

Tyson, Judith; Diwakar, Vidya; Adetutu, Morakinyo O.; Bishop, James

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Inclusive economic growth in Kenya: The spatial dynamics of poverty

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Report

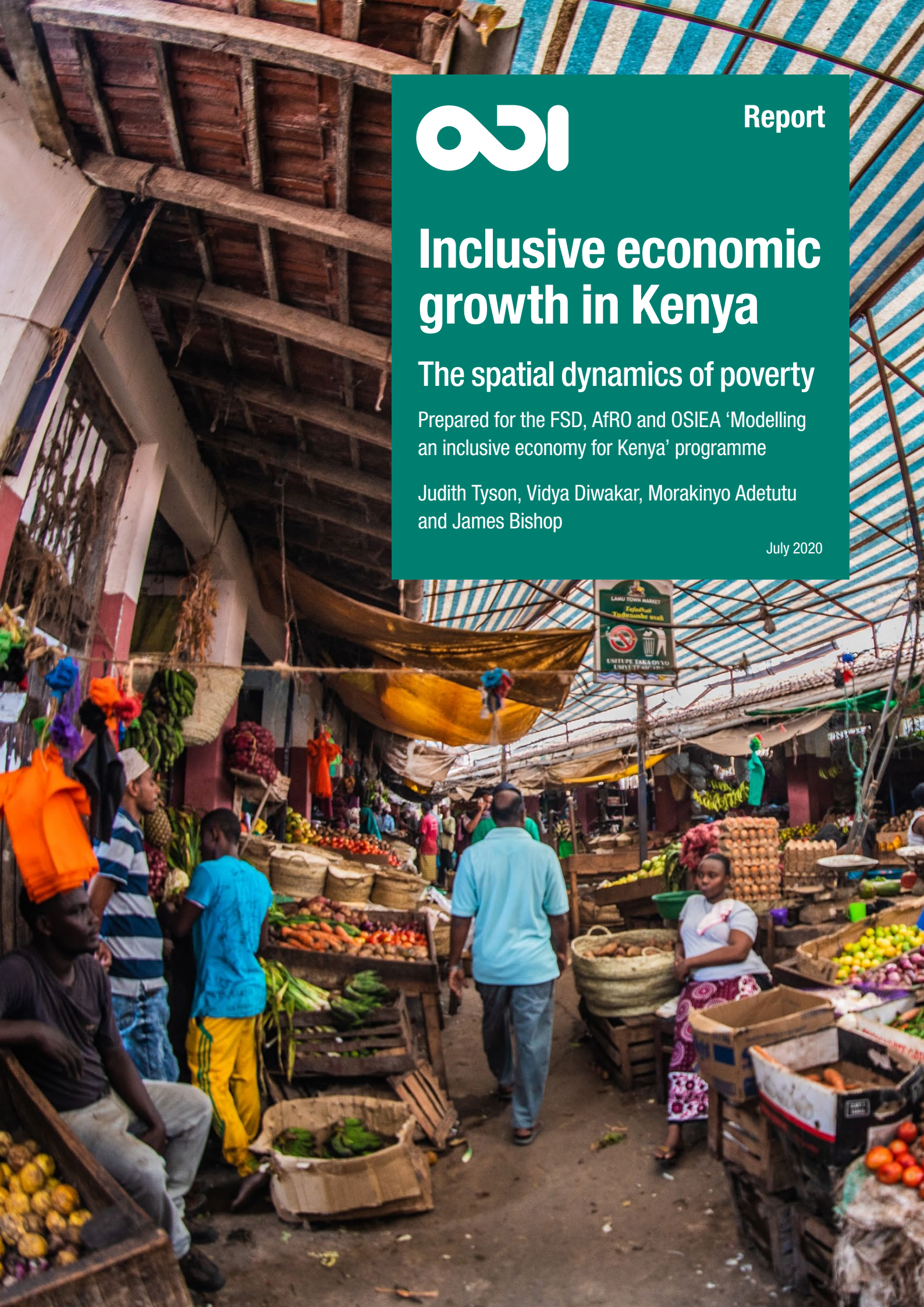
Inclusive economic growth in Kenya

The spatial dynamics of poverty

Prepared for the FSD, AfRO and OSIEA 'Modelling an inclusive economy for Kenya' programme

Judith Tyson, Vidya Diwakar, Morakinyo Adetutu and James Bishop

July 2020



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Acronyms

BMU	beach management unit
CDP	County Development Plan
CIDP	County Integrated Development Plan
CPAN	Chronic Poverty Advisory Network
FSD	Financial Sector Deepening
GCP	gross county product
GDP	gross domestic product
HISP	Health Insurance Subsidy for the Poor
ICT	information and communications technology
ILO	International Labour Organization
KIHBS	Kenya Integrated Household Budget Survey
KNBS	Kenya National Bureau of Statistics
LREB	Lake Region Economic Bloc
MSME	micro, small and medium enterprise
NAP	National Adaptation Plan
NGO	non-governmental organisation
NHIF	National Hospital Insurance Fund
NSSF	National Social Security Fund
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
OLS	ordinary least squares
OSIEA	Open Society Initiative for East Africa
SACCO	savings and credit cooperative
SET	Supporting Economic Transformation
SEZ	Special Economic Zone
SIDA	Swedish International Development Cooperation Agency
SME	small and medium-sized enterprise
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
WEF	World Economic Forum

1 Introduction

Kenya poses a conundrum. Its top-line economic growth has been impressive and it has been one of the fastest-growing economies in sub-Saharan Africa over the past decade. However, poverty has not fallen as fast as it should have in light of this strong economic growth. Extreme and urban poverty have remained stubbornly high. This paper investigates the discrepancy.

A key issue is that the composition of economic growth has been unbalanced. Strong growth in financial services and information and communications technology (ICT) has created jobs, but just for the educated middle classes. The mass migration of unskilled workers from rural to urban areas has only been absorbed into low-wage, informal labour. Manufacturing has grown but not sufficiently and agriculture, on which most of the poor still depend, is largely a subsistence activity.

It is necessary to dig deeper than the composition of economic growth, however. We do this using the Swedish International Development Cooperation Agency (SIDA) framework, which examines poverty dynamics in terms of four dimensions: (i) economic and social, (ii) political and institutional, (iii) environmental and (iv) security and conflict.

As we discuss in Chapter 2, these factors vary significantly between the different regions in Kenya and those variations can either accelerate prosperity or entrench poverty. Thus, our analysis gives rise to a critical question: what can be done to make economic growth more inclusive?

In Chapter 3, our analysis suggests it is critical to assess the context of economic development in relation to policy and interventions to make sure it is ‘good enough’ and, where it is not, to rely more on social protection and other direct interventions to alleviate poverty.

Our research also shows that where the context is not ‘good enough’ – particularly in addressing extreme poverty – cash transfer programmes can lead to short-term welfare improvements. Longer term, however, they may trap the poor in typical low-income, informal work, so they need to be combined with proactive programmes to help the poor develop higher-income livelihoods.

Lastly, there is a need for a forward-looking view of the context. In Chapter 4, we discuss the potentially overwhelming threats of population growth, climate change, environment and non-inclusive politics and corruption. Tackling these must also be a central part of making economic growth more inclusive.

2 Why has Kenyan growth not been more inclusive?

2.1 Introduction

Kenya has been one of the fastest-growing economies in sub-Saharan Africa in the decade to 2020, with gross domestic product (GDP) growth averaging 5.5% since 2011 and graduation to middle-income status in 2014 (KNBS, 2016).¹

The buoyant economy has been underpinned by political devolution following the adoption of a new constitution in 2010 and an economic strategy that set the country's 'big four' priority areas of manufacturing, universal healthcare, affordable housing and food security. Infrastructure and the business environment continue to improve, supporting private investment, but political patronage and corruption remain pervasive (IMF, 2018; Wankuru et al., 2019).

Kenya's strong GDP growth has been accompanied by impressive increases in per capita income of 4.6% annually and a decline in the poverty rate from 46.6% to 36.1% between 2005–2006 and 2015–2016. Extreme poverty fell from 19.6% to 8.6% in the same period, according to the Kenya Integrated Household Budget Survey (KIHBS) 2015–2016 (KNBS, 2016).²

However, the overwhelming majority of Kenyans, an estimated 80%, remain poor or near poor, so are vulnerable to falling back into poverty. The benefits of economic growth have been inequitable, with the richest 25% of the population consuming 60% of the increase in GDP (UNDP, 2017; Diwakar and Shepherd, 2018; Wankuru et al., 2019).

What's more, the absolute number of poor people has remained broadly unchanged, as Kenya's population has more than doubled since 1990 and many of the growing number of young people have failed to find decent employment (Diwakar and Shepherd, 2018; Wankuru et al., 2019).

So why, given this strong macroeconomic growth, has poverty alleviation not been faster and more widespread?

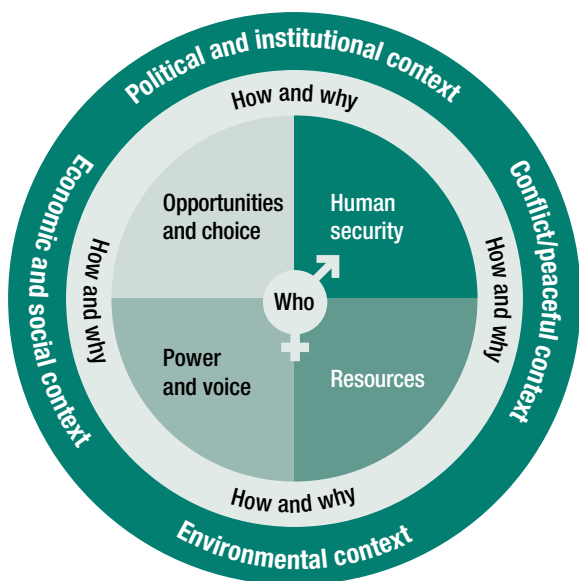
2.1.1 The SIDA framework

This paper examines that question in terms of the four dimensions set out in SIDA's multidimensional poverty framework:

(i) economic and social context, (ii) environmental risk, (iii) politics and institutions and (iv) conflict and security (Figure 1) (SIDA, 2017).

-
- 1 The World Bank confirmed middle-income graduation for Kenya in 2015. The KNBS confirmed this in late 2014 after a review of methodology for assessing the economy's telecommunications and property sectors (KNBS, 2016).
 - 2 The Kenya National Bureau of Statistics (KNBS) defines households and individuals with a total monthly adult equivalent consumption expenditure per person of less than KSH 3,252 in rural and peri-urban areas and less than KSH 5,995 in core urban areas as living in 'overall poverty'. Households and individuals with a total monthly adult equivalent consumption expenditure per person of less than KSH 1,954 in rural and peri-urban areas and less than KSH 2,551 in core urban areas are deemed to live in 'hardcore or extreme poverty'.

Figure 1 SIDA's multidimensional poverty framework



Source: SIDA, 2017

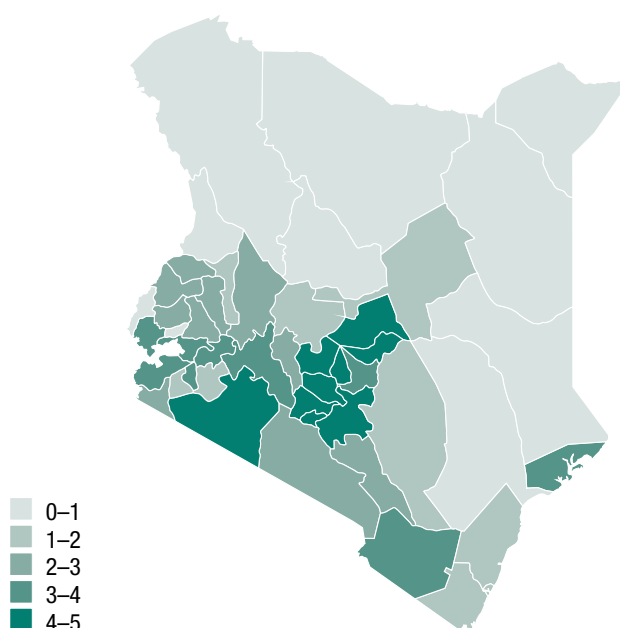
To tailor this for the Kenyan context, we have taken this framework and extended the economic and social dimensions to add factors that are known to affect economic opportunity and growth. These are: (i) access to infrastructure (roads, ports, electricity), (ii) access to markets, (iii) higher wages, (iv) higher productivity and diversified livelihoods (such as SMEs, formal manufacturing and non-subsistence agriculture), (v) financial access and (vi) access to and use of reasonable quality education and healthcare (see Annex 1 for how these were measured).

2.1.2 Spatial inequality

This paper also takes a spatial approach to the analysis, because poverty in Kenya is spatially unequal and partially determined by location (Omoro, 2001).^{3,4}

Poverty rates are lowest in central counties. For example, in Nairobi, Nyeri and Meru, they

Figure 2 Spatial map of Kenyan poverty by county (2015–2016)



Note: The rankings from 1 to 5 indicates quintiles, whereby 5 is the upper quintile with the least poverty and 1 is the bottom quintile with the highest poverty. The quintiles are determined using the percentage of the population living below the poverty line, as recorded in the KIHBS.

Source: KNBS (2016), adapted by authors

have fallen below 20% of the population and the number of people living in extreme poverty is negligible.

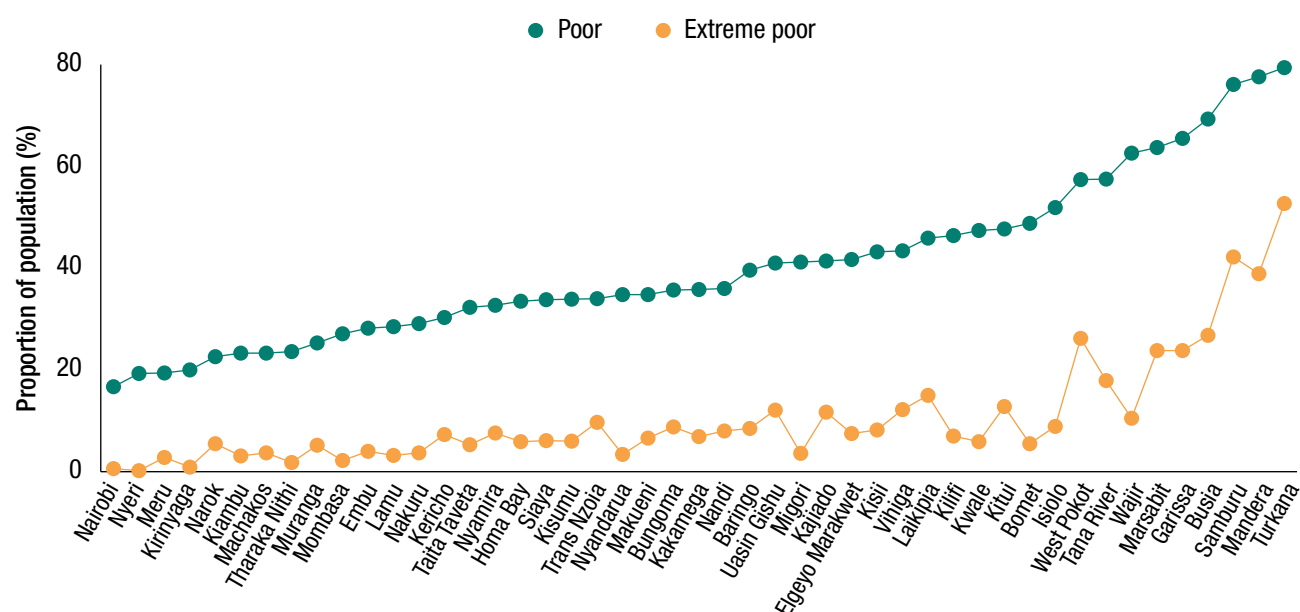
Kenya's north-eastern counties, in contrast, have very high poverty rates of between 50% and 80% and far greater concentrations of extreme poverty. For example, in Turkana, 80% of the population lives below the poverty line, while more than 50% of the population lives in extreme poverty.

Other counties fall between these two extremes, such as those between Nairobi and Mombasa, the coastal counties and a number of peripheral counties in the greater Kisumu environs (Figures 2 and 3).

3 Plus the econometric analysis completed for this paper. See Annex 2 for details.

4 Omoro (2001) plus the econometric analysis completed for this paper. See Annex 2 for details.

Figure 3 Kenyan poverty and extreme poverty by county (2015–2016)



Note: The KNBS defines ‘poverty’ as total monthly adult equivalent consumption expenditure per person of less than KSH 3,252 in rural and peri-urban areas and KSH 5,995 in core urban areas and ‘extreme poverty’ as total monthly adult equivalent consumption expenditure per person of less than KSH 1,954 in rural and peri-urban areas and KSH 2,551 in core urban areas.

