



POVERTY STATUS REPORT 2014

Structural Change and Poverty Reduction in Uganda



Economic Development Policy and Research Department
Ministry of Finance, Planning and Economic Development

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*Empowered lives
Resilient nations.*

FOREWORD

The Poverty Status Report (PSR) 2014 comes on the heels of two major development processes: the National Development Plan 2016-2020 (NDPII) and the global Post-2015 Development Agenda. Both offer a platform to advance Uganda's vision of transforming from a peasant to a modern and prosperous country by 2040, while ensuring that no one is left behind.

As a monitoring tool, the PSR is critical for assessing Uganda's progress towards a transformative agenda. This report shows that poverty levels have declined further in Uganda from 24.5 in 2009/10 to 19.7 in 2012/13. The significant decline in overall inequality from 0.426 in 2009/10 to 0.395 also suggests that socio-economic interventions are beginning to yield some positive results.

Whereas the progress is commendable, much remains to be done to improve delivery of quality basic services to the people of Uganda, as well as improve the income and secure the livelihood of the approximately 43% of the population that is at risk of falling back into poverty in the event of a shock. Effort is needed to reduce vulnerability, and help build the resilience of individuals and communities especially in Northern Uganda where poverty rates remain high as a result of high youth unemployment, gender inequality, lack of access to basic services, and low economic development.

A people-centered approach is key to Uganda's development and is essential to achieve structural economic transformation and inclusive growth, which translates into job creation, higher value-addition, and improved service delivery. We ought therefore to focus on sustainability and inclusiveness of development programs to secure the gains made to date and accelerate further progress for the benefit of future generations.

To this end, the United Nations Development Programme is aligning its programming over the next five years to the priorities of the NDPII to ensure our interventions contribute to tackling poverty, inequality and exclusion, with an emphasis on women and youth. This, we believe, will contribute to a more even national development landscape for Uganda in the coming years.

I wish to thank the Government of Uganda, particularly the Ministry of Finance, Planning and Economic Development and other stakeholders, for their effort in the production of this Poverty Status Report. UNDP remains steadfast in its commitment to support government and other actors in delivering transformative socio-economic development to the people of Uganda.



Ahunna Eziakonwa-Onochie
UN Resident Coordinator
UNDP Resident Representative

PREFACE

This Poverty Status Report (PSR), the second since the series was revitalised in 2012, comes in the final year of Uganda's first National Development Plan (NDP), whose theme is *Growth, Employment and Socio-economic Transformation for Prosperity*. This theme underpins the NDP's strategy of investing in the economy's productive capacities as the main vehicle for achieving inclusive growth and eradicating poverty.

This PSR builds on this thinking, and explores the extent to which Uganda's economic structure is changing, and how such change relates to poverty outcomes. Since the launch of the NDP, there has been a perception among some stakeholders that Government investment is skewed towards infrastructure at the expense of social sector spending that formed the cornerstone of the Poverty Eradication Action Plans. This report provides evidence that these two objectives are not mutually exclusive. The report, whose theme is *Structural Change and Poverty Reduction in Uganda*, shows that investments to support high-value sectors decreases poverty directly by generating jobs to employ poor individuals and indirectly through important inter-sectoral linkages that benefit the poor.

The report discusses the continued impressive progress in the fight against poverty, with the national poverty headcount falling further from 24.5 percent of the population in 2009/10 to 19.7 percent in 2012/13. This means that Uganda, having already achieved the first Millennium Development Goal of halving poverty, is well on course to achieve the Vision 2040 target of 5 percent.


Progress has not been confined to income poverty. A novel contribution of this edition of the PSR is the Multidimensional Poverty Index, which goes beyond income poverty and examines the deprivations suffered by households in other critical measures of wellbeing, such as education, health, access to public utilities, housing conditions and access to information. Between 2009/10 and 2012/13, the share of the population classified as multi-dimensionally poor reduced by 10.1 percentage points, while the average share of deprivations experienced by households that remained poor fell by 2.2 percentage points. Regardless of which poverty measure is chosen, therefore, poverty in Uganda has declined.

