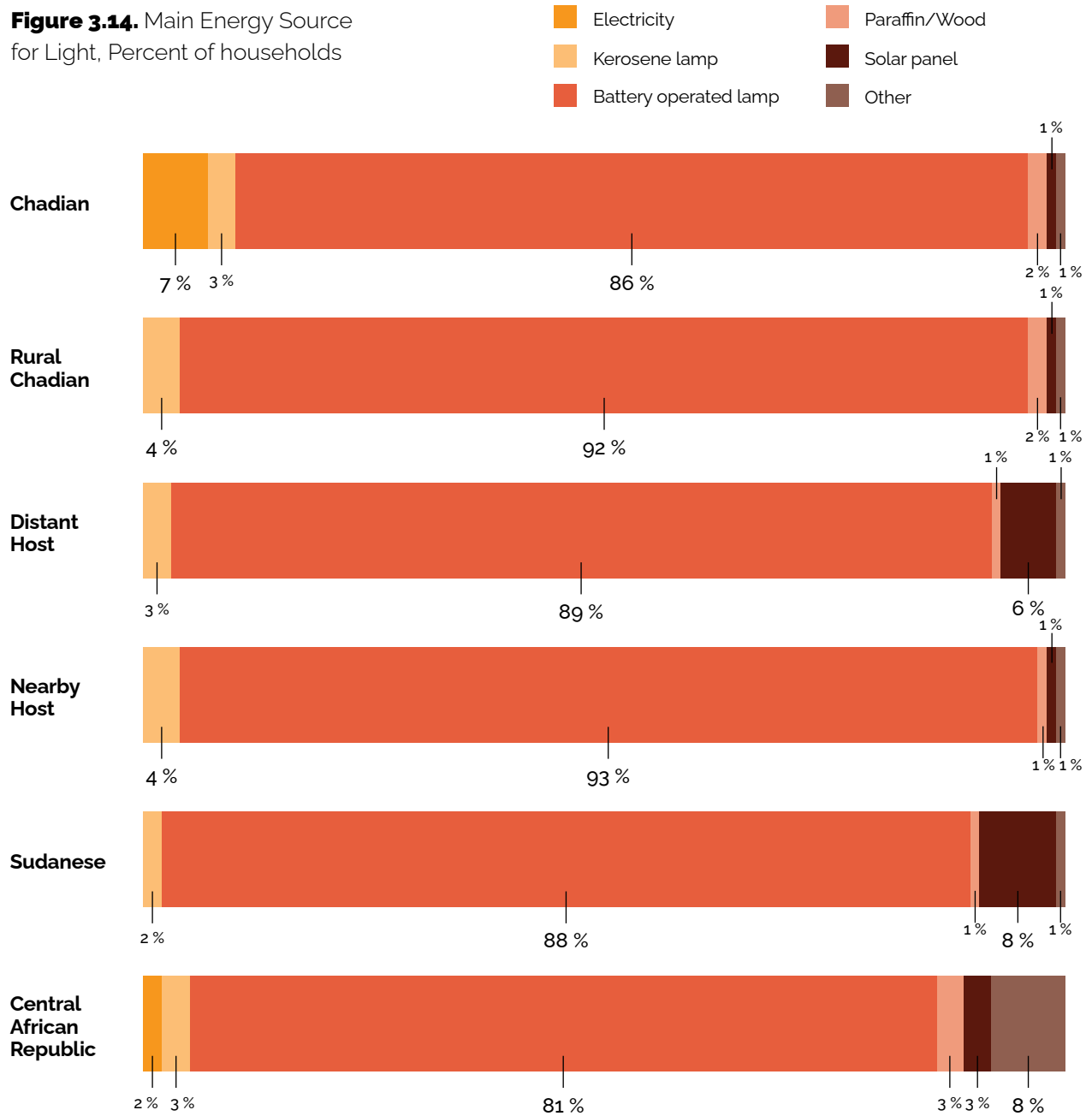
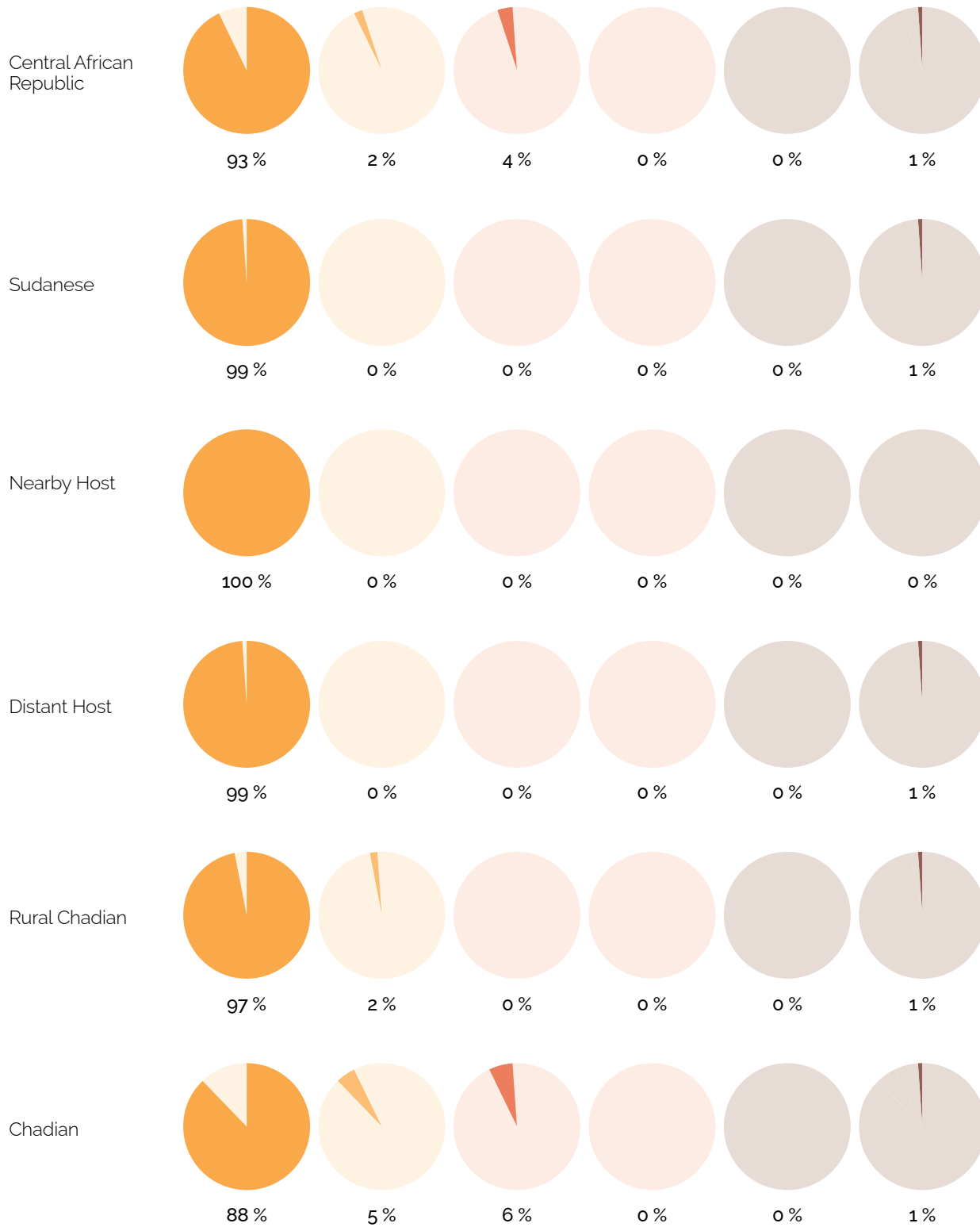
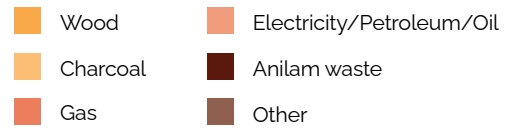


Figure 3.15. Main Energy Source for Cooking, Percent of households



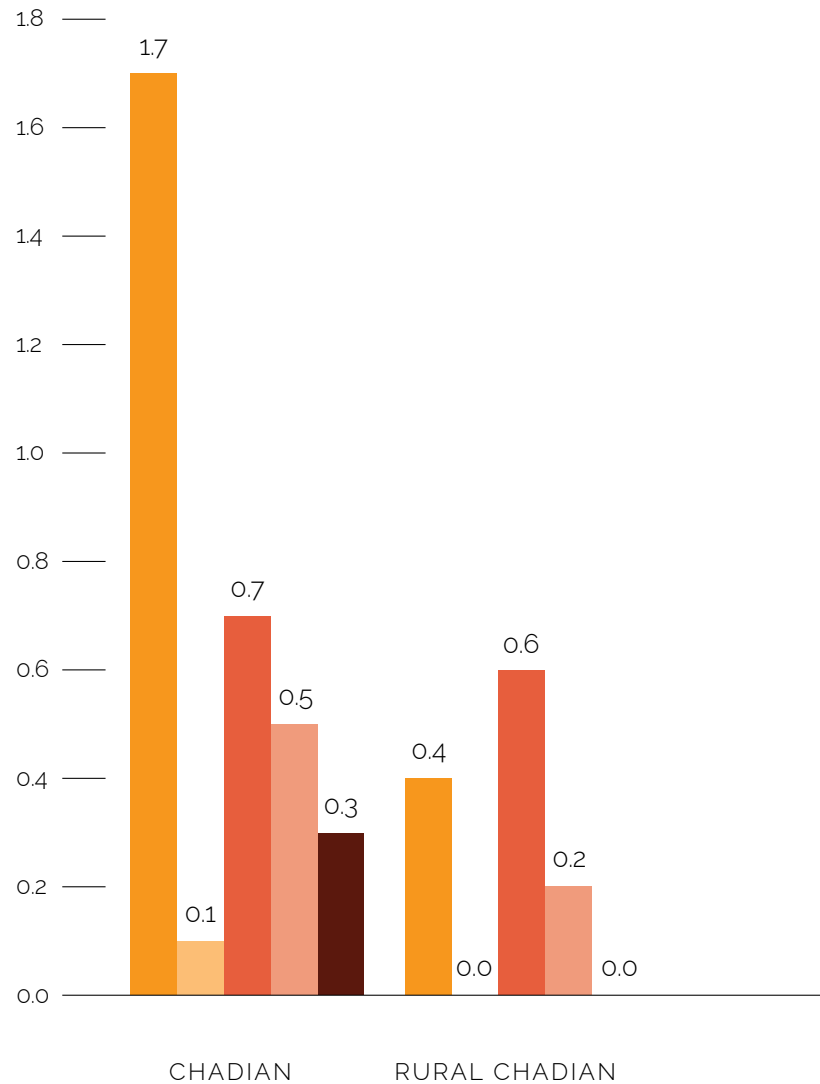
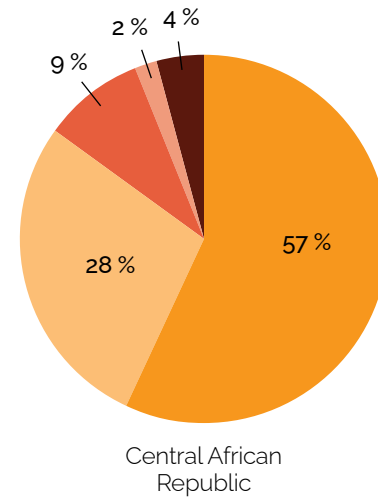
With the advantage of the population size of the camps, refugees can often form markets where they can trade with each other and with host communities. Most major camps in Chad had more than 10,000 refugees creating an economy of agglomeration to exchange good and services. Indeed, 80 percent of Sudanese and Central African refugees were within 2 km of the nearest market (Figure 3.16). Meanwhile, about 70 percent of those resident in nearby host communities lived within 5 km of the market. For those in distant host communities, only 42 percent are within 5 km of the market, which suggests that host communities were likely to trade with refugees near the camps. While the agglomeration of refugees in remote areas brings in markets with a larger selection of goods and services to host communities, it may also lead to upward pressure on prices due to higher demand (Alix-Garcia and Saah 2010; Jacobsen 2002).

Even having market access, refugees had very limited access to financial resources to expand a business. Access to formal financial services was a general constraint in Chad, but it was close to nonexistent among Chadians living near the camps and among refugees (Figure 3.17). On average, fewer than 2 percent of Chadian adults had bank accounts, and fewer than 1 percent had accounts in MFIs. Refugees and host communities had almost no access to those resources. Financial access was also very limited even with informal sources: only 2 percent of Central African and 6 percent of Sudanese adult refugees were able to borrow from self-help groups, and most of the amount borrowed was spent on household consumption rather than business investment. This is not surprising given that more than 80 percent of refugees did not have enough income to cover their essential needs.

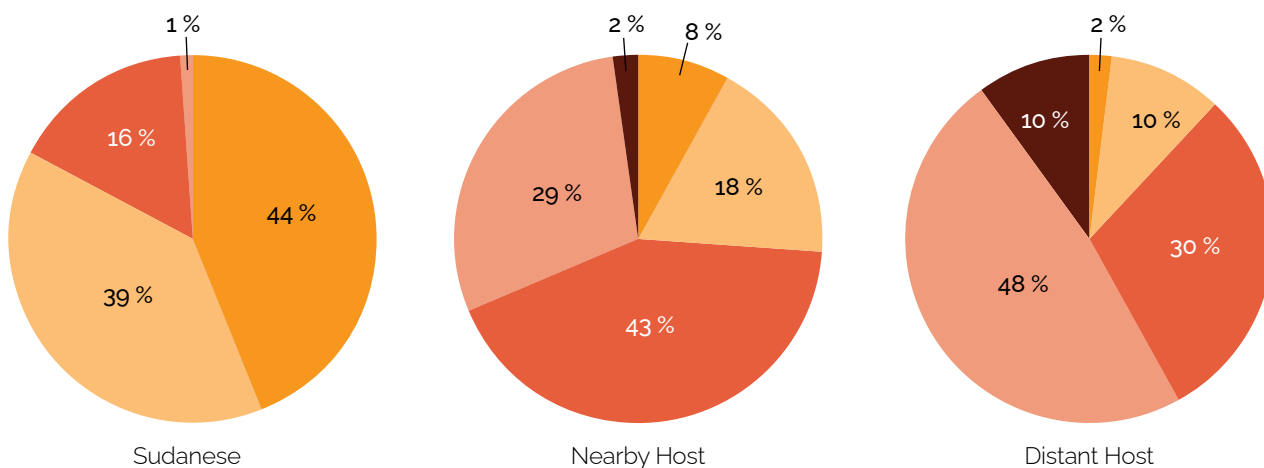
Figure 3.17. Access to Financial Resources, Adult Population, Percent



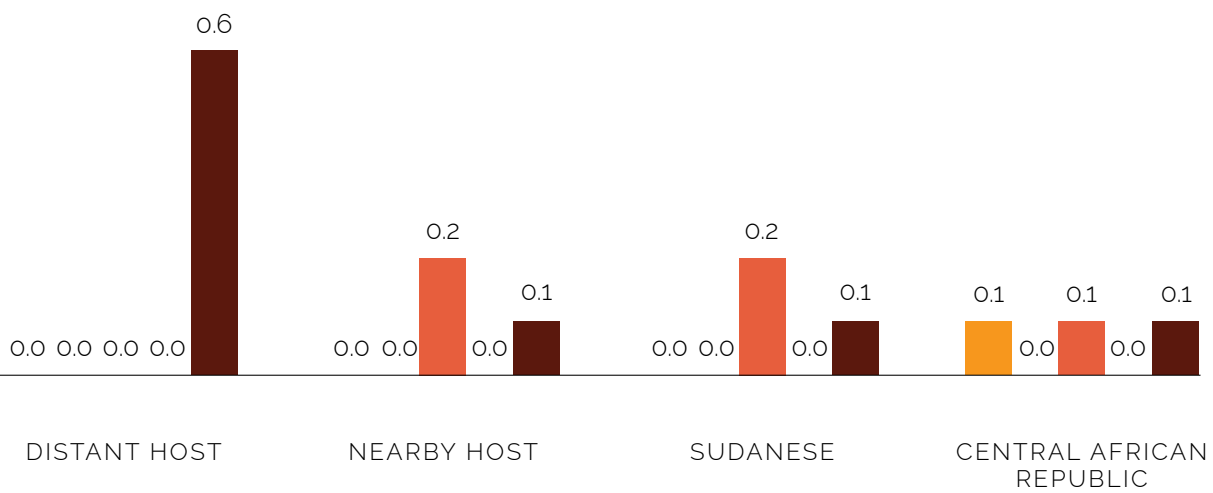
Figure 3.16. Access to Markets, Percent of households



■ Less than 1 km
 ■ Between 1 to less than 2 km
 ■ Between 2 and less than 5 km
 ■ Between 5 to less than 15 km
 ■ 15 km and more



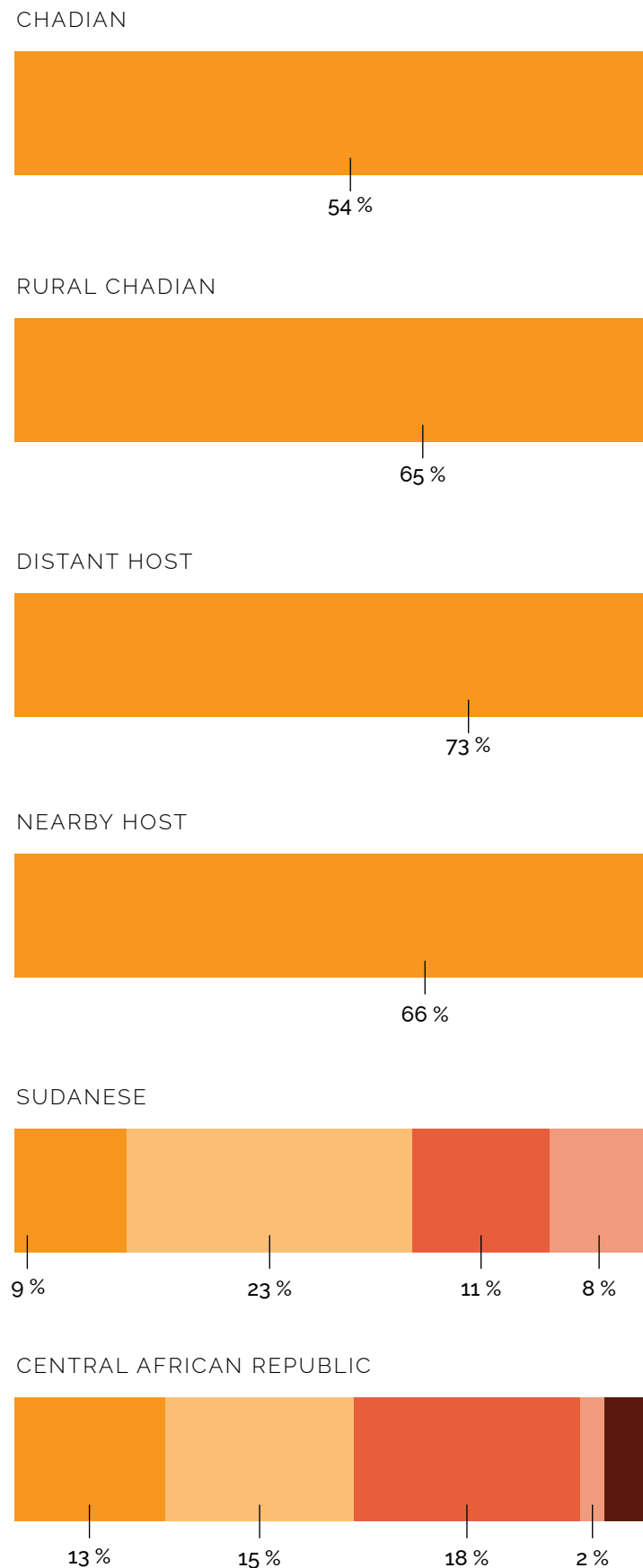
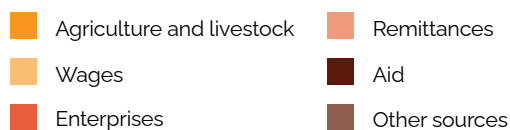
% OF POPULATION AGED 15+



Income and Employment

Aid was the major source of income for refugees but aid alone was not sufficient: refugees often supplemented their income with earnings from casual labor, small trade, remittances, and to some extent, agricultural production. On average, aid contributed about 50 percent of refugee household income. The second source, about 20 percent of total household income, was wage earnings often from working on another person’s farm. However, refugees, particularly Central Africans, had minimal income from agricultural production mainly due to restricted access to land, even though agricultural production is the main income source for host communities and the general Chadian population (Figure 3.18). To generate additional income, refugees often turned to household enterprises with relatively lower barriers to entry than land access. This was especially true for Central African refugees: a typical household derived nearly 20 percent of its income from small businesses. Lastly, remittances had a minor supporting role, providing only 2 percent of household income for Central African and 8 percent for Sudanese refugees.

Figure 3.18. Sources of Household Incomes, Percent of household income



Household sources of income reflected household employment.

Nearly half the refugee labor force was engaged in agricultural production, although this yielded a modest share of household income. This suggests that the productivity of refugees is low perhaps because of deficiencies in the size or quality of land and of the other agricultural inputs to which they had access. Small businesses were a particularly important source of employment for Central African refugee households: more than 40 percent operated household enterprises. The share of households with wage employment was highest for Sudanese refugees at 44 percent. Meanwhile, households in host communities and rural Chadians were highly concentrated in agriculture, which engaged more than 90 percent of households, and livestock, which engaged more than 60 percent (Figure 3.19).

Refugee households may have opportunities to increase their incomes and therefore their welfare in several ways: among them are wage work, running a household business, and agricultural and livestock production.

Although remittances currently contribute only a small share of household income, they may ultimately become an important income source for households if family members are allowed to find work outside of the camps. They are therefore included in the discussion. Because the host community workforce was concentrated in agricultural and livestock production, the survey has a small sample size of host communities in other sources of employment. Thus, this section combines nearby and distant host communities into a single group.

Wage Income

For refugees, wage earnings were the second major source of income after aid.

More refugees relied on waged employment than households in host communities or in Chad in general: nearly 30 percent of Central African and 44 percent of Sudanese refugee households, compared to about 10 percent of host community and 5 percent of rural Chadian households (Figure 3.19). Wage earnings represented 15 percent of household income for Central African refugees and 22 percent for Sudanese refugees (Figure 3.18).

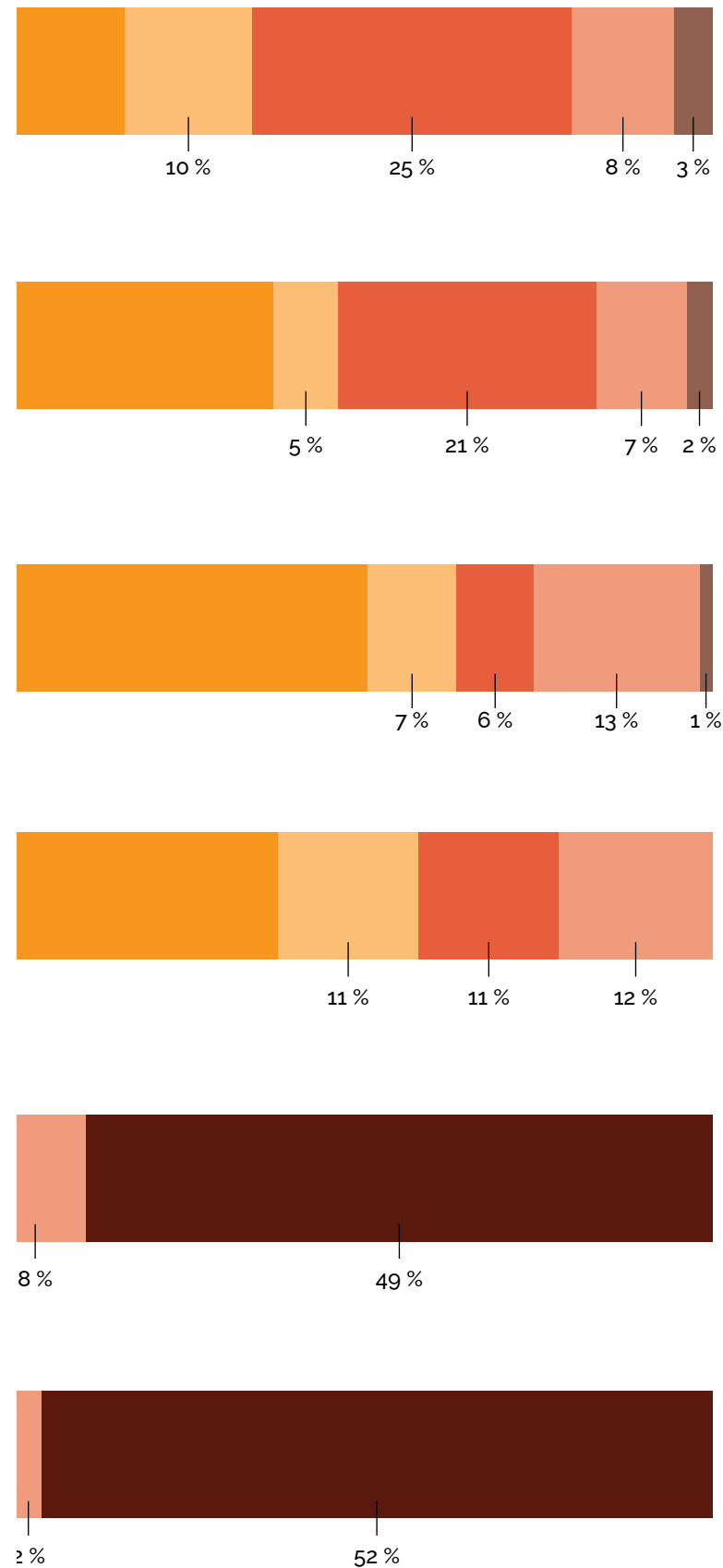
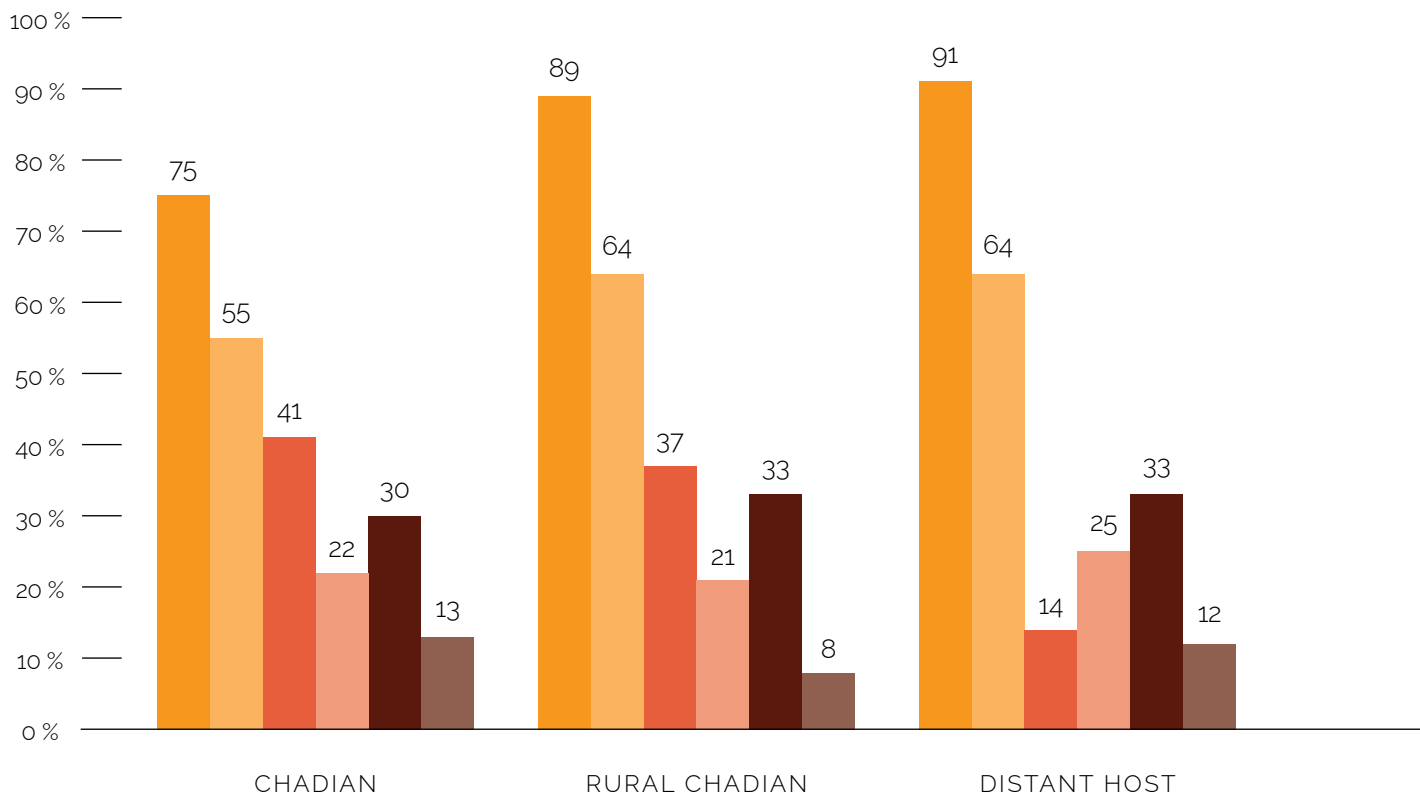


Figure 3.19. Household Participation by Income Sources, Percent of household



However, hourly earnings were lower for refugees than for residents of host communities and the Chadian general population, mostly because of job sector and occupation. The refugee disparity in wage earnings (Brucker et al. 2019; Connor 2010) can be attributed to wage structural effect, occupation, and possible discrimination (Bayer 2016; Minor and Cameo 2018). In Chad, the average hourly wage for Sudanese refugees was approximately half that in the host community (Figure 3.20), but this number masked considerable heterogeneity in occupation and sector of employment. A comparison of hourly wages of only agricultural labor among refugees, host communities, and the Chadian population showed little differences (Figure 3.20). Moreover, refugee waged workers were slightly less likely to engage in manufacture and service sectors than host communities and Chadians (Figure 3.21).

They were also more likely to be in unskilled or domestic workers: over 50 percent of refugee wage workers compared to only 32 percent in host communities and 21 percent for rural Chadian (Figure 3.22). Detailed occupational information shows how different the two groups were. Apart from agricultural wage work, the top three wage jobs among rural Chadians were teaching, public administration, and health work, all of which are regarded as high-skill jobs; the top three for refugees were transportation, construction, and domestic service work, all classified as low-skill jobs (ILO 2020; World Bank 2013).

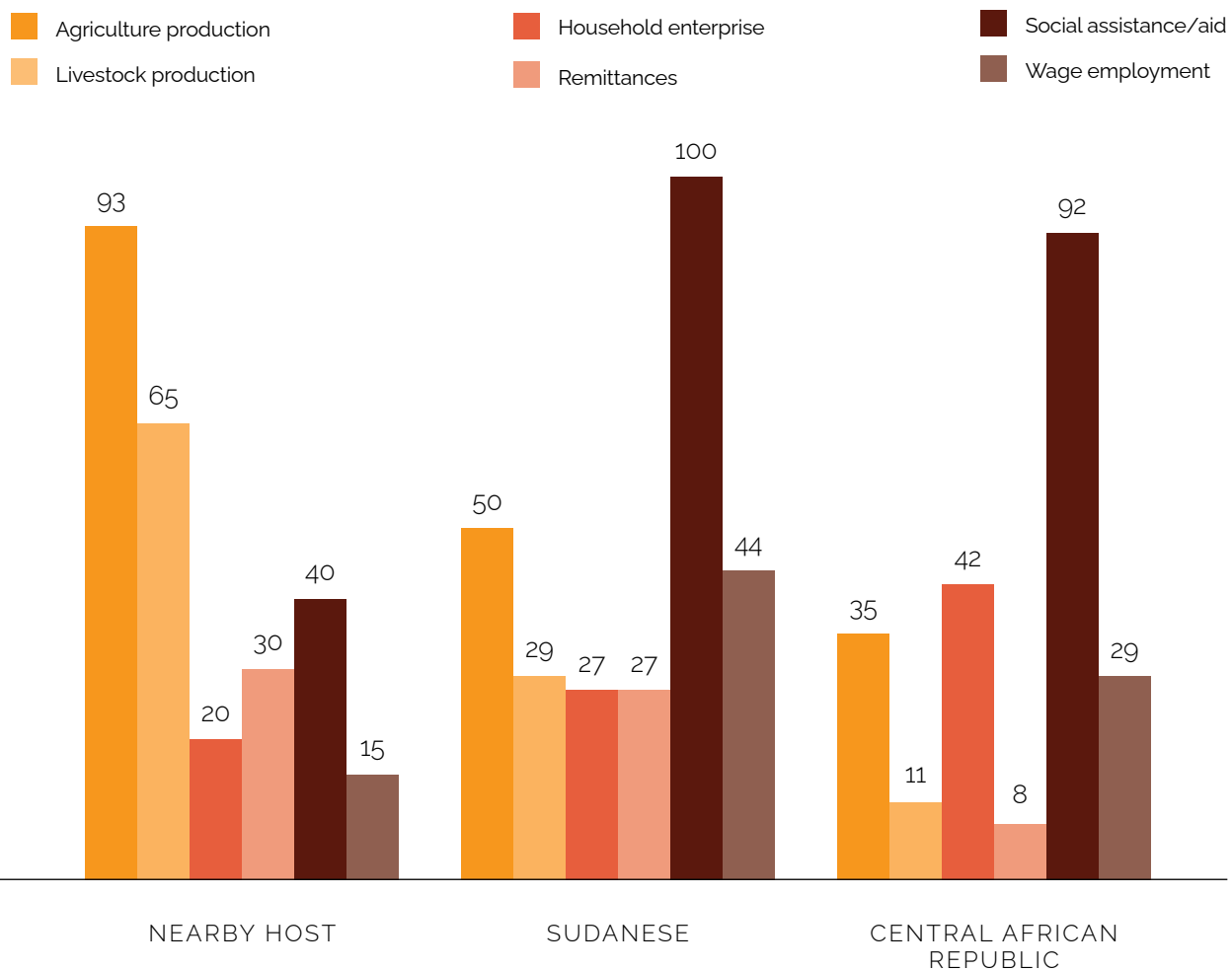
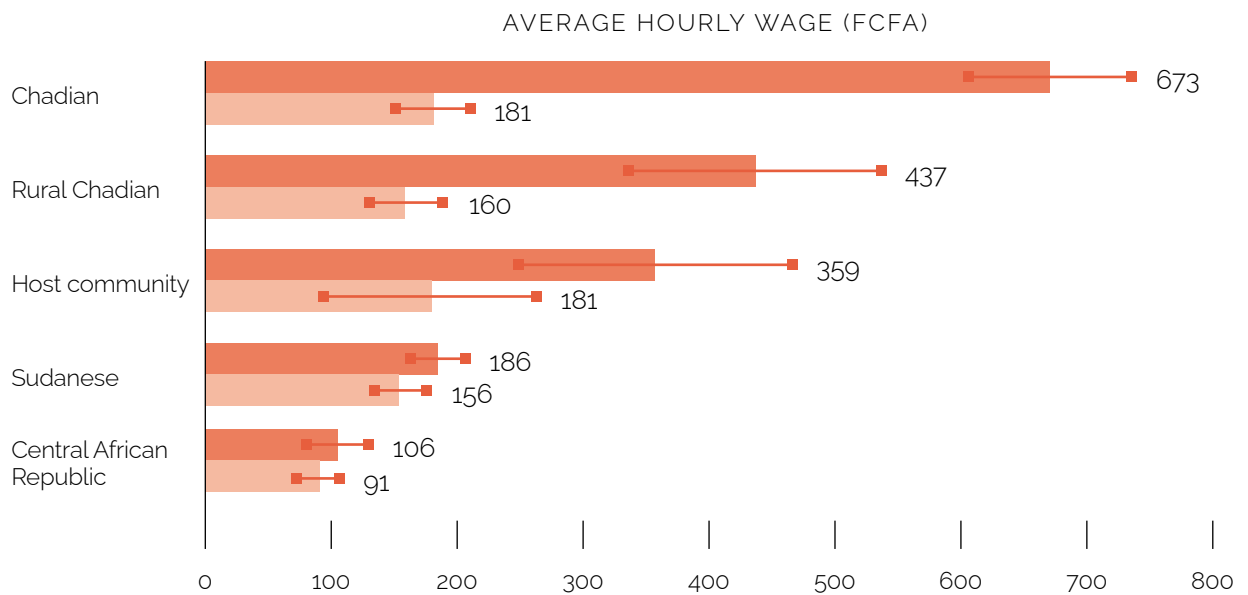


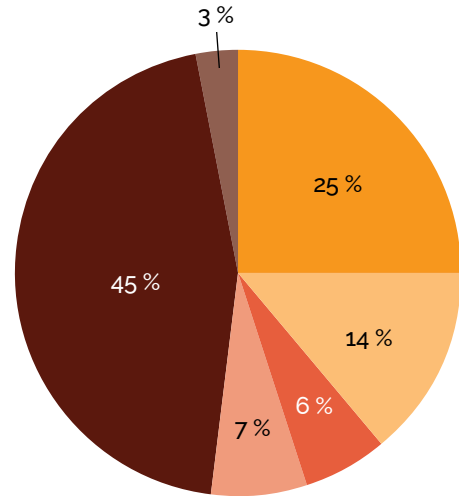
Figure 3.20. Hourly Wage, FCFA



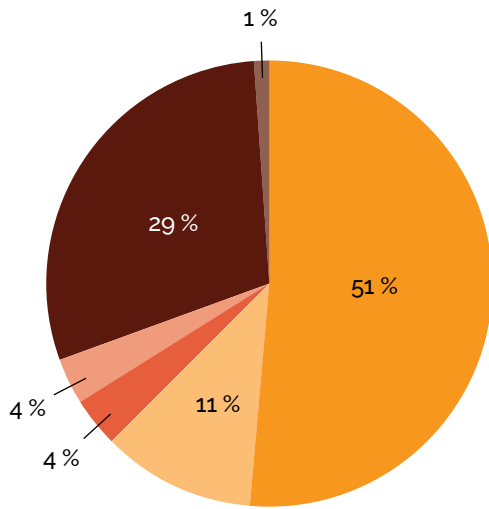
Note: 95 % confident interval in brackets.