Source: KNBS (2016), adapted by the authors

This SIDA-based analysis has been developed to explore the spatial dynamics of poverty in Kenya, to try to account for these significant regional differences. It includes a ‘SIDA framework index’, which ranks each county based on the four dimensions of the SIDA multidimensional poverty framework, and an econometric spatial analysis at county level that draws on the SIDA framework.

The analysis uses multiple data sources, including the KIHBS 2015–2016 (KNBS, 2016), the Kenya National Bureau of Statistics (KNBS) Gross County Product 2019 (KNBS, 2019), the Kenya FinAccess Survey 2018 (KNBS, 2018a), Overseas Development Institute (ODI) Supporting Economic Transformation (SET)⁵ and Chronic Poverty Advisory Network (CPAN)⁶ research, national statistics and broader economic literature.⁷

We present the findings of our analysis by SIDA dimension, as follows.

2.2 The SIDA poverty framework in Kenya

2.2.1 Economic and social opportunity

Economic and social opportunity is unequal across Kenya and, unsurprisingly, inversely related to poverty. Counties that have less poverty have greater opportunity and those with more poverty have less economic opportunity.

There is a strong spatial dimension to such opportunity in Kenya: it clusters around Nairobi, other urban centres and the transport corridors that connect them. In contrast, there is little opportunity in most rural districts, especially in the north-east (Figure 4).

Rural households are locked into poverty through subsistence agriculture

Kenya’s rural economy remains heavily focused on subsistence agriculture. While production

⁵ www.odi.org/projects/2835-supporting-economic-transformation-set

⁶ www.odi.org/our-work/programmes/chronic-poverty-advisory-network-cpan

⁷ See Annex 1 for more detail.

has risen in recent years, productivity has fallen – the opposite of what one would expect from economic structural transformation.^{8,9}

This is because of Kenya’s weak basic agronomy (for example, its poor seed and stock and underuse of fertilisers and pesticides),¹⁰ limited irrigation and insufficient mechanisation. Shrinking farm size has also undermined farmers’ ability to achieve economies of scale (World Bank, 2010; 2016; UNDP, 2017; Wankuru et al., 2019).

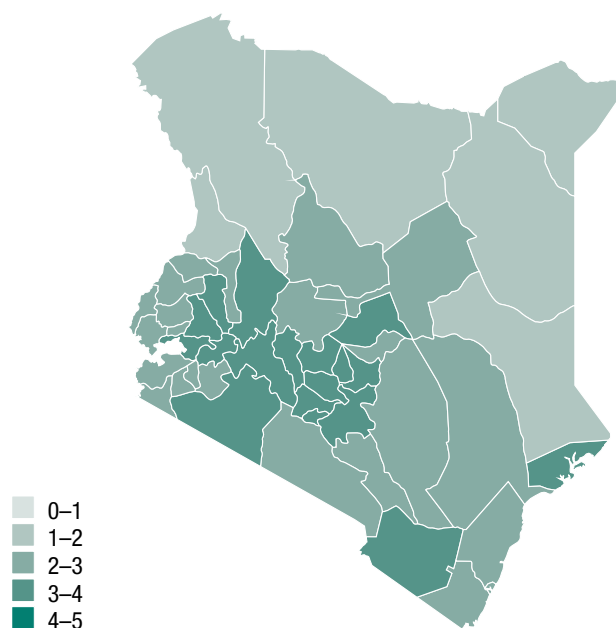
The sector is also chronically under-financed. Commercial banks have invested low shares of their portfolio in agriculture and the sector has not benefited from Kenya’s significant financial-sector growth, so the investments needed to overcome these problems cannot be made. In particular, there has been weak investment in irrigation – a key aspect of climate adaptation in Kenya (World Bank, 2016; UNDP, 2017; Tyson, 2018; Wankuru et al., 2019).

There is limited or no agricultural processing and weak value-chain development – both critical for ‘adding value’ to farm produce – because of a lack of cheap and reliable power, poor storage and a lack of access to markets and transport, especially in more remote areas (World Bank, 2013; 2016; Wankuru et al., 2019; UNDP, 2017; CGD, 2015).

The urban poor do not get work in formal manufacturing and services

Urban areas saw only a small reduction in poverty, from 32.1% to 29.4%, between 2005–2006 and 2015–2016 (KNBS, 2016), which is particularly interesting, as Kenya’s strong GDP growth has been concentrated in urban areas, including Nairobi, Mombasa and Lamu, and around trade ‘corridors’ with improved transport infrastructure, such as the intercontinental trucking routes through Busia and Nairobi to Mombasa.¹¹

Figure 4 Economic opportunity by county



Note: (i) The rankings from 1 to 5 indicate quintiles, whereby 5 is the upper quintile with the greatest economic opportunity and 1 is the bottom quintile with the least. (ii) Individual components of economic opportunity are agricultural output per capita, density of micro-, small and medium-sized enterprises (MSMEs) per capita, financial inclusion, graduation from primary education, presence of all-weather roads, number of markets in the county, access to mains electricity, public spending per capita on education and public spending per capita on health, with each county graded by quintile and then averaged across all measures to give the index score. (iii) See Annex 1 for further detail of index methodology.

Source: KNBS (2016; 2018a; 2019); Krishnan et al. (2019); Central Bank of Kenya et al. (2019); authors’ calculations

This can be explained by the fact that Kenya’s ‘top-line’ GDP growth has been dominated by growth in financial services and ICT. These sectors are important enablers of broader economic growth and indirect job creation but, in themselves, create predominantly skilled jobs for which most urban poor are not qualified (Khanna et al., 2016; Krishnan et al., 2019).

8 Agriculture is defined in this paper as arable farming, livestock and aquaculture. It accounted for 34.6% of Kenya’s 2017 GDP, 65% of its merchandise exports (mainly cane, tea and horticulture) and about 67% of total employment.

9 Between 2006 and 2013, Kenya’s agricultural total factor productivity dropped 10% (Wankuru et al., 2019).

10 Also because of distortions relating to fertiliser subsidies (Wankuru et al., 2019).

11 www.trademarka.com/projects/

The urban poor rely instead on low-waged and informal work in services

Urban poverty has remained stubbornly high in Kenya over the past decade. This is partly because of high levels of migration from rural areas to informal urban settlements, which have swelled the absolute number of people living in urban slums. However, it is also because the creation of jobs suitable for lower-skilled workers has been slow, because of the modest growth in manufacturing – a key sector for such job creation (Krishnan et al., 2019).

This means that the urban poor have informal occupations, predominantly in services where incomes are low and volatile. Their inability to escape such labour and enter formal work lies at the heart of Kenya's persistently high levels of urban poverty (Collins et al., 2009; World Bank, 2012; 2016; UNDP, 2017; Diwakar and Shepherd, 2018).

Infrastructure is a key determinant of economic opportunity

Infrastructure is key to economic opportunity. For example, almost all value-added activities require cheap and reliable power, while transport provides access to markets and employment (World Bank, 2012; Krishnan et al., 2019).¹²

Gaps in infrastructure are compounding poverty in Kenya. Rural and remote areas suffer from low levels of electrification and road or rail networks. In urban areas, electrification levels are higher, but informal settlements are excluded from formal connections. Informal settlements also suffer from limited water and sanitation infrastructure, with detrimental effects on public health, welfare and economic activity (WHO, 2009; World Bank, 2016; UNDP, 2017).¹³

Education is critical to economic opportunity, especially for women

Primary and secondary education provide employment skills, but only where it is

vocational, good quality and relevant for available work. Poor-quality education undermines the transition from school to work and leaves youths and adults needing further vocational training or apprenticeships, weakening the relationship between public spending on education and poverty rates (Shepherd et al., 2013).

Education is also particularly important for women where the opportunities are constrained by low levels of skills and resources, especially among female-headed households. Secondary education also delays marriage and childbirth (World Bank, 2012; Shepherd et al., 2013).

Income diversification is a critical pathway out of poverty in rural areas

Opportunities to diversify incomes away from agriculture in rural areas are important to the poor, as they reduce their reliance on subsistence agriculture (Collins et al., 2009; Shepherd et al., 2013). Remittances from family members are also important to supplement consumption and to provide funds to invest in non-farm businesses in rural areas (Shepherd et al., 2013; Diwakar and Shepherd, 2018).

2.2.2 Environmental vulnerability

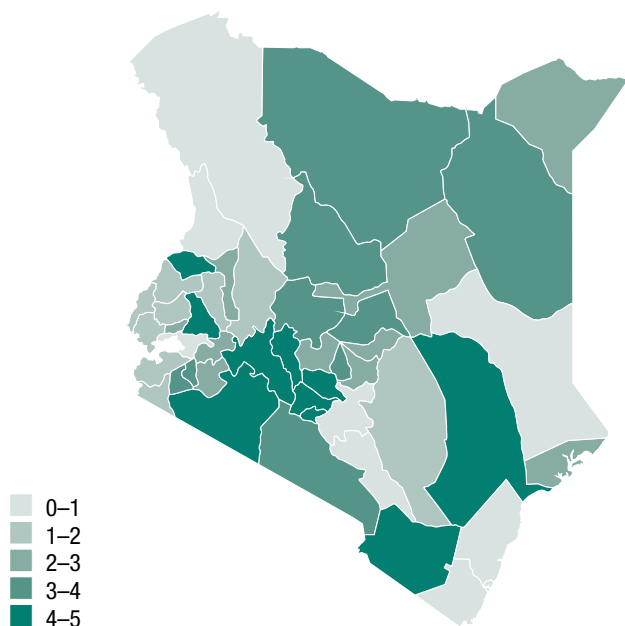
The World Bank ranks Kenya 13th out of 233 countries when it comes to 'direct risk' from 'extreme weather' and 71st in terms of 'overall vulnerability' to climate change (World Bank, 2010). The effects of climate change are estimated to cost the economy the equivalent of 2.6% of GDP annually (Diwakar and Shepherd, 2018).

This vulnerability to climate change and environmental degradation is compounding poverty. More than 12 million people are living in areas with degraded land and up to 30% of land is affected by 'severe' degradation. There have been incidents of environment-related shocks, such as flooding and locust plagues (BBC News, 2019; 2020).

12 Please see Annex 2 for a spatial analysis of infrastructure in Kenya.

13 Health has a positive and significant effect on macroeconomic growth, although the strength of the relationship diminishes as health improves (WHO, 2009). In Kenya, research has focused on the economic costs of malaria and HIV, including the lost earnings of those who are ill and their family members (especially women), with impacts on child labour and school attendance. No estimate of the macroeconomic impact has been found (Kioko et al., 2013; ILO, 2018).

Figure 5 Kenyan environmental vulnerability by county



Note: (i) The rankings from 1 to 5 indicate quintiles, whereby 5 is the upper quintile with the least environmental vulnerability and 1 is the bottom quintile with the most environmental vulnerability. See Annex 1 for further details of index methodology.

Source: Authors' calculations

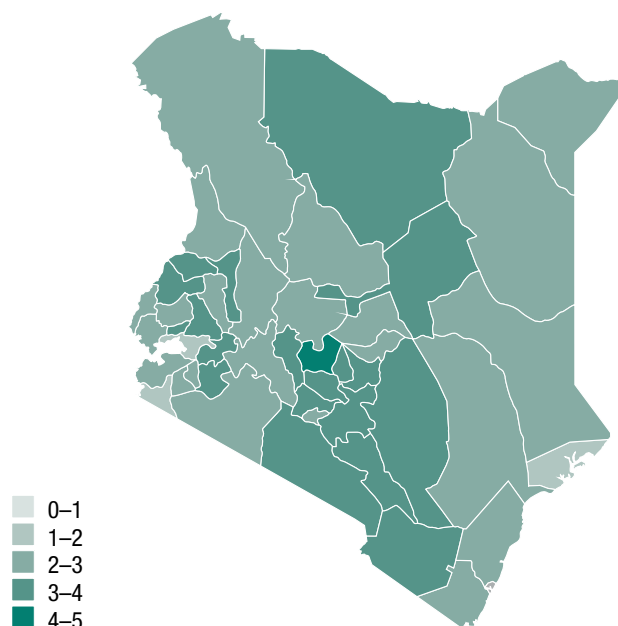
The greatest vulnerability is in rural areas, especially the arid north-western and south-eastern provinces, where more than 60% of land suffers from either severe or moderate degradation and a further 33% is vulnerable to degradation. This is compounding poverty by constraining agricultural output (Mulinge et al., 2016; Wankuru et al., 2019).

Counties in the south-west of Kenya and in the central areas between Nairobi and Mombasa also suffer from environmental vulnerability, thanks to badly managed economic activity and urban areas with uncontrolled migration and poor public services, such as water and sewage systems (World Bank, 2010; Wankuru et al., 2019) (Figure 5).

2.2.3 Politics and institutions

In 2010, Kenya adopted a new constitution, which devolved powers to the counties. The new constitution recognised the rights of marginalised ethnic and regional groups and created dedicated state funds to provide incremental public financing for marginalised counties. However, the potential of devolution has been undermined

Figure 6 Kenyan political and institutional strength by county



Note: (i) The rankings from 1 to 5 indicate quintiles, whereby 5 is the upper quintile with the greatest political and institutional strength and 1 is the bottom quintile with the least political and institutional strength. (ii) The individual components of the political and institutional strength index are bribery, gender inequality, grievance resolution, contracted employment and property ownership, as measured by the KIBHS 2015–2016. See Annex 1 for further detail of index methodology.

Source: Authors' analysis, based on KNBS (2016) data

by the poor quality of local governance and corruption in some counties. This has included undermining social protection programmes and grievance redress (Diwakar and Shepherd, 2018).

Gender is a pervasive element of poverty in Kenya, with women and girls faring worse than their male counterparts in almost all aspects of power and voice (Ponge, 2013; WEF, 2017; Diwakar and Shepherd, 2018; Pape and Mejia-Mantilla, 2018). Political and institutional strength is spatially unequal, with the concentration of power in Nairobi and, to a lesser extent, Kisumu and their environs reflecting long-established economic and political inequality.

However, there are also some notable exceptions, such as some north-eastern and southern counties, where stronger social and community cohesion offset other negative dimensions of poverty dynamics. This appears to be the case in Marsabit and Isiolo, for example (per the detail of the SIDA index) (Figure 6).

Devolution has seen uneven progress across counties

The success of devolution depends on the quality of local governance, including those in power at county level. Though politics in Kenya is driven by electoral competition for national and county governments, outside the formal election process, outcomes tend to be influenced by factors such as patronage and vote buying. These factors shape the nature and scope of public participation. This drives the rules of engagement of public participation and the extent of policy reform (Diwakar and Shepherd, 2018).

Grievance redress mechanisms and other formal processes could be thwarted when due process is sidestepped, for example, due to corruption. This is all too common in Kenya and counties with higher poverty rates often have higher levels of bribery.

This limited accountability can be seen in public expenditure, particularly when calculated in proportion to counties' share of poor people. This can influence pro-poor public expenditure, resulting in an inverse relationship between public spending and the proportion of poor people per county. For example, marginalised counties, such as those in the north-east, have relatively low levels of public expenditure per poor person, whereas some of the richer areas, such as Lamu, have the highest.

Social protection programmes have had mixed results

In Kenya, social protection programmes have had mixed results. Cash transfers were introduced in 2003 and now cover 12.5% of the country's poor (equivalent to 2.5 million people). Studies show that cash transfers reduce poverty, increase the use of healthcare and improve nutrition.

However, they have no significant impact on school attendance, the use of productive assets and techniques in agriculture, or asset accumulation beyond the cash received – all important factors in

the permanent escape from poverty (Bastagli et al., 2016; Hagen-Zanker et al., 2016; Oxford Policy Management, 2018).¹⁴ What's more, politicians can also adopt cash transfers as a means of patronage (Diwakar and Shepherd, 2018).

The Health Insurance Subsidy for the Poor (HISP), introduced in 2016, reduced the financial barriers to health-service access for the poor. But resistance by interest groups (such as private insurers and health management organisations, unions and the Ministry of Finance), discrimination by healthcare workers and ineffective grievance redress mechanisms reduced its effectiveness (Wanyama and McCord, 2017; Kabia et al., 2019).

As of end 2019, only 3% of the poorest were covered by the HISP and the scheme was grossly underfunded at national level (Barasa et al., 2018; UNDP, 2017; Jaramillo and Chatterjee, 2019).¹⁵ Other barriers – such as poor transport, the continued charging of fees (despite these measures) and poor facilities, including lack of equipment, medical supplies and qualified staff – have limited the effects on actual healthcare, especially for the poorest in remote locations (Chatterjee, 2017; Kuguru, 2018; IEA, 2018; Kabia et al., 2019).

