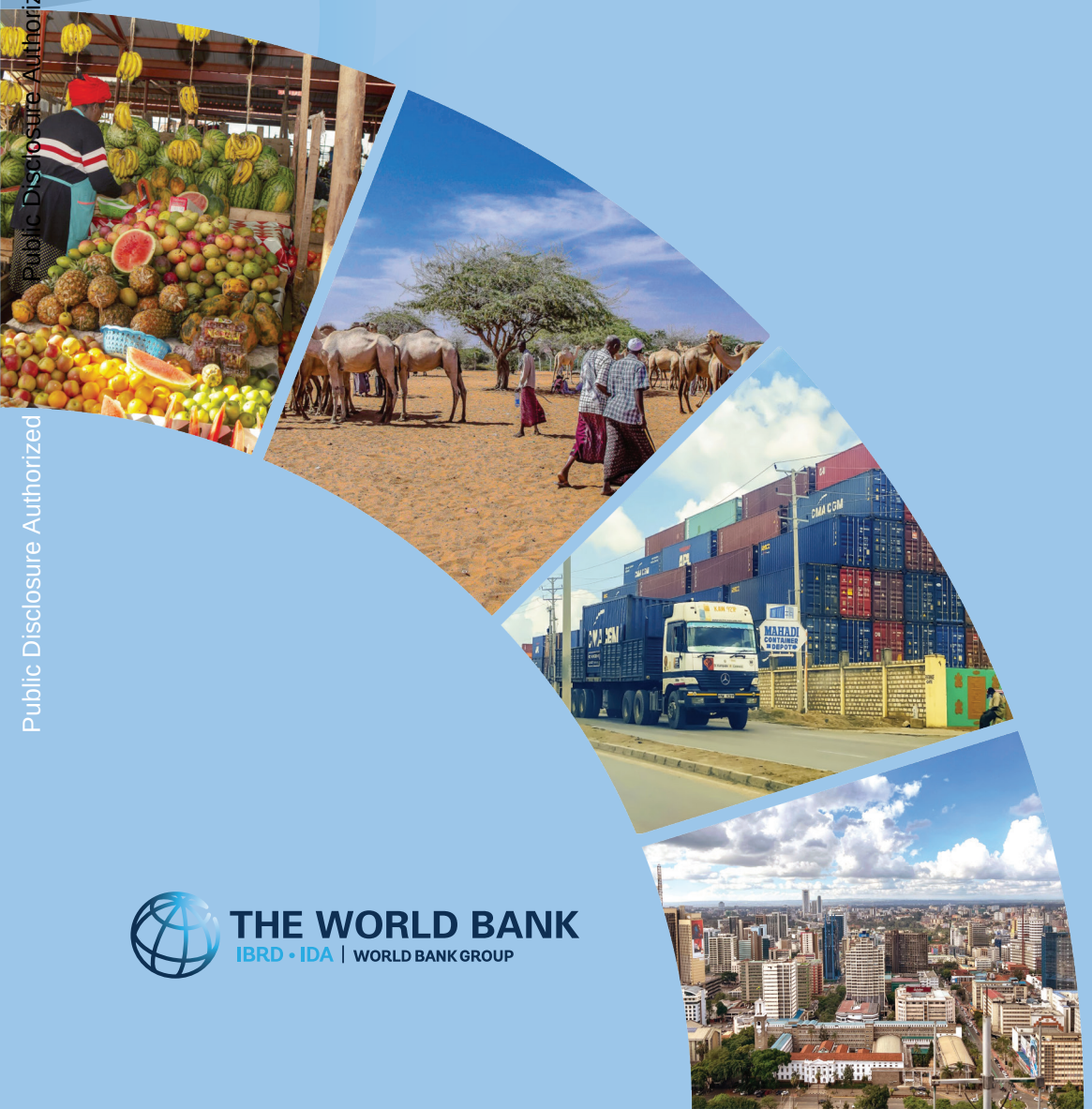
KENYA POVERTY AND EQUITY ASSESSMENT 2023

FROM POVERTY TO PROSPERITY: MAKING GROWTH MORE INCLUSIVE



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Kenya Poverty and Equity Assessment 2023

From Poverty to Prosperity: Making Growth More Inclusive in Kenya

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Poverty and Equity Global Practice

Africa Region

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Photo credits

Front cover

- Woman selling fruits and vegetables at Ngong market, Nairobi, Kenya. Sambrian Mbaabu / World Bank.
- Camel market in Wajir town, Kenya. Tintseh/World Bank
- Container depot at the port of Mombasa, Kenya. Sambrian Mbaabu / World Bank.
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Photo: ©Precious Zikhali / World Bank

PREFACE

I am pleased to present the Kenya Poverty and Equity Assessment 2023 – *From Poverty to Prosperity: Making Growth More Inclusive*. The study documents recent progress in poverty reduction in Kenya and identifies priority policy areas of a strategy to make growth more inclusive and accelerate poverty reduction and boost equity. It was prepared by a World Bank team, building on close collaboration with the Kenya Bureau of National Statistics (KNBS). I wish to express my gratitude to KNBS and particularly to thank the Director General, Dr. Macdonald Obudho, for facilitating the collaboration.

Historically, Kenya has been successful in translating economic growth into improved living standards of its citizens. The national poverty rate was falling before the COVID-19 pandemic, falling from 46.7 percent in 2005/06 to 33.6 percent in 2019. This coincided with improvements in nonmonetary indicators of welfare, evident in significant gains in human capital development. Today, Kenya has the highest Human Capital Index score in mainland Sub-Saharan Africa. The pandemic temporarily set back the progress that had been made, especially in urban areas. The poverty rate increased from 33.6 to 42.9 percent between 2019 and 2020. Although there was some recovery in 2021, the poverty rate remained above pre-pandemic levels, at 37.3 percent. The slow recovery reflects the compounded impacts of the ongoing shocks, including adverse weather and rising inflation.

The challenge to address going forward is that not everyone has benefited from progress, with stark and persistent disparities across space and income groups. The north and northeastern regions are characterized by poverty rates that are persistently higher than the rest of the country. Partly because of these disparities, economic growth has not been sufficiently translating into poverty reduction, and in recent years, poverty has become less responsive to economic growth.

A combination of factors contributes to growth being less inclusive. The poor are often disconnected from the country's growth, often working in low-productive

economic activities within or outside agriculture. The services sector is increasingly becoming the driver of economic growth, contributing the largest share of value-added, especially from knowledge-intensive "global innovator" services, which typically offers higher returns for skilled workers. Most job creation has been in lower-skilled services subsectors such as retail and personal services, which are important sources of incomes for many urban families but may have limited potential for sustained income growth for those at the bottom of the distribution. In sum, the poor face twin challenges in the job market: fewer household members work outside of subsistence activities, and they are mostly engaged in low-productivity sectors.

Another challenge the report highlights is the growing incidence of shocks, particularly climatic shocks, coupled with limited resilience, which amplifies the negative effect of shocks on household welfare. Climatic shocks are associated with an increase in both monetary and nonmonetary poverty and are concentrated in areas where poverty is already higher. Households remain vulnerable to shocks, with non-poor households often one shock away from falling back into poverty, as demonstrated by the pandemic. Further, public spending on social protection can be better utilized to help households adapt to shocks, support poverty reduction, and boost equity.

An inclusive growth strategy is therefore needed to help translate economic growth into greater poverty reduction by boosting economic opportunities among the poorest. The report outlines three broad, interconnected policy pathways to inform the strategy: (i) connecting the poor to economic growth; (ii) strengthening households' resilience to adverse weather shocks; and (iii) Leverage fiscal policy to support poverty reduction objectives. Across these pathways, the report emphasizes the importance of more, better, and timely data availability to monitor and assess progress. It also emphasizes the importance of equalizing education opportunities and access to basic services, paying attention to spatial and income disparities.

It is my hope is that this evidence-based analysis will inform policy actions to enhance inclusiveness of growth and accelerate poverty reduction, consistent with the Government of Kenya's focus on a bottom-up approach to growth.

Keith E. Hansen

Country Director: Kenya, Rwanda, Somalia, and Uganda

World Bank

Photo: ©Georgina Goodwin/World Bank

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The report was prepared under the guidance of Pierella Paci (Practice Manager), Tom Bundervoet (Lead Economist), Keith Hansen (County Director for Kenya, Rwanda, Somalia, and Uganda), Anne Bakilana (Operations Manager for Kenya, Rwanda, Somalia, and Uganda), and Marek Hanusch (Program Leader for Kenya, Rwanda, Somalia, and Uganda).

The World Bank greatly appreciates the close collaboration with the Government of Kenya (GoK), particularly the Kenya National Bureau of Statistics (KNBS). This work builds on the Poverty Reports published by KNBS. The report also greatly benefitted from the ongoing collaboration with the Kenya Institute of Public Policy Research (KIPPRA) on developing the fiscal incidence analysis tool, which is gratefully acknowledged.

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ABBREVIATION AND ACRONYMS

ASAL	Arid and Semi-Arid Lands
CCDR	Climate Change Development Report
CDDC	Community-Driven Development Committee
CEQ	Commitment to Equity Methodology
CIDP	County Integrated Development Plan
CIG	Common Interest Group
CIT	Corporate Income Tax
CSA	Climate-Smart Agriculture
CT-HSNP	Cash Transfer for Hunger Safety Net Program
CT-OVC	Cash Transfer for Orphans and Vulnerable Children
CT-PwSD	Cash Transfer for Persons with Severe Disabilities
ESR	Enhanced Single Registry
FFS	Farmer Field School
FLID	Farmer-Led Irrigation Development
FO	Farmer Organization
GBV	Gender-Based Violence
GDP	Gross Domestic Product
GoK	Government of Kenya
HCI	Human Capital Index
HOI	Human Opportunity Index
ICT	Information and Communication Technology
ILO	International Labor Organization
KALRO	Kenya Agriculture and Livestock Research Organization
KCHS	Kenya Continuous Household Survey
KIAMIS	Kenya Integrated Agriculture Management Information System
K-LSRH	Kenya Longitudinal Socioeconomic Study on Refugees and Host Communities
KNBS	Kenya National Bureau of Statistics
KPEA	Kenya Poverty and Equity Assessment
KSh	Kenya Shillings
KYEOP	Kenya Youth Employment and Opportunities Project
LFP	Labor Force Participation
LMIC	Lower Middle-Income Country
MIC	Middle-Income Country
MoALD	Ministry of Agriculture and Livestock Development
MSME	Micro- Small, and Medium Enterprises
NCPB	National Cereals and Produce Board
ND-GAIN	Notre Dame Global Adaptation Initiative
NDVI	Normalized Difference Vegetation Index
OPCT	Older Persons Cash Transfer
PAYE	Pay-As-You-Earn
PER	Public Expenditure Review
PIT	Personal Income Tax
PPP	Parity Purchasing Power
SACCOS	Savings and Credit Cooperative Societies
SDGs	Sustainable Development Goals
SES-HCI	Socio-Economic Status Human Capital Index
SSA	Sub-Saharan Africa
TIMPs	Technologies, Innovations, and Management Practices
UMIC	Upper Middle-Income Country
UNHCR	United Nations High Commission for Refugees
VAT	Valued-Added Tax
VIP	Ventilated Improved Pit
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

OVERVIEW

This Kenya Poverty and Equity Assessment documents the recent progress of poverty reduction in Kenya, with a focus on the period between 2005 and 2021. Poverty, based on household consumption expenditure, had been declining prior to the outbreak of the COVID-19 pandemic, but the pace of poverty reduction was already slowing. In 2019, about one-third of Kenyans (33.6 percent) were living below the national poverty line, a 13.1-percentage-point decline from 46.7 percent in 2005. The decline was particularly impressive between 2005 and 2015, with a 10.6-percentage-point decline from 46.7 to 36.1 percent, translating into an average annual reduction of 1.1 percentage points. This coincided with a period of robust gross domestic product (GDP) per capita growth, along with strong growth in private consumption. The pace of progress slowed between 2015 and 2019, with an average annual reduction of 0.6 of a percentage point. This was, however, against a backdrop of an increase in the annualized rate of growth in GDP per capita, from 2.05 percent between 2005 and 2015, to 2.28 percent during the period 2015–2019.

The COVID-19 pandemic set back progress, while the compounded impacts of droughts and food price increases—all occurring in an already fragile socio-economic environment because of the pandemic—muted recovery in the early stages of the post-pandemic period. The poverty rate increased to 42.9 percent in 2020 and, although there was a recovery in 2021, at 38.6 percent the poverty rate remained above pre-pandemic levels. Increased import costs and prices, including Kenya's significant net fuel and wheat imports, place a disproportionately higher burden on poor households. Poor households had already been facing food insecurity during the pandemic and are especially vulnerable to the rising cost of living. While rising commodity prices could be beneficial to net food-producer households, a rise in input prices, notably fertilizers, has offset this potential benefit.

Non-monetary indicators of welfare have been improving in recent years. Health and education outcomes have improved. For example: (i) the under-5 mortality rate has declined and is significantly lower compared with peers; (ii) maternal mortality has declined; (iii) there was a significant decline in HIV incidence, from 101,448 in 2013 to 32,027 in 2021; (iv) fewer households have children that are not in school; and (v) there is no national gender gap in net enrolment rates. Overall, access to basic services has improved and, for some services, the rural-urban gap, as well as the gap between the poor and rich, has narrowed. At around 27 percent nationally, however, access to tertiary education is very low and lags comparator countries. The improvement in health and education outcomes has led to significant gains in human capital development. Today, Kenya has the highest Human Capital Index (HCI)[1] score in mainland Sub-Saharan Africa (SSA). At 0.55 in 2020, Kenya's overall HCI score[2] is higher than the 0.40 average for SSA, and only slightly below the upper middle-income country (UMIC) average of 0.56. Access to basic services has

1 The Human Capital Index (HCI) summarizes the amount of human capital that a child born today can anticipate acquiring by age 18, accounting for the risks of poor health and poor education that prevail in the country she or he lives. The index assesses countries across five components (health, education, survival, quality of learning, and adult survival).

2 This means that Kenyan children born today would be 55 percent as productive as adults as they could have been with a complete education and full health.

improved and, for some services, the rural-urban gap, as well as the gap between the poor and rich has narrowed. For instance, the share of households using improved water sources and improved sanitation has increased. Access to electricity has improved considerably in urban areas, although it is still highly limited in rural areas. Kenya has an opportunity to build on these achievements to accelerate poverty reduction and boost equity. This will require concerted effort to close spatial disparities, as well as to target specific population groups that tend to be left behind. For now, significant disparities remain based on location and income, with counties in the north and northeastern parts of the country lagging the rest.

The spatial dimension of poverty persists and contributes to relatively high levels of inequality. Poverty remains a largely rural phenomenon, with close to 72 percent of the poor living in rural areas in 2021. Despite the decline over time, poverty has also remained persistently higher in arid areas. Arid areas only account for around 10 percent of the population but, given the much higher incidence of poverty in these areas, they represent around 20 percent of the country's poor. This increase has resulted in a steadily rising number of poor in arid areas, with a rise of over 60 percent from 2005/06 to 3.5 million in 2021. These spatial disparities in welfare contribute to inequality of outcomes which, though comparable to neighboring countries, remain a notable challenge that not only makes growth significantly less poverty-reducing but also reduces growth prospects. Inequality in consumption, as measured by the Gini index, fell from 45.0 to 39.1 between 2005 and 2015, but it remained moderately high at 40.7 percent in 2019 and fell to 37.6 in 2021. Larger households, households with a head with lower education levels, households in arid areas, as well as those households with children, are all associated with higher poverty rates. Refugees are a particularly vulnerable group, facing high food insecurity and limited employment opportunities.

The key challenge to address going forward is that economic growth is not translating sufficiently into improved wellbeing, and, over time, poverty has become less responsive to changes in economic growth. This is due to a combination of factors that limit the ability of those at the bottom of the income distribution from utilizing their productive capacity to contribute to growth. As such, growth is becoming less inclusive. These factors include: (i) the pace, composition, and distribution of growth: while the services sector is increasingly becoming the engine of growth, the returns for skilled workers are likely to be higher than those for unskilled and low-skilled workers; (ii) limited inclusivity in labor markets characterized by limited creation of productive jobs, especially for the poor; (iii) inequality of both opportunities and outcomes; and (iv) the growing incidence of shocks, especially adverse weather shocks, amid limited resilience among the poor. The weakening relationship between economic growth and poverty reduction raises concerns about how inclusive growth is. It also raises questions regarding how well connected the poorest 40 percent of the population are to economic growth.

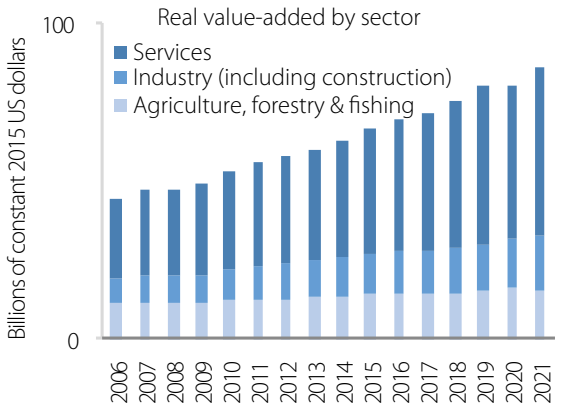
Looking ahead, an inclusive growth strategy that leverages sectoral strategies and fiscal policy to enable the poor to strengthen and better utilize their productive capacity is needed. An inclusive growth strategy will consist of three broad policy pathways that can help Kenya make growth more inclusive by leading to more widespread income growth and accelerate poverty reduction, building on past success. This strategy encompasses: (i) connecting the poor to economic growth; (ii) strengthening households' resilience to shocks, particularly adverse weather shocks, given their growing incidence and the importance of agriculture as an important sector from an inclusion perspective; and (iii) leveraging fiscal policy to support poverty reduction objectives. More, better, and timely data availability will also be key to monitor and assess progress. In addition, connecting the poor to economic growth requires addressing the challenge of low education and skills among workers, especially workers who are poor and those in rural areas, as well as youth and women, along with improving their access to productive jobs, and capital.

Photo: ©Precious Zikhali / World Bank

1. Kenya Has an Opportunity to Build on Past Success to Accelerate Poverty Reduction and Boost Equity

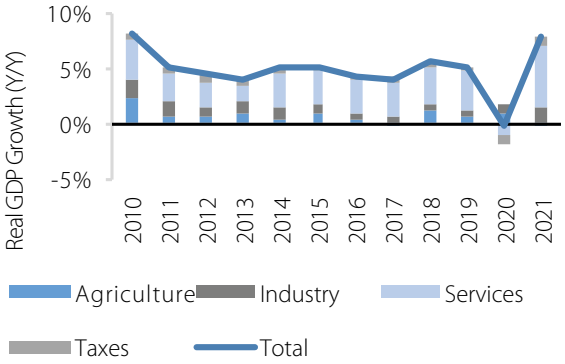
Today, Kenya is a leading economy in the East Africa region. It is also home to M-Pesa, one of the world's most well-known and well-studied mobile money and financial inclusion successes. How did Kenya get here? Several market-oriented reforms combined with regional and global conditions helped accelerate growth and propel the economy to middle-income country (MIC) status (Kimenyi, Mwega, and Ndung'u 2016). Another noteworthy success is the country's move toward devolution, which offers each county the potential to leverage economic resources for better living standards of residents. As the world's seventh most ethnically diverse country, Kenya's devolution has created a political structure that brings political inclusion, voice, and accountability. The country's robust economic growth over the past decade has outperformed its SSA peers. Although, the COVID-19 pandemic led to real GDP contracting by 0.3 percent in 2020, the economy staged a remarkable recovery from the pandemic supported by rebounds in industry and, especially, services (World Bank, 2022a). Indeed, the services sector is increasingly becoming an engine of economic growth (World Bank 2023a). In the decade to 2021, services activity drove about 70 percent of the total increase in economic output: of the 10 fastest-growing sectors from 2012 to 2021, all except construction were in services. The country is strategically located and well-positioned to serve the economies of its landlocked neighbors. As a regional economic leader, it also hosts more than half a million refugees.

Figure 1.1: Kenya's economy is increasingly based on services…



Source: Kenya Country Economic Memorandum, World Bank staff calculations based on KNBS data.

Figure 1.2: Growth with sectoral composition[3]



Source: Kenya Economic Survey 2023 and Report of the Revised and Rebased National Accounts.

As the country pursues its vision to become a "newly industrializing, upper middle-income country providing a high quality of life to all its citizens by 2030 in a clean and secure environment,"[4] it will need to ensure that the underlying economic growth is also inclusive. This Kenya Poverty and Equity Assessment (KPEA) report examines the country's poverty and inequality trajectory over the 2005–21 period and sets out the case for why Kenya will need to focus on making growth inclusive. Kenya has been successful in translating growth into poverty reduction and improved living standards of the poor. However, this relationship has weakened over time, resulting in poverty declining at a slower pace than in the past, even before the pandemic hit the economy. This slowdown in the growth-poverty relationship is partly a result of enduring inequalities that lead poverty to becoming more concentrated in arid and drought-prone parts of the country, as has been the experience in many middle-income countries (Table 1.1) (Pande and Enevoldsen, 2021). Yet, there is also a large share of poor who reside in the country's high agricultural potential areas. And even though economic growth staged a solid recovery after 2020, people's consumption was slower to recover. Economic reforms will therefore need to not only accelerate growth but also create an enabling environment for the poor to participate in growth.

Table 1.1: Summary statistics, 2021

		Population (million)	Share of population	Poverty rate (NPL)	Proportion of poor	Gini index	Labor force (LF) participation rate	Unemployment rate (% of LF)
Area of residence	National	49.5	-	39%	-	38.7	69%	6%
	Rural	33.7	68%	41%	72%	29.1	68%	3%
	Urban	15.8	32%	34%	28%	37.0	71%	11%
ASAL classification	Non-Arid	32.4	65%	33%	56%	39.4	71%	6%
	Semi-Arid	12.1	24%	41%	26%	33.2	74%	5%
	Arid	5.0	10%	69%	18%	33.4	41%	6%

3 The Kenya Economic Survey 2023 is the source for 2021, while the Report of the Revised and Rebased National Accounts is the source for 2009 to 2020.

4 This ambition is guided by the Kenya Vision 2030, the country's long-term development blueprint, which is aligned with the UN Sustainable Development Goals (SDGs) and implemented through successive five-year Medium-Term Plans (MTPs).

		Population (million)	Share of population	Poverty rate (NPL)	Proportion of poor	Gini index	Labor force (LF) participation rate	Unemployment rate (% of LF)
Gender of household head	Male	34.4	70%	36%	65%	37.9		
	Female	15.1	30%	44%	35%	40.7		
Gender	Male						74%	4%
	Female						64%	8%

Source: Based on the 2021 Kenya Continuous Household Survey (KCHS).

The main messages of this report are as follows. First, Kenya has many successes to build upon and utilize economic policies to make growth more inclusive and accelerate poverty reduction (Section I). Second, the development trajectory since the country reached middle-income status clearly shows that economic growth is not sufficiently reaching the poor (Section II). Third, there are three broad policy pathways for making growth more inclusive, namely: (i) connecting the poor to economic growth; (ii) strengthening households' resilience to adverse weather shocks; and (iii) making fiscal policy more supportive of poverty reduction objectives (Section III). These pathways together offer a systems approach to promote bottom-up growth. This report builds on World Bank (2018) and uses data from the Kenya Continuous Household Survey (KCHS) Program (Annex 1) to analyze poverty, inequality, and growth before and after the COVID-19 pandemic. The report's analysis is timely given the Government of Kenya's (GoK) focus on a bottom-up approach to growth.

1.1 Significant Gains in Human Capital Development

Kenya has an opportunity to build on achievements made in human capital development over the past decades. This reflects the GoK's serious efforts in reducing malnourishment, increasing access to education, expanding access to health care, and expanding social protection programs to reduce poverty and food insecurity, and to support investment in human capital at the household level. With an overall Human Capital Index (HCI)[5] score of 0.55 in 2020, Kenyan children born today will be 55 percent as productive as adults as they could have been if they had had a complete education and full health. The country has the highest HCI score in mainland SSA, which overall averaged 0.40 (Table 1.2), and is only slightly below the upper middle-income country (UMIC) average of 0.56.

Table 1.2: Kenya's HCI in comparison to other income group countries, 2020

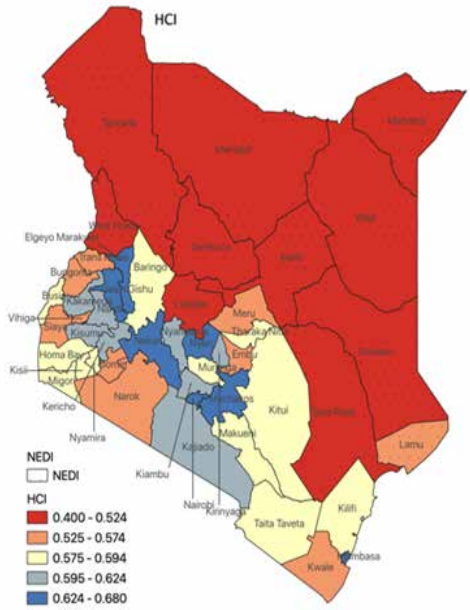
Indicator	Kenya	Sub-Saharan Africa	Low Income	Lower Middle Income	Upper Middle Income	High Income
Probability of survival to age 5	0.96	0.93	0.93	0.96	0.98	0.99
Expected years of school	11.6	8.3	7.6	10.4	10.4	13.2
Harmonized Test Scores	455	374	356	392	411	487
Learning adjusted years of schooling	8.5	4.97	4.33	6.52	6.84	10.29
Adult survival rate	0.77	0.74	0.75	0.80	0.86	0.92
Fraction of children under-5 not stunted	0.74	0.69	0.65	0.75	0.87	0.80
Human Capital Index (HCI)	0.55	0.40	0.38	0.48	0.56	0.71

Source: World Bank (2022), cited in the Kenya Human Capital Review Concept Note.

5 The Human Capital Index (HCI) summarizes the amount of human capital that a child born today can anticipate acquiring by age 18, accounting for the risks of poor health and poor education that prevail in the country she or he lives. The index assesses countries across five components (health, education, survival, quality of learning, and adult survival).

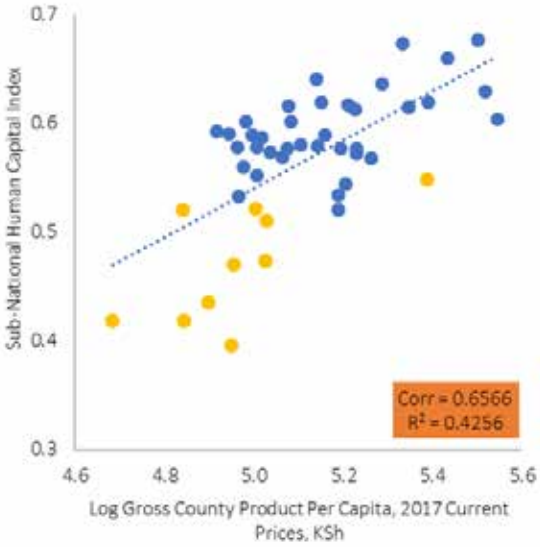
Building on the achievements made in human capital development will require concerted effort to ensure that Kenya's positive progress is shared equally across its population: significant disparities remain, based on location and income. The HCI disaggregated by county shows a marked division between the underserved counties in the north and northeastern parts of the country and the rest (Figure 1.3). These counties have significantly lower HCI and economic activity, with significantly lower gross county product per capita (Figure 1.4). When calculating the HCI by socio-economic status (SES-HCI),[6] the richest households have better outcomes compared with the poorest 20 percent of households (0.16 of a percentage point higher HCI) (Dsouza et al. 2019). This gap slightly increased between 1998 and 2018, showing that the general improvement of the HCI was not achieved evenly across the population.

Figure 1.3: Subnational HCI



Source: World Bank (2022), cited in the Kenya Human Capital Review Concept Note.

Figure 1.4: Subnational HCI vs gross county product p.c.*



Source: World Bank (2022), cited in the Kenya Human Capital Review Concept Note.

** Counties in the north and northeastern parts of the country (NEDI) in yellow.*

Expanding access to health care has resulted in significantly improved health outcomes, and this has contributed to human capital achievements

The under-5 mortality rate has declined and is significantly lower compared with peers, owing to quality health-care services to both mother and child during and after pregnancy. The rate decreased from 74 deaths per 1,000 live births in 2008/09 to 41 deaths per 1,000 live births in 2022 (Figure 1.5). The proportion of children aged 12–23 months who receive all age-basic antigens remained stable, at around 80 percent, from 2008/09 to 2022. It is also in part due to large gains made in the delivery of children by a skilled provider.[7] The proportion of children delivered by a skilled provider

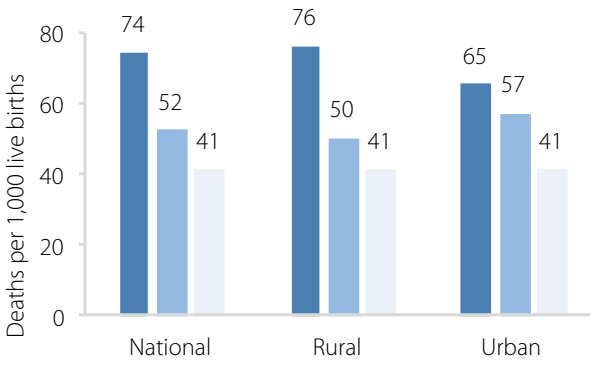
6 This version of the SES-HCI relies on the same general methodology as the global HCI but uses different data sources to allow for disaggregation by wealth; hence, it is not directly comparable with the global HCI.

7 Skilled provider includes a doctor, a nurse, a midwife, or a clinical officer.

increased from below 50 percent in 2008/09 to 89 percent in 2022 (KDHS 2022). The rise in national coverage has been driven by convergence between rural and urban areas. Malaria prevention strategies have also contributed to declining under-5 mortality rates.

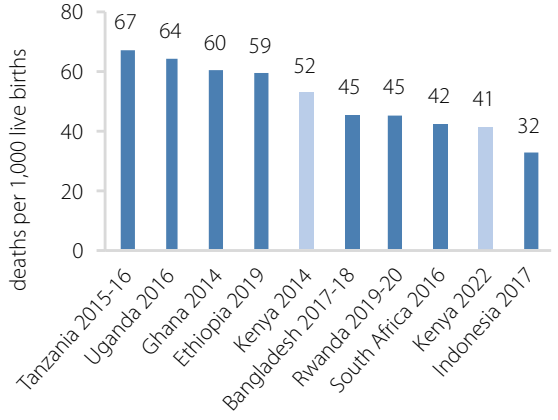
Maternal mortality has also declined. The maternal mortality rate had decreased from 0.8 maternal deaths per 1,000 woman-years of exposure in 2008/09 to 0.5 maternal deaths per 1,000 woman-years of exposure in 2014 (Figure 1.7). This is as a result of pregnant women having access to health services during their pregnancy and delivery, with almost all births being delivered by a skilled health provider. Benchmarking Kenya's maternal mortality rate with its peers suggests better outcomes, with only Rwanda having a lower mortality rate (Figure 1.8).

Figure 1.5: Under-5 mortality rate



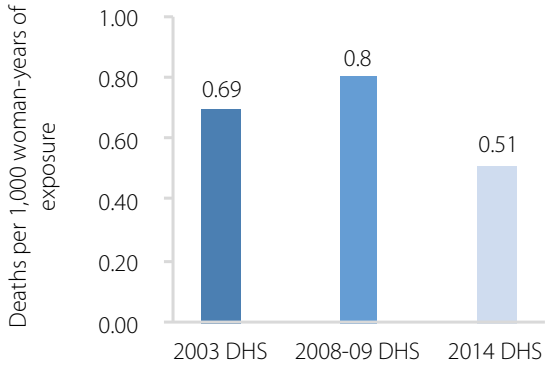
Source: Demographic and Health Survey 2022, Key Indicator Report and DHS STATcompiler.

Figure 1.6: Under-5 mortality rate, compared with other countries



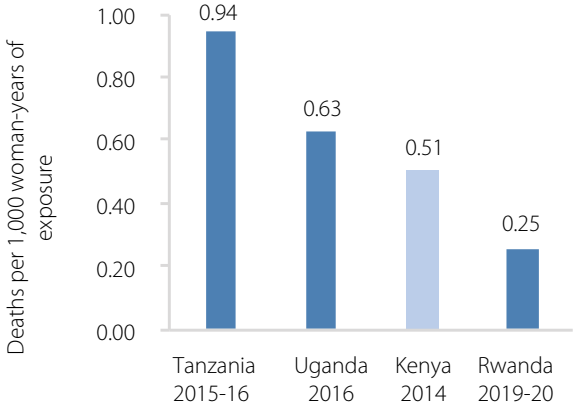
Source: Human Capital Index Database.

Figure 1.7: Maternal mortality rate



Source: KDHS 2003, KDHS 2008–09 and KDHS 2014 reports.

Figure 1.8: Maternal mortality rate, compared with other countries



Source: DHS reports.

There has been a significant decline in HIV incidence. The number of new HIV infections drastically fell by more than two-thirds, from 101,448 in 2013 to 32,027 in 2021. This has resulted in a decrease in the HIV prevalence rate from 6.0 to 4.25 percent during the same period. Encouragingly as well for infected individuals, the number of people on antiretroviral treatment increased by 83 percent, from 656,369 in 2013 to 1,199,101 in 2021 (Government of Kenya 2021).

Building on the achievements made in improving health outcomes will require concerted effort to close spatial disparities, as well as to target specific population groups that tend to be left behind. For instance, despite rural-urban convergence in delivery of children by a skilled provider, arid counties persistently have the lowest incidence of live births delivered by a skilled provider: Turkana (53 percent), Mandera (55 percent), Wajir (57 percent), Samburu (57 percent), and Tana River (59 percent). Each of these counties has a lower coverage rate than the urban average 25 years prior in 1998. Teenage pregnancies vary across counties, with notably high rates in Samburu, West Pokot and Marsabit. Linked to this, HIV infections among adolescents and younger adults (15–29) remain a concern, contributing to 61 percent of all new adult HIV infections in 2020. In addition, new infections were concentrated in western Kenya, particularly in Kakamega, Bungoma, Vihiga and Busia counties. Teenage pregnancy and early marriage are significant contributors to the lower accumulation of human capital for women, and their subsequent lower access to economic opportunities. Teenage pregnancy and early marriage contribute to a cycle of poverty and exacerbate gender inequalities in human capital outcomes (WHO 2023).

More still needs to be done to improve access to health care among the poor. For instance, children from households in the lowest wealth quintile are less likely to have been fully immunized, posing significant health risks to children and increasing the possibility of mortality. Health outcomes among the poor are further compromised by lack of insurance cover. Only around one-quarter of the population has insurance cover. In particular, rural households and poor households are less likely to have private insurance compared with urban and wealthier households. Given that both the National Health Insurance Fund and private insurance require contributions, households in the lowest quintile are more likely to be uninsured than the rest of the population.

Gains that have been made in ensuring children are in school, particularly in improving secondary school enrolment, have resulted in significantly improved education outcomes, and this has contributed to human capital achievements

Fewer households have children not in school. The GoK's efforts in provision of free primary education have borne fruit. The proportion of households with a school-aged child not attending school up to the age that they are expected to complete class 8 declined from 17 percent in 2005/06 to 5 percent in 2021 (Figure 1.12). This progress has reduced differences across groups, with fewer of the poorest households in 2021 having no child in school compared with the richest households in 2015/16.

While basic education enrolment has remained stable, recent reforms have led to large gains in secondary school enrolment. Primary school enrolment remained stable at around 80 percent from 2005/06 to 2021 (Figure 1.9). The gap between the enrolment rates for the poorest and wealthiest households also remained constant, at around 14 percentage points from 2005/06 to 2021. The introduction of the Universal Access to Basic Education policy coincided with an increase in secondary enrolment from 18 percent in 2005/06 to 41 percent in 2021 (Figure 1.10).

There is no national gender gap in net enrolment rates. The net enrolment rates (NERs) for male and female students at different levels of education are similar, suggesting equal opportunities to access education. Notably, however, the secondary NER gap increased in favor of female students in 2021. In addition, while primary enrolment rates remain low in arid counties, the gender gap has been closed.

Figure 1.9: Primary NER

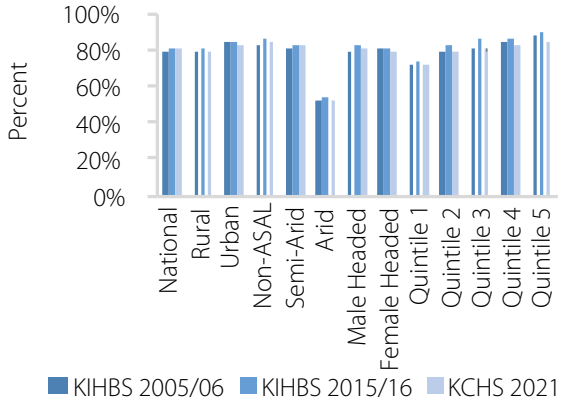


Figure 1.10: Secondary NER

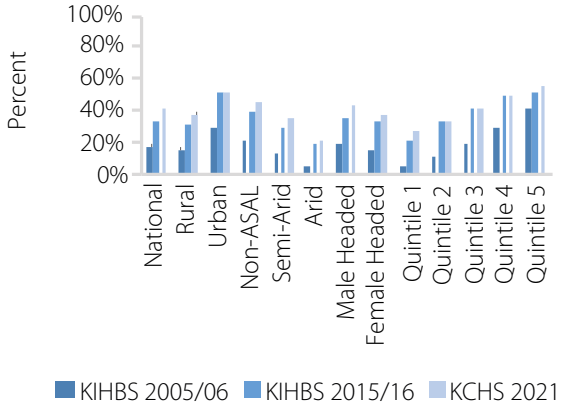


Figure 1.11: Tertiary GER

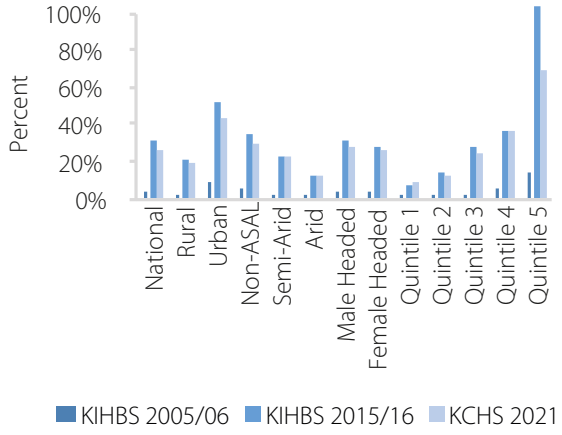
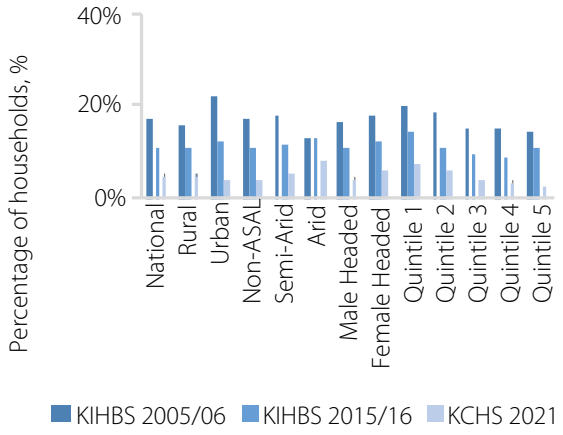


Figure 1.12: Household has a school-aged child not in school up to age of class 8 completion



Source: Based on KIHBS and KCHS surveys.