However, even with the significant reduction in poverty over the last 20 years, the majority of the population remains vulnerable. In 2012/13 more than half of the non-poor population was classified as insecure, living below twice the poverty line. The large number employed in the agricultural sector are vulnerable to climatic shocks,

pests, plant and animal diseases and price fluctuations; and those working in the informal sector usually receive low and irregular income. We will not be able to sustain the progress made unless the underlying structural causes of economic vulnerability are addressed, particularly in light of growing demographic pressures. Government is therefore strengthening efforts to target vulnerable groups, build resilience and reduce inequalities. The report provides useful insights on both the main drivers of vulnerability and successful interventions which have helped to reduce the vulnerabilities facing Ugandans.

Despite the good progress we have made, many challenges remain. The labour force is expanding at a faster rate than the opportunities for employment. For example, whereas wage employment has increased markedly over the last decade, its share of the labour force remains low. The global problem of youth unemployment is increasingly manifesting itself in Uganda. Managing the youthful population requires that the demographic dividend and structural change are harnessed to drive more rapid and sustainable economic growth. Although Government has implemented a number of policies to combat the problem of youth unemployment, its eradication necessitates stronger partnership between Government, the private sector, development partners, civil society organisations, and the youth themselves; sustained macroeconomic stability and an enabling environment for investments that contribute to productive employment creation.

I am confident that the report will be useful to all stakeholders with an interest in fighting poverty, from policy makers to development partners and civil society. We must remain steadfast in our efforts to build the productive capacities of the economy, which will increase opportunities for Ugandans and cement the transformation to a modern and prosperous country envisioned in Vision 2040.


Keith Muhakanizi
Permanent Secretary / Secretary to the Treasury

POVERTY STATUS AT A GLANCE

Number and percent of Ugandans that are poor, insecure non-poor and middle class

	1992/3	1999/00	2002/03	2005/06	2009/10	2012/13
Millions						
Poor	9.8	7.2	9.8	8.4	7.5	6.7
Non-poor insecure	5.8	9.4	10.1	10.9	13.2	14.7
Middle class	1.8	4.8	5.4	7.8	10.0	12.6
Percent of population						
Poor	56.4%	33.8%	38.8%	31.1%	24.5%	19.7%
Non-poor insecure	33.4%	43.9%	39.9%	40.2%	42.9%	43.3%
Middle class	10.2%	22.4%	21.2%	28.7%	32.6%	37.0%

Source: UNHS various years, IHS 1992/3.

Inequality based on the Gini coefficient

	1992/3	1999/00	2002/03	2005/06	2009/10	2012/13
Uganda	0.365	0.395	0.428	0.408	0.426	0.395
Rural	0.328	0.332	0.363	0.363	0.375	0.341
Urban	0.396	0.426	0.483	0.432	0.447	0.410
Kampala	0.402	0.414	0.470	0.388	0.426	0.338
Central*	0.339	0.354	0.405	0.390	0.434	0.381
Eastern	0.327	0.349	0.365	0.354	0.319	0.319
Northern	0.345	0.340	0.350	0.331	0.367	0.378
Western	0.319	0.325	0.359	0.342	0.375	0.328

Source: UNHS various years, IHS 1992/3. Note: *Excludes Kampala.

Other welfare indicators

	2005/06	2009/10	2012/13
Households with iron-roofed house	60.6%	61.8%	67.6%
Households with at least one mobile phone	16.7%	46.3%	59.5%
Households that have at least two meals a day	92.0%	90.7%	92.0%
Proportion of population using mosquito nets	16.8%	41.1%	44.1%

Source: UNHS various years.

EXECUTIVE SUMMARY

The 2014 Poverty Status Report uses new evidence to present an updated analysis of Uganda's poverty trends and status. The report's thematic focus is the relationship between structural change and poverty reduction, exploring the complementarities between some of Government's most important policy objectives: economic growth, job creation and poverty reduction. The report also analyses the reasons that many households remain vulnerable even as the economy continues to modernise. This evidence is brought together to recommend a set of complementary policy measures for structural change that generates productive employment, and reduces poverty and vulnerability.

Understanding poverty trends

Uganda has continued to reduce the number of people living in poverty. The national poverty rate fell to 19.7 percent in 2012/13, from 24.5 percent in 2009/10. Even with significant population growth, the total number of Ugandans living below the poverty line declined from 7.5 million to 6.7 million over the same period. There are now almost twice as many Ugandans in the middle class – living above twice the poverty line – as there are poor. In 1992/93, there were more than five Ugandans below the poverty line for every Ugandan in the middle class.