To overcome some of these deficiencies, county governments have moved to eliminate payments for primary and maternal health services in public health facilities, helping to reduce the maternal mortality ratio. However, an assessment of the success of these initiatives is not yet available.

Social and community programmes help, but exclude the extreme poor

Against this institutional backdrop, individuals and households can help to maintain resilience by developing their own modes of economic security, such as having an employment contract or engaging in employee associations or farmers' cooperatives¹⁶

14 Although cash transfers are associated with retention of livestock, they are also associated with greater use of credit.

15 www.ipsnews.net/2019/03/nhif-reform-critical-affordable-health-kenya/

16 Stronger Farmer Organizations have been found to improve economic inclusion of smallholders and increase their market power. Vertical integration of farmer organisations (representing small farmers as members) off-takers and aggregators can help integrate processing, branding and retailing high-value and perishable commodities such as fruits, vegetables and dairy products including for marketing into urban areas (Wankuru et al., 2019).

to maintain key welfare benefits (Diwakar and Shepherd, 2018; Wankuru et al., 2019).

Unfortunately, the poor are generally less likely to be engaged in employee associations if they are not formally employed. Even where they are members of such associations, they appear less able than the non-poor to translate this engagement into tangible benefits, such as the receipt of National Social Security Fund (NSSF) or National Hospital Insurance Fund (NHIF) benefits from their employer.

Gender is a pervasive dimension of poverty

Kenya ranked 76th out of 144 countries in the Global Gender Gap Report 2017 due to gender inequalities in school achievement, health outcomes, political representation and labour-force participation (WEF, 2017). Even though girls' access to education has improved over time, gender equality in other areas, such as political participation, remains weak (Ponge, 2013).

This gender inequality affects the well-being of women and their wider households, as there is a strong positive correlation between gender inequality and poverty rates. Reducing gender inequality will require short-term efforts, such as affirmative and legal action, as well as embedded longer-term processes to change norms.

Satisfactory grievance redress is related to community strength, not poverty

Grievance redress mechanisms play an important role in a functioning political system, allowing people's voices to be heard and providing a forum for injustices to be addressed. These may be formal or informal institutions and communities that band together over a common cause. There are multiple social movements, community organisations and community-led resolution processes, such as hearings by elders or community chiefs, as well as formal courts (Diwakar and Shepherd, 2018).

Furthermore, the strength of grievance redress is not strongly linked to poverty, with counties such as those in the north-east having the most satisfactory outcomes, as reported by households. This suggests

that community coherence rather than wealth may drive positive grievance resolution.¹⁷

When it comes to formal grievance processes, poor households and women are the least likely to have political representation or to seek or receive satisfactory resolution. Such disadvantages are driven both by a lack of income, limiting access to legal representation in the formal courts, and ethnic and regional inequalities (Diwakar and Shepherd, 2018).

This is particularly unfortunate, as most of the grievances expressed by households in the KIHBS related to resources (such as personal property, divorce, land, natural resources), suggesting a vicious circle, whereby resource-poor households had no means of settling resource-related disputes and remained structurally embedded in resource poverty as a result.

2.2.4 Conflict and security

Kenya has a high level of conflict and insecurity and this has a strong spatial dimension, with severe problems in the north-eastern counties and urban areas, including Nairobi, Kisumu and Mombasa (Figure 7).

Conflict and insecurity push the poor deeper into poverty

The poor are more exposed to such problems and more vulnerable to their effects, because even micro-level household shocks, such as theft, can depress household well-being and drive impoverishment.

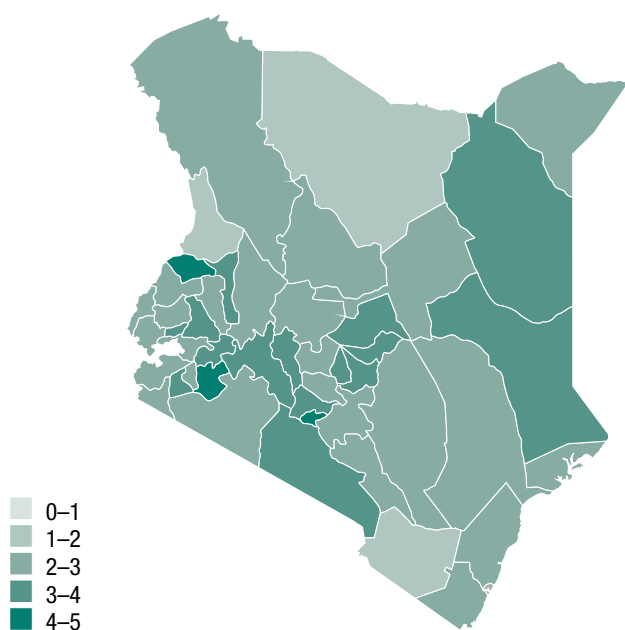
For example, the most common response to shocks is to draw down savings or make a distressed sale of assets. However, this can be problematic for the poor, who lack savings, leading to dysfunctional coping mechanisms, such as withdrawing children from school, resorting to child labour or reducing nutrition, leading to food insecurity and poor health.

Conflict and insecurity are most pervasive in the north-eastern counties

Such problems are more pervasive in remote areas, such as the north-east, and also in relation to terrorist organisations, such as al Shabab

¹⁷ Based on data in the index. See Annex 1 for more details.

Figure 7 Kenyan conflict and security by county



Note: (i) Rankings from 1 to 5 indicate quintiles, whereby 5 is the upper quintile with the highest levels of security and lowest levels of conflict and 1 is the bottom quintile with the lowest levels of security and highest levels of conflict. (ii) Individual components of the conflict and stability index include conflict fatalities, the crime index, food insecurity and households experiencing shocks recorded by the KIHBS 2015–2016. See Annex 1 for further details of index methodology.
Source: Authors' analysis, based on KNBS (2016)

insurgents. This has been ineffectively controlled due to inadequate policing and state security arrangements (Pkalya et al., 2003).

Such conflict has fuelled internal displacement in the north-east. Counties with high levels of displaced people are among the poorest in Kenya and suffer from other multidimensional factors, such as low school enrolment rates, malnutrition and inadequate water and sanitation (Diwakar and Shepherd, 2018).

Such problems are compounded by the environmental context (with climate hazards, such as drought, exacerbating farmer–pastoralist conflicts) and the political context (sparking election-related violence, as in 2007, and a rise in sexual and gender-based violence) (Thomas et al., 2013).

2.3 Conclusion

The four SIDA framework dimensions have given us an understanding of the various dimensions of poverty.¹⁸

Equally important is that they interact with each other to become ‘more than the sum of their parts’, meaning that poverty dynamics are not only multidimensional, but interrelated and act to either compound poverty traps or to provide permanent pathways out of poverty. These multidimensional and interrelated poverty dynamics can be seen at county level in Kenya.

Figure 8 shows the percentage of the Kenyan population living in poverty in 2015–2016, with a score on the SIDA framework index for each county.¹⁹

The index gives a score for each of the four dimensions, with a high and positive score indicating a supportive context for permanent pathways out of poverty and a low or negative score indicating a context that compounds poverty traps. So, for example, a county with strong economic and social opportunities, an environment with low levels of climate risk or environmental degradation, sound politics and institutions, and low levels of conflict and insecurity would have the highest score. Conversely, a county with poor economic and social opportunities, an environment with high levels of climate risk and environmental degradation, weak politics and institutions, and high levels of conflict and insecurity would have the lowest score.

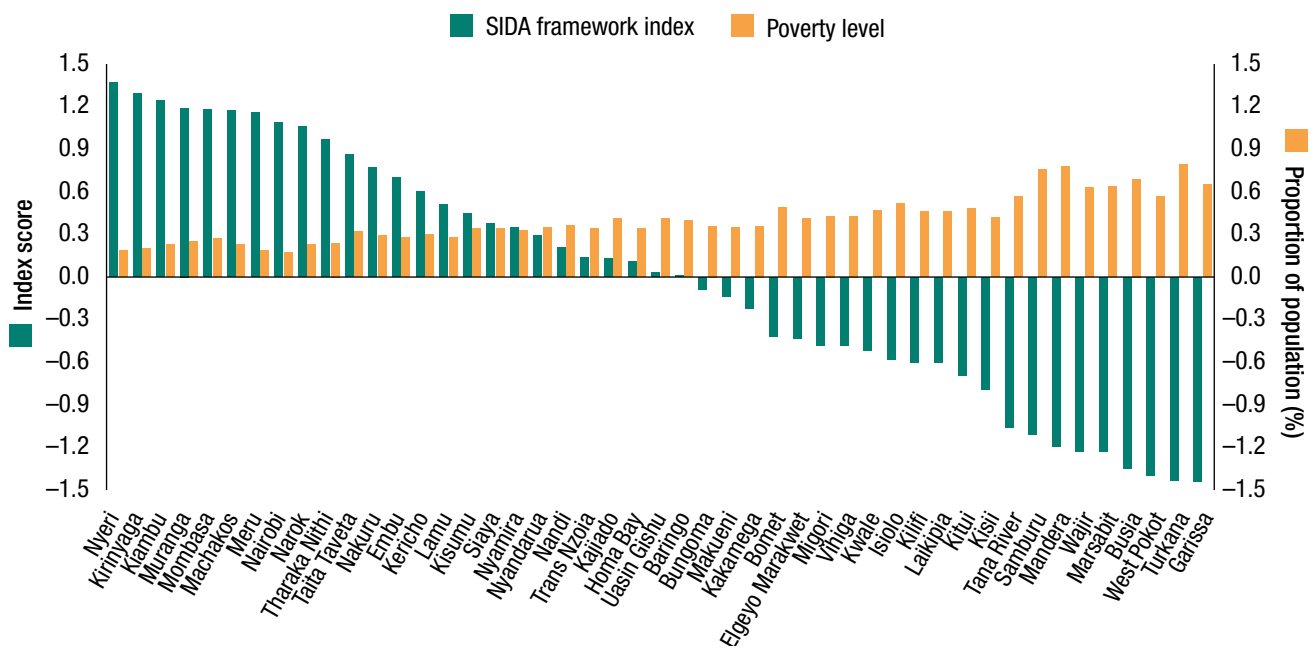
As can be seen, there is a close relationship between high scores on the SIDA framework index and low levels of poverty: counties with a higher positive score (supportive context) have lower poverty levels, while those with low and negative scores (compounding context) have higher poverty levels (Figure 8).

It is also notable that the economic and social context has the strongest inverse relationship to poverty (Figure 9), whereas the other three SIDA framework dimensions have a more variable relationship to poverty (Figure 10).

18 This section has also been informed by case-study fieldwork in Busia and Kwale (see Annex 3 for more detail).

19 See Annex 1 for a full description of the index methodology, data sources and sub-components.

Figure 8 SIDA framework index and poverty levels by county



Note: See Annex 1 for further detail of index methodology and data.
Source: Authors' calculations based on KNBS data

Growth hubs

Moreover, those counties with the highest scores and least poverty tend to have supportive contexts on all four SIDA dimensions: positive economic and social contexts, stronger political and institutional environments and fewer problems with the environment, security and conflict (though some have notably poor scores on the environmental front). These interact to compound their positive effects on poverty and make them 'more than the sum of their parts'.

These advantages work together to create 'growth hubs' with strong economic potential that is realised, resulting in relatively low levels of poverty and low or negligible extreme poverty. They include urban centres,²⁰ such as Nairobi, Mombasa and Kisumu, and rural counties where commercial and high-value agriculture with processing and exports has developed strongly, such as Nakuru (horticulture and vegetables) and Kericho (tea) (Figure 11 and Table 1).

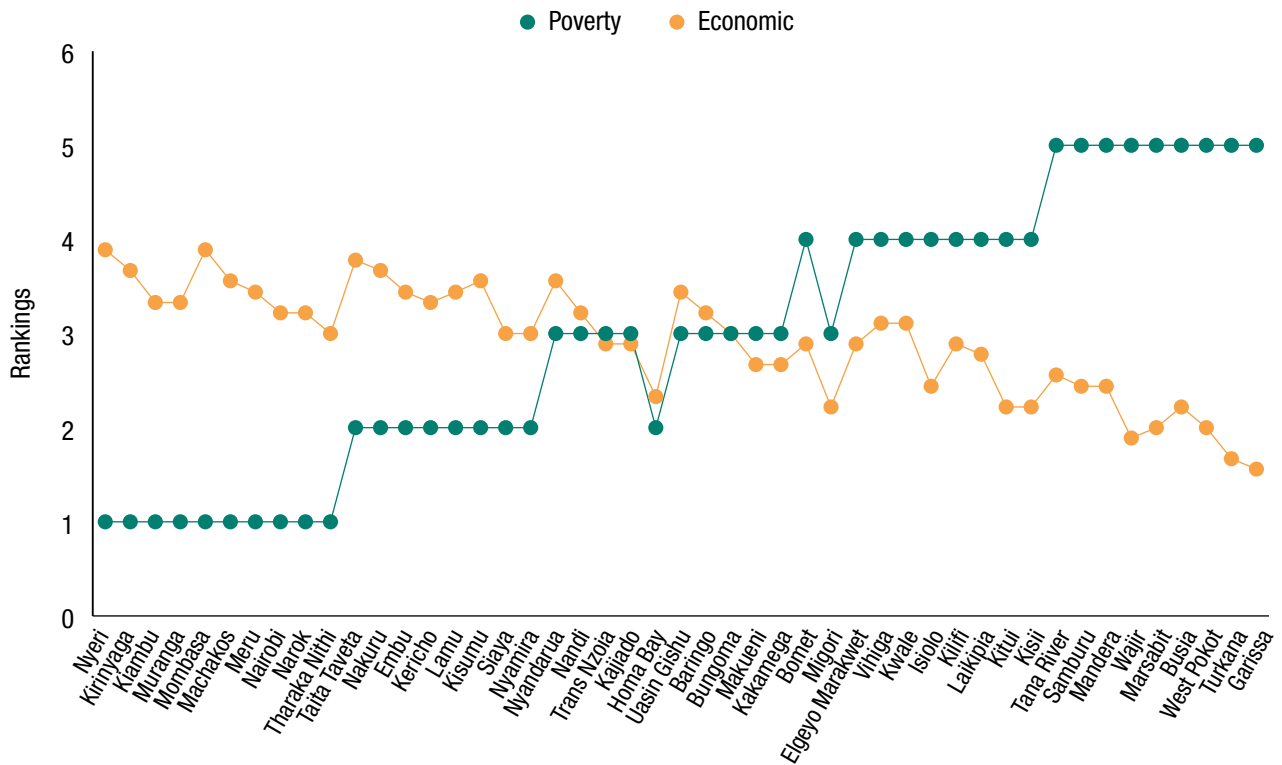
Poverty logjams

At the other end of the spectrum are counties where the four dimensions compound each other to create poverty logjams that make a permanent escape from poverty difficult and often create high levels of extreme poverty. This is most common in counties in remote and marginal areas, including the north and east of Kenya (Figure 12 and Table 2).

These counties typically suffer from weaknesses in all four dimensions. They are often (increasingly) arid, sparsely populated and highly reliant on subsistence agriculture, such as livestock. There tends to be a lack of services and infrastructure to support economic development. Communities are frequently marginalised, not only geographically, but also ethnically and politically, reducing their effectiveness in influencing policy and public spending in their favour. Furthermore, levels of crime and conflict are high, with ever more disputes over land usage and clashes with insurgents along the poorly guarded border with Somalia.