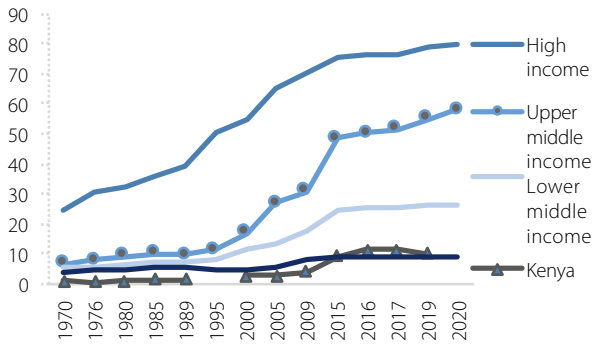
Similar to health, building on the achievements made in improving education outcomes will require concerted effort to close spatial disparities, as well as to target specific population groups that tend to be left behind. For instance, arid counties continue to lag around 30 percentage points behind the national average in primary school enrolment. Arid areas lag behind in transitioning from primary to secondary school. When examining the transition rates from primary to secondary school, the national average is commendably high, at 87 percent, due to the GoK policy of aiming to increase transition from primary to secondary to 100 percent. Almost all of the arid counties, however, have a transition rate below the national average, with Isiolo in particular underperforming, with only 70 percent of primary school students transitioning to secondary school.

It will also require concerted effort to increase access to tertiary education, which is currently very low and highly unequal. Enrolment in tertiary education still remains low, at around 27 percent nationally (Figure 1.11). Kenya significantly lags comparator countries in access to tertiary education, with the current enrolment rate at similar levels as low-income countries and well below the average of LMICs and UMICs (Figure 1.13a). Moreover, this access in highly unequal: people from the poorest income quintile practically do not access the system at all (Figure 1.13b). The disparity is also present between genders, with men accessing tertiary programs in a slightly higher proportion than women (only 40 percent of the total enrolment in 2020/21 were female) (KNBS 2022), especially in science and technology subjects (36.6 percent of admitted students to these courses in 2020 were female).[8]

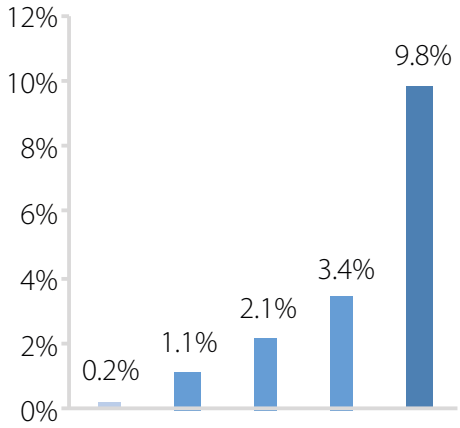
8 Data from Kenya Universities and Colleges Central Placement Service.

Figure 1.13: Tertiary education enrolment

Tertiary enrolment rates, Kenya and income group countries



By income quintile, 2016



Source: UNESCO Institute for Statistics (uis.unesco.org). Data as of February 2023, cited in the Kenya Human Capital Review Concept Note.

While the educational attainment for those aged 25–64 is less impressive, better achievements are expected in the future. Half of the population aged 25–64 has completed at most primary schooling, thus impacting on returns in labor force participation. The poor and arid populations have even lower achievements compared with the national average, at 72 and 86 percent, respectively, attaining less than secondary schooling. However, recent positive developments in education outcomes, such as increased enrolment rates and a reduction in out-of-school children, imply an improvement in the educational outcomes of future generations.

1.2 Potential to Harness the Demographic Dividend

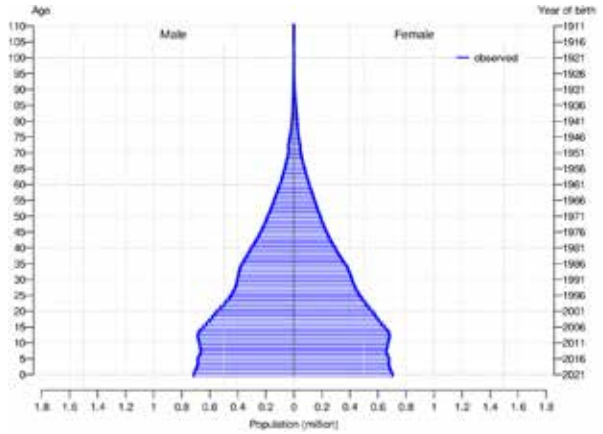
With a large youth population,[9] an increase in life expectancy, and a reduction of fertility rates Kenya is currently experiencing a demographic transition. In 2019, out of the 47.5 million total population, 75 percent was under the age of 35, with the largest age cohort between age 10 and 14, namely those who will be joining the labor force over the next decade (KNBS 2019). A demographic dividend is a temporary economic benefit derived from an increase of working-age adults relative to their young dependents (Bloom et al. 2003). A youthful and expanding workforce has the potential to drive innovation and boost economic development when utilized effectively.[10] This fact that Kenya's youth are better educated than previous generations, particularly in urban areas, creates an enabling environment for such a boost.

9 The Kenyan Constitution of 2010 defines youth as the population between the ages of 18 and 34.

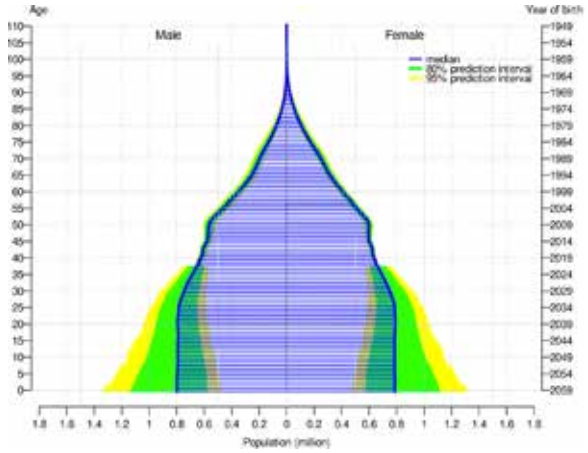
10 Examples of countries such as South Korea, Singapore, and Hong Kong, show how with robust investment and policies in education, health, and empowerment of their women, coupled with a reduction of fertility rates and the expansion of employment in the modern organized sector, they were able to capitalize their demographic dividend that led them to economic growth and reduction of poverty. However, evidence also shows that countries can fail to leverage their demographic dividend leaving young people unemployed (such as the case of India) or could even reverse positive trends (as the case of fertility rates in Egypt from 2008 to 2014).

Figure 1.14: Kenya population, by age and sex

a. 2022 observed



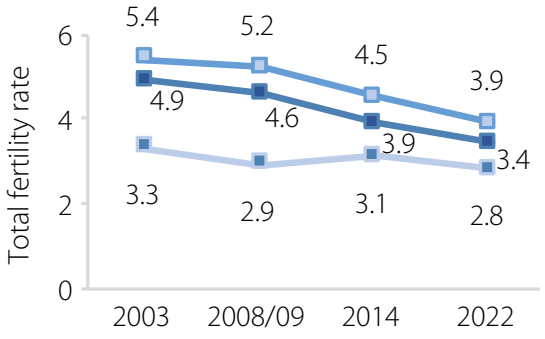
b. 2060 prediction



Source: UN (2023). Population Division: World Population Prospects 2022, cited in the Kenya Human Capital Review Concept Note.

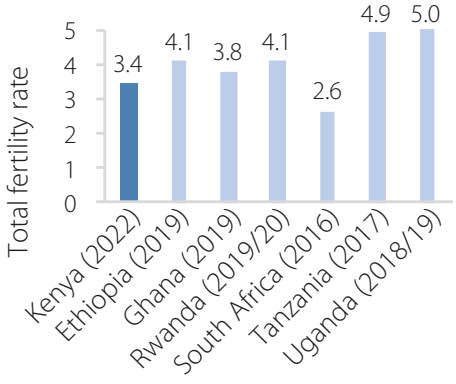
The fertility rate is low and declining. In 2003, on average, Kenya had 5.4 births per woman and this declined by around 37 percent to 3.4 births per woman by 2022 (Figure 1.15), driven by a large drop in the rural fertility rate. This decline in fertility is also accompanied by a drop in child and infant mortality. Kenya's fertility rate is lower than every other comparator country except South Africa (Figure 1.16). A reduction in fertility can contribute to economic growth and poverty reduction through a number of channels, including increasing the share of the population of working age, increasing female labor force participation, and increasing labor productivity through greater human capital investment (Beegle and Christiaensen 2019). Kenya's lower fertility rate has been associated with each of these channels, as the dependency ratio has declined along with increased secondary and tertiary NERs, as well as a rise in the female labor force participation rate.

Figure 1.15: Total fertility rate (women aged 15–49), 2003–2022



Source: KNBC and ICF 2022.

Figure 1.16: Total fertility rate (women aged 15–49), benchmark countries



Source: DHS Statcompiler.

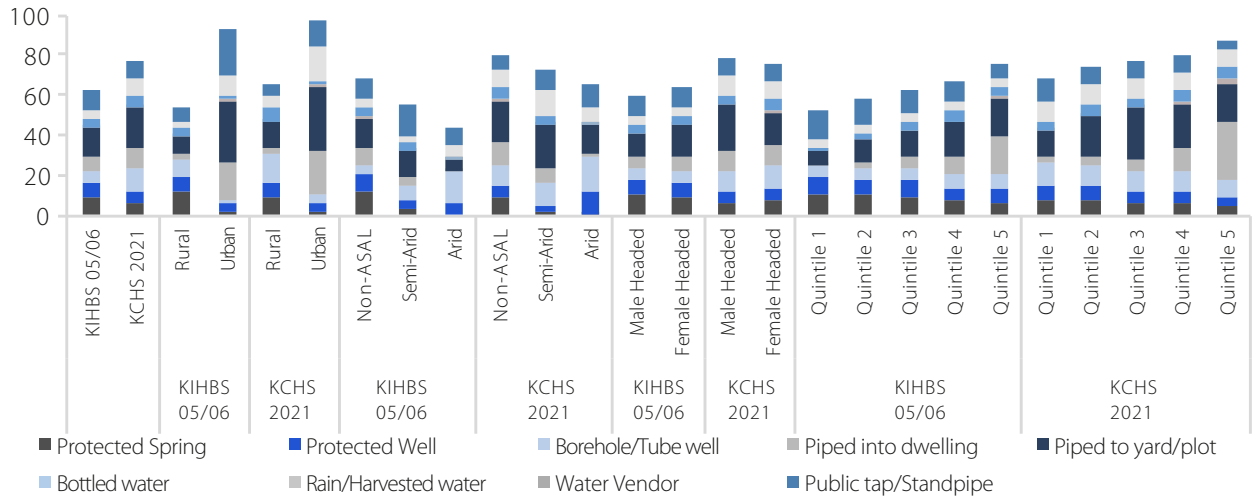
Harnessing the dividend presented by these favorable demographic trends requires addressing both demand and supply sides of labor markets, making sure that the growing working-age population is able to find jobs of sufficient quality. Realizing a demographic dividend in Kenya is conditional on supporting investment in human capital and enabling the environment for decent employment opportunities.

If labor demand does not keep up and the available job opportunities are mainly low productivity, the "youth bulge" may lead to an increased risk of precarious employment or joblessness, and even social unrest.

1.3 Significant Progress in Expanding Access to Basic Services

Access to basic services has improved and, for some services, the rural-urban gap, as well as the gap between the poor and rich, has narrowed. For instance, the share of households using the various improved water sources increased from around 60 percent in 2005/06 to almost 80 percent in 2021 (Figure 1.17). Despite a national increase, rural households report lower access to improved water sources,[11] and the rural-urban difference has persisted over the same period, with rural households reporting lower access overall, and lower access to public taps and water piped to their yards in particular. Similar to the national increase over time, one-fifth more arid households have access to improved water sources in 2021 compared with 2005/06. This increase of a similar magnitude is encouraging considering the droughts that affected arid areas disproportionately over the period. Access to improved sanitation increased from 49 percent in 2005/06 to 82 percent in 2021 (Figure 1.18), and the gap in access to improved sanitation between the richest and poorest households has declined over time.[12] However, access has remained uneven, with near universal access among the richest households, while only three out of five households in the poorest quintile have access. Conversely, the gap between rural and urban households has remained at around 20 percentage points.

Figure 1.17: Access to improved water sources, 2005/06–2021



Source: Based on KIHBS and KCHS surveys.

Access to electricity has improved considerably in urban areas but is still highly limited in rural areas. There was an increase in access to electricity[13] nationally from 41 percent in 2015/16 to 54 percent in 2021, as a result of the national electrification strategy and the Last Mile Connectivity Program (Figure 1.19). Access to electricity remains limited to both rural, and arid and semi-arid land (ASAL) populations compared with urban and non-ASAL populations. Urban households are more than three times as likely to have access to electricity compared with rural households (90 vs 31 percent). Similarly, households in non-arid regions are more than twice as likely to have access to electricity, compared with their arid counterparts (60 vs 26 percent).

11 Improved drinking water sources are defined as a piped water system, public tap, borehole, protected dug well, bottled water or water from rainwater collection vendors.

12 Improved sanitation is defined as a toilet with a flush, a ventilated improved pit (VIP) latrine or a latrine with a slab.

13 Households with access to electricity are defined as those whose primary source of lighting is mains electricity.

Figure 1.18: Improved sanitation

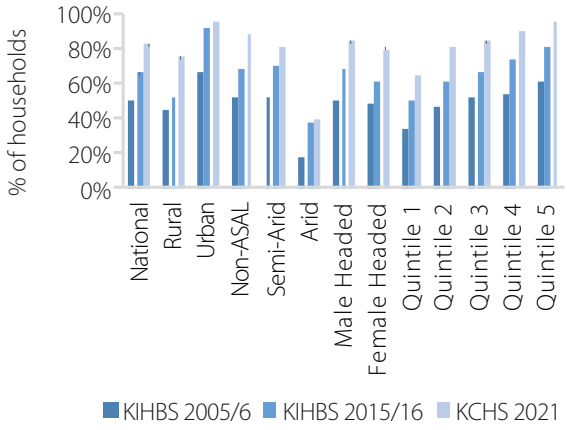
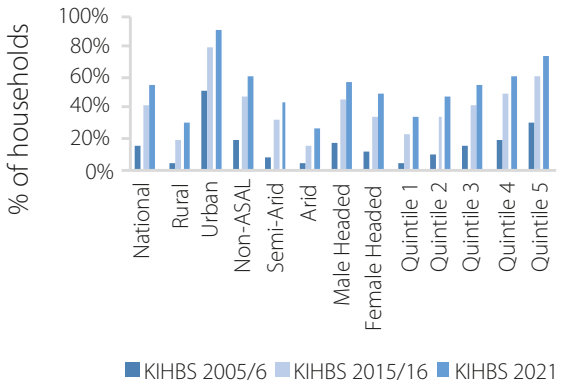


Figure 1.19: Access to electricity



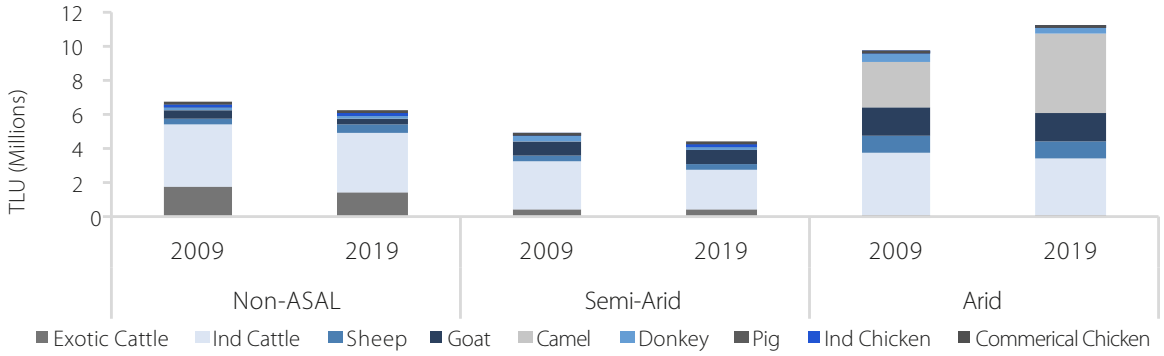
Source: Based on KIHBS and KCHS surveys.

Rural households are significantly more likely to cook using solid fuels. The use of solid fuels has been associated with exposure to fine particulate matter, which leads to health problems such as chronic pulmonary disease and acute respiratory infections. Nine out of ten rural households cook using solid fuels, an estimate that remained stable from 2005/06 to 2021. This is a more than a 60-percentage-point gap with urban households. There is no difference between the gender of household head in the use of solid fuels, as two-thirds of both male- and female-headed households report using solid fuels to cook.

There has been a significant shift from non-renewable to renewable sources of energy. The proportion of households using kerosene/paraffin sharply declined from 76 percent in 2005 to 9 percent in 2021. However, the transitions seem to be diverse for various groups, with urban, non-arid and non-poor households shifting to electricity, while rural, arid and poor households moved to using solar and solid.

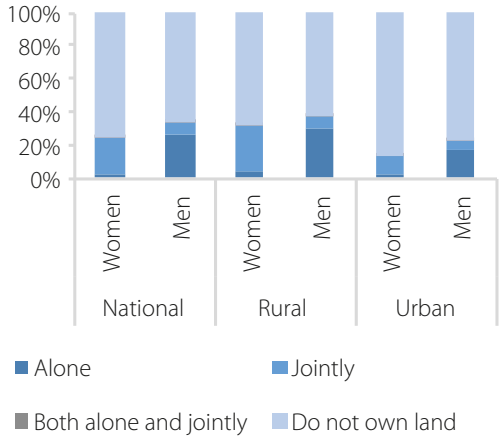
Asset ownership has improved, with ownership of some assets such as cell phones near universal; however, spatial and gender disparities persist. For example, households in arid areas on average own more livestock—a critical asset in arid areas—compared with semi-arid and non-arid areas. Ownership in arid areas is significantly higher for goats, sheep, and camels (Figure 1.20). Women are less likely to own agricultural land and a house and, when they do, they are much less likely to own it alone. Land ownership is critical, since it is one of the major factors of production, especially in the agriculture sector. Nationally, one out of three men owns agricultural land compared with one out of four women (Figure 1.21). Strikingly, however, only 3 percent of women own agricultural land alone, compared with 30 percent of men. Women are also less likely to own homes, both nationally, as well as in urban and rural areas—a gap that has not declined over time (Figure 1.22).

Figure 1.20: Livestock ownership in tropical livestock units



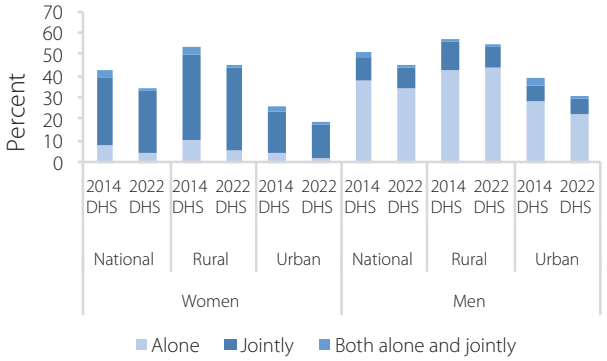
Source: World Bank staff calculations based on 2009 KPHC and 2019 KPHC.

Figure 1.21: Agricultural land ownership



Source: Demographic and Health Survey 2022, Key Indicator Report.

Figure 1.22: House ownership



Source: Demographic and Health Survey 2022, Key Indicator Report and DHS STATcompiler.

Overall, the spatial pattern of access to basic services and infrastructure suggests that promoting more equal access to basic services is key to building on past success to accelerate poverty and boost equity. Addressing key constraints to improving access in lagging rural regions, particularly in ASAL areas, is important. Such an approach will also support further inequality reduction.

Photo: ©Tintseh / World Bank

2. The Case for Why Kenya Needs to Focus on Inclusive Growth

2.1 What Is the Case for Inclusive Growth?

Growth is not sufficiently translating into improved wellbeing and, as such, poverty reduction had slowed down even before the COVID-19 pandemic

The transmission of economic growth into increased consumption of households has declined. Consumption growth has been declining, despite GDP growth remaining stable over time. Real GDP per capita grew at an average annual rate of 2.2 percent per year between 2005 and 2015. This was matched by growth of 2.3 percent in median consumption as measured by the Household Budget Surveys (Table 2.1). However, in the period from 2015/16 to 2019, household consumption growth was moderate and relatively low, given the high economic growth that occurred. While GDP growth was 2.4 percent, median consumption growth was 1.7 percent. This suggests that the quality of growth was insufficient to translate into a commensurate improvement in the population's welfare.

Table 2.1: Consumption and GDP growth, 2005/06–2019

	Average annual percentage change (2005/06–2015/16)	Average annual percentage change (2015/16–2019)
Median consumption (2015/16 KSh)	2.3%	1.7%
GDP per capita PPP (2017 US$)	2.2%	2.4%

Source: Economic growth from World Bank Open Data and consumption growth based on KIHBS and KCHS surveys.

Poverty had been declining before the pandemic, but progress was slow relative to population growth, and the pace of poverty reduction was already slowing down. In 2019, almost one-third of Kenyans (33.6 percent) were living below the national poverty line, a 13.1-percentage-point decline from 46.7 percent in 2005 (Figure 2.1). The decline was particularly impressive between 2005 and 2015, with a 10.6 percentage-point decline from 46.7 to 36.1 percent, translating into an average annual reduction of 1.1 percentage points. This coincided with a period of robust GDP per capita growth, along with strong growth in private consumption. The pace of progress slowed between 2015 and 2019, with an average annual reduction of 0.6 of a percentage point. This was, however, against a backdrop of an increase in the annualized rate of growth in GDP per capita from 2.05 percent between 2005 and 2015 to 2.28 percent during the period 2015–2019. Despite progress, the pace of poverty reduction was slow relative to population growth and, as such, the number of poor dropped by only 0.1 million between 2005 and 2015, and by 0.7 million between 2015 and 2019 (Figure 2.2).

Figure 2.1: Absolute poverty rate, 2005/06–2021

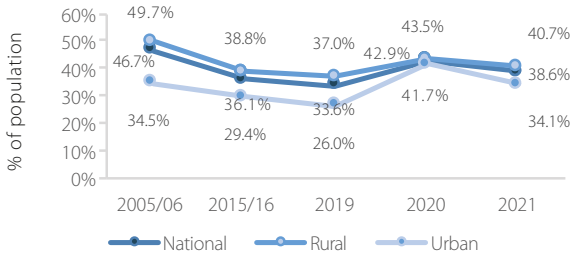
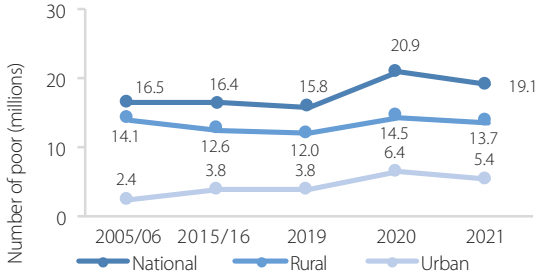


Figure 2.2: Number of poor, 2005/06–2021



Source: Based on KIHBS and KCHS surveys.

The weakening relationship between growth and household welfare is encapsulated in the declining growth elasticity of poverty reduction. The growth elasticity of poverty reduction measures how responsive poverty rates are to changes in economic growth.[14] Between 2005 and 2015, a 1-percent increase in per capita GDP resulted in a 1-percent reduction in the poverty rate (Table 2.2). This responsiveness of poverty reduction to income growth has fallen since the country reached middle-income status in 2015. Between 2015 and 2019, a 1-percent increase in per capita GDP translated into only a 0.73-percent reduction in the poverty rate.

Table 2.2: Growth elasticity of poverty reduction, 2005/06–2019

	2005/06	2015/16	2019	2005/06–2015/16	2015/16–2019
Absolute poverty rate (%)	46.6	36.1	33.6		
Percentage change in poverty (a)		-22.5	-6.9		
GDP per capita (2017 PPP)	3,327	4,075	4,459		
Percentage change in GDP per capita (b)		22.4	9.4		
Growth elasticity of poverty (a / b)				-1.00	-0.73

Source: Based on economic growth from World Bank Open Data and poverty rates based on KIHBS and KCHS surveys.

Accordingly, this KPEA report seeks to answer two key questions: (i) why has the pace of poverty reduction declined; and (ii) why has the relationship between economic growth and poverty reduction weakened over time? The findings suggest that the weakening relationship between economic growth and household consumption, and the slowdown in the pace of poverty reduction, are linked to a combination of the following factors:

14 This is calculated by dividing the percentage change in poverty by the percentage change in growth.

a. **Not everyone has benefitted from economic growth and economic transformation.** Poorer rural households benefited more from growth in the period from 2005/06 to 2015/16, in part due to increased agricultural production associated with favorable rains. This contributed to poverty reduction during this period. However, from 2015/16 to 2019, the consumption of poorer households grew more slowly, resulting in a slowing down in the pace of poverty reduction. The slowdown of consumption growth of the poor over the 2015/16–2019 period is consistent with the drought that severely affected agriculture in 2017. Economic transformation has resulted in the services sector increasingly becoming the engine of growth, but the poor have not reaped the benefits because they tend to be in low-productivity informal work in the services sector, largely in self-employment or informal wage employment. Thus, while services-led growth creates better earning opportunities for all, the returns for skilled workers are likely to be higher relative to low-skilled workers. This likely also contributed to the weakening relationship between aggregate growth and poverty reduction. The main challenge going forward is to increase labor productivity and earning opportunities, especially for the poor.

b. **Access to productive jobs is important for escaping poverty, but the poor face twin challenges in the job market: (i) fewer household members work; and (ii) they are mostly engaged in low-productivity sectors.** The poor's low labor force participation rate is driven by demographic and location-related factors: the poor in rural areas tend to have the lowest share of working-age members, resulting in high dependency ratios. The youth and women, particularly in arid areas, participate less in the labor market than other groups, driven by a lack of suitable jobs in the area linked to low non-farm diversification, while for women, family responsibilities are associated with low labor force participation. Most of the rural poor that work tend to be employed in low-productivity agriculture. Even as most workers moved out of agriculture, the working poor remain engaged mainly in low-productivity sectors. This is linked to relatively low education levels among the poor.

c. **High levels of economic vulnerability, especially among the poor who have low resilience to adverse weather and economic shocks, amplify the negative effect of shocks on household welfare.** The impacts of the growing incidence of weather-related shocks tend to disproportionately affect areas in the north and northeast—where poverty is already high. The poor have limited strategies to cope with shocks, rendering them less resilient to these shocks. While gains have been made in poverty reduction, there is widespread potential for people to fall below the poverty line in the event of a shock. This was the case with the COVID-19 pandemic, which led to a significant rise in poverty, driven by a large increase in urban areas. While recovery from the pandemic had begun in 2021, the poor's consumption was slower to recover and, as a result, poverty levels remain above pre-pandemic levels.

d. **Different dimensions of inequality—both outcomes and opportunity dampen the translation of economy-wide growth to income growth of the poor, acting as a brake on poverty reduction.** This slowdown in the growth-poverty relationship is partly a result of enduring inequalities that lead poverty to becoming more concentrated in arid and drought-prone parts of the country. For example, despite improvements, a child's access to opportunities such as education is significantly determined by the circumstances into which he/she is born (i.e., location, poverty status of household, parents' education, etc.).

e. **Fiscal policy could be used more effectively to support poverty reduction and boost equity.** Fiscal policy is an important instrument to equalize opportunities and reduce poverty and could offset some of the forces that weaken the growth-poverty reduction relationship. However, although Kenya's fiscal system reduces income disparities, it is less effective in poverty reduction due to a combination

of factors related to tax and social spending design. A positive feature is that education and health spending is pro-poor and thus supports the poor's human capital acquisition—important for an economy creating opportunities in the services sector.

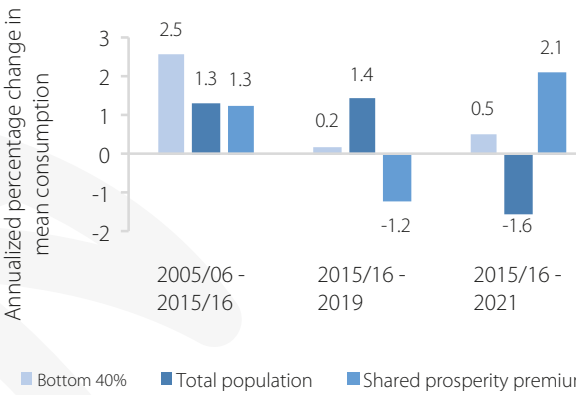
This KPEA report recommends three broad policy pathways that can help Kenya better utilize economic policies to make growth more inclusive and accelerate poverty reduction, building on past success. This encompasses: (i) connecting the poor to economic growth; (ii) strengthening households' resilience to adverse weather shocks; and (iii) leveraging fiscal policy to support poverty reduction objectives. These three policy pathways will support the GoK's focus on a bottom-up approach to growth. More, better, and timely data availability will also be key to monitor and assess progress. In addition, connecting the poor to economic growth requires addressing the challenge of low education and skills among workers, especially workers who are poor and those in rural areas, as well as youth and women, along with improving access to productive jobs, and capital.

2.2 The Poor in Rural and Arid Areas Benefit Less from the Level, Composition, and Distribution of Growth

While poorer rural households benefited more from growth from 2005/06 to 2015/16, this trend was reversed after 2015

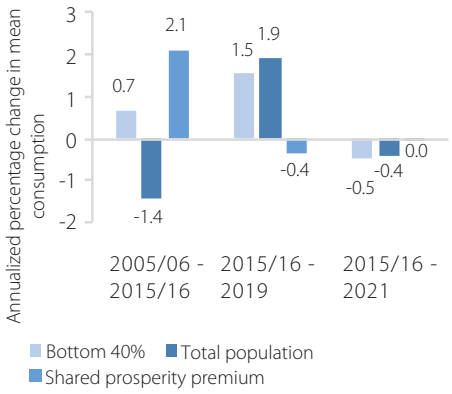
While poorer rural households benefited more from growth in the period from 2005/06 to 2015/16, this trend was reversed after 2015. In rural areas, the bottom 40 percent grew at annualized rate of 2.5 percent per year between 2005/06 and 2015/16 compared with 1.3 percent for the total population (Figure 2.3) and 0.7 percent per year in urban areas (Figure 2.4). This faster growth rate in rural areas produced a positive shared prosperity premium of 1.2 percent for the period. However, from 2015/16 to 2019, this pattern was reversed, with poorer households growing more slowly, resulting in a negative shared prosperity premium of around 1 percent. Thus, in addition to median consumption growth declining from 2015/16 to 2019, the distribution of consumption growth during this period also favored wealthier households. Because the COVID-19 shock affected richer rural households more, the period from 2015/16 to 2021 resulted in a positive shared prosperity premium for rural households. This was due to slight positive growth among the bottom 40 percent and a decline in consumption overall among rural households. Overall, including the years up to 2021 shows the significance of the pandemic, which transformed relatively large positive growth for the period into negative growth for the bottom 40 percent and the total population.

Figure 2.3: Rural annualized consumption growth, 2005/06–2021



Source: Based on KIHBS and KCHS surveys.

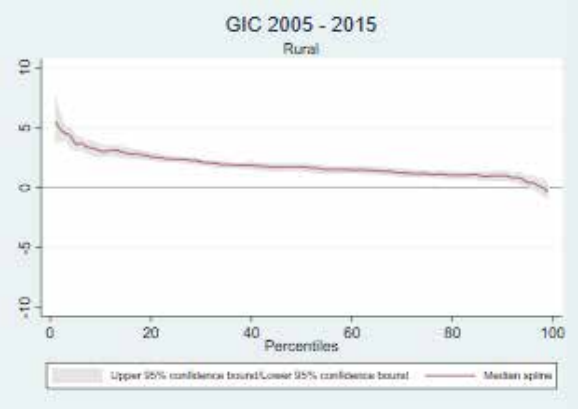
Figure 2.4: Urban annualized consumption growth, 2005/06–2021



Source: Based on KIHBS and KCHS surveys.

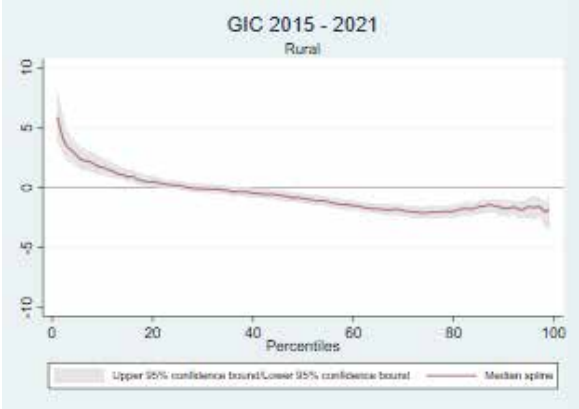
Consumption growth was pro-poor during 2005/06–2015/16. During 2015/16–2021, consumption growth was, on average, much lower for all percentiles. In the 10 years to 2015/16, all but the richest households in rural areas experienced growth in consumption, while growth was pro-poor as well, with the poorest households experiencing the largest improvements in welfare (Figure 2.5). While in urban areas growth was pro-poor, this was from a much lower level (Figure 2.7). From 2015/16 to 2021,[15] rural consumption growth was positive for the bottom quintile, but the rest of the consumption distribution experienced a decline in consumption (Figure 2.6). Urban households over the same period experienced a similar trend with consumption growth for the poorest households but, unlike their rural counterparts, the richest quintile of urban households also experienced consumption growth (Figure 2.8).

Figure 2.5: Rural annualized real consumption growth, 2005/06–2015/16



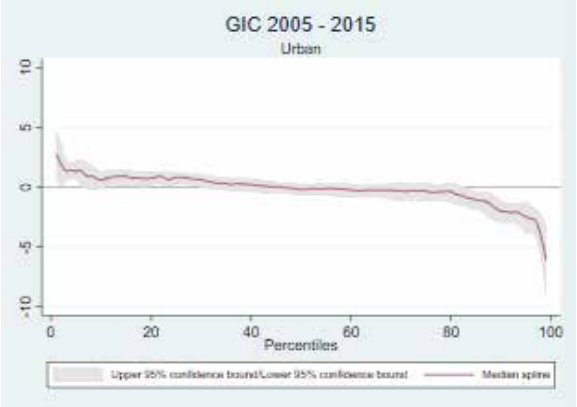
Source: Based on KIHBS surveys.

Figure 2.6: Rural annualized real consumption growth, 2015/16–2021



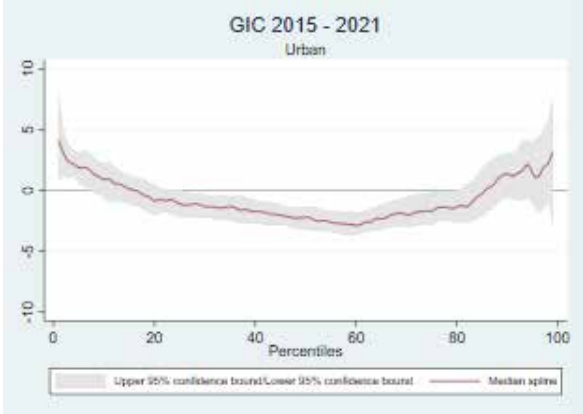
Source: Based on KIHBS and KCHS surveys.

Figure 2.7: Urban annualized real consumption growth, 2005/06–2015/16



Source: Based on KIHBS surveys.

Figure 2.8: Urban annualized real consumption growth, 2015/16–2021



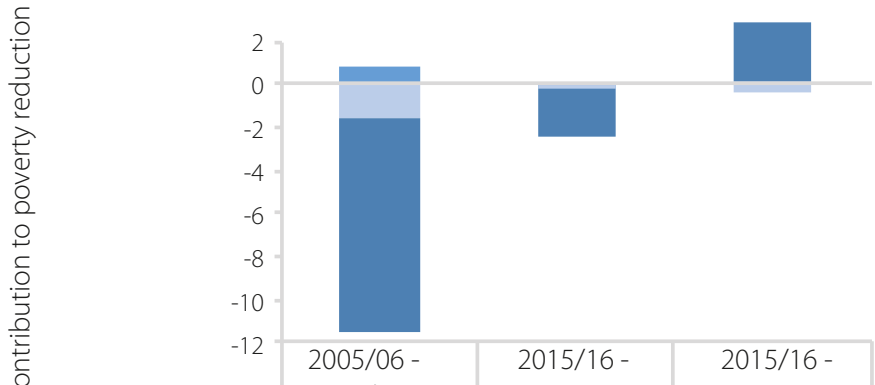
Source: Based on KIHBS and KCHS surveys.

15 Due to the quality of the consumption data collected for the 2019 household survey the aggregate was imputed. The imputation process relies on past consumption data and has not been used to measure growth incidence which requires each percentile of the imputed distribution.