Figure 3.21. Wage Employment by Sector, Percent of wage employees

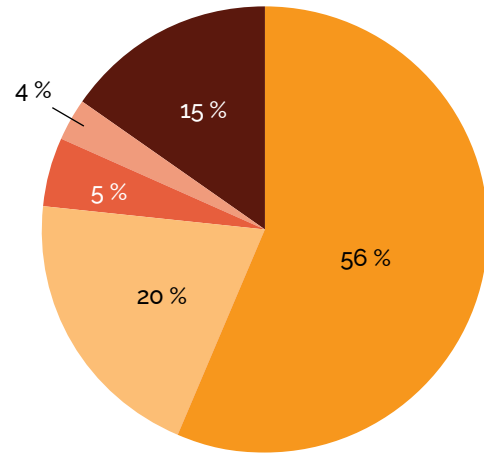
- Agriculture
- Industries
- Trade
- Transportation
- Other services
- Other sector



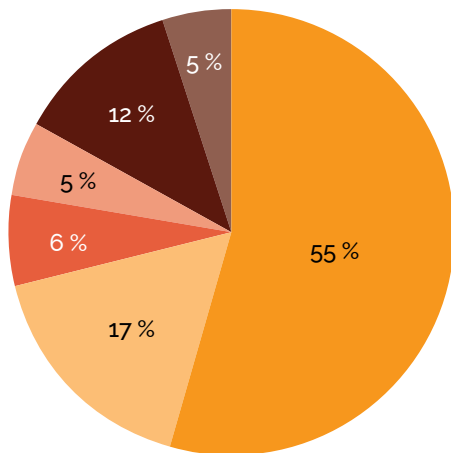
Chadian



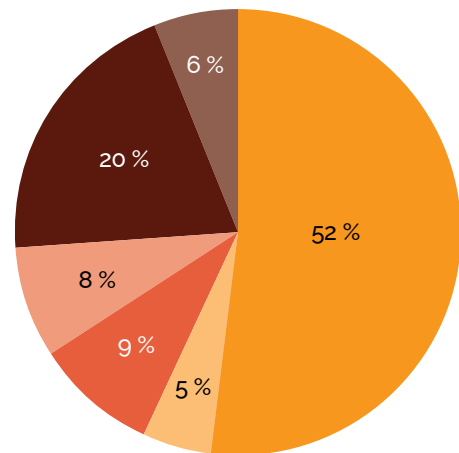
Rural Chadian



Host community

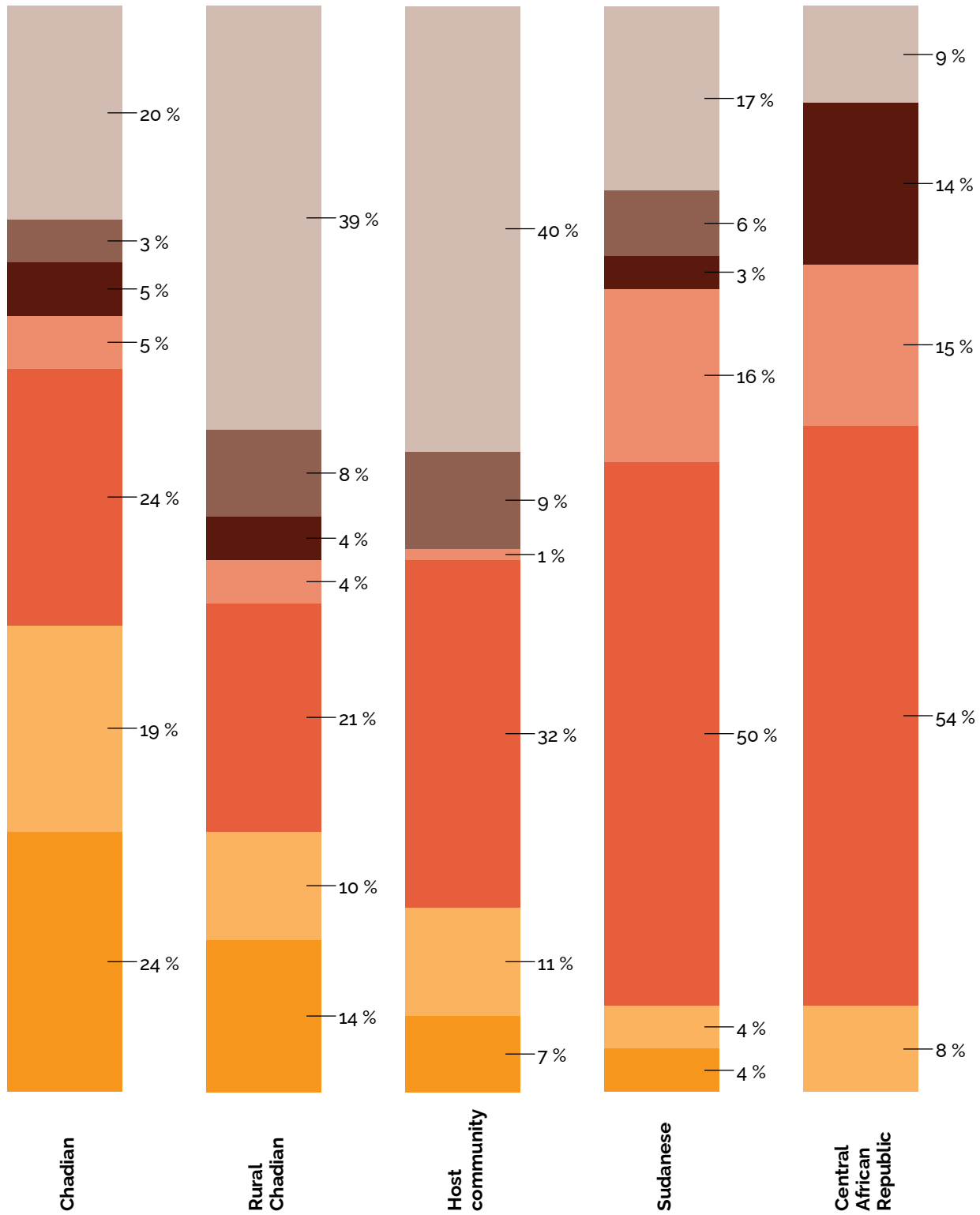


Sudanese



Central African Republic

Figure 3.22. Wage Employment by Type, Percent of wage employees



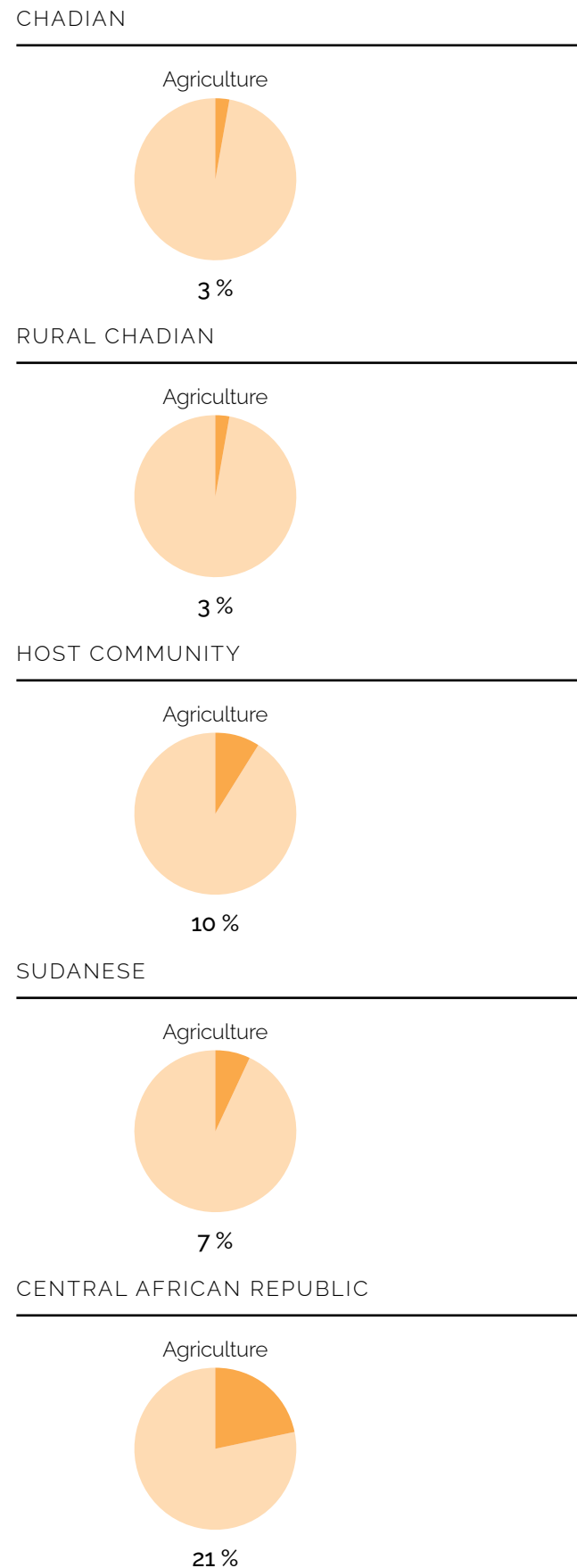
Small Household Enterprises

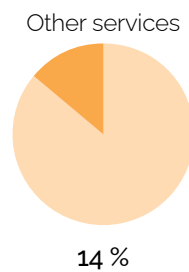
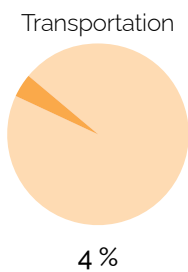
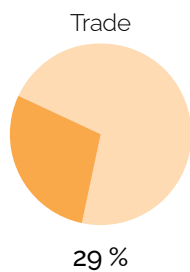
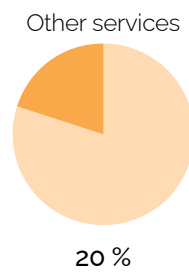
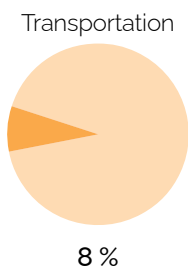
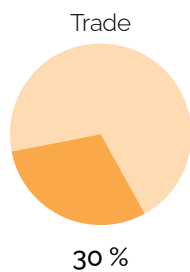
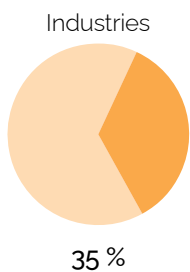
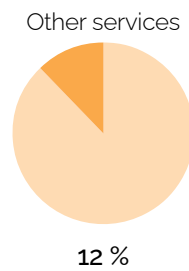
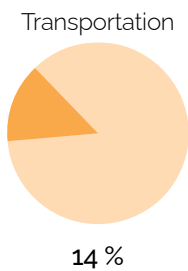
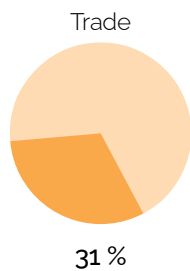
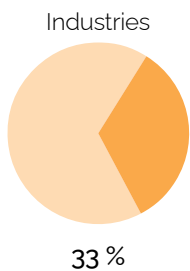
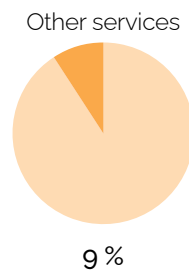
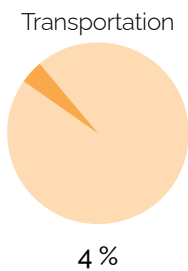
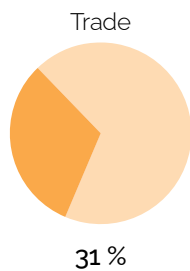
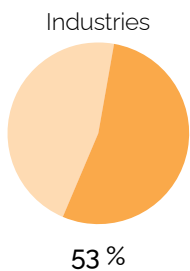
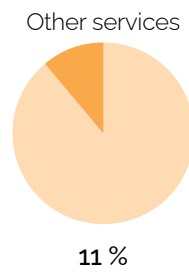
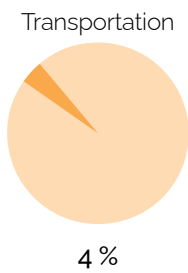
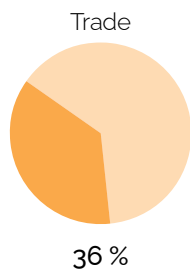
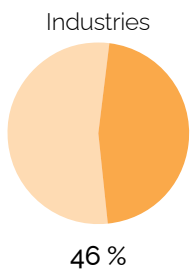
Refugees, in particular Central Africans, were more likely to operate small businesses than residents of host communities, but the structure of their household enterprises in terms of sector, location, and equipment was quite different from those run by households in host communities or rural Chadians.

About half of enterprises managed by refugees and host communities were in services like retail trade, repair of household goods, transportation, and other personal service activities (Figure 3.23). But host communities had the highest share of enterprises in transportation, which accounted for nearly 15 percent of all operations. Among activities in industry, manufactures of food and building materials accounted for the highest shares among both refugees and host communities. Meanwhile, compared with Sudanese refugees and rural Chadians, Central African refugees were likely to have small agricultural businesses, mostly in forestry and related activities.

In terms of location, home and streets were the most popular business places for refugees, host communities, and rural Chadians rather than offices or shops, suggesting that they were mostly small-scale business with little initial investment. In fact, about 45 percent of Central African businesses were operated from home (Figure 3.24). However, 21 percent of enterprises run by host community residents were on vehicles, most engaged in transportation, which takes a relatively higher investment.

Figure 3.23. Household Enterprises, by Sector, Percent of household enterprises





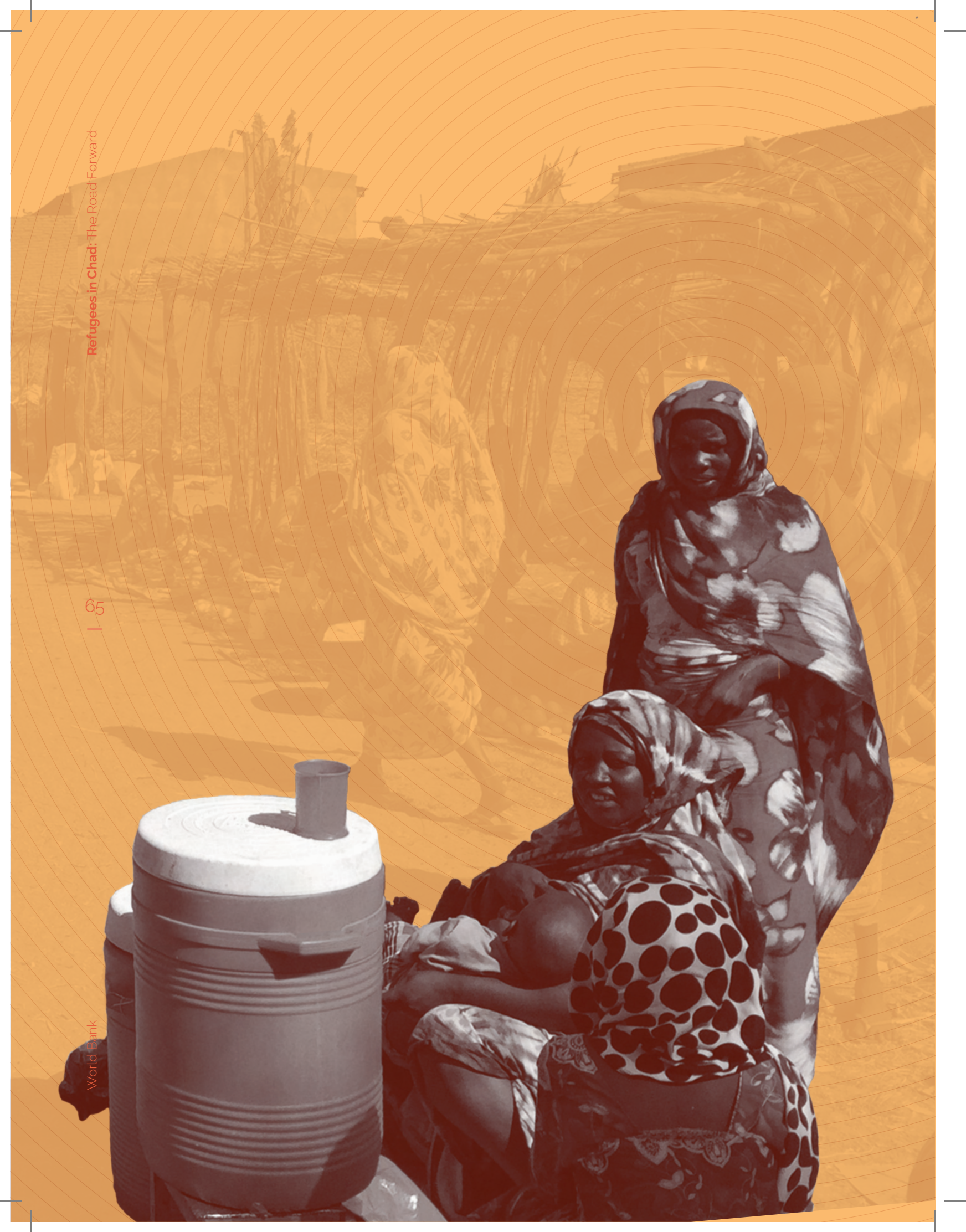
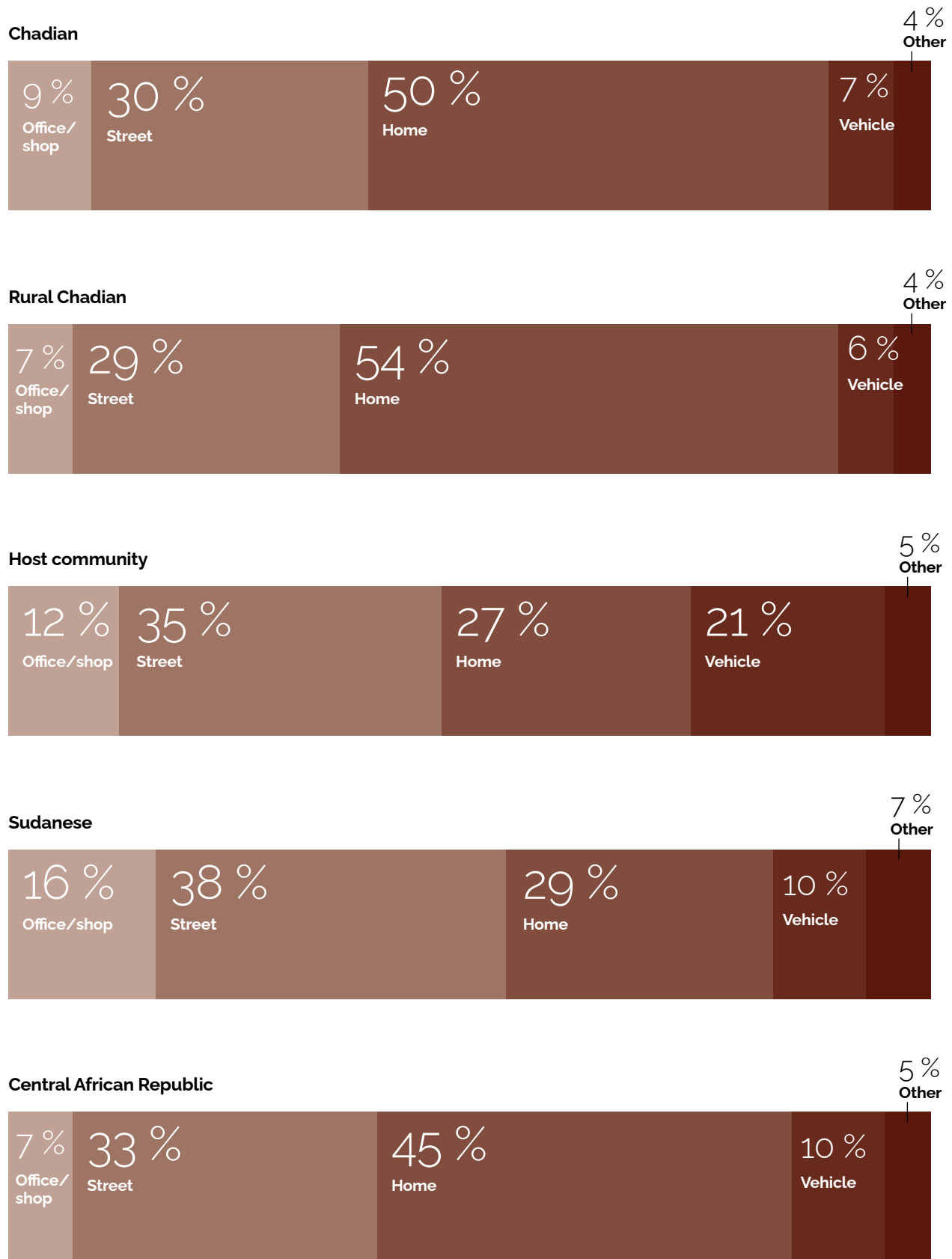


Figure 3.24. Enterprise Operations, by Location, Percent of household enterprises



Except for mobile phones, refugee enterprises were less likely than host community to have equipment. About 40 percent of the businesses of Sudanese refugees and host communities had mobile phones—a rate even higher than the average Chadian or rural Chadian enterprises. However, refugee businesses, especially those of Central Africans, were less likely than residents of host communities to own higher-priced items such as

machines and vehicles. Only 10 percent of Sudanese and 4 percent of Central African enterprises were equipped with a machine compared to 15 percent in host communities. Consistent with the location and sector of enterprises described above, 12 percent of businesses in host communities were significantly more likely to possess a vehicle compared to less than 3 percent for Central African and Sudanese refugees (Figure 3.5).

Figure 3.25. Asset Ownership by Enterprises, Percent of household enterprises

Phone Machine Vehicle Office equipment

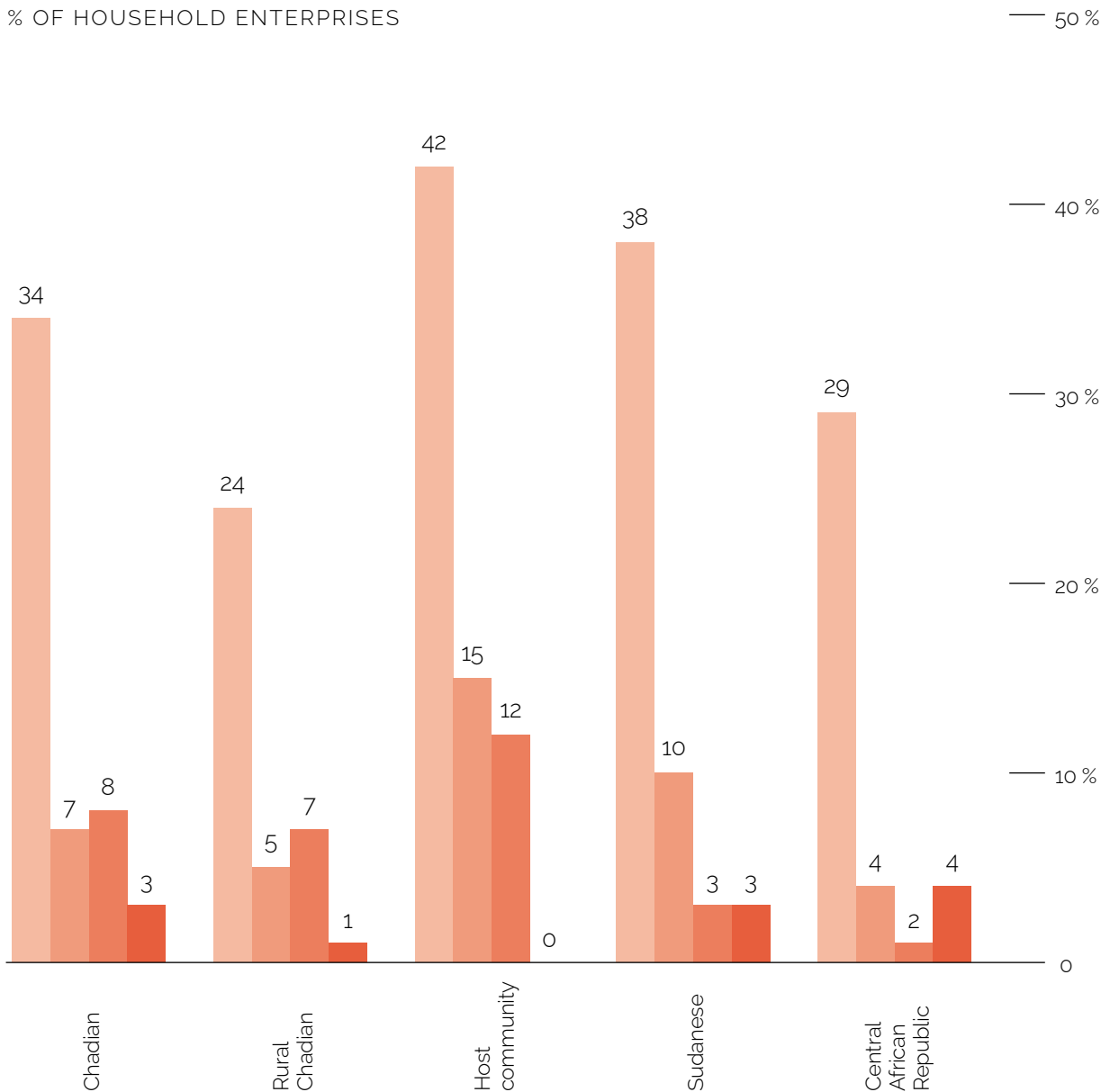
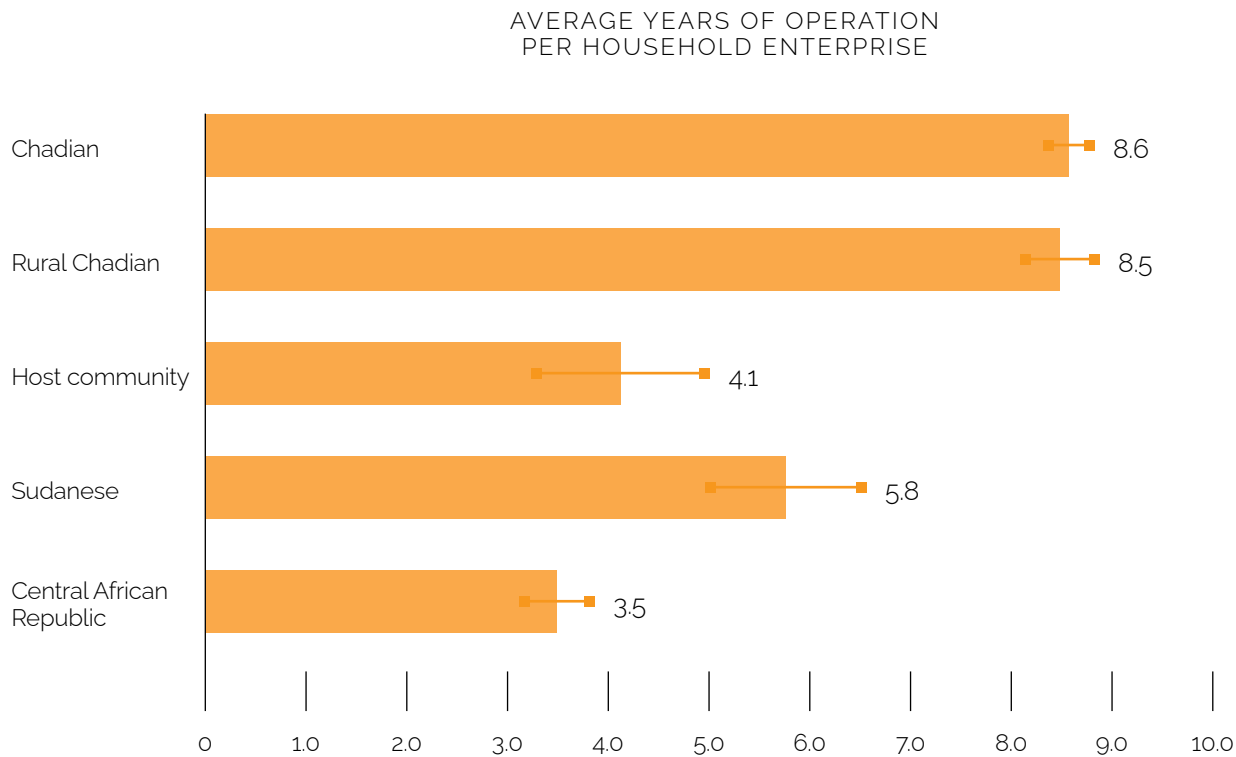


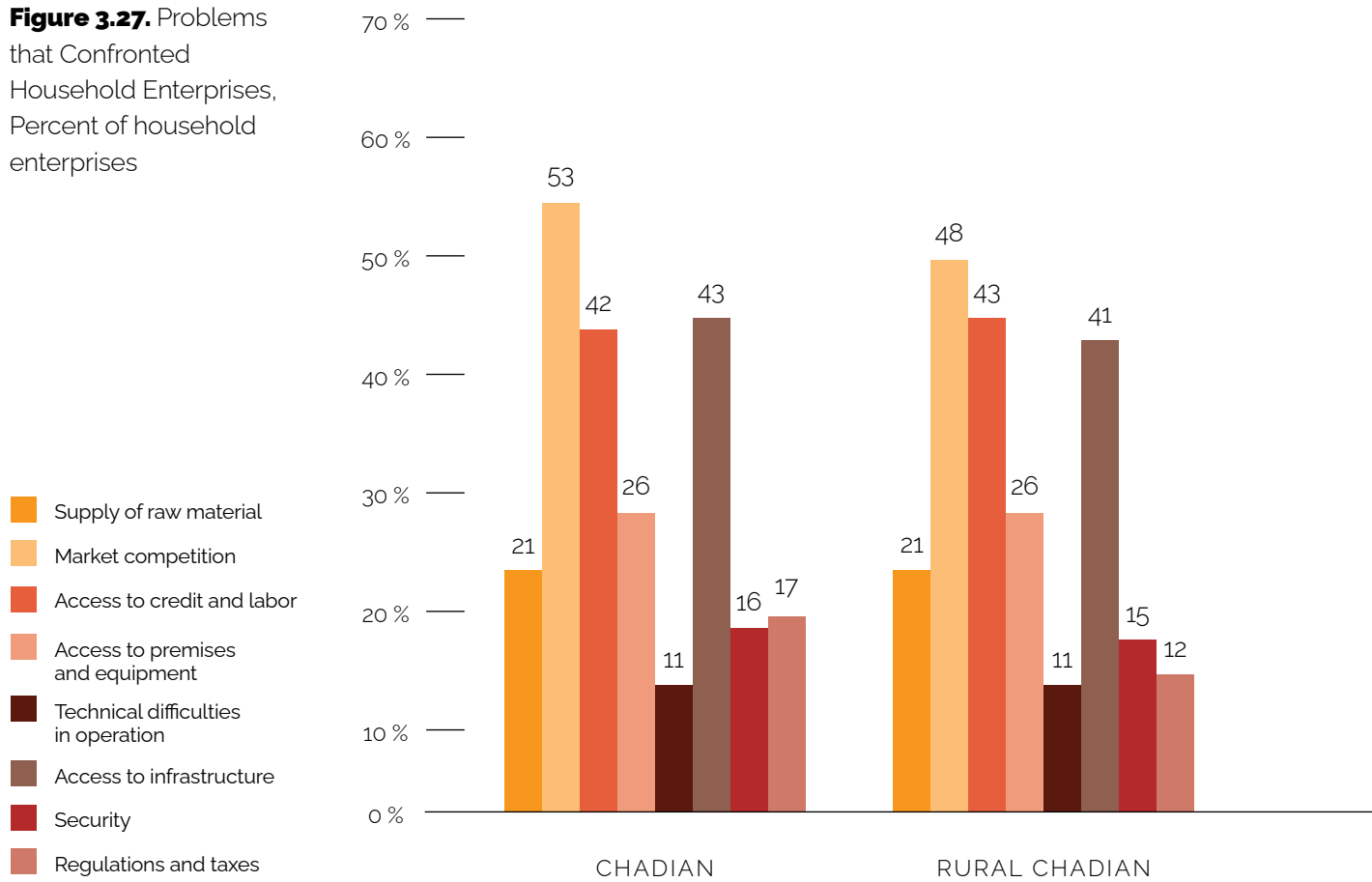
Figure 3.26. Enterprise Operation, Years

Note: 95 % confident interval in brackets.

The number of years in operation was significantly lower for enterprises run by refugees and host communities than for those run by Chadians, suggesting difficulty in survival of business or recent business startups related to the timing of refugee arrivals (Figure 3.26). However, given the similarity in business challenges reported by refugees, host communities, and Chadians (Figure 3.27), the reason for this disparity was more likely to be linked to refugee arrival. On average, a Central African refugee enterprise had been in business less than 4 years compared to nearly 6 years for Sudanese refugees. The difference could simply be due to the fact that Sudanese refugees arrived in Chad earlier than the Central Africans. Although the average number of

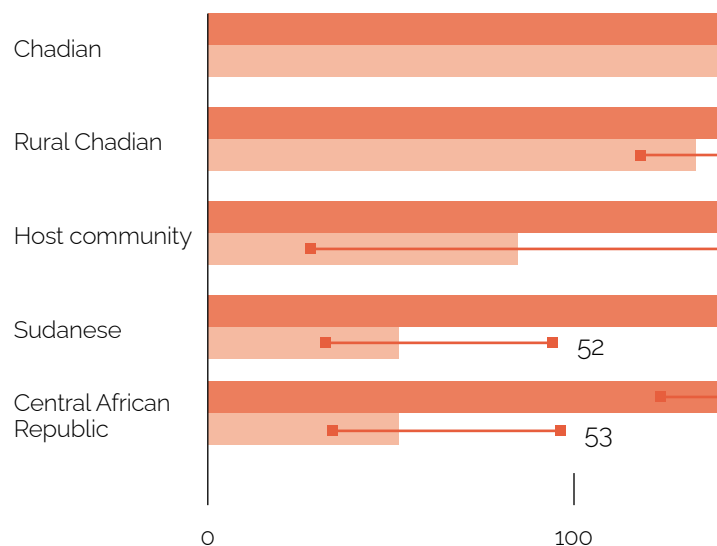
years in operation for host community enterprises was less than half the average for rural Chadian businesses (Figure 3.26), they reported facing fewer business challenges. This may indicate host communities' shorter business life was related more to the arrival of refugees than to difficulty in business operations. Central African refugee enterprises reported substantially more difficulty in accessing credit and labor: more than 60 percent of their enterprises experienced this challenge.

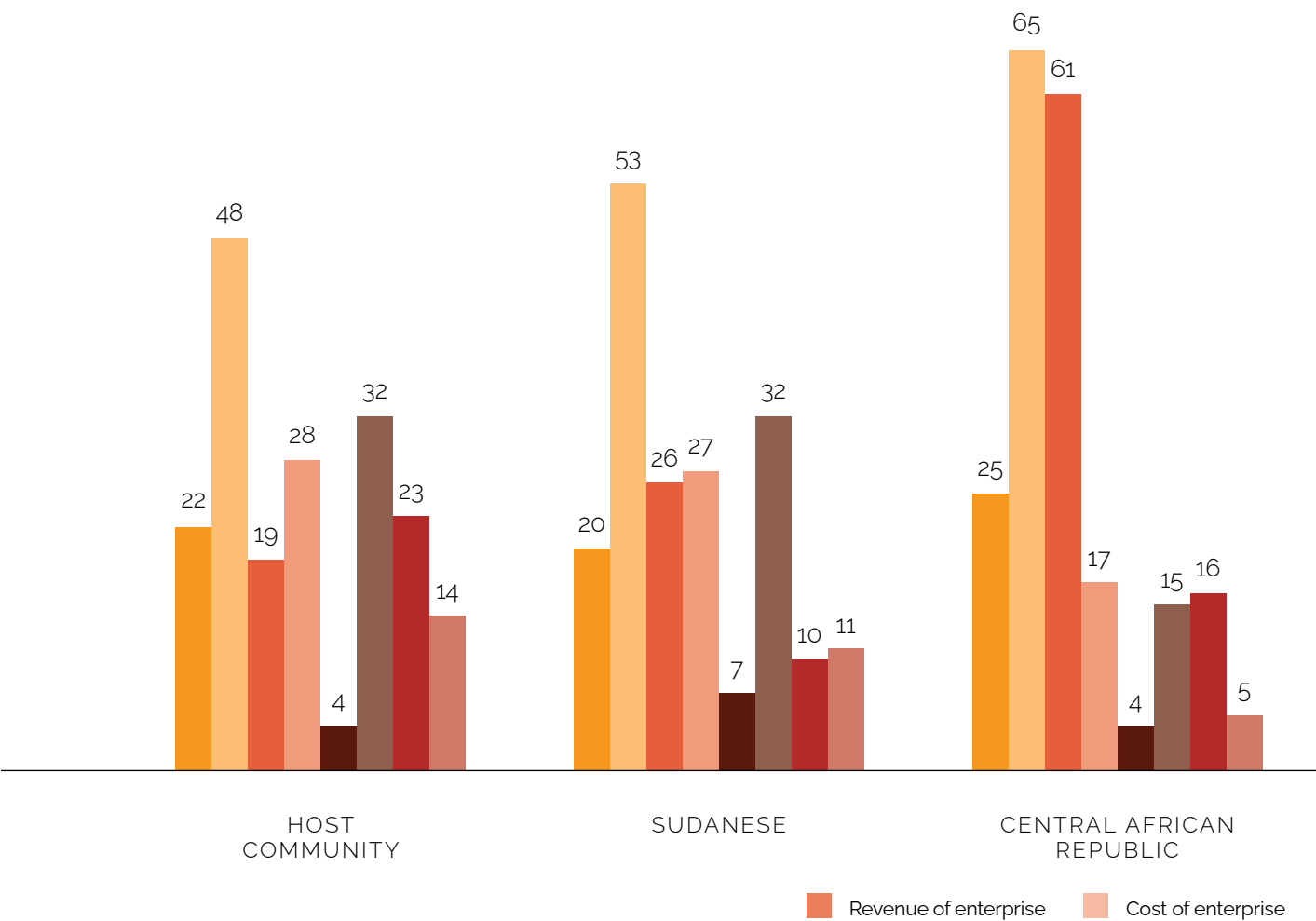
Figure 3.27. Problems that Confronted Household Enterprises, Percent of household enterprises



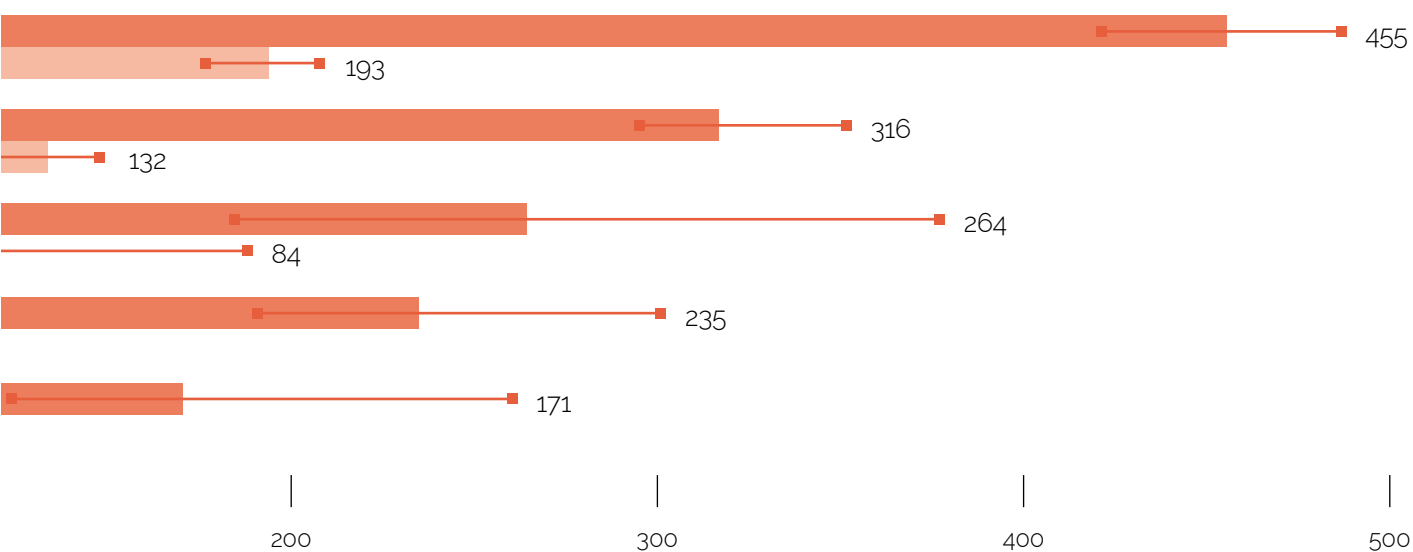
Despite a shorter business life and less access to finance, refugee household enterprises did not yield significantly lower profits than similar Chadian enterprises. Although refugee businesses tend to be smaller and make less profit because of lack of financial access, potential discrimination, and barriers of language and local knowledge (Betts et al. 2017, 2018), the differences in revenue between refugee and Chadian businesses were not statistically significant (Figure 3.28). The lack of statistical power mostly derives from the fact that few household enterprises were in the survey.