Significant poverty reduction has occurred across all regions of the country. In the last 10 years, poverty reduced by 18 percentage points in the Central region; 19 percentage points in the Northern region; 22 percentage points in the Eastern region; and 24 percentage points in the West. The Northern region remains the poorest part of the country, but the gap has narrowed significantly since the restoration of peace in 2006. More recently, it is the east that has seen the slowest progress in reducing income poverty. This mainly reflects adverse weather conditions, a high dependency ratio and growing population pressures contributing to land fragmentation and soil degradation. However, the region has seen significant progress in other dimensions of welfare, including education, health, housing conditions and access to information.

The considerable reduction in poverty over the years is attributed to Uganda's general economic development, significant public investment in physical infrastructure, and several targeted Government interventions. Lower trade costs across the country, driven by improved transport infrastructure and better-integrated agricultural value chains, have been particularly important in ensuring agricultural households share the benefits of economic growth. Increased demand in the context of rapid urban growth and an increasingly connected region have created

numerous income-earning opportunities for poor households. Government-supported SACCOs have enabled many households to grow their enterprises, particularly those which emerged to advance the common economic interests of a particular group. Government interventions such as the Vegetable Oil Development Project in Kalangala have also had a transformative impact on the livelihoods of smallholder farmers. Gaps in public service delivery have successfully been addressed, through the Peace, Recovery and Development Programme in the north for example.

Uganda's progress in reducing income poverty is strongly reflected in other dimensions of welfare such as education, health, housing conditions and access to information. To monitor and analyse these various dimensions of wellbeing, the report constructs the first nationally defined Multidimensional Poverty Index (UMPI). Uganda's progress against this more comprehensive measure of welfare has been even more impressive than the country's reduction in income poverty. In just three years between 2009/10 and 2012/13, the share of the population classified as multi-dimensionally poor reduced by 10.1 percentage points. On the other hand, the multidimensional poverty index provides a higher threshold for the minimum acceptable living standards; a significant proportion of households living above the income poverty line remain poor in the other dimensions considered. This underlines the need for Government to broaden its development objectives beyond the 19.7 percent of the population living below the poverty line.

Structural change and poverty reduction

Uganda's first National Development Plan (NDP I) launched in 2010 rebalanced the policy agenda towards long-term issues related to structural change, wealth creation and the productive capacity of the economy. This signalled a broadening of Government's objectives, beyond the narrower focus on extreme poverty which characterised the Poverty Eradication Action Plan (PEAP). With most gaps in basic public services addressed, to sustain progress Government increasingly needs to harness the poverty-reducing potential of structural change – or shifts in the sectoral share of employment and GDP in favour of more productive and dynamic activities.

Chapter 3 of this report demonstrates the numerous channels through which growth and structural change help to reduce poverty. Economic growth is required to create jobs to employ the working poor and their children, but there are many more indirect benefits. For instance, demand resulting from growing urban markets and an increasingly connected region have benefited the large majority of the poor engaged in agricultural production, and created a growing number of off-farm income-earning opportunities. Growth of agro-processing, financial services, telecommunications, transport and storage services and many other sectors is also benefitting agricultural households.

The broad distribution of economic opportunities is not only important for reducing poverty, but is also critical for sustaining growth and structural change. The simulation results presented in Chapter 3 indicate that growth without improvements for the poorest households will be self-limiting, mainly due to the smaller domestic market. On the other hand, broad-based growth driven by the agricultural sector allows for a larger pool of domestic savings to finance an expansion in private investment, while stronger domestic demand and relatively cheap agricultural commodities ensure high investment returns and strong employment growth.

This implies that productivity growth and improved market integration in the agricultural sector are critical for both poverty reduction and structural change. Catalysed by increased public investment, there has been significant progress in these areas. Stronger farmer groups and the emergence of professionally managed agribusinesses have been critical, providing farmers with a ready market for their produce and facilitating access to credit and quality inputs. Nonetheless, the majority of smallholder farmers remain subsistence-orientated, using few intermediary inputs and rudimentary technology to produce low-value crops. Overlapping rights and the lack of full ownership under customary tenure systems – particularly in the north and east – mean farmers are less likely to invest in the land they cultivate, contributing to declining soil fertility. Although the situation is improving, agribusinesses often still struggle obtaining land and credit, and with the unpredictability and poor quality of produce supplied by local farmers.