Strong consumption growth of rural and agricultural households is key to poverty reduction in Kenya. The notable progress between 2005 and 2015 was driven by progress in rural areas, which saw poverty decline from 49.7 to 38.8 percent for an average annual reduction of 1.1 percent. Rural areas accounted for most of this poverty reduction. This was twice the rate of the reduction in urban areas, where the poverty rate declined from 34.5 to 29.4 percent in 2015. When improvements in rural welfare that drove the national reduction in poverty from 2005 to 2015 stagnated, poverty reduction slowed. From 2015 to 2019, the rural poverty rate declined by an annual average of 0.4 of a percentage point to 37.0 percent, while the urban poverty rate declined by an annual average of 0.8 of a percentage point to 26.0 percent. This declining pace of poverty reduction in rural areas, coupled with higher initial level of poverty, means that poverty remains higher in rural areas. Furthermore, given that close to 70 percent of Kenya's population live in rural areas, accelerating and sustaining poverty reduction hinges on the progress made in rural areas.

The shift of people between rural and urban areas plays only a limited role in poverty reduction. The decomposition of poverty reduction by "between-rural/urban areas" and "within-rural/urban area" shows that within-area poverty reduction took care of the bulk of the poverty reduction, with only a limited role for the population shift effect of migration between the two areas. Increases in consumption within rural and urban areas accounted for around 10 percentage points of poverty reduction, whereas population shifts between areas only accounted for around 1 percentage points of the reduction in poverty (Figure 2.9). A similar pattern occurred between 2015/16 and 2019, with intra-area consumption growth accounting for nearly all of the decline in poverty. Analyzing 2015/16 to 2021, a period that includes the COVID-19 shock, demonstrates that the increase in poverty was due to a decrease in household consumption within rural and urban areas.

Figure 2.9: Decomposing poverty changes into intra-rural and intra-urban effects vs. rural-urban population-shift effects, 2005/06–2021



	2005/06 - 2015/16	2015/16 - 2019	2015/16 - 2021
Intra-area effect	-10.0	-2.2	2.7
Population-shift effect	-1.5	-0.2	-0.3
Interaction effect	0.8	0.0	0.1

Source: Based on KIHBS and KCHS surveys.

While poverty remains a rural phenomenon, there is a smaller rural-urban difference in the depth of poverty. The depth of poverty - also known as the poverty gap - measures the consumption shortfall of the poor as a percentage of the absolute poverty line. The estimated depth fell between 2005 and 2019. Unlike the other poverty measures, there is a smaller rural-urban difference in the poverty gap. In 2019, this stood at 10.9 percent for rural areas and 7.7 percent in urban areas. This implies that, although there are fewer poor people in urban areas, the depth of poverty tends to be similar. The same applies to inequality among the poor, captured via the squared poverty gap, which captures the severity of poverty by placing greater weight on individuals further below the poverty line.

Geography is a strong marker of poverty, with clear and persistent spatial disparities

Despite the decline over time, poverty has remained persistently higher in arid areas. Both non-arid and semi-arid lands experienced a decline in poverty of over 10 percentage points from 2005/06 to 2015/16 (Figure 2.10), while poverty in arid counties, despite a higher initial level, only declined by 7.5 percentage points. Notably, the gap between arid areas and the rest of the country has remained stable from 2005/06 to 2021. Arid areas only account for around 10 percent of the population (Figure 2.12) yet given the much higher incidence of poverty in these areas, they represent around 20 percent of the country's poor. This increase has resulted in a steadily rising number of poor in arid areas, with a rise of over 60 percent from 2005/06 to 3.5 million in 2021 (Figure 2.11). The areas affected by the COVID-19 shock can also be seen looking at the number of poor. Whereas the number of people living below the national poverty line remained constant in arid areas from 2019 to 2020, non-ASAL and semi-arid areas saw a large increase in the number of poor, an increase that had still not returned to 2019 levels by 2021. The concentration of deprivation in arid counties is evidenced further through the number of hardcore poor (the number of people whose total consumption is below the food poverty line). The number of hardcore poor in arid counties has remained stable at around 1 million individuals, the same number as the hardcore poor residents in non-ASAL counties, which are home to more than six times the number of people.

Figure 2.10: Absolute poverty rate by ASAL classification 2005/06–2021

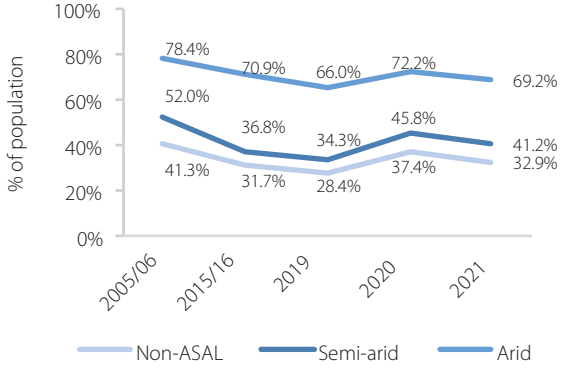
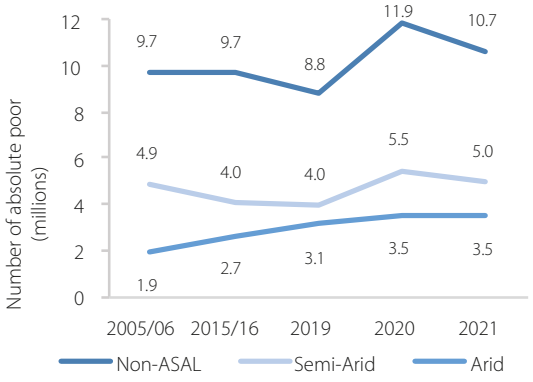
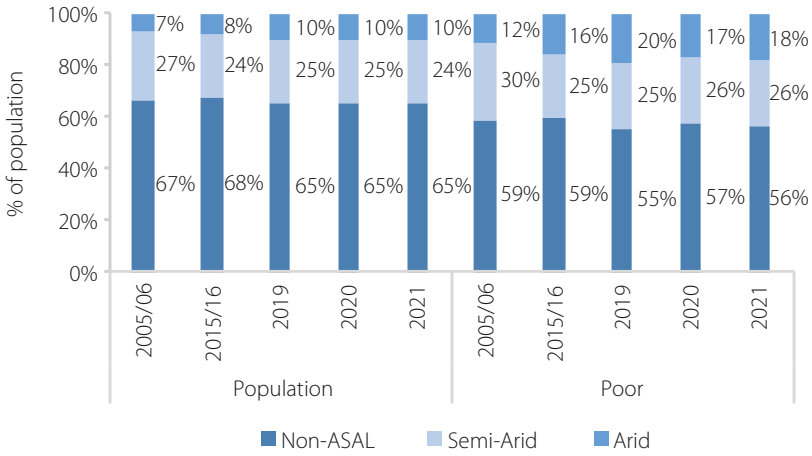


Figure 2.11: Number of poor by ASAL classification, 2005/06–2021



Source: Based on KIHBS and KCHS surveys.

Figure 2.12: Distribution of the population and the poor by ASAL classification, 2005/06–2021



Source: Based on KIHBS and KCHS surveys.

The north and northeast of the country is characterized by poverty rates that are persistently higher than the rest of the country. Counties in this area are historically underdeveloped and have seen little progress in poverty reduction. This is partly explained by agroclimatic constraints, which result in low agricultural productivity and greater vulnerability to climate shocks, as well as lower access to services, limiting opportunities for human capital accumulation. Kenya's northern-most county, Turkana, has the highest poverty rate of 81 percent (Figure 2.13). Turkana also has the highest number of poor individuals, with around 745,000 of Kenya's 15.8 million poor residing in the county (Figure 2.14). Notably, Kakamega county and Kilifi county, which have significantly lower poverty rates than those seen in the north of the country, each account for around 4 percent of the country's poor due to their large populations.

Figure 2.13: Absolute poverty rate (%) by county, 2019

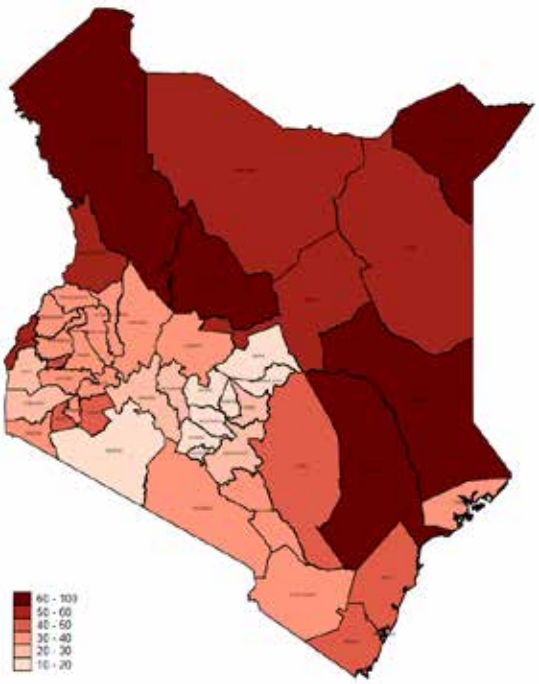
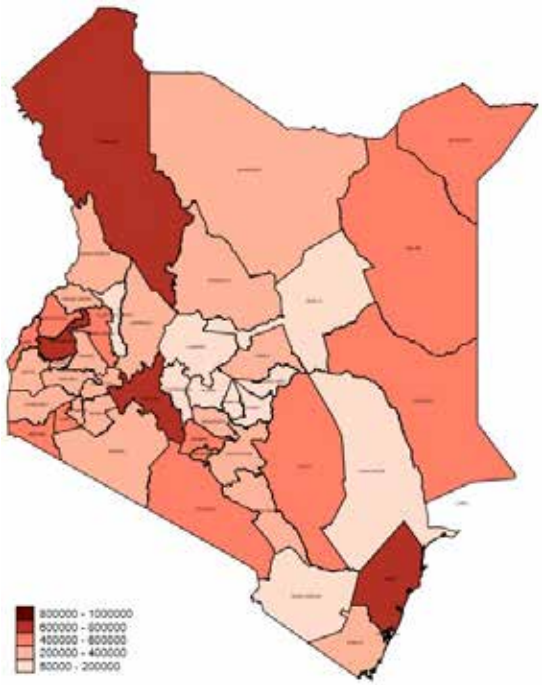


Figure 2.14: Number of poor by county, 2019



Source: Based on 2019 KCHS.

Even accounting for other household-level characteristics, households in arid areas have a significant and larger likelihood of being poor compared with households in non-arid areas. Households in arid areas have much higher poverty rates compared with households in semi-arid and non-arid areas. This remains the case after controlling for household-level predictors of poverty, such as lower education levels and larger household sizes. In both urban and rural areas, the probability of being poor is around 20 percent higher in arid areas compared with non-arid areas (Figure 2.15). This estimate drops to around a 5-percent higher probability for semi-arid areas.

Certain individual and household characteristics are associated with an increased likelihood of being poor

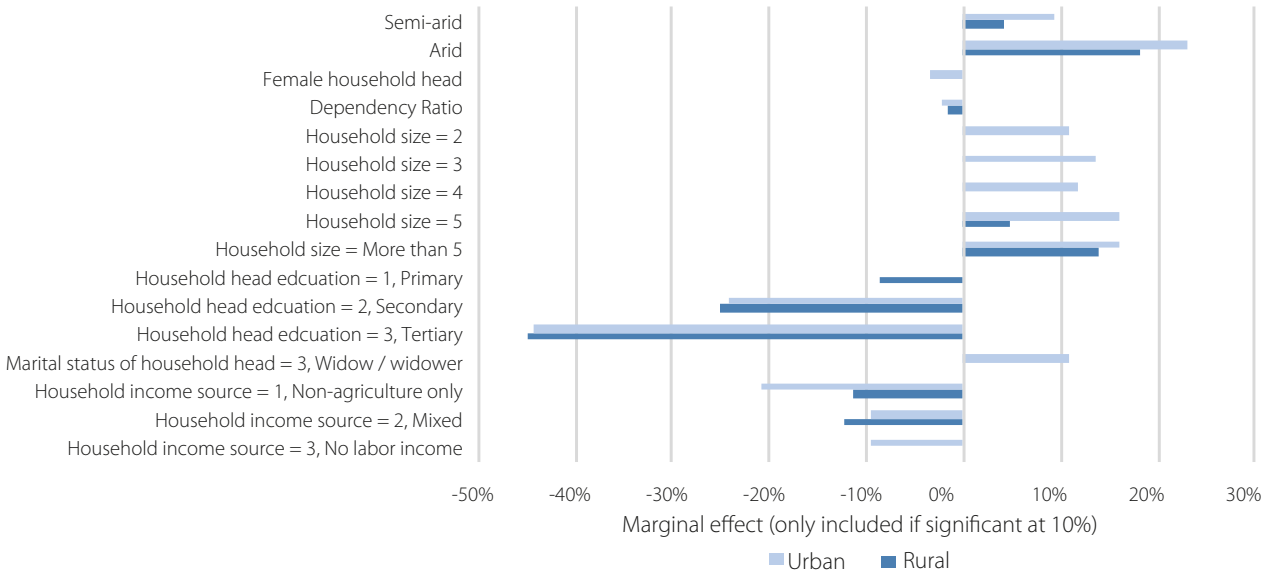
Higher education levels are correlated with a lower likelihood of being poor. In rural areas, a primary school education is associated with an almost 10-percent drop in the likelihood of being poor, compared with a household head with no education. However, among a population with higher average education levels, the same is not true in urban areas, where there is no statistically significant difference in the probability of being poor among household heads with no education and those with a primary school education. In both rural and urban areas, there is around a 25-percent lower likelihood of being poor for household heads with a secondary school education, and this increases to around 45 percent for household heads with a tertiary education.

Larger household sizes are associated with an increased likelihood of poverty in urban areas. Compared with households with only one member, households with additional members have a greater likelihood of poverty in urban areas. Households with two and three members are over 10 percent more likely to be poor in urban areas. This rises to 16 percent when a household has five or more members. The same trend is not evident among rural households, where only households with more than five members are significantly associated with a higher likelihood of poverty.

Child poverty is higher than the rest of the population. In 2019, children (persons aged less than 18 years old) had a poverty rate of 39.5 percent (Figure 2.16). This is higher than the national poverty rate of 37.3 percent. The child poverty rate has followed a similar trend to the national poverty rate, with the largest gains made between 2005/06 and 2015/16, and no statistically significant difference between the 2015/16 poverty rate and the 2019 poverty rate.

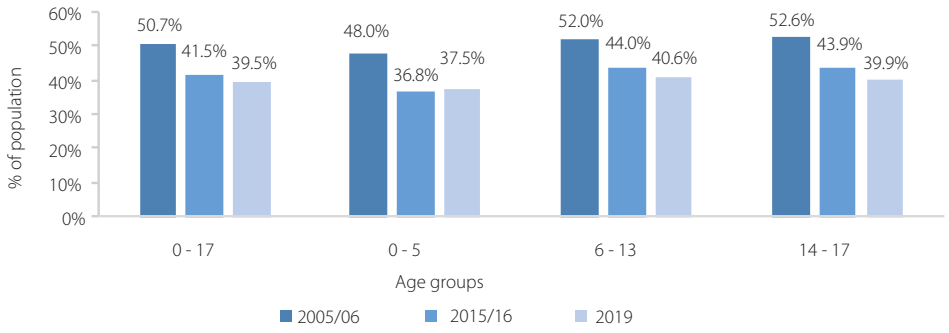
Single male households consistently have a lower poverty rate than other demographic groups. Households whose sole adult (aged 18–64) is female have a statistically significantly higher poverty rate than their male counterparts. This could be because women are more likely to care for children. However, this gap dropped from around 17 percentage points in 2015/16 to 8 percentage points in 2021, due to the increase in poverty among households whose sole adult is male. The highest poverty rates are seen among those households that have multiple generations of adults (two adults of the same sex, or three+ adults), or those that have no working age adults.

Figure 2.15: Correlates of rural and urban poverty, 2021



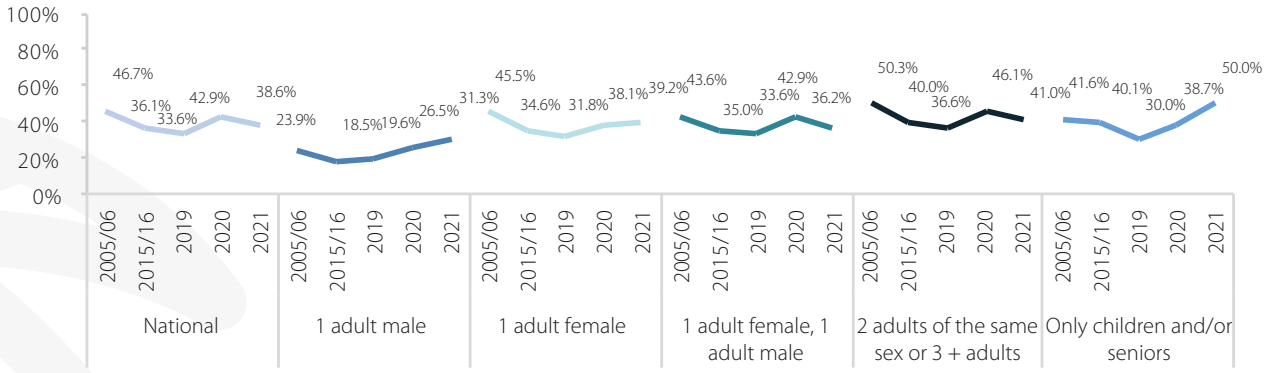
Source: Based on KCHS surveys.

Figure 2.16: Poverty incidence by age group, 2005/06–2019



Source: Based on KIHBS and KCHS surveys.

Figure 2.17: Absolute poverty rate by household composition, 2005/06–2021

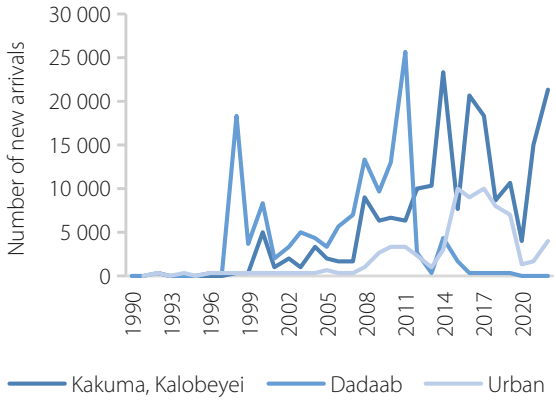


Source: Based on KIHBS and KCHS surveys.

Refugees are a particularly vulnerable group, facing high food insecurity and limited employment opportunities

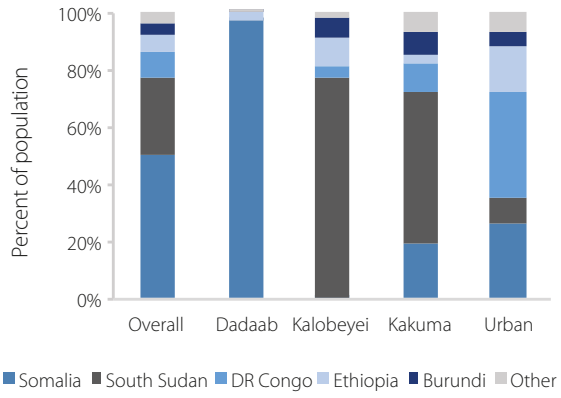
Kenya hosts forcibly displaced people from more than five countries in the region. These countries include the landlocked countries of Burundi, the Democratic Republic of Congo (DRC), and South Sudan, as well as neighboring Somalia. As of January 2023, 577,492 refugees lived in Kenya (UNHCR 2023). While the country's hosting history dates back to its independence in 1963, in more recent times, many have entered the country between 2011 and 2017, and more recently in 2021 and 2022, as a result of ongoing conflict and climate shocks in neighboring South Sudan and Somalia.

Figure 2.18: Year of arrival



Source: UNHCR Registration Database (proGres) as of April 2023.

Figure 2.19: Main countries of origin



Source: UNHCR (2023). Registered Refugees and Asylum Seekers from January 2023.

Most of these forcibly displaced people live in camps located in the particularly poor, arid counties of Turkana and Garissa (with poverty rates of 78 and 68 percent, respectively, in 2021). While refugees receive regular food and cash assistance from the international community, most notably the World Food Program (WFP), aid deliveries are often insufficient to cover daily needs. Refugees are disproportionally affected by food insecurity, with results from the eighth wave of rapid response phone surveys (RRPS) indicating that 72 percent of refugees lacked access to needed staple foods in June 2022, an even higher share than the 49 percent for the whole population.

The refugee population is overwhelmingly young, and often consists of women and their children.[16] Fifty-eight percent of the camp refugee population consists of children below the age of 18 and, more broadly, children and young adults (25 years or below) make up most of the refugee population, at 73 percent in Kakuma, 80 percent in Kalobeyei, and 71 percent in Dadaab. This implies access to schooling, training, and employment opportunities to absorb a largely young workforce will be important. In addition, the large proportion of women and their children in the camps calls for targeted policies that address their unique needs and challenges.

Camp refugees live in markedly different living arrangements than hosts, with a larger emphasis on shared living in extended households. Nuclear families are less common among refugees, with only 19 percent of the population in Kakuma, 24 percent in Kalobeyei, 20 percent in Dadaab, and 29 percent in Nairobi living in a family consisting of a woman, a man, and children, as well as in some cases seniors (65 years and older). Instead, the most common household composition consists

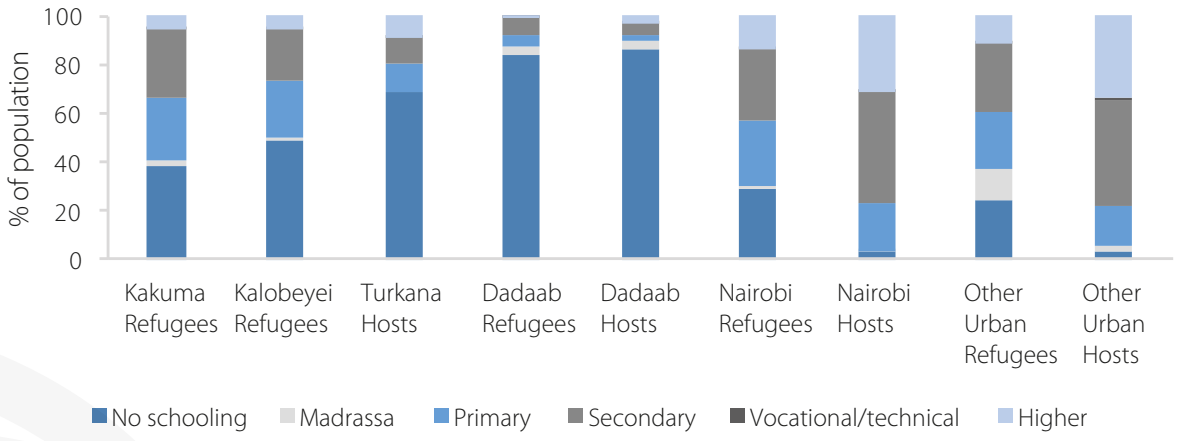
16 Unless otherwise specified, the statistics on refugees in this section come from the Kenya Longitudinal Socioeconomic Study on Refugees and Host Communities (K-LSRH). The results are preliminary and may change as the survey data is being finalized.

of multiple adults with children. Sixty-five percent of Kakuma refugees, 51 percent of Kalobeyei, and 50 percent of Dadaab and a still-considerable 35 percent of Nairobi refugees live in such extended households. Single women with children make up the third-most-common composition, with 18 percent of Kalobeyei refugees, 19 percent of Dadaab refugees, and 13 percent of Nairobi refugees living in such households. These households often cannot rely on a support structure of other family members and are particularly vulnerable in times of need such as during droughts, or the COVID-19 pandemic.

Adult refugees' educational attainment, particularly for women in refugee camps, is low. In Kakuma, 39 percent of refugees aged 25 to 64 years and 49 percent in Kalobeyei have not completed any years of formal schooling or Madrassa, while the share is significantly higher in Dadaab, at 84 percent (Figure 2.20). In urban areas, the share of 25–64-year-old refugees without schooling is smaller, but a noticeable schooling gap compared with the attainment of nationals persists. Hosts are almost twice as likely to have completed at least some years of secondary school compared with refugees, which may have implications for refugees' job market prospects. Moreover, adult women are significantly less likely to have completed any form of schooling than men. For instance, in Kakuma, 56 percent of refugee women have never been to school compared with 17 percent of men. This trend is repeated in Kalobeyei (66 percent women: 27 percent men), Dadaab (91:75), Nairobi (37:19), and Mombasa and Nakuru (35:17). Improving educational attainment in refugee camps and facilitating access for both communities can foster greater integration and can serve to reduce social and economic disparities.

Most refugee children in Kakuma and Kalobeyei have access to primary schooling, while in Dadaab only 18 percent of primary school-aged children are enrolled in primary school. Net primary school enrolment among refugee children in Kakuma, Kalobeyei and Nairobi is encouragingly high, with 82 percent of refugee children of primary school age in Kakuma, 85 percent in Kalobeyei, and 70 percent in Nairobi enrolled. Furthermore, gross enrolment, which measures the percentage of children enrolled relative to the population of primary school-aged children, is frequently more than double that of net enrolment, indicating that some older children, especially those aged between 13 and 18, are catching up on education opportunities missed during years of conflict, uncertainty, and deprivation.[17]

Figure 2.20: Highest level completed for household members (25–64 years old)



Source: K-LSRH (2022/23), preliminary results.

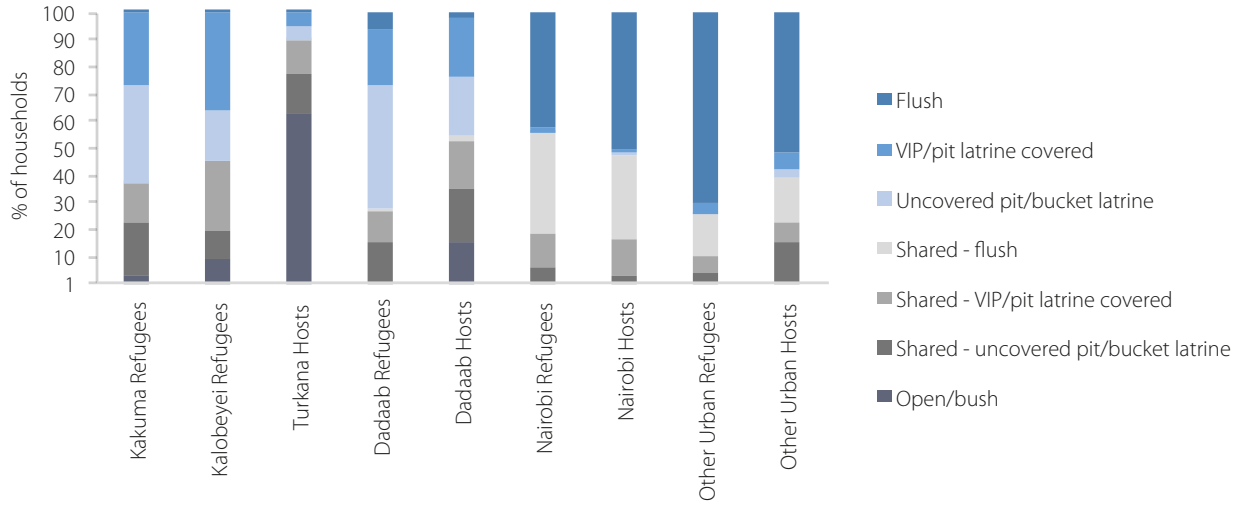
Note: Graph includes those still enrolled in school. Pre-primary is defined as no schooling in this figure. Primary indicator includes grades 1 to 8, Accelerated Primary Education Program for camp refugees' levels 1–3, and adult basic education. Secondary refers to grades 9–12 or forms 5/6 or adult secondary education.

17 Counting formal education only. Madrassas are excluded from net and gross primary and secondary school enrolment rates.

There are gender differences in education: more boys of higher age groups are enrolled in secondary school than girls of a similar age. When split by gender, the net and gross enrolment rates of refugee boys and girls in primary school are largely comparable across categories, painting an encouraging picture for refugee access to primary education. NERs in secondary school, while overall much lower than for primary, are also similar between boys and girls. However, when looking into GERs in secondary school, there is a 41-percentage-point differential between boys and girls in Kakuma, a 20-percentage-point differential in Kalobeyei, and a still sizable 15-percentage-point differential in Nairobi. In the absence of job opportunities, the opportunity costs of attending secondary school may be low, leading many young adults to continue their education, despite having completed primary school with delays due to interrupted education trajectories. At the same time, girls and young women may be less likely to continue their education due to childcare and other household activities expected of them.

Refugees tend to face multiple deprivations, which are compounded by the fact that most of them live in camps located in the particularly poor, arid areas. Urban refugees have near-universal access to electricity, while most refugees living in camps are not connected to the electricity grid, but instead use battery or solar lamps or torches for lighting. Lack of access to lighting can have negative implications on education outcomes, perceptions of insecurity, and risks of gender-based violence (GBV), crime, and community violence (World Bank 2019). Refugee households in camps overwhelmingly use firewood for cooking, while cleaner, non-solid fuels are more accessible in urban areas. In urban areas, most refugees and hosts have access to clean cooking fuel, the most common source being LPG. However, the share of urban refugees using solid fuels, in particular charcoal, is still comparatively high, at 29 percent. Indoor air pollution has been linked to several other health issues. The use of solid fuels thus poses a considerable health risk, especially for women and young children who are more likely to be exposed to harmful pollutants (WHO 2022a). While drinking water sources are usually secure, successive droughts and overcrowding conditions have negatively affected the quality of underground water sources. At least one member in more than half of refugee households has fallen sick due to having consumed contaminated water in the previous 12 months. Access to improved toilet facilities in the camps is limited. While in urban areas nearly half of the refugee population have access to improved sanitation facilities, the share drops significantly in refugee camp areas (Figure 2.21). According to a UNHCR WASH evaluation conducted in 2019, 14 percent of refugees in Kakuma and Kalobeyei practiced open defecation, 17 percent did not have access to soap, and 23 percent did not have access to a solid waste disposal facility over the 12 months before their survey (UNHCR 2019). Poor sanitation practices, including open defecation and shared toilet facilities, can lead to the spread of infectious diseases (WHO 2022b).

Figure 2.21: Access to clean toilet facilities



Source: K-LSRH (2022/23), preliminary results.

2.3 The Poor Face Twin Challenges in the Job Market: Fewer Household Members Work and Those that Do Are Mostly Engaged in Low-productivity Sectors

Work participation among the poor fell during 2015–19 and remains below that of the non-poor

Over the period when poverty reduction slowed, labor force participation rates fell among both poor and non-poor workers. Labor force participation (LFP) rates increased from 63 percent in 2005 to 73 percent in 2015, before declining to 69 percent in 2019. Similarly, among the poor, LFP rates rose from a low of 59 percent in 2005 to 67 percent in 2015, and fell to 63 percent in 2019. The difference in the LFP between poor and non-poor individuals has widened over the past 15 years, particularly in rural areas.

The labor force participation rate for the poor being below that of the non-poor has persisted over time and presents a puzzle. It is important to understand why poor households are not fully utilizing the productive capacity of their working-age members, given the presence of the agriculture sector and the informal sector, both of which should provide easy entry (indeed, as discussed below, during the pandemic there was a rise in the share working in agriculture). Access to non-labor income sources is also not widespread, especially as cash transfer safety net programs cover only a small share of the poor in Kenya. What does appear to be driving these low LFP rates among the poor is a combination of demographic and location-related factors. A regression analysis shows that, controlling for education levels, share of dependents (children) in a household, and region of residence, the poor are no less likely to participate than the non-poor are. It is the case, however, that the poor tend to live in households with a large share of children and that they also have lower education levels. Poorer households in both rural and urban areas have the lowest share of working-age members. As a result, at the household level, poorer households also have the lowest share of working-age members who are employed. Over time, an increasing share of inactive individuals cites a lack of opportunities as the reason for inactivity, especially among those in poor households. Among the poor who are inactive, they predominately reside in rural areas (71 percent), in arid counties (53 percent), are under age 35 (67 percent), and have low levels of education (72 percent with completed primary or less) (Annex 7).

Figure 2.22: Labor force participation rates by poverty status, 2005/06, 2015/16, 2019

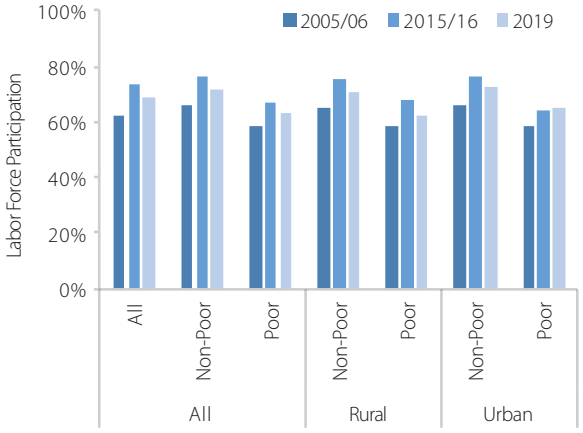
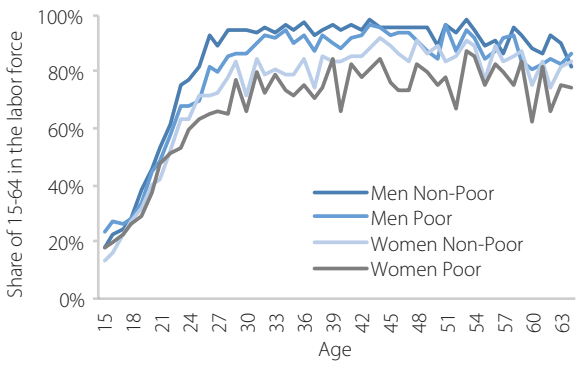


Figure 2.23: Labor force participation rates by age, gender, and poverty status, 2019



Source: Based on KIHBS and KCHS surveys.

Note: Participation among workers aged 15–64.

The poor's low LFP rate is also driven by youth and women participating less than other groups. Regardless of their poverty status, only a small share of youth aged 15–24 participates in the labor force. A majority of people in this age group are enrolled in school. Gender is another factor, as women, particularly poor women, have the lowest participation rates. Regression analysis indicates that, controlling for education and household location, the share of dependents in the household significantly reduces the probability of a woman participating in the labor force, even if she is in a poor household (regression results are reported in Annex 7). For youth, being in school is a common reason for not participating. Another common reason, particularly for youth in ASAL counties, is the lack of suitable jobs in the area. For women, family responsibilities are a frequently cited reason for not participating (see Annex 7).

Refugees' labor force participation is particularly constrained, affecting their ability to be self-reliant

Refugees have lower employment rates than nationals, limiting their ability to sustain their own livelihoods.[18] In Kakuma camps and Kalobeyei settlement, only one in ten refugees is employed, while eight in ten remain outside the labor force. Employment rates are slightly higher in Dadaab and urban areas but, in all cases, lag behind the host community. Although there is a process for refugees to obtain a work permit in Kenya, the process is often complicated, costly, and fraught with administrative hurdles, resulting in few refugees obtaining one in practice (World Bank 2019).

Due to a lack of official work permits, paid employees within refugee camps are typically hired as 'incentive workers'. Refugees who are fluent in English and Kiswahili can apply for incentive work with international organizations, including positions such as translators, enumerators, community mobilizers, cleaners, community health workers and food assistance distributors, among others (IFC 2018). For many refugees, incentive-based work is the only viable means of employment: In Kakuma half of all employed refugees work exclusively as incentive workers, while 90 percent work partly or exclusively in incentive-based roles. Similarly, in Kalobeyei settlement and Dadaab camp, over 80 percent of employees work as incentive workers, partly or exclusively. These contractual

18 Unless otherwise specified, the statistics on refugees in this section come from the Kenya Longitudinal Socioeconomic Study on Refugees and Host Communities (K-LSRH). The results are preliminary and may change as the survey data is being finalized.

positions typically involve fulltime work, but with reduced "incentive pay" of between US$40–55 per month for most workers, rather than a full salary, which allows organizations to legally engage refugees even without a work permit (Betts, Omata, and Sterck 2018). Therefore, even if they are paid employees, many refugees are not necessarily self-reliant (World Bank 2019).

A lack of jobs is frequently cited as the main reason for not working. Refugees are, on average, a young population and it is reassuring that a large share of those who are not working are in training or fulltime students. The next most common reason for not engaging in the labor market was a lack of available job opportunities (21 percent). Reasons for not looking for a job also vary by gender. Nineteen percent of refugee women report family and home responsibilities as their main reason for not being in the labor force, which is reported only by 1 percent of refugee men. A similar gendered difference is even more pronounced among nationals (27 and 3 percent, respectively).

Non-farm diversification is low among rural poor and reliance on non-agriculture (services) among urban poor is high

In rural areas, households' employment strategies involve a portfolio of activities for working-age members, encompassing agriculture and non-agricultural work (Table 2.3). In rural areas, a significant share of households across all income quintiles had employed working-age members engaged exclusively in agriculture. However, the share of households that work outside agriculture or combine agriculture and non-agricultural work rises with income. Households exclusively engaged in the non-agriculture sector or those with at least some non-agricultural employment within the household are associated with lower poverty rates. This is consistent with a finding by the World Bank (World Bank 2018b) that, during the 2005–15 period, off-farm diversification was an important source of poverty reduction.

The employment strategies of the rural poor are less likely to be diversified (Table 2.3, columns 2-5). Between 2005/6 and 2019, the share of rural households specializing in agriculture remained largely unchanged, at above 50 percent. Rural households diversify their employment activities (and assets and income sources) in response to several push and pull factors (Barrett, Reardon, and Webb 2001). That better-off households display higher rates of diversification of employment portfolio suggests that, in rural Kenya, poorer households may face some barriers to entering non-agricultural activities. Skills and education could be the source of one such barrier. As shown above, the rural working-age population has among the lowest educational attainment in the country.