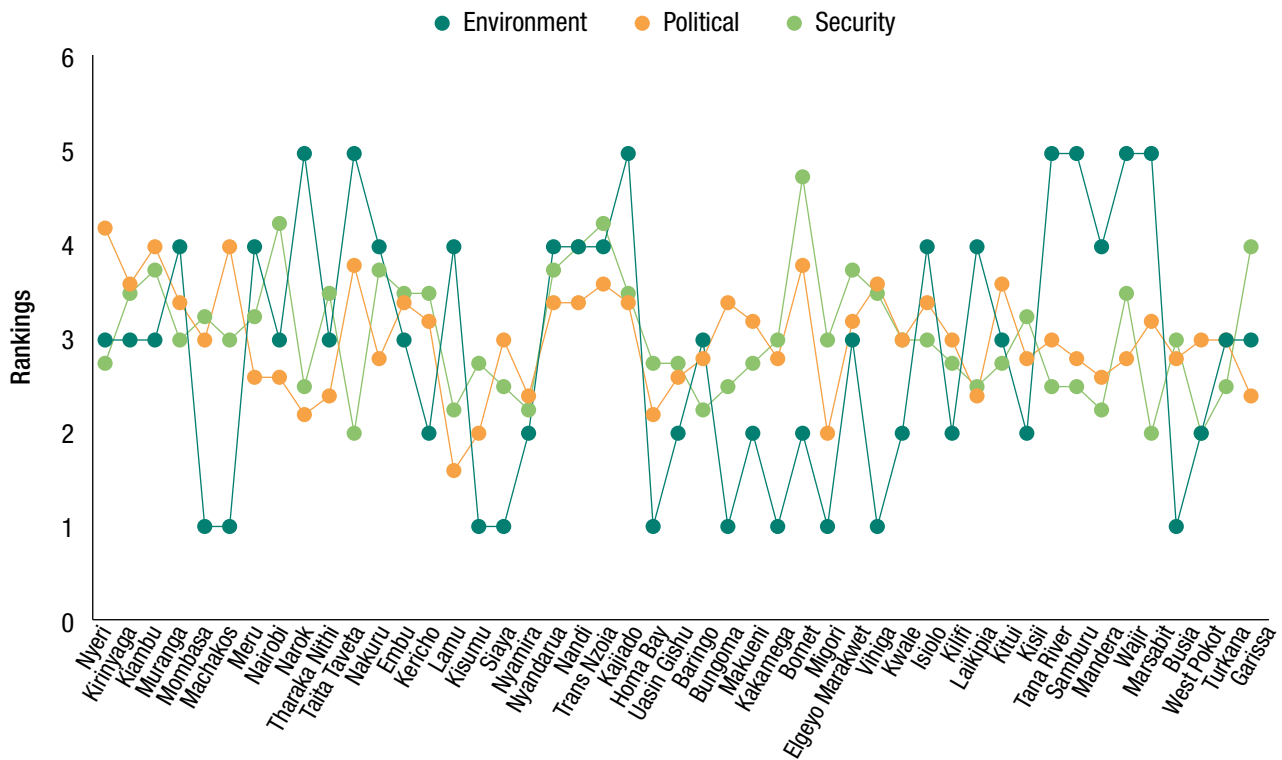
20 Urban poverty saw a small absolute fall from 32.1% to 29.4%, from 2005–2006 to 2015–2016, due to mass migration.

Figure 9 SIDA framework economic and social index and poverty levels by county



Source: Authors' calculations based on KNBS data

Figure 10 SIDA framework environmental, political and security index and poverty levels by county



Source: Authors' calculations based on KNBS data

Figure 11 Growth hubs – stylised facts

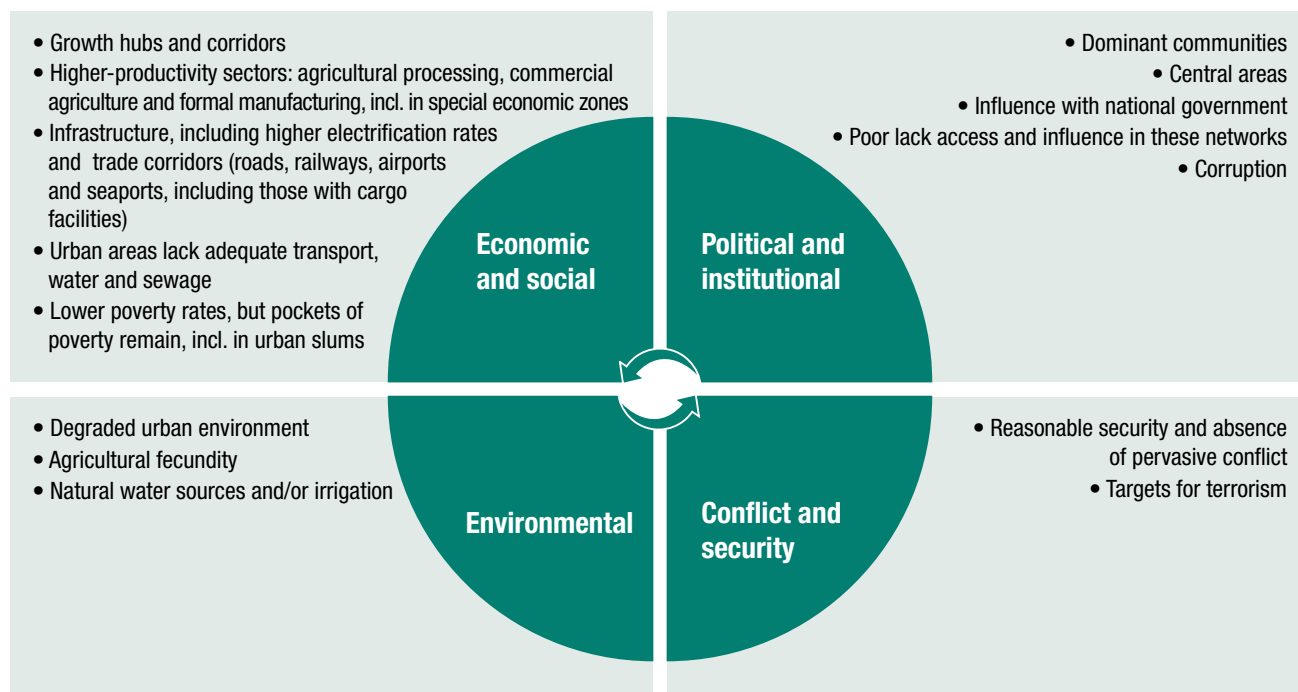


Table 1 Growth hubs – county index scores

County	Poverty levels (national quintile)	SIDA dimension				
		Economic and social	Environmental	Political and institutional	Security and conflict	All dimensions
Nyeri	1.0	3.9	3.0	4.2	2.8	3.5
Kirinyaga	1.0	3.7	3.0	3.6	3.5	3.4
Kiambu	1.0	3.3	3.0	4.0	3.8	3.5
Muranga	1.0	3.3	4.0	3.4	3.0	3.4
Mombasa	1.0	3.9	1.0	3.0	3.3	2.8
Machakos	1.0	3.6	1.0	4.0	3.0	2.9
Meru	1.0	3.4	4.0	2.6	3.3	3.3
Nairobi	1.0	3.2	3.0	2.6	4.3	3.3
Narok	1.0	3.2	5.0	2.2	2.5	3.2
Tharaka Nithi	1.0	3.0	3.0	2.4	3.5	3.0
Taita Taveta	2.0	3.8	5.0	3.8	2.0	3.6
Nakuru	2.0	3.7	4.0	2.8	3.8	3.6
Embu	2.0	3.4	3.0	3.4	3.5	3.3
Kericho	2.0	3.3	2.0	3.2	3.5	3.0
Lamu	2.0	3.4	4.0	1.6	2.3	2.8
Kisumu	2.0	3.6	1.0	2.0	2.8	2.3
Average	1.4	3.5	3.1	3.1	3.2	3.2

Figure 12 Poverty logjams – stylised facts



Table 2 Poverty logjams – county index scores

County	Poverty levels (national quintile)	SIDA dimension					All dimensions
		Economic and social	Environmental	Political and institutional	Security and conflict		
Mandera	5.0	2.4	4.0	2.6	2.3	2.8	
Wajir	5.0	1.9	5.0	2.8	3.5	3.3	
Marsabit	5.0	2.0	5.0	3.2	2.0	3.1	
Busia	5.0	2.2	1.0	2.8	3.0	2.3	
West Pokot	5.0	2.0	2.0	3.0	2.0	2.3	
Turkana	5.0	1.7	3.0	3.0	2.5	2.5	
Garissa	5.0	1.6	3.0	2.4	4.0	2.7	
Average	5.0	2.0	3.3	2.9	2.5	2.7	

Mid-case counties

Lastly, there are the 'mid-case' counties, whose economic and social context is typically modest, often because of their peripheral location and economic concentration on agriculture. However, other dimensions are typically 'good enough' (though not good). For example, many of these counties have infrastructure that is not excellent, but 'good enough', with recent and ongoing improvements. Similarly, their political and institutional strength is not top-class, but may include county governments with credible

economic development plans and an ability to execute. They typically have positive community relations and reasonable security, with issues mainly involving petty crime. One notable exception is that they often have environmental problems either relating to climate change or poor management of the local environment (Figure 13 and Table 3).

In the next section, we will draw on this analysis to consider the implications for inclusive economic growth, including policies and programmes designed to increase inclusion.

Figure 13 The ‘mid-case’ counties – stylised facts

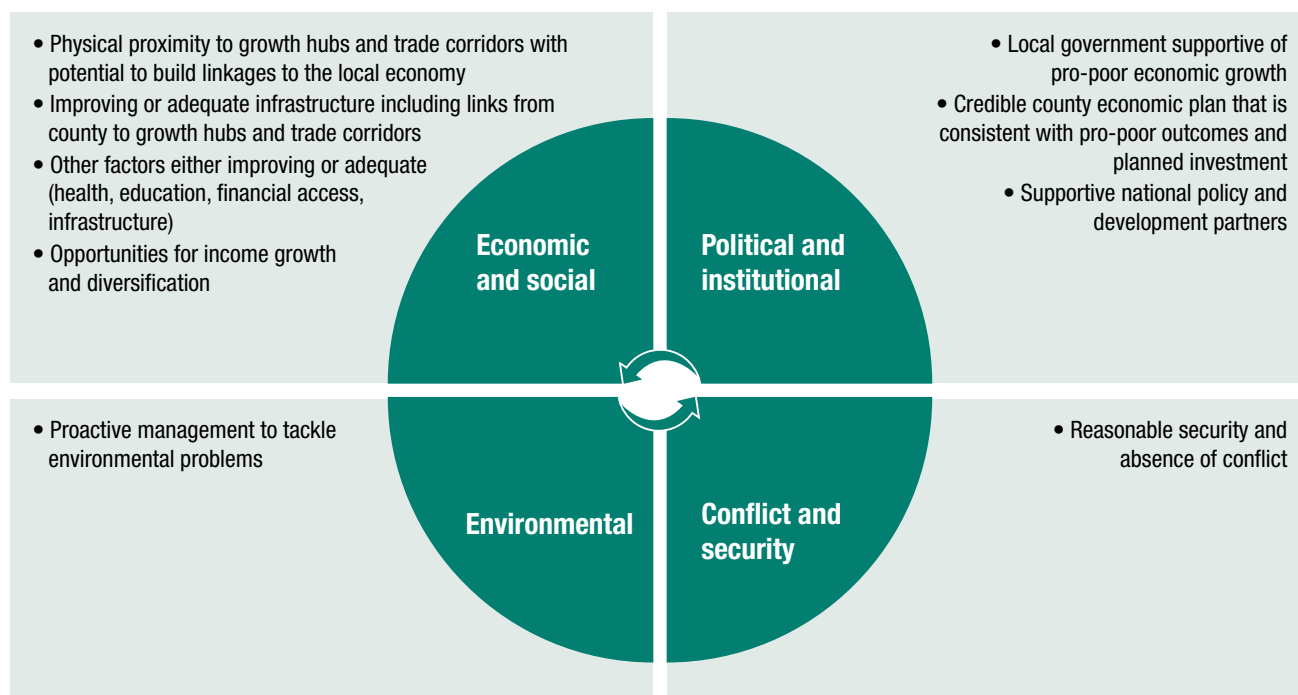


Table 3 The ‘mid-case’ counties – county index scores

County	Poverty levels (national quintile)	SIDA dimension					All dimensions
		Economic and social	Environmental	Political and institutional	Security and conflict		
Siaya	2.0	3.0	1.0	3.0	2.5	2.4	
Nyamira	2.0	3.0	2.0	2.4	2.3	2.4	
Nyandarua	3.0	3.6	4.0	3.4	3.8	3.7	
Nandi	3.0	3.2	4.0	3.4	4.0	3.7	
Trans Nzoia	3.0	2.9	4.0	3.6	4.3	3.7	
Kajiado	3.0	2.9	5.0	3.4	3.5	3.7	
Homa Bay	2.0	2.3	1.0	2.2	2.8	2.1	
Uasin Gishu	3.0	3.4	2.0	2.6	2.8	2.7	
Baringo	3.0	3.2	3.0	2.8	2.3	2.8	
Bungoma	3.0	3.0	1.0	3.4	2.5	2.5	
Makueni	3.0	2.7	2.0	3.2	2.8	2.7	
Kakamega	3.0	2.7	1.0	2.8	3.0	2.4	
Bomet	4.0	2.9	2.0	3.8	4.8	3.4	
Migori	3.0	2.2	1.0	2.0	3.0	2.1	
Elgeyo Marakwet	4.0	2.9	3.0	3.2	3.8	3.2	
Vihiga	4.0	3.1	1.0	3.6	3.5	2.8	
Kwale	4.0	3.1	2.0	3.0	3.0	2.8	
Isiolo	4.0	2.4	4.0	3.4	3.0	3.2	
Kilifi	4.0	2.9	2.0	3.0	2.8	2.7	
Laikipia	4.0	2.8	4.0	2.4	2.5	2.9	
Kitul	4.0	2.2	3.0	3.6	2.8	2.9	
Kisii	4.0	2.2	2.0	2.8	3.3	2.6	
Tana River	5.0	2.6	5.0	3.0	2.5	3.3	
Samburu	5.0	2.4	5.0	2.8	2.5	3.2	
Average	3.4	2.8	2.7	3.0	3.1	2.9	

3 What are the implications for policy and interventions?

The SIDA framework dimensions – economic and social, environmental, political and institutional, and conflict and security – have an overarching effect on poverty reduction. This is because they are significant determinants of whether a household can successfully improve its livelihood and whether this improvement is permanent or temporary.

In this section, we explore this issue further and consider what can be done to make economic growth more inclusive.

3.1 The importance of SIDA ‘context’

The four SIDA framework dimensions are key determinants of poverty levels and dynamics due to their powerful and pervasive effects on livelihoods at the household level (Table 4).²¹

In the *economic and social context*, infrastructure – including power, transport networks, telecommunications and finance – is fundamental to economic activity and livelihoods. Indeed, such is the importance of infrastructure that differences are a key cause of inequality between counties.²²

Infrastructure determines households’ ability to undertake ‘value-added’ activities. For example, without power, there can be no agricultural processing or manufacturing; without roads, it is difficult to access new markets; without finance there can be no investment to boost farm or factory productivity.

Human capital is also an essential part of the economic and social context. Weak vocational skills prevent the poor from taking waged employment. Know-how is needed for success in improving agricultural production and marketing. Well-connected communities (those with ‘social capital’, another form of human capital) are better able to help each other, lift aspirations and connect with national and international organisations.

In the *environmental context*, climate is a key risk to development. Counties that are highly exposed to climate risk – in particular, the north-eastern and coastal counties of Kenya – are already experiencing disruption to agricultural and livestock production, damaged or destroyed infrastructure and increased conflict following disasters such as droughts, flooding and cyclones. These events are powerful shocks to poor households from which it is difficult to recover. They can be a major reason why households are trapped or revert to living below the poverty line (Diwakar and Shepherd, 2018).

Degradation of the local environment is also key. In urban slums, poor sanitation and hygiene undermine health. In rural areas, degradation caused by overly intensive agriculture, overfishing and overgrazing reverses any gains in agricultural productivity (World Bank, 2010; 2016; Wankuru et al., 2019).

Some counties are starting to tackle these problems through better agriculture and

21 See case-study countries in Annex 3 for a more detailed discussion of the evidence.

22 See econometric analysis in Annex 2 that substantiates this finding.

fishery management, often in partnership with expert bodies, such as universities and international donors, but more needs to be done – and quickly.

The *political and institutional context* is also an overarching dimension. It determines whether governments deliver public infrastructure and services and provide critical coordination with the private sector (Lin et al., 2012).^{23,24,25}

In Kenya, the success of devolution and the quality of county government are key to prospects for poverty alleviation. Growth hubs typically have strong county governments and significant connections to national government that give them an advantage in areas such as accessing national budgets and affecting national policy.

Mid-case counties are also benefitting from successful devolution, including good county development plans and only moderate levels of corruption.

In contrast, poverty logjam counties may have county governments that are less able, with pervasive corruption – although the presence of strong communities can provide informal governance, which is positive.

Lastly, security and conflict are prevalent factors, especially in extreme poverty. In the north-eastern counties, there are severe security problems due to conflict between ethnic groups and from insurgents. This creates fundamental problems, such as food insecurity and violence.

In other counties, in contrast, security problems are more likely to be less severe, stemming from issues such as petty theft, prostitution and drug-taking.

3.2 The need for context-led policy and interventions

There is a significant body of literature on ‘pathways out of poverty’, showing that households can permanently escape from poverty when three things are achieved *in combination*: an increase in absolute income, a diversification of income and the accumulation of assets (Shepherd and Diwakar, 2019).

Increasing household income is one way out of poverty, but diversification²⁶ and asset accumulation²⁷ protect households from shocks and increase their resilience – ensuring their escape is permanent, not temporary. Furthermore, these factors encourage spending on education, healthcare and investment in business assets, all of which further solidify the escape from poverty (Shepherd and Diwakar, 2019).