Figure 3.28. Revenue and Cost of Household Enterprises





MEDIAN VALUE PER HOUSEHOLD WITH ENTERPRISE (000 FCFA)



Note: 95 % confident interval in brackets.

Agricultural and Livestock Production²⁹

While agricultural production was a predominant economic activity in areas hosting refugees, access to land was extremely limited for refugees, severely depressing growth of their income. In fact, 93 percent of host community residents worked on farms compared to 50 percent of Sudanese and 35 percent of Central African refugees (Figure 3.19). Among farming households, nearly 90 percent of Chadians owned at least one plot of land, but this figure was just 4 percent for Sudanese and 7 percent for Central African refugees (Figure 3.29). Even for those few refugee households with access to land, its size was significantly smaller than that of host community residents and Chadians generally. On average, Chadian host communities had smaller plots, 1.6 ha, than their peers in other rural areas, 2.2 ha. But plots owned by Sudanese refugees were less than two-thirds the size of plots owned by host communities (Figure 3.30). For Sudanese farming refugees with no land, about 90 percent rented plots from host communities; 51 percent of Central African refugees rented from host communities and 42 percent from NGOs or United Nations agencies.

29. Because of stark differences in agroecological characteristics between the east (Sudanese and host communities) and south (Central African refugees), this section compares: (a) Sudanese refugees and host communities, and (b) Central African refugees and the rural Chadian population.

Figure 3.29. Agricultural Land Ownership, Percent of farming households

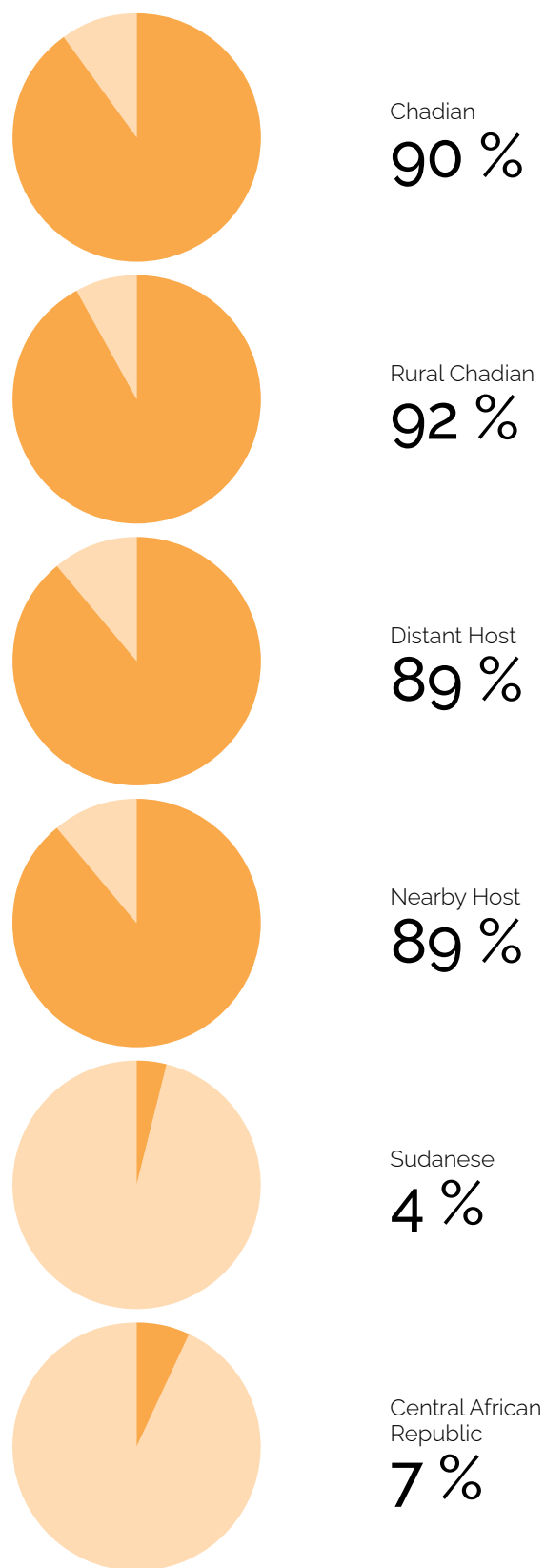
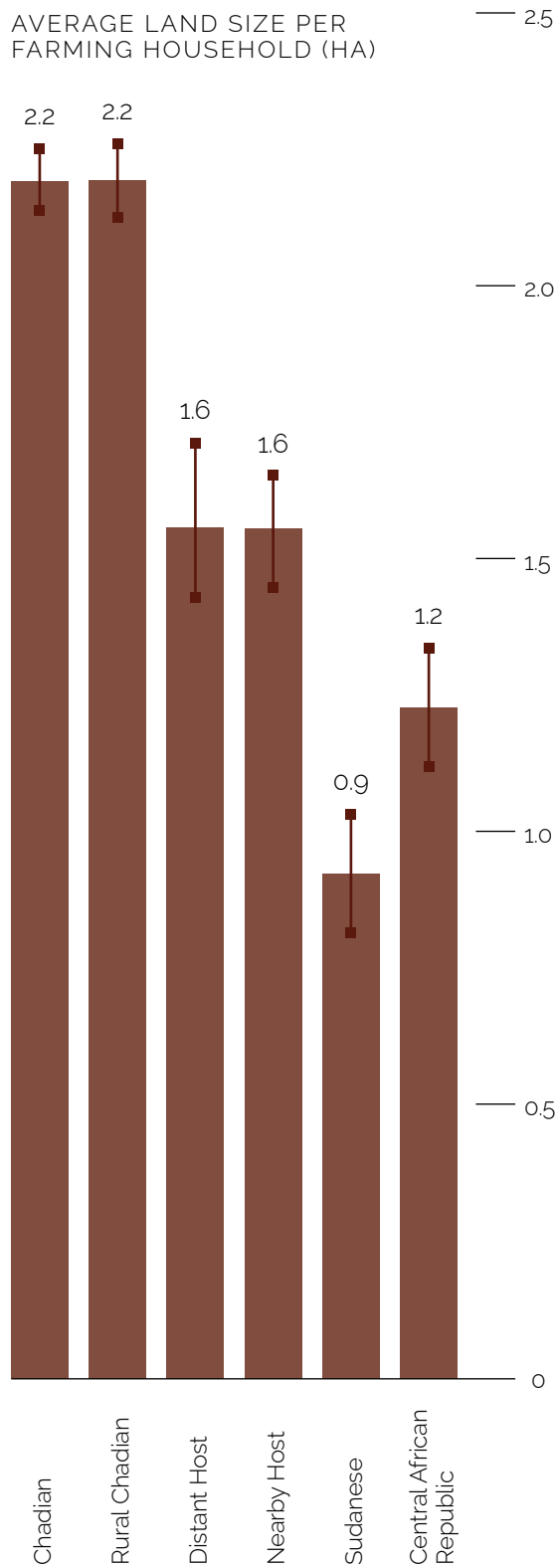


Figure 3.30. Agricultural Plot Size, Ha

Note: 95 % confident interval in brackets.

The lack of both land ownership and agricultural tools are major barriers to refugee investments that have long-run returns and improve agricultural productivity. Empirical evidence in Africa and globally has established a close link between land ownership and farmers' incentive to undertake productive investment (Bambio and Agha 2018; Besley 1995; Binam et al. 2017; Kazianga and Masters 2002). Without landownership, refugees were less likely to use agricultural inputs: nearly 10 percent of farming households in host community invested in irrigation but only 2 percent of Sudanese farming households and no Central African refugees did (Figure 3.31). Moreover, refugees, especially the Central Africans, had very few of the agricultural tools that are crucial to improve productivity. For example, rural Chadian farmers were 10 times more likely than Central African refugee farmers to own a plow. This ratio was more than double between host communities and Sudanese farmers. Similarly, only 5 percent of Central African refugees owned a draft animal compared to 32 percent of Chadian farmers, 22 percent of Sudanese refugees, and 44 percent of those in host communities (Figure 3.32).

Figure 3.31. Agricultural Inputs, Percent of farming households

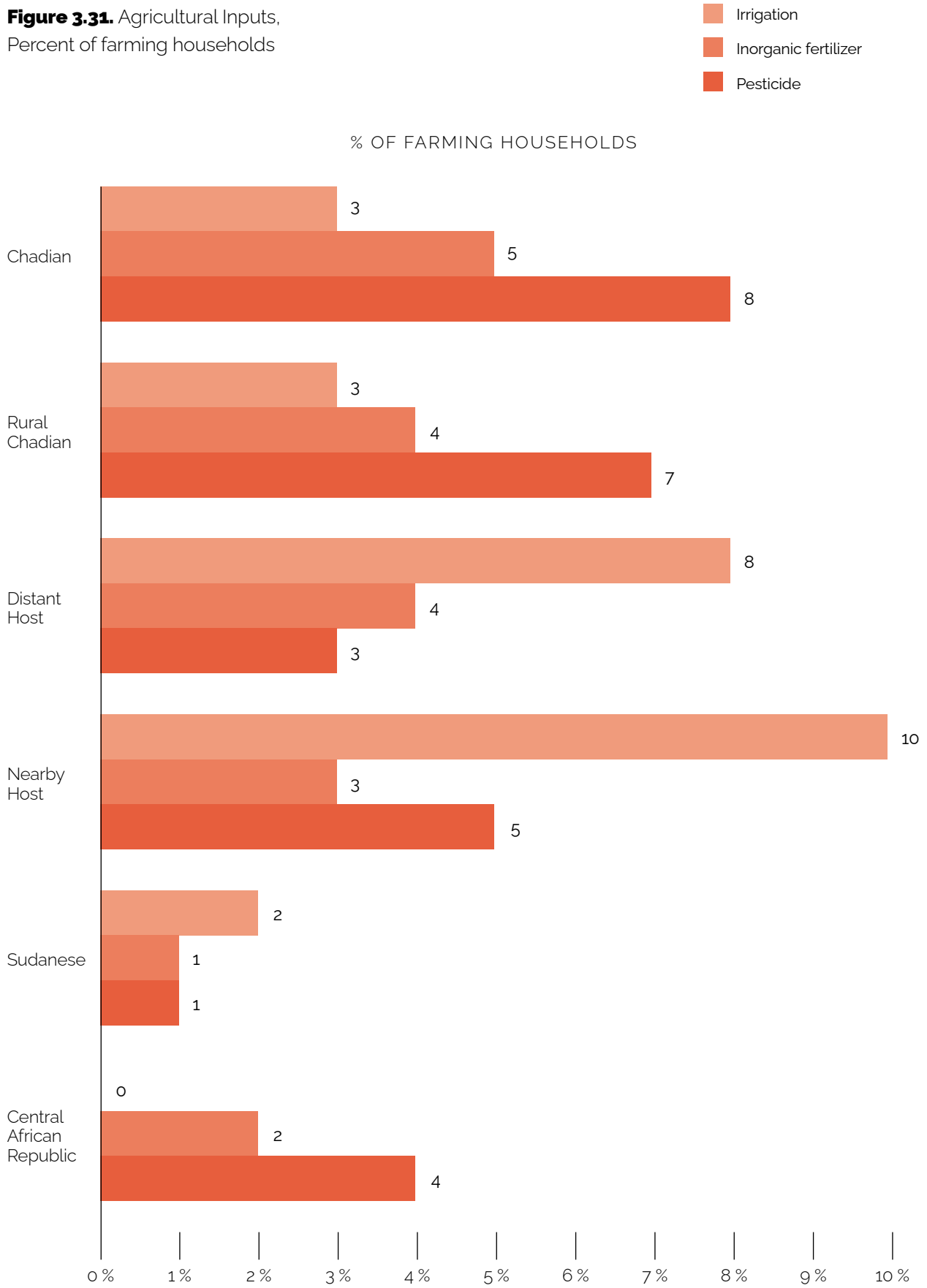
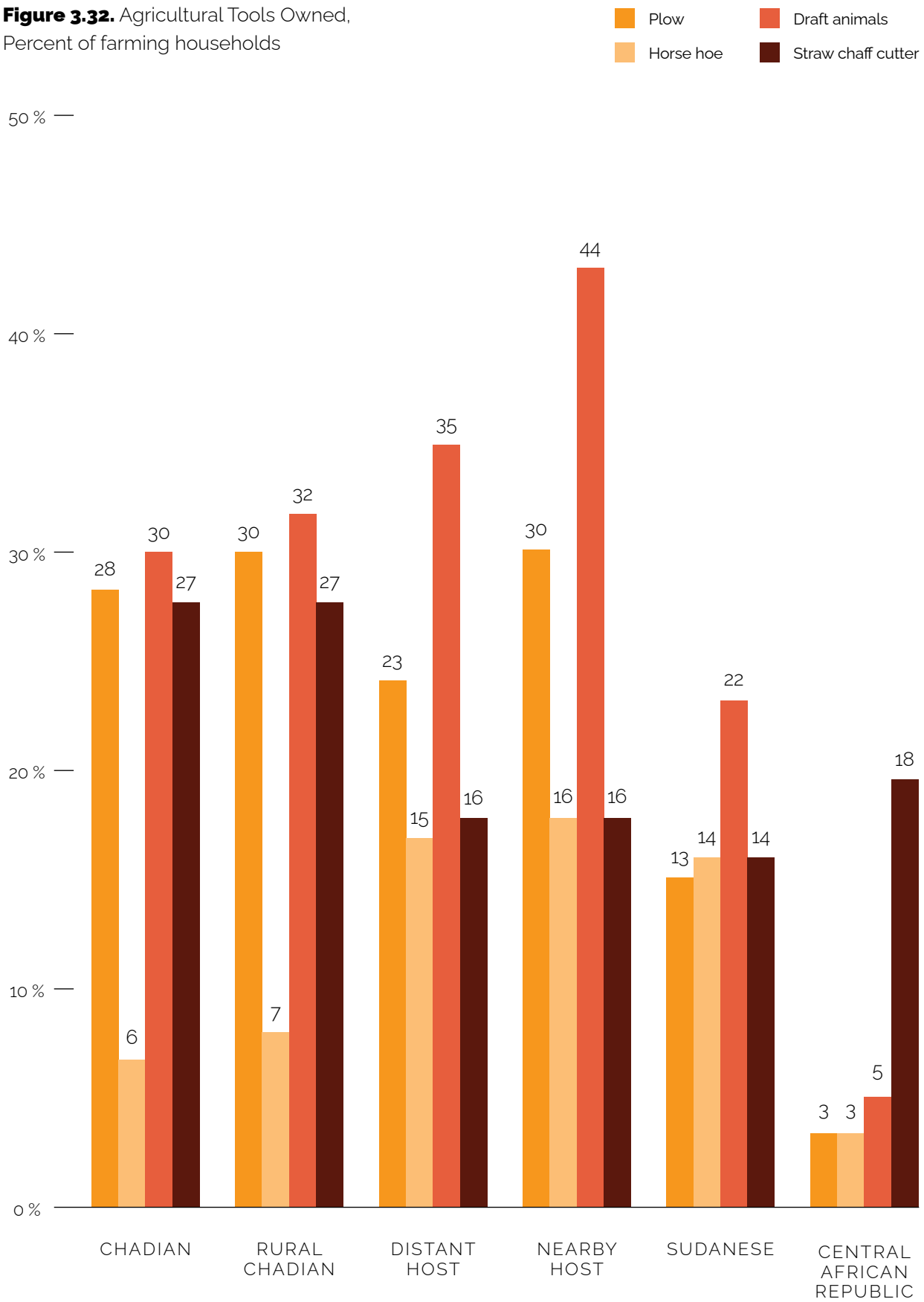


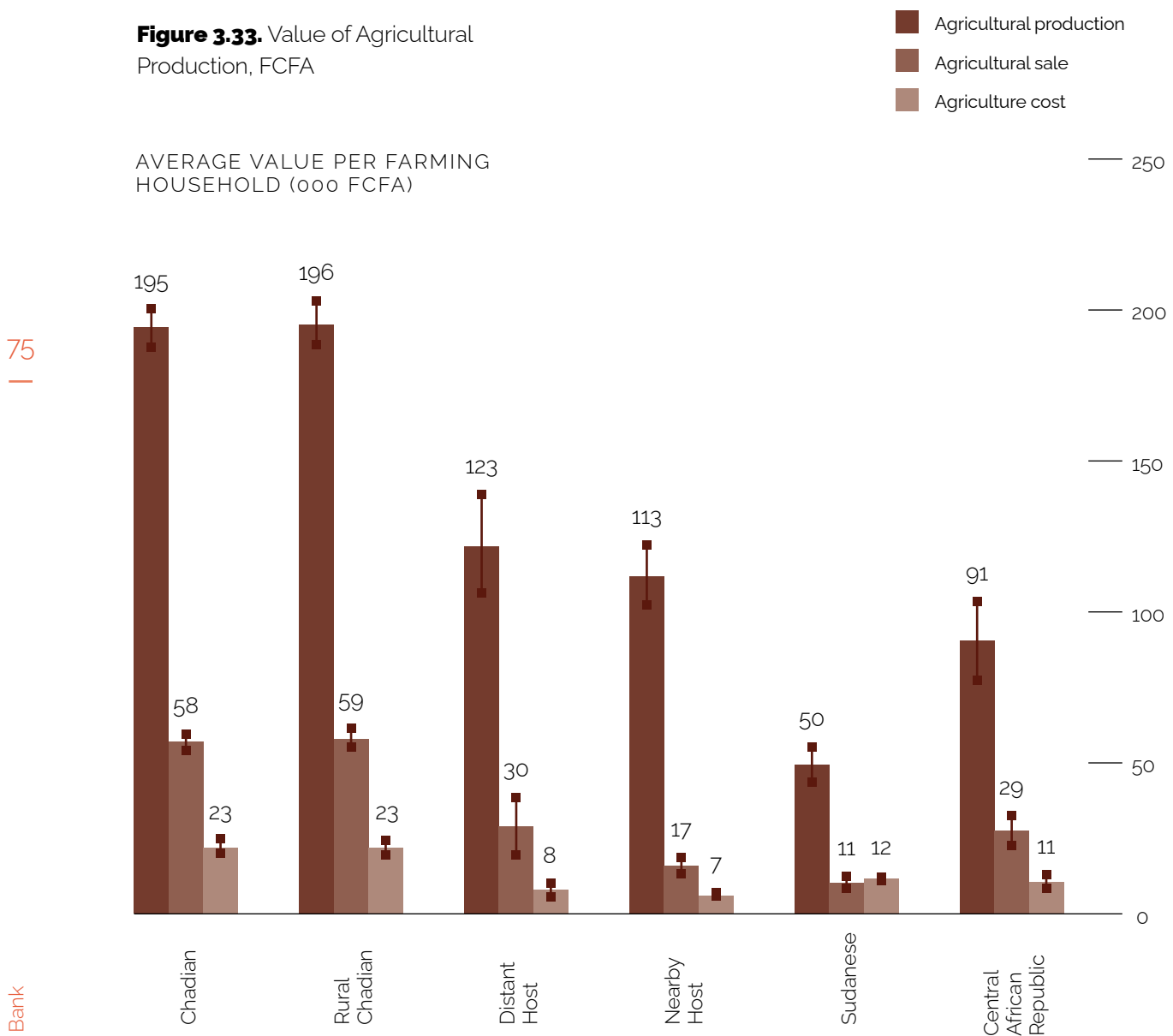
Figure 3.32. Agricultural Tools Owned, Percent of farming households



The compound effects of a lack of land ownership, smaller plots, less use of agricultural inputs, and lack of productive tools add up to very low revenue for refugee farmers. On average, Sudanese refugees earned less than half as much as farmers in host communities (Figure 3.33), and revenue from agricultural land in host communities was only two-thirds of the average for rural Chadians. Most agricultural production was used for own consumption, with only about 20 percent of the production of Sudanese refugees and host communities being

sold on the market, though the commercialization rate was higher for Central African refugees at more than 30 percent. There was no difference between refugees and host communities in types of crop produced, so that the gap seen in agricultural production revenue was less likely to come from the choice of crops. For Sudanese refugees and host communities, millet accounted for more than 50 percent of crops produced, followed by peanuts; sorghum, millet, and peanuts were the top crops produced by Central African refugees and rural Chadians.

Figure 3.33. Value of Agricultural Production, FCFA



Note: 95 % confident interval in brackets.

Few refugees own livestock ownership, and those who do own few animals. More than 50 percent of those in host communities and rural Chadians owned cattle, but only 24 percent of Sudanese and 8 percent of Central African refugees did (Figure 3.34). Similarly, less than 10 percent of refugee households raised poultry compared to more than 20 percent in host communities and among rural Chadian. On average, Sudanese and Central African refugees owned fewer than 5 cattle compared to more than 10 animals for host communities and rural Chadians (Figure 3.35).

With fewer animals, the value of livestock owned by refugees was low. Average livestock value was similar for Central African and Sudanese refugees³⁰ but was equivalent to just 20 percent of that of host communities (Figure 3.36). The refugee-Chadian gap in livestock value was mostly due to the disparity in number of cattle owned and the market prices for these animals. High cattle prices were translated into high initial investment in addition to access to pasture, both of which most refugees lack (Blackmore et al. 2018; Pica-Ciamarra et al. 2015; Ransomet al. 2017). Thus, the barrier to refugees engaging in a livestock business was formidable.

30. Because few Central African refugees own livestock, the standard error for livestock value is relatively high. Figure 3.36 shows that the value of livestock held by Central African refugees is not statistically different from that of Sudanese refugees.

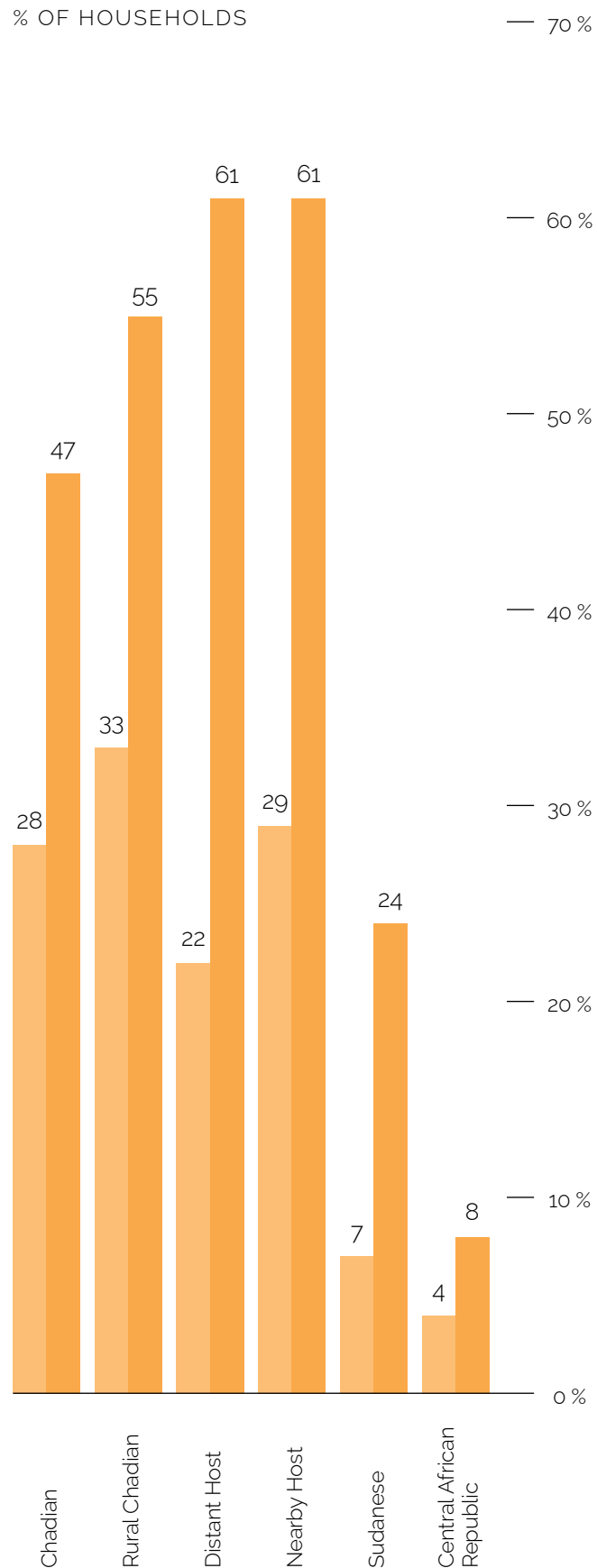
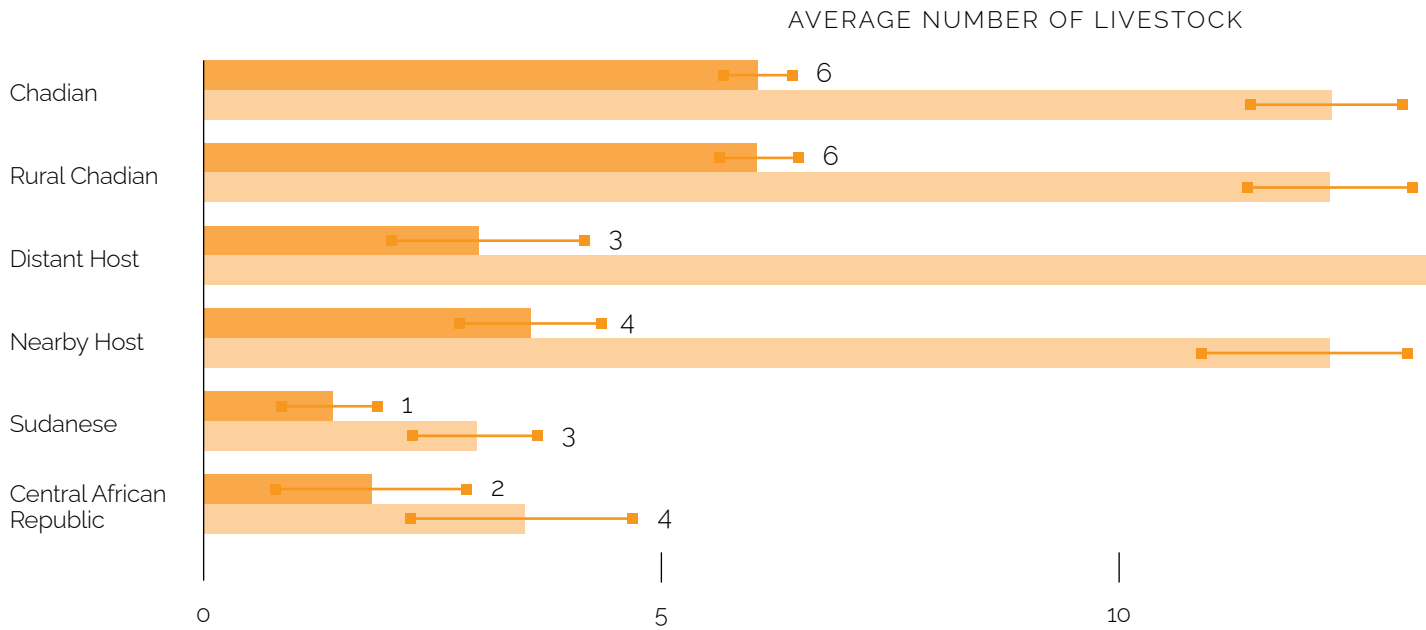


Figure 3.34. Livestock Ownership, Percent of households

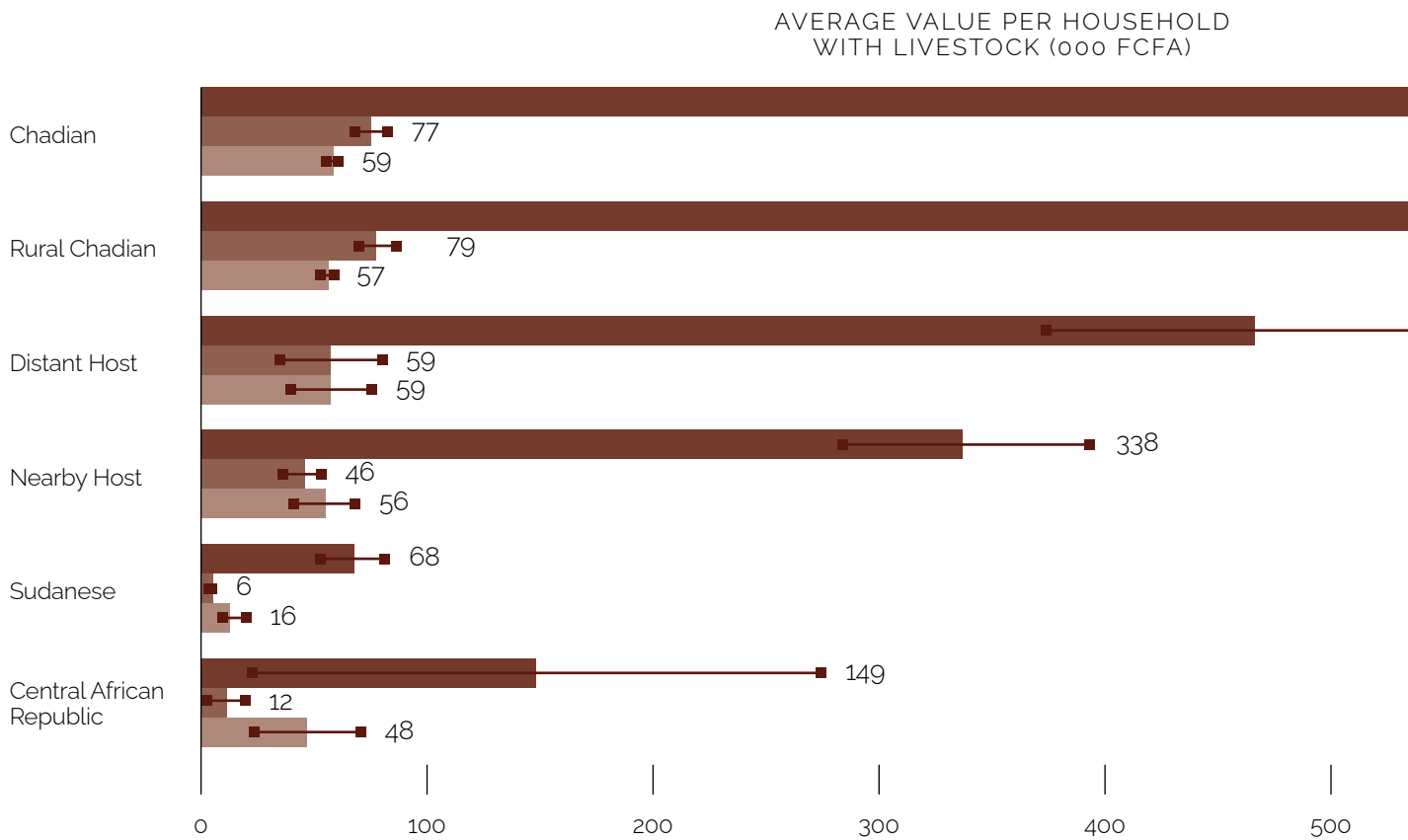
■ Poultry ■ Cattle

Figure 3.35. Number of Livestock Held



Note: 95 % confident interval in brackets.

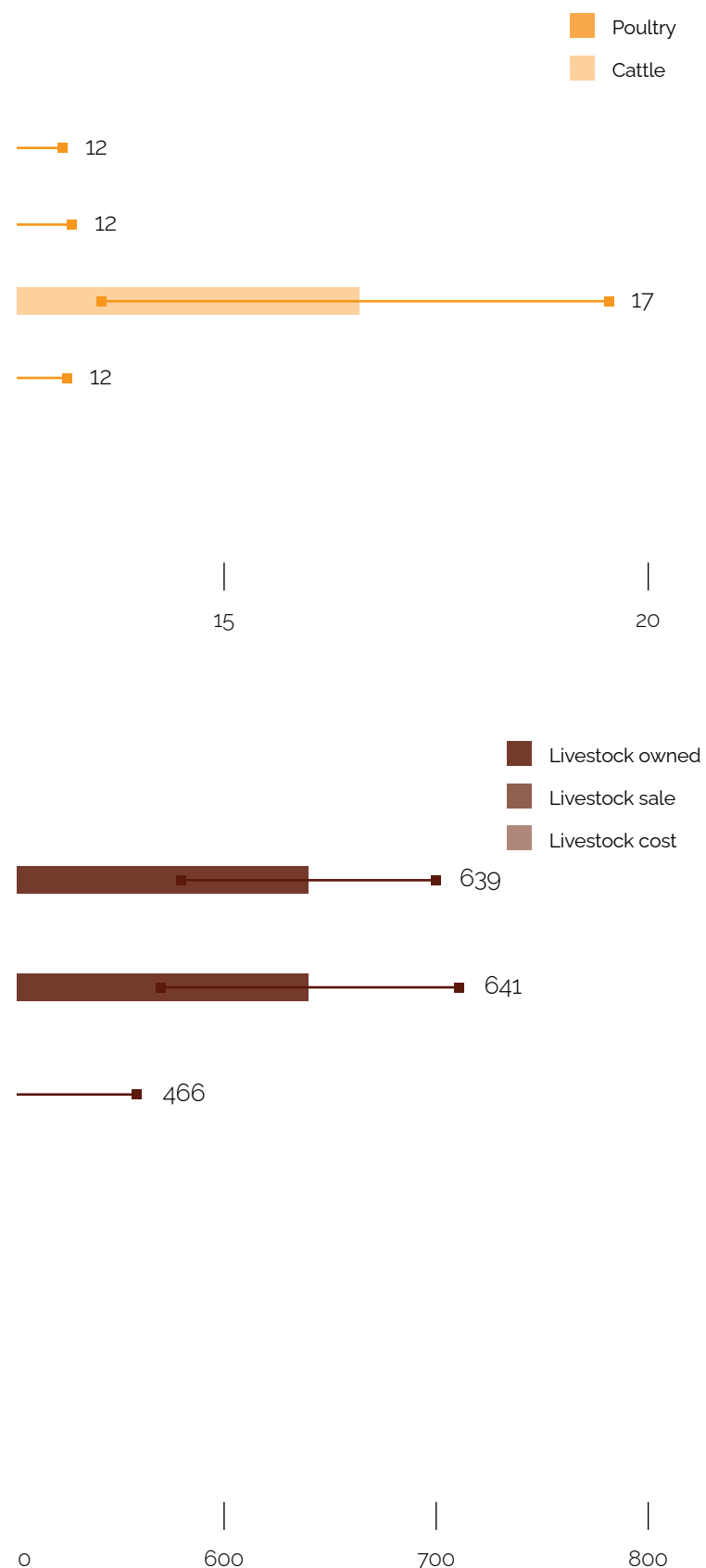
Figure 3.36. Value of Livestock Production, FCFA



Note: 95 % confident interval in brackets.

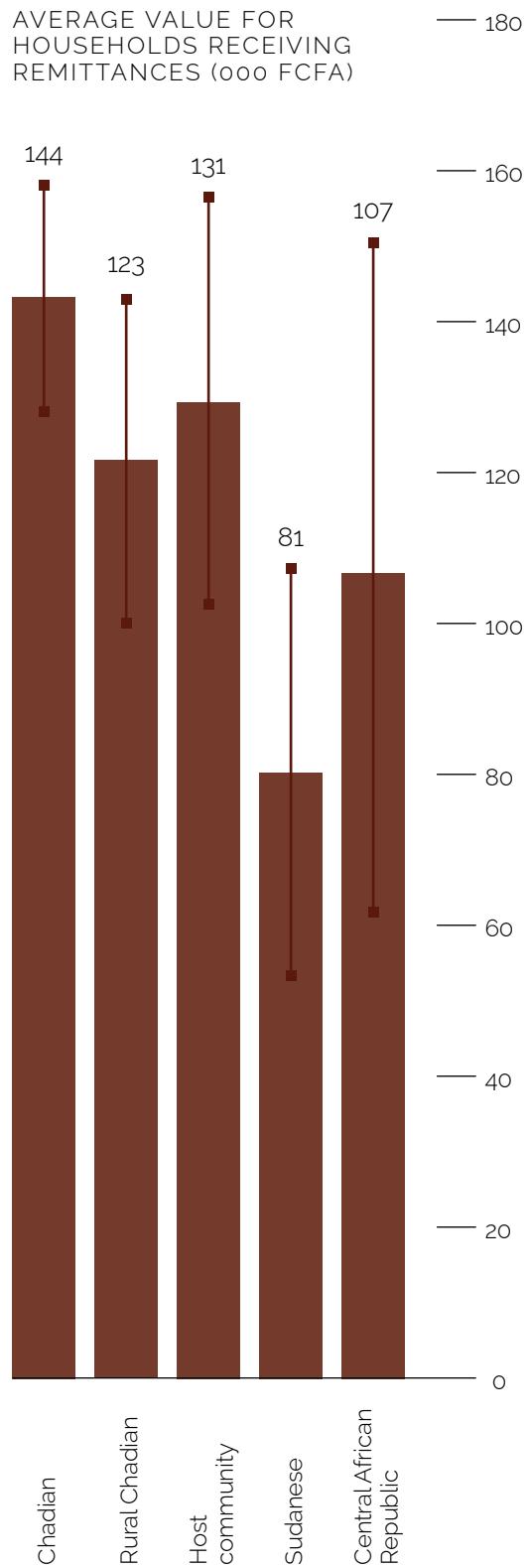
Remittances

Remittances presented a smaller part of household income, but they were nevertheless a potential source for income growth for refugees. Remittances accounted for 2 percent of household income for Central African refugees, 8 percent for Sudanese refugees, and 12 percent in host communities (Figure 3.18). About 8 percent of Central African refugees received financial supports from emigrants,³¹ as did 27 percent of Sudanese refugees and 30 percent of host communities (Figure 3.19). However, because the number of recipient households in the survey was small, there is no detectable difference in the value of remittances across groups (Figure 3.37). When looking at the location of household members who sent remittances to refugees in the camps, more than 40 percent senders for Sudanese refugees and host communities lived within Chad, and another 25 percent residing in the same area as the refugees and host communities (Figure 3.38).



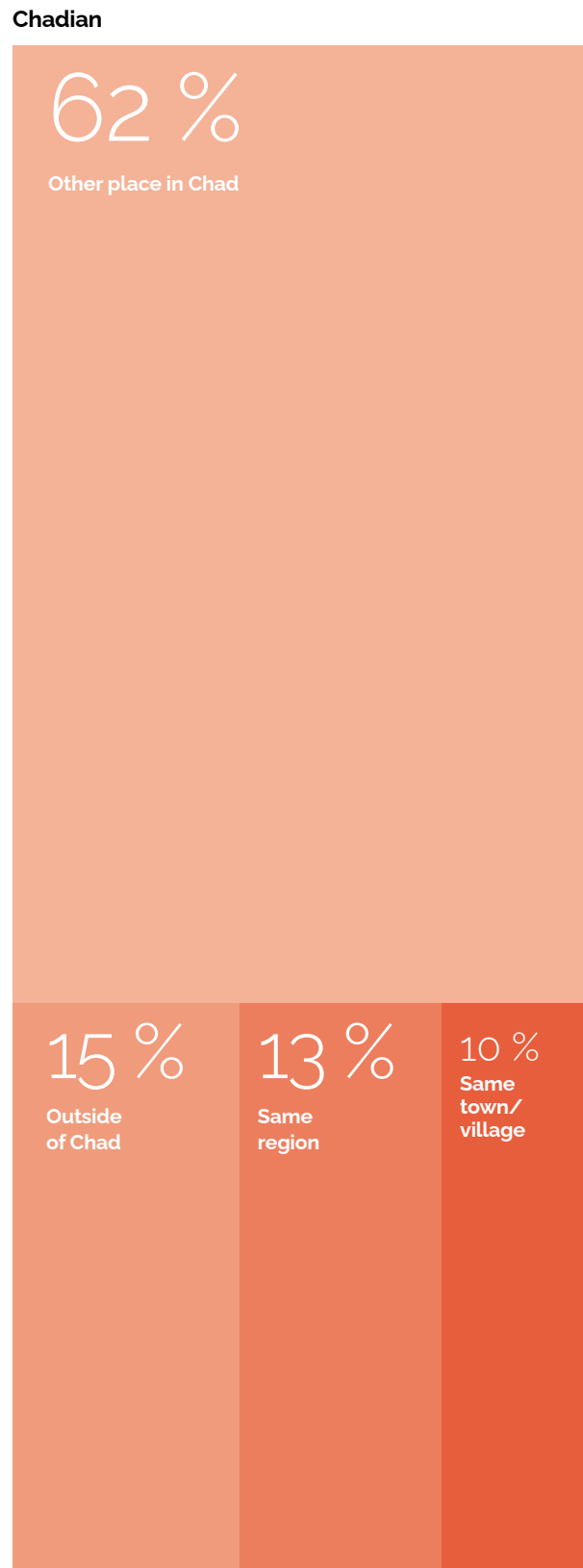
31. Because so few Central African refugees receive remittances, Figure 3.37 and Figure 3.38 are only indicative.