Table 2.3: Household employment composition, by rural quintile

	Year	Share of Members Outside Working Age (1)	Share of Working-Age Working (2)	Members only working in Agri (3)	Members only working outside of agri (4)	Members working in agri and non-agri (5)	No member working (6)
Poorest	2005/06	52%	50%	55%	11%	16%	18%
	2015/16	53%	65%	60%	13%	20%	7%
	2019	50%	62%	53%	14%	20%	12%
2nd	2005/06	50%	54%	59%	11%	16%	14%
	2015/16	50%	71%	59%	14%	23%	4%
	2019	47%	67%	51%	16%	23%	10%
3rd	2005/06	48%	59%	56%	13%	19%	12%
	2015/16	47%	73%	56%	15%	26%	4%
	2019	45%	69%	50%	19%	22%	10%

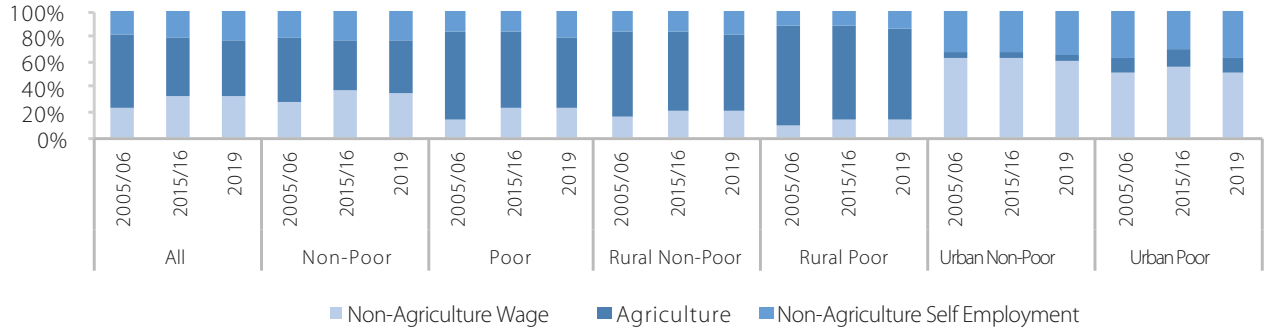
	Year	Share of Members Outside Working Age (1)	Share of Working-Age Working (2)	Members only working in Agri (3)	Members only working outside of agri (4)	Members working in agri and non-agri (5)	No member working (6)
4th	2005/06	46%	61%	53%	18%	18%	10%
	2015/16	44%	76%	48%	23%	26%	3%
	2019	41%	73%	47%	23%	21%	8%
Richest	2005/06	38%	66%	45%	27%	17%	10%
	2015/16	35%	79%	42%	35%	18%	4%
	2019	36%	79%	42%	32%	19%	7%

Source: Based on KIHBS and KCHS surveys.

Prior to the pandemic, even as all workers moved out of agriculture, the working poor remain engaged mainly in low productivity sectors

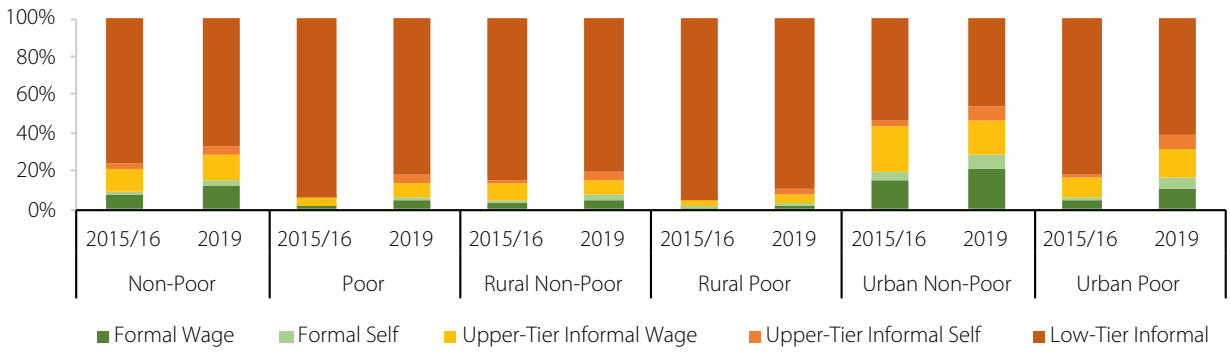
Non-agricultural employment is more common in urban areas and among the non-poor. The poor continue to be heavily reliant on agricultural employment (57 percent in 2019), compared with the non-poor (40 percent), while the non-poor have a larger share in wage employment (Figure 2.24). Furthermore, the rural poor are even more dependent on the agriculture sector to provide employment, with their non-poor counterparts more often working in non-agricultural wage jobs or in self-employment. In contrast, the urban poor have a slightly lower share in wage employment compared with the urban non-poor.

Figure 2.24: Employment type by poverty status



The share working in higher-quality employment is greater among the more educated, urban dwellers, and the non-poor. The jobs ladder can be used as a proxy for the quality of employment and poverty rates closely correlate with the quality of employment (Annex 7, Figure A7.2) (Fields et al. 2023). Using this approach, the quality of employment improved between 2015/16 and 2019, with fewer individuals in lower-tier informal employment (Figure 2.25). However, despite the improvement, over two-thirds of Kenyans still work in lower-tier informal employment. Those with more education are more often able to access the better-quality jobs, with over half of individuals with tertiary education in formal wage employment. However, the poor, especially in rural areas, are heavily reliant on lower-quality employment, with little change between 2015/16 and 2019.

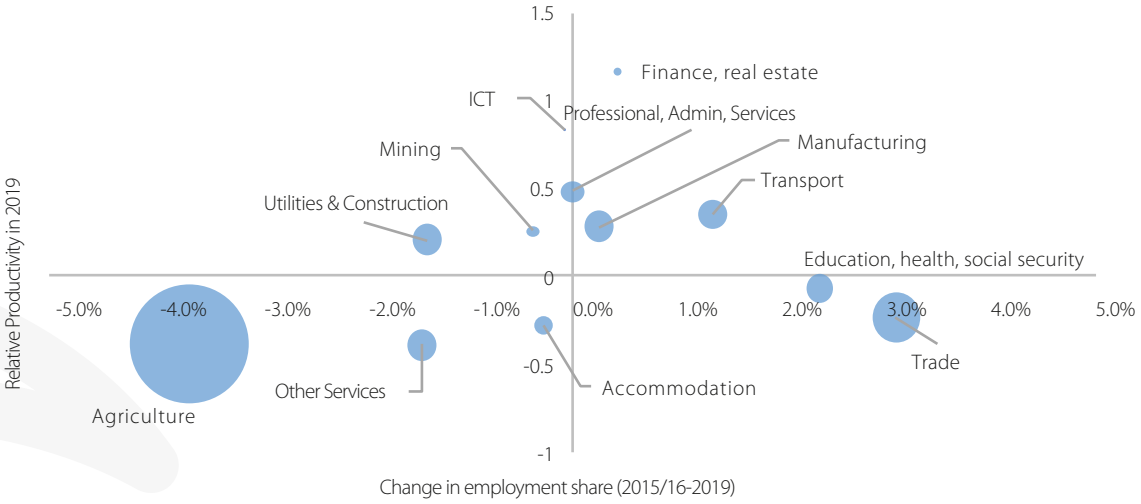
Figure 2.25: Jobs ladder jobs type by poverty status



Source: Based on KIHBS and KCHS surveys.

Between 2015 and 2019, workers from poor households left agriculture and moved mainly into sectors with lower-than-average productivity. The industry sector remains the most productive, with the largest increase in productivity between 2015/16 and 2019 (World Bank 2023b). The services sector is over three times as productive as the agriculture sector. However, the majority of Kenyans work in relatively less-productive sectors of the economy. For instance, 80 percent of the workforce are in sectors whose productivity is less than aggregate productivity.[19] These sectors include agriculture, wholesale and retail trade, accommodation and food services, social services, and other services. Furthermore, 84 percent of the employed from poor households work in these lower productivity sectors. Also, the sectors with the largest employment shares among the poor (trade and social services) had below average productivity in 2019. Between 2015 and 2019, while the share of the poor engaged in agriculture fell, a large share continues to be engaged in the sector. The sectors that saw growth in employment among the poor include trade, education and health, transport, and manufacturing. The latter two sectors are promising in terms of their potential for productivity growth and linkages to higher productivity services sectors (World Bank 2023a).

Figure 2.26: Sectoral relative productivity and changes in employment among the poor between 2015/16 and 2019

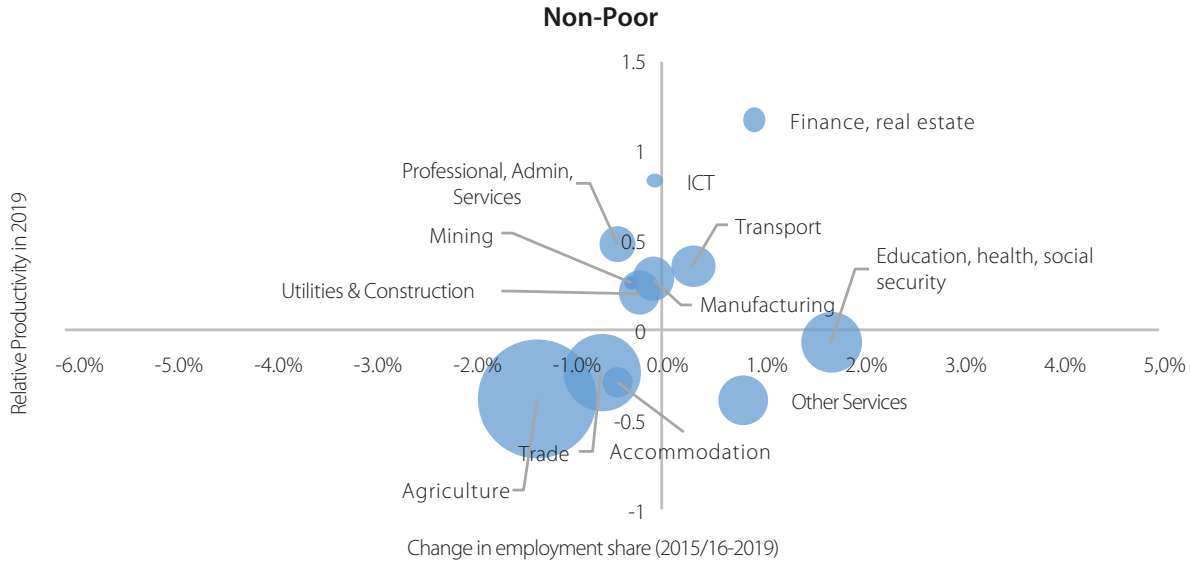


Source: Based on KIHBS and KCHS surveys.

19 Aggregate productivity is total value added divided by the total number employed.

The non-poor also saw a shift out of agriculture, as well as out of accommodation, although these remain important sectors of employment for them (Figure 2.27). This group also experienced increases in employment in sectors similar to the poor. While the share of non-poor in ICT did not change, the share employed in finance and real estate—the sector with highest productivity—rose between 2015 and 2019.

Figure 2.27: Sectoral relative productivity and changes in employment among the non-poor between 2015/16 and 2019



Source: Based on KIHBS and KCHS surveys.

Since 2020, agriculture has become a fallback employment option for less-well-off workers

Overall, the poorest experienced the largest declines in employment and the slowest recovery. Between 2019 and 2020, the share of the working age in employment did not change. However, the national level hides heterogeneity across poverty status, as well as location. For instance, the non-poor experienced an increase in employment, while employment declined for the poor. There was a large increase in employment (7 percentage points) among the non-poor individuals aged between 15 and 24, suggesting that non-poor households may have utilized additional labor within the household during the pandemic to supplement household income. In rural areas, there was little change in employment among the poorest (Figure 2.28), however, there were large gains in employment among the richer rural quintiles, which may reflect the movement of urban individuals leaving cities to rural areas in response to the pandemic.

Employment moved into agriculture in response to the pandemic, remaining above its pre-pandemic share in 2021. The initial onset of the pandemic resulted in the share of employment in agriculture increasing by 9 percentage points, driven by a 10-percentage-point decrease of employment in the services sector. The largest growth in agricultural employment was among the non-poor aged between 15 and 24 (12 percentage points) and the urban poor (15 percentage points). This demonstrates the agriculture sector's ability to function as a safety net and absorb employment. By 2021, employment remained more concentrated in the agriculture sector, especially among the urban poor and the poor over age 35. All rural quintiles experienced an increase in the share of agricultural employment, with the share remaining above pre-pandemic shares for all but the richest in 2021. The movement into agriculture was largest among the poorest in urban areas (a 24-percentage-point increase), while the decline in services was smaller among the upper urban quintiles. The better off were also more often able to move into

industrial employment, suggesting that they had more opportunities available. By 2021, while employment continued to be more concentrated in agriculture for the bottom 80 percent of urban individuals, employment had returned to similar pre-pandemic shares among the richest urban individuals.

Figure 2.28: Changes in employment share by rural quintile

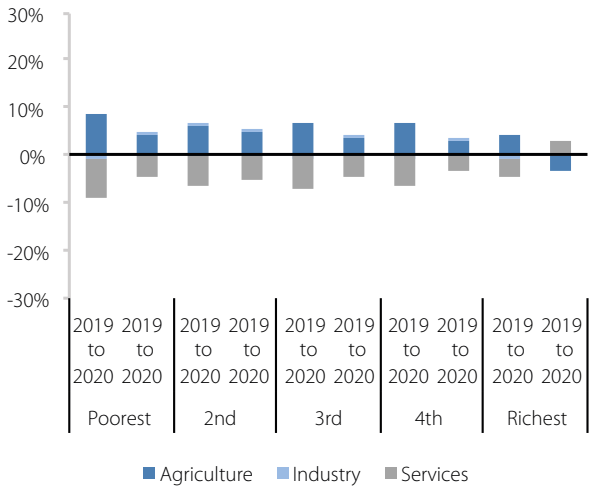
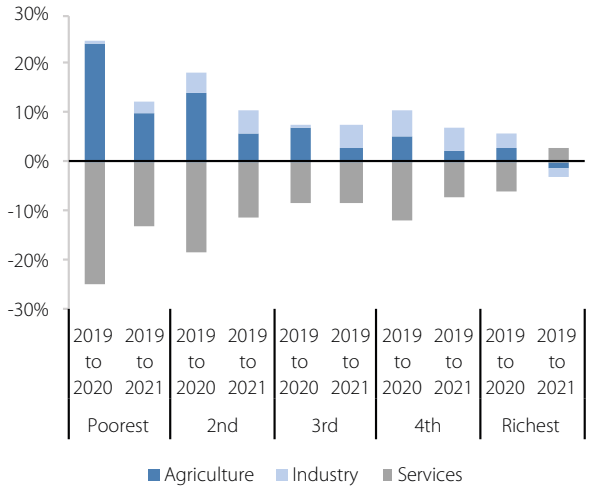


Figure 2.29: Changes in employment share by urban quintile

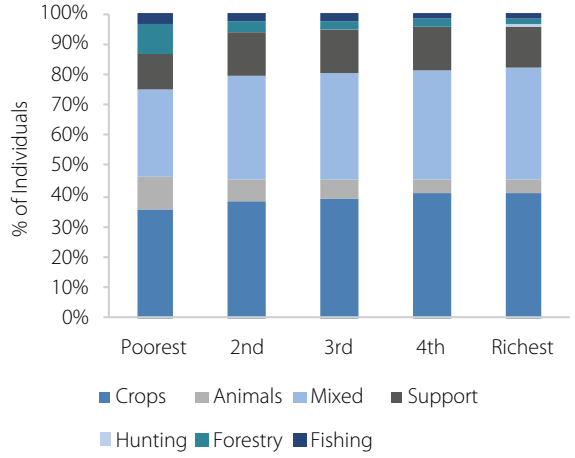


Source: Based on KCHS surveys.

Agricultural households and their productivity – the poor use fewer inputs and are less likely to market their produce

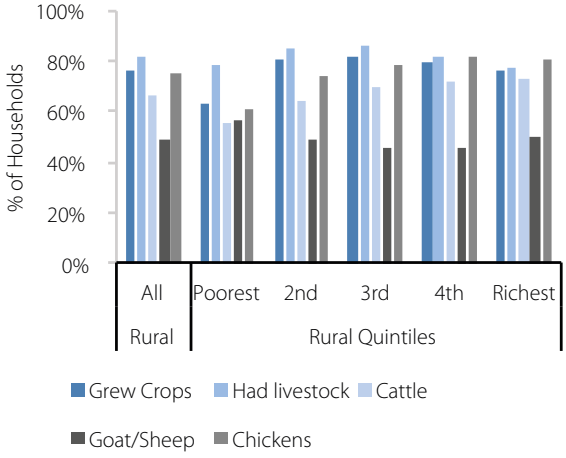
The poorest agricultural workers are more often engaged in animal rearing or forestry. While most agricultural employment is found in crop production or mixed activities, workers from the poorest quintile are more often engaged in animal rearing or forestry, with the latter more often consisting of firewood collection or charcoal production. These activities involve the exploitation of natural capital and may be unsustainable (Figure 2.30). Furthermore, the poorest less often grew crops in 2015/16 and had lower ownerships rates of cattle and chickens compared with richer rural households (Figure 2.31). Livestock ownership is common among rural households, especially among the middle of the consumption distribution and in semi-arid counties.

Figure 2.30: Type of agricultural activity by rural quintile, 2019



Source: World Bank staff calculations based on the KCHS 2019.

Figure 2.31: Household crop and livestock activity, 2015/16



Source: World Bank staff calculations based on the KIHBS 2015/16.

Livestock and crop productivity is greater among the richer quintiles and in non-arid counties, and they are more likely to market their produce. Three-quarters of rural households grew crops in 2015/16, with over half of these households selling some of their produce. Fewer poor households grew any crops compared with non-poor rural households (71 to 78 percent), and less often sold the produce (46 to 61 percent).[20] The poorest rural households have the lowest share growing crops (63 percent), with a large gap to rural households in the second quintile (80 percent). Similarly, the share of crop growing households selling produce increases from 39 percent among the poorest to 67 percent among the richest. However, crop production is concentrated in rural households in non-arid and semi-arid counties, with very low rates of households growing crops in arid counties (8 percent). In semi-arid counties, poor rural households sell their output less often. Maize and bean productivity increases across the rural quintiles. For maize, arguable the most important crop, yields are over 100kg lower per acre for poor households compared with non-poor households. Likewise, maize yields increase across the consumption distribution and are much higher in non-arid counties, with little difference between semi-arid and arid counties.

The use of inputs increases across the consumption distribution in rural areas. Three-quarters of rural households that grew crops used either organic or inorganic fertilizer, while around half hired labor. In contrast, very few rural households that grew crops used irrigation (6 percent). For all three inputs, use is higher among the non-poor rural households and increases across the consumption distribution. However, the use of irrigation remains very low even among the richest consumption quintile (10 percent). Fertilizer use is greatest in non-arid counties, followed by semi-arid and then arid counties. In contrast, irrigation use is highest among rural crop-growing households in arid counties, reflecting the fact that irrigation is likely required to make it possible to grow crops. Non-poor households more often use livestock inputs, while nutritional inputs such as feed or mineral salts are less often used in arid counties.

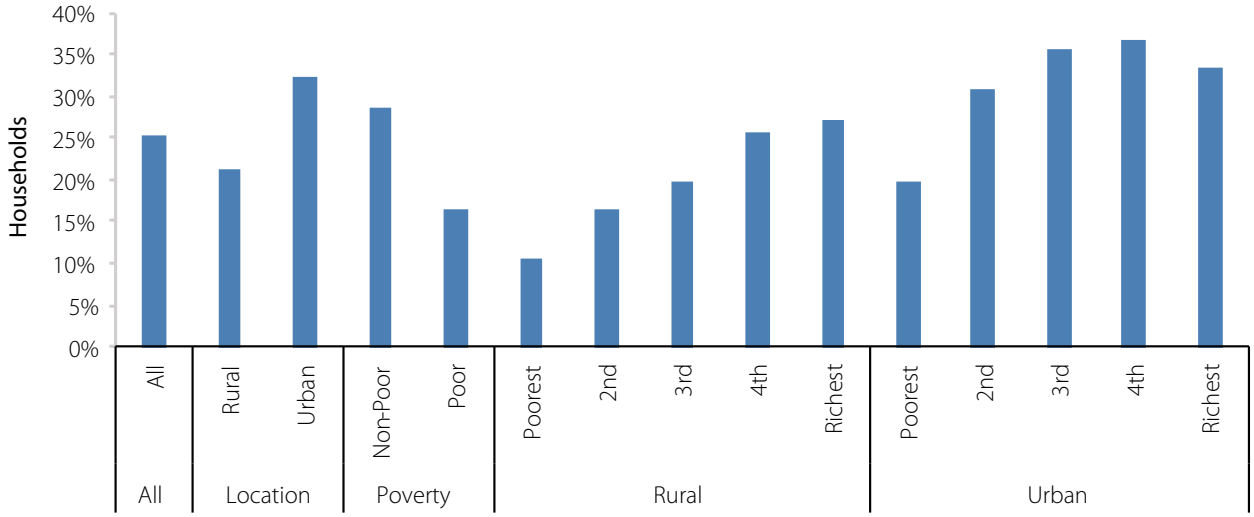
Enterprises run by poor households are less productive and report a number of constraints

Urban and wealthier households more often had a household enteprise. In 2015/16, around one-quarter

20 This is also supported by regression analysis. Further, education has little impact on the likelihood of a household selling crops, while households with more land and who used inputs are more likely.

of households had a household enterprise (Figure 2.32). Enterprises were more common among urban households (32 percent compared with 21 percent in rural areas) and among non-poor households (29 percent). In both rural and urban areas, the poorest households less often have household enterprises.

Figure 2.32: Household enterprise ownership



Source: World Bank staff calculations based on the KIHBS 2015/16.

Most household enterprises consist of a single individual, and are most commonly in the wholesale and retail trade sector. Three-quarters of household enterprises in 2015/16 consisted of a single individual, with only 2 percent having five or more employees (Figure 2.33). The household enterprises in poor households are more often single individuals, with only enterprises in the richest quintiles more often having more employees. Household enterprises are concentrated in the trade sector (61 percent), nationally but also in rural and urban areas (Figure 2.24). Rural enterprises have a larger share in manufacturing (12 vs 8 percent), while household enterprises with five or more employees have a smaller share in trade (50 percent) and larger shares in social services (14 percent), and utilities and construction (7 percent). Household enterprises from the poorer households in both rural and urban areas have larger shares in manufacturing.

Figure 2.33: Size of household enterprises

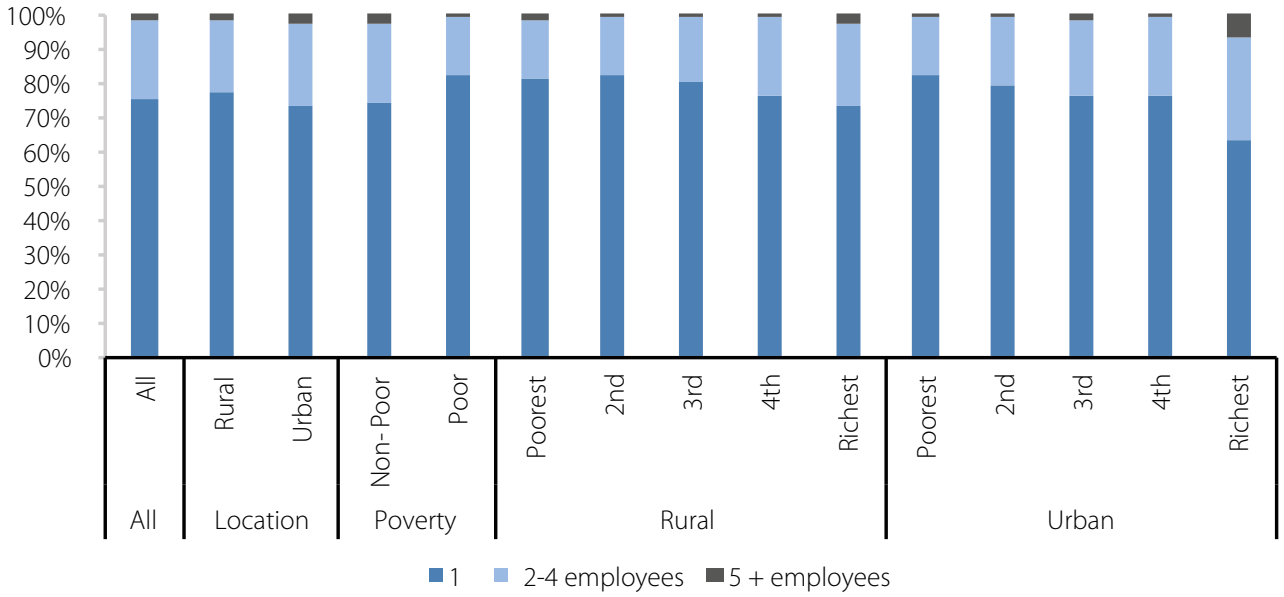
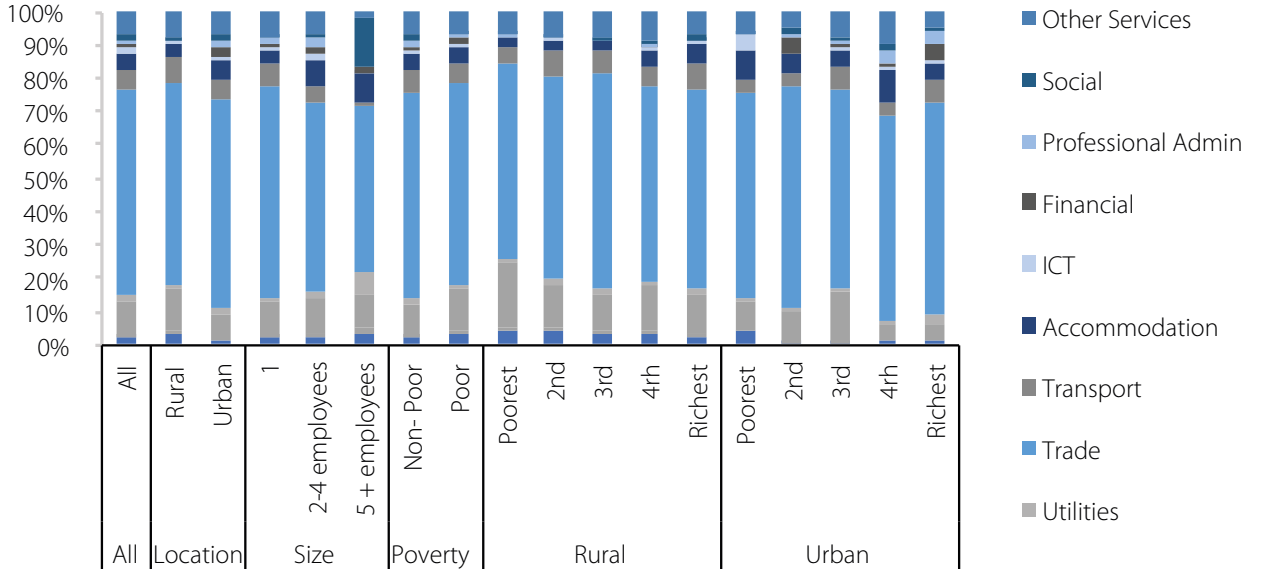


Figure 2.34: Household enterprise sectors



Source: World Bank staff calculations based on the KIHBS 2015/16.

While almost all enterprises reported a profit (99 percent), profits were twice as large in non-poor households compared with poor households. The average reported profit for a household enterprise was just over KSh 13,000 per month in 2015/16. The average was larger for urban and non-poor households, as well as those with more employees. Household enterprises in the poorest rural households make very little profit, on average just over KSh 3,300 per month, which is roughly equivalent to the rural poverty line per adult equivalent. In contrast, household enterprises in the richest rural households made on average just over KSh 10,000, or three times as much as enterprises in the poorest rural households. However, when compared with urban household enterprises, the richest rural households make a similar average profit to those in the middle of the urban distribution. The richest urban households reported an average profit of just under KSh 40,000 per month, or almost four times as much as the richest rural households.

Productivity of household enterprises by poverty status – human capital, labor input, and financial access

Education levels among poor households with an enterprise were lower than non-poor households. Over half of all households with an enterprise do not have any members with completed secondary education, a share that is larger among rural households (67 percent), those in arid counties (82 percent), and the poor (74 percent). Household enterprises in households at the bottom of the rural consumption distribution had the lowest levels of education (84 percent without any member with completed secondary education). In contrast, households with enterprises in the richest rural quintile had similar maximum levels of education as households in the second-poorest urban quintile. While this reflects lower levels of education among these groups, it also demonstrates that household enterprises in these groups had lower levels of human capital available to them.

Most household enterprises consisted of one employee, the majority were informal, and very few hired workers outside the household. Just over one-third of all enterprises have any paid employees, with a larger share in urban households (51 percent) compared with rural (25 percent). Non-poor households also more often have a paid employee. Furthermore, households in the richest rural households with an enterprise still less often have a paid employee (31 percent) compared with the poorest urban households (35 percent). However, once household members are excluded, the shares drop to only 15 percent of household enterprises. Furthermore, while similar patterns remain true—i.e., a higher share of enterprises paying individuals outside the household in urban and non-poor households—households in the richer rural quintiles more often employ individuals outside the household than the poorer urban households. However, it still remains true that urban household enterprises may be more successful at creating employment, even if it is for members of the same household.

Most individuals rely on their own financing for start-up and ongoing activities for their household enterprises. While access to credit was only reported as the main constraint by just under one-third of individuals running a household enterprise in 2021, it appears that a large share do not utilize external finance (Figure 2.35 and Figure 2.36). Over half of all individuals used their own financing to start up the household enterprise, with a further one-quarter receiving assistance from family and friends (Figure 2.35). The use of formal loans increases with education and across the consumption distribution. The same pattern is true for financing ongoing activities, although a much larger share relies on their own finances (Figure 2.36).

Figure 2.35: Financing used for starting the household enterprise

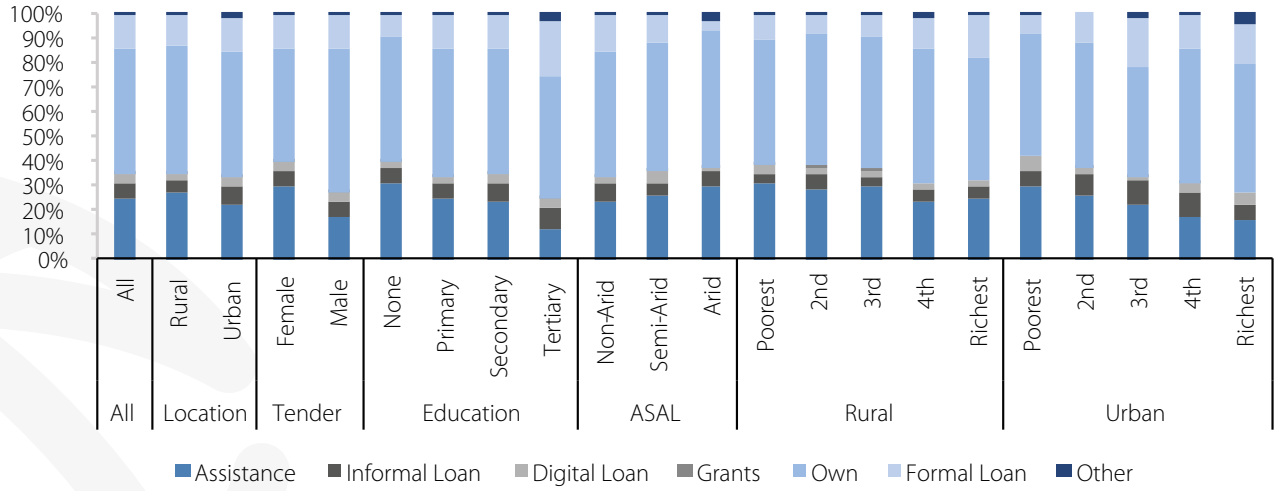
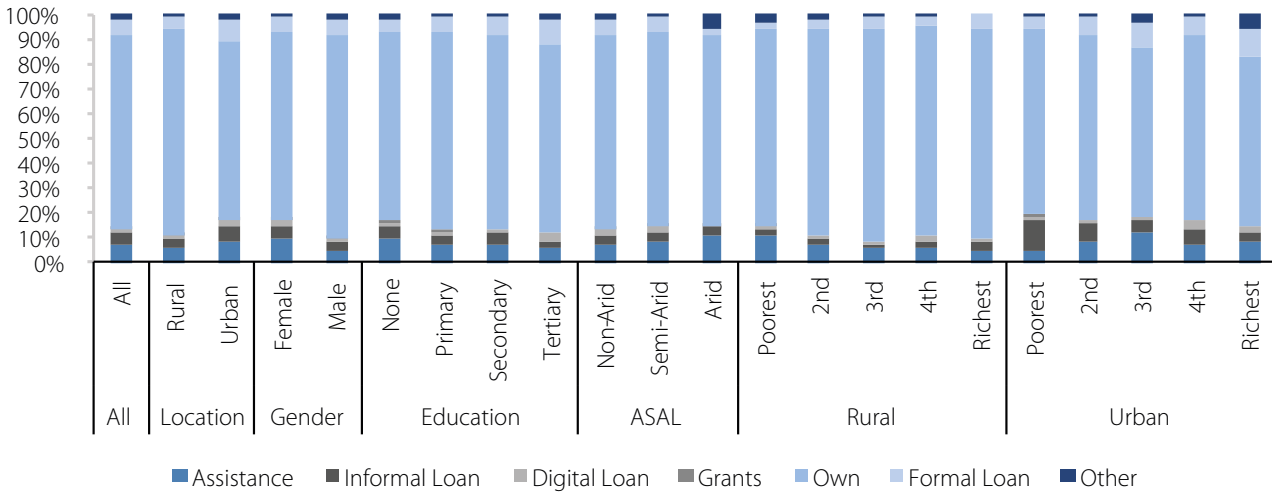


Figure 2.36: Financing used for ongoing activities



Source: World Bank staff calculations based on the FinAccess Data 2021.

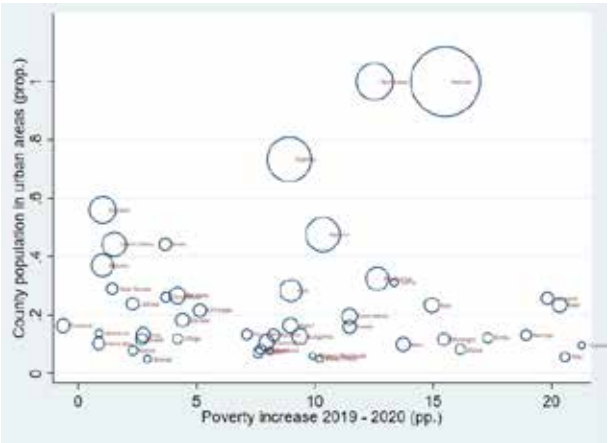
2.4 High Levels of Economic Vulnerability Amplify the Negative Effect of Shocks on Household Welfare

Economic vulnerability remains a threat to the sustainability of gains made in poverty reduction. In 2019, there was a greater number of non-poor whose consumption was closer to the poverty line, compared with 2005. Vulnerability is defined here as total consumption within 1.2 times of the absolute poverty line among non-poor households. Even during the period that registered the fastest reduction in poverty, between 2005 and 2015, this rate increased from 10.2 percent of the population in 2005/06 to 12.3 percent in 2015/16. Unlike the rural-urban gap in poverty levels, the level of vulnerability is similar across areas.

Therefore, while gains have been made in poverty reduction, there is widespread potential for people to fall below the poverty line in the event of a shock; the case of the COVID-19 pandemic, which disrupted the trend in poverty reduction, resulted in a significant rise in poverty driven by a large increase in urban areas. Nationally, poverty rose from an estimated 33.6 percent in 2019 to 42.9 percent in 2020. This was driven by 6.5-percentage-point increase in rural areas to 43.5 percent, and a large 15.0-percentage-point increase in urban areas to 41.7 percent. This increase in urban poverty nearly closed the rural-urban poverty gap, which contracted from 11 percentage points in 2019 to just 1.8 percentage points in 2020. The increase in urban poverty was striking in the most populous urban areas where COVID-19 restrictions hit the hardest. The three counties with the largest urban populations, Mombasa, Kiambu and Nairobi, saw poverty increases of 12.5, 8.9 and 15.5 percentage points, respectively (Figure 2.37).[21]

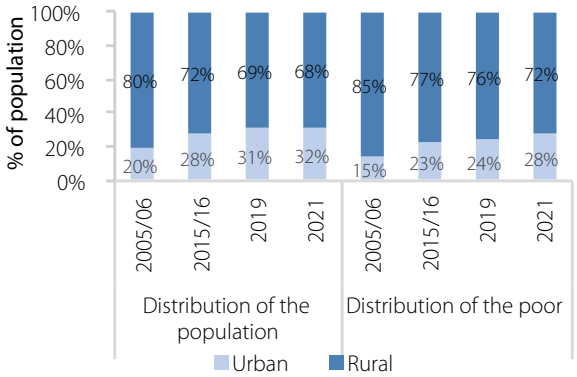
21 Each of the bubble markers represent one county with their size weighted by the urban population in 2020.

Figure 2.37: Poverty increase in urban areas, 2019–20



Source: Based on KCHS surveys.

Figure 2.38: Distribution of the population and the poor by area of residence, 2005/06–2021



Source: Based on KIHBS and KCHS.

The number of urban poor has more than doubled. The share of Kenya's population living in rural areas declined by nearly 1 percentage point per year from 80 percent in 2005/06 to 68 percent in 2021 (Figure 2.38). This reduction coincided with the reduction in the proportion of the poor living in rural areas also declining by around 10 percentage points over the same period, from 85 percent in 2005/06 to 74 percent in 2019. Population growth in urban areas outpaced the rate of poverty reduction. Therefore, while the poverty rate in urban areas is nearly the same in 2005 and 2021, due to population growth the number of poor in urban areas more than doubled from 2.4 million people to 5.4 million people. As a result, the proportion of Kenya's poor residing in urban areas increased from around 16 percent in 2005 to 28 percent in 2021, nearly matching the proportion of urban individuals in the population.

Recovery from the pandemic had begun in 2021, yet not sufficiently fast to return to pre-pandemic levels. The economic recovery in 2021 was reflected in the 4.3-percentage-point decline in the poverty rate to 38.6 percent in 2021. The recovery was primarily driven by gains in the services sector, where value added increased by 9.8 percent in 2021 (World Bank 2022b). In line with the services-led recovery, the largest gains in poverty reduction were observed in urban areas, which witnessed a 10-percentage-point decline. Whereas the pace of the recovery has been impressive, the reduction in poverty has not been sufficient to improve welfare to the pre-pandemic levels seen in 2019, with poverty levels still slightly higher than those seen in 2015.