One thing that is evident from this analysis is that the literature on how households escape from poverty needs to be put in the broader context, as this is a key determinant of individual and household ability to escape poverty. In other words, the escape from poverty is subject not just to individual characteristics, but the circumstances in which people find themselves.

This has two important implications. First, to increase the inclusiveness of economic growth, there is a need to tackle the overarching problems in the dimensions of the SIDA framework, such as infrastructure, human capital, politics and the environment.

This is not to say that households should not receive assistance in parallel with tackling these problems. However, such interventions should

23 Annex 3 details the fieldwork case studies in Busia and Kwale that substantiated this analysis.

24 For example, price intelligence; market requirements; supplier and buyer networks; business networks with growth hubs; disintermediation of ‘middlemen’.

25 For example, through mentors, role models and supporting migration.

26 Diversifying income by developing income streams from non-farm businesses in otherwise agriculture-dependent households can be of great benefit. Income can also be diversified across the total household ‘portfolio’, for instance through different occupations in a household. Migration can also be important, as it enables family members to send remittances to relatives, supporting consumption and providing funds for investment in livelihoods.

27 Assets can include financial assets, such as savings and insurance, traditional assets, such as land and livestock, and business assets.

Table 4 How the SIDA framework affects ‘pathways out of poverty’

SIDA framework dimension		Effects
Economic and social		
Infrastructure	Power	Mechanisation, irrigation, processing, manufacturing
	Transport	Physical access to markets
	ICT	‘Soft’ market intelligence ²⁵ Access to finance (via mobile banking)
	Finance	Investment in productive assets (agricultural inputs, plant, equipment, private power connections) Working capital for businesses (trade and value-chain financing) Household resilience and stability
Human capital	Health, education	Basic human well-being and skills
	Vocational skills	Ability to apply higher-value techniques in agriculture Ability to gain waged employment
	Communities, networks (‘social capital’)	‘Soft’ market intelligence Social aspirations and values ²⁶ Links to ‘expert’ research organisations, community organisations, carbon credit schemes
Environmental		
Climate risk	Aridity, erratic rainfall, flooding, cyclones	Disruption to agriculture Destruction of public and private infrastructure Increasing conflict
Local degradation	Soil, water, coastal habitats, rubbish, sanitation	Agricultural production Human well-being, including health and food security
Political and institutional		
Government and public services	County governments, corruption, devolution	Quality of economic planning, infrastructural development, education and health, community engagement Funding and execution of public programmes of education, health and social protection
Security and conflict		
Crime rates and conflict	Policing, border security	Loss of assets Food security Mortality

only be attempted where the context is (not necessarily perfect, but) ‘good enough’. A key insight from Chapter 2 is that, in Kenya, ‘good enough’ contexts are to be found in ‘growth hubs’ or ‘mid-case’ counties.

So, for example, before attempting an intervention, the political environment will need to be examined (the credibility of national and local government and their policies, for instance) to see if political bodies are tackling problems such as infrastructure, healthcare,

education, conflict, security and corruption and whether they have credible economic plans that can be built upon and coordinated with household-level programmes.

This is particularly relevant in the case of policies and interventions that aim to foster private-sector development and job creation. These are very common among national governments, development agencies and non-governmental organisations (NGOs). However, they are unlikely to succeed in providing

permanent poverty alleviation unless the context is ‘good enough’ to ensure that poor households have the aforementioned prerequisites to successfully improve their livelihoods (see OECD, 2017 for a more formal discussion of these points).

Indeed, there are already many examples of failure because of poor context. For example, in Kenya’s agricultural sector, where the political context was weak, interventions have led to wasteful expenditure (Dercon and Gollin, 2014).

Such programmes are particularly at risk of failure where, for example, inadequate infrastructure, climate change and local environmental degradation adversely affect potential agricultural productivity and the ability to engage in value chains.

Similarly, manufacturing is unlikely to be successful in the absence of public infrastructure – especially power and roads – and a workforce with the requisite basic skills (Ansu et al., 2016).

3.3 Addressing extreme poverty

These findings also underline the high risk of failure for policies and interventions in ‘poverty logjam’ contexts, where there are typically weaknesses in all four SIDA dimensions.

Similarly, in any context, the extreme poor are often subject to deprivation in all of the SIDA dimensions. As noted in Chapter 2, ethnic minorities and women are more likely to be marginalised and live in extreme poverty than other groups, even in relatively good contexts.

Addressing such extreme poverty is an essential part of increasing the inclusivity of economic development, but raises the question of what could be effective if regular private-sector or similar programmes are likely to fail?

One approach is cash transfer programmes. Aside from the concerns raised in Chapter 2, evidence suggests that unconditional cash transfer programmes not only provide direct benefits to participants, but also enable them to develop businesses. In addition, they stimulate broader economic growth, because the injection

of cash creates demand in the local economy. This means that such programmes stimulate at least basic economic activity in contexts otherwise unsupportive of inclusive growth (Oxford Policy Management, 2018).

However, such activity is typically informal (ibid.). While it might be an improvement for people in extreme poverty, in that they can start to build at least a very basic livelihood, such programmes are only likely to help people to cross the line from extreme poverty to poverty.

An alternative approach that promises to deliver more substantial and long-lasting gains for the extreme poor is ‘hybrid’ programmes that combine social protection with proactive programmes to help the poor develop higher-income livelihoods. Programmes that work with the poor to develop businesses with ties into ‘growth hubs’, for example, by maintaining cash transfers *in combination* with training and community work (such as ‘self-help groups’) to build market linkages and sustainable institutions (such as savings and self-help groups), may be more effective in permanently lifting people out of extreme poverty. Current evidence shows that such hybrid programmes have more positive effects on income and enterprise development than programmes that only deliver single programmatic elements (such as only finance or only business training) (McMillan et al., 2017; Shepherd et al., 2019).²⁸

These initial optimistic results suggest there should be further work to develop and assess hybrid programmes to help the extreme poor and marginalised.

3.4 Conclusion

The key finding of the spatial analysis, therefore, is that context varies significantly in terms of the support it lends to inclusive economic growth. Consequently, it is critical to assess the context of policies and interventions to ensure that it is ‘good enough’.

An inevitable implication of this, however, is that there will be contexts in which there is a

28 For further discussion and an example please see FSD’s work in Marsabit: <https://fsdkenya.org/blog/unlocking-opportunities-for-the-poor-part-two/>

high risk of failure. Crucially, these contexts are also those where there are concentrations of the extreme poor and where we need to ‘push the envelope’ on policy and interventions.

Cash transfer programmes provide direct assistance to participants and enable them to develop informal livelihoods and provide some basic stimulus to the local economy. However, they basically leave participants in the types of informal occupations that are the root cause of poverty.

Recent ‘hybrid programmes’ and other evidence on changes in the difficult environments in which the extreme poor typically live indicate that a combination of general enabling and targeted interventions is critical, as they deliver more than the sum of their parts in terms of poverty alleviation (McMillan et al., 2017; Shepherd et al., 2019).

Further development of such approaches and rigorous impact evaluation should be a priority for the development community.

4 Conclusion

As we discuss in this paper, poverty and its dynamics are fundamentally related to their multidimensional and interrelated context. In this final section, we discuss a number of issues that are particularly important to poverty dynamics, which have not been fully incorporated into the SIDA framework, and look briefly at Kenyan national policy in this regard.

The first of these is demographics. Kenya's population has more than doubled since 1990, to nearly 50 million as of the end of 2017, with an annual population growth rate of 2.6% and 41% of its population under the age of 15. The country's failure to create sufficient jobs to absorb this growing population has been one of the key reasons for the failure of economic growth to reduce poverty more rapidly, leaving a generation of young people without decent employment (Diwakar and Shepherd, 2018; Wankuru et al., 2019).

Second, Kenya is highly vulnerable to climate change. The World Bank ranks it 13th out of 233 countries in terms of 'direct risk' from 'extreme weather' and 71st for 'overall vulnerability' to climate change (World Bank, 2010). The effects of climate change are already estimated to be

costing Kenya the equivalent of 2.6% of GDP annually (Diwakar and Shepherd, 2018).

Addressing this is particularly urgent, because the poor are the most vulnerable to these problems, especially as they pertain to agriculture, on which many of the poor rely for their livelihood. The need to increase investment in irrigation,²⁹ improve sustainable practices and step up the use of innovative technology^{30, 31} to enhance 'value added' is urgent.

Lastly, Kenya needs to challenge itself to make politics more inclusive and to tackle corruption. The national economic context is positive, with its focus on policy to strengthen the broad investment environment, sector-specific policies and support for trade. But political and institutional problems threaten to undermine progress. Entrenched elites engage in political patronage, corruption is commonplace and there have been repeated bouts of civil unrest, with delayed implementation and poor transparency of reforms (Booth and Unsworth, 2014; IMF, 2018; Kiboro, 2017; Diwakar and Shepherd, 2018; Wankuru et al., 2019).

Various policy initiatives have been implemented to tackle these problems.

29 Investing in irrigation and agricultural water management for smallholders, including both small-scale irrigation and water-harvesting infrastructure, can reduce income poverty by increasing yields, allowing for greater cropping intensity and enabling farmers to switch to higher-value crops (Wankuru et al., 2019).

30 Leveraging modern technology could spin off a wide range of agricultural applications. Kenya is already leading innovations, including Safaricom's digifarm, Twiga Foods and Masoko. The former enables farmers to obtain information on soil types, markets, and credit, while the latter two connect sellers to buyers, also in urban areas. Further uses could include enhancing farmer access to information (such as weather updates and market data), logistical efficiencies for input suppliers and buyers (including electronic commodity exchanges) and better access to finance for farmers to boost productivity and increase farm gate prices (Nyarko, 2016; Wankuru et al., 2019).

31 Kenya's agriculture sector is constrained by inefficient price-discovery systems that lead to low farm gate prices and the exploitation of smallholders. Pilot schemes that certify warehouse grain deposits and issue tradable and transferable warehouse receipts could enhance financing and price discovery for farmers, but are being hampered by the lack of a legal and regulatory framework for trading warehouse receipts. Commodity trading also needs to be made more transparent through public exchanges (such as electronic platforms) and the reform of public marketing boards for agricultural products, such as the National Cereals and Produce Board (Nyarko, 2016; Wankuru et al., 2019).

Devolution under the new constitution has been partly designed to address political and ethnic tensions and grievances and we found it to be having some success. More needs to be done, however.

The current government is prioritising manufacturing, with its potential for mass job creation. However, sectoral development needs to be more inclusive, by training the low-skilled and drawing in more workers from beyond the current ‘growth hubs’, either through migration for waged work or by increasing the geographical focus of power and road networks and special economic zones (Ansu et al., 2016).

On the climate and environment front, Kenya has adopted the Kenyan National Adaptation Plan 2015–2030 (Republic of Kenya, 2016) to enhance the capacity and resilience of farmers, pastoralists and fishermen to respond to changes in agricultural production, accompanied by supportive new regulations and policies. The Green Economy Strategy and Implementation Plan 2016–2030 (Government of Kenya, 2016) provides a framework to ensure economic growth is climate friendly. Kenya has become a world leader in green energy: as of 2018, 85% of its electrical power was generated from green sources. The Kenyan Central Bank is supporting

the creation of a domestic green bond market to finance further green development.

The management of environmental and climate adaptation has remained challenging, however, because of informal land rights and ownership and pressures from population growth, rapid urbanisation and poorly managed economic development (World Bank, 2013; Wankuru et al., 2019). No one country can tackle climate change alone. More needs to be done, also at an international level.

Lastly, despite these huge challenges, it is good to highlight the fact that Kenya is a centre of innovation and new thinking. One of its great successes has been its world leadership in mobile platforms, which have delivered high levels of financial access for poor households.

Building on this, new digital innovation is widespread in Kenya (Nyarko, 2016). Even so, it needs to be recognised that access to the ICT infrastructure, which underpins such opportunities, can be another dimension of inequality. Still, such innovation shows Kenya’s potential to deliver the innovative political and economic thinking required to ensure that its economic progress continues and brings greater inclusion, so that its gains are shared among all of its people.

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Annex 1 SIDA index methodology

The index draws on a framework adapted from SIDA's multidimensional poverty framework (see Figure 1 in the main document). To date, however, the framework has been largely used as a qualitative tool. In this study, we wish to extend the SIDA framework to create a quantitative analysis using an original methodology to provide a numerical index of its four dimensions and an overall numerical score across all four dimensions of its framework.

This SIDA index was created by examining each of the four dimensions and identifying critical aspects and data that could indicate the quality of each dimension.

The data for each dimension was then selected from the KIHBS 2015–2016 (KNBS, 2016), the Gross County Product 2019 (KNBS, 2019), the Kenya FinAccess Survey 2018 (KNBS, 2018a) and recent ODI SET and CPAN research, as well as other sources of research and data, including national statistics and the broad economic literature (detailed in the data prepared by the ODI and published by FSD Kenya in conjunction with this paper). The details of the dimensions are as follows.

- *Economic and social dimensions*: agricultural productivity (as indicated by county agricultural output per capita); density of SMEs per capita; financial inclusion; primary education graduation rates; distance to the nearest all-weather road; the number of markets in the county; electrification rates as a percentage of the population with access to mains electricity; county public spending per capita on education; and county public spending per capita on health
- *Environmental dimensions*: environmental risk at county level, as determined by the KNBS
- *Political and institutional dimensions*: households reporting experience of bribery in the past two years; households reporting experience of grievances and disputes in the past two years; gender inequality in employment contracts; percentage of the population engaged in employee associations; percentage of the population owning their own homes
- *Conflict and insecurity*: levels of fatality and crime; percentage of the population suffering from food insecurity; percentage of households reporting shocks in the past year

The data for each of these factors was ranked into quintiles for each county, with a low ranking suggesting a negative indicator and a high ranking suggesting a positive indicator. (For example, a high score for agricultural productivity would be positive, so a high level on this data point would score 5; however, high food insecurity would be negative, and so a high level on this data point would score 1.) These quintiles were then averaged across all of the data fields for each SIDA dimension to give the average quintile ranking for each dimension (Table A1). A composite index was then created by weighting the four dimensions to give an overall SIDA framework index. The weightings were: 60% for economic and social ranking, 10% for environment, 20% for political and institutional dimensions and 10% for conflict and security dimensions.

ODI researchers can provide the database, with full details of the index computations used for the study.

Table A1 SIDA index rankings and weightings

SIDA index ranking	Weighting
Economic and social	30%
Agricultural productivity	High
MSMEs per capita	High
Fin inclusion	High
Primary education	High
Distance to road	Low
No. of markets	High
Electricity mains	High
Public spending per capita – education	High
Public spending per capita – health	High
Environmental	5%
Natural risk	Low
Political and institutional	10%
Bribes	Low
Employment gender inequality	Low
Grievance	Low
Employment association	High
Own household	High
Conflict and insecurity	5%
Fatalities	Low
Crime index	Low
Food insecurity	Low
Shock	Low

Annex 2 The spatial productivity analysis

We model each county's performance as a function of geographical and spatial variables (see Table A2). This multivariate analysis allows us to tease out the relationship between indicators, while keeping constant other factors that might affect productivity.

A2.1 Estimations using county-level panel data from 2005 to 2015

We estimate the productivity performance of each county using a panel data stochastic production frontier model, assuming that each county produces its output using its populace and public capital stock

$$Y_{it} = TL(K, L, t)_{it} + v_{it} - u_{it} \quad [1]$$

where $TL(K, L, t)_{it}$ represents the translog approximation of the production function. In the absence of direct, consistent information on county-level output, we follow the literature (for example, Henderson et al., 2012; Michalopoulos and Papaioannou, 2012; Hodler and Raschky, 2014) on using satellite data on night light or luminosity density for 2005–2015 as a proxy for county-level income/output, Y_{it} . Inspired by Burgess et al. (2015), we use total road expenditure (sum of development expenditure [new investment] and recurrent expenditure [maintenance]) as a proxy for county-level capital K_{it} , while population is treated as the measure of labour L_{it} . t is a time trend measuring technical progress. The composed error term $v_{it} - u_{it}$ is such that v_{it} is the traditional idiosyncratic error representing noise, while u_{it} is a one-sided error term that represents the level of inefficiency (in other words, it measures the productivity slack of each county in terms of its actual output, relative to its potential on the frontier, as well as relative to other counties). Hence, our county efficiency performance is estimated as:

$$Eff_{it} = E[\exp(-u_{it})|\varepsilon_{it}] \quad [2]$$

$$\varepsilon_{it} = v_{it} - u_{it} \quad [3]$$

Note that there may be a degree of uncertainty in the performance scores, as the production function inputs and outputs are proxies rather than inputs and outputs in the traditional sense. Even so, the sensible relationships between the productivity performance and spatial/geographical variables suggest that the estimates fit the data and reality to a reasonable extent.