Reducing vulnerability in a modernising economy

Government's strong emphasis on physical infrastructure will help to sustain economic growth and create productive and stable employment opportunities for Uganda's growing labour force, and will eventually deliver socioeconomic transformation as articulated in Vision 2040. However, Chapter 4 demonstrates that poor and vulnerable households require support in order to exploit the emerging economic opportunities. In 2012/13, more than half of the non-poor population was classified as insecure, living below twice the income poverty line. In total, 21.4 million Ugandans (63 percent of the population) were either poor or vulnerable to poverty).

Socioeconomic transformation will require many households to take potentially risky investments, and the modernisation of Uganda's economy is creating new sources of vulnerability that need to be appropriately managed. Commercial agriculture is associated with a number of business risks that subsistence farmers avoid. Population growth is contributing to land fragmentation and growing landlessness in rural areas. Urban centres offer significant opportunities, but migrants often possess few assets and face high risks, exacerbated by high competition for jobs, the

weakening of traditional community support systems and inadequate social care services.

Government is therefore complementing its strategy for economic growth with targeted interventions to build the productive capabilities and resilience of vulnerable households. These interventions – including the provision of vocational training, start-up capital and direct income support – allow all households to save for the future, invest in productive assets and embrace higher-risk high-value activities, and are therefore a critical element of Uganda’s transformation process. The Senior Citizens Grant in particular has proven to be cost-effective and very popular among beneficiaries, as well as the broader communities in the 14 pilot districts.

Policy recommendations

Government has a successful record in maintaining macroeconomic stability and enabling private sector growth, but must now play an active role to allow more rapid infrastructure investment and incentivise the flow of private-sector credit to social priority sectors. Public investment has increased but remains significantly lower than planned, partly due to inadequate alignment between the NDP and Government’s budget programming. Government must resolve these inconsistencies by adjusting its macroeconomic framework. Higher food prices are an inevitable element of structural change and an important way that farmers benefit from the growth of the non-agricultural economy. Macroeconomic policy should not hinder these price adjustments. It is advisable to tolerate larger fiscal deficits and moderately higher inflation in the short and medium term, to ensure that higher infrastructure investment accelerates growth and reduces Uganda’s macroeconomic vulnerability in the long term.

Government can encourage poverty-reducing structural change by influencing the direction of private-sector credit. Commercial banks should be encouraged to increase social-priority lending, including to commercially orientated smallholder farmers, SMEs, farmer collectives and business associations. This could be achieved by introducing a flexible system of sector-specific asset reserve requirements, and scaling up partial loan guarantees such as those provided through the Agribusiness Initiative (ABI).

To facilitate agricultural transformation, Government should foster farmer organisations and increase its partnerships with private actors to promote the integration of smallholder farmers into larger value chains. The viability of applying the broad design and concept of the Vegetable Oil Development Project in Kalangala to other cash crops and regions in Uganda needs to be explored. As contract-farming arrangements become more common, it is important for Government to establish supportive regulatory and incentive frameworks to create competition, ensure quality standards, and respect contractual arrangements between agro-

processors and farmer organisations. The restructured NAADS needs to be more focused on providing extension services rather than physical inputs, and should work more with agribusinesses and established farmer organisations. Capacity building efforts should help SACCOs to position themselves in contract production systems. This will encourage the extension of production loans and facilitate the collection of loan repayments and the development of a savings culture. Government should also invest more resources in land registration and adjudication, particularly in the Northern and Eastern regions.

With rapid urban growth set to continue, Government interventions are needed to support labour demand in urban areas and ensure public services and housing can respond to the growing demand. The construction of affordable formal housing on a large scale could greatly expand employment opportunities for the urban youth, particularly if driven by small construction firms using labour-intensive techniques. To unleash this potential, Government must address the constraints affecting the sector, including high transport costs, inadequate skills, inappropriate building regulations, and limited access to land. Government will also need to step up its role in the housing finance market to ensure credit availability for small construction firms and mortgages; and ensure its urban planning processes provide for the necessary infrastructure prior to any settlements.

Government should ensure foreign investors maximise their employment impact and knowledge transfer. Rather than simply assessing projects based on the number of jobs created, it is important for Government to maximise the indirect benefits of FDI, particularly inter-firm linkages and knowledge spillovers. To access Government support, potential investors could be required to complete an employment impact statement, including the indirect employment effects of the proposed project (i.e. the up- and downstream impact when the foreign investor purchases inputs from Ugandan firms).