Poverty is persistent. In the absence of panel data, a synthetic panel is used to estimate the probability of poverty mobility from 2015/16 to 2021 (Rongen 2021). For a large segment of the poor, poverty is persistent. Close to 90 percent of those who were poor in 2015 are predicted to have been poor in 2021. Concerted efforts are needed to break this cycle, which risks the prevalence of chronic poverty and poverty traps. That said, the analysis is conditioned by 2021 being an atypical year—a year of recovery from the COVID-19 pandemic.

Table 2.4: Synthetic panel point estimates, 2015–2021 (parametric conditional probabilities)

	Poor 2021	Non-poor 2021
Given poor 2015/16	0.889	0.111
Given non-poor 2015/16	0.095	0.905

Note: Cells give the probability of each of the four states for the population from age 25 to age 70.

Source: Based on KIHBS and KCHS surveys.

Welfare recovery from the COVID-19 pandemic was hit by the rising cost of living

The compounded impacts of droughts and food-price increases associated with Russia's invasion of Ukraine—all occurring in an already fragile socio-economic environment as a result of the pandemic—have muted recovery in the early stages of the post-pandemic period. Russia's invasion of Ukraine has been associated with increased import costs and prices, including Kenya's significant net fuel and wheat imports. Inflation rose to 7.9 percent in June 2022, driven by increasing prices of food and non-alcoholic beverages (13.8 percent), breaching the GoK's upper limit target of 7.5 percent for the first time since August 2017. Poor households, which had already been facing food insecurity during the pandemic, are especially vulnerable to the rising cost of living. While rising commodity prices could be beneficial to net food-producer households, a rise in input prices, notably fertilizers, has offset this potential benefit.

A growing share of households has been unable to access staple foods, largely due to increases in price. Phone survey data show that the share of households unable to access staple foods reached its lowest point toward the end of 2020. However, across 2021 and the first half of 2022, the share of households unable to access staple foods continued to increase, reaching almost half of households in June 2022. The most common cause of a household's inability to access staple food is due to increases in prices. Most households experienced an increase in the prices for most core items.

A relatively large share of households cut consumption to cope with the rising cost of living—a strategy that can have adverse long-term effects on the nutrition and cognitive development of children. While substitution tends to be more common for core food items, for fuel items the rate of substitution was much lower. This may suggest that the price is relatively homogenous across brands, or that households that purchase fuel items are better able to absorb the increase in prices. Across most food items, substitution to cheaper brands is less common in rural areas, which may be driven by fewer alternatives in rural markets, or because rural households more often already consumed the cheapest brands.

More Kenyans—over one-third—are using credit to cover day-to-day expenses, signaling growing indebtedness. The use of credit is common to meet day-to-day expenses and can allow an individual to smooth their consumption over time. However, the use of credit may have negative consequences, such as the sale of assets, if an individual is unable to repay. Fifty-seven percent of Kenyans who used credit later defaulted.[22] Overall, individuals reported a worsening of their financial status between 2020 and 2021, potentially highlighting the impact of consecutive shocks on households.

Growing incidence of weather-related shocks, amid low resilience of poor households, slows poverty reduction

Areas in the north and northeast are hardest hit by droughts

Kenya is highly exposed to frequent and adverse weather events, particularly flooding and drought. Average rainfall has been increasing over the past 40 years, but it is heavily concentrated in the western counties, with the highest rainfall distribution in the western counties such as Busia, Bungoma, Trans Nzoia, and Kakamega. The north and northeastern counties have received the least rainfall over the past four decades. Areas with less rainfall are becoming hotter: the average temperature has been increasing over the past 40 years, with warmer average temperatures in the north and northeast.[23] As a result, droughts tend to be concentrated in the north and northeast of the country. Over the past four decades, the rate of climatic disasters has increased from two in the 1980s to 14 in the 2010s (Figure 2.39). The increase is true for both droughts (one to five) and floods (one to nine).

22 Defaulted is defined as an individual either not paying at all, paying late, missing a payment, or paying less.

23 The average temperature in Kenya has increased by around 1 degree Celsius over the past 40 years.

However, these climatic shocks are not evenly distributed across the country. Droughts are more common among the ASAL counties situated predominately in the north and northeast of Kenya. These areas also have lower levels of vegetation (Figure 2.41). The recent drought appears to be worse in the eastern part of the country, with vegetation being far below the long-term average, especially in the coastal counties (Figure 2.42). Models predict the worsening of climate shocks, as average temperatures are predicted to rise by the 2050s.

Figure 2.39: Distribution of droughts, 2000 to 2022

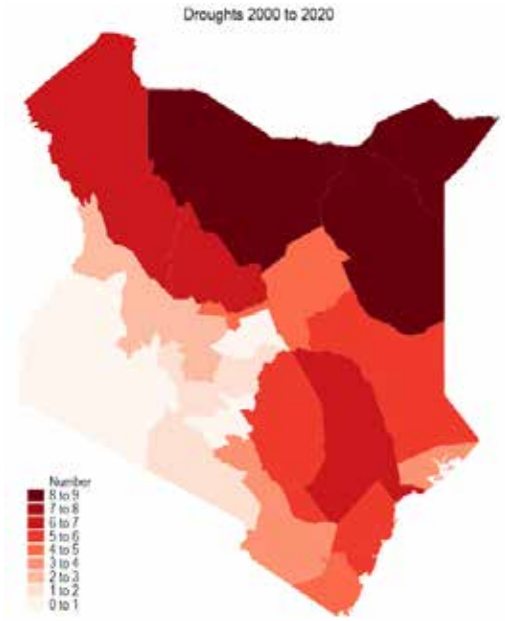


Figure 2.40: Distribution of floods, 2000 to 2022

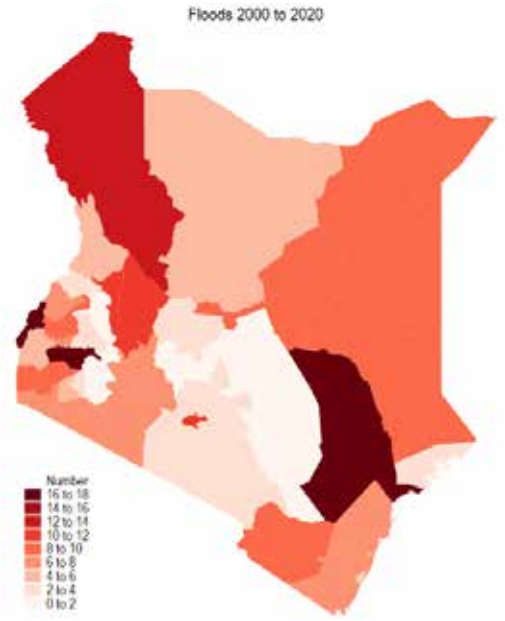


Figure 2.41: Average NDVI, 1984 to 2019

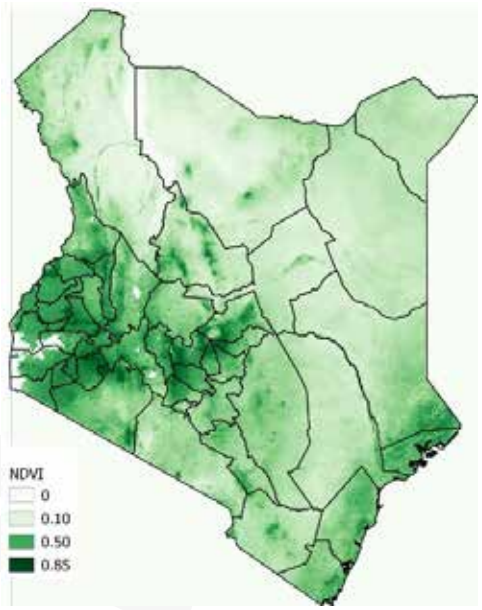
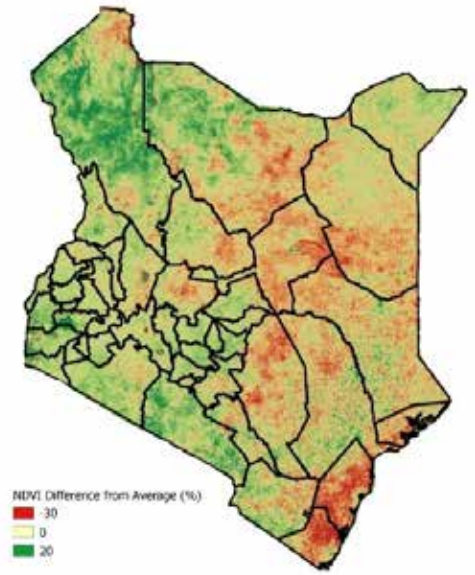


Figure 2.42: Percentage differences between 2021 NDVI and the long-term average (1984 to 2020)



Source: EM-DAT.

The strong spatial dimension of climate shocks, being more likely to affect poor regions in the north and northeast—specifically, the ASALs—has exacerbated the poverty challenge and widened spatial inequalities. More recently, the fourth consecutive drought in the north and northeast counties has led to mass livestock death and water scarcity, and has put millions of people at risk of severe food insecurity. Recent RRPS data show that 75 percent of households in ASAL counties report experiencing variable rains or droughts compared with 44 percent of non-ASAL counties during the preceding year. Climate shocks are compounded by natural resource challenges, with about 85 percent of Kenya's land area classified as a fragile arid and semi-arid ecosystem, which is largely pastoral.

While households are affected by multiple, often overlapping, climate shocks, the poor have historically had a higher exposure to agricultural shocks, especially among agricultural households, with droughts or floods being the most common. Agricultural individuals in the ASAL counties tend to report drought as the main shock that they face, especially those engaged in livestock rearing (Nyakarimi et al. 2020). Heat stress can reduce the output from livestock, while climate change can also reduce the availability and quality of fodder and water (Thornton et al. 2009; Weindl et al. 2015; Rojas-Downing et al. 2017; KIPRRA 2022). Livestock death/theft is also very common in these areas, some of which may also have been caused by climatic shocks (World Bank 2018b). While there are little differences across location and gender, those with lower levels of education more often report drought as a challenge. The better educated are more likely to invest in strategies that mediate the impact of climate change, for example irrigation.

Adverse weather shocks are associated with an increase in poverty

Climate shocks are associated with an increase in monetary and non-monetary poverty. Regression analysis[24] suggests that a negative Normalized Difference Vegetation Index (NDVI) shock, which shows that vegetation is below the long-term average, was associated with a decrease in per adult equivalent consumption for households in 2021. The only exception is the arid poor, for which the negative NDVI shock has no effect (Table 2.5). However, there is a negative impact of an NDVI shock on the food consumption of the arid poor, suggesting that their response to a shock is to reduce food expenditure. Furthermore, while an NDVI shock increases poverty across all typologies of counties, the shock only increases hardcore poverty in arid counties.

Table 2.5: Regression coefficients for an NDVI shock on monetary and non-monetary indicators

	Full sample	Poor Only	Non-Arid All	Non-Arid Poor	Semi-Arid All	Semi-Arid Poor	Arid All	Arid Poor
Log PAE Consumption	-0.132	-0.130***	-0.202***	-0.131***	-0.189***	-0.053**	-0.410***	-0.091
Log PAE Food Consumption	-0.098	-0.152***	-0.154***	-0.152***	-0.236***	-0.098**	-0.419***	-0.172**
Absolute Poverty	0.047		0.090		0.210***		0.310***	
Hardcore Poverty[25]	0.020	0.045	0.021	0.045	0.041*	0.034	0.286***	0.172**
Dietary Diversity	-0.592***	-0.551***	-0.786**	-0.568***	-0.263	0.132	-0.648***	0.059
Food insecurity	0.126	0.528	0.352	0.548	0.615*	0.492	0.888***	0.675**

Source: Based on the KCHS surveys.

24 The impact of climatic shocks can be estimated using OLS. Weather shocks are exogenous variables, which implies the absence of endogeneity. Short-run deviations from long-run rainfall and temperature are plausibly exogenous. Therefore, OLS regressions can be used to estimate the impact of weather shocks (i.e., negative and positive rainfall shocks, temperature shocks and vegetation shocks) on household monetary and non-monetary welfare for 2021.

25 Hardcore poverty is defined as when a household's per adult equivalent total consumption is below the food poverty line.

Non-monetary measures of welfare are adversely affected by an NDVI shock. An NDVI shock is associated with a reduction in dietary diversity in all areas except those in semi-arid counties and the poor in arid counties, with the latter potentially already having limited dietary diversity. However, food insecurity increases only among households in arid counties, both poor and non-poor. These non-monetary impacts may also have a harmful impact in the longer run through reduced accumulation of human capital.

With the caveat that it is hard to disentangle the impact of different shocks, microsimulations[26] are used to examine the aggregate impact of repeated shocks over the past three years. Kenyan households have been hit by several shocks over the past few years, including the COVID-19 pandemic, the price shock that resulted from Russia's invasion of Ukraine, and persistent climatic shocks. These repeated shocks have had a large impact on poverty, with rural and urban households affected to a greater or lesser degree depending on the specific shock.27 Urban poverty increased dramatically in the months following the onset of the COVID-19 pandemic, with poverty rates surpassing those in rural areas (Figure 2.43). However, urban households also recovered relatively quickly and, by the end of 2020, poverty rates in both rural and urban areas were similar. This recovery from the pandemic stalled in the first half of 2021, before urban poverty returned to pre-pandemic levels by the end of 2021. However, rural poverty experienced a large spike by the middle of 2022, as the rains continued to fail, and the economy was affected by price shocks. The severity of poverty follows a similar pattern.

Figure 2.43: Simulated poverty impact of shocks

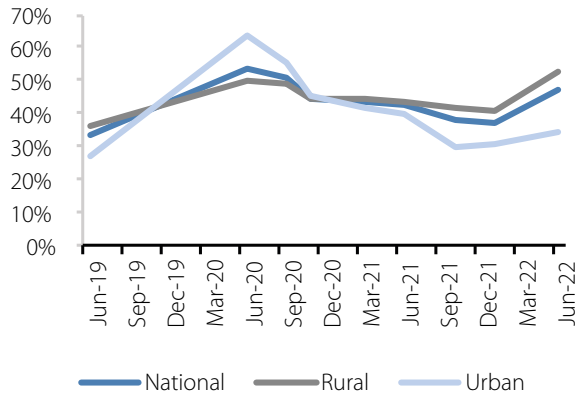
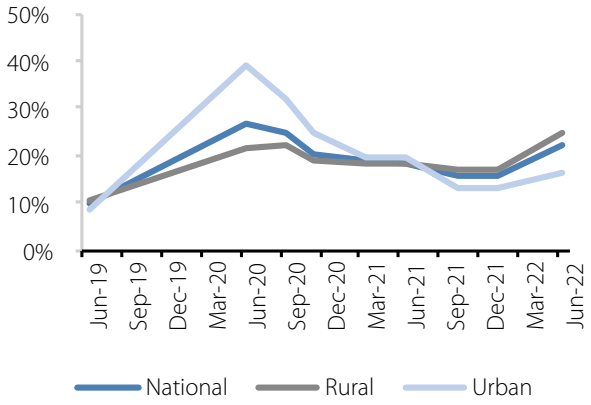


Figure 2.44: Simulated poverty gap impact of shocks



Source: Based on KIHBS 2015/16 and RRPS.

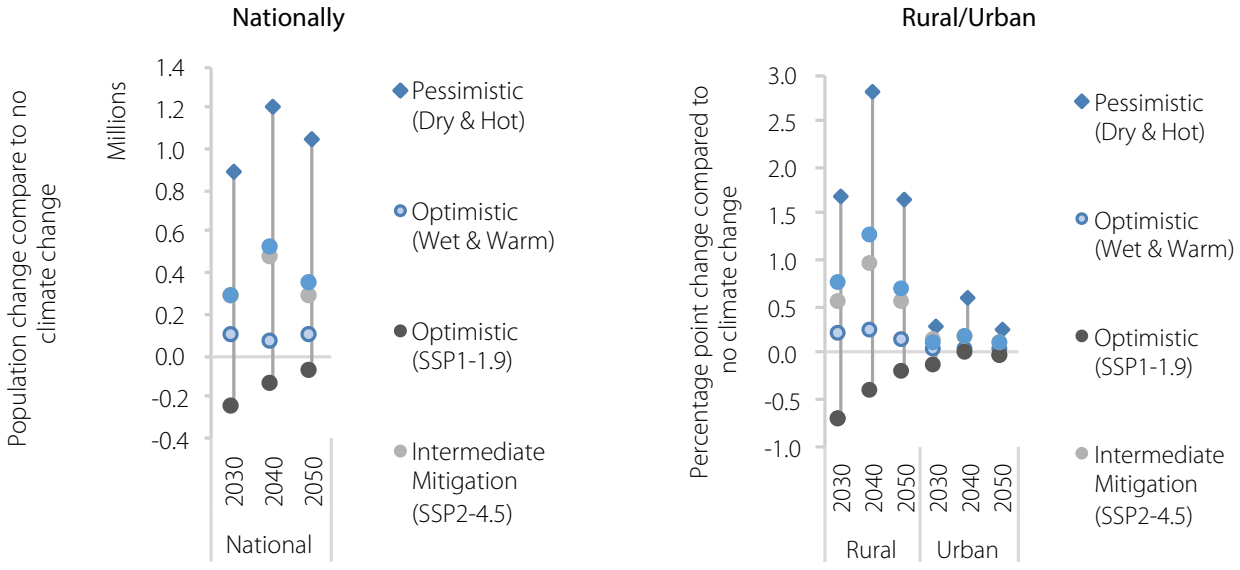
The combined impact over the past two years has been larger for the pre-pandemic poor, but initially the impact was larger for the middle of the consumption distribution. Median consumption initially fell in urban areas in 2021, before recovering and surpassing pre-pandemic levels in 2022. In contrast, median rural consumption was relatively unaffected in 2021, but there was a large decline in 2022 as price and climatic shocks impacted households. In rural areas, the initial impact was largest among the poorest, but by 2022 the middle of the distribution was the worst affected. Among urban households, the initial impact of the pandemic was largest among the poorest, though all but the poorest had recovered by the middle of 2022.

26 More details on the microsimulation methodology are provided in Annex 6.

27 The rapid response phone surveys (RRPS) allow the estimation of poverty for each month covered by the different waves. These estimates provide a snapshot of poverty at different time points throughout the past two years.

The frequency of climatic shocks is likely to increase, having a detrimental impact on welfare. Climate change is expected to inhibit Kenya's ability to reduce poverty in the future. In comparison with a baseline with no climate change, a pessimistic dry-hot scenario results in roughly an additional 1 million Kenyans being poor by 2050. Under most climate scenarios, there is an increase in poverty compared with if there was no climate change. The percentage-point increase in poverty is larger in rural areas, although rural households also see a larger decline in the most optimistic scenario (Figure 2.45). The pessimistic climate scenarios also result in an increase in inequality compared with the no-climate-change baseline (World Bank CCDR, forthcoming).

Figure 2.45: Increase in the number of poor under the US$2.15 per person per day poverty line in 2030, 2040, and 2050



Source: World Bank, CCDR (forthcoming).

Why are the poor hardest hit?

The poor have limited strategies for coping with shocks, rendering them less resilient. Resilience of households determines both the short-term and potentially longer-term impact of a shock (Hallegatte et al. 2020). Poor households are often forced into using negative coping strategies, such as the sale of productive assets or reducing consumption, which may have negative impacts not only on short-term welfare but also on the ability of households to recover and generate income in the medium to long term (Dercon 2004). The 2005/06 and 2015/16 KIHBS underscored the differences in the ways in which the poor and non-poor cope with shocks: richer households more often relied on savings, while poorer households more often relied on potentially harmful coping mechanisms, such as reducing consumption and selling assets, especially in arid areas (World Bank 2018). This is supported by FinAccess 2021 survey data, which showed that, in 2021, rural households, especially in arid areas, rely on selling assets. In fact, the sale of livestock portfolio and the borrowing of money from social groups have also been found to be common approaches to consumption smoothing among rural households, although the sale of assets is more common among the richer rural individuals, while the poor more often relied on credit purchases (Nyakarimi et al. 2020). While investing in irrigation may help reduce reliance on rainfed agriculture, households that do invest in irrigation remain low.

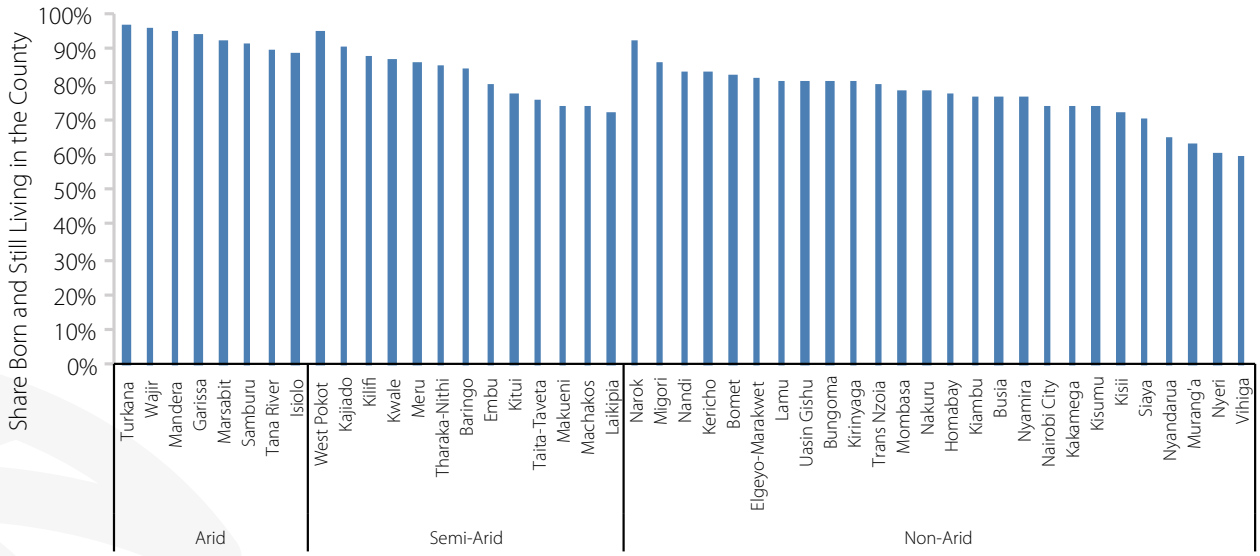
Livestock households can diversify the type of animal that they keep, but livestock livelihoods remain vulnerable to drought, and livestock ownership has become more unequal, especially in arid areas. Although households rely on diversified livestock

portfolios to smooth consumption (Nyakarimi et al. 2020), fewer households in arid counties own livestock, and those that do are owning larger herds. Livestock ownership is highest in arid counties, followed by semi-arid counties. However, between 2009 and 2019, the share of households owning livestock declined in all counties, with the largest decline among the arid counties, notably Garissa, Turkana, Mandera, and Wajir. Despite the decline in households owning livestock, the average number of Tropical Livestock Units (TLU) owned increased in arid counties, suggesting that a potential coping mechanism to the worsening climatic conditions was to either stop keeping livestock or to increase the herd size. As a result, livestock ownership in arid counties became more unequal, with smaller increases in semi-arid and non-arid counties.

Credit is used to mitigate the welfare loss associated with shocks, but poorer individuals more often defaulted on credit. The use of credit is common to meet day-to-day expenses, with just over half defaulting on credit. The use of credit for day-to-day expenses can allow an individual to smooth their consumption over time. Over one-third of Kenyans reported using credit to cover day-to-day expenses, with great use among those aged between 25 and 44, the better educated, and in arid counties. However, the use of credit may have negative consequences, such as the sale of assets, if an individual is unable to repay. Over half of Kenyans who used credit later defaulted, with higher default rates among the less educated (65 percent), individuals in rural areas (61 percent), and those in arid counties (79 percent).[28]

Households may also opt to migrate, if specific areas are particularly vulnerable to a certain type of shock, but most individuals born in arid counties still reside in the same county. One possible coping strategy in the face of worsening climatic conditions is to relocate. However, despite the worst climatic conditions being in the arid counties, very few individuals move out of these counties. On average, 93 percent of individuals born in arid counties still reside in the same county, with over 95 percent of individuals born in Turkana or Wajir still living in these counties (Figure 2.46). In contrast, the semi-arid county average is 82 percent and lowest in non-arid counties, at an average of 76 percent. Put differently, outward migration is lowest in the arid counties.

Figure 2.46: Share of individuals born in a county who still live there, 2019



Source: Based on KPHC 2019.

28 Defaulted is defined as an individual either not paying at all, paying late, missing a payment, or paying less.

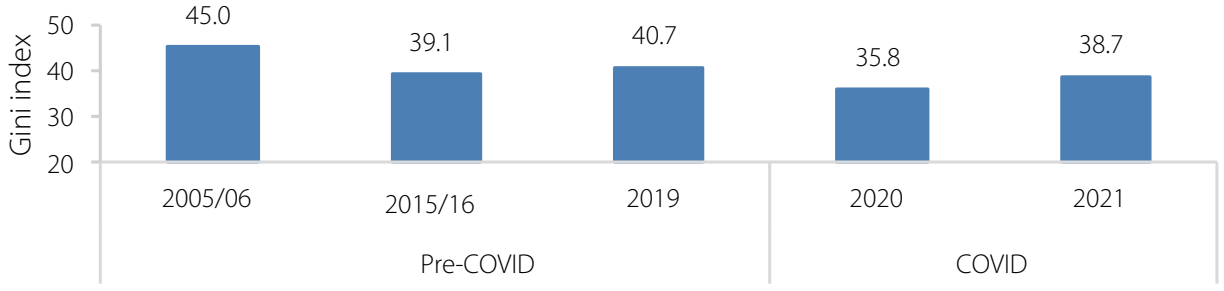
While the focus here is on adverse weather shocks, it is important to emphasize that Kenyan households face multiple, often overlapping, shocks. FinAccess 2021 survey data show that around one-third of individuals reported experiencing multiple shocks in 2021. Around two-thirds of households reported a shock that required a high cost to manage in 2021. These shocks are higher among rural individuals and those without any education. However, it is important to note these are shocks that required a high cost to manage and, as such, should be considered as a lower bound, given that individuals may have experienced other shocks that did not require high costs. Furthermore, one in three households reported experiencing multiple shocks which, in turn, may limit an individual's ability to cope, as they exhaust potential coping mechanisms. To illustrate, catastrophic out-of-pocket health expenditures are more common among the poor and in rural areas in Kenya. A health shock with high costs was more common among older adults and those with less education. In a context where only around one-quarter of the population have insurance cover, health shocks exacerbate poverty and perpetuate inequality, as the poor are even less likely to have insurance cover.

2.5 Inequality of Both Outcomes and Opportunity Dampens the Translation of Economy-wide Growth to Income Growth of the Poor, Acting as a Brake on Poverty Reduction

Kenya's high inequality of outcomes has declined thanks to improvements among the poorest households, particularly in rural areas, and due to the COVID-19 pandemic, which saw a drop in welfare of the richest counties…

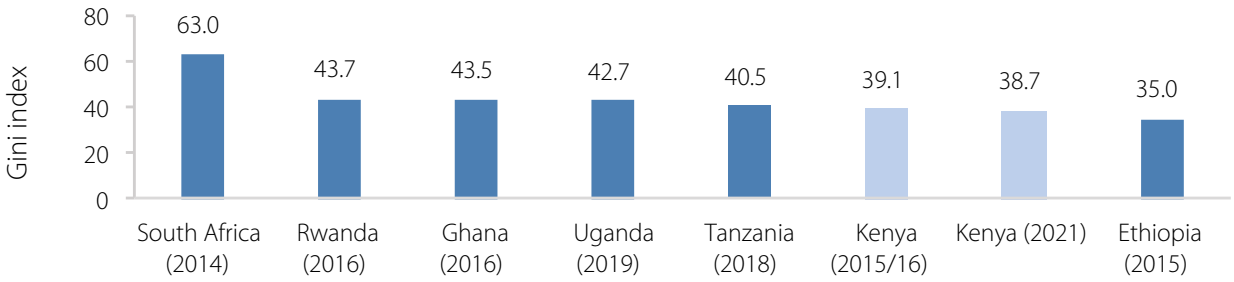
Prior to the COVID-19 pandemic, inequality was stable at a Gini index of around 40, but inequality dropped from the onset of the pandemic due to the large decline in consumption of richer households. Driven by strong growth among the bottom 40 percent of rural households, inequality, as measured by the Gini index, declined from 45.0 in 2005/06 to 40.7 in 2015/16. The Gini index increased slightly to 2019, due to slower growth for the bottom 40 percent in both rural and urban areas. The positive shared prosperity premium in rural areas from 2015/16 to 2021, coupled with similar growth levels among the bottom 40 percent and the total population in urban areas, implies a decrease in inequality, as shown in the Gini index (Figure 2.47). Lastly, prior to the pandemic and during its onset, Kenya's Gini index remained below its regional peers (Figure 2.48).

Figure 2.47: National Gini index, 2005/06–2021



Source: Based on KIHBS and KCHS surveys.

Figure 2.48: Gini index for comparator countries

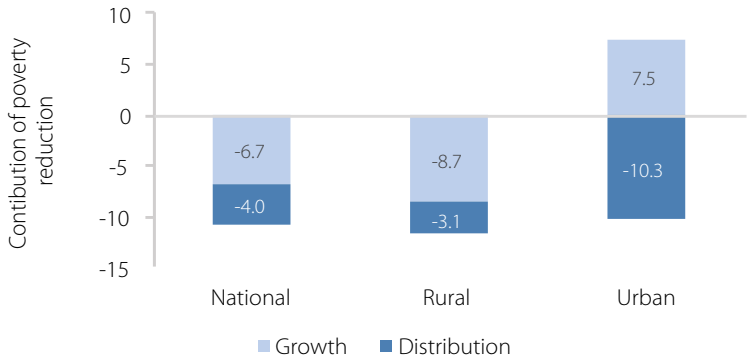


Source: World Bank Open data and staff calculations based on KIHBS and KCHS surveys.

Using measures of inequality that are more sensitive to changes at the tails of the distribution, these show a similar pattern of a decline in inequality as a result of the COVID-19 pandemic. There was decline in the ratio of consumption of the 90th percentile to that of the 10th percentile. As implied by the negative shared prosperity premium, this pattern then reverses to 2019, with a slight rise in inequality according to this measure. The Atkinson index, which is more sensitive to changes at the tail of consumption distribution, also fell from 2005/06 to 2019 and in 2020, but was followed by a slight rise in 2021. The ratio of consumption of the 50th percentile to the 10th percentile, which is less responsive to changes at the upper tail of the distribution that could be caused by non-response among wealthier households, shows the same pattern in declining inequality over time.

Inequality acts as a brake on poverty reduction. A look at the proportion of poverty reduction that is attributable to growth in mean consumption or driven by a more equitable consumption distribution shows that growth has historically played a greater part in poverty reduction, in particular through improvements in rural welfare. From 2005/06 to 2015/16, poverty declined by 10.7 percentage points, with this reduction driven by improvements in average consumption rather than a more equitable consumption distribution (Figure 2.49). The same pattern held true for rural areas where growth accounted for the majority of poverty reduction, although in urban areas poverty declined by around 2.8 percentage points, driven by a more equitable consumption distribution.

Figure 2.49: Decomposing poverty reduction by growth and distribution contributions, 2005/06–2015/16



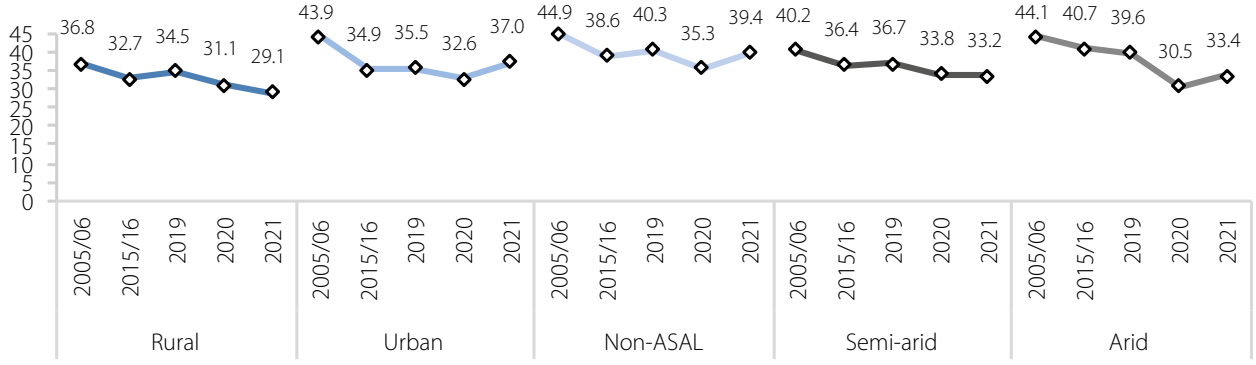
Source: Based on 2005/06 KIHBS and 2015/16 KIHBS.

…and, as a result, there is evidence of convergence over time, although more recently due to the COVID-19-induced decrease in welfare among richer households

Inequality, as measured by the Gini index, is higher in urban and non-ASAL areas. The trend in the national Gini is mirrored within regions. Each region has seen monetary inequality steadily decline over time. In absolute terms, inequality is highest in urban and non-ASAL areas, with the gap with rural and ASAL areas reducing prior to the COVID-19 pandemic. This gap has, however, begun to widen again during the recovery, with the gains in urban consumption among richer households causing a rise in the urban Gini index (Figure 2.50). Meanwhile, pro-poor growth in rural areas from 2015/16 to 2021 is reflected in their declining Gini index.

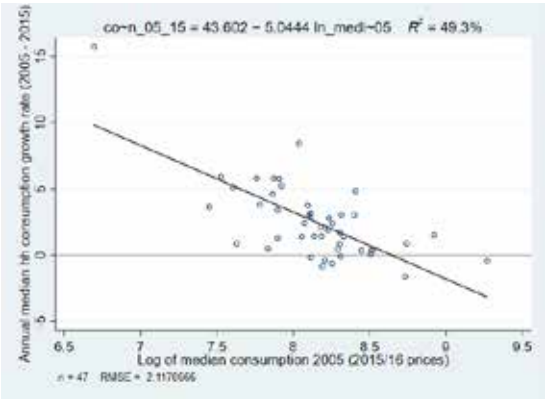
There is evidence of convergence in welfare levels, driven by the strong performance from 2005/06 to 2015/16 of the poorest areas. A method to observe whether spatial inequalities are lessening is to look at the changes in consumption over time. If spatial inequalities are reducing, poorer counties experience a faster increase in consumption compared with richer counties. During the period from 2005/06 to 2015/16, when almost all counties experienced a drop in poverty, poorer counties underwent a faster increase in their median consumption compared with richer counties (Figure 2.51). From 2015/16 to 2019, while there were counties that saw a drop in their poverty rate, some of the poorest counties experienced a drop in consumption and, as such, there is no convergence during this period (Figure 2.52). Including the COVID-19 shock shows weak evidence of convergence driven by the decline in consumption of richer counties. Overall, the period from 2005/06 to 2019 shows evidence of convergence conditional on initial poverty rates, driven by strong growth in the decade to 2015/16 (Figure 2.54).

Figure 2.50: Gini index by area of residence and ASAL classification, 2005/06–2021



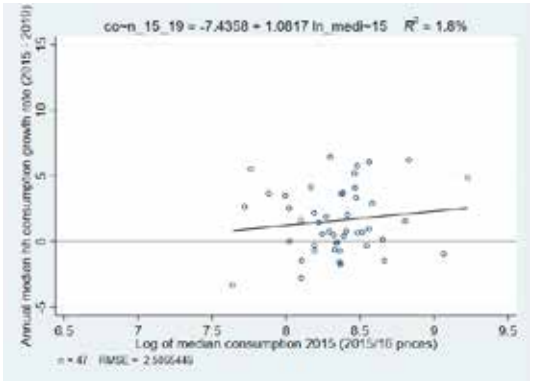
Source: Based on KIHBS and KCHS surveys.

Figure 2.51: Annual change in median consumption given initial consumption level, 2005/06–2015/16



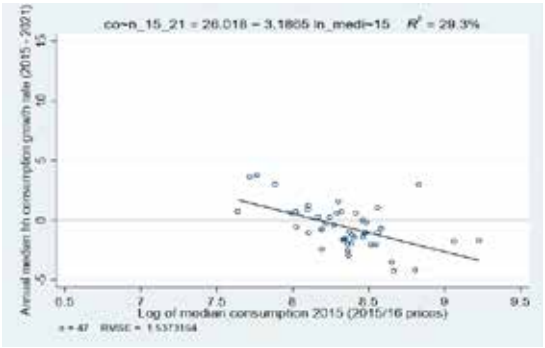
Source: Based on KIHBS and KCHS surveys.

Figure 2.52: Annual change in median consumption given initial consumption level, 2015/16–2019



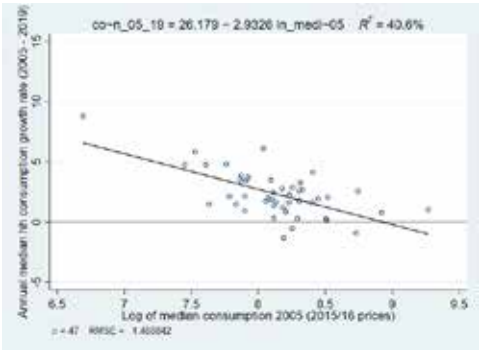
Source: Based on KIHBS and KCHS surveys.

Figure 2.53: Annual change in median consumption given initial consumption level, 2015/16–2021



Source: Based on KIHBS and KCHS surveys.

Figure 2.54: Annual change in median consumption given initial consumption level, 2005/06–2019



Source: Based on KIHBS and KCHS surveys.