We also link county-level productivity to poverty. To do this, we regress poverty rates from 2005 and 2015 on the estimated performance scores for a correlation exercise. The idea is to see the extent to which improved economic performance affected poverty. This regression should allow for a cursory evaluation of whether improved economic productivity performance is associated with poverty reduction. Second, the regression could be used as a sense check on the analyses conducted so far, as one would theoretically expect increased productivity to help reduce poverty. We then approximate estimates at each data point using the coefficient from the ordinary least squares (OLS) regression model.

Table A2 Correlations of county productivity, regression results

Correlation	Coefficient
Mines	-0.206
Port terminal	-3.518*
Area size	-0.435*
Border with Tanzania or Uganda	0.352
Distance to Nairobi	0.228*
Five richest counties	-0.385
Highway between Mombasa-Nairobi-Kampala	-1.191*

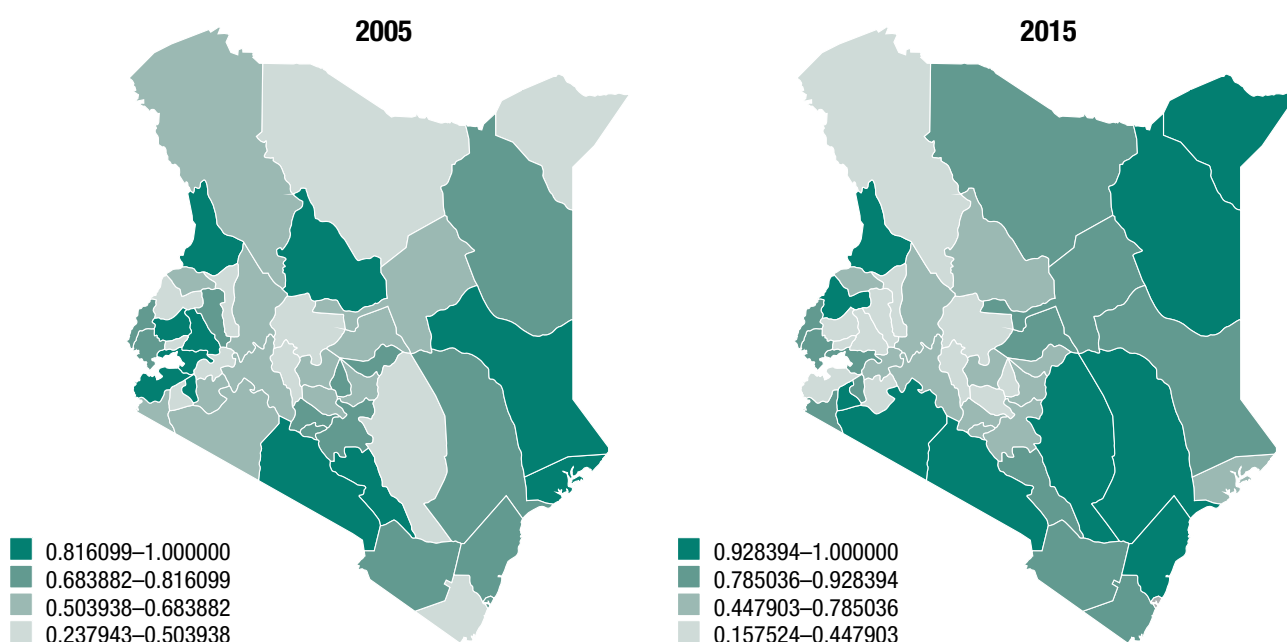
Note: The asterisk denotes statistical significance at 1%.

A2.1.1 Results

The regression results indicate that having a port terminal, larger area and proximity to the highway between Mombasa–Nairobi–Kampala are associated with reduced inefficiency, or increased productivity, during the sample period, where productivity is measured in terms of luminosity density for 2005–2015 as a proxy for county-level income/output. Moreover, a 10% increase in the distance to Nairobi is associated with a 2.2% decrease in productivity. Counties with ports or proximity to the highway or capital may be able to benefit more from improved services, infrastructure and transportation links as a result, so these relationships are intuitively sound. Area size is interpreted as elasticities at the sample mean, so the positive association between area size and increased productivity may not hold along the entire data distribution of counties, particularly for small-sized growth hubs, where the size-productivity relationship is reversed.

Figure A1 maps the changes in efficiency scores over time to demonstrate spatially how regions have evolved relative to others. These scores represent the proximity of a county’s actual output to its production frontier, or its optimum level of output given the various inputs outlined in Table A2. The closer a county’s actual output lies to its production frontier and relative to other counties, the more efficient it is said to be. Simply put, as efficiency scores increase, a county becomes more efficient in translating its inputs into productive outputs.

Separately, we link county-level productivity to poverty in an additional exercise for the years 2005 and 2015, where poverty estimates are available. Our estimates suggest that a 10% improvement in county-level productivity is associated with an approximate 1% reduction in the poverty rate. This analysis is for illustrative purposes only, as productivity is just one aspect likely to affect poverty rates across countries, as this report exemplifies.

Figure A1 Change in productivity estimates

Annex 3 Fieldwork case studies

As part of the preparations for the main working paper, researchers undertook fieldwork in the case-study counties of Kwale and Busia to deepen the evidence and conceptualisation of the spatial dynamics of poverty and the SIDA framework. These counties were selected as being representative of a mid-case county and a county lying on the cusp of being a poverty logjam, respectively. The goal of the fieldwork was to assess in greater depth the nature of the four SIDA dimensions and how they interact on the ground.

The fieldwork was completed using qualitative interviews combined with a detailed review of the data underpinning the SIDA index for these counties. Interviews were conducted with a wide variety of informants, including county government officials, local business groups, farmer, fisher and pastoralist focus groups and development agencies operating in the counties. These included the World Bank, the University of Nairobi and various NGOs.

A3.1 Kwale

Kwale has a poverty rate of 47.4%, well above the national average of 40.5%, and lies in the second and bottom quintile nationally. The population also suffers from widespread poor nutrition and infectious diseases, including malaria and diarrhoea. Child deprivation and stunting are high (REACH, 2015). Extreme poverty is better than the national average, although equality is marginally worse.

A3.1.1 Economic and social context

The Kwale County Development Plan (CDP) for 2017–2018 reports that productivity in agriculture, livestock and fisheries remains low for a number of reasons (Kwale County Government, 2019). Agriculture is reliant on rain-fed water sources. Farmlands and coastline fisheries have been affected by the degradation of soil and water sources. Poor agronomic practices, resulting from limited skills and knowledge of crop and livestock husbandry, and small farm size suppress productivity. There are poor market linkages and a lack of marketing skills and information. Farming cooperatives exist, but they are not well organised, and many are inactive. This causes farmers and fishermen to rely on middlemen, reducing the prices they receive for their produce. The CDP reports that there is little capital investment in agriculture, resulting in limited or no mechanisation and inadequate storage and transport facilities. Furthermore, investment to rectify this has been constrained because overall financial access is low. Formal access is limited, as only 22.5% of Kenyan land has title deeds, making it difficult to provide collateral for borrowing (Kwale County Government, 2019).

Our findings from fieldwork, including focus groups and interviews with key informants (from areas such as the county government and the private sector) were broadly consistent with these sources.

Agricultural production is concentrated in the interior of the county, with fertile areas nearer the coast and arid agricultural lands in the hinterland.

In the fertile coastal areas, the soil provides opportunity for cash crops such as mangos, oranges, cashews and coconut. These are orchard-based, so help conserve soil and prevent erosion in addition to potentially yielding good income. Currently, there is little in the way of marketing and value

addition. However, two fruit-processing plants are being built and the government is building a large fruit and vegetable market on the coast road to sell into the markets in Mombasa and Tanzania.

In the hinterland, there is a concentration of small, low-productivity farms that focus on the production of subsistence crops. Some of the barriers to improving productivity are typical of rural areas in Kenya, such as a lack of access to finance and reliance on brokers to intermediate goods to market, leading to lower farm-gate prices. Few examples of agricultural processing or manufacturing were reported by focus-group interviewees.

Households in the hinterland areas are not necessarily much poorer than those living in the coastal areas. Unlike the coast, however, there is little economic opportunity in the hinterland, where all the forest has been denuded for charcoal, the soils are sandy and not good for crops and there is no water.

There have been attempts to address this by building dams, but these have proved sinks for capital, which gets siphoned off through corruption (only one of four has actually been built) and have added very little value locally. The one functioning dam has been used to start an irrigation project, but there have been operational problems, including the cost of running irrigation equipment and the silting up of dams.

Interviewees complained that they cannot compete with the superior produce coming in from the Taita hills. People have also been forced to grow particular crops recommended by the government (onions, tomatoes, kale, etc.). Left to their own devices, they would prefer to grow maize, because it can be used as a subsistence crop. However, such crops do not justify the cost of irrigation, leading to a vicious circle of agricultural development.

Overall, the hinterland offers little economic potential other than through labour markets and businesses that exploit the substantial opportunities in the nearby coastal belt and large towns. There is a large road being built through this area, which will link Tanzania and upcountry Kenya with Kwale, bypassing the Mombasa bottleneck.

Livestock farming has been viable in these arid areas, but has suffered from the breakdown of government extension services and agricultural policy. The hinterland has also been degraded by uncontrolled charcoal production and sale as a 'cash crop', compromising the already marginal productivity of the land and potentially leading to more severe degradation in the longer term.

One exception to this was a project we visited in a remote fishing community in the south of the county. In this project, villagers had worked with the county government to establish seaweed farming and processing on the coastal beaches. The project was largely the domain of the village's women, each with an individual patch of a natural tidal area for farming and processing. The farming involved installing wire netting in tidal areas around mangrove swamps, where seaweed was planted and harvested. Farmers had also planted mangrove saplings as part of a project to reinvigorate the mangrove swamps.

The village had established processing facilities to dry the seaweed, process it into soap or sell it in bulk. Sales were made to a single intermediary who visited the village periodically. The villagers reported reasonable increases in income from this activity. However, they also had no market information and were 'price takers' from the single intermediary. They were unable to optimise the gains of their processing and production due to a lack of market information on pricing, a network to sell their products and transportation.

Another exception was a coconut factory that processed raw coconuts to produce coconut oil for cosmetics and food. As part of our fieldwork, we visited the factory and interviewed key informants at the firm. Its production relied largely on basic machinery and was highly labour intensive. This had limited production in terms of volume and quality. Interviewees also reported constraints in terms of finance, sales and marketing.

Financially, the firm was reliant on funds from farmer cooperatives and businessmen in the district and business growth was constrained by a lack of access to factoring and general trade finance. It had already established exports within the East African community and had growing exports to Europe and the United States. However, it had not developed to its full potential in terms of marketing its coconut oil, by publicising the health benefits, or producing coconut milk.

The firm was planning to invest \$150,000 in improved plant, which would increase its production capacity and quality (and meet export standards), allow it to process both oil and coconut milk, and improve productivity by reducing processes and consolidating them into a single site. It is interesting to consider the knock-on effects of such investment. Kwale has significant areas of coconut plantation, as well as informal coconut trees. The firm currently processes 400,000 to 600,000 coconuts a month. However, it had reached the upper limit of its ability to process coconut and, in fact, had purchased no coconuts for several months because of stockpiling after a good harvest.

The expansion of the facilities should lead to a significant increase in the volume of coconuts that can be processed daily, leading to significant growth in the backward linkages to coconut farmers. These include relatively small farmers, as the firm also has transport facilities that enable it to collect directly from the farm gate. However, the effects of the development are more negative in terms of direct employment. Most notably, the introduction of new facilities will reduce the number of employees significantly, from 160 to an estimated 20–30, although the remaining jobs are likely to be higher paid, as they will be highly skilled employees. Other new jobs could be created, too, for example, in sales and marketing and export facilitation.

Efforts have been made by the county government and local farmers to extend production away from subsistence farming towards market gardening and livestock. Focus-group interviewees indicated mixed results. There have been improvements, led by the county government, including improved control of disease and pests, both for both crops and livestock, and greater access to power. However, the results of irrigation projects have been mixed, as rainfall has been erratic and because maintenance and the availability of equipment, such as electronic pumps, have been erratic. There has also been a lack of connectivity between the goods produced and market demand. For example, interviewees reported that tomato production had not been matched by market demand.

On the coast, the main agricultural activity is **fisheries**. The fish landing sites are organised by Beach Management Units (BMUs) – community organisations established by way of 2007 legislation for beneficiaries of the beach. Focus groups were conducted with various BMUs along the coastline.

Some fisheries remained based on traditional subsistence fishing activity and full focus groups in this category reported a deteriorating situation. Their traditional activities had been based on the use of traditional, home-made boats, which were only suitable for fishing within the interior of the reef. Activities had also been focused on subsistence, with limited sales of fish products.

Interviewees in this category reported decreasing catches due to declines in fish stocks within the reef and a rise in aqua-pests such as sea urchins. The World Bank has linked these problems to environmental deterioration, including the pollution of marine environments by soil washed down from up country, and to overfishing.

Interviewees reported receiving some assistance from the county, including more modern boats and equipment, but they did not have the technical expertise to use them, so they had either been abandoned or been rented to Tanzanian fishermen, who had greater technical expertise.

Interviewees reported attempting to increase cash sales of fish and squid, but this was constrained by a lack of storage facilities. When asked what the barriers were to gaining access to storage facilities, they cited the cost of connection to the mains as prohibitive, even though mains electricity was close by, because of the tourist industry. They also said they had suffered from theft and vandalism of equipment and reported minimal sales to the tourist industry, despite their proximity to major international hotels.

There was also a **need for a coordinated development strategy** for fisheries. The country government was leading this, but lacked resources. Some issues were beyond its control. The marine economy is being exploited by offshore fishing by Europeans, Chinese, Japanese and Tanzanians with little or no value creation for the local economy. The only strategic response has been to ban Tanzanian fishermen from landing in Kenya or fishing inside the reef, but this has not tackled the problems in deeper coastal areas and has led to overfishing and the depletion of fish stocks.

What was interesting in terms of this study was the fact that that some BMUs were in a significantly better situation – in Gaia, for example, where we conducted a number of interviews, including focus groups, with the BMU and key informants.

Gaia has been the site of a long-standing environmental project led by the University of Nairobi to reinvigorate the mangrove swamps. Mangrove are key to coastal areas because of their ability to stabilise the coastline and because they are hatcheries for marine life, including fish. They have suffered significant degradation due to pollution and overfishing. The project focuses on replanting of the mangrove swamps and links this to income generation by claiming carbon credits from Kenya's Nationally Defined Contribution under the Paris Agreement, with the income given to the community. There have also been efforts to develop eco-tourist sites, including a picturesque boardwalk to the mangrove swamps, although interviewees reported limited numbers of visitors from nearby tourist destinations.

The funds from these environmental projects are managed by a community committee and have been spent on projects such as education and housing. This model of combining environmental protection and improvement with income generation has proved very effective, as it has engaged the local community by boosting their incomes.

The BMU in Gaia has also seen significant improvements in its livelihoods, largely thanks to the adoption of more sophisticated boats and equipment, including those for 'ring' netting. The equipment was introduced by the county government, although the BMU bought it privately. Importantly, it allows fishermen to fish in deeper seas, where catches are better, and to use ring netting, which is less destructive environmentally than other forms of fishing, such as dragnetting. Interestingly, the BMU had acquired the technical knowledge to use the equipment through family connections with Tanzanian fishermen (such as intermarriage), who have trained fishermen in the area to use more sophisticated and higher-productivity fishing techniques.

This has led to significant improvements in catches and a virtuous circle, whereby the BMU has expanded to nearly 400 members, including fishermen and traders, allowing them to acquire mains electricity and refrigeration storage. Traders have been attracted from further afield, as Gaia is only a short distance from the main road to Mombasa. All of these factors have significantly increased the income and scale of operations in the area. However, as for other fisheries, the BMU reported limited or no linkages to the tourist sector.

One issue to bear in mind, though, is that broad expansion of such a model could lead to overfishing in deeper waters along the coast, which would require management of fishing activities. Such management could prove complicated, as the government is already struggling to control illegal fishing in Kenyan waters by Tanzanian and international fishing vessels.