To enable all Ugandans to take advantage of the available jobs and other income-earning opportunities, Government must expand BTVET enrolment to meet the large unmet demand for vocational courses among disadvantaged sections of the population. Specialised training for potential professional entrepreneurs should also be expanded to enhance financial literacy, opportunity identification, firm formation and business professionalism.

The emerging social protection system can build resilience, and enable all Ugandans to enhance their human capital and contribute to the country's transformation process. A nationwide expansion of the Senior Citizens Grant would stimulate local businesses and benefit the entire population. This would be fiscally sustainable in the long term, as the senior citizen population is projected to grow significantly more slowly than Government tax revenue. The benefits of the programme would grow over time as the recipients use the grants to save, invest in productive assets, start

businesses, hire labour and pay school fees. Government should also ensure on-going pensions and health insurance reforms are tailored to the needs of poor and vulnerable households, including those engaged in informal income-generating activities.

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LIST OF ACRONYMS AND ABBREVIATIONS

ABI	Agribusiness Initiative
ACE	Area Cooperative Enterprises
ACF	Agricultural Credit Facility
AIDS	Acquired Immune Deficiency Syndrome
BTVET	Business, Technical and Vocational Education and Training
CCF	Commercial Challenge Fund
CGE	Computable General Equilibrium
CPAE	Consumption Per Adult Equivalent
CPI	Consumer Price Index
DPAD	Development Policy and Analysis Division
EAC	East African Community
ESP	Expanding Social Protection
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
HIV	Human Immune Virus
ICT	Information and Communication Technology
IDP	Internally Displaced People
IFAD	International Fund for Agricultural Development
IHS	Integrated Household Survey
KALIP	Karamoja Livelihoods Programme
KCCA	Kampala Capital City Authority
KII	Key Informant Interview
KIS	Kalangala Information Services
KOPGT	Kalangala Oil Palm Growers Trust
MDG	Millennium Development Goal
MFPEd	Ministry of Finance, Planning and Economic Development
MGLSD	Ministry of Gender, Labour and Social Development
MPI	Multidimensional Poverty Index
NDP	National Development Plan
NEMA	National Environment Management Authority
NGO	Non Government Organisation
NHIS	National Health Insurance Scheme
NSSF	National Social Security Fund
NUSAF	Northern Uganda Social Action Fund
OPUL	Oil Palm Uganda Limited
OVCs	Orphans and Vulnerable Children
PPA	Participatory Poverty Assessment
PRDP	Peace, Recovery and Development Programme
PSPS	Public Service Pension Scheme

PSR	Poverty Status Report
PWD	People With Disabilities
PWP	Public Work Programme
SACCO	Savings And Credit Co-Operative
SAGE	Social Assistance Grants for Empowerment
SAM	Social Accounting Matrix
SCG	Senior Citizens Grant
SDG	Sustainable Development Goals
SME	Small and Medium Enterprises
SOPGA	Ssese Oil Palm Grower Association
UBOS	Uganda Bureau of Statistics
UDHS	Uganda Demographic and Health Survey
UIA	Uganda Investment Authority
UNBS	Uganda National Bureau of Standards
UN-DESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNHS	Uganda National Household Survey
UNPS	Uganda National Panel Survey
UPE	Universal Primary Education
URBRA	Uganda Retirement Benefits Regulatory Authority
VFSG	Vulnerable Family Support Grants
VODP	Vegetable Oil Development Project
VSLA	Village Savings And Loan Associations
YLP	Youth Livelihood Programme
YOP	Youth Opportunities Programme

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CHAPTER 1: INTRODUCTION

Uganda's rapid economic expansion in the last two decades has translated into significantly lower poverty levels. The recent poverty estimates show that the share of Ugandans in absolute poverty has reduced from more than half (56.4 percent) in 1992/93 to less than a fifth (19.7 percent) in 2012/13. Uganda has surpassed the first Millennium Development Goal (MDG) target of halving the proportion of the population living in extreme poverty by 2015, and is on track to achieve the Vision 2040 poverty target of 5 percent. The share of Ugandans in the middle class (37.0 percent) is more than that in absolute poverty. However, the majority of the population (43.3 percent) has escaped absolute poverty but remains at risk of falling back.