Inequality of opportunity undermines access to services for children from poor households, particularly in arid and semi-arid areas

While improvements have been made in access to services, in particular in education, a child's access to opportunities is significantly determined by circumstances that they are born into. There are differences in access to opportunities across regions and wealth stratification. Although there is relatively low inequality in access to primary school attendance with a D-index of 0.06 (Figure 2.56), secondary school attendance is much more dependent on the circumstances of a child, with a D-index of 0.16. Accounting for differences in coverage rates among circumstance groups results in Human Opportunity Index (HOI) values of 73.6 and 32.5 for primary school attendance and secondary school attendance, respectively. Transition from primary to secondary school, especially among rural, arid, and poor households, is a significant challenge. Yet access to secondary education is key to productive employment.

Poverty and the education level of the household head make the highest contributions to inequality of education opportunities. The difference in net secondary enrolment rates was large and significant between children from the poorest and the richest households. This inequality is further exemplified by the large contribution of the education level of the

household head to the determinants of secondary school attendance. In particular, inequality explained by education of the household head for primary and secondary school attendance is 41 and 33 percent, respectively. This suggests an intergenerational link between parents' education outcomes and those of their children. While the coverage rates and the HOI of currently attending school were high, the Shapley decomposition of the inequality of this indicator gives large weight (42 percent) to arid areas as a source of the inequality of children who do not attend primary school.

Most opportunities related to access to services are nearing universal coverage, with the exceptions being access to electricity and sufficient housing; as such, the opportunity that a child has to access electricity and sufficient housing lags other services. Access to electricity has the highest D-Index (0.3), implying that there is significant inequality between the circumstance groups (Figure 2.56). The D-Indices for sufficient housing, improved source of drinking water, and improved source of sanitation, are 0.2, 0.1 and 0.1, respectively, suggesting that there is no equal access in these opportunities, notwithstanding that they are more evenly distributed across the population. Improved sanitation and drinking water have the highest HOI, while access to sufficient housing and electricity lag far behind.

Location (rural vs urban), education of the household head, and poverty are the main drivers of inequality of opportunities of basic services. Area of residence (rural vs urban) is a strong determinant of inequality in access to access to electricity (55 percent) and improved source of drinking water (53 percent) (Figure 2.57). These results are consistent with findings in analysis of non-monetary indicators, which found that rural households are less likely to have access to electricity and an improved source of drinking water. These results imply that the availability of services rather than cost is the major constraint. Education of the household head is a major contributor to inequality in access to improved source of sanitation (28 percent) and sufficient housing (26 percent).

Figure 2.55: Coverage and HOI for various opportunities

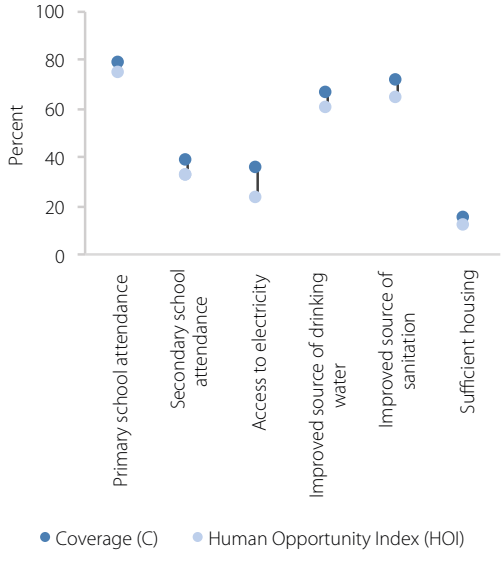
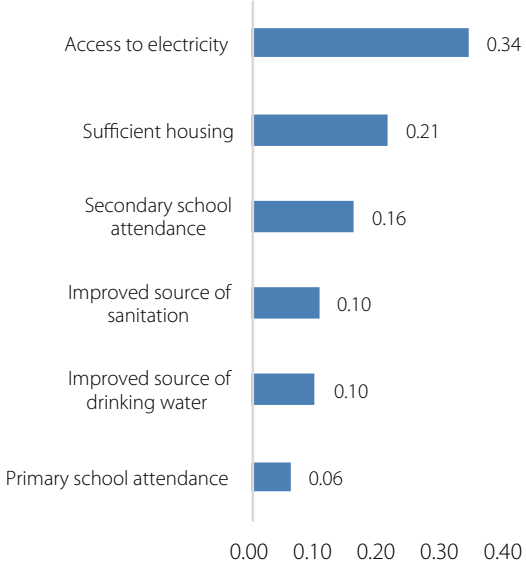
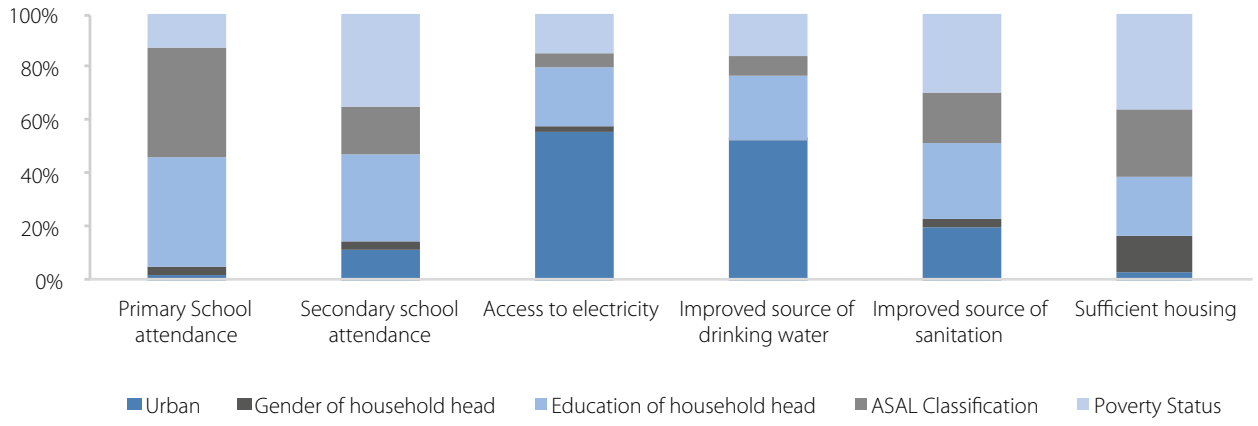


Figure 2.56: D-Index of each opportunity



Source: Based on KCHS surveys.

Figure 2.57: Shapley decomposition of each circumstance



Source: Based on KCHS surveys.

The COVID-19 pandemic exacerbated inequality of opportunity, having eroded human capital especially among poor households

The COVID-19 pandemic eroded human capital at all stages of the lifecycle. Aside from the negative consequences of the pandemic on mortality, GDP growth and poverty, the pandemic had severe negative effects on human capital as well. In response to COVID-19 cases in March 2020, Kenya shut all schools, following which they were partially reopened for specific grades in October 2020, prior to fully reopening in January 2021. These effects were felt at both early childhood and at school-attending age.

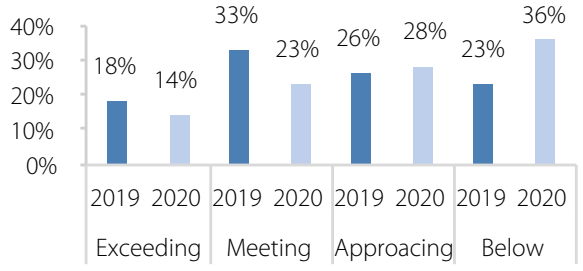
At the early childhood education stage, the pandemic led to a decline in school enrolments. Globally, the pandemic led to a drop in preschool enrolment rates, declining by between 10 and 15 percentage points in Brazil, Pakistan, and South Africa (Schady et al. 2023). According to data from the RRPS conducted in Kenya, more than one-quarter of children aged 3 to 6 years old did not return to school in the first term of 2021 (Cameron et al. 2022). The pandemic may have exacerbated existing inequalities, as attendance rates were 3.3 percentage points higher in Kenya for young children whose parents have university education (Schady et al. 2023).

The pandemic also affected early childhood development through reduced prenatal care, increased food insecurity, and behavioral changes. The gains that Kenya made in ensuring live births were delivered by a skilled provider would also have been higher were it not for the pandemic. According to the 2022 DHS, 89 percent of births in the two years prior to the survey were delivered by a skilled provider, but administrative data show that 9 percent fewer births took place in a hospital or a formal facility following the onset of the pandemic (Schady et al. 2023). As a coping mechanism in response to the COVID-19 shock, households also reduced portion sizes or skipped meals altogether. In Kenya, 69 percent of households reported reduced food portions going to children. Lastly, children not enrolled in school were reported as displaying increased internalizing and externalizing behavior (Cameron et al. 2022). Nearly 20 percent of children were reported as being more defiant, more destructive and crying more.

The COVID-19 pandemic caused significant learning losses among school-age children. Prior to the pandemic, time spent in school resulted in insufficient learning, with students losing between one and six years of schooling due to poor quality (World Bank WDR 2018a). In Sub-Saharan Africa, this equated to a student born in 2019 who attends school for nine years, but who only receives five years of schooling once adjusting for the quality of learning (Schady et al. 2023). Between 2019

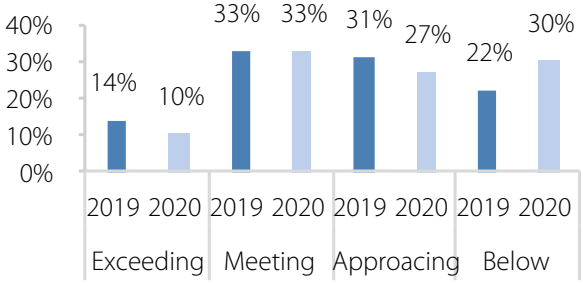
and 2020, Kenya observed a drop in the share of students exceeding learning expectations and an increase in the share of children below expectations in reading comprehension (Figure 2.58), writing skills (Figure 2.59), listening and speaking (Figure 2.60), and reading aloud (Figure 2.61).

Figure 2.58: Share of students by proficiency in reading comprehension with respect to expectation



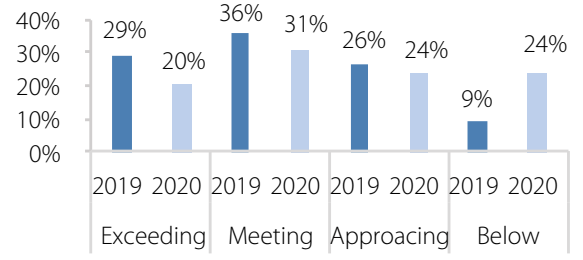
Source: National Assessment Monitoring Learning Achievement (NASMLA) 2019 for Grade 3 English Literacy; Learning Continuity in Basic Education (LCBE) 2020.

Figure 2.59: Share of students by proficiency in writing skills with respect to expectation



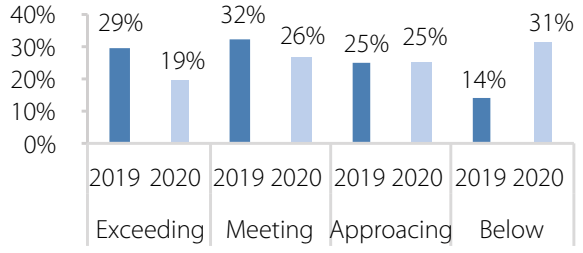
Source: National Assessment Monitoring Learning Achievement (NASMLA) 2019 for Grade 3 English Literacy; Learning Continuity in Basic Education (LCBE) 2020.

Figure 2.60: Share of students by proficiency in listening and speaking with respect to expectation



Source: National Assessment Monitoring Learning Achievement (NASMLA) 2019 for Grade 3 English Literacy; Learning Continuity in Basic Education (LCBE) 2020.

Figure 2.61: Share of students by proficiency in reading aloud with respect to expectation

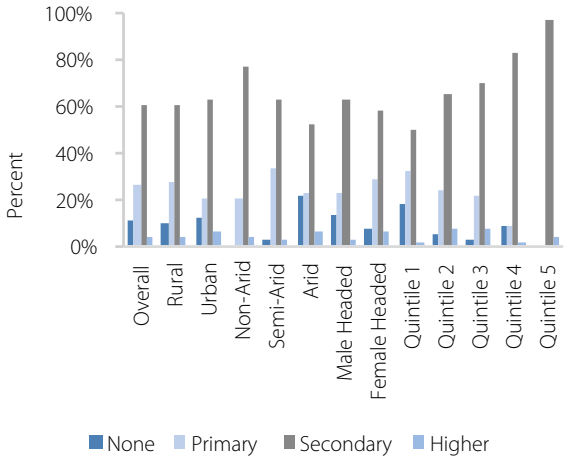


Source: National Assessment Monitoring Learning Achievement (NASMLA) 2019 for Grade 3 English Literacy; Learning Continuity in Basic Education (LCBE) 2020.

Encouragingly, there are signs of intergenerational mobility

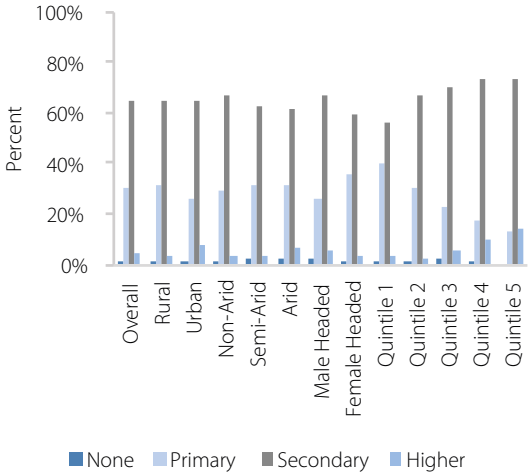
Children of parents with no education have, on average, a higher education level than their parents. Using household survey data from 2021, which include household heads co-resident with children aged 21–25, the education levels of children given the education of their household head can be examined. Around 60 percent of children whose parents have no education, on average, have at least some secondary education, while only 10 percent of them have no education. Encouragingly, this trend holds in arid areas with children twice as likely to have a secondary school education as they are to have no education, given that their household head has no education. Furthermore, secondary level education is also the most common outcome for children across all subgroups when their parents have at least some primary education. Two-thirds of children whose parent has some primary school have a secondary level education. Around one-third of children, though, have the same primary level education as their parent, with this value higher among poorer households.

Figure 2.62: Parent has no education



Source: Based on KCHS surveys.

Figure 2.63: Parent has primary (some/comp.) education



Source: Based on KCHS surveys.

Figure 2.64: Parent has secondary (some/comp.) education

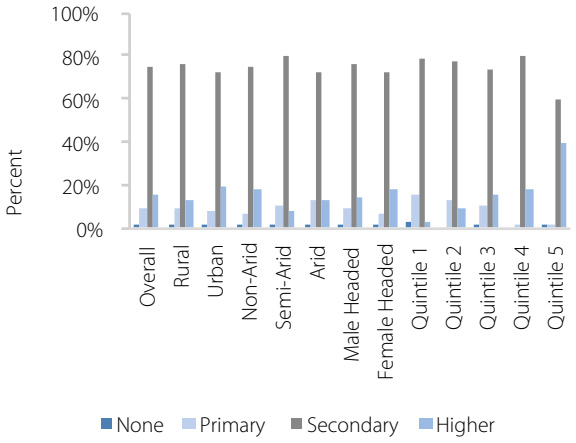
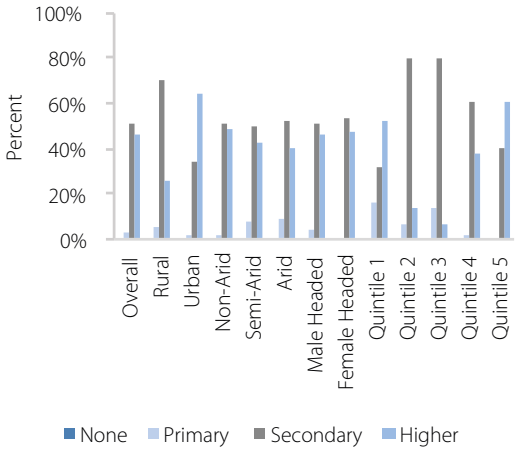


Figure 2.65: Parent has tertiary (some/comp.) education



Source: Based on KCHS surveys.

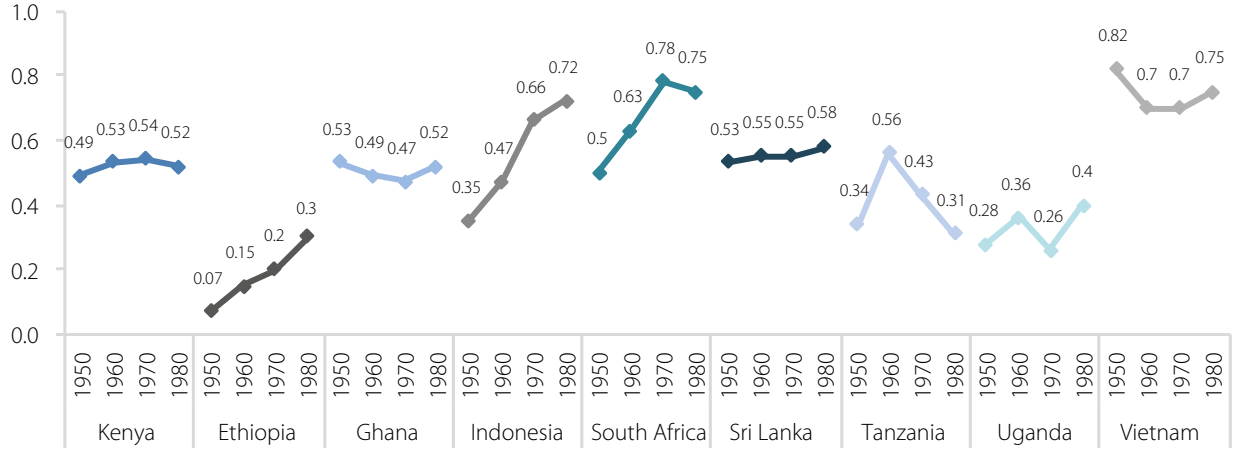
When parents have a secondary level education, their children are likely to have the same level of education. Around three-quarters of children whose parents have a secondary level education report having the same level of education as their parents (Figure 2.64). Encouragingly, this rate is the similar across regions, including in arid areas. The proportion of people also reporting a tertiary education in this cohort is similar between regions at between 13 and 18 percent. The largest difference among this group is driven by the welfare of the household. Among the poorest quintile in this group, only 1 percent of people report having tertiary education, whereas two-fifths in the richest quintile have tertiary education.

While tertiary enrolment is low, nearly half of all children whose parent has tertiary education have the same level of education. For people whose parents have a tertiary level education, around half go on to have the same level and the other half have a secondary education. While there is a similar trend among non-ASAL, semi-arid and arid regions, there is a bigger gap between

rural and urban areas. Around two-thirds of individuals in urban areas whose parents have tertiary education go on to have the same level of education, whereas only one-quarter of the same cohort in rural areas go on to have tertiary education.

Among earlier cohorts, Kenya's absolute mobility remained stable, whereas relative mobility has been on an upward trend. Absolute mobility[29] for the various cohorts in Kenya is about 50 percent for cohorts born between 1950 and 1980, suggesting that for a long period education outcomes of children were similar to those of their parents (Figure 2.66). This trend differs in countries such as Ethiopia, South Africa, and Indonesia, where absolute mobility has been on the rise, implying that the education outcomes of children are not only independent of their parents but are improving. Relative mobility is also important to measure in that it is important for the wellbeing of individuals to be independent of their parents.[30] Low relative mobility is important to ensure fairness in society, and to realize human potential and prevent the misallocation of resources. Encouragingly, relative mobility in Kenya has been on the rise, suggesting that children's position on the economic scale is independent of those of their parents (Figure 2.67). Whereas some peers such as Ethiopia, Ghana and Vietnam have experienced an upward trend, South Africa has experienced a decline in relative mobility.

Figure 2.66: Absolute intergenerational mobility compared with other countries[31]



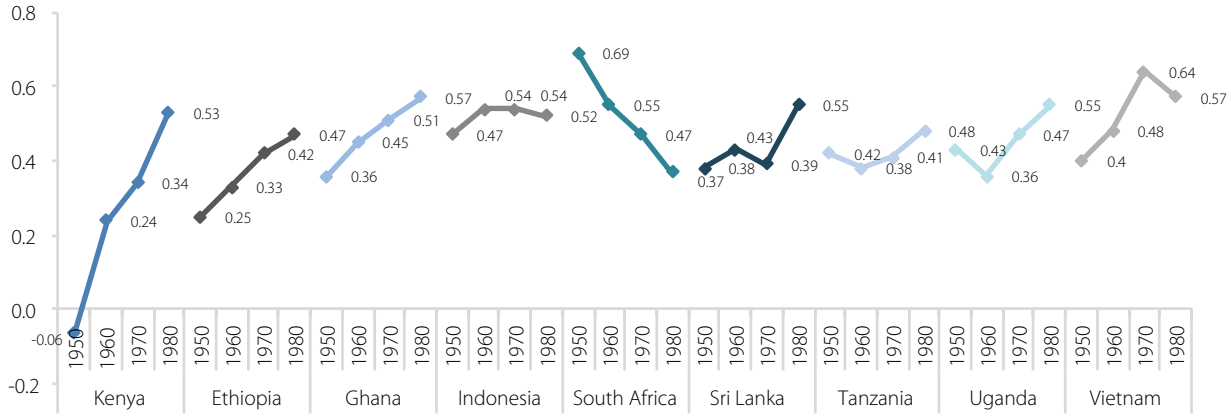
Source: Global Database on Intergenerational Mobility.

29 Absolute mobility is measured as the share of respondents with a higher education category than both parents, conditional on neither parent having tertiary education.

30 Relative mobility is measured as 1 minus the correlation coefficient between a respondent's and his/her parents' years of schooling.

31 The sample of comparator countries is restricted to countries where similar cohorts are available in the GDIM database.

Figure 2.67: Relative intergenerational mobility compared with other countries



Source: Global Database on Intergenerational Mobility.

2.6 Fiscal Policy Supports the Poor's Human Capital Acquisition, but Scope Exists for Spending and Revenues to Be Better Tailored to the Challenges Faced by the Poor

Taxes and public spending by the GoK can equalize opportunities and raise incomes of households at the bottom of the distribution, thereby strengthening the links between aggregate growth and poverty reduction. This KPEA report examines Kenya's fiscal policy from the perspective of its redistributive and poverty-reducing effects, using a fiscal incidence analysis tool based on the Commitment to Equity (CEQ) methodology. The fiscal incidence analysis tool built for the KPEA draws from previous analyses by Pape and Lange (2018) and Manda et al. (2020). The analysis is based on the 2015 KIHBS and updated to 2019–2021 using nowcasting techniques and a customized microsimulation approach (Gao and Inchauste 2020). Annex 8 describes the methodology and key technical choices made. While the model is informative for understanding distributional implications, it also has several limitations. The analysis covers taxes and spending that can be allocated to households, and this coverage is further limited by the availability of data on household consumption and income-earning activities from the KIHBS. The analysis therefore excludes essential categories of taxes and spending, such as taxation of corporate income or expenditure on public infrastructure. It is also important to recall that, since household surveys typically fail to capture information on the richest households, the analysis likely underestimates income and consumption taxes. The analysis does not incorporate behavioral, lifecycle, or general equilibrium effects of taxes and spending. The model also does not provide the long-term impacts of alternative polices, and therefore cannot be used to evaluate the long-term impacts of alternative policy interventions, say, for instance, comparing the long-term impacts between higher spending on education versus social protection.

Tax revenues and public expenditures

Direct taxes are an important source of tax revenues, while education spending accounts for a large share of public expenditures (World Bank 2020; World Bank 2023d)**.** Before the pandemic, of a total tax revenue of about 15 percent of GDP, direct taxes accounted for close to 8 percent of GDP compared with value-added tax (VAT) and excise revenues of about 6 percent of GDP (World Bank 2020). This composition of tax revenues is atypical of LMICs, which tend to have greater reliance on taxes on goods and services. On the expenditure side, education spending accounted for 4 percent of GDP, reflecting the country's move to universal primary education and expansion of secondary education. Spending on ICT, energy, and infrastructure is not modeled in the

fiscal incidence analysis (since it cannot be allocated to households), but it is worth noting that expenditure on these categories averaged about 4.3 percent of GDP in the five years prior to the pandemic. Social assistance spending on a range of cash transfer programs (Inua Jamii) has been 0.3 percent of GDP, on average, which is low for its income category (World Bank 2023c). Other than fertilizer subsidies, that have persisted for the entire study period, Kenya does not have food, fuel, or energy subsidies. In early 2022, the GoK introduced fuel and maize subsidies to tackle inflation, but subsequently reversed these. In the 2021/22 fiscal year, fertilizer subsidies were about 0.6 percent of GDP (World Bank 2023d).

Inequality and poverty effects of fiscal activity

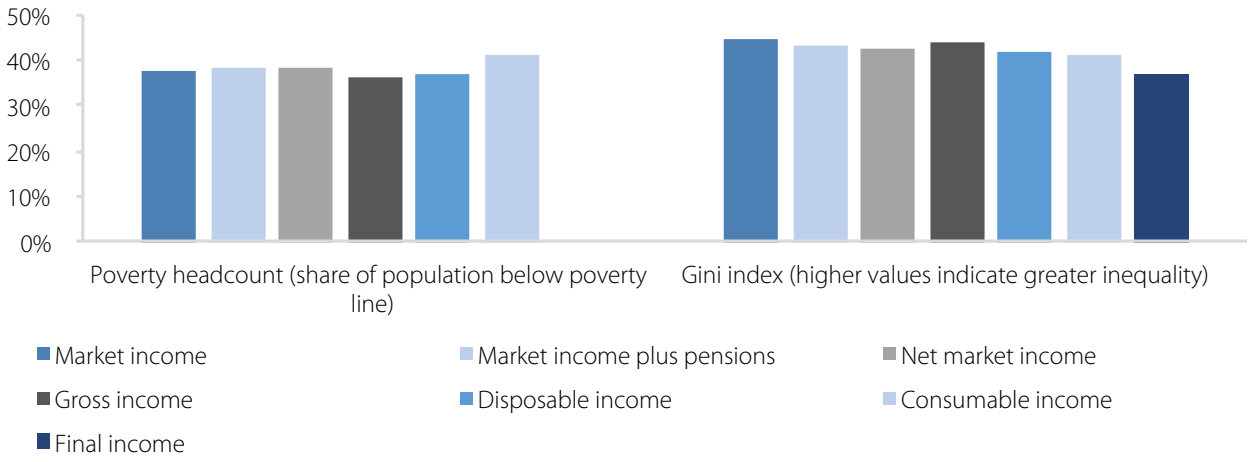
The results below use various income concepts to showcase the redistributive and poverty-reducing effect of different components of social spending and revenues. These income concepts include the construction of market income (before any fiscal intervention), disposable income (market income after direct taxes and direct transfers), consumable income (disposable income after indirect taxes and indirect subsidies), and final income (consumable income plus in-kind transfers). Once each of the income concepts is constructed for everyone in the household survey, it is possible to analyze the poverty and inequality impact of each fiscal intervention (see also Annex 8).

Fiscal activity reduces inequality but is not poverty reducing once taxes are taken into account

Kenya's fiscal system is redistributive in that it reduces inequality, but it also leads to higher poverty because lower-income groups pay more in taxes than they receive in social spending.[32] Figure 2.68 shows that, going from no fiscal intervention to accounting for all taxes paid and any indirect subsidies received, the fiscal system leads to a reduction in inequality, as the Gini index falls from 44 percent in the absence of any fiscal interventions to 41 percent. Education and health spending, which are in-kind benefits that households receive, contributes further to inequality reduction, bringing the Gini index down to 37 percent. In contrast to this equalizing effect of fiscal activity, the poverty reducing effect goes in the opposite direction. About 38 percent of the population would live in poverty in the absence of fiscal activity in 2021 (market income). With the baseline fiscal intervention, i.e., after accounting for all taxes and transfers, the poverty headcount would be 41 percent. This shows that the fiscal system (i.e., net balance of all taxes and transfers) in Kenya leads to a higher incidence of poverty. Indirect taxes, specifically VAT, contribute to this higher incidence of poverty, even after accounting for the fact that they are more likely to purchase from informal shops and outlets. This net impact of fiscal activity is the result of the fact that cash transfers are small, and therefore do not compensate for what the poor pay in taxes.

32 Fiscal incidence analysis from Ghana, Tanzania, Uganda, and Ethiopia found similar results for redistribution and poverty reduction as the Kenya analysis.

Figure 2.68: Fiscal incidence: how taxes and spending affect poverty and inequality in Kenya



Source: KPEA FIA Tool, 2021 nowcast.

Given the structure of personal income tax (PIT) in Kenya, taxpayers are highly concentrated at the top of the income distribution. Since only individuals who work in the formal sector and earn KSh 121,968 or more are subjected to PIT, the amount of PIT paid increases substantially with market income, with a substantial concentration in the top quintile. This is not surprising, given that poor workers earn lower salaries and are less likely to hold formal sector jobs, increasing PIT progressivity. Only less than 5 percent of all formal sector jobs are held by individuals in the bottom quintile, while about half are held by individuals in the top quintile. VAT revenues are progressive, as the amount of VAT paid increases with income. Nonetheless, the poor still spend about 4 percent of their incomes on VAT. As shown below, when combined with the relatively small size of cash transfers that reach the poor, the fiscal system leads to some households paying more in taxes than they receive in the form of transfers from the GoK.

Most households are net payers into the fiscal system, but this pattern changes once education spending is taken into account

All households contribute to, and benefit from, the system at the same time, but the net effect is not the same for all. When education and health spending is not counted, and only cash is considered, only the bottom two deciles receive more from the fiscal system than they pay in taxes; households become net contributors to the fiscal system starting from the third decile. When in-kind education and health benefits are counted (since families do not directly receive the spending on health and education), the bottom eight deciles of the population are net recipients and only the top two are net payers into the system. However, the degree of reliance on the system varies considerably with income levels. The poorest decile receives net benefits, mainly in the form of transfers and education benefits. Households in this income group receive as much as 42 percent of their final income as net benefits. For the second decile, this share is almost 27 percent of the total, and even the third and fourth deciles receive more than 20 percent of final income as net benefits from cash transfer and education spending (Figure 2.69). Meanwhile, the top two deciles contribute between 4 and 17 percent of their final income as net taxes.

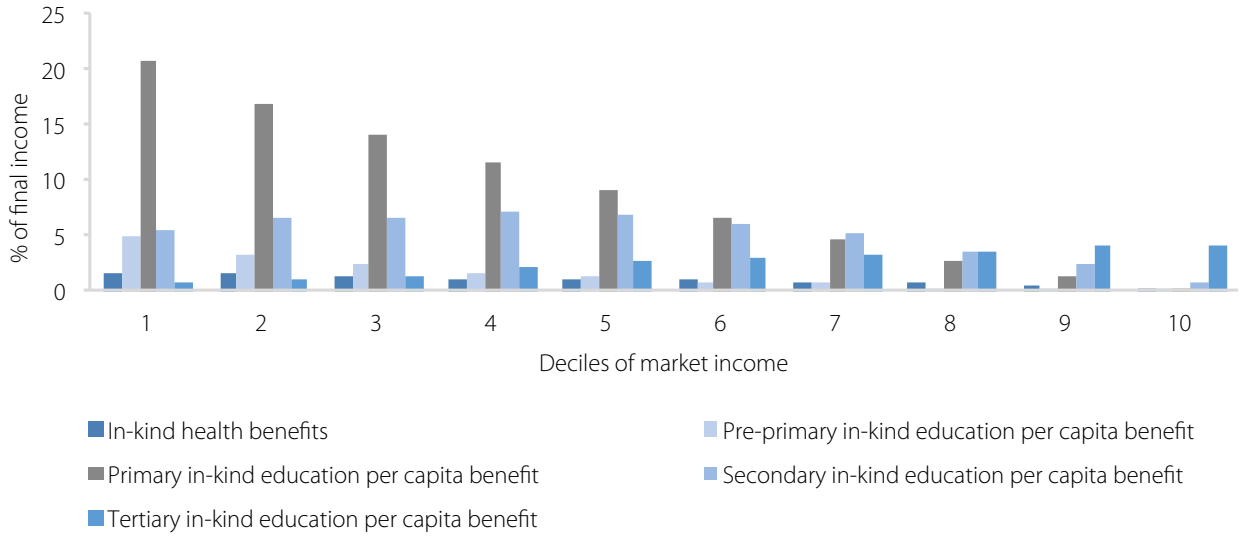
Figure 2.69: Incidence of main components of tax benefit system by decile, share of final income, percent

Source: KPEA FIA Tool, 2021 nowcast.

Education spending is pro-poor and supports the objective of helping households invest in children's human capital

Overall, public education spending in Kenya is progressive, and pro-poor mainly for primary education. However, there are variations by level of education in terms of their progressivity. The per capita benefit of primary education is both pro-poor and progressive, whereas secondary education is neutral. The progressivity of primary education, however, is ultimately outweighed by the extreme concentration of tertiary education benefits to the better off in Kenya. Figure 2.70 shows the incidence of each education and health spending. The bottom 50 percent of households benefit substantially from primary and secondary spending. In contrast, tertiary education spending benefits mainly better-off households. This pro-poor nature of primary and secondary education spending arises from a combination of factors, including the fact that better-off households are more likely to opt for private schooling. The incidence also reflects the effect of demographic structure on the incidence of public education, since a sizable proportion of school-age children in the population come from poor households.

Figure 2.70: Incidence of education spending, as share of final income



Source: KPEA FIA tool.

As in the case of public education spending, the poor are more likely to consult with public health providers, even if they are less likely to seek health services in general. Kenya removed user fees for primary health-care facilities about a decade ago, a move that encourages the poor to increase their uptake of public health services. The benefits from government health centers and dispensaries are more or less uniform across the income distribution, except for the top quintile where the benefits are slightly lower. For government hospitals, on the other hand, the substantial share of health benefits are concentrated in the top two quintiles. Not surprisingly, the distribution of public health benefits mirrors the distribution of beneficiaries visiting government hospitals, health centers, and dispensaries. All things considered, the overall public spending on out-patient health care in Kenya is progressive, but not pro-poor. Government dispensaries are progressive in absolute terms and, hence, are pro-poor, whereas government hospitals are the least progressive compared with health centers and dispensaries. This is primarily because the poor are more likely to consult government dispensaries and health centers.

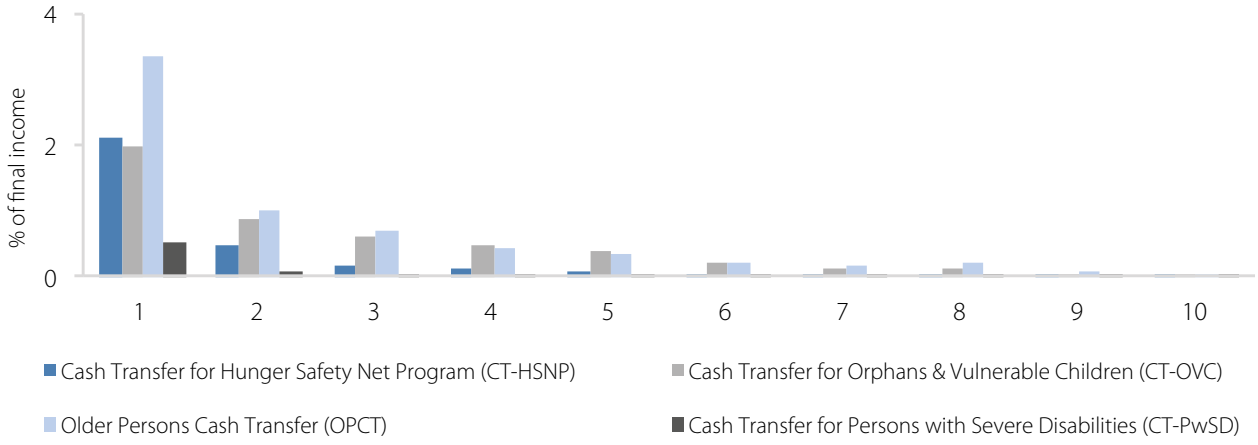
Cash transfers are pro-poor, but limited in their coverage

The fiscal incidence of the four major cash transfer programs is analyzed in this report. Specifically, the direct cash transfer programs considered here are the Cash Transfer for Hunger Safety Net Program (CT-HSNP), the Cash Transfer for Orphans and Vulnerable Children (CT-OVC), the Older Persons Cash Transfer (OPCT), and the Cash Transfer for Persons with Severe Disabilities (CT-PwSD). These programs are closely related in terms of their objectives, with the OPCT and the CT-PwSD aiming to reduce poverty among the elderly and persons with severe disabilities, respectively. The CT-HSNP aims to reduce hunger and vulnerability in arid areas, while the CT-OVC focuses on orphans and vulnerable children.

As intended, the cash transfer programs favor the poor (Figure 2.71). This pattern is similar across the four cash transfer programs in Kenya. Despite being a universal program, the OPCT appears to deliver relatively large benefits to households in the bottom three deciles. The CT-HSNP follows a similar pattern, with the largest benefits from this program received by the poorest decile, where the target beneficiaries of the program are expectedly concentrated. All four cash transfer programs

are pro-poor and progressive. What stands out, as noted previously, is the relatively low share of transfers received by households in each decile. This low share received is the outcome not only of coverage of the programs but also the size of transfers. These patterns reflect the low share of public spending on these programs of about 0.3 percent of GDP (PER for Social Protection, *forthcoming*). Since poorer deciles face an incidence of taxes (VAT mainly) that is close to 4 percent of their income, it is important to examine ways in which public spending on cash transfers could be used to offset this burden such that the fiscal system becomes more poverty reducing.

Figure 2.71: Incidence of transfers

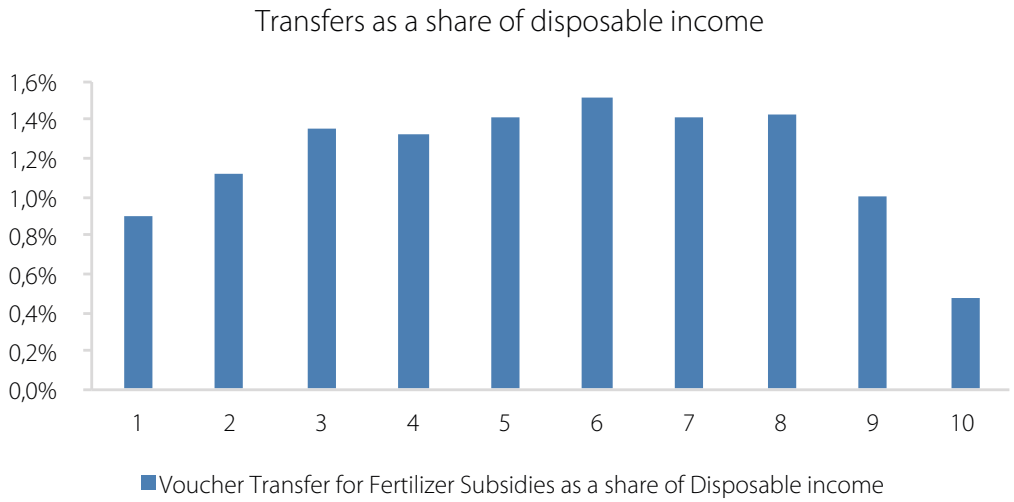


Source: KPEA FIA tool.