Figure 3.37. Value of Remittances, FCFA

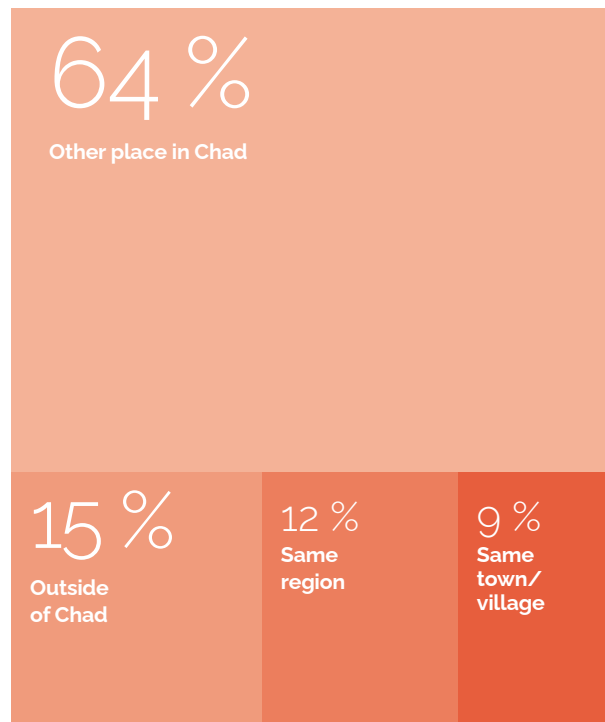


Note: 95 % confident interval in brackets.

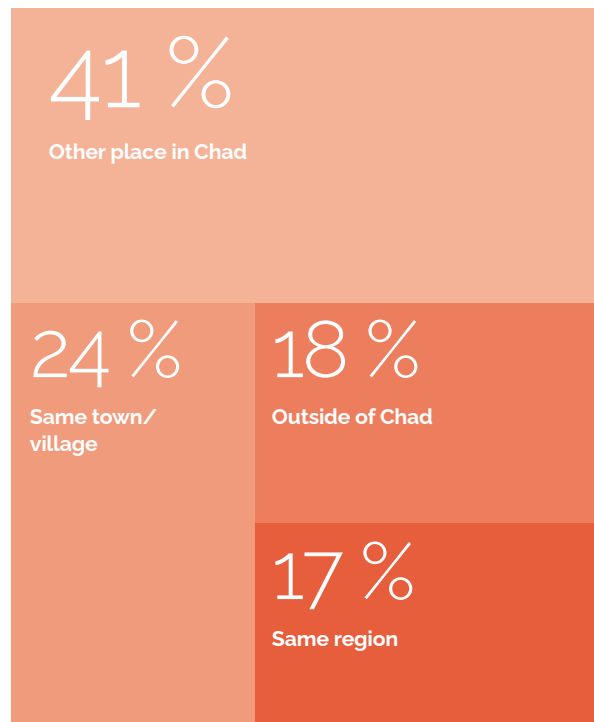
Figure 3.38. Location of Remitters, Percent of remitters



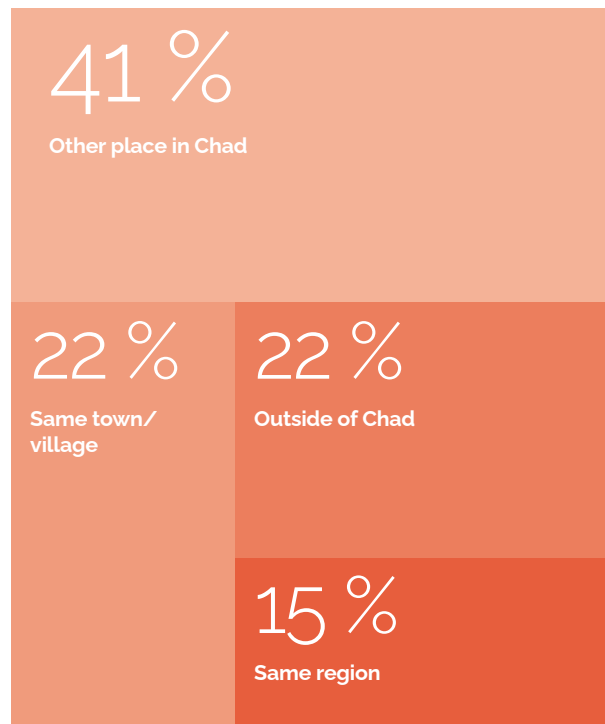
Rural Chadian



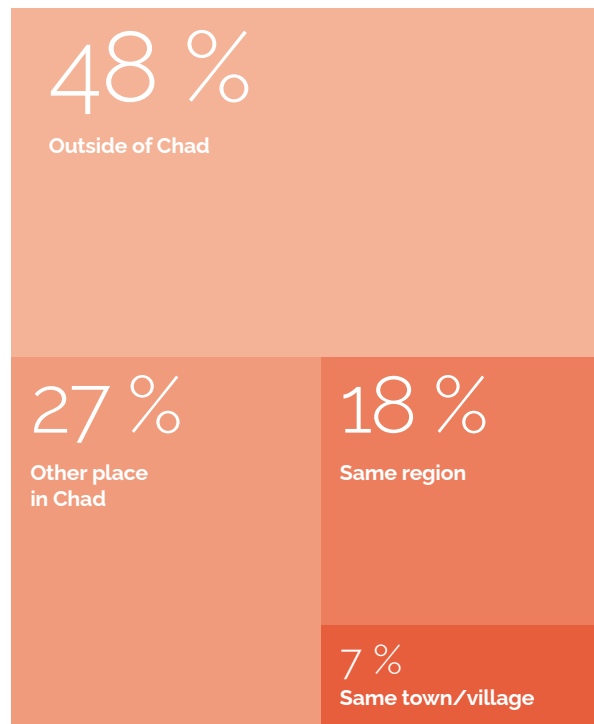
Host community



Sudanese



Central African Republic



Shocks and Coping Mechanisms

With about 80 percent of the population living below the national poverty line, refugees and host communities were constantly subject to income risk. Eighty percent of Central African or Sudanese refugee households reported experiencing a shock, either covariate or idiosyncratic, in the past three years.³² The risk was similar for host communities and Chadian households. Health shocks, natural disaster, and high food prices were the top three shocks persistently challenging the livelihoods of refugees, host communities, and the Chadian people. The coping mechanisms, however, varied significantly by population group.

For both refugees and Chadians, health shocks such as illness or death of a household member were the most common shock. About 50 percent of Central African and nearly 40 percent of Sudanese refugees reported being affected by such shocks in the past 3 years. Chadian people reported a similar prevalence (Figure 3.39). For refugees, who are already poor and vulnerable, the illness or death of a member can heighten the risk of a household becoming destitute because of loss of labor income or an increase in spending on medicine. Ateke (2018) found that the poorest households, such as those in Sub-Saharan French-Speaking Africa countries, may be the most vulnerable to health shocks.

High food prices were the second major shock to refugees and host communities. Because all refugees were net food buyers,³³ higher food prices were likely to have negative effects on refugee welfare. With a high prevalence of poverty, refugees and host community households already allocated a large share of their budgets on food; an increase in food prices alone could be decisive in pushing them to the brink of food insecurity. Twenty-one percent of Central

African and 34 percent of Sudanese refugees experienced high food prices in the past years. This shock also affected 21 percent of nearby host communities and about 20 percent of Chadian households.

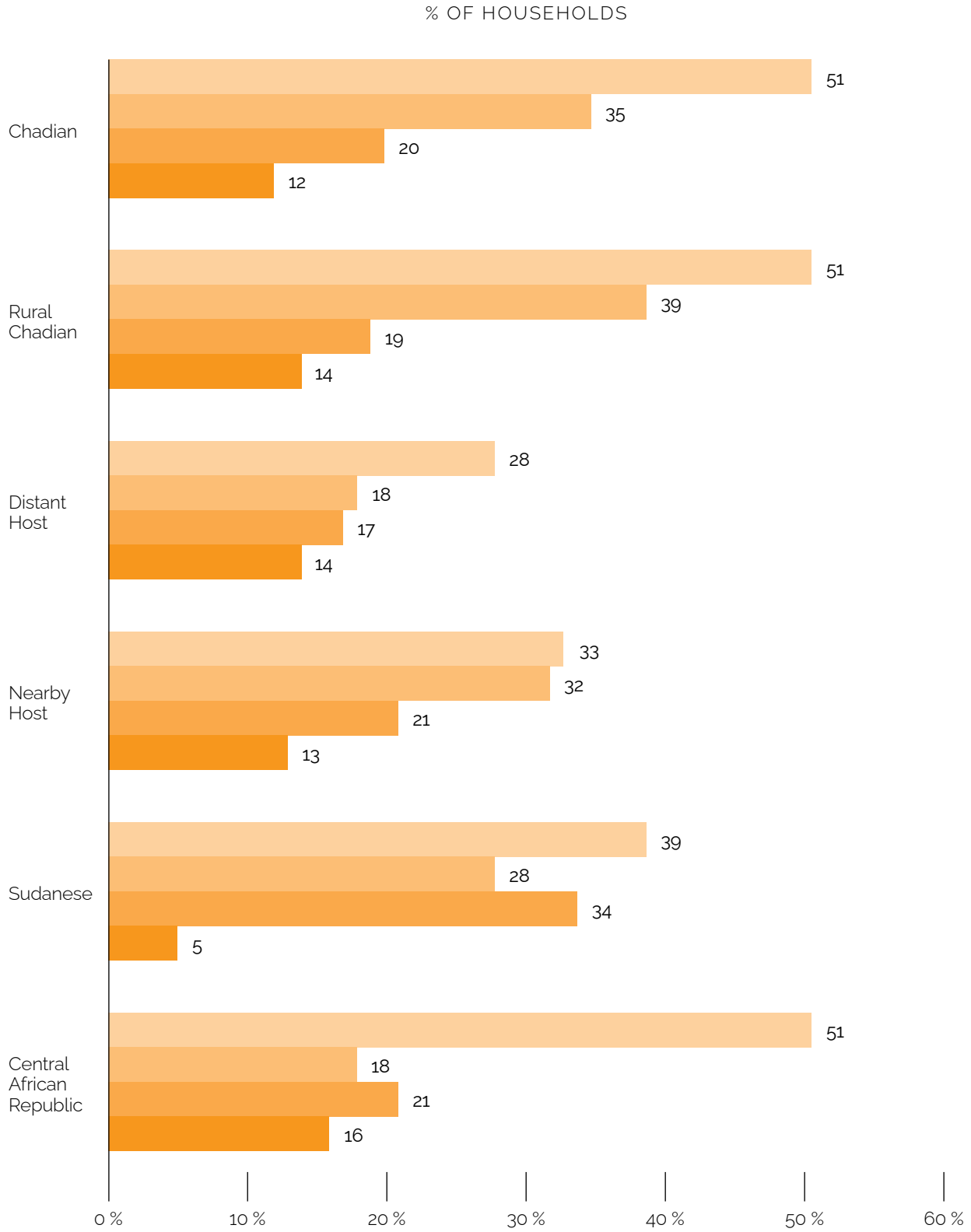
With agriculture being a predominant source of household income either through wages or production of crops and livestock, host communities and refugees were affected by natural hazards like drought and flood. As a landlocked country in the Sahelian region, Chad has a short rainy season and is known for erratic rainfall, especially in the east. In fact, nearly 30 percent of Sudanese refugees in the eastern part of Chad reported experiencing natural disasters compared to about 20 percent for Central African refugees in the south. Since these are covariate shocks, they have also been a concern for nearby host communities, 35 percent of which reported this shock, and distant host communities with 18 percent reporting this shock.

32. Covariate shocks like drought, conflict, and price shocks affect many households in the same place at the same time; idiosyncratic shocks like loss of job, death, or illness of a family member, and divorce, affect individual households rather than the whole community.

33. Households that buy more food on the market than they sell (WFP 2009).

Figure 3.39. Most Frequent Shocks, Percent of households

- Health shock
- High food prices
- Natural disaster
- Violence shock



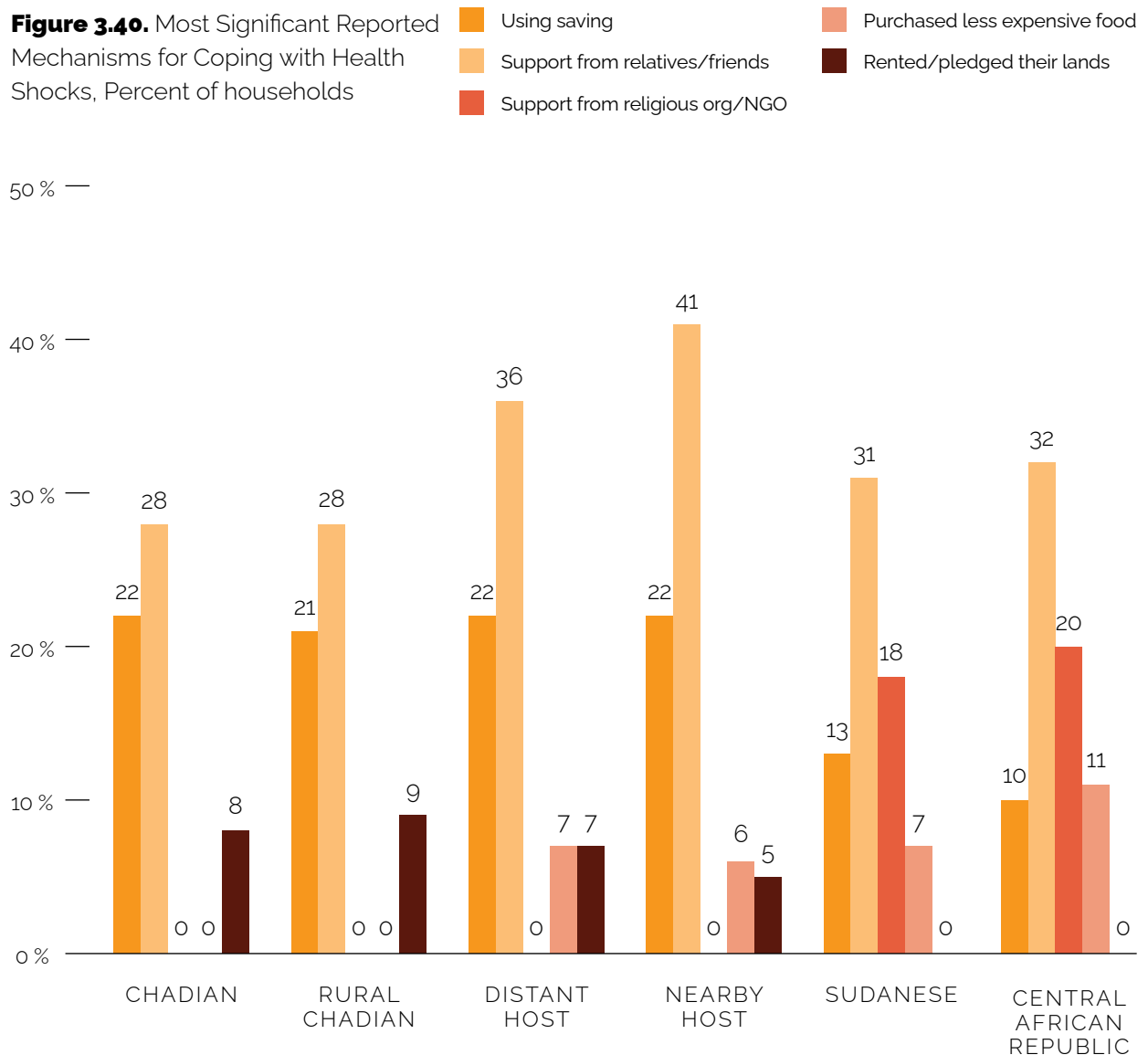
To cope with shocks, the most common refugee strategy was to rely on support from family and friends or from NGOs and donors, followed by consumption-based coping mechanisms, such as reducing consumption or purchasing cheaper food: 23 percent of refugees relied on families and friends to overcome shocks, 19 percent seek help from NGOs and donors, and 11 percent changed their consumption pattern. Meanwhile, for host communities who were as poor as the refugees, the most common approach was reliance on family and friends, followed by depletion of savings.

When a health shock hit, an overwhelming share of refugees, host communities, and the Chadian pop-

ulation relied on support from family and friends.

In West and Central Africa, the support of neighbor and friend when there is death or illness is systemic. In fact, a third of refugee households that dealt with a health shock received help from friends or relatives. This share was similar to that of the whole Chadian households but below the 50 per cent share for host communities (Figure 3.40). About 20 percent of Central African and Sudanese refugees relied on support from NGOs and donors. Illness or death of household member also certainly had an economic impact in that households also needed to rely on savings to cover immediate expenses, such as health care cost or funeral costs, or to cut back consumption.

Figure 3.40. Most Significant Reported Mechanisms for Coping with Health Shocks, Percent of households

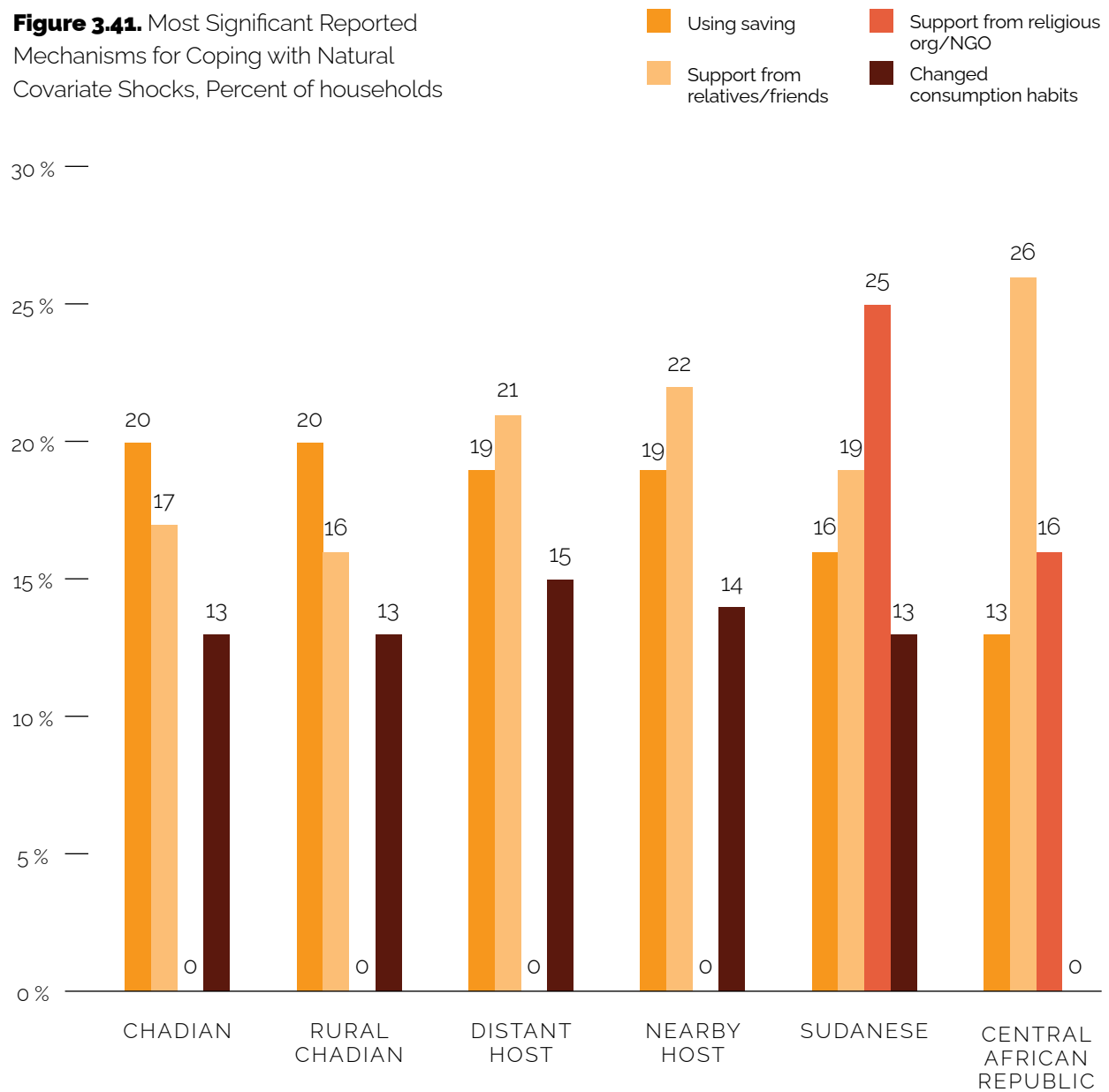




Similarly, supports from families and friends, or from NGOs, and savings were key coping mechanisms for refugees confronted by a natural covariate shock such as drought and erratic rains. While natural hazards affected almost all households in the area, refugees and host communities still relied on people in the same community for help: households less affected supported those more affected. In fact, over 25 percent of Central African refugee households requested support from their relatives or friends to deal with natural shocks, as did about 20 percent among host communities. Meanwhile, Sudanese refugees in similar situations

were more likely to turn to NGOs or religious groups for help, as about 25 percent did (Figure 3.41). For Central African refugees, about 16 percent of them would reach out to religious groups or NGOs. This fact highlights the important continuing role of these groups in camps. They not only provided support to refugees in their daily livelihoods but also represented a source of support for refugees dealing with shocks. Other coping mechanisms for Sudanese refugees and host communities included exploiting any savings they had and reducing their consumption, although both strategies were unsustainable if the natural disasters prolong.

Figure 3.41. Most Significant Reported Mechanisms for Coping with Natural Covariate Shocks, Percent of households

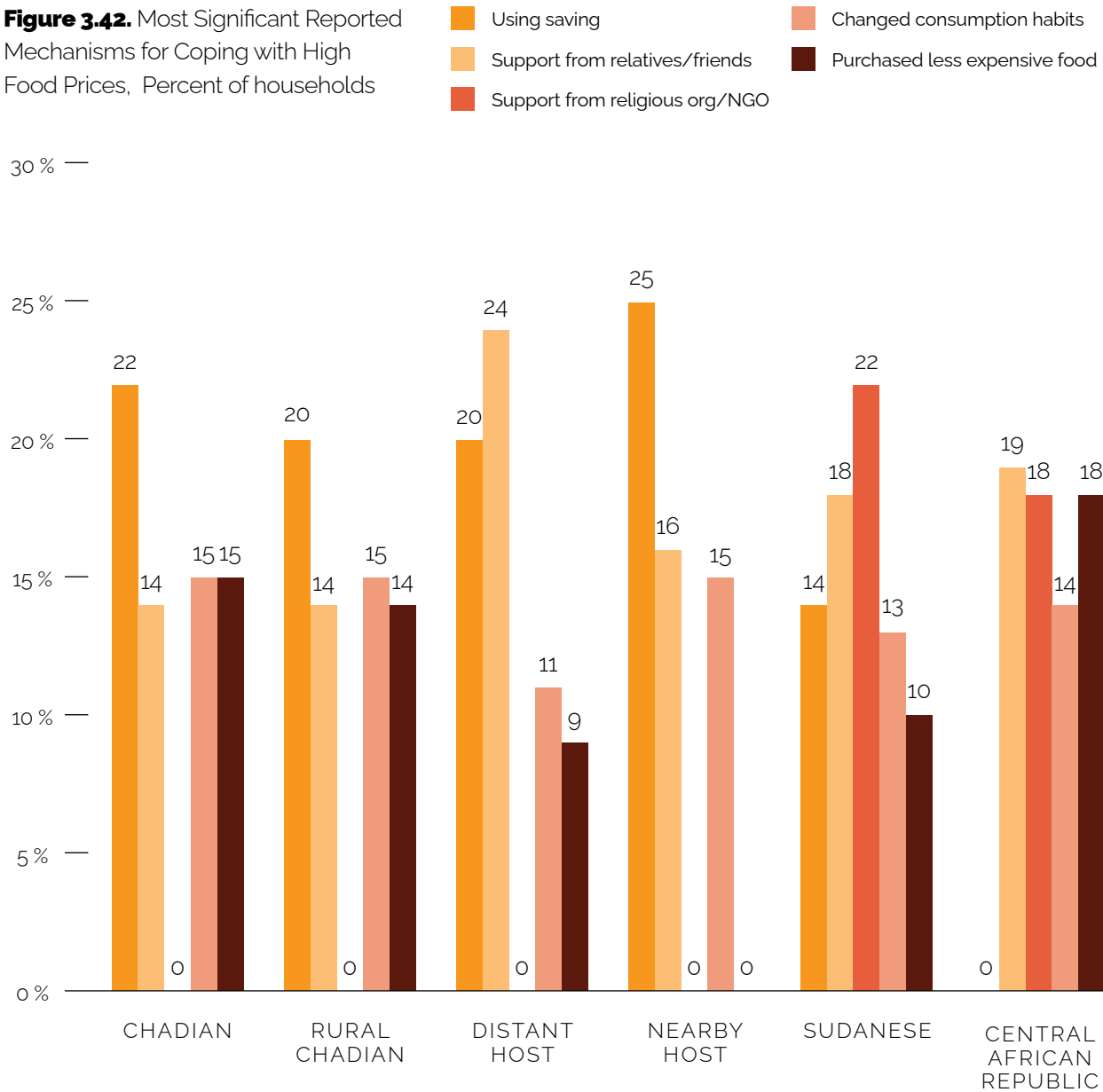


Facing high food prices, refugees and host communities continued to treat their social network as the most reliable coping method. More than 15 percent of Sudanese and Central African refugees, and host communities requested help from relatives or friends to deal with higher food prices (Figure 3.42).

This support can be in the form of foods, money, or any other assistances. As with natural hazards, Sudanese refugees were more likely (22 percent) than Central Africans (18 percent) to come to religious groups and

NGOs for help. Meanwhile, host communities and the general Chadian population were able to depend on their own savings. More than 20 percent of Chadians did so. However, it is worrisome that many refugees and Chadians opted to change their consumption habits, often reducing their own consumption as a coping strategy. At least 10 percent of refugees and Chadians resorted to this option. Because it had been found that about 50 percent of both refugees and host communities were food insecure, reduction in the quality and quantity of consumption exacerbated the risk of malnutrition and longer-term impacts on children.

Figure 3.42. Most Significant Reported Mechanisms for Coping with High Food Prices, Percent of households



Chapter 4

Sources of Welfare Differences within Refugee Communities



It is clear by now that, after years of reconstructing their lives in Chad, refugees are highly vulnerable to poverty and food insecurity and have few opportunities to improve their incomes. A silver lining is that some refugee groups were doing relatively better than others. Many were poor, some were not.

This observation raises important questions for policy makers: With their circumstances similar, how did some households overcome challenges and achieve higher income? What were the drivers? Understanding these questions can guide policies not only to accelerate income growth of these groups but also help the poorest refugees to catch up and escape poverty.

Chapter 4 first explores the extent to which the most well-off refugees do better than the poorest measured in monetary terms. We then examine the role of productive assets – assets that can yield income: (1) initial assets that refugees might be able to bring with them upon arrival, (2) social capital, and (3) human capital assets. Next, we identify the main sources of income for the most well-off and the poorest. And finally, we put all factors together – assets and income – and quantify their contribution to differences in consumption per capita within the refugee communities.

The findings are as follows:

- + The poorest Central Africans had very low consumption per capita, deepening the welfare gap between the poorest and most well-off Central African refugees. The unsustainably low consumption of the poorest Central Africans sparks an immediate need for considerably large financial and food supports to protect lives and food security.
- + Meanwhile, the most well-off Sudanese refugees had modest consumption, thus narrowing the welfare gap between them and the poorest. However, the dismaying level of consumption among the most well-off suggests that refugees were burdened by severely restricted opportunities for income growth.
- + Household size, share of children, and gender of households were crucial predictors of welfare for refugees, even after controlling for other factors. Larger family size, more children, or having a woman as head of household were all associated with lower household consumption.
- + Refugees who managed to bring some initial assets at the time of arrival to camp had a greater chance of rebuilding their lives. However, social networks in the forms of family connection within the camp had only a minor role in improving household welfare.
- + Contrary to common belief, more education did not seem to yield better welfare, at least for Central African refugees, which suggests a possible constraint in the labor market.
- + Except for wage, any additional source of income such as remittances, income from agricultural production or small household enterprises, was associated with higher consumption for refugee households, particularly Central African refugees. Income from wage was negatively correlated to the level of consumption, signaling that hired labor was the last resort for refugees to make ends meet.

Economic Welfare Differences between the Poorest and the Most Well-off

Section 3.1. discussed the share of the population living below the official poverty line; this chapter expands the discussion to the economic welfare of households on both sides of the poverty line. It specifically explores the differences between the poorest and the most well-off in the welfare distribution. This distribution may be described as a line along which all households are positioned based on how much they consume. Thus, households with the least consumption, that is, the poorest, would be on the left and those with the highest consumption, the most well-off, would be on the right. The distribution can also be divided into five groups of equal size, in which quintile 1 would represent the bottom 20 percent and quintile 5 the top 20 percent of the consumption distribution.³⁴

Use of the terms the most well off and the top 20 does not imply that these refugees do not require support because they are rich in absolute terms. In fact, with the poverty rate of about 80 percent of the refugee population, the top 20 barely hovered above the poverty line. Any shock, such as sickness or a loss of assets, could immediately plunge these refugees into poverty. The terms used refer solely to the relative status of these refugees compared with the poorest of the poor, the bottom 20.

34. The division into quintiles takes into account the size of the survey sample—600 Sudanese and 600 Central African refugee households—as well as the official poverty rate for the two refugee groups, at about 80 percent of the rate of the total population. Other divisions, such as deciles, quartiles, and so on, may either have insufficient statistical power for the analysis or count the poor among the most well-off group.

The welfare gap between the top and the bottom 20 was particularly high for the Central African refugees driven by the extremely low level of consumption among the poorest (Figure 4.1). Across all quintiles, average household consumption of Central African refugees was consistently lower than other population groups (Figure 4.2). In fact, the poorest Central African refugee households consumed only a third as much as the poorest Chadian. This unsustainably low consumption among the poorest Central Africans suggests an immediate need for considerably larger financial and food supports to protect lives and food security.

Meanwhile, the consumption ratio was relatively low between the poorest and the most well-off Sudanese refugees, but it was because the consumption of the top 20 was modest (Figure 4.1). With the exception of quintile 1, Sudanese refugee households consumed less than host communities across all other quintiles, particularly among the top quintile. In other words, the poorest Sudanese refugee households had slightly different consumption from the poorest in host communities. However, the most well-off Sudanese refugees – those in quintile 5 – consumed only half as much as the most well-off households in host communities. This discrepancy in the top quintiles suggests that refugees had limited opportunities to generate income compared to host communities.

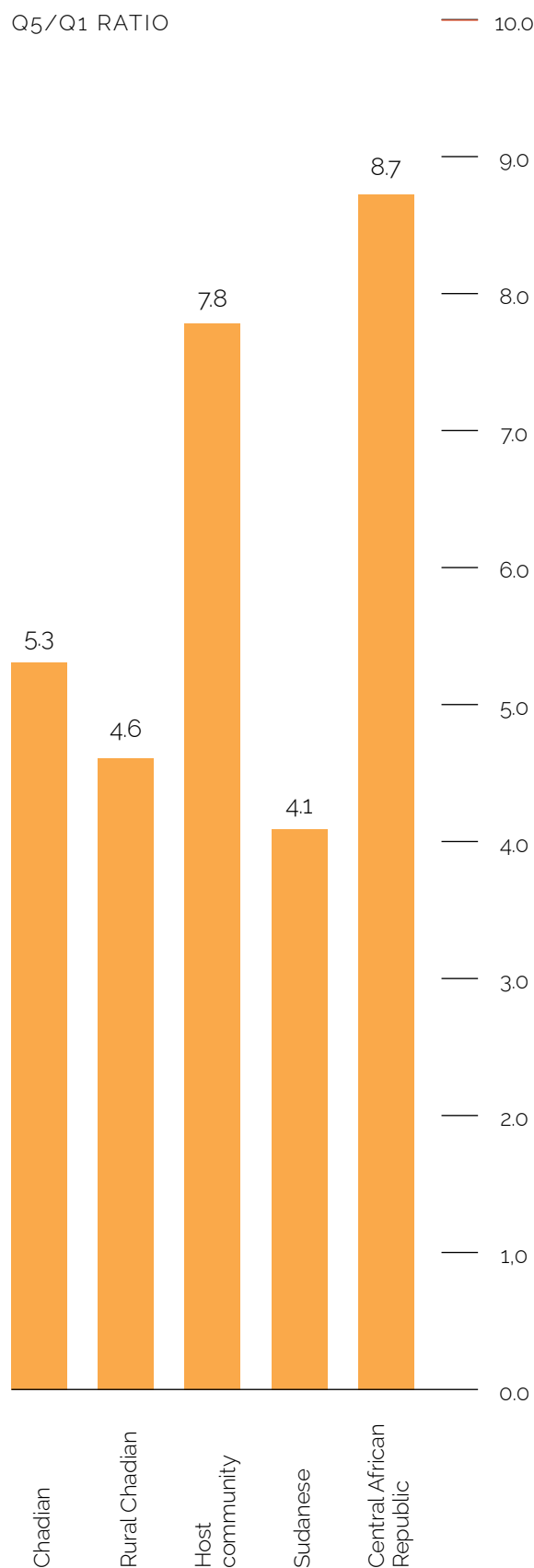
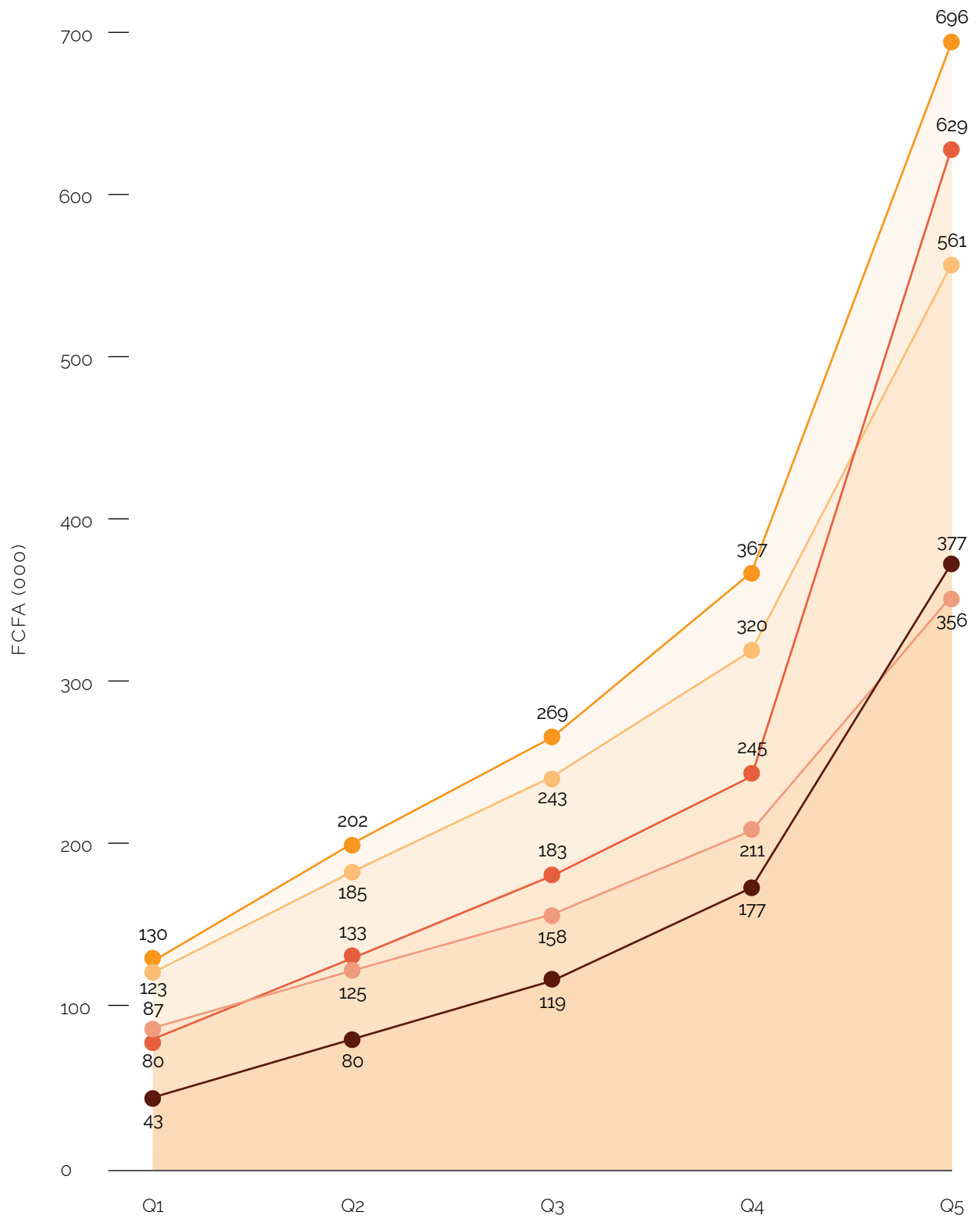


Figure 4.1. Consumption Ratio, Top and Bottom Quintiles

Figure 4.2. Average Annual Consumption, FCFA, by Quintile

- Chadian
- Rural Chadian
- Host community
- Sudanese
- Central African Republic



Initial Assets, Social Capital, and Human Capital

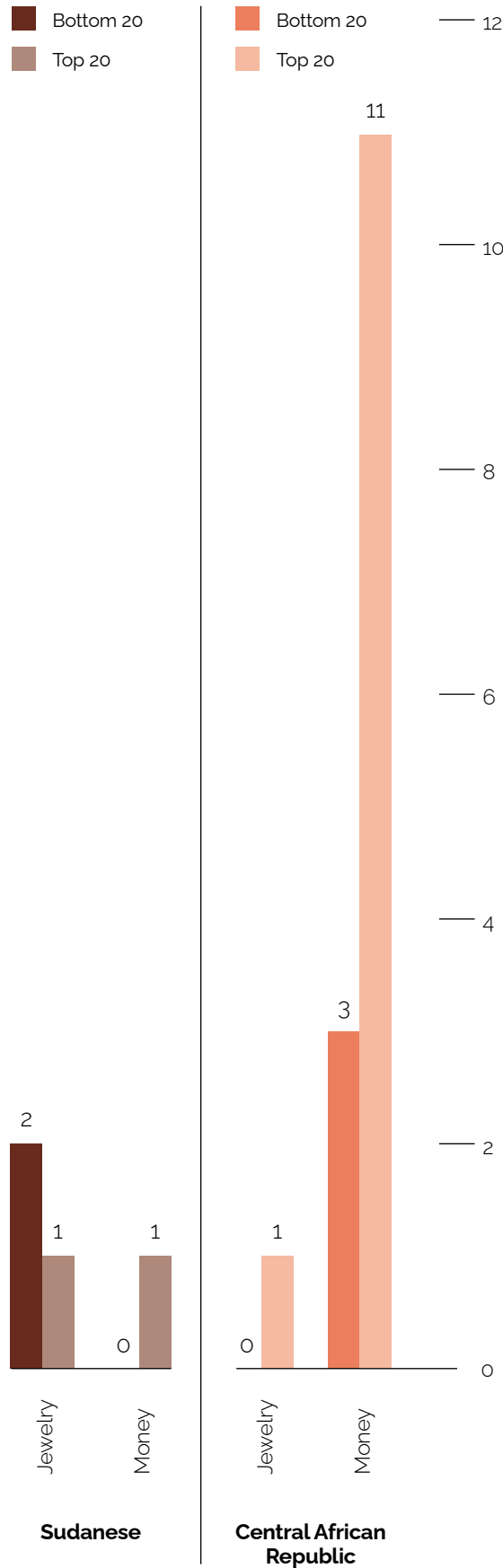
Access to productive assets – assets that can yield income – has been found to have a significant role in improving people’s welfare (Ellis and Freeman 2004; Kochar 1995; Melmed-Sanjak and Lastarria-Cornhiel 1998). In this section, we examine how certain assets can affect refugee welfare: (1) initial assets that refugees might be able to bring upon arrival, (2) social capital that might help them navigate their new livelihood in Chad, and (3) human capital that might support their search for higher income. While data collected on assets are often underreported, it can be indicative about the levels of assets ownership across different population groups, assuming reporting bias is constant.