Reducing poverty remains central to Uganda's national development agenda. Since the early 1990s, Government prioritised an enabling environment for private-sector-led growth. This facilitated rapid economic recovery, but as economic activity expanded a number of bottlenecks – such as inadequate physical infrastructure – emerged. To address these constraints and sustain economic growth and poverty reduction, Uganda's development strategy is now focused on realising the benefits of structural change, particularly the creation of productive employment in high-value activities. Government's continued focus on poverty eradication within this changing context prompted the theme of this report: structural change and poverty reduction in Uganda.

This report has three interrelated goals. The first is to present an updated analysis of past trends and Uganda's current poverty status. The second goal is to identify the structural economic changes that have enabled Uganda's poverty reduction, and analyse how structural change can be further harnessed to improve the welfare of all Ugandans. The final goal is to analyse the reasons for persistent vulnerability, and to identify the households that are unable to exploit the opportunities provided by economic growth. This evidence will be used to guide more targeted interventions to build resilience against various shocks and the productive capacities of Ugandans, irrespective of who they are or where they live.

1.1 Structure of the report

The report is structured into five chapters. Chapter 1 reflects on the debates generated by the 2012 Poverty Status Report (PSR). It also introduces the theme of the report – structural change and poverty reduction in Uganda – and explains the data sources and methods used in the analysis. Chapter 2 presents an updated analysis of Uganda's poverty and inequality trends. It goes beyond income poverty to uncover other dimensions of living standards and the perceptions of the poor

themselves. Chapter 3 provides an in-depth analysis of structural change, its drivers and contribution to poverty reduction, with a particular focus on changes within the agricultural and agro-processing sectors. Chapter 4 identifies the sources and nature of vulnerability, and public and private actions to address vulnerability and inequality. Chapter 5 concludes and proposes a set of complementary policies to encourage inclusive structural change, generate employment, reduce poverty and vulnerability, build resilience against shocks, and thereby achieve the socioeconomic transformation envisaged in Vision 2040.

1.2 Highlights of the 2012 Poverty Status Report

The 2012 PSR was published by the Ministry of Finance, Planning and Economic Development (MFPED) in May 2012. The report centered on three inter-related themes: the extent to which Ugandans are vulnerable and unsure of their economic environment; inequality in access to education opportunities; and household livelihoods. Poverty was found to have decreased significantly across all regions of the country, with national poverty declining from 31.1 percent in 2005/06 to 24.5 percent in 2009/10. However, of the roughly 23 million Ugandans above the poverty line in 2009/10, 13.2 million were classified as 'insecure non-poor'. These were the people living in households with real private consumption per adult equivalent below twice the poverty line for their region.

Most sources of vulnerability were found to be inherent to rain-fed smallholder agriculture, which is usually characterised by unpredictable weather, pest attacks, livestock epidemics and poor seed quality. Panel survey analysis revealed relative stability in consumption among the middle class, but extreme volatility among the poor and those just above the poverty line. Detailed examination of food prices indicated price volatility as more important for welfare than the level of prices, particularly when considering longer-term effects such as investments in new technologies. This highlighted the importance of greater market integration to stabilise the price of agricultural commodities, particularly those most important for poor households such as maize. Other recommended measures to reduce risk and vulnerability included: expanding social protection; easing implementation bottlenecks in key health interventions; expanding access to saving instruments; enhancing the efficiency of cash transfer programmes; and expanding public works.

The report revealed that 28 percent of 13 to 18 year-olds had not completed primary school in 2009/10, but this varied significantly across different groups of children – from 11 percent of children in the northern region in households headed by a subsistence farmer with no formal education, to 68 percent in the central region with a household head who had completed secondary school and was not a subsistence farmer. However, the returns to education were found to be the highest for poor households. To redress the balance, interventions were identified to target disadvantaged pupils most at risk of dropping out, including: remedial

education; pre-schooling; school meals; and new financing mechanisms which provide schools with greater flexibility to allocate their resources and stronger incentives to improve outcomes.

The 2012 PSR reported dramatic changes in the way Ugandans generate income, characterised by a welfare-enhancing shift away from agriculture. Between 2005/06 and 2009/10, the proportion of rural households relying primarily on subsistence agriculture declined from 64 to 54 percent, reflecting significant diversification into non-farm activities. Non-farm enterprises were found to serve as an intermediate step between agriculture and non-agricultural wage employment, and a vehicle for achieving the modern and prosperous society envisaged in the 2010/11-2014/15 National Development Plan (NDP). In order to transform livelihoods, the report proposed that Government facilitate the emergence and growth of commercially oriented farmers; refocus the Agricultural Credit Facility with greater emphasis on partial guarantees and alternative forms of collateral; strengthen property rights; and support physical planning departments in municipal authorities to improve the management of urban centres.