Agriculture input vouchers introduced in 2022 are estimated to reach the middle of the income distribution

Given the large share of rural households engaged in agriculture, the GoK's voucher-based fertilizer subsidy program has the potential to reach households across the income distribution (Figure 2.72). Using the fiscal incidence analysis microsimulation tool, it is possible to use eligibility criteria introduced in 2022 to assess which parts of the income distribution benefit from the voucher program. Overall, vouchers transfer a relatively small share of cash to fertilizer-using agricultural households across the income distribution. Households in the fourth to the eight deciles benefit to an equivalent of 1.2 to 1.4 percent of their income, while the poorest who are more likely to be heavily reliant on agriculture receive an equivalent of less than 1 percent of their income (likely because of low use of fertilizers). The transfers as a share of disposable income are highest for the middle deciles and lowest for the top decile. A limitation of this analysis is that it does not model what percentage of households opt to use fertilizers due to the vouchers. As the fertilizer voucher is intended to ease the cost of inputs and promote agriculture production, a more detailed incidence analysis than carried out here could be useful to assess to what extent this public spending compares with other routes to reducing fertilizer prices, such as expanding supply sourced domestically or within the Africa region.

Figure 2.72: Incidence of fertilizer vouchers and other cash transfers



Source: Preliminary simulations using 2021 Kenya fiscal microsimulation tool.

Note: Based on 2015 KIHBS and nowcasting to 2021 policy year. Voucher program simulations based on criteria introduced in 2022.

Photo: ©Sambrian Mbaabu / World Bank

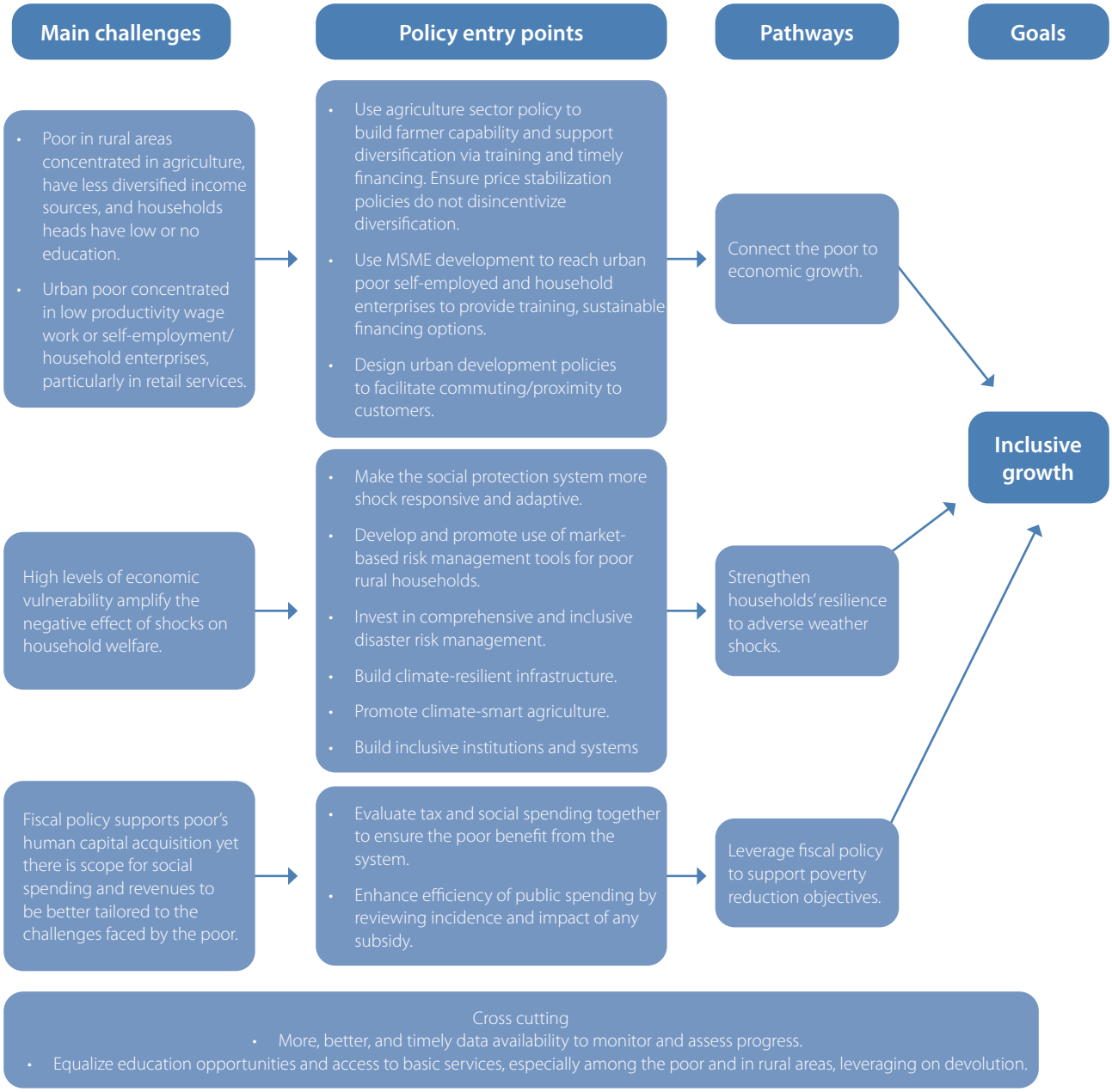
3. How Does Kenya Get There? Making Inclusive Growth Happen

The Commission strongly believes that growth strategies cannot succeed without a commitment to equality of opportunity, giving everyone a fair chance to enjoy the fruits of growth. But equal opportunities are no guarantee of equal outcomes. Indeed, in the early stages of growth, there is a natural tendency for income gaps to widen. Governments should seek to contain this inequality, the Commission believes, at the bottom and top ends of the income spectrum.

~ Commission on Growth and Development (2008)

Strengthening the growth-poverty-equity relationship is key to accelerating gains for the poor and fostering an inclusive economic recovery from the current overlapping crises. Based on the findings of the analysis, this KPEA report identifies implications for sectoral policies that together could constitute a poverty and equity strategy focused on building the productive capacity of those at the bottom of the distribution (Figure 3.1). This strategy will consist of actions that: (i) connect the poor to Kenya's growth engine; (ii) strengthen households' resilience to shocks, particularly adverse weather shocks, given their growing incidence and the importance of agriculture as an important sector from an inclusion perspective; and (iii) leverage fiscal policy to support poverty reduction objectives. These policy implications span several sectoral policies ranging from social protection and taxes to agricultural, climate resilience, and MSME policies. In identifying interventions and actions that can make inclusive growth happen, the analysis draws from existing evidence and ongoing work. As a country that is home to an impressive body of evidence built from impact evaluations, there is much scope in Kenya to connect the dots between policy and evidence. More, better, and timely data availability will also be key to monitor and assess progress. In addition, connecting the poor to economic growth requires addressing the challenge of low education and skills among workers, especially workers who are poor and those in rural areas, as well as youth and women, along with improving access to productive jobs, and capital.

Figure 3.1: Channels and policy directions



3.1 Connect the Poor to Economic Growth

The poor's productive capacity is mainly deployed in the agriculture and services sectors, both of which are important for Kenya's economic growth and transformation. The working poor are engaged in these two sectors in small-scale, low-productivity, and low-earning activities. In rural areas, the poor have a less diversified sectoral portfolio of employment activities, with most concentrating their labor in agriculture. This indicates some barriers to entry into more productive rural nonfarm sectors of the economy. In urban areas, the poor are concentrated in the low-productivity services sector, as the self-employed, those engaged in household enterprises, or those working for pay in microenterprises. Transformation of these two sectors will be important for raising the incomes of the poor, but policy efforts

targeting the poor are also needed. Connecting the poor to Kenya's growth engine calls for a policy focus on raising the working poor's productivity in the agriculture and services sectors, as well as facilitating shifts to more productive activities.

A broad range of public policy instruments, spanning agricultural policy, MSME policy, and urban development, as well as interventions from the private sector, will be needed to raise the poor's productive capacity. The GoK's jobs programs are limited in reach. The latest jobs diagnostic (World Bank 2023b) shows that, aside from the Kenya Youth Employment and Opportunities Project (KYEOP) for youth, government-funded jobs programs are geared toward those in the urban formal sector, even though most of the employed are in the informal sector (unregistered businesses). Moreover, these jobs programs are focused on delivering industrial skills in areas with industrial employment, whereas most workers are in the services or agriculture sectors. Coverage of the jobs programs is also low among rural and less-educated individuals.

Use agriculture sector policy to build productive capacity of rural poor households to grow and diversify their income sources

Kenya uses input support policies and price controls to support smallholder farmers' incomes, and maintain affordability of staples for the population at large. The price stabilization of staples, particularly maize, is implemented by the National Cereals and Produce Board (NCPB) (GoK 2019)**.** These policies aim to raise agricultural output and ensure sufficient availability of affordable staples for Kenyans, while also protecting smallholder farmers' incomes. While the elements of the strategy to raise agriculture sector output have evolved over time, incentivizing the adoption of inputs, particularly inorganic fertilizers, via subsidies has remained an important part both at the national and county levels. Keeping the market price of cereals attractive for producer households and affordable for consumers is also an important consideration for government. The rationale for price stabilization is that prices fluctuate as part of the expected functioning of agricultural markets across planting and harvesting seasons, with prices typically falling during harvest time, which can have an adverse effect on the incomes of households that market their produce. Prices of staples are also affected by increasingly frequent rainfall variability, droughts in the Horn of Africa, pests and diseases, and global shocks, all of which can hurt agricultural households' production and, in turn, worsen the affordability of staples for consumers.

It is unclear, however, to what extent these input-support and price-control policies are effective in raising the incomes of poor rural households. Rural poverty remains high and past gains in rural poverty reduction have overlapped with favorable weather conditions. The livelihood strategies of poor households tend to be less diversified. While a small share of poor rural households run household enterprises that are engaged in trade, manufacturing (likely processing of agricultural produce) and transport, more than 50 percent of all poor households have employed members working only in agriculture. Studies have identified a number of sector-wide challenges that affect the ability of agricultural households to grow their incomes and also diversify investments in crops or non-farm activities.

- First, despite policy commitments, agriculture sector growth has fluctuated due to periodic shocks (rainfall, pests and diseases, input prices). These periodic shocks also affect rural households' incomes and their production decisions.
- Second, agricultural productivity is affected by limited physical infrastructure, continued reliance on rainfall, deteriorating soil conditions, fragmented land holdings, and high use of fertilizers in some parts of the country and low use in others (World Bank 2019; Mather and Jayne 2018; Duflo, Kremer, and Robinson 2011).
- Third, value addition in the agriculture sector remains low which, in turn, limits rural households' income growth. Even though the sector is an important source of foreign exchange for Kenya via exports (coffee, tea, cut flowers), only 16 percent of agricultural exports are processed, which limits the revenue potential of the sector (World Bank 2019).

- Fourth, balancing the functioning of the market and the role of the private sector with the GoK's objectives to maintain food price stability is a challenge. Procurement programs aimed at stabilizing prices have been implemented in a way that influences normal market price developments, affects private sector's presence, and has been found to elevate intra-annual price volatility for maize and other staples (D'alessandro et al. 2015).

Sector-wide and targeted policies for poor rural households must be tailored to the needs of agricultural households and those running rural non-farm enterprises. These policies and interventions will build capabilities, provide access to finance, and connect households to the market.

- **Review the incentive effectives of price stability policies, facilitating linking to markets.** Ensuring that the GoK's price stabilization follows a rules-based approach in keeping staples affordable will help poor smallholders, who tend to be either subsistence producers or net buyers, to switch to more profitable crops or activities (Jayne 2012). It will be necessary to facilitate agricultural households' connectivity to supermarket value chains (Barrett et al. 2022). The development of agricultural value chains and linking them to the value chains of supermarkets are emerging opportunities for market-led growth.
- **Raise the marketable surplus of agricultural households.** More than 50 percent of the poorest households have employed members working only in agriculture. Poor agricultural households have limited assets for farming or livestock and poultry raising, and those that grow crops tend to specialize in maize and cereals. Households' limited assets also constrain their ability to diversify to non-farm work. Less-well-off agricultural households use fewer inputs, are less likely to have access to irrigation, and have low educational attainment. Moreover, production is risky due to pests/diseases, poor soil, unpredictable/shifting rainfall patterns and households self-insure by opting for less risky investments (D'alessandro et al. 2015). As a result, their marketable surplus is low. Sales to the GoK are the smallest share of all marketed output and all households sell in local markets, to brokers or local traders. Prices of outputs are distorted by small production volumes that increase purchaser transaction costs and the market power of local traders who offer low farmgate prices (Bergquist and Dinerstein 2020). Moreover, farmers who purchase produce "buy high" and "sell low": cash-constrained smallholders are more likely to sell at harvest time (when prices fall), and purchase staples post-harvest (when prices tend to be higher) (Burke, Bergquist, and Miguel 2019).
  - **Shift away from input subsidies to farmers and toward removing market distortions, investing in key infrastructure, and research and development.** Swapping vouchers for inputs with vouchers for an equivalent amount of cash can also allow poor households to take efficient planting and investment decisions tailored to their asset endowments. Domestic fertilizer prices are subject to global conditions and promotion of local (or within Africa) production of fertilizer, potentially offering a less distortionary way to make this input affordable (Suri and Udry 2022).[33]
  - **Make harvest time loans available.** An impact evaluation of group microloans to maize farmers offered via One Acre Fund (OAF) right after harvest season (tied to grain storage) in Bungoma county during 2013–2015, significantly raised revenues and general equilibrium effects, showing that this intervention also stabilized seasonal price shifts (Burke, Bergquist, and Miguel 2019).
  - **Tackle trader market power.** Farmer organizations (FOs) are generally found to be effective in raising agricultural output. Evidence shows that using measures that encourage poor farmers to actually participate in FOs is critical for its success.

33 According to a source cited in Suri and Udry (2022), as of January 2021, there were only 135 fertilizer plants in Africa (outside of South Africa) and most were processing plants. Only 17 were manufacturing plants.

- **Practical farmer training.** In-depth training has been found to be effective in building farmers' capability to adopt technology and use it to manage threats to production, such as limited water. An impact evaluation in Niger found that one day's training on how to build rainwater harvesting technology had a significant impact on adoption of this technology and agricultural output (Aker and Jack 2021). Light touch training for livestock, however, is found to be of limited impact in Burkina Faso (Leight et al. 2021)

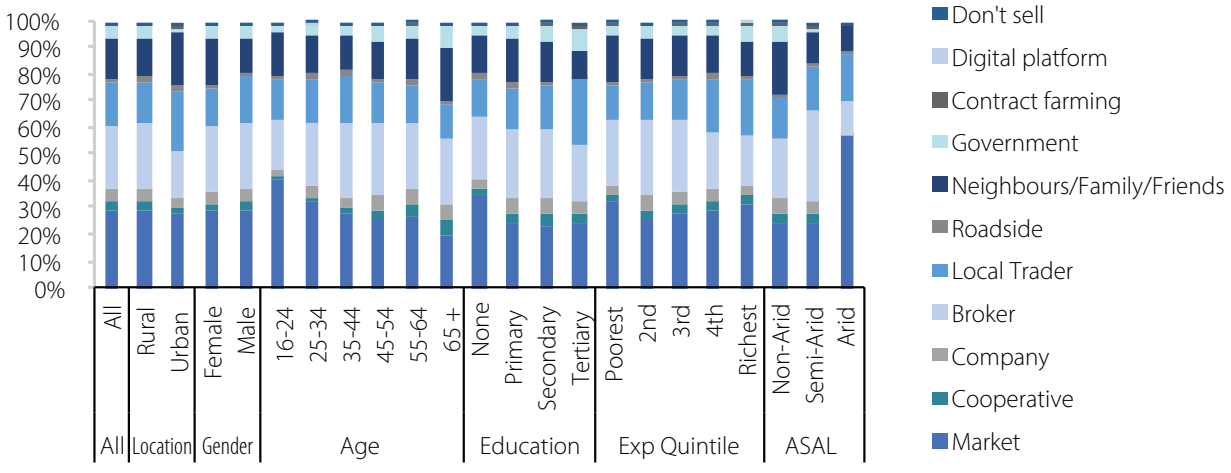
- **Boost earnings of rural non-farm enterprises:** Strengthening this segment is crucial for helping rural households diversify out of agriculture. Nearly 13 percent of those at the bottom of the distribution have non-farm enterprises. These enterprises are mainly solo enterprises with low input use and low productivity. Most enterprises are located in homes or local markets (only a few are in commercial locations). Human capital in these households is very low; 84 percent of households do not have any member with completed secondary education. Access to markets and customers is a commonly cited constraint. Most of these enterprises rely on own-source funding for their financial needs. Three categories of interventions are needed, whether delivered by the GoK or via private sector partners.

  - **Business training** tailored to the needs of rural non-farm enterprises. This will help overcome the constraints posed by low human capital. An example of an effective training program is the International Labor Organization's (ILO) Get Ahead Program, which was found to be effective in raising profits (McKenzie and Puerto 2021).

  - **Large loans or grants** via microcredit or other financial services suited for rural solo enterprises. Loans and grants of sufficiently large size can be effective in reducing reliance on own-source funding and raising earnings (Bandiera et al. 2022).

  - **Linking** these enterprises with other sectors in the economy. A noteworthy share of these enterprises is in the transportation sector, which is promising for linkages with dynamic services subsectors and reaching urban consumers. Strong inter-sectoral linkages can spur productivity and income growth (World Bank 2023a).

Figure 3.2: Where was agricultural produce sold in 2021?



Source: FinAccess Survey 2021.

Note: Among those with agricultural income.

Use MSME development and urban development policies to raise productivity and earnings of urban poor workers

The urban working poor will benefit from both economy-wide policies, as well as targeted initiatives that are tailored to their characteristics and enable them to connect to urban growth centers. There are a number of challenges affecting MSME productivity and dynamics, the addressing of which will benefit the working poor in urban areas. Most firms in Kenya are small and operate in the services subsectors (World Bank 2023b). Corresponding to this structure of the economy, most urban working poor are either self-employed, operating household enterprises, or employed in microenterprises (enterprises with fewer than 10 workers). Expansion of paid work opportunities in general will benefit the working poor in urban areas. However, targeted efforts are needed to raise the earnings of self-employed and household enterprises—activities that are an important source of employment for the urban poor.

- **Expand paid work opportunities for the urban poor.** Economic policies and regulations that facilitate firms' growth and enable workers to locate in urban agglomerations will expand paid work opportunities for unskilled urban workers. While entry rates are high (compared with countries similar in economic structure to Kenya), firms' expansion (number of employees) is rather limited (World Bank 2023b). These two factors together result in limited paid work opportunities, particularly for unskilled and low skilled workers.
  - **Leveraging MSME policy.** The 2020 MSME policy recognizes several bottlenecks to the development of these firms (GoK 2020)**.** Drawing from firm surveys, the policy identifies several obstacles, including access to affordable finance, market access, access to infrastructure, and the regulatory environment.
  - **Leveraging urban development plans.** Aside from provision of basic services (electricity, water) to firms, there is also a need for an urban development policy to tackle within-city congestion that often entails arduous commuting to retail and industrial establishments. Urban planning and transport infrastructure can be designed to enable workers to live closer to where the jobs are. Living far from where jobs are is otherwise particularly costly for the poor (Nakamura and Avner 2018).
  - **Streamlining of registration and licensing procedures.** A well-noted point about the firms' landscape is that a vast majority operate informally, that is without business or tax registration. However, many firms may be registered at the local county-level (paying license fees), even if not formally registered with the Kenya Revenue Authority (Cruz and Hernandez Uriz 2022).[34] Cross-county streamlining of licensing fees is an important effort that will reduce the cost of working across counties.
- **Boost earnings of household enterprises operated by poor households, with a particular focus on financial inclusion.** Household enterprises run by less-well-off urban households mostly have one employee and, as such, are not expected to expand in size. For these enterprises, MSME policy must focus on raising earnings and productivity by addressing key barriers, such as low human capital, fluctuation in earnings due to shocks (e.g., inflation in cost of inputs), and access to customers. A policy focus on affordable financing options can be particularly valuable for the self-employed, since most tend to rely on own-source financing. Fafchamps (1994) discusses how the self-employed and microenterprises might prefer to borrow from friends and family, due to lower transaction costs and personal relationships that provide a better opportunity to enforce re-payments. On the side of financial institutions, the cost of lending to this segment via market-driven products is high due to several factors, including small loan

34 According to the GoK (2020), formal firms have a license, are registered with registrar of companies, and meet statutory requirements such as taxation (registering with the KRA), social security and labor laws.

sizes, lack of information about repayment abilities, and the high cost of using judicial systems in the case of default (again, due to small loan sizes). In late 2022, the GoK rolled out the Hustler's fund covering affordable personal financing (World Bank 2023b). The Hustler's fund will also provide business loans via mobile phones and via savings and credit cooperative societies (SACCOS), chama[35] loans, and microfinance banks. While digital lending is prevalent in Kenya and some metrics suggest an uptick in the use of the lending products, it is unclear to what extent those enterprise activities at the bottom of the distribution were able to access "large" loan amounts. Bharadwaj, Jack, and Suri show that Mshwari (a type of digital product offered by Safaricom) helped households cope with shocks. Importantly, they show that these loans are not used for business purposes. While it is too early to assess take-up and impact of the business loans component of the Hustler's fund

- **Financial inclusion innovations beyond microfinance.** There are some innovations in finance products that can be considered. These include supply-chain financing and asset-based microfinance. Testing the utilization and impact of these products will help fine tune the strategy to reach the goal of providing affordable finance to this segment.
- **Social protection.** By law, the self-employed are not required to contribute to social security. Promoting participation in schemes such as Haba Haba and Mbao could help the self-employed to access social insurance (World Bank blog 2022).
- **Business training.** Given the low levels of human capital of those operating household enterprises, the provision of business training will help to overcome a key constraint to their productivity. Business training that teaches the self-employed and household enterprise operators simple rules for managing their businesses can be effective in raising earnings (McKenzie et al. 2023). Training that focuses on addressing decision-making, such as personal initiative training, can also be effective. These types of training are commonly offered to microenterprises and additional steps may be needed to deliver these to self-employed and household enterprises.
- **Linking** micro-retailers to supply chain of supermarkets and larger firms. Retail services cater to a wide range of consumers in urban areas. For the large number of household enterprises that are micro-retailers, becoming distributors for larger retailers can boost earnings. For participation in this type of links/supply-chains, it would be important to test different modalities of financing assets of micro-retailers (Cordaro et al. 2022).

3.2 Strengthen Households' Resilience to Adverse Weather Shocks

The incidence of adverse weather events, particularly droughts and floods, has been growing and this poses one of the biggest challenges for reducing poverty. Under most modeled scenarios, Kenya is expected to become hotter and wetter due to climate change. More broadly, the Kenya Country Climate and Development Report[36] (CCDR) shows that the impact of higher temperatures has a negative impact on labor productivity, especially in the north and northeast of the country (World Bank 2023e). It shows that inaction (business-as-usual) could dampen real GDP by 1.25 to 2.4 percent by 2030 and 3.61 to 7.25 percent by 2050, compared to the baseline.[37] Tackling the challenge of climate change is therefore critical to ensuring sustained high rates of economic growth, a prerequisite for inclusive growth.

There are gaps in resilience and capacity to address the growing incidence of adverse weather shocks.

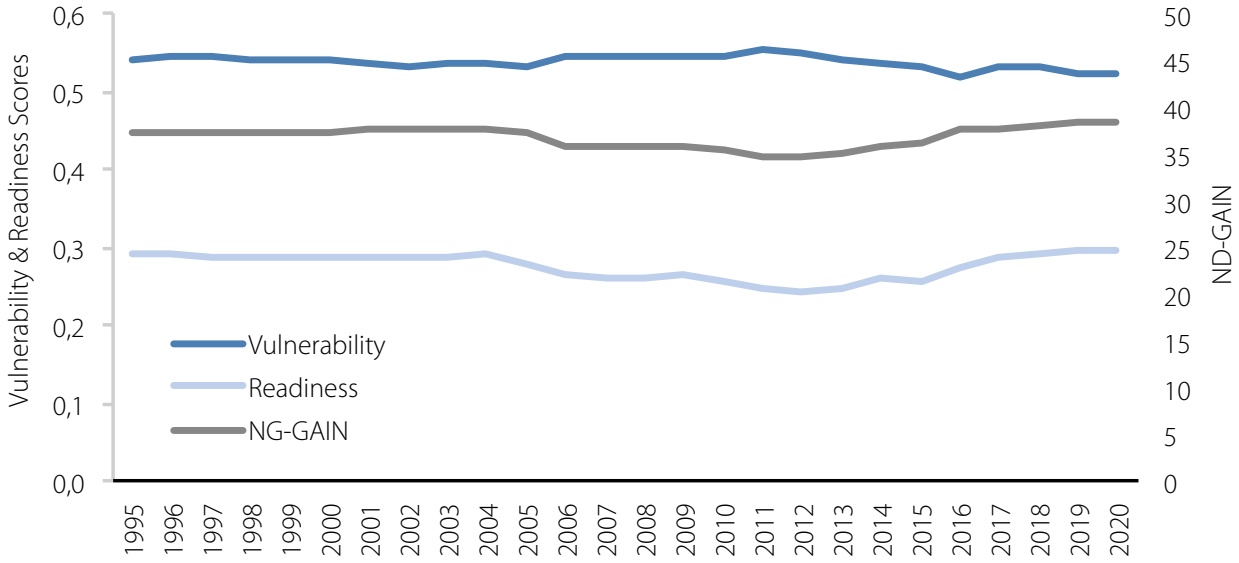
35 A chama is an informal investment club where members contribute an agreed amount of money with the aim of helping each other grow economically and possibly achieve financial independence.

36 The CCDR examines the impact of climate change on Kenya's economy and identifies high impact intervention areas that would support climate positive development.

37 Depending on the climate change scenario.

Despite this gloomy climatic outlook, Kenya performs averagely in vulnerability and readiness to climate change compared with both its East African and SSA peers. The Notra Dame Global Adaptation Initiative (ND-GAIN) index provides an annual index for countries covering both their vulnerability and readiness for climate change.[38] In 2020, Kenya was ranked in the middle of its East African peers for the combined index for vulnerability and readiness.[39] Likewise, out of the 48 SSA countries included, Kenya ranked 24th. Looking at vulnerability alone, Kenya is less vulnerable than its regional peers, while experiencing a just-above average score in comparison to all SSA countries. Finally, Kenya's readiness has experienced little absolute change since 1995, but the moderate decline between 2005 and 2012 has been followed by gradual improvements over the past decade (Figure 3.3). Kenya's readiness is about average for both East African and SSA countries.

Figure 3.3: ND-GAIN, 1995 to 2020



Source: World Bank staff calculations based on ND-GAIN data.

Policy actions to reduce exposure and vulnerability of households, especially among poor and vulnerable households, are important.[40] For Kenya to meet its growth aspiration in an inclusive and climate-resilient manner, the CCDR identified a key multisectoral action area of "delivering people centered resilience with climate-informed basic services and urbanization". Building on this, this report underscores the importance of promoting physical, financial, and social resilience against weather shocks, particularly among poor households.[41] Poor and vulnerable households tend to have high exposure and vulnerability to natural disasters, not least because they depend on subsistence farming for their livelihoods. Poor and vulnerable segments of society also

38 https://gain.nd.edu/our-work/country-index/ - Vulnerability measures a country's exposure, sensitivity, and capacity to adapt to the negative effects of climate change. ND-GAIN measures overall vulnerability by considering six life-supporting sectors (food, water, health, ecosystem service, human habitat, and infrastructure) across three domains: exposure; sensitivity; and adaptive capacity. Readiness measures a country's ability to leverage instruments and convert them to adaptation actions. ND-GAIN measures overall readiness by considering three components: economic readiness; governance readiness and social readiness.

39 East African peers are Ethiopia, Rwanda, Tanzania, and Uganda.

40 The extent of exposure is determined by, among other factors, the presence of people; livelihoods; species or ecosystems; environmental functions, services, and resources; infrastructure; or economic, social, or cultural assets in places and settings that could be adversely affected. The extent of vulnerability is determined by the propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements, including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.

41 Physical resilience helps to reduce risk and prevent disasters; financial resilience to minimize the financial impact of shocks; and social resilience helps households and society cope with shocks.

have limited financial means to cope with, and bounce back from, the impacts of such events. They tend to adopt adverse coping strategies, such as the distressed sale of assets, which may hinder longer-term progress toward poverty eradication. Thus, building resilience of poor households will be critical for economic growth, poverty, and inequality reduction. Strengthening resilience needs to reflect spatial differences to climate risk exposure and vulnerability. For instance, the poor in rural and arid areas are more vulnerable to increased flooding and drought, yet they are more likely to have no access to water supply, sanitation, and hygiene (WASH) services. The same applies for informal workers and MSMEs in urban areas. Improving access to WASH services is key to reducing exposure to the health consequences of extreme climate events and increased disease incidence. This helps to build and/or protect human capital, a key factor in equalizing access to economic opportunities.

Policy actions are needed to reduce exposure and vulnerability

Use and expand the country's existing social protection system to ensure that the poor and vulnerable receive targeted and timely assistance after disasters, thereby strengthening social resilience. While fiscal constraints pose a challenge to expanding social protection in response to shocks, this remains a critical tool to assist poor and vulnerable households to manage risks. The existing Inua Jamii system provides a solid foundation for which Kenya can improve the coverage, timeliness, and adequacy of its social protection system. The ongoing development of an enhanced single registry (ESR) can enhance the targeting of emergency response to different shocks across the country and the expansion of the Hunger Safety Net Program to additional arid and semi-arid counties will expand the coverage Kenya's shock-responsive program. However, further improvements can be made through: (i) ensuring sufficient financial resources are available, as they are needed to allow the shock-responsive element to delivery timely and reliable assistance to poor and vulnerable households; (ii) increasing the coverage for social assistance in a manner that ensures the poorest are targeted first; and (iii) protecting the value of shock-responsive assistance through more frequent nominal increases to ensure that the real value of transfers remains constant. Other types of social assistance could also be considered, such as public assistance and public works programs, which can also be used to address short-term shocks (World Bank 2023b). In addition, Kenya's job programs could be improved not only by making sure they reach informal workers in urban areas, but also integrating climate considerations into these programs to help with job transitions caused by climate change. It is also important for climate considerations to be integrated into technical and vocational higher education to enable Kenya's youth to thrive in a climate-compatible economy World Bank 2023e).

Leveraging on market-based risk management tools for poor rural households and grassroots institutions is key to improving financial resilience. These include a range of approaches for the delivery of financial services in rural areas and contractual arrangements within agricultural value chains. A wide range of financial products can enhance resilience, from savings and credit to insurance. Value-chain financing (e.g., in the form of forward sales and other provisions in value-chain arrangements) can help mitigate risks for actors in the chain, particularly on the production side. However, access to formal financial services, including insurance, remains very limited among poor rural households. For this, Kenya can leverage on innovations in rural finance, including rural savings, credit, equity financing, value-chain financing, remittance transfers and remittance-based investment products, and insurance. The development of weather risk management instruments, notably through weather index-based insurance, an insurance product correlated to weather patterns for local crops will be important. The private sector plays a critical role: provision of market-based risk management tools, as well as the development and dissemination of resilience-enhancing production technologies, and engagement in responsible, transparent, and fair market transactions. Grassroots institutions also play an important role: this includes institutions such as local savings and credit associations, church or other religious associations,

and extended family networks. Membership-based organizations with market-related functions can also significantly reduce risk, as in the case of FOs that increase the bargaining power of small rural producers and enable access to credit or provide quality assurance for access to a warehouse receipt system.

Targeted investments in comprehensive and inclusive disaster risk management, including sustainable urban development, would strengthen physical resilience. Climate shocks are compounded by natural resource challenges, with about 85 percent of the land area classified as fragile arid and semi-arid ecosystems that are largely pastoral. Therefore, it is important to strengthen the management of water systems and landscapes. Given that the poor tend to rely on rainfed agriculture, this entails expanding irrigation, where possible. The Kenya CCDR argues that Kenya's binding constraint to managing climate variability is not an absolute water constraint; rather, it is the failure to harness water resources for productive uses. Improved water usage is important for enhancing resilience, and will require further investments in water storage, conveyance, irrigation, and water supply infrastructure as set out in the proposed National Irrigation Sector Investment Plan and the National Water Sector Investment Plan, respectively. In general, promoting sustainable, integrated water resource management will build resilience. It also entails promoting sustainable land management practices, such as measures to protect forests and woodlands to address widespread land degradation because of deforestation, and measures to promote sustainable livestock grazing practices.

Building climate-resilient infrastructure is core to enhancing physical resilience. Emphasis on building climate-resilient infrastructure is important to maintain all-year access to the road network and other infrastructure services and reduce the cost of frequent maintenance. Extreme flooding continues to undermine infrastructure development gains, resulting in extensive damage and impeding access to socio-economic services for a large segment of the rural population. The water supply and sanitation sector has also been widely affected by frequent flooding, causing frequent uptick of water-borne diseases due to water contamination. Investing in water conservation and rangeland management interventions, leveraging on priorities identified by county integrated development plans (CIDPs), is important. This entails expanding and rehabilitating irrigation infrastructure (leveraging the farmer-led irrigation development [FLID] approach already being implemented in Kenya), improving irrigation services and operational and maintenance practices, restoring and afforesting watersheds, and generally optimizing water use and restoring ecosystem services through nature-based solutions. Rangeland management for crops and livestock can be improved through activities to mitigate climate change (e.g., rotational grazing, soil conservation, and agroforestry, which will increase soil carbon sequestration) and enhancing climate resilience (e.g., improving water infiltration, diversifying crops and livestock production systems), thereby helping farmers to overcome climate vulnerabilities derived from climate-related shocks, such as droughts or floods.

Developing and disseminating climate-smart agriculture[42] (CSA) technologies and services to farmers, including climate-smart seed systems and gender-sensitive technologies, addressing Kenya's vulnerabilities to extreme weather trends, will increase farmers' productivity and resilience. Promoting CSA through institutions such as the Kenya Agriculture and Livestock Research Organization (KALRO) is important because agriculture, especially subsistence agriculture, which is a source of livelihoods for poor rural households, is highly susceptible to climate change impacts. By giving higher value to natural assets, CSA can facilitate the opening of new markets for poor rural people, such as certified agricultural products, payments for water-related ecosystem services, and voluntary offsets of carbon and biodiversity. These approaches can therefore impact both on rural households'

42 Including manure composting and application, improved pastures management, drought-tolerant crop varieties and other techniques mentioned on Kenya's CSA Country Profile (https://climateknowledgeportal.worldbank.org/sites/default/files/2019-06/CSA%20KENYA%20NOV%2018%202015.pdf)

vulnerability to environmental shocks and on their income opportunities. Promoting CSA will leverage and build on the 900 climate-smart technologies, innovations, and management practices (TIMPs) already developed by KALRO and support farmers' uptake of them using participatory extension approaches, such as farmer field schools (FFS) and pastoral field schools. Creating an enabling environment for CSA requires providing incentive systems and safeguards. Examples include inclusive and fair tenure systems regulating access to land, water, forests, and other productive assets, protecting the entitlements of poor rural people, and facilitating fair and transparent transactions around these assets. It requires addressing inequalities and discrimination, particularly by gender.

The uptake of new approaches hinges on building the capacity of farmers and community organizations to enable them to shift to new practices. In this regard, education and training plays a huge role: education has been shown to have a positive effect on the adoption of most of the CSA technologies and practices. Education is associated with an increased ability to absorb information for technology adoption. As such, continuous training of farmers is becoming increasingly important in the context of climate change.

Inclusive institutions and systems are key to building resilience

Develop and strengthen data and digital systems that support agricultural households' resilience and climate adaptation planning. This entails leveraging on existing digital solutions and platforms, including the KALRO's existing "big data" platform, which provides climate and market information services to farmers. Expanding this to monitor animal and plant health, including pest and animal disease outbreaks, in coordination with regional organizations, and provide agronomic and pest advisory services to farmers, including greater uptake by female farmers, will further enhance climate adaptation and resilience. Integration to the Kenya Integrated Agriculture Management Information System (KIAMIS) of the Ministry of Agriculture and Livestock Development (MoALD) will ensure full alignment with the data and digital needs and services of the MoALD. Similarly, digitization of agricultural statistics, research outputs, and farmer registries, and strengthening the capacity within the MoALD, counties and the KALRO, to use statistics and data science to enhance decision-making and enable more climate-adaptive programming, as well as monitoring climate trends, and assess the impact of shocks on of rural areas, will be important. It is crucial that data and digital systems are inclusive, and do not leave the poor behind.

Strengthen meteorological services, making sure information is transmitted to poor households. Establishing a functional early warning (and advisory) system that is community-based but informed by data and products flowing, especially from the hydromet value chain, is critical for building resilience. Leverage on advances in digital technology will be important: the way in which national agencies operate, collaborate, and use technologies is rapidly evolving, presenting an opportunity to reach the underserved and boost inclusion.

The role of extension services is amplified by climate change. While farmers use several information sources to gather information about the climatic variability and modern agricultural practices to cope with climate change, extension services play a key role in empowering and building the capacity of small-scale farmers. As such, strengthening the capacity of extension officers through training is important. Extension workers can help households build on strategies that they already employ to build resilience.