The first assets that can support refugees to rebuild their lives are the assets they brought to the camp. By the time they reached the camps, most refugees were traumatized and destitute from the perils of the journey. Most of their valuable assets had already been lost or destroyed in the conflicts or on the way. For those few who managed to retain some extra clothes, money, or other assets, these can save expenses on necessities and starting economic activities (Jacobsen 2005).

Few refugee households manage to keep assets with them, and these initial assets appear to be associated with the welfare status of Central African but not Sudanese refugees. On average, fewer than 10 percent of Central African and only about 2 percent of Sudanese refugees retained any valuable assets, such as money or jewelry. Among Central African refugees those in the top 20 were three times more likely than the bottom 20 to bring any money (Figure 4.3). Among Sudanese refugees, the difference between well-off and poorest in ownership of assets of value was marginal.³⁵

The second set of assets influencing refugee welfare is their access to social capital, both inside and outside the camps. Refugees uprooted to a new environment are at particular risk of economic and social insecurity. Thus, social capital in the form of social networks and social support can be vital in helping them through personal, employment, and financial challenges (Brisson 2009; Gericke 2018; Lamba and Krahn 2003; Teye and Yebleh 2015).

35. This figure may also poorly reflect the actual initial assets of Sudanese refugees due to a longer recall time. During the survey, a majority of Sudanese refugees had been in exile for over 15 years, making it harder to recall their initial assets.



Compared with the poorest, refugees in the top 20 are significantly more likely to have social networks outside the camps.³⁶ Within the Central African refugee community, 61 percent of the top earners had a connection with someone living outside the camps—twice as many as those among the poorest (Figure 4.4). Meanwhile, among Sudanese refugees, nearly 35 percent of households in the top quintile and 25 percent in the bottom quintile had such connections.

However, the link between refugee welfare and their extended family network inside the camp is less clear. While having other family members in the same camps can be a reliable source of social and financial support, it also means refugees have more responsibility to assist them in return. On average, 69 percent of Sudanese and 75 percent of Central African refugee households had other family members living in the same camps. The difference between households in the top 20 and the bottom 20 percent was relatively small (Figure 4.4).

36. Refugees were asked whether they knew someone in Chad outside of the camps.

Figure 4.3. Initial Assets, Percent of households

Nonetheless, the top 20 appeared to have a better chance at activating their social capital for financial support. When 67 percent of the Central African refugees in the poorest quintile reported having extended family members in the same camp, only 24 percent of them felt they could rely on families when in urgent need of a loan equivalent to one month's income. Meanwhile, half the well-off group can count on family network (Figure 4.5). The low financial reliance on family members among Central African refugees could partly be explained by the fact that both poverty rates and poverty depth in their camps were so pervasive that almost everyone was too poor to offer any financial support to others. Here, social capital is of little help. However, it seemed to work better among Sudanese refugees. When Sudanese refugees were asked the same question, 51 percent of

the poorest as well as 67 percent of the most well-off indicated capacity to borrow from extended families.

The third set of assets discussed in this section is human capital, that is, education level and job skills, arguably important factors in welfare improvement and economic mobility (Bevelander 2020; de Vroome and van Tubergen 2010; Weaver and Habibov 2012). However, among refugees who face largely different labor markets in host communities, human capital previously acquired in a country of origin may not be relevant to the new job market (Colic-Peisker and Tilbury 2006; Krahn et al. 2000; Lamba 2008) and thus may not be reflected in the welfare of refugees. This section examines both, among refugees, the formal education attained in countries of origin and the language skills relevant to host communities.

Figure 4.4. Social Capital, Percent of households

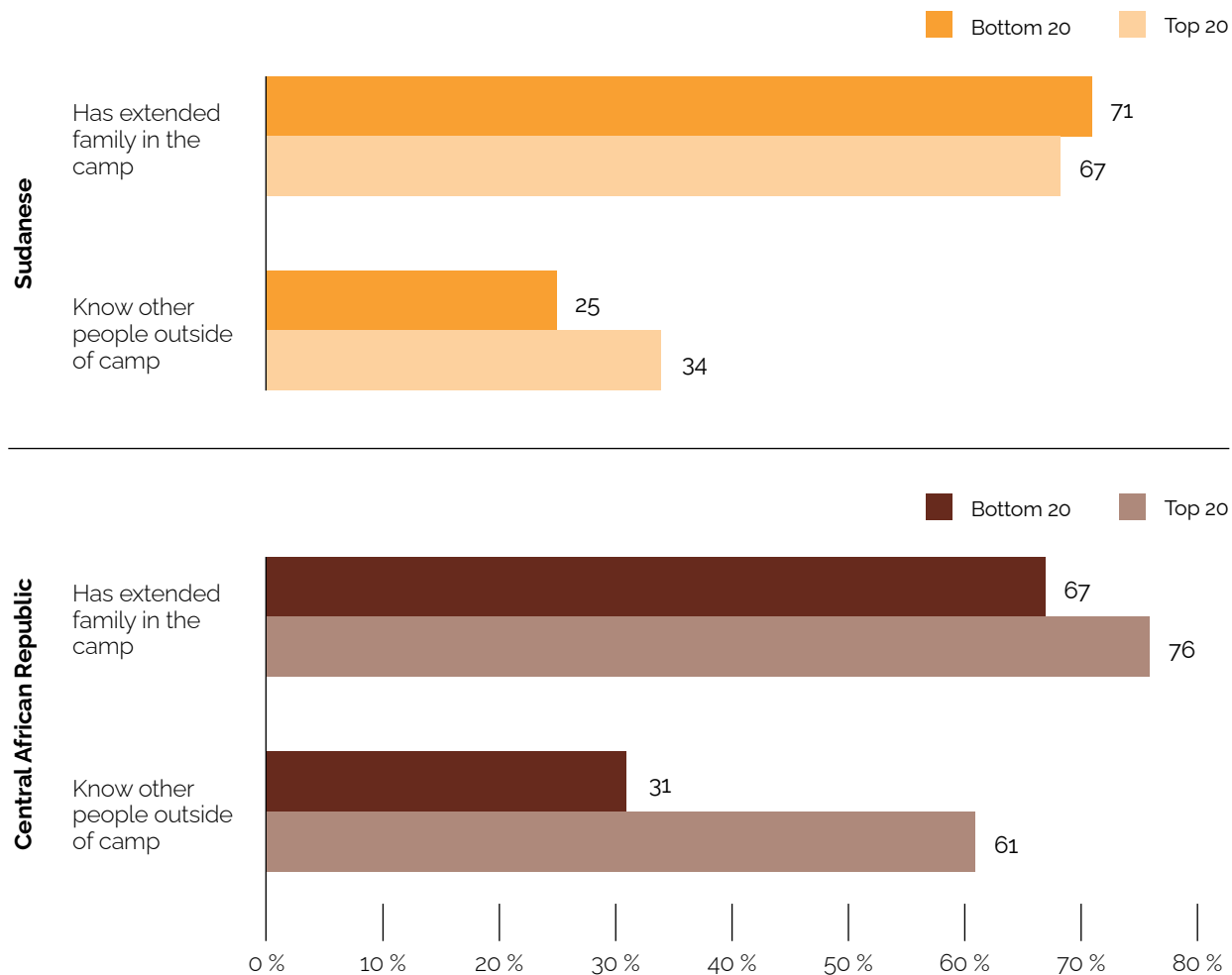
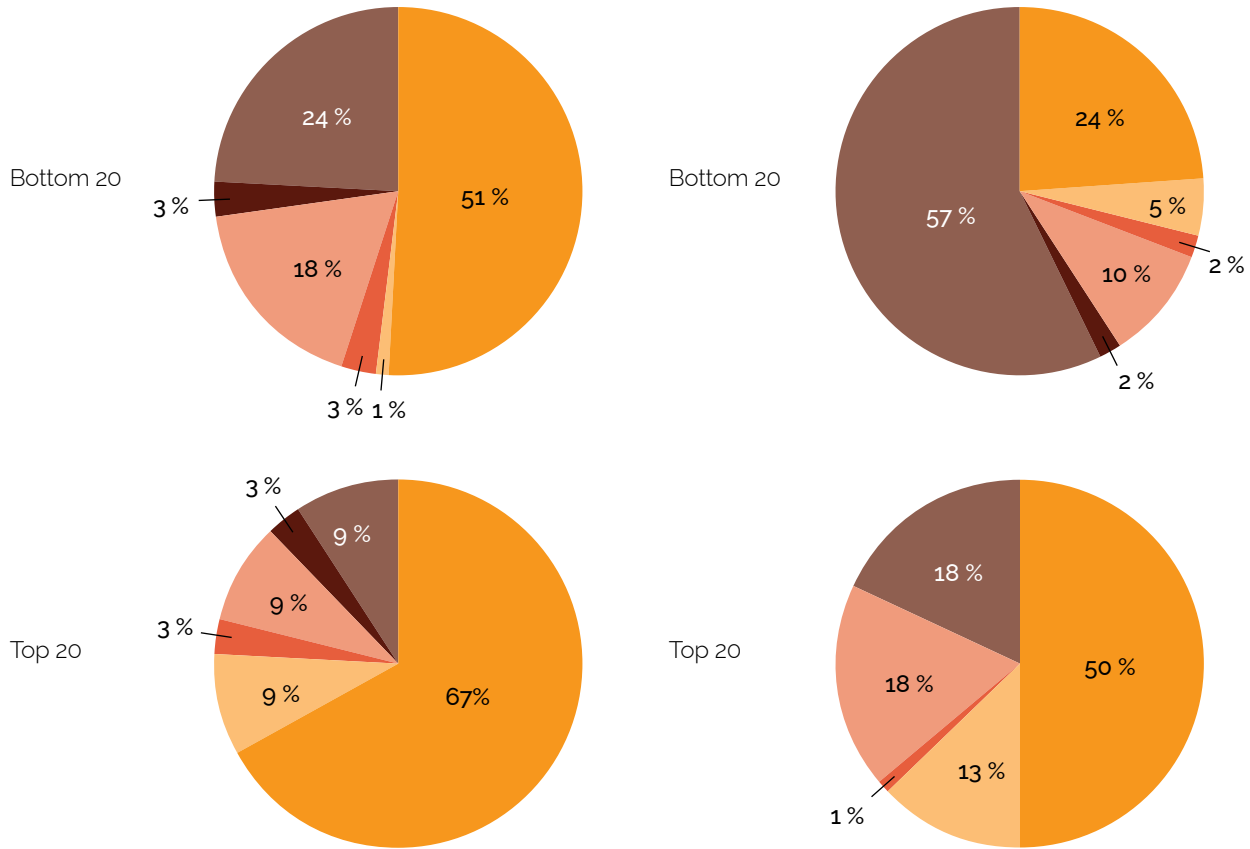


Figure 4.5. Borrowing Capacity, Percent of households



SUDANESE

CENTRAL AFRICAN REPUBLIC



Adults in the top quintile had more formal education than those in the bottom quintile. Within the Sudanese refugee community, 40 percent of the top quintile had at least primary education compared to 34 percent in the bottom quintile (Figure 4.6 A). On average, the top 20 among Sudanese refugees had 3.5 years of education far more than the 2.5 years of the poorest. Among the Central Africans, 42 percent of the most well-off and 29 percent of the poorest had primary education or more. The top quintile also spent twice as many years (3.2) in school as the bottom quintile (1.7).

Looking at language and literacy, two skills that are relevant to refugee integration into the local labor market, refugees in the top quintile, particularly Central Africans, fared significantly better. Spoken language did not seem to pose a barrier for refugees. Of the two main languages in the Chadian host communities, Chadian Arabic and French, Sudanese refugees often speak the former and Central African refugees the latter in addition to native languages. But the top 20 were significantly more likely to read and write than the bottom 20 (Figure 4.6 B). Among Central African refugees, nearly 50 percent of the top quintile can read or write French compared to 18 percent in the bottom quintile. More than 20 percent of the top quintile but just 5 percent in the bottom quintile were literate in Arabic.



Figure 4.6A. Skills, Adult Refugees, Percent. Formal Education

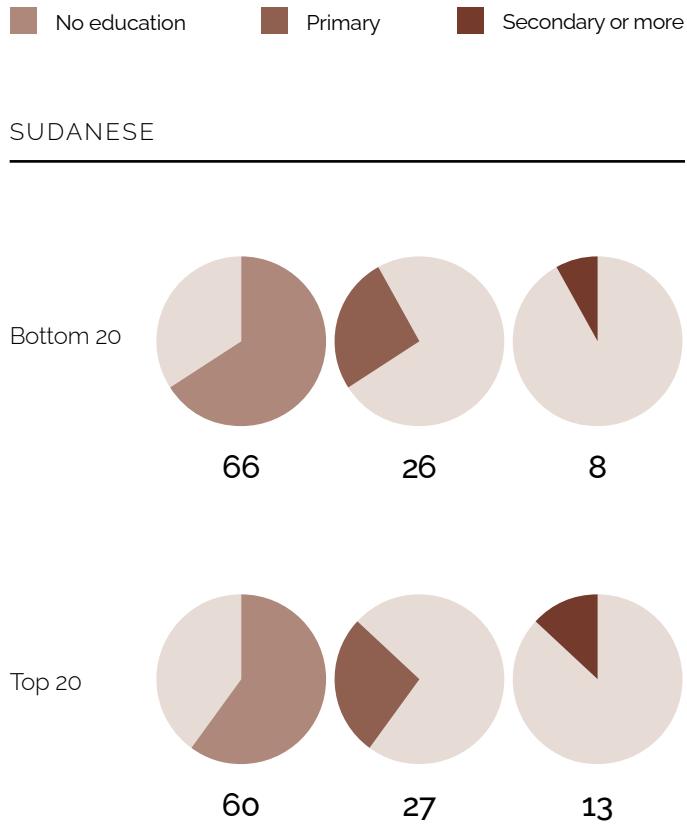
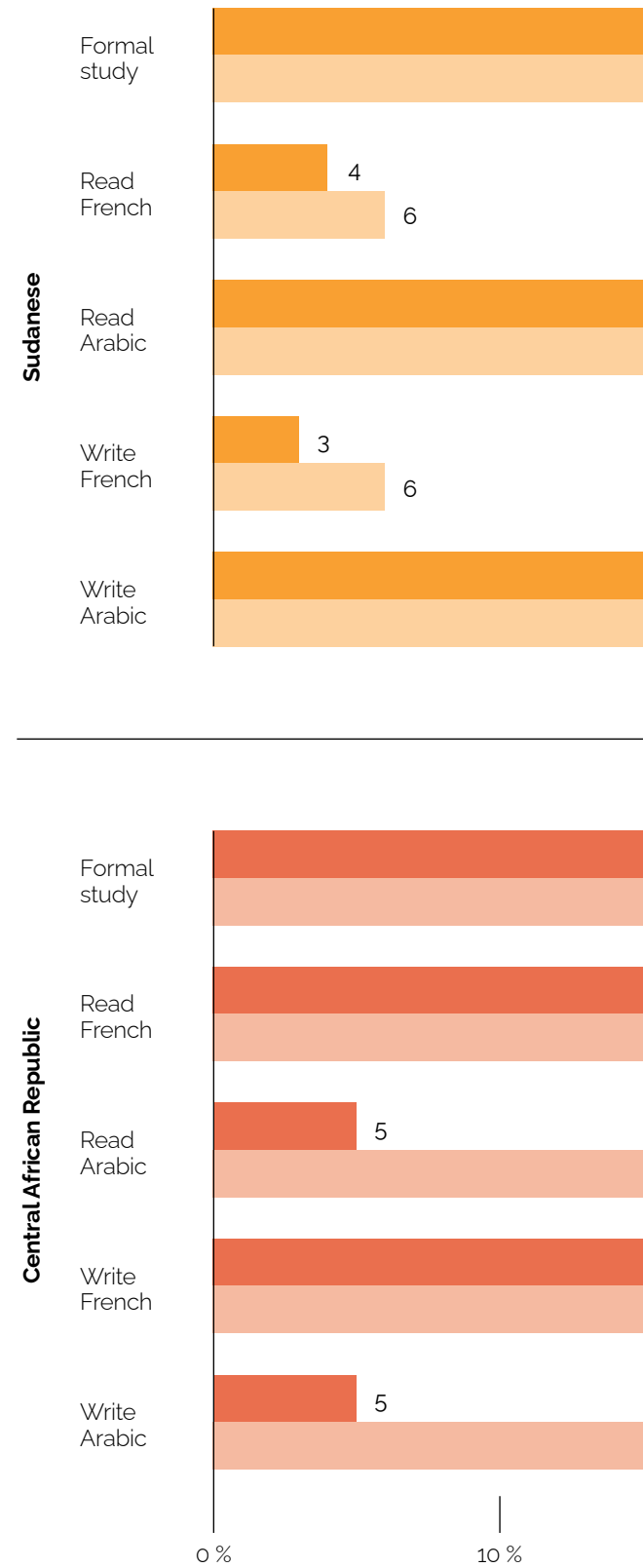


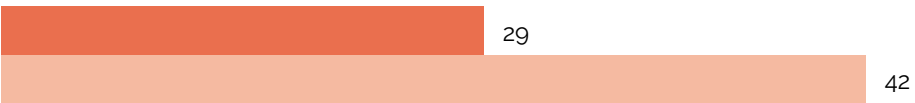
Figure 4.6B. Skills, Adult Refugees, Percent. Language and Literacy



Bottom 20
Top 20



Bottom 20
Top 20



20 % 30 % 40 % 50 % 60 %

Aid and Main Source of Income

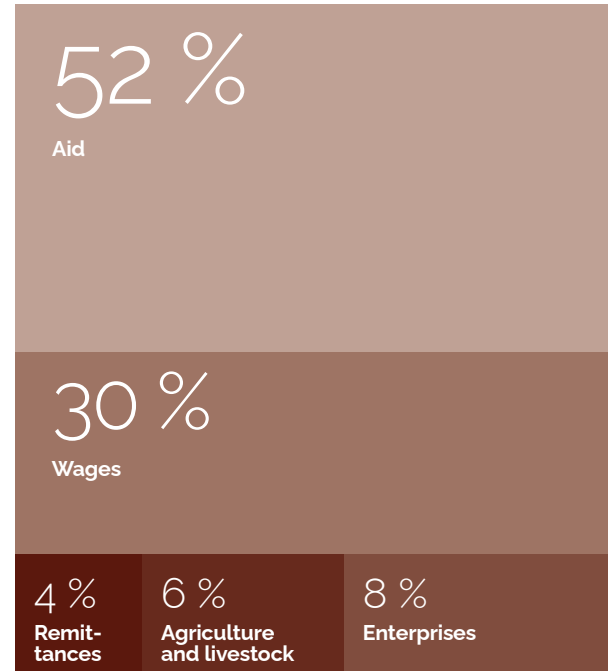
Aid was a major source of income for both Sudanese and Central African refugees but there were noticeable differences by consumption quintile (section 3.3). At the time of the survey, aid supplied about 52 percent of the household income for Central African and 49 percent for Sudanese refugees. The second most important refugee income source was wages, mostly from low-paid casual unskilled work. However, Sudanese refugees in the top quintile derived nearly 20 percent of household income from remittances (Figure 4.7 A). Among Central African refugees in the top quintile, 32 percent of household income consisted of profits from small household enterprises, a stark contrast to Central African in the bottom quintile, for whom aid provided more than 70 percent of household income (Figure 4.7 B).

The majority of Sudanese refugees reported receiving in-kind food, water, education, and health services, but few received assistance in labor productivity. About 90 percent of Sudanese refugees received in-kind food, about 65 percent received free water, and nearly 50 percent benefited from free education and health care services, but only 12 percent received assistance to enhance their productivity, such as agricultural inputs.

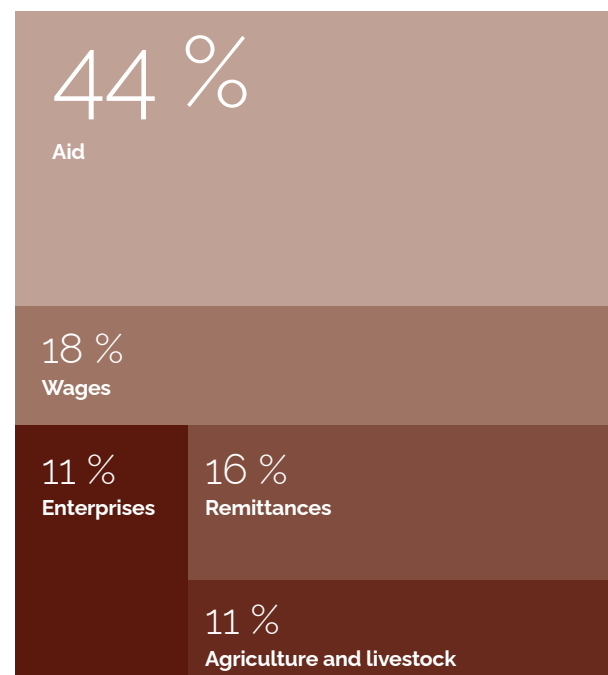
Figure 4.7. Income Sources, Top and Bottom Earners, Percent of household income

SUDANESE

Bottom 20

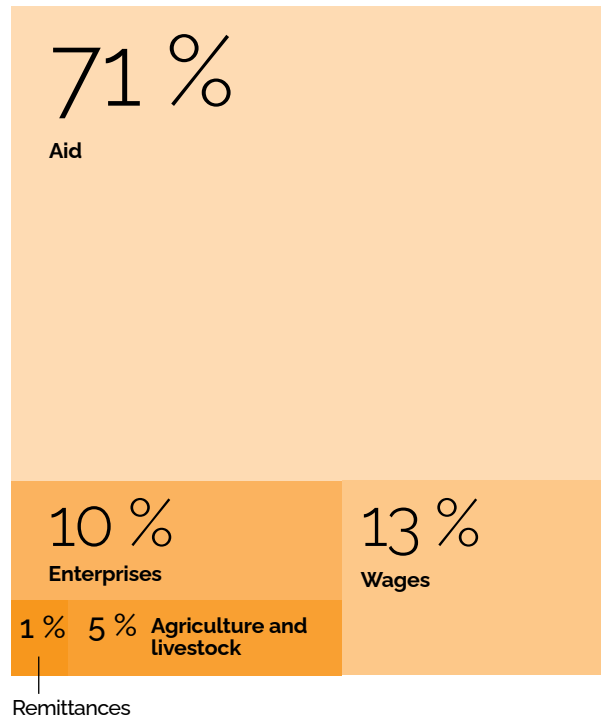


Top 20

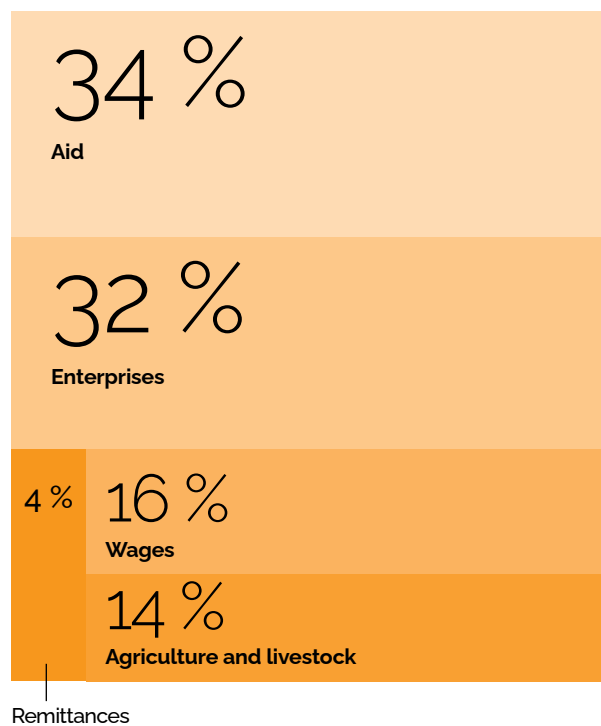


CENTRAL AFRICAN REPUBLIC

Bottom 20



Top 20



Despite widespread poverty and the extremely low consumption of Central African refugees, the coverage of aid programs was more limited. About 65 percent of Central African refugees received in-kind food assistance, about 50 percent received free water, but less than one-third received free education and health care services. Only 2 percent of Central African refugees benefitted from assistance with labor productivity.

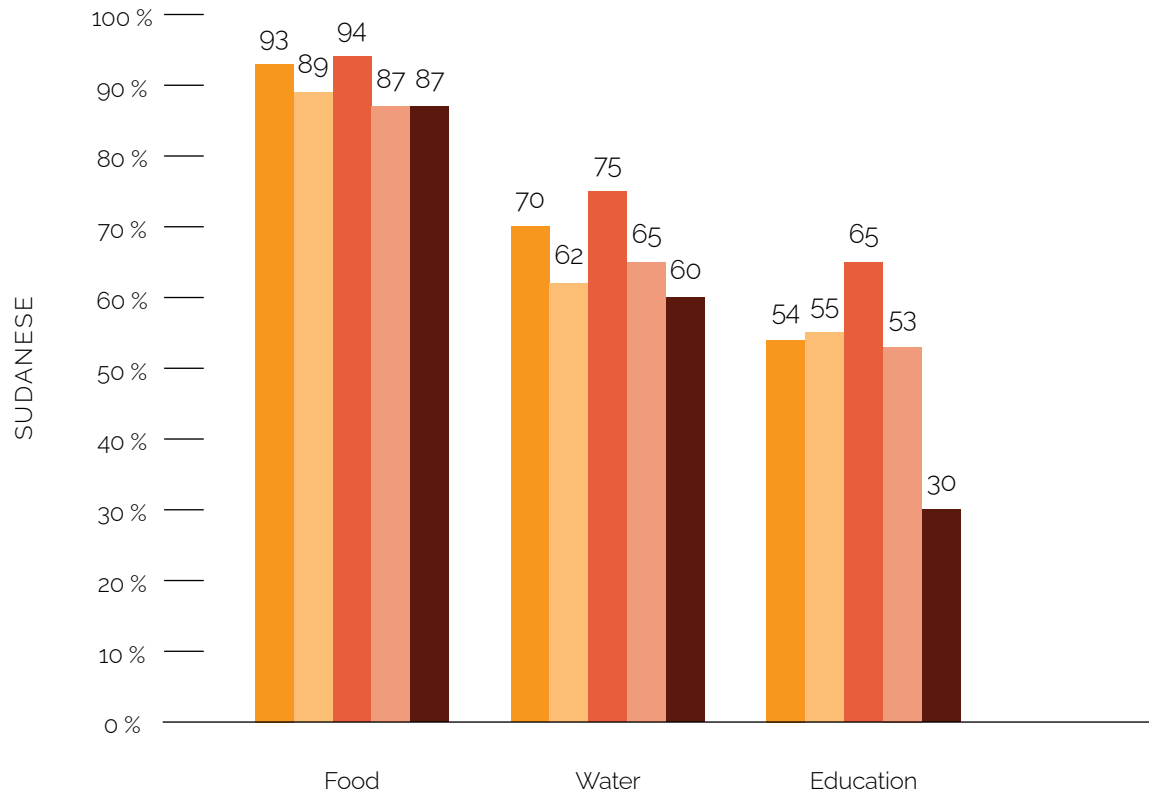
Given the high prevalence of poverty, there was little variation in the distribution of aid across Sudanese consumption quintiles, an indication of the universal needs for supports.

About 93 percent of Sudanese refugees in the bottom quintile received in-kind food, as did 87 percent of those in the top quintile (Figure 4.8 A). Regardless of welfare status, Sudanese refugees had received food on average nine times over the previous 12 months. While coverage seems to be universal, aid *amounts* may be targeted. However, the survey did not capture the generosity of food aid due to the difficulty of monetarizing in-kind supports.

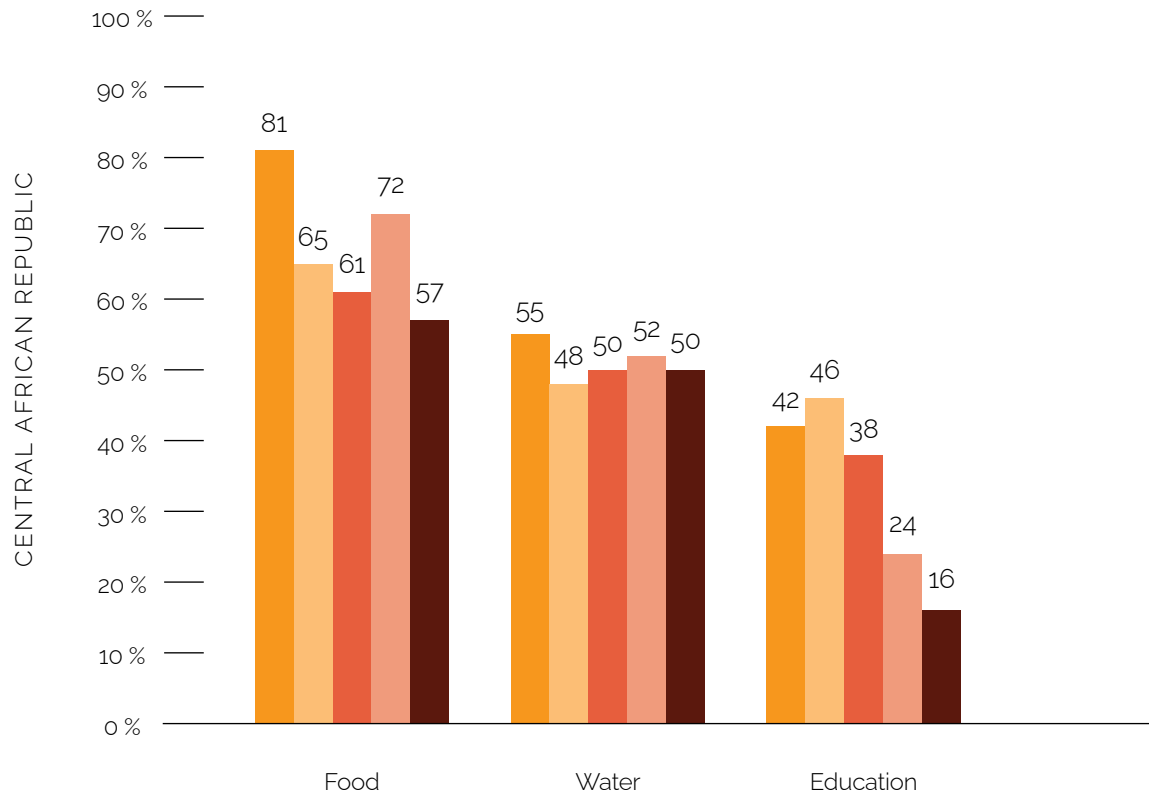
Nevertheless, among Central African refugees, aid distribution seems to be more targeted to the lower quintiles. More than 80 percent of those in the bottom quintile and 57 percent in the top quintile received food support (Figure 4.8 B). With over 80 percent of the Central African refugees suffering from poverty, even those in the top quintiles were vulnerable.

Figure 4.8.
Social Protection Programs, Percent of households

- Quintile 1
- Quintile 2
- Quintile 3
- Quintile 4
- Quintile 5



- Quintile 1
- Quintile 2
- Quintile 3
- Quintile 4
- Quintile 5



Drivers of Refugee Welfare Differences

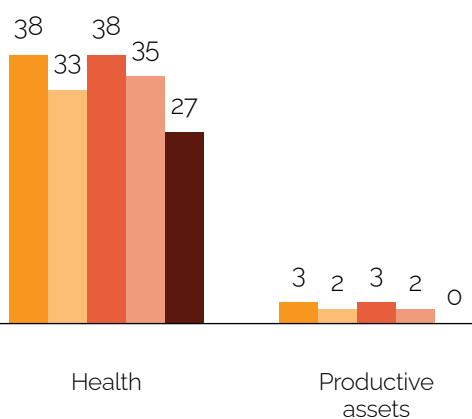
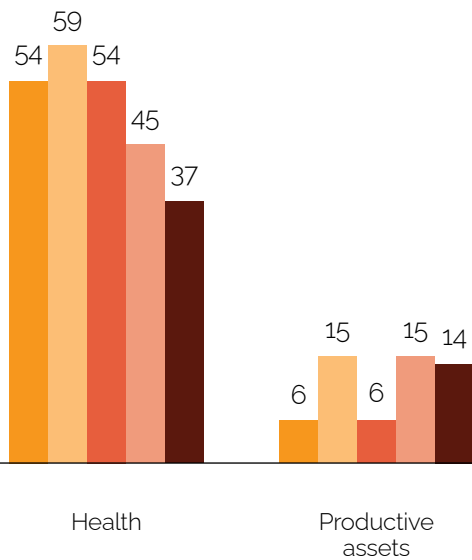
This section quantifies how all potential factors already discussed help explain the observed welfare variations within the refugee community. Chapter 2 highlighted key demographic characteristics of refugees, consisting of household size, children, female-headed household, and marital status of household head. This chapter examines refugee initial assets, social capital, human capital, and sources of income. So far, we have been studying each element separately. The next step is to examine how all components play out together in explaining refugee welfare.

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Our regressions are based on a pooled sample of Central African and Sudanese refugees with interaction terms between a dummy for Central African refugees and each explanatory variable³⁷. There are five regressions:

1. Regression 1 includes only demographic components.
2. Regression 2 adds initial assets.
3. Regression 3 adds social capital.
4. Regression 4 adds human capital.
5. Finally, regression 5 adds sources of income.

37. Detailed results are presented in Annex C, Tables C.1 and C.2.



Annex C, Table C.1 includes these regressions with camp fixed effects, and Table C.2 shows them without. Table 4.1 shows the results of regression 5 with camp fixed effects. The purpose of including camp fixed effects is to control for unobserved characteristics of each camp, such as price levels and provision of basic services.

Even after controlling for other factors, household size, share of children, and gender of head of households are crucial predictors of welfare for refugees. Each additional household member is associated with an 11 percent decline in consumption for Sudanese and a 14 percent decline for Central African refugees. Similarly, a 10 percent increase in share of Sudanese children can mean a 5 percent drop in consumption (a 7 percent drop for Central African refugees). On average, a Sudanese household headed by a woman consumes 15 percent less than a similar household headed by a man. For Central African refugees, this gap is even more severe at 25 percent. The marital status of the household head appears to be an important factor for the welfare of Sudanese refugees, but not of Central Africans.

Keeping other factors constant, initial assets and capacity to borrow are important in helping refugees to rebuild their lives. In general, a refugee household that still had valuable assets like money and jewelry at the time of arrival in the camp more than 10 years ago can today consume 19 percent more than a household that did not bring any. The magnitude of the welfare effects of initial assets is similar for Central African and Sudanese refugees. Meanwhile, social networks in the forms of family connection within the camp and social connections with people outside the camp do not appear to yield welfare returns for Sudanese, but for Central African refugees, a connection to someone living outside the camp signals an 11 percent increase in household consumption. Moreover, a Sudanese household that can obtain an emergency loan worth one month's income appears to be able to consume 14 percent more than a household that cannot borrow. However, this correlation must be interpreted with caution as the reverse could be true: a household with greater welfare is more likely to be credit-worthy.

Contrary to common belief, more education does not seem to improve welfare, at least for Central African refugees, which may suggest constraints in the labor market. There is no noticeable difference in welfare between refugee households that have adult members with no education and households that have adult members with at least a primary education. For Sudanese refugees, having an additional adult member with secondary education may increase household consumption by just 6 percent. As previous studies show, the relationship between education and labor outcomes among refugees is mixed (Bevelander and Nielsen 2001; Hartog and Zorlu 2009; Husted et al. 2001). Unlike natives in their destination country, it matters for refugees whether they were educated in the country of origin or in the destination country. Those who were educated in the country of origin are less likely to benefit from their schooling because of differences in the language in which they have studied and inability to certify their education.

Other than wages, any additional source of income is associated with higher consumption for refugee households, particularly Central Africans. While aid is still a main source of income, aid alone is not sufficient to sustain household consumption, especially for Central African refugees for whom coverage of aid supports is limited. Controlling for other factors, a Central African household with remittances has 23 percent higher consumption than one without; income from agricultural production or from small household enterprises raises consumption by 16 percent. For Sudanese refugees, households that derive income from small enterprises can increase consumption by 9 percent. However, income from wages is negatively correlated with consumption for Sudanese refugees, signaling that hired labor is the last resort for Sudanese refugees to make ends meet. For this refugee group, too, remittances and income from agricultural production contribute only minimally to household welfare.

Table 4.1. Drivers of Refugee Welfare Differences

Dependent variable: log of consumption per capita	Sudanese	Central Africans	Differences
Demographic			
Household size	-0.110***	-0.143***	-0.034*
Share of children	-0.526***	-0.651***	-0.126
Age of household head	-0.001	-0.002	-0.001
Female-headed household	-0.145***	-0.249***	-0.104
Household head unmarried	0.172*	-0.059	-0.231*
Household head being widowed, separated, or divorced	0.080*	0.081	0.001
Initial assets			
Valuable initial assets	0.188*	0.187*	-0.001
Social capital			
Family connection within the camp	0.008	-0.076	-0.084
Social connection outside of the camp	0.012	0.114**	0.102
Capacity to borrow	0.142***	0.235***	0.092
Human capital			
Number of adults with primary education	0.004	0.033	0.029
Number of adults with secondary education	0.057*	0.080	0.024
Source of income			
Wage income	-0.076**	0.101	0.177**
Remittances	0.027	0.234**	0.208*
Income from agricultural production	0.023	0.162**	0.139
Income from small household enterprise	0.087**	0.163***	0.077
Constant	12.748***	12.748***	12.748***
	(0.108)	(0.108)	(0.108)
Number of observations	1,175	1,175	1,175
Adjusted R-Square	0.564	0.564	0.564

Note: The regression includes both Sudanese and Central African refugees, interaction terms between a dummy for Central African refugees and each explanatory variable, and camp fixed effects. ***, **, * indicate statistically significant at the 1, 5, and 10 percent levels, respectively.

Chapter 5

The Relationship between Host Communities and Refugees

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To design policies that encourage self-reliance and smooth integration of refugees into local communities, it is crucial to examine the continuing relationship between refugees and their host communities for any tensions that may have emerged. Such an analysis can help create an environment in which refugees and host communities can thrive together.

This chapter focuses on the interconnection between the biggest refugee group in Chad—the Sudanese—and their host communities. The main rationale for this focus is the relatively stable relationship between these refugees and the host communities going back to 2003 when the first Sudanese arrived.