Formal employment was limited and largely restricted to the public and tourist sectors throughout the county. Kwale has a beautiful coastline and there are a large number of international hotels and other tourist activities in the county. These facilities provide significant formal employment, including in restaurants, hotels, tourist activities, security and transport. However, in the larger hotels and restaurants, the majority of staff were not local to Kwale, but from a wide variety of locations across Kenya. This appeared to be linked to the need for skilled workers. Hotels were also not significant purchasers of supplies from local producers and purchases of fruit and vegetables or fresh fish were also limited. There were some exceptions here, in particular, more informal locally owned restaurants and smaller hotels, including some restaurants that are communally owned. There are also a significant number of locally owned shops and informal services, such as tourist excursions, taxis and tuk-tuks, and souvenir shops. However, there were few backward linkages and local employment opportunities from the large hotels.

When it comes to **infrastructure**, there are some positive points, but gaps remain. There are 68 towns and five larger urban centres³² in the county with active markets in agricultural produce. At

32 Ykanda/Diani, Kwale town Msambweni, Kinango and Lunga Lungu.

the time of our research, the county government was developing a public market in Kwale Town for fruit and vegetables and other agricultural products. This was well received by focus groups, who saw it as an opportunity to broaden the market and increase prices above farm gate ones.

In terms of transport, the county has nearly 1,500km of road, but only 13% are paved. Roads include major corridors, including international trucking roads from Mombasa to Lunga Lunga on the Kenyan–Tanzanian border and, on the northern side of the county, the Mombasa to Nairobi highway. Road networks are being developed further. The African Development Bank is in the process of making a £222 million investment in the coastal highway between Bagamoyo in Tanzania and Mombasa (started in Q1 2019) and a one-stop border post is being developed at Lunga Lunga.³³

Interviewees in our focus groups noted that motor transport had improved and that this was giving them access to markets. They identified this as a factor in upward mobility. However, participants predominantly accessed only local markets and there was little interaction with Mombasa or other major cities. There was also some reported dissatisfaction with roads that had not been paved because they had become unusable during the rainy season.

This put Kwale in the fourth quartile nationally for road access. The county government has the potential to provide access to far larger and higher-value markets, such as Mombasa and Nairobi, as well as abroad, through the seaport at Mombasa and by road to Tanzania and Uganda, for example. Elsewhere in Kenya, such infrastructure developments have resulted in increased trading opportunities in agricultural products, including for small agricultural producers (World Bank 2012; Tyson, 2016; Kwale County Government, 2019). However, as noted, we found little evidence of this opportunity being realised from fieldwork interviews.

Some other aspects of Kwale’s economic environment are less positive. Non-transport infrastructure is moderate, with a high level of network coverage, at 75% of households, but limited access to power, with only 10% of households having access to mains electricity (Kwale County Government, 2019). Interviewees said this lack of access to power had a number of negative effects on livelihoods, for example, dysfunctional irrigation and inability to access storage facilities for fisheries and other agricultural products.

Financial access is also relatively low in Kenya. Again, a large number of interviewees cited this as a constraint on the development of businesses and livelihoods. This included small subsistence producers, such as the aforementioned poor fishers, to larger businesses, such as coconut farmers. There was widespread reported use of community or other collective financing, but almost no businesses (including middle-class business associations) reported access to formal bank lending. These problems were most acute among poor farmers and fishers. For example, in Lunga Lunga, farmers said no financing was available for capital investment, so they had to rely on table banking,³⁴ especially among women. Funds from table banking were invested in livestock and trading, as well as other types of micro-diversification, for example, to purchase motorbikes for use as *bora bora* taxis.

Education is a weak spot in Kwale. Primary enrolment levels are high, at 99.7%. However, secondary enrolment rates are much lower, at 30%, and graduation rates are only in the third quartile. The quality of education is poor, with high pupil-teacher ratios and inadequate school infrastructure. Public spending per capita is low. As a result, adult literacy rates are only 57% and, for women, only 47% (Kwale County Government, 2018).

Fieldwork found that there was a perception of improvements to education under the devolved county government and there was repeated praise of bursaries made available for the most able children, including for poor agricultural communities in Lunga Lunga and Kingango. Youth farmers in Lunga Lunga said that while they continued to face challenges in accessing educational opportunities,

33 www.trademarka.com/news/tanzania-news/tanzania-major-road-facelift-projects-in-pipeline-2/

34 Table banking is a funding system whereby members of a group meet weekly and put savings in a kitty from which members can borrow.

competitive bursaries from the county government had enabled some members to attend secondary and tertiary education. Interviews identified this as one pathway to livelihood improvement.

However, interviewees said they lacked (often basic) technical capacity and know-how to earn a better living. There was also some resistance to changing practices, however. For example, some of the interviewees in poor fishing districts said they did not want to change their fishing techniques, because they saw them as providing daily sustenance compared with the variability of cash production. Similarly, in Kinango, interviewees reported resistance to projects for rain harvesting initiated by the Ministry of Agriculture and problems with operating drip irrigation effectively.

Another common feature highlighted by interviewees was the importance of **social networks**. These operated in a number of ways, including cooperative activities in agriculture and livestock trading and, as noted, in community banking. However, a number of interviewees also highlighted the importance of social networks for accessing employment and facilitating migration to urban centres. Access to non-farm employment was highly reliant on having relatives or other social contacts to recommend and highlight opportunities for paid employment. This feedback underscores the importance of ‘social capital’ in upward mobility and improving livelihoods among interviewees.

Kwale has reasonable levels of public **health** provision and public health. However, interviewees cited problems with accessing healthcare and problems with poor health in poorer areas, especially in the remote interior, such as Kinango and Lunga Lunga. Because of the relative prosperity along the coast, it may be that the county averages for health mask significant variations between the coastal populations and the more remote rural populations.

Kwale has a **social protection programme** at county level. This includes cash transfers of 2,000 shillings a month, with about 5,000 active participants. Recipients include vulnerable older people and widows with children. There have been some issues with identifying and ensuring no duplication of recipients. Funds have been used for basic sustenance, for establishing micro-businesses and purchasing livestock, paying school fees and improving housing. However, these points were reported by the county office and there was little confirmation of them by interviewees, possibly indicating that the cash transfer and social protection programmes in the county were limited in terms of outreach and effectiveness.

A3.1.2 Environmental context

Kwale’s natural environment is mixed. It has an exceptionally beautiful coastline that supports tourism and fisheries. However, as mentioned, there has been some degradation of the coastal environment from overfishing and from highland soil being washed into coastal areas.

Agricultural production has taken advantage of the rich soil in coastal areas and there was little evidence of over-farming. However, in the hinterland, soils have been degraded by over-farming and other activities, such as charcoal trading.

One danger of further economic development is that environmental quality could deteriorate further, both on the coastline and in agricultural areas. Development of fisheries could lead to the depletion of fishing stocks and further degradation of the reef. More intensive agricultural activity could lead to soil and environmental degradation, particularly in the hinterland.

Plans for further economic development need to put management of these environmental issues front and centre. In particular, there needs to be holistic thinking around the county’s environmental issues, such as the ‘blue economy’, whereby sustainability of the coastline and marine environments is fundamental to the economic development model. Similarly, agricultural development needs to ensure that soil, water and natural resources are preserved.

A3.1.3 Political and institutional context

Kwale’s county government has developed a credible CDP and, as noted, is engaged in significant levels of consultation with local communities as part of its development planning. This consultation process, also for budget and project development, was widely supported by interviewees.

The county government has also invested substantially in education (although there is no evidence on quality) and vocational skills, in infrastructure, especially in roads linking Kwale with Nairobi and Tanzania (including those passing through the hinterland area and avoiding the Mombasa bottleneck), and in fisheries, including electrification and cold storage.

There were some comments about petty corruption, such as the need to pay bribes for licensing or business approvals. However, there was little reported entrenched corruption among senior county officials and the overall environment seemed reasonable for Kenya.

A3.1.4 Conflict and security

Kwale ranks in the second SIDA index quintile nationally when it comes to conflict and insecurity, and these were not cited by interviewees as pervasive problems. There was mention of the prevalence of petty crime, such as theft, and problems related to the tourist industry, including drug trafficking and prostitution. Interviewees also mentioned a significant number of drug addicts, including among ‘beach boys’ working in the sex and drug trades in tourist areas, as being responsible for petty crime, including theft and social disturbance. However, there was little or no reporting of pervasive insecurity and conflict. Interviewees reported reasonable levels of community coherence and basic domestic and local security.

A3.2 Busia

Busia has a poverty rate of nearly 70%, with more than a quarter of the population living in extreme poverty, well above the national averages of 40.5% and 10.6%, respectively. Child deprivation in the county is high, with 54% of children ‘deprived’ and 52% suffering from stunting (UNICEF, 2017). Moreover, poverty in Busia has been very persistent, with little improvement over the past decade (Akona, 2014). These poverty indicators place Busia among the poorest and most deprived counties in Kenya.

A3.2.1 Economic and social context

Busia’s economy is heavily concentrated in agriculture, with below-average levels of private-sector development and negligible manufacturing. Agriculture accounts for 69% of gross county product (GCP) and includes arable, livestock and fisheries. The remainder of GCP is concentrated in trading and public services (Busia County Government, 2019).

Like other counties where poverty is high, agricultural productivity is low in Busia. This has been driven by small land size – on average, less than 2 acres – and subsistence farming, with most farmers relying on the techniques of their ancestors to farm and process crops. Some crops are produced for cash, although these are predominantly produced by small farmers in mixed cropping. Common crops in the communities studied included maize, sweet potatoes, groundnuts, beans and *sim sim*. As farming was mainly for subsistence, maize was a preferred staple, offering food security even if it could not be sold at market. Because of this reliance on agriculture for income, amid erratic rainfall, Busia is in the bottom quintile for food security nationally (Akona, 2014; Busia County Government, 2019).

A key challenge faced by farmers, according to focus-group discussions, were the low prices of crops sold at market and the price differentials between buying and selling seeds. Farmers would buy seeds at high cost, only to face low selling prices later. One focus-group participant noted that rich people would buy seeds at around 25 shillings per kilogram, store them for a few months, then resell them for as much as 75 shillings. A similar trend was seen with agricultural produce, though there was greater flexibility where these could be used for household subsistence. For example, in the event of low prices, farmers would refuse to sell certain crops, such as potatoes, that were important for household subsistence. Instead, they would return home to cook ugali from potato flour, noted for its high nutritional value.

Recognising agriculture as the mainstay of the rural poor, over the years, the national and county governments have embarked on various forms of support for farmers. The One Acre Fund was cited by focus-group discussants as having helped improve productivity of the land. In one farming community, where one acre of land would initially yield half a bag of produce, this had increased

to eight bags. The One Acre Fund would provide seed loans, fertiliser and, depending on ability and land size, offer agricultural training on how and when to prepare the land. However, problems arose when farmers would plant, only to have their harvest reduced by dry spells or crop disease. Despite limited earnings in these circumstances, farmers would still have to pay their loans. In other instances, the Department of Agriculture came up with improved crop varieties, but farmers said these did not thrive and had short storage life, so ultimately provided limited benefit. In this context, focus-group participants said they hoped for empowerment in farming suited to the local context and for inputs to prevent crop stunting and to reduce dependence on Ugandan sales.

To date, however, most government support to farmers has focused on commercially able farmers, leaving a gap in support for subsistence-level, low-skilled farmers, who have no finance, lack technical capacity and are largely insensitive to farming technologies. County officials corroborated the targeting of interventions to commercially able farmers: 'If we give [subsistence farmers] a cow, they will sell it and it will not be sustainable'. They said they aimed to bring in stronger management of commercially able farmers and, through this, indirectly include the poorest farmers. Consequently, the county government was encouraging producers to join cooperatives and develop aggregated production packs to reduce input prices. The hope was for farmer organisations to have production clusters that were federated into associations and then cooperative societies and into unions, thus mobilising producers to be stakeholders at the value-addition stage and beyond.

Fisheries are common, as Busia County borders Lake Victoria. An estimated 50% of communities and businesses bordering Lake Victoria are dependent on the fish trade. However, the productivity and value-added of those fisheries is poor due to declining fish stocks in Lake Victoria and limited processing and storage facilities. One focus-group respondent noted that the Kenyan side of Lake Victoria was "now a swimming pool with no fish".

Largely as a result of the food insecurity faced by many poor households engaged in fishing, transactional sex, dubbed 'fish for sex', has become commonplace along the beaches of Lake Victoria. Female fish traders spoke openly during focus-group discussions of the 'pin numbers' that offered lucrative profits by securing more fish from the fishermen than otherwise possible. On the risk of contracting HIV, discussants said with an improved diet of *omena* fish (Lake Victoria sardines) to provide protein and with free antiretroviral medications, lifespans could be extended.

In this context, responses to reduce such activities focus on improving the incomes of women fish traders. One key informant suggested that pooling resources in savings and credit cooperatives (SACCOs) would help address food insecurity and thus lower incentives for fish for sex. Other suggested measures to help develop fisheries and reduce food insecurity included the building of artificial ponds and provision of fish-stock and food inputs by the county government. Focus-group participants also felt that better preservation techniques and storage would be critical in ensuring the longevity of the catch and preventing large shares of it being eaten by birds of prey. While many BMUs and fisher groups were dotted along the beaches, fish traders hoped these could be aggregated to create a greater mass for programme assistance. However, there are barriers to the advancement of fish exports to Uganda, including high taxation and fish smuggling (Kawala et al., 2017; Busia County Government, 2019).

One agriculture initiative in Busia County introduces rice and fish into the same paddies. Various countries, such as Bangladesh, the Philippines and China, have succeeded in such aquaculture models. Officers from Busia County have engaged in training in these activities abroad to build capacity. However, one key informant noted that when those officers return, they often find that the policy space is not ready for them. The budgeting system, which is focused on physical infrastructure, makes it easier to build a new water plant than equip and maintain it. To overcome these challenges, some key informants stressed the importance of technical assessments by FAO and other United Nations agencies and investments made in technical capacity. The importance of NGOs to shorten the enabling time from county government to ground production was also emphasised (and we examine this next).

A key challenge faced by farmers in Busia is their reliance on farm-gate prices. They also face constraints in accessing well-priced inputs, such as seeds. These problems have resulted from a lack

of market access and information and from an inability to take advantage of the price cycles of agricultural inputs and outputs because of a lack of finance. Similar problems exist in fisheries, but these have been compounded by environmental problems, including a decline in fish stocks and a rise in sexually transmitted diseases and HIV infection from transactional sex.

Busia's **human capital** remains below the Kenyan average. This is partly down to a high population growth rate (of 3.1% a year) and a high dependency ratio, without a similarly high rate of growth in social services. Busia suffers from a 7.7% adult HIV infection rate, the fifth-highest rate in the country, compared with a national rate of 4.9% (Ministry of Health, 2018). Malaria is prevalent in more than 60% of the county and 40% of the population suffers from it, because of limited use of mosquito netting and other basic preventative techniques (Mulefu et al., 2016). Against this backdrop, public spending on health is in the lowest quartile in Kenya, stalling progress on access to and quality of public health services (Tyson, 2018a; Busia County Government, 2019).

Busia has a literacy rate of 75.3%, just below the national figure of 79%. Primary- and secondary-school enrolment rates stand at 81% and 20%, respectively. One key informant attributed the limited secondary education to a lack of incentives in previous years, when there was a lot of money circulating in Busia thanks to tobacco farming, so little incentive to invest in education. This has slowly begun to change, though completion rates remain low, even in primary education. Moreover, though the government claims free, compulsory primary education, one discussant was sceptical, noting 'maybe this happens in Nairobi, but not here' due to various hidden charges. As a result of these costs, one discussant noted that 'school fees have eaten our cows, so now we don't get manure' for crops, reflecting trade-offs farmers made in selling livestock in order to pay school costs, inadvertently limiting the viability of their agricultural produce and their ability to escape poverty in the short term.

Low levels of literacy and education have also affected farming practices by limiting the scope for research and development. For example, faced with soil infertility, a focus group of sweet-potato farmers noted that they would often rely on trial and error over time to try different types of soil. They deemed this to be less effective than methods adopted by rich households, who would take soil samples to test its suitability.

In other instances, men would work on other household farms, rather than their own, as this was perceived as more attractive work, limiting the long-run monetary benefits of improving productivity on their own farms. However, several focus-group discussions emphasised the benefits of husbands and wives working together, one farming crops during the cultivating season and the other rearing livestock, or collaborating on complementary activities that would help to improve welfare over time.

Livelihood activities and the human capital that supports them have also been affected by devolution. Our research identified some positive outcomes, such as county officials encouraging maternal health, preventative healthcare, vaccinations and training for pregnant mothers to combat malnutrition, encourage breastfeeding and reduce infant and maternal mortality. One participant emphasised that the distance to hospitals had been shortened after devolution, leading to cost savings on transportation. The consequent improvement in health outcomes had helped reduce the costs of ill-health and to enhance the productivity of livelihood activities.