Strengthening community engagement and enhancing the uptake of digital solutions at the farm level, with the objective of enhancing climate resilience and productivity, particularly among poor and women farmers, is important. This requires: (i) mobilizing new and strengthening existing Community-Driven Development Committees (CDDCs) and Common Interest Groups (CIGs); and (ii) identification and periodic training of lead farmers at the CIG level to support the scaling-up of existing partnerships involving disruptive

agricultural technology service providers, farmers, pastoralists, and agro-pastoralists, building on the One Million Farmer Platform. It is important to also support agro-entrepreneurs who act as both "last-mile" extension service providers and agro-dealers, effectively bundling advisory services with climate-smart inputs, information and financial services, and even market linkages.[43]

3.3 Leverage fiscal policy to support poverty reduction objectives

Fiscal policy is equalizing but there is scope to make it more supportive of the poor. Cash transfer programs, such as hunger safety nets, offer critical adaptive social protection and are effective in reaching less-well-off households. Any expansion of social assistance programs—fiscal space permitting—will not only help strengthen households' resilience but also deepen the fiscal system's poverty reduction and redistributive impact, while balancing spatial disparities. An additional payoff to reviewing the size and coverage of select cash transfer programs is that they can help offset the incidence of VAT that falls on poorer households. Kenya's pro-poor education spending at the primary level offers an opportunity to continue to build human capital and future productive capacity of children, particularly those from less-well-off households and counties, who are more likely to use the public education system. Protecting education spending during reforms will be important to maintain the momentum on human capital and to invest in better quality learning outcomes. The incidence of input subsidies, such as vouchers for fertilizers, can also be reviewed for their redistributive and poverty impacts. As the GoK balances multiple objectives while implementing fiscal consolidation, close attention to these components will set the ground for inclusive growth.

43 In most cases, agro-dealers are already working as extension service providers and advisors. The project will focus on ensuring that existing agro-dealers and new entrepreneurs are providing high-quality and relevant advice to local farmer. Agro-entrepreneurs are trained to maintain digital farmer databases and sales records and the project will monitor this data to identify potential cases of input overuse.

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Annexes

Annex 1: Household Budget Surveys in Kenya

To track the progress in reducing poverty, the Government of Kenya (GoK) has, through the Kenya National Bureau of Statistics (KNBS), conducted Household Budget Surveys (HBS) to collect welfare information to facilitate the computation of poverty indicators. The specific surveys that have been conducted in the past include: The 1981/82 Rural Household Budget Survey (RHBS); 1983/84 and 1993/94 Urban Household Budget Surveys (UHBS); the 1992, 1994, and 1997 Welfare Monitoring Survey (WMS); the 2005/06 Kenya Integrated Household Budget Survey (KIHBS) and the 2015/16 KIHBS. In 2019, KNBS, with financing from the GoK through the World Bank-supported Kenya Statistics Program-for-Results (KSPforR), commenced the Kenya Continuous Household Survey Program (KCHSP) to provide data to support production of annual poverty estimates and quarterly labor statistics. The aim was to increase the frequency of updating national welfare and other socio-economic indicators, including data on household demographic characteristics, education, housing, and agricultural producer prices.

The main data sources for this poverty assessment are the Kenya Integrated Household Budget Surveys (KIHBS) for 2005/06 and 2015/16, as well as the Kenya Continuous Household Survey (KCHS) for 2019, 2020, and 2021. These surveys collect detailed information on household spending and consumption, as well as other indicators of wellbeing, including education, health, access to basic services, employment, and ownership of assets. The data collection period for the KIHBS 2005/06 was May 2005 to April 2006; September 2015 to August 2016 for KIHBS 2015/16; January to December 2019 for KCHS 2019; January to December 2020 for KCHS 2020; and January to December 2021 for KCHS 2021. The sample design of the three surveys allows representation of the results at the national, urban-rural and county levels of Kenya.

As shown in Table A1.1, sample sizes of each of the surveys were as follows:

Table A1.1: Sample sizes of surveys

	Number of enumeration areas in sample	Sample size (households)
KIHBS 2005/06	1,339	13,158
KIHBS 2015/16	2,387	21,773
KCHS 2019	1,675	20,691
KCHS 2020	1,650	19,701
KCHS 2021	1,466	16,963

Annex 2: The Methodology of Poverty Measurement in Kenya

Consumption aggregate

The consumption aggregate in the 2005/06, 2015/16, 2019, 2020 and 2021 surveys was constructed using the approach outlined in Deaton and Zaidi (2002). The consumption aggregate consists of a food and a non-food component.

The food aggregate uses a recall period of seven days and comprises food consumption sourced from either purchases, own production, own stock or gifts. The non-food component of the aggregate includes consumption of energy, education, transport, and clothing, among other item groups. In urban areas, housing rent is also included in the non-food component. Rural areas do not include rent in their aggregate due to a scarcity of rural renters. Over-the-counter medication (items such as cough syrup, painkillers, and anti-malaria medicine) is the only form of health expenditure included the non-food aggregate.

Lastly, in each survey in order to account for spatial and temporal food price differences, a household-level price deflator based on a Paasche price index was created and applied to the nominal food and total aggregates. Spatial adjustment occurs as the cluster median prices are referenced to the overall rural or urban median prices. Temporal adjustment occurs as each cluster is surveyed in a two-week period within a year and these prices are then referenced to the median price for the entire survey period.

Poverty line

Kenya's rural and urban poverty lines are derived from the Cost of Basic Needs (CBN) method. The CBN method stipulates a consumption bundle deemed to be adequate for "basic consumption needs", and then estimates what this bundle costs in reference prices. Due to difference is items within the consumption basket, Kenya calculates different poverty lines for both rural and urban areas.

Table A2.1 presents the poverty lines for each survey year.

Table A2.1: Poverty lines

Food poverty line (Nominal KSh)					
Survey year	**2005/06**	**2015/16**	**2019**	**2020**	**2021**
Rural	988	1,952	1,952	2,231	2,331
Urban	1,474	2,551	2,551	2,796	2,905
Absolute poverty line (Nominal KSh)					
Survey year	**2005/06**	**2015/16**	**2019**	**2020**	**2021**
Rural	1,562	3,255	3,255	3,783	3,947
Urban	2,913	5,994	5,994	6,915	7,193

Additionally, extreme poverty is also measured using the World Bank's US$2.15 poverty line using 2017 prices.

Poverty measures

Kenya computes the absolute poverty rate by measuring the per adult equivalent consumption against either the rural or urban absolute poverty line. Whereas food poverty is defined as the share of the population whose per adult equivalent food consumption is below the respective food poverty line, while hardcore poverty is defined as proportion of the population whose total consumption (including food, rent, clothing, energy, health expenditures, and education), is below either the rural or urban the food poverty line. Both poverty measures are produced using comparable consumption aggregates and comparable poverty lines, and therefore each of the absolute, food and hardcore measures can be compared against each other over time.

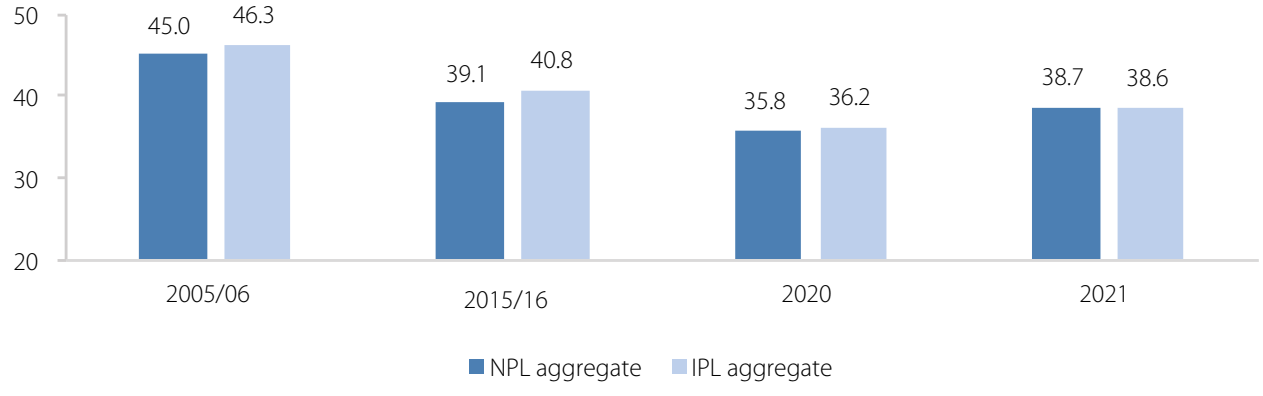
Annex 3: Using the International Poverty Line Aggregate to Measure Inequality

The rural and urban consumption aggregates contain different components. Within the aggregates used to measure poverty against the food and overall poverty lines, rural and urban households include one different component. Urban and rural households are measured against each of the same elements but rent (whether actual or imputed) is included in the urban aggregate and not included in the rural aggregate. The reason for the exclusion in rural households is due to the low rate of rural renters. A sufficient proportion of renters are required to impute the amount of rent paid for households that do not pay rent, for example, due to their ownership of their dwelling. This difference in part necessitates the use of different poverty lines for rural and urban areas.

Inequality can also be measured using the consumption aggregate designed for international poverty comparisons. When producing the aggregate for international poverty comparisons, the aggregate used for Kenya excludes rent and is computed without applying a price deflator to account for differences in prices both spatially and temporally within the household survey. Therefore, this international poverty line (IPL) consumption aggregate would also be useful for national-level inequality comparisons as each household within the population has the same set of food and non-food consumption items available. However, this aggregate is not available for 2019, as the imputation process used to produce the aggregate created a food and total consumption aggregate at the household level with no rent component or spatial deflator available to exclude.

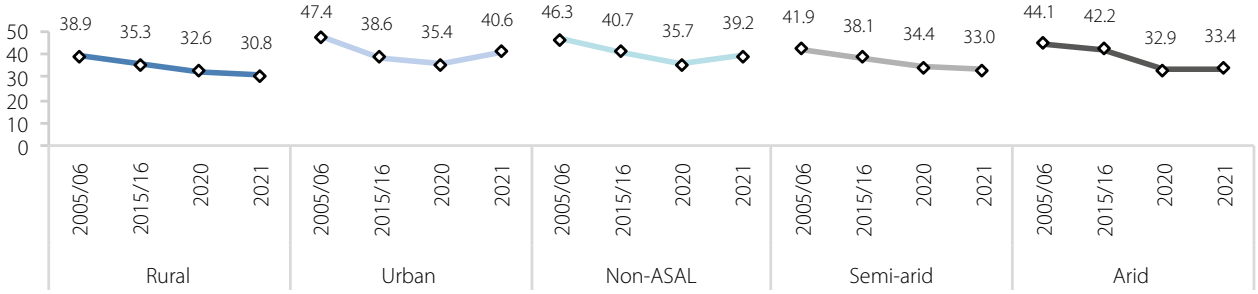
Using the IPL aggregate produces comparable inequality measures for the available years. The trend in the national Gini index over time using the IPL aggregate remains the same as when the national poverty line (NPL) aggregate is used (Figure A3.1). At its largest, the gap between the two Gini index values is 1.7 Gini points higher in 2015/16 in favor of the aggregate used for international poverty measurement. Both at the national level and within regions, the same trends are experienced with inequality highest in 2005/06, a drop to 2015/16 followed by a further drop in 2020 during the onset of the COVID-19 pandemic (Figure A3.2).

Figure A3.1: National Gini index using NPL and IPL aggregate, 2005/06–2021



Source: Based on KIHBS and KCHS surveys.

Figure A3.2: Gini index by area of residence and ASAL classification using IPL aggregate, 2005/06–2021



Source: Based on KIHBS and KCHS surveys.

Photo: ©Curt Carnemark / World Bank

Annex 4: Human Opportunity Index

A child's background often acts as a determinant to his/her access to an *opportunity,* i.e., a good or service that should be universally available within society. These background factors may include the gender of the household head, the education level of the household head, and a family's wealth status, ethnicity, or geographical location. These factors are referred to as *circumstances*. The idea is that circumstances should never determine whether a child has access to an opportunity. The Human Opportunity Index (HOI) unpacks existing inequalities by looking at the coverage rate of a particular opportunity accounting for distributional disparities among *circumstance groups*, clusters of individuals with the same set of circumstances. In other words, the HOI measures how circumstances influence a child's access to different opportunities.

The HOI methodology uses the dissimilarity index (*D-Index)* to measure inequality in access to an opportunity. It explores how a set of circumstances result in disproportionate access to an opportunity. The D-Index ranges between 0 and 1, where 0 indicates no inequality, and 1 indicates that the entire access to an opportunity is limited to a specific circumstance group, for example, males, children with non-educated parents, and those living in urban areas. The methodology further decomposes the contribution of each circumstance through a *Shapley decomposition,* which estimates the marginal contribution of each circumstance to inequality. Since the HOI is a function of a set of given circumstances, the Shapely decomposition is useful for understanding how each of the circumstances contributes to the inequality of opportunities.

The formula of the human opportunity index is given as

$$HOI = (1-D) \times C$$

where D is the inequality index and C is the coverage rate.

Dabalen et al. (2014) explored access to different opportunities in education, basic infrastructure services, health, and access to a bundle of basic goods and services in 20 SSA countries using DHS data. They found mixed results across countries and, in some instances, within a country in opportunities related to access to school attendance and those related to the quality of education (starting school on time and finishing primary school).

For instance, the HOI for school attendance among 6 to 11-year-olds varies from 30 in countries such as Niger and Liberia to 80 in countries such as Kenya and Ghana. This implies that access to opportunities in Kenya and Ghana is greater than in Niger and Liberia. Exploring within country differences in Kenya, they found disparities with lower opportunities in the northeastern and coastal regions compared with Nairobi and central provinces in terms of gross enrolment rates and national examination results. This suggests that despite a high national HOI, there are still persistent regional differences in access to opportunities.

Table A4.1 Definition and reference groups for various opportunities

Opportunity	Definition	Reference Group
Primary school attendance	Child is currently enrolled in primary school	6–13 years
Secondary school attendance	Child is currently enrolled in secondary school	14–17 years
Access to electricity	Child lives in a household with access to electricity	6–18 years
Improved source of drinking water	Child lives in a household with access to improved source of drinking water.	6–18 years
Improved source of sanitation	Child lives in a household with access to improved source of sanitation.	6 - 18 years
Sufficient housing	Child lives in a household where the number of members per sleeping room is no more than 2.	6 - 18 years

Table A4.2: List of circumstances

Residence (urban vs rural)
Gender of household head
Education of household head
ASAL Classification
Poverty Status

Annex 5: Intergenerational Mobility

Intergenerational mobility explores the extent of transmission of outcomes, such as education level and income, from parents to their children, and is often considered to be a strong indicator of equality of opportunities in a society.

High intergenerational mobility implies that an individual's socio-economic outcomes are less dependent on the socio-economic characteristics of their parents. In contrast, low intergenerational mobility is characterized by a tendency of both parents and their children having similar socio-economic outcomes. Low intergenerational mobility often results in unrealized human potential since talented individuals from disadvantaged families may end up being excluded from opportunities in society. In education, intergenerational mobility explores how persistent education outcomes are across generations. This is achieved by comparing a parent's educational outcomes with those of their children to determine whether there is strong correlation.

Van der Weide et al. use individual data from over 400 surveys for 153 countries to develop a global database of intergenerational mobility in education. They explore trends in intergenerational mobility for individuals born between 1950 to 1989, and correlation between intergenerational mobility and some country characteristics.

They find that both absolute and relative mobilities in education are higher in developed countries than in developing countries. They also establish a strong correlation between high rates of mobility with: higher tax revenues and rates of government expenditures; better child health outcomes (less stunting and lower infant mortality); and higher school quality (more teachers per pupil and fewer school dropouts) and less residential segregation.

Alesina et al. (2021) examine intergenerational mobility (IM) in educational attainment in Africa using census data that contain individual-level data of those born from late 1960s to 1990s for 27 African countries among them Kenya. They explore both between and within country differences by mapping IM in more than 2,800 regions in the 27 countries. The results reveal significant variation in upward and downward mobility, both across and within countries. In Kenya, upward intergenerational mobility is higher in urban areas than in rural areas. For instance, the likelihood of a child born of illiterate parents completing primary education ranges between 5 percent (in the Turkana region in the Northwest) and 85 percent (in Westlands in Nairobi). They find that half of the observed spatial differences are explained by differences in education levels of the older generation. They also find that the probability for children of uneducated parents completing primary school can significantly increase in a high mobility region through an extra year spent in education between ages 5 and 12. The study concludes that both geographic and historical factors are drivers for spatial disparities in IM.

Razzu and Wambile (2022) use survey data from 34 countries to assess the extent of intergenerational educational mobility for Africa's population over four decades. They find that the educational status of parents is a strong determinant for the outcome of the children's education. They also observe geographical differences across multiple countries with former French, Portuguese and Arabic colonies having a lower educational intergenerational mobility compared with former British colonies. From a gender perspective, the intergenerational link was overall more persistent for daughters than for sons. They conclude that intergenerational education mobility in Africa is low compared with the rest of the world.

Annex 6: Microsimulation Methodology

The COVID-19 microsimulations were used to estimate the welfare impact of the pandemic on household consumption and therefore poverty. The Rapid Response Phone Surveys (RPPS) collected data from a nationally representative sample across eight waves (from June 2020 to June 2022). The questionnaire included modules on income from agricultural, self-employment/household enterprises, and remittances. These changes in income can then be used to estimate changes in the KIHBS data, which includes consumption estimates. From the changes in consumption, we can then estimate how poverty changes over the two years.

The 2015/16 KIHBS data are scaled forward from 2015/16 to 2019, or the pre-pandemic baseline, using the estimated private household consumption growth rates from the Macro-Poverty Outlook (MPO) estimates produced by the World Bank. For each household within the scaled forward KIHBS data, the income from six different types of employment is calculated.[44] The same is also done in the RRPS data for each household. The absolute number employed in each type of employment is calculated for each wave of data collection, allowing the absolute change in employment between each wave. Within the KIHBS data, the probability of being employed in the six different types of employment is calculated using a probit model. The median earnings for each employment type is also calculated in the KIHBS data using education levels and county.

Using the previous wave as a starting point, or the KCHS 2019 for the first wave, the changes in employment are allocated. If there was a decline in employment, job losses are allocated starting with those with the lowest probability of working in the employment type. If there was an increase in employment, new jobs are allocated to individuals with the highest probability of working in that employment type. The income from newly gained employment is allocated based on their previous income, if they had worked in the employment type, or the median calculated above.

Once the new employment status is calculated, the KIHBS and RRPS data sets are appended together, and a multiple imputation approach is used to predict whether the income from each source has increased and by how much based on the household characteristics. Income is also complimented by policies implemented by the GoK at the time of each wave of data collection. The ratio of income to consumption in the KIHBS data is then used to determine how much of the income loss is passed onto consumption. The consumption loss is then deducted from the previous wave's consumption level for each household and then poverty is recalculated.

44 The six employment types are: agriculture wage-employment; agriculture self-employment; industry wage-employment; industry self-employment; services wage-employment; and services self-employment.

Annex 7: Poverty and Jobs Diagnostics

Over the period when poverty reduction slowed, labor force participation rates fell among both poor and non-poor workers.

Figure A7.1 Difference in labor force participation by poor and non-poor

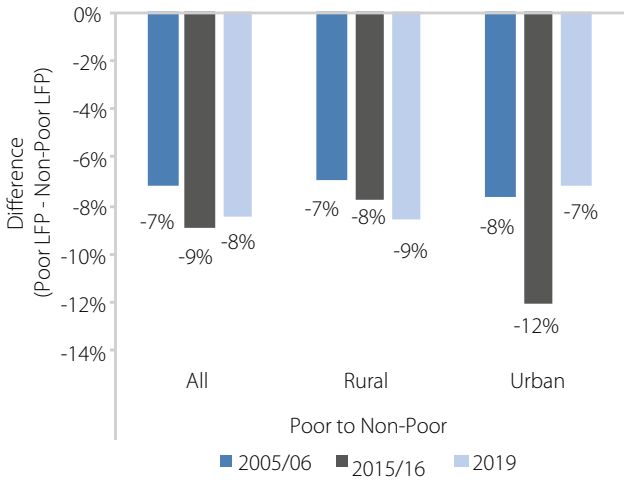


Table A7.1: Characteristics of the poor inactive by reason for inactivity, 2019

	Gender		Age				Education				Location		ASAL		
	Male	Female	15-24	25-34	35-44	45-64	None	Primary	Secondary	Tertiary	Rural	Urban	Non	Semi	Arid
No jobs	49%	51%	43%	25%	13%	19%	52%	20%	28%	1%	71%	29%	27%	20%	53%
Health	39%	61%	27%	19%	20%	33%	65%	21%	13%	0%	75%	25%	58%	25%	17%
Family Responsibilities	9%	91%	23%	34%	23%	20%	59%	27%	14%	0%	67%	33%	36%	23%	41%
Childcare/ Transportation	2%	98%	54%	37%	7%	1%	34%	31%	35%	0%	62%	38%	73%	17%	10%
Student/ Retired	51%	49%	72%	9%	2%	17%	29%	22%	47%	2%	75%	25%	51%	28%	21%
No need/Other	53%	47%	50%	21%	11%	19%	34%	25%	40%	1%	70%	30%	54%	30%	16%

Source: World Bank staff calculation based on the KCHS 2019.

Table A7.1: Regression results for labor force participation, 2019

	All	Men (15-64)	Women (15-64)	Men (15-24)	Women (15-24)
Male	0.000				
	(.)				
Female	-0.088***				
	(0.01)				
Age (in years)	0.054***	0.051***	0.058***	0.030	0.001
	(0.00)	(0.00)	(0.00)	(0.03)	(0.03)
Age squared	-0.001***	-0.001***	-0.001***	0.000	0.001
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

	All	Men (15-64)	Women (15-64)	Men (15-24)	Women (15-24)
Never married	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
Married	0.016**	0.128***	-0.072***	0.209***	-0.075***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
Separated	0.049***	0.043***	0.047***	0.305*	0.034
	(0.01)	(0.02)	(0.01)	(0.16)	(0.04)
Widowed	0.053***	0.065***	-0.006	-0.019	0.041
	(0.01)	(0.02)	(0.02)	(0.11)	(0.06)
No completed education	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
Primary	-0.016***	-0.048***	0.003	-0.092***	-0.037***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Secondary	0.045***	0.014*	0.056***	-0.026	0.051***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
Tertiary	0.091***	0.025	0.147***	0.154*	0.184***
	(0.02)	(0.02)	(0.02)	(0.08)	(0.07)
Share of dependents	-0.047***	-0.028**	-0.112***	-0.004	-0.051
	(0.01)	(0.01)	(0.02)	(0.03)	(0.03)
Share of working-age members employed	0.734***	0.624***	0.846***	0.945***	1.004***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
Rural	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
Core-Urban	-0.001	0.029***	-0.036***	0.022	0.001
	(0.00)	(0.01)	(0.01)	(0.02)	(0.01)
Non-Poor	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
Poor	0.025***	0.011*	0.039***	0.034***	0.068***
	(0.00)	(0.01)	(0.01)	(0.01)	(0.02)
Non-Arid	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
Semi-Arid	-0.025***	-0.022***	-0.027***	0.005	-0.040***
	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Arid	-0.085***	-0.014	-0.151***	0.050***	-0.013
	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)
Gross County Product per capita	-0.000***	0.000	-0.000***	0.000	-0.000***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Observations	46990	22960	24030	8522	8311
R-squared	0.547	0.566	0.556	0.521	0.517

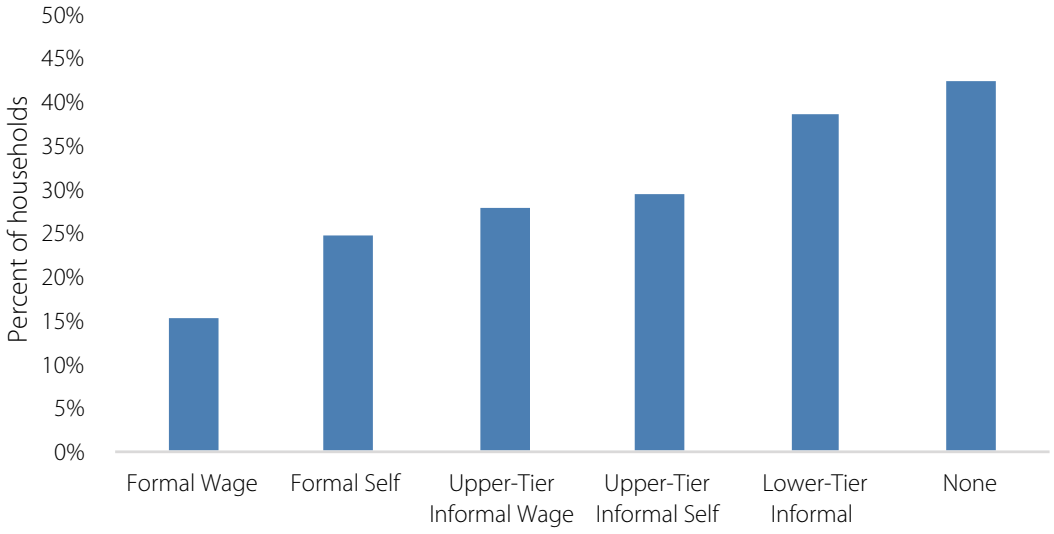
Source: World Bank staff calculations based on the KCHS 2019.

Table A7.1: Household employment composition, by urban quintile

		Share of Members Outside Working Age	Share of Working-Age Working	Members only working in Agri	Members only working outside of agri	Members working in agri and non-agri	No member working
Poorest	05/06	43%	44%	8%	60%	6%	26%
	15/16	40%	61%	10%	74%	8%	8%
	19	34%	65%	9%	73%	5%	12%
2nd	05/06	36%	52%	4%	77%	4%	14%
	15/16	34%	71%	6%	83%	6%	3%
	19	26%	70%	5%	82%	3%	10%
3rd	05/06	33%	58%	3%	82%	2%	12%
	15/16	26%	76%	5%	88%	3%	4%
	19	21%	71%	4%	83%	3%	9%
4th	05/06	30%	63%	4%	85%	2%	9%
	15/16	23%	78%	3%	91%	2%	4%
	19	18%	73%	3%	85%	3%	9%
Richest	05/06	20%	65%	2%	82%	2%	13%
	15/16	16%	81%	2%	89%	1%	7%
	2019	16%	75%	2%	86%	3%	10%

Source: Based on KIHBS and KCHS surveys.

Figure A7.2 Household poverty by highest job quality in the household



Annex 8: Fiscal Incidence Microsimulation Methodology

The analysis follows the Commitment to Equity (CEQ) methodology to assess the distributional impact of the fiscal system in Kenya. Redistribution through the fiscal system refers to the process by which the state collects revenue from citizens and reallocates it back to citizens in the form of direct transfers, subsidies, and in-kind benefits. One of the advantages of the CEQ analysis is that it allows analyzing the joint impacts of taxes and expenditure on poverty and inequality. In order to do this, the methodology requires allocating taxes and benefits (both cash and in-kind) to individuals from a representative sample of the population in a household survey, such that one can compare incomes before taxes and transfers with incomes after taxes and transfers (Lustig, 2018). Because for each separate income concept it is possible to compute statistics such as the poverty rate, or inequality indices, comparisons across different income concepts thus allow for an assessment of marginal contributions of individual taxes and expenditure programs to poverty and inequality alleviation. In addition, because each program and tax is allocated to households in the survey sample, this also allows for insight into the incidence of various taxes and programs across different population groups; in other words, one can construct a profile of contributors and beneficiaries of different programs.

The items included in the KPEA fiscal incidence tool are summarized below (Table A8.1).

Table A8.1: Components included in FIA Tool

Programs
Market income
Wage/salary, gross
Entrepreneur income, gross
Rent income, gross
Capital income, gross
Agricultural income, gross
Private transfers, gross
Other income, gross
Social insurance contributions
Social insurance contributions
All direct taxes other than social contributions
Personal income tax
Contributory pensions
Pension income: from labor
Direct transfers and non-contributory pensions
Cash Transfer for Hunger Safety Net Program (CT-HSNP)
Cash Transfer for Orphans & Vulnerable Children (CT-OVC)
Older Persons Cash Transfer (OPCT)
Cash Transfer for Persons with Severe Disabilities (CT-PwSD)
Pension income: other
Fertilizer subsidy in cashless form (direct effect)
Indirect taxes
Value added tax (direct effect)

Programs
Value added tax (indirect effect)
Excise tax (direct effect)
Excise tax (indirect effect)
Indirect subsidies
Fertilizer subsidy in cashless form (direct effect)
Fertilizer subsidy in cashless form (indirect effect)
In-kind health benefits
In-patient/hospital in-kind health per capita benefit
Out-patient/hospital in-kind health per capita benefit
In-kind education benefits
Pre-primary in-kind education per capita benefit
Primary in-kind education per capita benefit
Secondary in-kind education per capita benefit
Tertiary in-kind education per capita benefit

To analyze the distributional effects of fiscal policy, the CEQ framework constructs different income concepts in sequential stages, starting from pre-fiscal income (which only includes private income) to final income (that incorporates the full set of taxes and government benefits). The CEQ methodology relies on four main income concepts.

1. The starting point is **market income**, i.e., household income before any tax-benefit interventions have taken place. It comprises income from all forms of employment, capital income (rent and dividends) and private transfers.
2. The next income concept is defined by augmenting market income with pensions, i.e., **market income plus pensions**, which includes contributory pensions and excludes the respective pension contributions.
3. From market income plus pensions, subtracting direct taxes and social insurance contributions other than pension ones and adding direct cash transfers (and other social benefits except pensions) gives **disposable income**. Disposable income is typically the key income concept in standard analyses of poverty and inequality.
4. Two additional income concepts are also informative. By subtracting indirect taxes (VAT and excises) and adding subsidies gives the **post-fiscal income**, which reflects the actual amount of market goods and services consumed by households (sometimes this is also referred to as **consumable income**). When the cash equivalent of the cost of public health and education services "consumed" by households is added to post-fiscal income, it yields **final income**.

Construction of these various income concepts in the KPEA's fiscal incidence analysis follows consumption-based approach. The use of consumption allows the analysis to be consistent with official poverty measurement which is also consumption based. The disposable income concept is assumed to be equal to consumption for all households. Market income is calculated as disposable income minus simulated personal income taxes and employee contributions to social security plus cash transfers. For the simulation of the alternative scenarios the constructed market income is assumed to be unchanged and all the income concepts starting from disposable income are affected by the simulations.

The KPEA fiscal incidence analysis closely follows the CEQ-based analysis of Pape and Lange (2018) and Kulundu Manda et al. (2020). Similar to previous work, the model uses survey data from the 2015/16 KIHBS and administrative data from various sources, including administrative data on taxes, cash transfers, education, and health in 2015/16. The analysis here covers all taxes

and transfers allocated to households directly, making the analysis a useful baseline to further analyze the impacts of alternative fiscal policies such as changes in, for instance, VAT or cash transfer programs.

The KPEA's fiscal incidence analysis departs from previous studies in three key areas. First, the model has been set up to allow simulation the distribution effects for different years. It creates the first customizable microsimulation tool that allows a prospective and a retrospective analysis of distributional implications of the policies on the table (Gao and Inchauste, 2020). This customized tool, developed by the Equity Policy Lab of the Poverty and Equity GP, expands the functionality of the Commitment to Equity (CEQ) methodology used for fiscal incidence analysis[45] and goes beyond the accounting of taxes and spending households are exposed to and models tax and benefit interventions as a function of policy parameters. The baseline is the survey year (SY) of 2015/2016. The statutory parameters for direct and indirect taxes and cash transfers are used to calculate the gross incomes and net expenditures. At the next stage the gross market income and net expenditures are nowcasted to the policy years (PY) of 2021. The nowcasting for the market income is done in a distributionally neutral way to match the poverty rate as of 2021. The results for the PY can be obtained by applying the actual/statuary or reform parameters for direct and indirect taxes, cash transfers and in-kind benefits.

Second, the KPEA model uses a direct approach to adjust for informality in households' purchase patterns. Previous studies accounted for informality by scaling such that the ratio of VAT-to-consumption expenditure in the survey matched the ratio of actual VAT to private consumption. The KPEA model adjusts for informality by utilizing data from KIHBS on type of place of purchase to estimate VAT incidence (as elaborated below). Third, the KPEA model utilizes county level education spending data to allow for spatial variation in in-kind education benefits that households receive. This is an important aspect for the model given the spatial inequality in the country.

The analysis here, just like other CEQ assessments, has important limitations that are discussed in the main body of our analysis. To mention some of them here again: first, it does not consider behavioral, lifecycle, or general equilibrium effects. Since the analysis is a point in time analysis, without consideration of the long-term impacts of alternative polices, it cannot be used to evaluate the long-term impacts of alternative policy interventions, say, for instance, comparing the long-term impacts between higher spending on education versus social protection. Second, the analysis excludes essential categories of taxes and spending such as taxation of corporate income and expenditure on some public infrastructure. Third, household surveys typically fail to capture information on the richest households which could underestimate income and consumption taxes.

Components of the Fiscal Incidence Analysis and comparisons with previous fiscal incidence analyses

Personal income tax (PIT) and social contributions

We simulated PIT using information in the Kenyan tax code and assuming that income reported in the 2015/16 KIHBS data is net of taxes. We also assume payroll taxes are applicable to only formal workers and registered businesses. Formal workers are identified by contributions to either National Social Security Fund (NSSF) or National Hospital Insurance Fund (NHIF). The economic incidence of the direct taxes and social contributions is assumed to be fully on the workers.

Cash transfer programs

Direct cash transfers in the model are mainly associated with four programs: Hunger Safety Net Program (CT-HSNP), Persons with Severe Disabilities (CT-PwSD), Orphans and Vulnerable Children (CT-OVC), and Older Persons Cash Transfer (OPCT). In the KIHBS 2015/16 data, both the number of beneficiaries and the amount of transfer are substantially underreported except for CT-HSNP. Thus, it was necessary to adjust the

45 Fiscal incidence analysis combines household survey data on consumption and income with budgetary data on revenues and expenditures (functional classification).

survey data for the other three cash transfer programs. To make the necessary adjustments, we estimated a statistical model of transfer receipt which is then used to identify additional potential beneficiary households. Then, iterations were made such that the number of beneficiary households in each county within the analysis matched with those reported in administrative data in 2016 followed by allocating a statutory transfer amount to survey households.

It is worth mention that imputing beneficiary status assumes that the number of beneficiaries is underestimated but the survey information about the distribution of beneficiaries is accurate. In the imputation, we followed the procedure adopted by prior CEQ analysis: first, we run logit regression model to estimate the probability of transfer receipt where the dependent variable is household-level beneficiary status and the explanatory variables are a number of selected variables that capture household characteristics, including targeting criteria (e.g., the number or household members aged 65 and above, the presence of household members with disabilities, the presence of an orphan below the age of 18, etc.). Second, the predicted probabilities were used to rank households that did not identify as beneficiaries within each county. These were then allocated transfers starting with the highest-ranked household until the county quota suggested by the administrative data were filled. Third, statutory transfer amounts were allocated to beneficiary households.

Indirect taxes and subsidies

VAT and excise taxes are considered in our analysis where we assumed that households report the value of purchases which includes taxes. It is also assumed that the burden of VAT is shifted entirely to consumers. In Kenya, VAT is levied on goods and services that consumers spend on where the VAT is either standard rated (which is 16 percent), zero-rated, or exempt. The VAT is allocated only to the formally purchased goods – goods purchased in the formal stores, supermarkets, etc. according to the information on the place of purchase in the KIHBS.

Excise taxes are estimated based either on the value of consumption or quantities. A wide range of items are considered, including alcoholic beverages, non-alcoholic beverages, tobacco, kerosene, petrol, diesel, vehicles, cosmetics, jewelries, beauty services, mobile phone airtime, and financial services. The majority of these items are taxed a fixed sum of money per quantity whereas 10 percent excise tax was imposed on mobile phone airtime, financial services, cosmetics, and beauty services. The model also covers the fertilized subsidy foe the policy years in the size of 61 percent of the price of non-organic fertilizers. The assumed order of indirect taxes and transfers is that subsidies are applied first, then goes VAT and then excises go last.

In addition to the direct effects the model includes indirect effects for indirect taxes and subsidies. Those are effects of higher prices for other goods (not affected by the simulated taxes or subsidies) that use the inputs that are taxes/subsidies. For the VAT, the indirect effects occur through exemptions when the exempt items cannot claim the VAT for inputs and thus there is a cascading effect.

In-kind public education and health benefits

Using the 2015/16 KIHBS data, we identify individuals who used public education to calculate benefits of public education accrued to households. The unit cost of providing public (pre-primary, primary, and secondary) education was first computed using county-level administrative data on public expenditure and students enrolled in school at each level of education. For tertiary education, county-level administrative data are not available. Thus, we used the survey data to identify students enrolled in tertiary education and national-level administrative data on expenditure to compute tertiary-level education benefit that were accrued to households.

One caveat in allocating per-student education expenditure to individual households has to be noted. This method assumes that the value of services is constant across users. This is violated if, for instance, students from poor families attend public schools that have fewer resources—which is typically the case.

For public health in-kind benefits, the analysis considered only outpatient care in the analysis where unit costs were obtained from prior literature in Kenya. We excluded inpatient care in our analysis because data on inpatient care in the 2015/16 KIHBS data is limited. On the contrary, the survey records ample information about outpatient visits, including the number of visits in the last four weeks and the type and level of provider (e.g., government hospital, health centers, dispensaries, or private health facilities). Some households reported many visits over the course of the last four weeks. In these cases, we capped the variable to four visits, i.e., one visit per week.

This analysis adopted unit costs used in prior CEQ analysis for Kenya which originally came from the unit cost study by Flessa, et al. (2011). The estimated costs per outpatient visit in public health facilities in 2006/07 was KSh 174 in dispensaries, KSh 223 in health centers, KSh 518 in district hospitals, KSh 434 in provincial hospitals, and KSh 1,405 in tertiary hospitals. Only government hospitals, dispensaries, and health centers were included as response options in the 2015/16 KIHBS data. Thus, it was assumed, following prior CEQ analysis, that the unit cost of an outpatient visit to a hospital was equal to that of a district hospital at KSh 518 in 2006/07 prices. We adjust these unit costs to reflect changes in prices/inflation between 2006/07 (the year the unit-cost study was conducted) and 2015/16 (the survey year).

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