The survey does not cover the relationship between the Central African refugees and their host communities, which may involve different dynamics because of the relatively shorter history, smaller size of the refugee group, and the volatile influx of the Central African refugees into host areas.

The findings are as follows:

- + Despite similar poverty rates, Sudanese refugees consumed significantly less than host communities. Even the most well-off Sudanese refugees consumed only half as much as their peers in host communities. Such a large disparity between top income earners may suggest a ceiling that severely restricted income growth opportunities for refugees.

- + Both Sudanese refugees and host communities perceived themselves as poorer and in deeper poverty than the official measures suggested. They both cited the same reason for poverty: scarcity of employment opportunities. Sudanese refugees cited lack of access to land as an additional constraint.

- + Limited ownership of productive assets, particularly land, was important in explaining the welfare gaps between Sudanese refugees and host communities.

- + While some of the basic services delivery programs offered in the refugee camps were open to host communities, Sudanese refugees still had significantly greater access to basic services than their hosts. Such disparities may become a source of tension between refugees and hosts.

- + Although nearly half the host communities perceived that their welfare had become worse, they did not appear to attribute the deterioration to the arrival of the Sudanese refugees.

Summary of Welfare Gaps

This subsection dissects the findings of chapter 3, which examines refugee welfare relative to the welfare of the Chadian population and specifically in relation to Sudanese refugees and their host communities. Aggregate welfare measures, such as poverty rates and the incidence of food insecurity, were comparable for the two groups. However, if the measures are probed at a more granular level, such as a comparison of consumption across the distribution, distinct gaps become evident.

Although the shares of Sudanese refugees and host community households living under the national poverty line were similar, average consumption was much lower for the refugees. Of two people both considered poor, if one eats less than the other, the former is probably a Sudanese refugee and the latter a host community member. Consumption among the most well-off Sudanese refugees, those in the top 20, was only half that of their peers in host communities. This large disparity between those in the top quintiles suggests a ceiling that severely restricted the opportunities for refugees to generate income.

Similarly, while food insecurity was as pervasive among Sudanese refugees as within host communities, the refugees ate less nutritious foods. Nearly half the Sudanese refugee population did not meet the minimum daily intake requirement of 2,400 calories per person; this was comparable with those in host communities. However, the food diversity index reveals another side of food insecurity. As presented in section 3.1, the average food basket for Sudanese refugees typically contained fewer food items. Thus, compared to host communities, Sudanese refugees consumed a smaller range of foods, which may have implications for the physical and cognitive development of children (Arimond and Ruel 2004; M'Kaibi et al. 2016; Thorne-Lyman et al. 2009).

With donor community support, Sudanese refugees have benefited from many social assistance programs, from food aid to water and sanitation. Some of these services, such as school and health-care services, were extended to host communities, although disparity of service delivery between refugees and host communities persists. Human capital outcomes, including school enrollments and access to maternal health care, were significantly better for Sudanese refugees despite the comparable needs in host communities. Similar patterns can be observed in delivery of basic water and sanitation services. These disparities, if continuing, may generate more tension between refugees and host communities.

Nonetheless, Sudanese refugees had extremely limited access to productive assets, such as land and livestock, and the restrictions created major constraints on income growth. While agricultural production was the main economic activity in areas hosting Sudanese refugees, refugee ownership of land and livestock was almost out of reach. About 90 percent of the members of host communities owned at least one plot; the share among Sudanese refugees was only 4 percent. Even among these lucky few, the plots were significantly smaller. Moreover, while 60 percent of the members of host communities owned an average of 12 cattle per household, just 24 percent of Sudanese refugee households owned even 3 cattle.

Drivers of Welfare Gaps

Lacking opportunities in agricultural production, Sudanese refugees engaged in other sources of employment, notably wage labor, often low paid casual unskilled work, and small businesses, although such enterprises face fierce competition from host communities. About 40 percent of Sudanese refugees worked for a daily wage, compared with only 15 percent of residents in host communities. The average hourly wage for Sudanese refugees was about half that in host communities, mostly because refugees were segregated into low-return jobs and low-skill occupations. Nearly 30 percent of Sudanese refugees engaged in small household enterprises, compared with 20 percent in host communities. Stiff market competition was cited as the most serious barrier to such businesses among refugees and in host communities.

Although Sudanese refugees often lived in designated camps, they appear to interact closely with host communities through trade and business. About half the Sudanese refugees engaged in agricultural production, and of these nearly 90 percent at least one plot of land from host communities. In addition, as more than 70 percent of the small businesses of host communities and Sudanese refugees were operated outside the home, for example, on the street, in a shop, or from a vehicle, there is a good chance that these businesses serve both Sudanese refugees and host communities. Moreover, the large populations in the refugee camps, often more than 10,000 people, represented a sizable market for goods and services. The fact that the distance to the nearest market was short suggests that nearby host communities were likely to trade with Sudanese refugees in markets near the camps. The economic agglomeration introduced through the refugee influx means that a larger selection of goods and services were available to host communities, but this may also have led to higher prices because of growing demand (Alix-Garcia and Saah 2010; Jacobsen 2002).

Welfare gaps between Sudanese refugees and host communities may be caused in two ways: disparity in endowments and differences in the return on those endowments.³⁸ There are several main types of endowments that can contribute to the welfare gap between Sudanese refugees and host communities. First, demographic endowment can point out, for example, if one population group has a higher share of children, thus a lower per capita consumption. Second, endowments in the form of productive assets can suggest which assets are more important than others in narrowing the welfare gap, for instance, land holding or livestock. Third, differences in sources of income between Sudanese refugees and host communities shed light on the income sources, such as wages and agricultural production, that have the potential to raise the welfare of Sudanese refugees closer to that of host communities. Fourth, endowments in terms of availability of basic services could explain which direction discrepancies in access to services can affect the welfare gap. Finally, different exposure to shocks (health, natural disasters, prices) could variously disrupt income and consumption patterns of refugees and host community. The return to those endowments described above reflect the capacity of households to turn their endowment into higher welfare.

38. Some researchers consider the interaction of differences in endowment and returns to endowments. In other words, the interaction term implies the incremental share of the welfare gap when both the endowments and returns to endowments change simultaneously, or the remaining welfare gap after controlling for endowments and returns to endowments. However, this term is not often used mostly due to its obscurity.

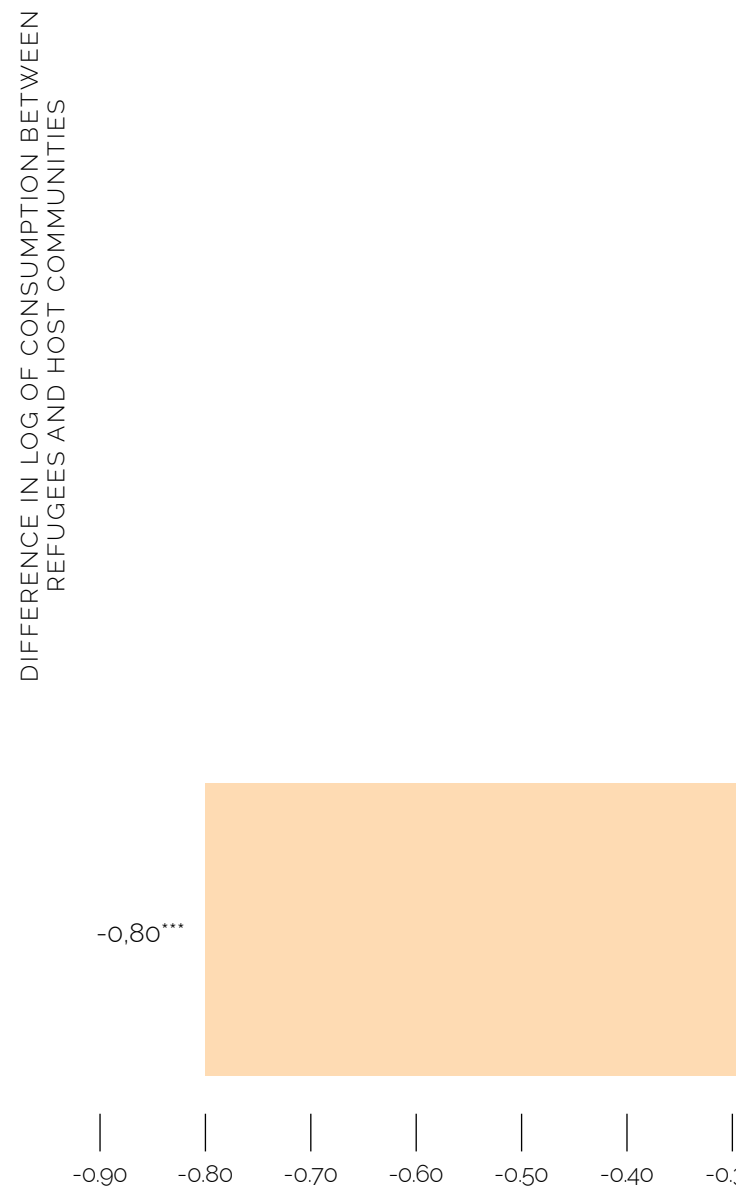
Understandably, endowments and welfare returns to the endowments vary across the consumption distribution. For instance, the discrepancy in endowments between the poorest Sudanese refugees and the poorest host community households is not the same as that between the most well-off of each group. Also, the returns to those endowments may not be as high among the bottom 20 as among the top 20. We therefore apply the Unconditional Quantile Regression method introduced by Firbo, Fortin, and Lemieux (2009) to explore such differences across consumption quintiles. The log of consumption per capita is used as the dependent variable.

In this section, we not only quantify how much of the welfare gap between Sudanese refugees and host communities comes from endowments alone, and how much from the returns on those endowments; we also explain how these differences vary between the poorest and most well-off. The previous sections offer insight into which endowments are important to the welfare of Sudanese refugees and host communities, ranging from the share of children to the availability of basic services. Box 4 lists the endowments and briefly describes the decomposition method used in this analysis. (Detailed results can be found in Annex D.)

The welfare gaps between Sudanese refugees and host communities proved to be statistically significant across all consumption quintiles. The poorest Sudanese refugees had 9 percent higher consumption than the poorest households in the host communities, partly due to access to aid programs and basic services (Figure 5.1). However, Sudanese refugees in all other quintiles had substantially lower levels of welfare. In particular, the consumption of the most well-off Sudanese refugees was 55 percent less than that of the top quintile in the host community.³⁹ This is consistent with what we observed in section 4.1.

39. The coefficients in Figure 5.1 reflect the differences in log of consumption. Thus, to interpret the actual difference in consumption between refugees and host consumption, it is necessary to apply the following formula: $\text{difference} = (e^{\text{coef}} - 1)$.

Figure 5.1. Welfare Gap between Sudanese Refugees and Host Communities, by Quintile

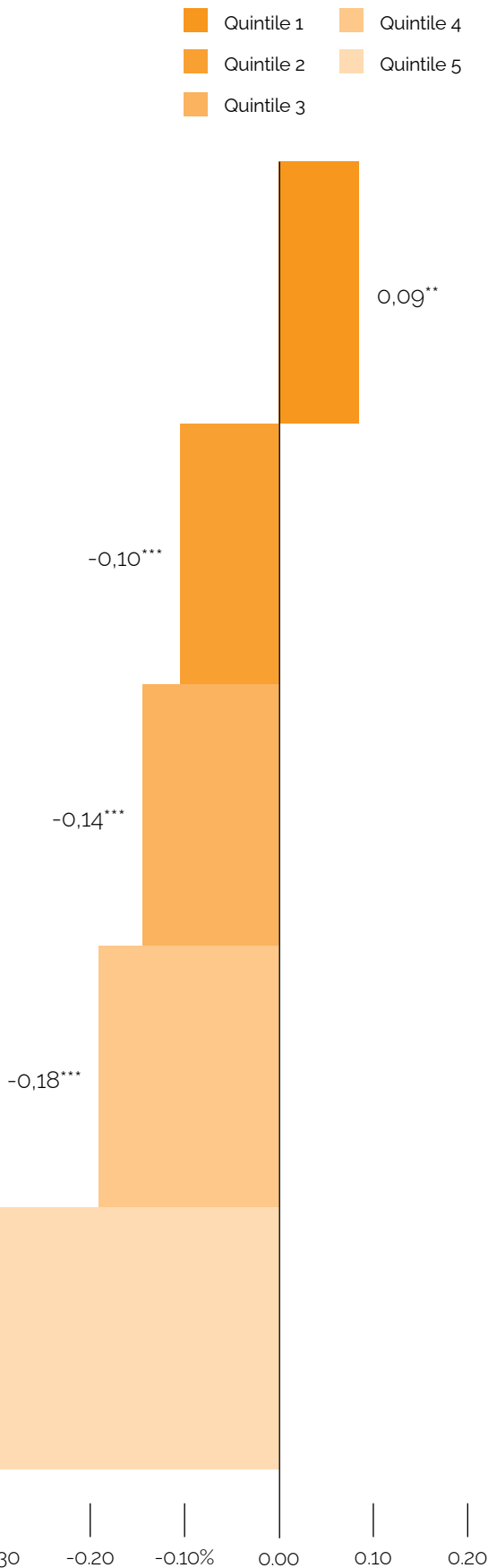


Box 4. Decomposition Methods and Classification of Endowments

Decomposition methods were introduced by Oaxaca (1973) and Blinder (1973) to decompose changes in wages over time. Since then, new methods have been widely applied, including those of Bourguignon, Ferreira, and Lustig (2005); Firbo, Fortin, and Lemieux (2009); and Juhn, Murphy, and Pierce (1993). In general, decomposition methods are used to explain the gap in the means of an outcome variable (for example, consumption or poverty status) between two population groups (such as men and women). The gap is then decomposed into two explanatory components: the differences in the determinants between the two groups and in the effects of these determinants.

The analysis here is based on the method of Firbo, Fortin, and Lemieux (2009), which allows the decomposition to vary across different points in the distribution. It consists of a regression of the recentered influence function of the unconditional quantile of consumption per capita on the explanatory variables. In this exercise, we aim to explain the welfare gap between refugees and host communities by decomposing into disparities in endowments and returns to endowment. Based on findings from the previous chapters, we discuss the following main types of endowments:

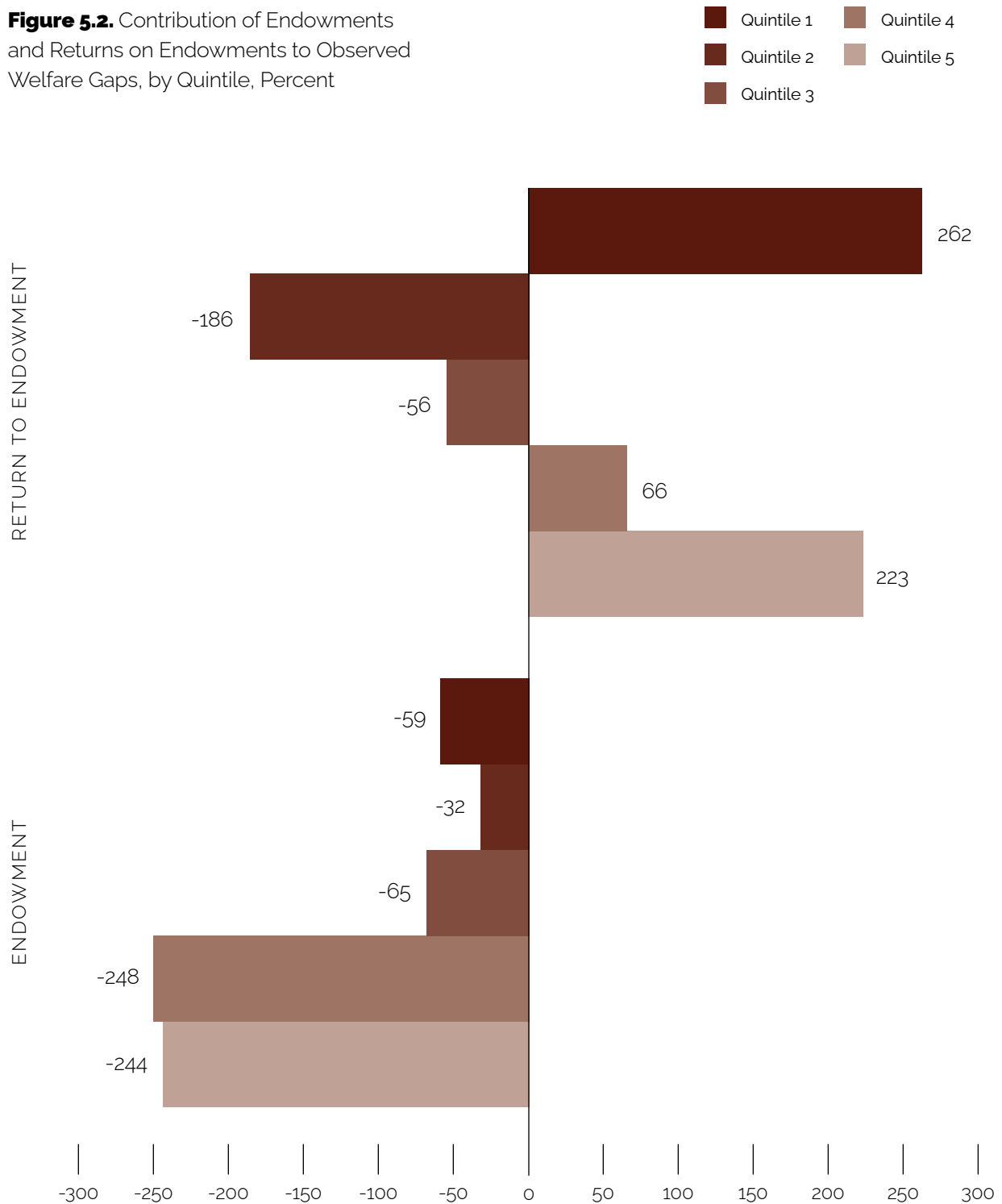
- + **Demographics:** household size; share of children; age, gender, and marital status of household head; education of adult members
- + **Productive assets:** mobile phone, vehicle, land, agricultural input, livestock
- + **Sources of income:** wage, agricultural production, small household enterprises, remittances
- + **Availability of basic services:** clean water, distance to school, distance to health center, distance to markets
- + **Exposure to shocks:** health (illness, death), natural disasters (flood, drought), food prices



In general, the disparity in endowments between Sudanese refugees and host communities exacerbated their welfare gaps. This factor was even more prominent among the most well-off group. Differences in endowments could account for nearly 250

percent of the gap in consumption between the top two quintiles in the Sudanese refugee group and their peers in the Chadian host communities (Figure 5.2). It also explains about half the welfare gaps between bottom quintiles.

Figure 5.2. Contribution of Endowments and Returns on Endowments to Observed Welfare Gaps, by Quintile, Percent

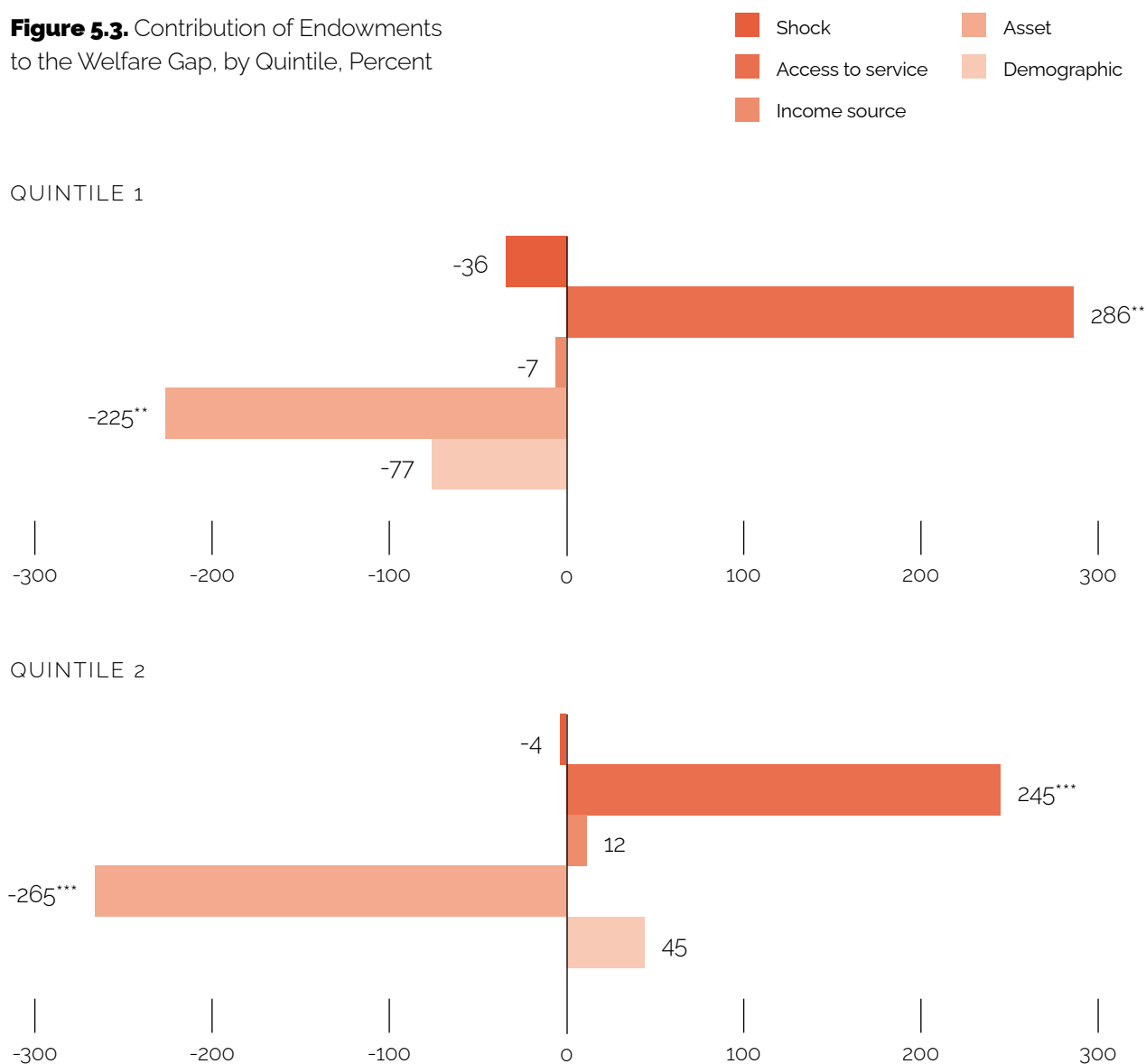


In terms of types of endowments, the most notable distinctions were in two groups: possession of productive assets and availability of basic services. This pattern was consistent across all quintiles (Figure 5.3). These two endowments contributed to the welfare gap in opposite forces: while disparity in possession of productive assets widened welfare gaps, differences in access to services narrowed them.

In particular, the disadvantage in ownership of a land plot or a vehicle intensified welfare gaps between Sudanese refugees and host communities, especially among the poorest (see Annex D for detailed results). Among adult working-age Sudanese refu-

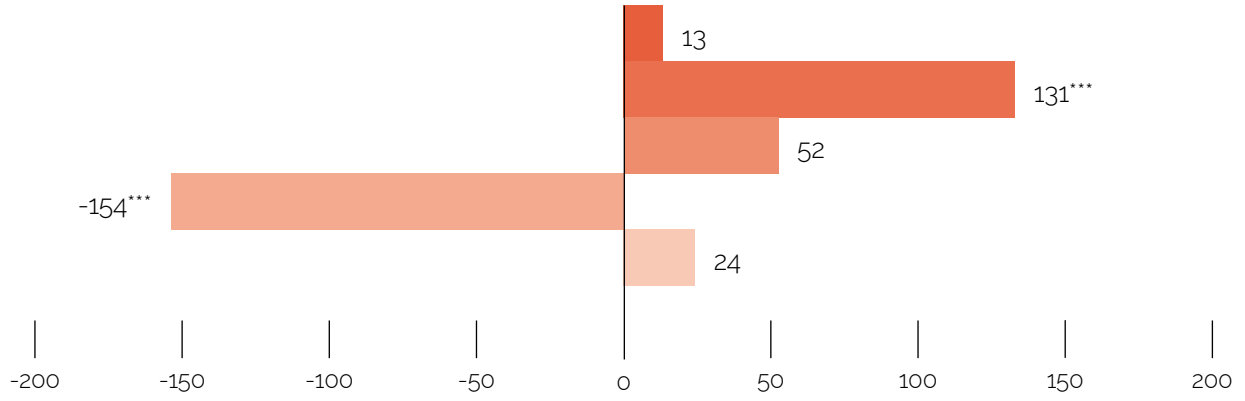
gees, 68 percent worked in agriculture, and 3 percent in transportation. Land and vehicles were essential to household income-generating activities. But less than 2 percent of Sudanese refugee households owned a plot, compared to 84 percent of host households. This disparity contributed about 200 percent to the welfare gaps with the magnitude larger in the bottom two quintiles. Ownership of a vehicle accounted for about 15 percent of the welfare gaps across all consumption distribution. Interestingly, possession of livestock was important for the top three quintiles, where about 15–20 percent of the differences in consumption between Sudanese refugees and host communities arise from disparities in livestock ownership.

Figure 5.3. Contribution of Endowments to the Welfare Gap, by Quintile, Percent

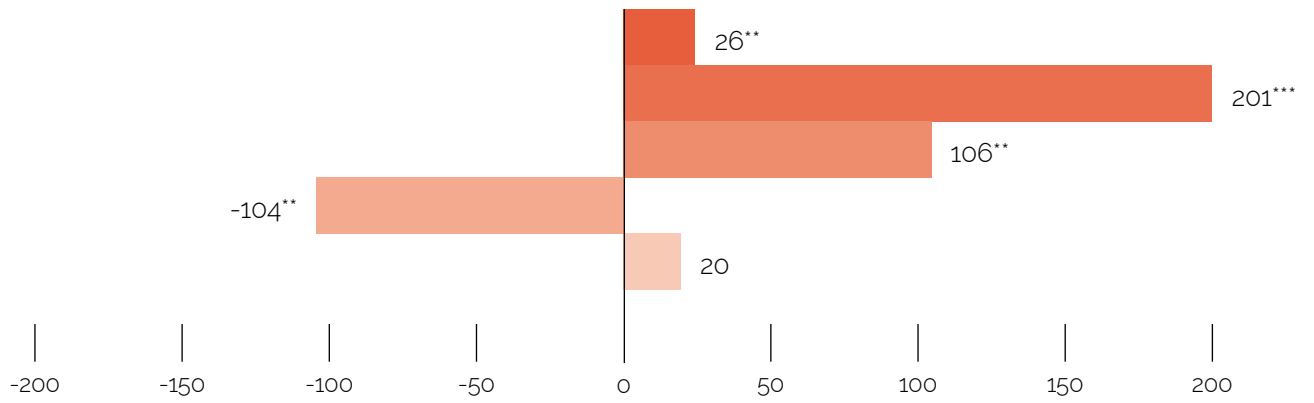


Shock Access to service Income source Asset Demographic

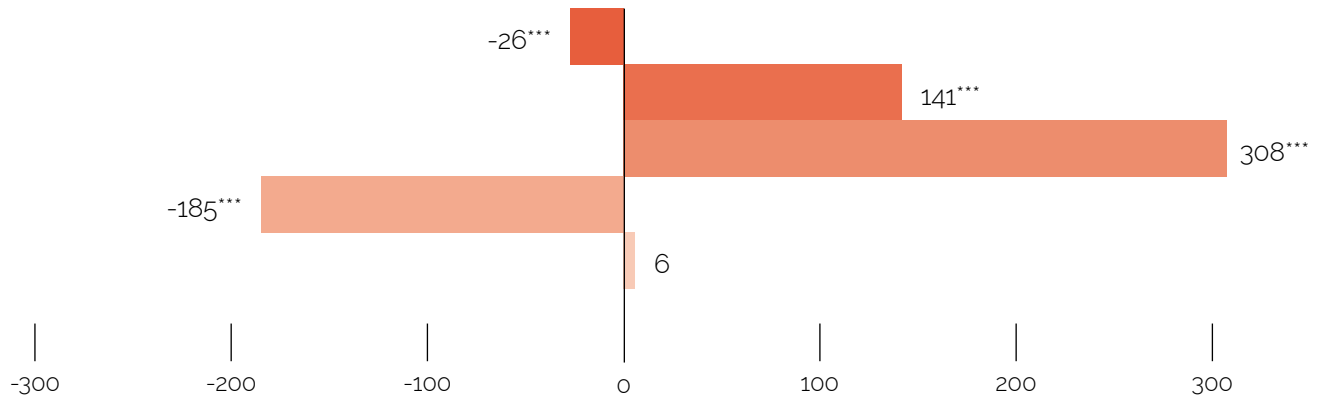
QUINTILE 3



QUINTILE 4



QUINTILE 5



However, better access to basic services gave Sudanese refugees considerable help in closing the welfare gaps with host communities. As noted earlier, more than 80 percent of Sudanese refugee households lived within 2 km of the nearest school, health care center, or market. Meanwhile, only 40 percent of host households were that close to school, and less than 15 percent had similar access to a health center or a market. These differences in availability of basic services can explain more than 200 percent of the gap in consumption between Sudanese refugees and host communities in the bottom two quintiles, and about 150 percent of the gap in the top quintile (Figure 5.3).

Meanwhile, differences in demographic endowment played only a minor role in explaining the welfare gaps between Sudanese refugees and host communities; income sources and exposure to shock were more relevant for the top quintiles (see Figure 5.3). Despite bigger households, a larger share of female-headed households, and significantly more education among adult members, Sudanese refugees did not see these demographic characteristics as contributed to an explanation of the welfare gaps between them and the host communities. However, disparity in income from agricultural production had a positive effect in narrowing the welfare gaps between Sudanese refugees and host communities in the top 3 quintiles, with the largest magnitude in quintile 5. Nevertheless, differences in income from small household enterprise brought the opposite implication: it widened the welfare gap. Meanwhile, remittances and wage income did not do much to explain the welfare gap. Among all shocks examined in this analysis, difference in exposure to health shocks, such as illness or death of a family member, deepened the diversion in welfare. However, exposure to high food prices affected the host community more negatively.

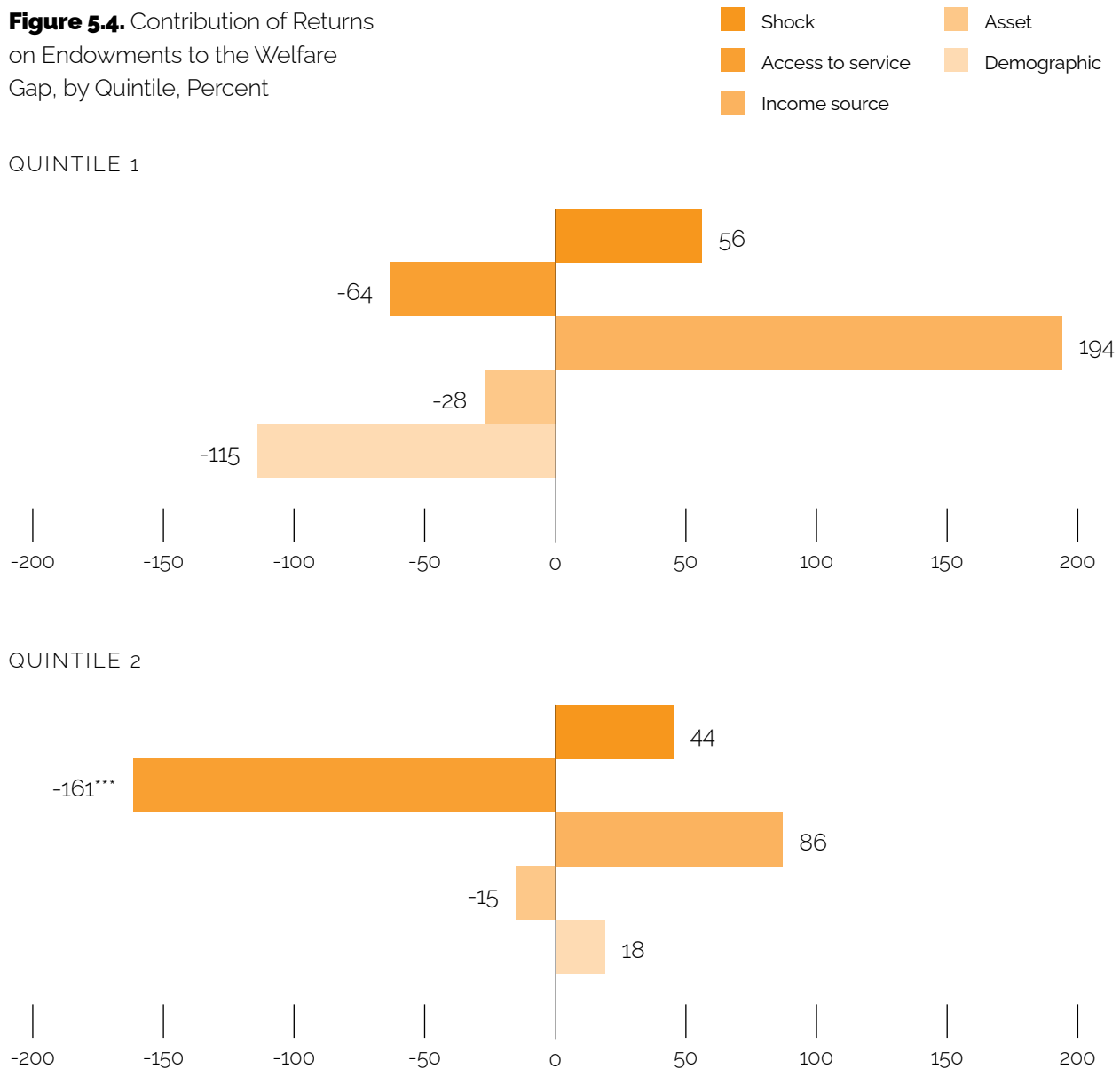
The contribution of the discrepancy in welfare returns to endowment to explaining the differences in welfare between refugees and host community was mixed. Given the differences in endowments discussed earlier, the return to the endowments accounted for about 200 percent of the welfare gaps for the bottom 2 quintiles and the top quintile. The magnitude was smaller, about 60 percent, for quintiles 3 and 4 (Figure 5.2). However, the direction of the contribution was mixed: differences in return to overall endowments helped to narrow the gaps in the poorest and the most well-off groups, but had reverse effect on households in the middle of the distribution.

Disparity in return to sources of income was the most important factor in terms of its contribution to narrowing the welfare gap (Figure 5.4). Most of this comes from the differences in the returns to agricultural production, especially for households in the top quintile (see Annex D for detailed results). In other words, Sudanese refugees in the top quintile were in the best position to turn their endowment in agricultural production into higher income to close the welfare gap with peers in the host villages. However, the welfare gap remained large: Sudanese refugees in the top quintile consumed only half as much as similar households in the host community.

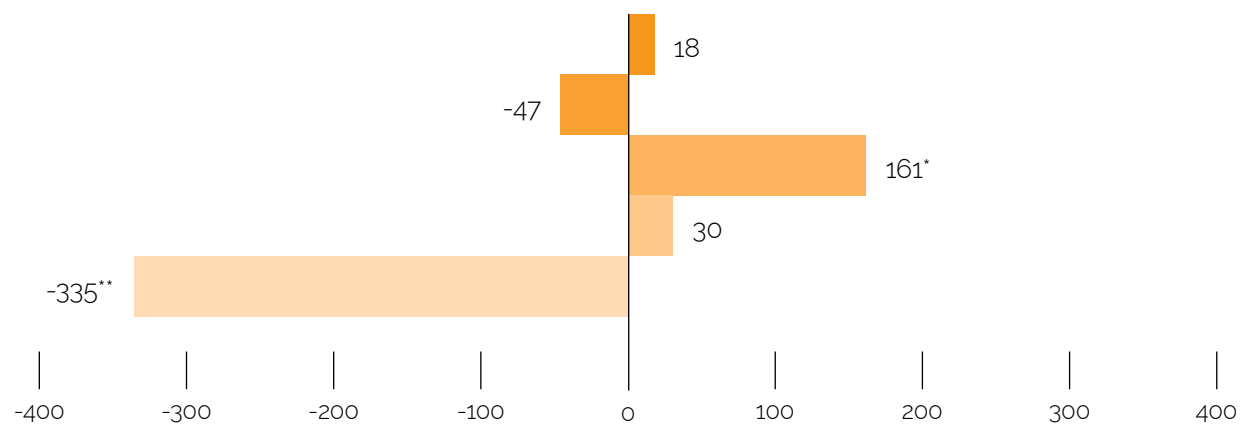
Despite having better access to basic services, return to this endowment was lower for Sudanese refugees than for host communities. In fact, the returns for proximity to a school or health center and better access to clean water did not seem to help refugees close the welfare gap (Annex D). However, returns to being near to market had a mixed contribution. Although it accounted for about 30 percent of the welfare gap in both the bottom and the top quintiles, it widened the welfare gap between the poorest Sudanese refugees and the poorest host community households but narrowed the gap for the most well-off households.

With their disadvantage in ownership of productive assets, Sudanese refugees also experienced limited return to these assets. Not only did disparities in possession of land and vehicles widen the welfare gaps, Sudanese refugees also found it difficult to turn their already insufficient assets into higher income. Differences in return to owning a vehicle explained about 30 percent of the welfare gaps, but the magnitude was far higher for land holding, especially for the top quintile. Discrepancy in return to owning land accounts for nearly 300 percent of the welfare gaps. This suggests the quality of land owned by Sudanese refugees and residents of the host community may differ (World Bank 2020a).