Key informants spoke of the need not only for hard infrastructure, but also for technical and vocational training and the development of management skills to improve efficiency in livelihood activities. While there are some training institutes in Busia, including for agriculture and fisheries (Busia County Government, 2019), poor communities in this study had rarely heard of them, let alone enrolled in them. Technical training and transition skills for youth employment, though, were deemed a critical trigger for pro-poor economic development, according to focus-group discussants.

Sometimes, respondents noted, farmers would be introduced to new livelihood and training opportunities (for example, rabbit and pig rearing) through friends. However, challenges remained in terms of a lack of technical competence to run business enterprises in these areas. Some key informants noted that this necessitated a mind shift from county government officers to a focus on technical staff,

such as extension officers. However, the current budgetary emphasis on ‘bricks-and-mortar’ investments often resulted in a trade-off away from behavioural change and capacity-building activities.

Agricultural productivity is affected by soft skills, including human capital, but also the strength of the county’s infrastructure. Promisingly, the World Bank is leading a major irrigation project in Busia County, the Lower Nzoia Irrigation Project, which is accompanied by support to increase agricultural production and establish improved market access and value-chain engagement. The county government has also developed 18 small-scale irrigation projects. Some focus groups noted that there were rivers near to study communities, providing additional opportunities.

However, despite these opportunities, focus-group participants felt that little was being done to capitalise on existing resources to improve farming yields. Members of one community-based organisation noted that the irrigation project in their area had collapsed and pipes had been dumped there, with no sign of progress due to the misallocation of funds.

Also, while farmers perceive irrigation to be helpful in improving yields for horticultural crops, there were also palpable fears about irrigation infrastructure:

- water dams might be used for the disposal of dead animals and thus create hygiene concerns
- people would be chased away from their land with little compensation
- rich men had bought land in the area early, knowing that it would be used for the dam and would thus lead to high compensation
- electrification remained too expensive for many poor households (‘If a household has electricity, there must be a school nearby’ noted one community respondent, reflecting the high cost of electricity), leading some farmers to siphon electricity from the mains.

Sometimes these problems arose from an emphasis by leadership on going to scale without first understanding how production could be optimised. As a result, irrigation engineers would often create a water-storage unit and put all resources into the creation of the physical infrastructure, without the subsequent energy or budget for production or maintenance. According to several key informants, this focus on ‘bricks-and-mortar’ infrastructure stemmed from political aspirations. As one interviewee noted, the ‘social audit of political leadership is focused on what is tangible and what can be seen’.

Beyond enhancing production, Busia’s engagement in storage, agricultural value chains and trade is also low. Food-storage facilities are predominantly traditional, although there are some modern silos owned by the National Cereals and Produce Board in Malaba. Livestock is widely kept, but husbandry and slaughter facilities are inadequate (Kodiaga, 2013; Busia County Government, 2019).

The county has sugar processing at two factories, though other types of processing are limited. For example, although there are cotton mills, they are non-functional. Many focus-group respondents remarked that even though they had raw resources, there was limited value addition. In fisheries, there are two ports on the shores of Lake Victoria, at Sio Port and Port Victoria, but both are in poor condition. A planned fish-cooling plant near Lake Victoria has not yet been commissioned and a cassava-processing factory is not yet complete (Busia County Government, 2019).

Other factors are also constraining economic development along agricultural value chains in Busia. Apart from an international trucking route, transport infrastructure is poor; only 10% of county roads have been tarmacked. In the focus groups, however, respondents were quick to note improvements in the road network over the past five years, for example, in reducing the time required to get to nearby towns.

The tarmac roads were also brought closer to some communities during this period, enabling the transport of goods to market in a shorter time, even during rainy periods. In one community, a makeshift bridge was constructed to allow bikes to access the sweet-potato farms and which also facilitated links to the market. The effects of these improvements were not uniformly felt; other villages, for example, noted that while there were promising signs that road networks and other infrastructure might improve their well-being, no tangible benefits had been observed as yet.

In the absence of further improvements in hard infrastructure, many poor households in Busia are improving their welfare through group-based efforts. In focus groups, table banking was a critical driver of upward mobility for the poor. These were believed to be an improvement on merry-go-rounds *chamas*,³⁵ by consistently increasing the amount of money available in the group pot.

Other self-help groups also provided access to finance and training elements to help empower women. One female respondent noted, ‘I was a housewife before, with no knowledge of kitchen gardening. Now I use wastewater for my garden, so can produce and save’. In the fisheries sector, women joining self-help groups and table banking stated with pride that they were ‘taking over the role of husbands’ in providing household income. These soft infrastructure components have also been supported by hard infrastructure in financing and digitalisation. For example, most of the county is covered by fibre-optic networks and financial access is reasonable (Busia County Government, 2019).

Women often invested funds from table banking in their micro-businesses, such as cereals trade or retail, to buy seeds or fertiliser for agricultural activities, to repair or build houses, or to provide school fees for children. Sometimes husbands were unaware of the amount of savings, allowing women relative autonomy on spending decisions. Some would also progress from table banking to a SACCO to access capital, though there were fears of loans being too large and, thus, too risky compared with informal lending arrangements. These fears extended at times into a near-phobia of taking formal loans, which one participant attributed to earlier perceptions of micro-finance institutions and other lenders as exploitative.

Table banking was, to some extent, perceived as a substitute for the dearth of social-assistance schemes, which focus-group respondents felt were rare and transient. One key informant echoed this sentiment, saying that social assistance was not taken seriously by the county government. The number of recipients was too small and there was a perception of excessive focus on financial assistance in place of other, complementary assistance, for example the provision of agricultural farm inputs to improve livelihoods, or empowering recipients to use finances through financial literacy training. While these were sometimes evidenced on paper, some informants felt that there was a lack of implementation, often linked to a shortage of staff. In this context, social protection officers felt the best way to nurture self-sufficiency was to encourage beneficiaries to form groups to start table banking, using cash transfers received from the government.

Against this backdrop, some things have taken a turn for the better in Busia recently. As part of the development of the East African trade corridors, a new international trucking route has been built that passes through both Busia and Malaba en route from Kampala, Uganda, to Nairobi. The towns are now the sites of new ‘one-stop’ border posts, set up by the national government in partnership with Trade Mark East Africa and opened in 2018. These one-stop posts have drastically reduced the amount of time spent crossing the border. A cross-border traders’ association noted that it might take as little as 15 minutes for a bus to be cleared. The one-stop post has also helped reduce the porous routes along the border, providing a cheaper, safer and often less-taxed alternative. Such a major road should also facilitate access to markets – such as the major urban centres in Kampala and Nairobi – by improving transport. However, the economic implications of these developments have been mixed.

There is evidence that the new border post has increased opportunities for small traders, including agricultural goods, by increasing market activity in the border area and through increased engagement with wholesalers, who then sell on goods in major urban areas (Tyson, 2018a). Cross-border traders interviewed for this study also revealed that the one-stop infrastructure had improved foreign-exchange transparency, reduced cheating on exchange rates and allowed for smaller denominations to be traded, benefitting poorer traders.

However, the advantages were few compared with the problems cited. The county government complained that it had lost revenues that were previously collected at the border post (Busia County

35 An informal cooperative society used to pool and invest savings, often just for women, common in East Africa, particularly Kenya

Government, 2019). There had also been a decline in jobs and incomes that were dependent on the border posts, such as portage and small restaurants and hotels (Tyson, 2018a; Busia County Government, 2019). Focus-group discussions revealed additional challenges related to:

- *Inefficiencies*: When tax systems failed, typically at least once or twice a week, there would be long waiting periods. Traders were not allowed to ride their bikes on part of the road, making it cumbersome to walk their bikes with supplies. This is being addressed by a proposal to include designated bike lanes.
- *Price concerns*: Traders felt there was double taxation, having to pay for goods to enter Kenya at the border, then again when selling them at the market. Accordingly, by the time it came to selling, the price was necessarily high and not competitive. These price differentials with markets in Uganda meant that, in many instances, Kenyan traders were opening businesses such as pubs in Uganda rather than contributing to their local economy. On the other hand, discussants felt that many foreign investors along the Malaba border would exploit Busia's resources to become rich. For example, they would get quarry at cheap prices in Busia and then build houses for rent at high prices to local residents.
- *Low levels of human capital*: Many traders were illiterate and unable to quantify their businesses, preventing them from borrowing money from formal institutions to expand their businesses. More generally, traders and non-traders felt that the county budget for health and other human capital services was inadequate, with needs based on the census, which often disregarded migrant Ugandans seeking healthcare in Busia.
- *Limited benefits for locals*: Though the revenue-collection process had been simplified, there was no local verification, so youth unemployment was not addressed. More generally, with money now flowing from Kampala, Kigali, Congo or South Sudan directly to Mombasa or Nairobi, local Busia residents often suffered. Even to access local fish from Busia, Ugandans would go straight to Nairobi, leaving Busia fisherfolk with little negotiating power on the local market price.
- *Heightened vulnerability*: Focus-group discussants noted some instances of transactional sex out of fear of goods being seized, though this has reduced thanks to better policing at the border. Having a good rapport with local officers was still critical, however, so that local women did not have to pay each time they crossed the border. Frequent stories emerged, too, of officers collecting bribes or seizing the goods of small traders. Other examples of corruption included groups illegitimately registered as vulnerable groups (people with disabilities, women, youth) to collect small grants; there was limited awareness among rightful claimants of how to access these grants.

All these points suggest that cross-border trading has been affected by structural and political constraints common to other aspects of the agricultural and fisheries production cycles. The next subsection explores other contextual dimensions, outside of but linked to the socioeconomic context, which have affected the ability of poor households to escape poverty through agriculture and fisheries.

A3.2.2 Environmental context

Busia has suffered from environmental degradation, placing it in the highest risk quintile nationally. Deforestation is widespread, with only 2.2% of the county having tree cover in what was once a natural rainforest. This is the result of cutting down trees for firewood, illegal logging and a lack of enforcement of environmental regulations. Combined with high levels of rainfall during rainy seasons, this has led to soil erosion and the pollution of water sources. Other problems include illegal sand harvesting and the poaching of endangered animal species (Busia County Government, 2019).

Across livelihoods, weather unpredictability has been a leading cause of downward mobility for households in or near the poverty line, according to focus-group discussions. Even five years ago, the rains were perceived to be more reliable than today. The occurrence of drought alongside inconsistent rainfall has led boreholes to dry up and meant that farmers are perennially worried about water

shortages. One focus group attributed this to human activity, such as people cutting trees down for charcoal or turning wetland into farmland, which has also led to reduced rainfall. Moreover, the lakes that do exist are often polluted. Focus-group discussants in one village said they lost several fish stocks last year from a water-borne disease, emanating from dead livestock being thrown into bodies of water.

Another focus group noted that earlier this year, they had almost no vegetables due to unreliable rain and worm infestation. The fall army worm has plagued farms in the region for the past two years, with disease affecting rice and other crops. One farmer lamented that as a result of these challenges, ‘at the end of the day, you might not have enough food to feed your family’.

A3.2.3 Political and institutional context

While permeating numerous sectors, including in the degree of progress made on human capital, infrastructure and trade, the political environment in Busia, in and of itself, shows some weaknesses, according to household survey data. Busia lies in the lowest quintile in terms of corruption and bribery. There have been recent charges relating to corruption, including of senior county government officials (although this has not yet been tested in court). Focus-group participants reinforced the importance of social and political connections across sectors: ‘If I did not vote for you, my child will not get that bursary or assistance. So we do not depend on it’.

According to focus-group discussions, devolution has had largely negative outcomes for Busia farmers. One group claimed it had created a duplication of county roles, fuelling nepotism and limiting resources for village development projects. ‘We expect to be near resources in devolution. However they are scattered. There might be budget, but there is little implementation’.

According to some respondents, agriculture extension officers used to be more visible under the national government. With devolution, however, there was perceived to be limited support of transportation from the county government, limiting the engagement of extension officers. Another farmer noted that before devolution, she received seeds from the Ministry of Agriculture’s extension officer. Today, despite the One Acre Fund, seeds are only offered as loans and thus require out-of-pocket payments.

Another concern related to a lack of prioritisation, with the county government focused on buying tractors. Farmers felt this reflected a lack of contextual understanding, as tractors did not address the root problems associated with limited yields. In another instance, the government bought agricultural machines, but all were grounded and did not reach farming communities.

A key informant noted that in the case of rice farmers in Bunyala, problems of corrupt management, marketing and the lack of a vibrant cooperative were compounded by productivity problems stemming from machinery breakdowns and limited farmer efforts to improve rice yields. Another key informant confirmed this, noting that management savings in cooperatives were often not transparent, with members not getting timely payments, creating frustrations that led to the failure of some cooperatives. Moreover, county officials noted that in some cases, there were instances of elite or rich people wanting to join farmer groups and squeeze out smaller farmers. This was linked to self-interested leadership that prevented trickle-down benefits to farmers.

The County Integrated Development Plan (CIDP) focuses on a number of strategies to develop the economy between 2018 and 2022, including the establishment of industrial and special economic zones (Busia County Government, 2019). However, such zones are usually only successful when they achieve clustering effects and the plan does not clearly identify how this will be achieved (Tyson, 2018b). Similarly, there are plans to develop markets and trade but they are predominantly regionally focused and there is a lack of strategic identification of markets and products. More generally, the CIDP is high level and there appears to be a lack of strategic integration of its high-level goals and the individual initiatives which have been budgeted.

The CIDP also focuses on the modernisation of agriculture, including fisheries and livestock. Plans include increasing the effectiveness of cluster production units and stepping up value-added activities. Specific activities include providing professional training for farmers, improving the quality and

quantity of agricultural inputs and the public provision of tractors and processing equipment. Plans to support engagement in value chains include the construction of factories and storage facilities and the provision of transport vehicles and equipment (Busia County Government, 2019).

There are multiple active agricultural programmes with similar goals in Busia. These include development agencies, such as the World Bank and the United Nations, as well as multiple NGOs, self-help groups and national development agencies. As part of the CIDP, the county government is planning to deepen and extend these programmes.

County plans also inform and are informed by efforts at the national and regional levels. On the latter, the Lake Region Economic Bloc has articulated key challenges and opportunities in the area in its blueprint report (LREB, 2018). Challenges include declining yields, population pressures and the decreasing size of farm holdings, poor agricultural practices, a lack of title deeds, low uptake of research, a host of climate risks, crop diseases and inadequate market infrastructure (LREB, 2018).

The blueprint identifies opportunities for agriculture in Busia including:

- farming of food crops (maize, cassava, finger millet, beans, sorghum, rice, sweet potatoes, cowpeas, groundnuts, etc.), horticulture (pineapples, tomatoes, kale, cabbage, etc.), and cash crops (cotton, tobacco, sugarcane, oil palm and pepper)
- fishing in Budalang'I and Funyula
- promotion of oil crops, root tubers, indigenous vegetables and tissue culture (LREB, 2018).

Key LREB informants, similar to those at the national and county levels, noted additional constraints in relation to human resources and low finances. The regional bloc depends entirely on money from counties, often perceived as too low and irregular, with delays in arrival, limiting the bloc's ability to plan and execute development initiatives. There was also acute awareness of having to rely on outdated data, so plans are under way to create a regional data centre.

Devolution has also come with financial constraints, creating a cadre of intermediary officials that focus-group discussants perceived as sometimes obstructing the flow of money and limiting the ability of poor households to meet basic needs. For example, over the past five years, there has been a *jiga* (chigoe flea) infestation in schools. While the Ministry of Health offered training and provided medication to treat the initial outbreak, no medication is available to treat future outbreaks. This was attributed to corruption diverting the flow of resources. Other challenges noted in focus groups centred on the quality of education, even where access had been improved. For example, though the county government had established learning institutions, in many instances, books were lacking or housing was inadequate for children coming from other parts of the county.

A3.2.4 Conflict and security

Levels of reported crime are high and Busia is in the second-lowest quintile in this regard, according to an analysis of survey data. Busia County, however, has seen improved security over the past decade, albeit starting from a low base, according to focus-group discussants. This was attributed to the efforts of the county's former member of parliament, who fostered good communication on community policing, a good relationship between the county governor and the villages, so that they were informed early of any signs of unrest and were on alert, and chief elders maintaining vigilance.

Even so, stories of theft from neighbours were common in focus-group discussions. People would steal cows, business assets, farming inputs and fishing supplies. 'This pulls us behind even if we move up a little', lamented one respondent. Other forms of insecurity related to cross-border issues, particularly in the fisheries sector. Focus groups highlighted the harassment they experienced from Ugandans when Busia fisherfolk ventured into their waters in search of fish. 'We are told to eat *omona raw*', said one respondent. Others spoke of the deaths of fishermen resulting from excessive harassment by their Ugandan counterparts, creating heightened livelihood insecurity.



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ODI
203 Blackfriars Road
London SE1 8NJ

+44 (0)20 7922 0300
info@odi.org

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