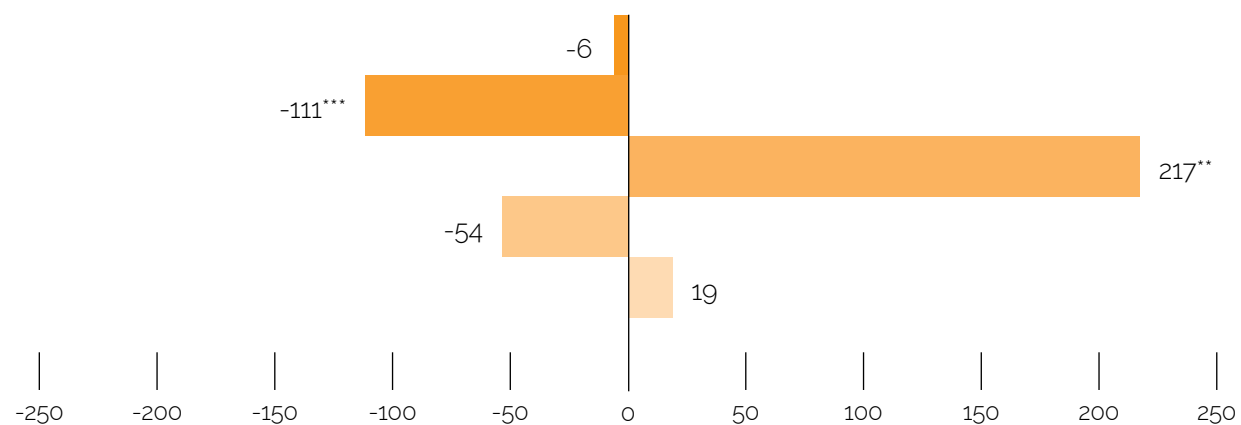
Figure 5.4. Contribution of Returns on Endowments to the Welfare Gap, by Quintile, Percent



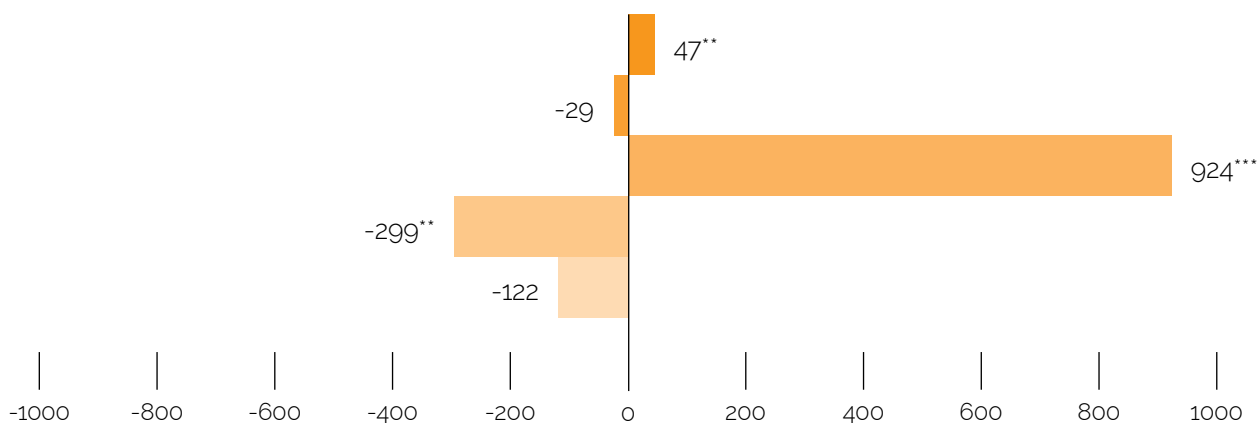
QUINTILE 3



QUINTILE 4



QUINTILE 5

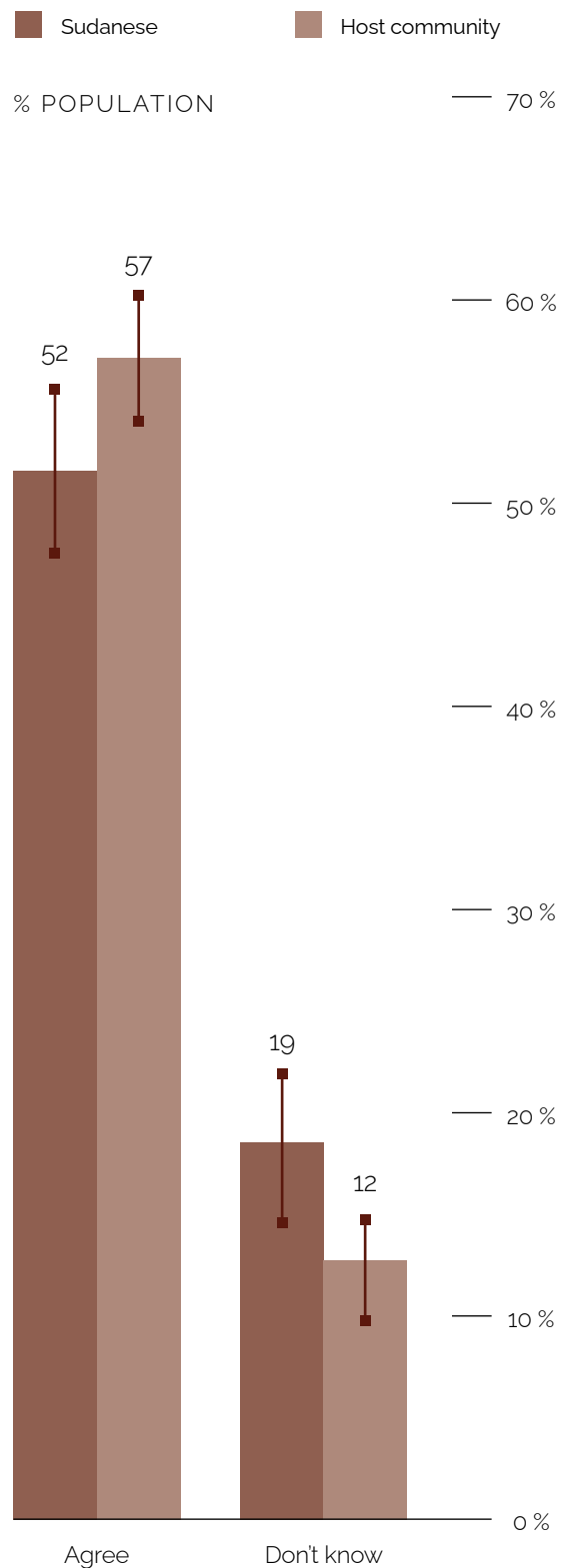


Perception of Welfare

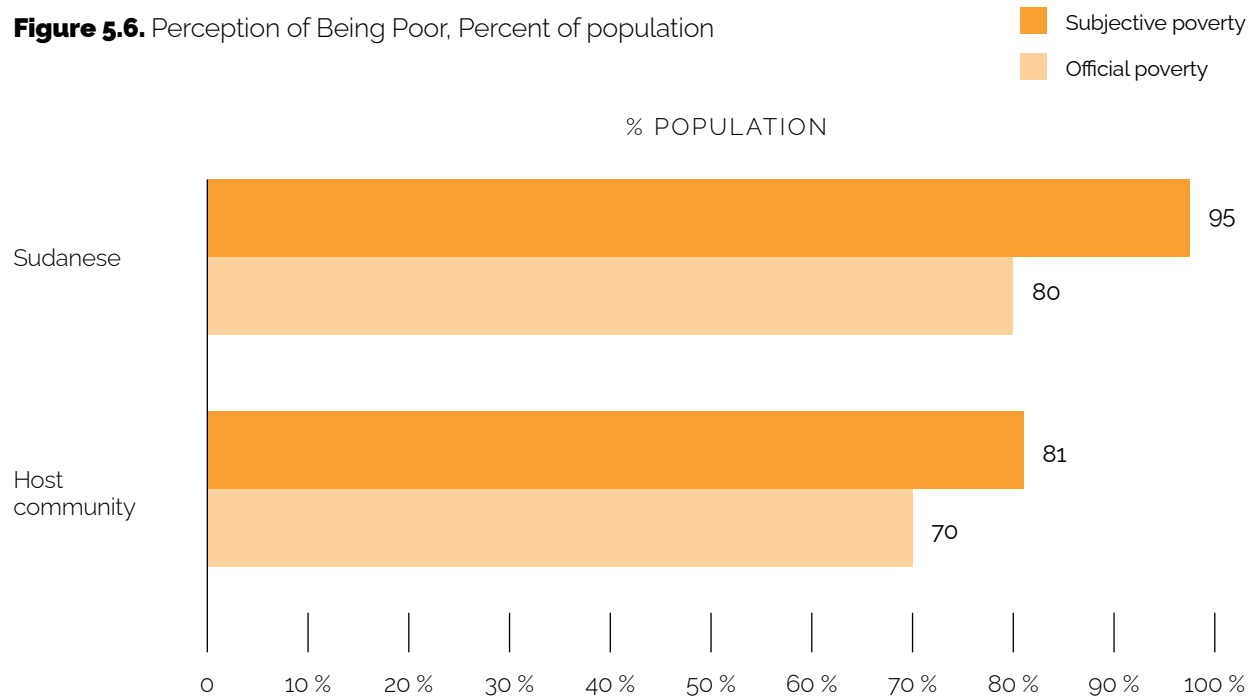
While the previous sections provide evidence of welfare for Sudanese refugees and host communities, these measures may not go hand-in-hand with people's perception of welfare, which influence their relationship with each other therefore affecting the environment for refugees to integrate into local communities. There is a substantial empirical literature showing a complicated relationship between refugees and host communities. Some host communities regard refugees negatively, as a security and economic threat (Goot and Watson 2005; Louis et al. 2007; Schweitzer et al 2005). However, other communities show humanitarian concerns and a sense of moral responsibility for the welfare of refugees (Nickerson and Louis 2008; Verkuyten et al. 2018; McFarland, Webb, and Brown 2012; Reysen and Katzarka-Miller 2013). In Chad, Watson et al (2018) show that on one hand, the large influxes of refugees had a negative impact on environment and shared natural resources in host villages, such as land and trees for firewood. On the other hand, host communities benefited from the social service infrastructure offered in refugee camps. In this section, we examine the differences in perception of welfare between refugees and host communities in Chad.

First, there was little difference between the perception of Sudanese refugee and host communities that Chad was a country with limited resources. About 57 percent of those resident in host communities and 52 percent of Sudanese refugees agreed that Chad was a poor country, although the difference is not statistically significant (Figure 5.5). However, Sudanese refugees were still less certain about the country's welfare status even after being here for more than a decade. Nearly 20 percent of Sudanese refugees did not know whether Chad was poor. This number was significantly lower for host communities, at 12 percent.

Figure 5.5. Belief that Chad Is a Poor Country, Percent of population



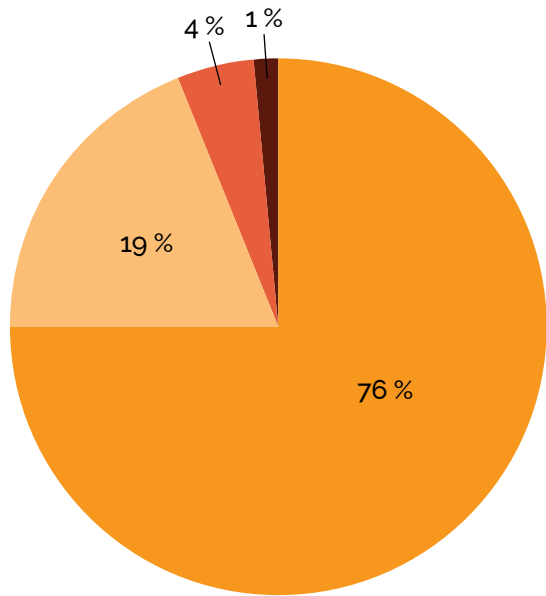
Note: 95 % confident interval in brackets.

Figure 5.6. Perception of Being Poor, Percent of population

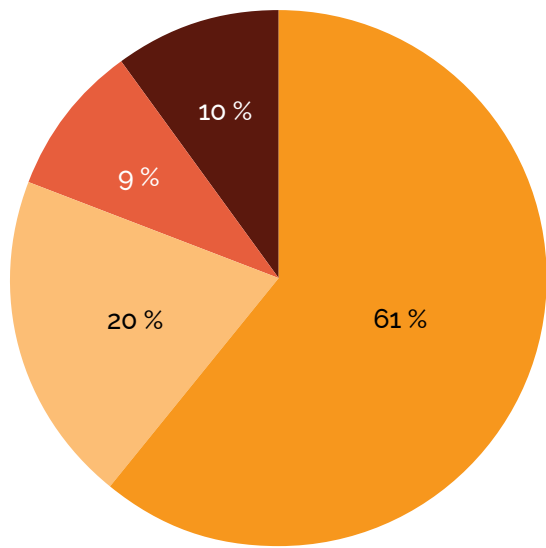
Second, people –both Sudanese refugees and host communities– had a strong sense of poverty and perceived themselves poorer than the official estimates indicated. This suggests that subjective poverty can be a concept beyond monetary-measured poverty, and individuals internalized other notions of deprivation that were important to them such as opportunities and social mobility. Most people reported knowing their poverty status. In fact, less than 2 percent of the population, Sudanese refugees and host communities, were unsure. In addition, 95 percent of Sudanese refugees considered themselves poor compared to the official rate of 80 percent. Similarly, 81 percent of host community residents believed they were poor compared to the official 70 percent (Figure 5.6). Interestingly, nearly 10 percent of the host community population and nearly 5 percent of Sudanese refugees believed that they were not poor, although official estimates said they were (Figure 5.7). In other words, they were more optimistic about their material well-being than the actual situation.

Not only did the majority of Sudanese refugees consider themselves poor, they also believed they were living in more extreme poverty than the official data suggest; this was also true of host community residents, though to a lesser extent. To go beyond the binary notion of poor and nonpoor, respondents were asked to rank their welfare on a scale of 1 to 6, with 1 the poorest and 6 the most well-off. If the official consumption data described in section 3.1 are used to list households on this 6-point scale with the poorest on the left, and the more well-off on the right, about 16.7 percent of the population would be represented at each of the six points. However, the study found an overwhelming share of people believing they were the poorest of the poor: 85 percent of the Sudanese refugees believed they were at level 1 or level 2. The corresponding share is 75 percent for host communities (Figure 5.8).

Figure 5.7. Where subjective poverty and official poverty overlap, Percent of population

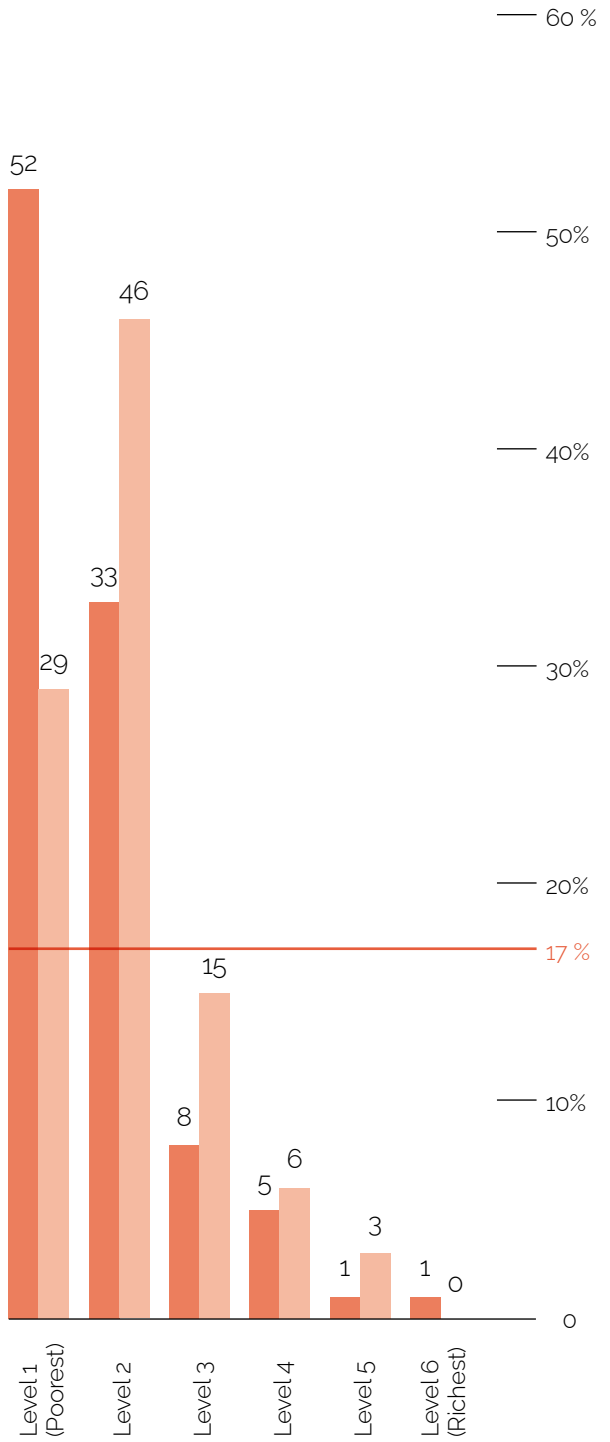


Sudanese



Host community

Figure 5.8. Subjective Welfare Scale, Percent of population



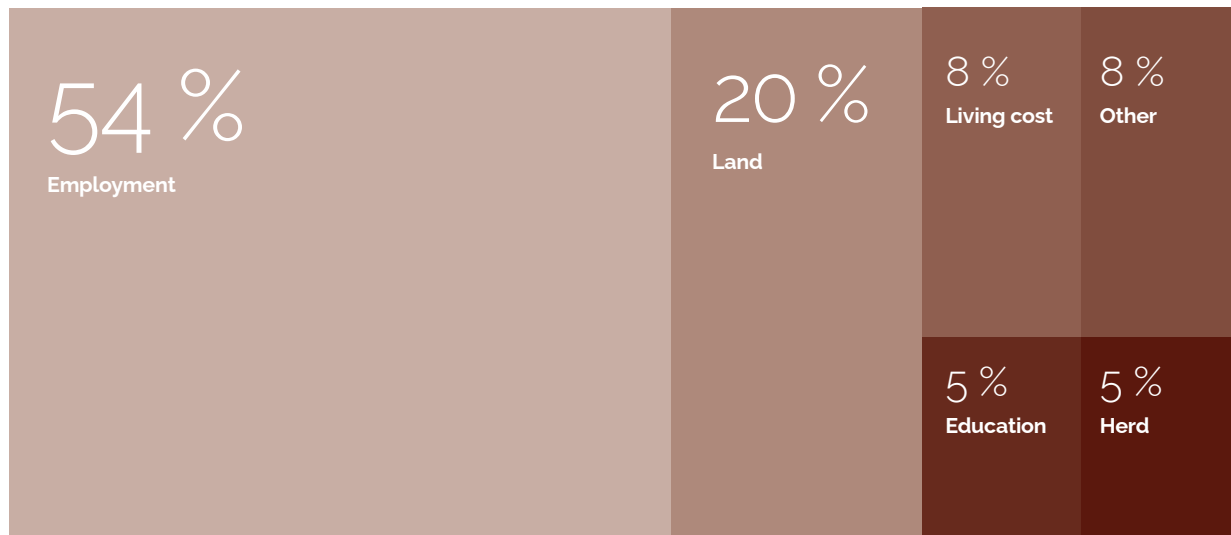
Welfare scale

Despite a disparity in the notion of poverty between opinions and empirical evidence, the two sources both confirm the same reason for poverty: scarcity of employment opportunities, and additionally for refugees, lack of access to land. As pointed out in section 3.3., refugees needed to supplement aid with other income sources to sustain a minimum livelihood. However, the labor market was tight: 54 percent of Sudanese refugees cited lack of employment as the foremost reason for

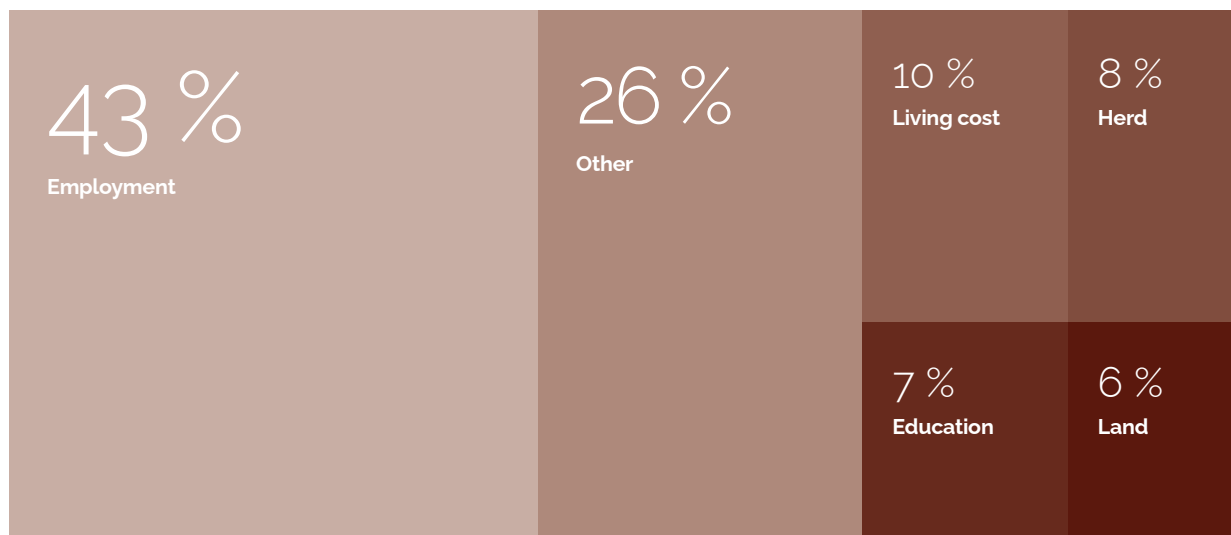
their poverty levels (Figure 5.9). This also implies the strong need of Sudanese refugees to work rather than attributing the dire situation to insufficient social assistance programs. Approximately 20 percent of Sudanese refugees reported land access as the top reason for poverty. While 43 percent of host community population cited employment shortage as their most important reason, we do not have the data to investigate whether the problem became more severe once refugees arrived.

Figure 5.9. Top Reasons for Poverty, Percent of households

Sudanese



Host community



Moreover, Sudanese refugees saw their livelihood in Chad as worse than what they left behind in Sudan. We limited the sample to Sudanese refugees aged 35 and above so they can recollect the time before they left Sudan. Nearly 60 percent of the sample reported their well-being having deteriorated compared to the level they had before leaving Sudan. Another 19 percent of them considered their current welfare to be substantially worse. A similar pattern is observed for food insecurity (Figure 5.10).

Nearly half of the host communities perceived their food insecurity and welfare as worse than before, but did not appear to attribute the situation to the arrival of the Sudanese refugees. To check host community attitude toward refugees,

we randomized host households into two groups: one group was asked to compare their current welfare and food security with what they had 20 years ago, and the other to compare with the level they had before the Sudanese refugees arrived. We limited the sample to household heads aged 35 years or more so that they can still remember the time before refugees arrived. We did not see any significant difference in the responses of the two groups. About half of the households in both groups regarded their situation as worse (Figure 5.11 and Figure 5.12) although fewer households responded “don’t know” in the group being asked using the arrival of refugees as benchmark. It might be that the event of refugee arrival can trigger their recollection better than a mere number of years in the past.

Figure 5.10. Current Welfare Relative to Past Welfare, Percent of people aged 35+

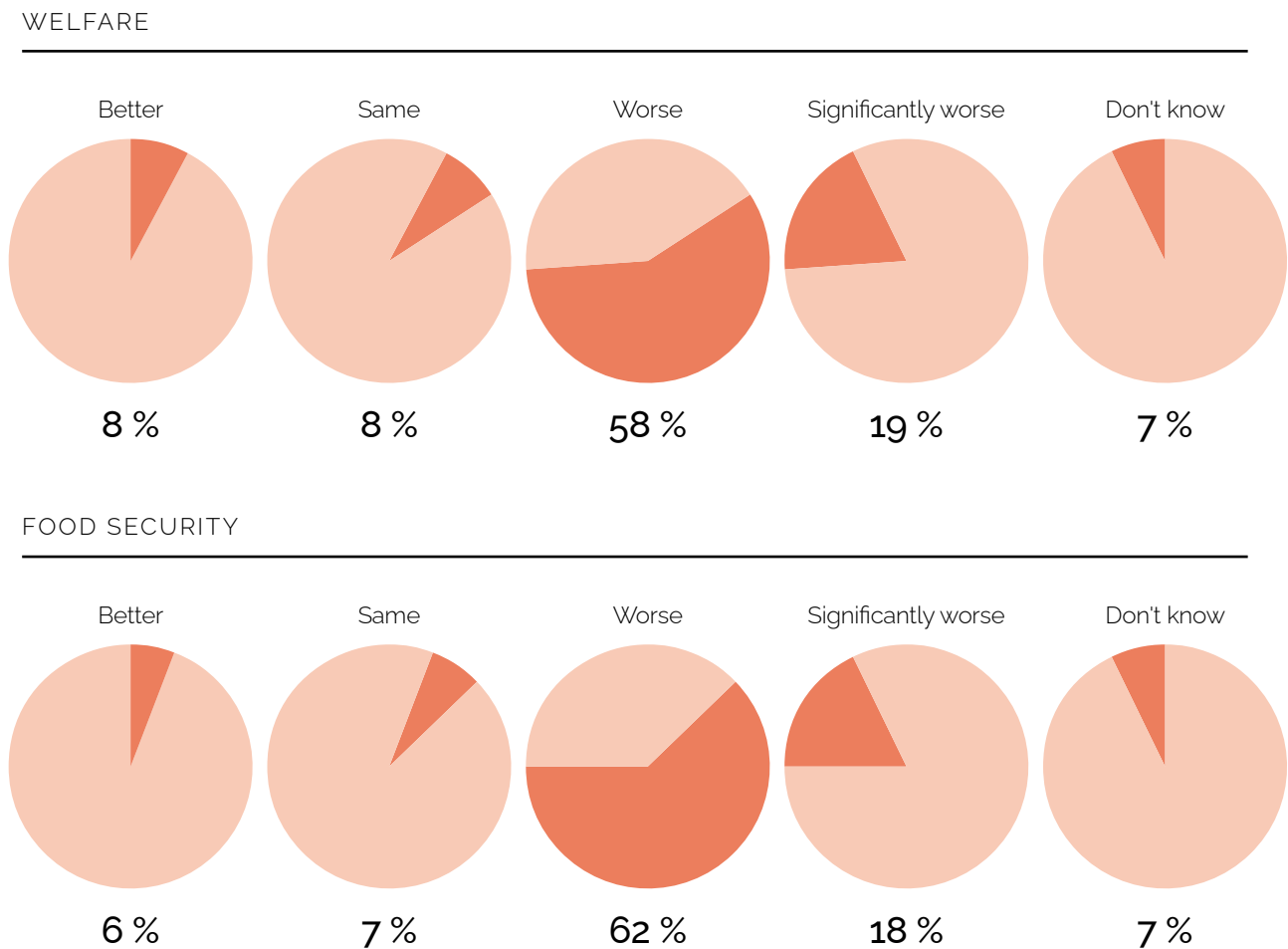
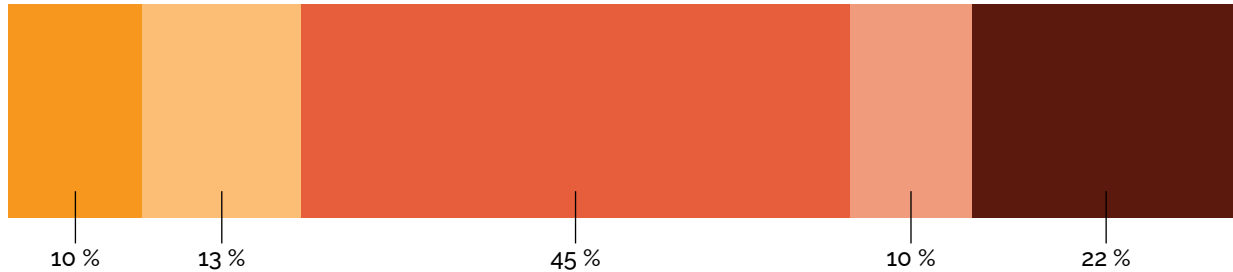


Figure 5.11. The Attitude of Host Communities Toward Refugees and Welfare, Percent of people aged 35+

- Better
- Same
- Worse
- Significantly worse
- Don't know

COMPARE WITH WELFARE 20 YEARS AGO



COMPARE WITH WELFARE BEFORE REFUGEES ARRIVED

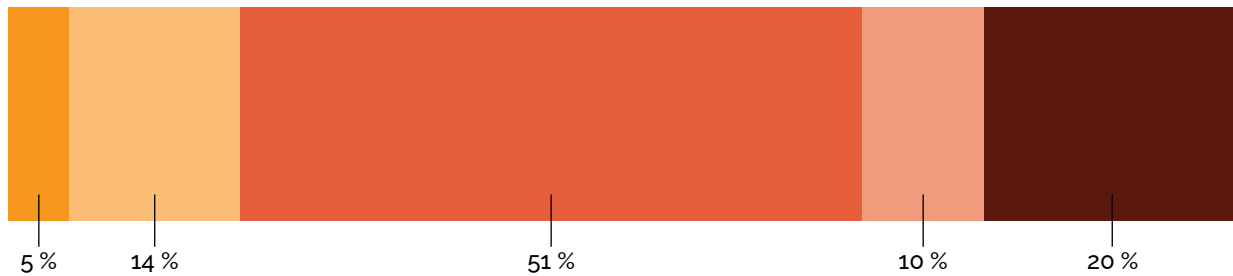


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Figure 5.12. The Attitude of Host Communities toward Refugees and Food Security, Percent of people aged 35+

- Better
- Same
- Worse
- Significantly worse
- Don't know

COMPARE WITH WELFARE 20 YEARS AGO



COMPARE WITH WELFARE BEFORE REFUGEES ARRIVED



Chapter 6

The Road Forward

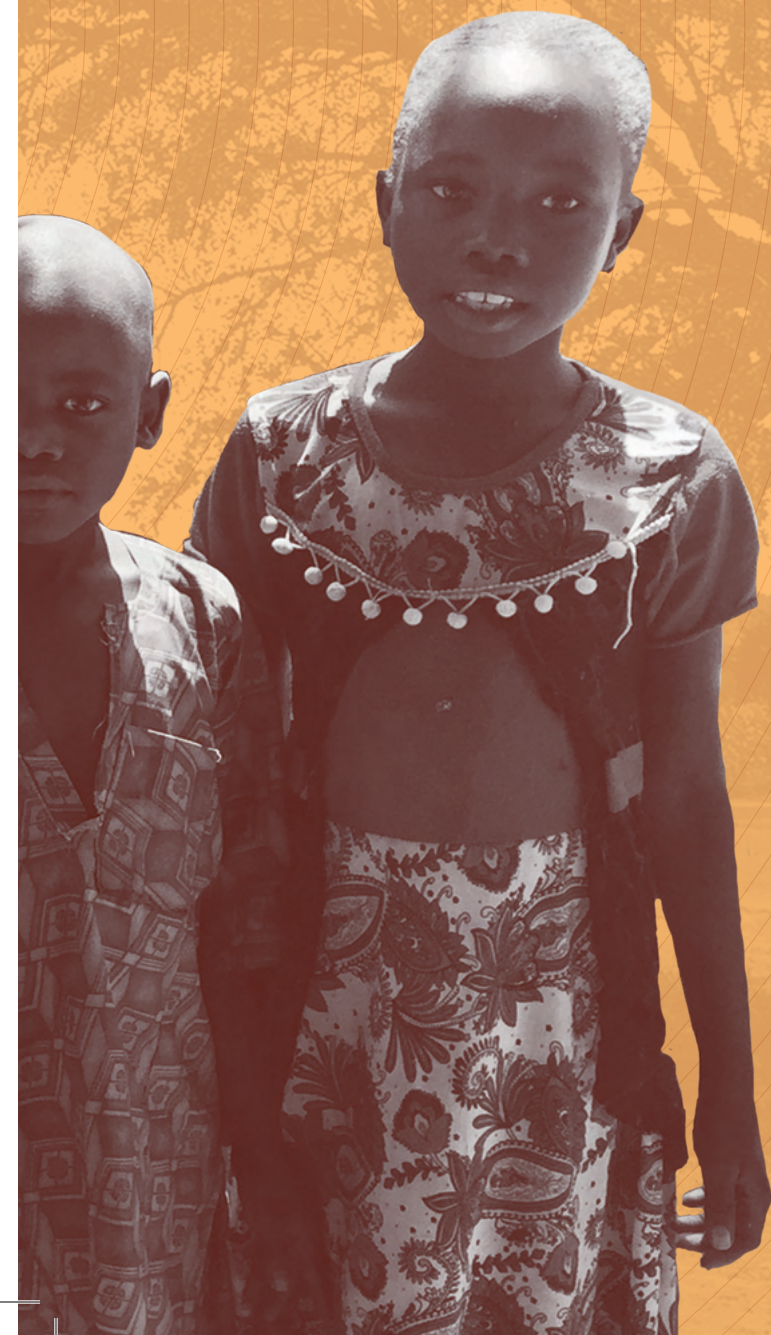
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The previous chapters put together a comprehensive picture of the refugee population in Chad, from the heterogeneity of demographic characteristics to multiple aspects of welfare relative to host communities and the general Chadian population. We now have evidence to address the overarching question of this report: What can be done to help refugees rebuild their lives and become self-sufficient while creating an environment in which both refugees and host communities thrive together? The answer to this question is twofold: (a) actions to secure minimum livelihoods for refugees, such as food security and basic needs, and (b) actions to boost sustainable income growth for both refugees and host communities.

The government of Chad and its humanitarian and development partners, particularly UNHCR and WFP, have made an enormous and persistent effort and exhibited great generosity in addressing the issues examined here. Thanks to the government's progressive approach to hosting refugees and the substantial contribution of donors, there are now close to 500,000 refugees in Chad, most of whom have been there for over 15 years. Moreover, new small-scale emergencies occur nearly every year, especially in the Southern border and Lake Chad areas, resulting in an increasing influx of refugees to Chad. The road forward will continue to require the comprehensive and coordinated approach of the government and its humanitarian and development partners.

This chapter outlines five recommendations. The first aims at ensuring immediate basic livelihoods for refugees in the short term, and the last four introduce sustainable income growth in the long term to reduce the pressure on aid over time.



1.

Continue Food Aid in the Short Term

Food insecurity continued to be a major threat for refugee communities: at the time of the survey, 63 percent of Central African and 47 percent Sudanese refugees could not meet the minimum daily calorie intake requirements. The prevalence of food insecurity was similar in host communities. Thus, the foremost priority for both donors and the government structuring the assistance program is to focus on food aid, at least in the short term. The next four recommendations aim at building up the self-reliance of refugees, thereby easing the pressure on aid over time.

Suggestions

- + **Continue the existing food aid program among refugees (by donors) and in host communities (by the government).**
- + **Increase food aid and extend its coverage among Central African refugees.** The program covered 72 percent of Central African and 91 percent of Sudanese refugees, yet food insecurity was still pervasive. This suggests that the program was not generous enough. In addition, despite widespread food insecurity, many Central African refugees had not yet benefited from the program.
- + **Extend coverage in host communities, financed by the government or government and donors.** While nearly 40 percent of host communities were food insecure, less than 15 percent received food support. Providing food

aid to host communities was not only a humanitarian obligation, but also an incentive for local communities to host refugees. This is particularly important when host communities have to share limited resources, such as land, with refugees for income generation.

- + **Allocate food aid on a per capita or adult-equivalent basis** to take into account large variations in household family size and age distribution, e.g., children, adults, elderly.

However, the following actions should be undertaken only with care:

- + **Target food programs to reduce costs very carefully.** While fewer financial resources from donors is a severe constraint on humanitarian activities, targeting food programs at this point must be implemented very carefully, if any at all, because food insecurity is still pervasive. Moreover, any targeting error—e.g., food-insecure households mistakenly identified as nonbeneficiaries— can have irreversible consequences on households already on the brink of destitution. And finally, targeting food aid in refugee camps with high rates of food insecurity can cause tremendous mental distress and may provoke desperate households to react strongly, if not violently. Assistance programs can be targeted when refugees have more access to viable sources of income to ensure their livelihood. Actions for sustainable income growth are proposed in the next sections.
- + **Partly or fully substitute cash transfers for food aid.** Cash transfers have many advantages over food in-kind in terms of spending flexibility and the efficiency of program administration.⁴⁰ In recent years, there has been a major shift from food in-kind to cash transfers in the humanitarian communities.

40. See Gentilini (2016) for a comparative assessment of 14 impact evaluations in 11 developing countries that compared cash and food in-kind modalities.



For Chad, it is important to make sure that any shift to cash transfers is accompanied by efforts to increase local food supply to avoid negative impacts on local food prices. In many areas, because the population of refugees is relatively large compared to host communities, adopting cash transfers could mean a significant increase in demand for food in local markets. Moreover, many refugee camps are in remote areas with limited road connections to ensure a quick increase of food supply from other markets. This could lead to higher food prices. As shown in our data, high food prices were already reported as one of the top three shocks that threatened the livelihoods of both refugees and host communities in Chad. However, a cash program in lieu of food could be rolled out swiftly in refugee camps in areas where food markets are liquid such as in N'Djamena. For refugee camps in areas that are remote but endowed with potential for agricultural production, such as the Southern part of the country, a shift to cash transfers should be implemented gradually and complemented by programs supporting local agricultural production for both refugees and host communities.

However, for camps in secluded areas where agroecological conditions for enhancing food production are harsh, such as the north-east of the country, food in-kind may be more effective than cash in improving food insecurity for refugees. In March 2021, the UNHCR jointly with WFP conducted the annual SMART SENS survey, and the JAM survey is planned for June 2021. One of the objectives for these surveys is to assess the food needs of both refugees and host communities. Results from these surveys can potentially bring some evidence that could support the design of appropriate interventions.



2. Adopt a “Graduation” Approach

For the past 15 years, the government and development partners have provided refugees with support through numerous programs, from cash or in-kind transfers to education and training programs. Often, these programs have been delivered as separate, individual projects and had minimal results in improving refugee incomes in Chad. Combining complementary programs into one comprehensive approach—a “graduation”

approach—can meet immediate household needs and help spur a transition to more secure and more sustainable incomes. The idea is that introducing a combination of activities for a limited time can have long-lasting impacts by boosting household livelihoods and enabling investment in assets and self-employment.

This multifaceted intervention has been applied in many countries in the SSA⁴¹ and across the world⁴² with positive results for food security, household income, and asset ownership (Banerjee et al. 2015; Blattman and Dercon 2016; Blattman, Fiala, and Martinez 2013; FAO 2017). In Chad, the World Bank is currently conducting a randomized control trial “Promoting Livelihoods and Productive Inclusion: Direct Impacts and Local Spill-overs in Chad.” The goal is to evaluate how such multi-faceted support packages affect beneficiary welfare and assess whether the intervention generates local spill-overs. The results, when available, can inform the design of an effective graduation program.

Suggestions

- + **Introduce a comprehensive graduation approach that combines complementary programs that provide cash transfers, productive assets, and training, to refugees and host communities.** To reduce costs, some of these can be based on existing programs. Note that the cash component in the “graduation” approach is not intended to replace food or the cash support for enhancing food security proposed in section 6.1. Rather this cash component is recommended as a top-up to be used for productive investments.

41. FAO’s CASH plus operated in Burkina Faso, Lesotho, Malawi, Mali, Mauritania, Niger, and Somalia.

42. The Innovation for Action Plan graduation programs in Ethiopia, Ghana, Honduras, India, Pakistan, and Peru.



- + **For the cash component, consider both lump-sum payments and short-term installments.** This combination would allow refugees to use the larger amounts to make investments and the smaller amounts to smooth consumption to cope with shocks. At the time of the survey, 80 percent of refugees had experienced at least one type of shocks, such as illness, natural disaster, or price shocks; few coping mechanisms had been available to them. Cash transfers could be a tremendous help to put them back on their feet. The one-time lump-sum payment could also serve as a source of the credit needed for investment or business. A lack of credit was demonstrably a constraint on income growth. A recent impact evaluation of cash transfers to Chadian women under the PARCA project shows promising preliminary results in increasing productivity activity by women as well as greater household consumption and investments (Kandpal et al. 2020).
- + **For productive assets, consider agricultural tools, agricultural inputs, or livestock.** Too little access to productive assets is a major constraint on growth of refugee incomes. However, this component must be very carefully designed because success depends on both sources of household income and location of the camps. For example, for households in areas where agroecological conditions to enhance agricultural production as a promising income source are favorable (e.g. in the South of Chad), a complementary set of productive assets could involve agricultural tools and inputs. However, for refugees with no access to land but who live in camps with decent road connection to other parts of Chad, productive assets such as poultry or small ruminants could be used to support household livelihoods. It is important to note that this option can pose a logistical challenge for donors in camps in remote areas with poor transportation networks.
- + **For the training component, design the capacity-building program to cover the other two components and take into account the demographic characteristics of refugee groups.** For example, because 35 percent of Central African refugee households were headed by single par-

ents with children, self-employment in small businesses may be more attractive than labor-intensive agricultural production. In this case, the training component can be used to enhance entrepreneurship skills, vocational training, or financial literacy, and productive assets might include poultry or tools that support small trading. For refugees with potential for agricultural production, the training component could be extension programs.

3. Provide Long-Term Leases for Land, or Allocate Land that has Potential for Cultivation

Of the four key sources of refugee income besides aid—wages, agricultural production, small business, and remittances—agricultural production has the greatest potential for sustainable growth of refugee incomes. Agricultural production is the predominant economic activity in areas hosting refugees, and was also the major activity of refugees in their countries of origin. More than 90 percent of households in host communities participate in agricultural production, and an average of 70 percent of their incomes are derived from this source. Before fleeing their countries, 65 percent of Central African and 92 percent of Sudanese refugees were working in agriculture.

Our findings also show that refugee households whose members can work in agricultural production perform better in achieving sustainable welfare levels and have a greater chance of closing the welfare gap with host communities. The prerequisite for boosting refugee agricultural income is access to land, the lack of which is a key reason for refugee poverty.

Suggestions

- + **Negotiate long-term land rentals in favor of refugees.** Contrary to a common belief, there are markets for land rentals in the areas hosting refugees. About 50 percent of Sudanese refugee households are involved in agricultural production, and of these 90 percent rent at least one plot from host communities. However, this type of rental is ad hoc, thus constricting the opportunities for refugees to undertake long-term investment in land and thereby improve agricultural productivity. Watson et al (2018) also found that short-term land rental and sharecropping were often unfavorable to refugees because their share of the profits was disproportionately small. To achieve sustainable growth and economies of scale, a system of long-term rentals should be established to make large areas of cultivable land available to refugees. Donors could negotiate for and rent the land on behalf of refugees, and refugee participants could pay an annual fee based on the size of the plots they are allocated. This project would require the endorsement of the central government, local governments, and lineage chiefs (if the hosting area is under customary law) or legal chiefs (if the hosting area is under Islamic law).⁴³
- + **Relocate refugees, on a voluntary basis, to cultivable land.** Chad is endowed with abundant land resources, but, as of 2017 only 12 percent of its potential cultivable land was in use. There is considerable space for agricultural expansion, and refugees can provide additional labor. Although land tenure is a politically sensitive issue in Chad, one option is to rent a potentially cultivable area from the government and relocate refugees who wish to explore new areas and se-

cure longer-term settlement with opportunities for agricultural income growth.

- + **Target Chadian host communities through government and donor programs when promoting agricultural productivity.** Sharing land with refugees in a systematic way may have a cost to host communities that is financial, social, or both. Therefore, it is equally important to promote agricultural productivity among Chadians in these areas. All relevant government or donor programs⁴⁴ should specifically include Chadians in host communities as beneficiaries. This would also represent an incentive to local communities to host refugees.

4. Enhance Microfinance and Mobile Financial Services

Income from small enterprises is the second area of potential income growth for both refugees and host communities. Support of the graduation interventions proposed in the second recommendation could be a catalyst to spur investment in this area. However, in the longer run, access to credit is needed. Our

43. For a comprehensive review of land property rights in Chad, see World Bank (2020b).

44. Many projects support employment and agricultural and livestock productivity in Chad. A list of relevant projects in Chad is available through AFD (2020), FDFA (2020), and World Bank (2020c).

data show that the lack of credit is among the top constraints on small business in Chad, and capacity to borrow plays a significant role in setting more well-off refugees apart from their poorer peers.

Although access to credit is a challenge across the board for most Chadians, it is important to prepare vulnerable groups, refugees, and host communities for this ambitious agenda so they are not left behind when opportunities ripen. Moving forward, microfinance and mobile financial services could be accessible to both refugees and poor Chadians in host communities.

Suggestions on the supply side

- + **Expand financial inclusion and microfinance and mobile financial services throughout Chad.** The future of refugees depends on the hosting environment. Thus, if refugees are to thrive, the Chadian population must also thrive. The World Bank (2019) provides an exhaustive list of recommendations to boost the financial sector in Chad through regulation, market competition, and prices.
- + **Extend coverage of microfinance institutions (MFI) and mobile money to refugee hosting areas.** These areas often have a high concentration of potential users. Most of the major camps host more than 6,000 households, of which nearly 50 percent have mobile phones. Although MFIs are unevenly distributed in Chad (the majority are in the center and the south), they might be expanded to refugee hosting locations where refugees are considered promising clients.

45. An informal rotating savings and credit association common among women.

46. A form of tontine involving an 'invitation' and/or obligation to contribute.

- + **Adopt flexible forms of identification, such as refugee identification (ID) cards, and collateral requirement.** Unlike formal banking institution, MFIs in Chad have been flexible in offering credit tailored to client needs. If refugees are to be additional sources of profit to MFIs, flexible forms of collateral, e.g., equipment and livestock, are also needed.
- + **For both refugees and host communities, facilitate savings and credit associations, particularly around income-generating activities.** Basic models for savings and credit associations, such as *tontines*⁴⁵ and *parés*⁴⁶ already exist in refugee camps in Chad. Many of these programs focus on income-generating activities such as grinding mills and other food transformation (Watson et al. 2018). Variations of such programs have been adopted widely in Africa by large international development agencies, notably CARE, Oxfam/Freedom from Hunger, Plan, Catholic Relief Services, and Pact-WORTH (Allen and Panetta, 2010).



Results from randomized evaluations of savings and credit programs in Africa⁴⁷ have shown such programs to have had positive impacts on household business outcomes and women's empowerment. Given the potential impacts of savings and credit associations on refugee welfare, it is important to provide training to the savings groups in refugee camps to ensure that they function properly, from electing group managers to establishing rules for saving, lending, and record keeping.

Suggestions on the demand side

- + **Create refugee ID cards that can be used like the national ID cards.** Possession of a national ID is a requirement for opening mobile money accounts or accessing microfinance credit. However, refugees are excluded from the official system. The financial sector might accept refugee cards as a reliable form of ID. This may require the UNHCR to work closely with the government to make sure refugee cards include the information considered essential in the national ID card and can be fully recognized by national authorities and financial institutions.
- + **Introduce refugees and host communities to the financial concepts behind savings and credit associations, MFIs, and the benefits of mobile banking.** Besides providing training to existing savings and credit association as proposed above, it is also recommended that refugees and host communities be encouraged to organize similar savings groups. It is also not too early to introduce the concept of borrowing from institutions like MFIs, and how collateral works. This component could be enhanced through the comprehensive integrated interventions proposed in section 6.2 whereby some productive assets (livestock, tools) could be used as collateral and through training on financial lit-

eracy. If refugees and host communities are aware of microfinance credit opportunities, they might be more easily encouraged to undertake the effort to meet the requirements for gaining access to credit.

5. Facilitate Refugees Freedom of Movement

All proposals above are intended to enhance food security and boost income growth for refugees and host communities so that in the long run they can be self-reliant. However, there is a limit to the degree to which refugees can derive income from the locations where they currently are. Most refugee camps are in remote areas in Chad where local labor markets may be unable to absorb the extra labor supply represented by a large refugee population. Moreover, access to land and microcredits can help refugees to attain subsistent farming, but it will take more than that if refugees are to achieve income growth that is sustainable.

Also needed are infrastructure networks that link refugee-hosting areas to larger markets for goods and services where refugees can trade and diversify their production and businesses. While such investments are currently prohibitively expensive, one option is to allow refugees to move to areas with the necessary infrastructure and markets. Our analysis also shows that refugee households that received remittances from members working outside the camps were likely to have significantly higher consumption than households without remittances. For example, keeping other factors constant, a Central African household with remittances has 23 percent higher consumption than a household without.

47. See Karlan et al. (2017) for country cases in Ghana, Malawi, and Uganda. See Beaman et al. (2014) for Mali.

Suggestions

- + **Enforce the new Asylum Law to grant refugees freedom of movement.** This will require the UNHCR to work closely with the National Commission for the Reception and Reintegration of Refugees and Returnees (*Commission Nationale d'Accueil et de Réinsertion des Réfugiés et des Rapatriés*) and other government agencies so that the law can be enforced throughout Chad. Enforcement will officially allow refugees to work outside of the camps, protect their labor status, and ensure fair employment opportunities for them.
- + **Ensure that national authorities recognize refugee ID cards as an official form of identification.** Similar to the proposal in section 6.4, it is important that national authorities, in particular law enforcement agents, recognize refugee ID cards as an official form of identification and facilitate refugee movement and settlement in Chad. This is critical to facilitate refugees' freedom of movement.

6.

Address Knowledge and Data Gaps

Effective policies supporting refugees and Chadians must be based on knowledge and data on the social and economic conditions and root causes of poverty faced by both population groups. However, the country is experiencing an important data and knowledge gaps impeding the impacts of well-intended policy interventions aiming to improve living conditions of the population, including refugees.

Suggestions

- + **Include refugees in national households surveys.** While there is an increase in the number of refugees in Chad over the years, data constraints hinder the implementation of evidence-based policies aiming to improve the livelihood of both refugees and Chadians. The efforts to include refugees in national household survey has been realized in the Refugees and Host Communities Household survey which was conducted as an expansion of the ECOSIT⁴ survey to yield comparable data on living conditions of refugees and Chadian, and the drivers behind welfare disparity between population groups within Chad. Such efforts should continue in subsequent national household surveys (e.g. ECOSIT⁵ under preparation).
- + **Set-up an early-warning system and a monitoring and evaluation system of refugee-support programs.** The unpredictability of conflict and violence in the country highlights the need to set-up an early warning system to inform and guide policy makers to anticipate and proactively respond to these situations. This system should also integrate a monitoring and evaluation dimension to track and evaluate all programs supporting refugee and host communities in Chad. Data from such system can be extremely valuable to draw lessons learnt and inform the design of other programs.
- + **Coordinate among government and international development agencies to systematically compile all evidence and lessons learnt on refugee-related programs.** While many donors and partners have developed refugees-supporting programs in Chad, most of these programs have been implemented separately. There is a strong need for better coordination and compilation of evidence and lesson learnt from these supports. The efforts could also cover best practices in Sahelian and FCV countries to improve and strengthen existing programs and build new strong policy responses in Chad.

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Annex A. Response Rates, Refugee Camps

Table A.1. Distribution of Households, RHCH Survey

Domain	Camps/villages	Number of households	Response rate
Sudanese	Djabal	35	97 %
	Bredjing	84	100 %
	Gaga	46	100 %
	Iridimi	48	66 %
	Touloum	49	71 %
	Mile	35	74 %
	Amnaback	48	44 %
	Farchana	48	54 %
	Goz Amir	59	81 %
	Kounoungou	36	39 %
	Oure-Cassoni	60	67 %
	Treguine	48	77 %
	Central African Republic	Dossey	96
Amboko		60	97 %
Doholo		24	96 %
Diba		26	96 %
Vom		11	91 %
Dembo		24	92 %
N'Djamena		62	97 %
Bekourou		24	88 %
Belom		144	76 %
Daha		12	67 %
Gondje		60	75 %
Moyo		60	73 %
Host villages within 5 kilometers		31 villages	380
Host villages 5–15 kilometers distant	22 villages	220	96 %
Total		1799	85 %

Annex B. Multidimensional Poverty Index, Chad

The Multidimensional Poverty Index (MPI), launched by the United Nation's Development Program's Human Development Reports Office in 2010, is designed to quantify and measure nonmonetary dimensions of poverty. The original concept has three dimensions (Health, Education and Standard of living) and 10 indicators: (1) Nutrition; (2) Child Mortality; (3) Years of Schooling; (4) School Attendance; (5) Cooking Fuel; (6) Sanitation; (7) Drinking Water; (8) Electricity; (9) Flooring; and (10) Asset Ownership. However, its components may vary across countries as they can be affected by public policies and data availability.

The MPI for Chad includes 18 dimensions. They are grouped into six broad categories: education, childhood and youth, health, access to basic services, housing conditions, and asset ownership. Each of

the categories has a weight of 0.166, which is distributed evenly across the dimensions within each category. Table A2.1 shows all the dimensions of the index. The cross-dimensional cut-off is 0.33; that is households are considered multi-dimensionally poor if the weighted sum of deprivation scores is larger than 0.33.

The proportion of the population that is multidimensionally poor is the incidence of poverty, or headcount ratio (H). The average proportion of indicators in which poor people are deprived is described as the intensity of their poverty (A). The MPI is calculated by multiplying the incidence of poverty by the average intensity of poverty across the poor ($MPI = H \times A$); as a result, it reflects both the share of people in poverty and the degree to which they are deprived. Table A2.2 presents the results.

Table B.1. Categories and Dimensions of the Multidimensional Poverty Index. Chad

Category	Dimension	Deprived if
Education	Educational achievement	None of the household members 15 years or older has completed six years of schooling (primary completed).
	Literacy	Any person older than 15 years or older in a household is illiterate.
Childhood and youth	School attendance	Any child 6 to 14 years old does not attend school.
	Children behind grade	Any child 7 to 17 years old is behind the normal grade for his/her age.
	Child labour	Any child 7 to 17 years old works.
Health	Waste management	Household employs unrecommended waste management methods such as incinerate, burn, and stock in nature.

Category	Dimension	Deprived if
Health	Health services	Any person who fell sick or ill in the last 30 days did not receive specialized health services.
	Health affordability	Households that lack the funds to pay for required health services (excluding dentist) in a health care facility, such as tests, examinations, and procedures prescribed by a doctor. Households with any members not able to afford such services in the 30 days are considered deprived.
	Nutrition	Households whose consumption per capita is below the food poverty line.
Access to Basic services	Cooking fuel	Household uses solid fuels and/or solid biomass fuels for cooking, such as charcoal, wood, straw, shrubs, grass, agricultural crop, and animal waste.
	Drinking water	Household does not have access to improved drinking water (according to the SDG guideline) or safe drinking water is at least a 30-minute walk from home (roundtrip).
	Sanitation	Household's sanitation facility is not improved (according to the SDG guideline) or it is improved but shared with other households.
	Electricity	Household has no electricity, generator, or solar panel.
Housing conditions	Floor	Household has floors made of natural or rudimentary materials such as mud, wood, straw, metal sheet, sand, and animal wastes.
	Wall	Household has walls made of natural or rudimentary materials such as wood, metal sheet, sand, animal wastes, and straw.
	Roof	Household has roofs made of natural or rudimentary materials such as mud, straw, rustic mat, wood planks, reused wood, and unburnt bricks.
	Overcrowding	There are more than 3 people per sleeping room.
Assets ownership	Assets ownership	Household does not own more than one of: radio, gas/electric cooker, standing fan, TV, satellite dish/decoder, generator, telephone, bike, motorbike, refrigerator, or computer and does not own a car or truck.

Table B.2. Multidimensional Poverty Index, Chad

	National coef/se	Central African coef/se	Sudanese coef/se	Nearby Host coef/se	Distant Host coef/se	Rural Chadian coef/se	Chadian coef/se
H: The MPI Headcount	0.926*** (0.001)	0.981*** (0.002)	0.997*** (0.001)	0.993*** (0.002)	0.980*** (0.005)	0.973*** (0.001)	0.888*** (0.002)
A: The Average MPI Intensity	0.672*** (0.001)	0.688*** (0.003)	0.635*** (0.002)	0.769*** (0.004)	0.793*** (0.005)	0.687*** (0.001)	0.661*** (0.001)
Mo: The Adjusted Headcount Ratio (Mo=H*A)	0.622*** (0.001)	0.674*** (0.003)	0.633*** (0.002)	0.764*** (0.004)	0.777*** (0.006)	0.668*** (0.001)	0.587*** (0.001)
Number of observations	70,231	2,489	2,958	1,897	1,046	20,745	41,096

Note: .01 - ***; .05 - **; .1 - *;

Annex C. Regression Results

Table C.1. Regression Results with Camp Fixed Effects

Dependent variable: log of consumption per capita	Reg1 coef/se	Reg2 coef/se	Reg3 coef/se	Reg4 coef/se	Reg5 coef/se
Household size	-0.103*** (0.008)	-0.109*** (0.010)	-0.110*** (0.010)	-0.110*** (0.010)	-0.110*** (0.010)
Dependency Ratio	-0.575*** (0.082)	-0.522*** (0.098)	-0.522*** (0.098)	-0.525*** (0.096)	-0.526*** (0.096)
Age of household head	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Woman-headed household	-0.143*** (0.040)	-0.148*** (0.040)	-0.149*** (0.040)	-0.136*** (0.040)	-0.145*** (0.041)
Household head being single	0.220** (0.098)	0.199** (0.098)	0.198** (0.098)	0.171* (0.095)	0.172* (0.095)
Household head being widowed, separate, divorced	0.076* (0.046)	0.078* (0.046)	0.075 (0.046)	0.067 (0.045)	0.080* (0.045)
Central African dummy	0.396** (0.190)	0.380** (0.192)	0.376** (0.192)	0.246 (0.213)	0.075 (0.221)
Central African*hsize	-0.027 (0.018)	-0.030 (0.020)	-0.026 (0.020)	-0.027 (0.020)	-0.034* (0.020)
Central African*dependency ratio	-0.173 (0.163)	-0.158 (0.177)	-0.161 (0.176)	-0.133 (0.173)	-0.126 (0.172)
Central African*age of household head	-0.002 (0.003)	-0.002 (0.003)	-0.002 (0.003)	-0.002 (0.003)	-0.001 (0.003)
Central African*female headed household	-0.087 (0.084)	-0.074 (0.084)	-0.081 (0.084)	-0.104 (0.083)	-0.104 (0.084)
Central African*household head single	-0.283** (0.137)	-0.278** (0.137)	-0.270** (0.137)	-0.234* (0.134)	-0.231* (0.133)
Central African*household head divorced, separated, widowed	-0.022 (0.089)	-0.032 (0.089)	-0.013 (0.088)	0.003 (0.087)	0.001 (0.087)
Number of adults with primary education		-0.004 (0.022)	-0.003 (0.022)	0.002 (0.022)	0.004 (0.022)

Dependent variable: log of consumption per capita	Reg1 coef/se	Reg2 coef/se	Reg3 coef/se	Reg4 coef/se	Reg5 coef/se
Number of adults with secondary education		0.059*	0.060*	0.054*	0.057*
		(0.031)	(0.031)	(0.031)	(0.031)
Central African*number of adults with primary education		0.022	0.023	0.033	0.029
		(0.048)	(0.047)	(0.048)	(0.047)
Central African*number of adults with secondary education		0.081	0.043	0.029	0.024
		(0.082)	(0.083)	(0.081)	(0.081)
Initial assets (dummy)			0.185*	0.172*	0.188*
			(0.106)	(0.104)	(0.103)
Central African*initial assets			0.097	0.058	-0.001
			(0.142)	(0.141)	(0.141)
Family connection inside camp (dummy)				0.013	0.008
				(0.034)	(0.034)
Social network outside camp (dummy)				0.020	0.012
				(0.032)	(0.032)
Capacity to borrow (dummy)				0.150***	0.142***
				(0.041)	(0.041)
Central African*family connection inside camp				-0.101	-0.084
				(0.073)	(0.073)
Central African*social network outside camp				0.113*	0.102
				(0.065)	(0.066)
Central African*capacity to borrow				0.107	0.092
				(0.075)	(0.075)
Wage income (dummy)					-0.076**
					(0.034)
Remittances (dummy)					0.027
					(0.039)
Agricultural production (dummy)					0.023
					(0.033)
Profits from household enterprise (dummy)					0.087**
					(0.038)

Dependent variable: log of consumption per capita	Reg1 coef/se	Reg2 coef/se	Reg3 coef/se	Reg4 coef/se	Reg5 coef/se
Central African* wage income					0.177** (0.077)
Central African* remittances					0.208* (0.108)
Central African* agricultural production					0.139 (0.088)
Central African* household enterprise					0.077 (0.070)
Constant	12.870*** (0.101)	12.853*** (0.102)	12.855*** (0.102)	12.738*** (0.105)	12.748*** (0.108)
Number of observations	1,191	1,191	1,191	1,175	1,175
Adjusted R2	0.530	0.531	0.535	0.555	0.564

Note: camp fixed effects are included.

*** p < .01 ** p < .05 * p < .1

Table C.2. Regression Results without Camp Fixed Effects

Dependent variable: log of consumption per capita	Reg1 coef/se	Reg2 coef/se	Reg3 coef/se	Reg4 coef/se	Reg5 coef/se
Household size	-0.102*** (0.009)	-0.111*** (0.011)	-0.112*** (0.011)	-0.112*** (0.011)	-0.110*** (0.011)
Dependency Ratio	-0.608*** (0.088)	-0.526*** (0.105)	-0.527*** (0.105)	-0.537*** (0.102)	-0.551*** (0.102)
Age of household head	-0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.001 (0.001)
Female headed household	-0.073* (0.040)	-0.083** (0.041)	-0.082** (0.041)	-0.067* (0.040)	-0.091** (0.042)
Household head being single	0.241** (0.105)	0.224** (0.105)	0.224** (0.105)	0.200** (0.102)	0.196* (0.101)
Household head being widowed, separate, divorced	-0.009 (0.046)	-0.006 (0.046)	-0.008 (0.046)	-0.013 (0.045)	0.007 (0.046)
Central African dummy	0.065 (0.162)	0.035 (0.165)	0.005 (0.165)	-0.099 (0.181)	-0.250 (0.188)
Central African*hsize	-0.031 (0.019)	-0.038* (0.021)	-0.036* (0.021)	-0.034* (0.020)	-0.040** (0.020)
Central African*dependency ratio	-0.273 (0.172)	-0.228 (0.188)	-0.227 (0.187)	-0.173 (0.182)	-0.167 (0.181)
Central African*age of household head	-0.002 (0.003)	-0.002 (0.003)	-0.002 (0.003)	-0.002 (0.003)	-0.001 (0.003)
Central African*female headed household	-0.050 (0.087)	-0.032 (0.088)	-0.035 (0.088)	-0.083 (0.086)	-0.071 (0.088)
Central African*household head single	-0.333** (0.146)	-0.344** (0.146)	-0.339** (0.146)	-0.292** (0.142)	-0.265* (0.141)
Central African*household head divorced, separated, widowed	0.039 (0.093)	0.026 (0.093)	0.041 (0.093)	0.054 (0.091)	0.044 (0.091)
Number of adults with primary education		0.014 (0.023)	0.015 (0.023)	0.021 (0.023)	0.021 (0.023)

Dependent variable: log of consumption per capita	Reg1 coef/se	Reg2 coef/se	Reg3 coef/se	Reg4 coef/se	Reg5 coef/se
Number of adults with secondary education		0.055 (0.033)	0.055* (0.033)	0.043 (0.033)	0.046 (0.033)
Central African*number of adults with primary education		0.027 (0.048)	0.033 (0.048)	0.033 (0.048)	0.005 (0.048)
Central African*number of adults with secondary education		0.167* (0.085)	0.138 (0.086)	0.103 (0.084)	0.105 (0.084)
Initial assets (dummy)			0.130 (0.114)	0.113 (0.111)	0.115 (0.110)
Central African*initial assets			0.078 (0.152)	0.051 (0.148)	0.030 (0.148)
Family connection inside camp (dummy)				0.017 (0.035)	0.008 (0.035)
Social network outside camp (dummy)				0.040 (0.034)	0.026 (0.034)
Capacity to borrow (dummy)				0.170*** (0.044)	0.163*** (0.043)
Central African*family connection inside camp				-0.136* (0.076)	-0.131* (0.076)
Central African*social network outside camp				0.188*** (0.067)	0.169** (0.067)
Central African*capacity to borrow				0.167** (0.077)	0.128* (0.077)
Wage income (dummy)					-0.058 (0.036)
Remittances (dummy)					0.079** (0.039)
Agricultural production (dummy)					0.032 (0.034)
Profits from household enterprise (dummy)					0.020 (0.038)

Dependent variable: log of consumption per capita	Reg1 coef/se	Reg2 coef/se	Reg3 coef/se	Reg4 coef/se	Reg5 coef/se
Central African* wage income					0.125 (0.079)
Central African* remittances					0.133 (0.113)
Central African* agricultural production					0.193** (0.076)
Central African* household enterprise					0.166** (0.071)
Constant	13.053*** (0.091)	13.021*** (0.094)	13.023*** (0.094)	12.866*** (0.100)	12.911*** (0.102)
Number of observations	1,195	1,195	1,195	1,179	1,179
Adjusted R2	0.446	0.450	0.451	0.484	0.494

Note: camp fixed effects are included.

*** p < .01 ** p < .05 * p < .1

Annex D. Unconditional Quantile Regression Results

Table D.1. Unconditional Quantile Regression Results

QUINTILE 1

	Total	Endowment	Return to endowment	Interaction
Log of consumption per capita (refugees)	11.599*** (0.025)			
Log of consumption per capita (host)	11.511*** (0.034)			
Differences	0.088** (0.042)			
Endowments	-0.052 (0.126)			
Return to endowment	0.230 (0.208)			
Interaction	-0.090 (0.240)			
Household size		-0.014 (0.009)	-0.330** (0.151)	-0.013 (0.010)
Share of children		0.003 (0.011)	0.165 (0.176)	-0.013 (0.014)
Age of household head		-0.000 (0.001)	0.081 (0.158)	-0.000 (0.002)
Household head being female		-0.006 (0.012)	-0.024 (0.037)	-0.009 (0.015)
Household head being single		-0.004 (0.007)	-0.000 (0.002)	-0.001 (0.007)
Household head being widowed, separated		0.008 (0.007)	-0.013 (0.017)	-0.005 (0.007)
Num. of adults with primary educ		0.008 (0.044)	0.010 (0.013)	0.037 (0.048)
Num. of adults with secondary educ		-0.062 (0.043)	0.009* (0.006)	0.081* (0.044)
Owning a mobile phone		-0.003 (0.006)	0.011 (0.055)	-0.000 (0.001)

	Total	Endowment	Return to endowment	Interaction
Owning a vehicle		-0.016** (0.008)	-0.028* (0.014)	0.013 (0.008)
Owning a land plot		-0.164* (0.086)	-0.101 (0.186)	0.099 (0.183)
Using fertilizer		0.021** (0.008)	0.045** (0.020)	-0.039** (0.018)
Num. of cattle		-0.039 (0.030)	0.006 (0.116)	-0.005 (0.107)
Num. of poultry		0.002 (0.014)	0.043 (0.038)	-0.035 (0.032)
Having wage income		0.034 (0.040)	-0.007 (0.011)	-0.029 (0.043)
Having agricultural production		-0.007 (0.068)	0.068 (0.172)	-0.028 (0.071)
Having remittances		0.001 (0.002)	0.044* (0.026)	-0.003 (0.005)
Having household enterprise		-0.034*** (0.012)	0.066*** (0.019)	0.042*** (0.015)
Access to tap water		0.239*** (0.065)	-0.056*** (0.016)	-0.275*** (0.072)
Distant to school less than 2 kilometers		-0.021 (0.040)	-0.016 (0.057)	-0.022 (0.076)
Distant to health center less than 2 kilometers		-0.142* (0.077)	0.059*** (0.021)	0.289*** (0.098)
Distant to market less than 2 kilometers		0.176** (0.070)	-0.043** (0.019)	-0.206** (0.087)
Experiencing health shock (illness, death)		-0.014* (0.008)	0.011 (0.026)	0.004 (0.009)
Experiencing natural disaster (drought, flood)		-0.007 (0.006)	0.014 (0.020)	0.005 (0.007)
Experience food price shocks		-0.011 (0.016)	0.024 (0.018)	0.025 (0.019)
Constant			0.192 (0.311)	
Number of observations		1,187		

*** p < .01 ** p < .05 * p < .1

QUINTILE 2

	Total	Endowment	Return to endowment	Interaction
Log of consumption per capita (refugees)	11.829*** (0.023)			
Log of consumption per capita (host)	11.932*** (0.030)			
Differences	-0.103*** (0.038)			
Endowments	0.033 (0.110)			
Return to endowment	0.192 (0.187)			
Interaction	-0.327 (0.214)			
Household size		-0.012 (0.008)	-0.294** (0.133)	-0.012 (0.009)
Share of children		0.022** (0.011)	0.185 (0.155)	-0.014 (0.013)
Age of household head		0.000 (0.001)	0.150 (0.139)	-0.000 (0.003)
Household head being female		-0.004 (0.011)	-0.021 (0.033)	-0.008 (0.013)
Household head being single		-0.010 (0.008)	0.001 (0.002)	0.005 (0.007)
Household head being widowed, separated		0.001 (0.005)	0.008 (0.015)	0.003 (0.006)
Num. of adults with primary educ		0.077** (0.039)	-0.015 (0.011)	-0.055 (0.042)
Num. of adults with secondary educ		-0.028 (0.037)	0.004 (0.004)	0.033 (0.038)
Owning a mobile phone		-0.002 (0.004)	0.044 (0.048)	-0.001 (0.002)
Owning a vehicle		-0.014** (0.007)	-0.031** (0.013)	0.014* (0.008)
Owning a land plot		-0.270*** (0.075)	-0.136 (0.166)	0.133 (0.163)

	Total	Endowment	Return to endowment	Interaction
Using fertilizer		0.016**	-0.003	0.003
		(0.007)	(0.017)	(0.015)
Num. of cattle		0.016	0.128	-0.119
		(0.026)	(0.104)	(0.096)
Num. of poultry		-0.019	-0.018	0.015
		(0.013)	(0.034)	(0.028)
Having wage income		0.015	-0.008	-0.034
		(0.034)	(0.009)	(0.037)
Having agricultural production		0.014	0.026	-0.011
		(0.059)	(0.150)	(0.062)
Having remittances		0.001	0.031	-0.002
		(0.002)	(0.023)	(0.003)
Having household enterprise		-0.018*	0.041**	0.026**
		(0.009)	(0.016)	(0.012)
Access to tap water		0.245***	-0.055***	-0.270***
		(0.056)	(0.014)	(0.063)
Distant to school less than 2 kilometers		0.059*	-0.141***	-0.190***
		(0.034)	(0.051)	(0.069)
Distant to health center less than 2 kilometers		-0.080	0.030*	0.148*
		(0.067)	(0.018)	(0.086)
Distant to market less than 2 kilometers		0.027	0.000	0.000
		(0.061)	(0.016)	(0.076)
Experiencing health shock (illness, death)		-0.016**	0.038*	0.013
		(0.008)	(0.023)	(0.008)
Experiencing natural disaster (drought, flood)		-0.008	0.015	0.005
		(0.006)	(0.017)	(0.006)
Experience food price shocks		0.021	-0.009	-0.009
		(0.014)	(0.015)	(0.016)
Constant			0.221	
			(0.274)	
Number of observations		1,187		

*** p < .01 ** p < .05 * p < .1

QUINTILE 3

	Total	Endowment	Return to endowment	Interaction
Log of consumption per capita (refugees)	12.090*** (0.029)			
Log of consumption per capita (host)	12.233*** (0.026)			
Differences	-0.143*** (0.039)			
Endowments	0.093 (0.092)			
Return to endowment	0.080 (0.219)			
Interaction	-0.317 (0.234)			
Household size		-0.011 (0.008)	-0.434*** (0.131)	-0.017 (0.011)
Share of children		0.019** (0.009)	-0.041 (0.153)	0.003 (0.012)
Age of household head		-0.000 (0.000)	0.016 (0.143)	-0.000 (0.000)
Household head being female		0.009 (0.009)	-0.014 (0.031)	-0.006 (0.012)
Household head being single		-0.006 (0.006)	0.001 (0.001)	0.003 (0.006)
Household head being widowed, separated		0.003 (0.004)	-0.009 (0.014)	-0.003 (0.006)
Num. of adults with primary educ		0.003 (0.032)	0.003 (0.010)	0.011 (0.037)
Num. of adults with secondary educ		0.016 (0.030)	-0.002 (0.004)	-0.015 (0.032)
Owning a mobile phone		-0.004 (0.008)	0.027 (0.046)	-0.001 (0.002)
Owning a vehicle		-0.009* (0.005)	-0.008 (0.012)	0.004 (0.006)
Owning a land plot		-0.178*** (0.062)	0.126 (0.185)	-0.124 (0.182)

	Total	Endowment	Return to endowment	Interaction
Using fertilizer		0.010*	0.010	-0.009
		(0.006)	(0.019)	(0.017)
Num. of cattle		-0.040*	-0.157	0.146
		(0.021)	(0.120)	(0.111)
Num. of poultry		0.001	0.045	-0.037
		(0.010)	(0.038)	(0.031)
Having wage income		-0.013	0.002	0.010
		(0.028)	(0.008)	(0.033)
Having agricultural production		0.094*	0.198	-0.082
		(0.049)	(0.129)	(0.054)
Having remittances		-0.000	0.010	-0.001
		(0.001)	(0.022)	(0.002)
Having household enterprise		-0.007	0.020	0.013
		(0.007)	(0.015)	(0.010)
Access to tap water		0.229***	-0.054***	-0.264***
		(0.047)	(0.013)	(0.058)
Distant to school less than 2 kilometers		0.030	-0.033	-0.044
		(0.028)	(0.055)	(0.075)
Distant to health center less than 2 kilometers		-0.114**	0.025	0.121
		(0.056)	(0.017)	(0.084)
Distant to market less than 2 kilometers		0.043	-0.006	-0.027
		(0.050)	(0.015)	(0.074)
Experiencing health shock (illness, death)		-0.018**	0.037*	0.012
		(0.007)	(0.022)	(0.008)
Experiencing natural disaster (drought, flood)		-0.004	-0.001	-0.000
		(0.004)	(0.016)	(0.005)
Experience food price shocks		0.040***	-0.009	-0.009
		(0.013)	(0.014)	(0.015)
Constant			0.327	
			(0.277)	
Number of observations			1,187	

*** p < .01 ** p < .05 * p < .1

QUINTILE 4

	Total	Endowment	Return to endowment	Interaction
Log of consumption per capita (refugees)	12.393*** (0.030)			
Log of consumption per capita (host)	12.576*** (0.040)			
Differences	-0.183*** (0.050)			
Endowments	0.454*** (0.136)			
Return to endowment	-0.121 (0.226)			
Interaction	-0.516** (0.259)			
Household size		-0.032 (0.020)	0.140 (0.162)	0.006 (0.007)
Share of children		0.032** (0.014)	0.023 (0.188)	-0.002 (0.015)
Age of household head		-0.000 (0.001)	-0.096 (0.169)	0.000 (0.002)
Household head being female		0.000 (0.013)	-0.021 (0.040)	-0.008 (0.016)
Household head being single		-0.008 (0.008)	0.002 (0.002)	0.008 (0.008)
Household head being widowed, separated		0.007 (0.007)	-0.004 (0.018)	-0.001 (0.007)
Num. of adults with primary educ		0.048 (0.047)	-0.014 (0.014)	-0.052 (0.051)
Num. of adults with secondary educ		-0.010 (0.044)	0.004 (0.005)	0.033 (0.046)
Owning a mobile phone		-0.003 (0.006)	0.075 (0.058)	-0.002 (0.004)
Owning a vehicle		-0.020** (0.009)	-0.048*** (0.016)	0.022** (0.011)
Owning a land plot		-0.086 (0.091)	0.044 (0.201)	-0.043 (0.198)

	Total	Endowment	Return to endowment	Interaction
Using fertilizer		-0.000 (0.008)	0.027 (0.021)	-0.023 (0.018)
Num. of cattle		-0.055* (0.031)	-0.192 (0.126)	0.177 (0.117)
Num. of poultry		-0.027* (0.016)	-0.005 (0.041)	0.004 (0.034)
Having wage income		0.012 (0.042)	-0.011 (0.011)	-0.045 (0.045)
Having agricultural production		0.178** (0.073)	0.415** (0.182)	-0.172** (0.076)
Having remittances		-0.001 (0.002)	0.009 (0.027)	-0.001 (0.002)
Having household enterprise		0.004 (0.010)	-0.016 (0.019)	-0.010 (0.012)
Access to tap water		0.247*** (0.068)	-0.057*** (0.017)	-0.280*** (0.077)
Distant to school less than 2 kilometers		0.158*** (0.042)	-0.171*** (0.062)	-0.231*** (0.083)
Distant to health center less than 2 kilometers		0.064 (0.082)	-0.005 (0.021)	-0.022 (0.104)
Distant to market less than 2 kilometers		-0.102 (0.074)	0.030 (0.020)	0.145 (0.093)
Experiencing health shock (illness, death)		-0.013 (0.008)	0.013 (0.027)	0.004 (0.009)
Experiencing natural disaster (drought, flood)		0.001 (0.006)	-0.006 (0.021)	-0.002 (0.007)
Experience food price shocks		0.059*** (0.019)	-0.018 (0.019)	-0.019 (0.020)
Constant			-0.239 (0.333)	
Number of observations		1,187		

*** p < .01 ** p < .05 * p < .1

QUINTILE 5

	Total	Endowment	Return to endowment	Interaction
Log of consumption per capita (refugees)	13.340*** (0.112)			
Log of consumption per capita (host)	14.141*** (0.159)			
Differences	-0.801** (0.195)			
Endowments	1.956*** (0.541)			
Return to endowment	-1.785* (0.979)			
Interaction	-0.972 (1.101)			
Household size		0.005 (0.019)	-0.432 (0.655)	-0.017 (0.028)
Share of children		0.068 (0.047)	-0.751 (0.766)	0.059 (0.062)
Age of household head		0.000 (0.007)	0.087 (0.695)	-0.000 (0.002)
Household head being female		-0.021 (0.051)	0.118 (0.160)	0.046 (0.064)
Household head being single		0.016 (0.029)	0.002 (0.007)	0.009 (0.030)
Household head being widowed, separated		-0.034 (0.028)	0.109 (0.074)	0.042 (0.034)
Num. of adults with primary educ		0.358* (0.184)	-0.136** (0.056)	-0.503** (0.203)
Num. of adults with secondary educ		-0.345* (0.177)	0.031 (0.022)	0.268 (0.181)
Owning a mobile phone		-0.002 (0.006)	0.156 (0.235)	-0.004 (0.010)
Owning a vehicle		-0.117** (0.049)	-0.259*** (0.071)	0.118** (0.054)
Owning a land plot		-1.479*** (0.354)	-2.331*** (0.854)	2.289*** (0.839)

	Total	Endowment	Return to endowment	Interaction
Using fertilizer		0.034 (0.031)	0.061 (0.088)	-0.053 (0.077)
Num. of cattle		0.107 (0.121)	-0.186 (0.539)	0.172 (0.500)
Num. of poultry		-0.025 (0.059)	0.169 (0.175)	-0.139 (0.144)
Having wage income		-0.406** (0.164)	0.100** (0.047)	0.402** (0.180)
Having agricultural production		2.955*** (0.326)	6.959*** (0.716)	-2.882*** (0.337)
Having remittances		0.013 (0.019)	0.211* (0.112)	-0.015 (0.022)
Having household enterprise		-0.092** (0.044)	0.128 (0.078)	0.081 (0.052)
Access to tap water		0.837*** (0.264)	-0.165** (0.064)	-0.805*** (0.303)
Distant to school less than 2 kilometers		0.056 (0.162)	-0.024 (0.257)	-0.032 (0.348)
Distant to health center less than 2 kilometers		1.509*** (0.318)	-0.306*** (0.091)	-1.495*** (0.424)
Distant to market less than 2 kilometers		-1.270*** (0.290)	0.260*** (0.083)	1.242*** (0.376)
Experiencing health shock (illness, death)		-0.065* (0.034)	0.177 (0.110)	0.060 (0.041)
Experiencing natural disaster (drought, flood)		-0.003 (0.022)	0.037 (0.084)	0.012 (0.028)
Experience food price shocks		-0.141** (0.069)	0.164** (0.076)	0.173** (0.083)
Constant			-5.965*** (1.362)	
Number of observations		1,187		

*** p < .01 ** p < .05 * p < .1





Surrounded by pervasive conflicts in neighboring countries, Chad has received large numbers of refugees, asylum seekers, and returnees since the early 2000s, from Western Darfur, the Central African Republic, and most recently the Lake Chad Basin. As of January 2021, the country—itsself one of the poorest in the world—was hosting nearly half a million refugees, more refugees per capita than any of the other African countries eligible for World Bank support for refugee-hosting countries.

As these refugee situations become increasingly protracted, the challenge for Chad and its partners is to help refugees rebuild their lives and become self-sufficient while at the same time creating an environment in which refugees and Chadians can thrive together. But how can we transition from an approach based on humanitarian relief to one that provides an integrated response that can be sustained over time?

Refugees in Chad: The Road Forward provides some critical insights to answer this question. It draws on a unique data source, one of the first national household surveys in Africa to cover refugees and host communities as well as the general population. It provides a renewed understanding of the challenges and opportunities for refugees and host communities. And it highlights ways to achieve real impact on the ground.