1.3 Structural change and poverty reduction

The theme of the 2014 PSR is “Structural Change and Poverty Reduction in Uganda”, where structural change is defined as shifts in the shares of agriculture, manufacturing and services in output and employment in favour of more productive and dynamic activities. How these sectors are organised and how individuals are integrated into them have important implications for poverty outcomes. The implementation of effective sectoral policies is critical for reducing poverty and creating decent employment opportunities. Appropriate changes to the structure of the economy can help to absorb labour, increase productivity and the returns to labour and reduce disparities across different locations.

The theme builds on the findings of the 2012 PSR which established the benefits of shifting labour from agriculture towards wage employment, with informal non-farm enterprises often acting as an intermediate step. The focus is also guided by recent changes in the structure of the Ugandan economy: increasing urbanisation and a significant diversification into non-agricultural activities, but limited growth in the number of stable wage jobs in high-value sectors, which has contributed to rising unemployment and the continued dominance of self-employment.

Structural change is central to Government’s poverty reduction and overall development strategy. The theme of the 2010/11 – 2014/15 NDP is “Growth, Employment and Socio-economic Transformation for Prosperity”. The plan identified, among others, the sectoral distribution of the labour force – particularly the share employed in the industrial sector – as a key indicator for assessing progress towards transformation. However, even though the industrial sector has

grown, it still accounts for a relatively small share of GDP, and there exists a large skills gap contributing to un- and underemployment in the country. Although agriculture has grown significantly slower than the economy as a whole, the sector continues to employ the majority of the workforce. Uganda has not yet experienced a large movement of labour from the agricultural sector into more modern productive sectors. A large proportion of labour leaving agriculture is absorbed into low-value services and employment in the informal sector – where the scope for sustained productivity and income growth is limited – rather than into industry or high-value services.

1.4 Sources of evidence

Both quantitative and qualitative evidence was used to inform the 2014 PSR.

1.4.1 Quantitative data sources

The key sources of quantitative data are nationally representative household surveys conducted by the Uganda Bureau of Statistics (UBOS). These include the Integrated Household Survey (IHS) for fiscal year 1992/93; the Uganda National Household Survey (UNHS) for fiscal years 1999/2000, 2002/03, 2005/06, 2009/10 and 2012/13; the Uganda National Panel Survey (UNPS) for fiscal years 2005/06, 2009/10, 2010/11 and 2011/12; and the Uganda Demographic and Health Survey (UDHS) for calendar years 2006 and 2011. These datasets were used to examine the trends in the poverty profile of Ugandan households since 1992/3. The UNPS tracks the same individuals over time, and therefore allows for analysis of poverty dynamics and the identification of the causal effects of various policy changes and household factors. Other secondary sources of evidence are used to complement these primary datasets.

Data on the structure of the Ugandan economy was drawn from a Social Accounting Matrix (SAM). The Uganda Social Accounting Matrix for fiscal year 2009/10 (hereafter UGASAM 2009/10) is the database used to facilitate economy-wide modeling analysis. It was developed jointly by MFPED, UBOS and the Development Policy and Analysis Division of the United Nations Department of Economic and Social Affairs (UN-DESA/DPAD), with the financial support from the United Nations Development Programme (UNDP) in Uganda. A SAM is a consistent accounting framework that shows the flow of expenditures and incomes in a social-economic system for a given period of time (usually one year). The UGASAM 2009/10 is described in detail in Annex C.

1.4.2 Qualitative data sources

The quantitative evidence is complimented by the findings of two participatory and qualitative studies led by MFPED. The first study is the Mini Poverty and

Participatory Assessment (Mini PPA) conducted in April 2014 in seven districts – Bushenyi, Kalangala, Kaliro, Kampala, Lira, Nakapiripirit and Nebbi. These districts were selected to be representative of rural and urban areas in all four regions of Uganda. Kampala was chosen to shed light on the increasing phenomenon of urbanisation. Kalangala – a riparian community with a high burden of HIV/AIDS – was chosen to assess the impact of the high-profile Vegetable Oil Development Project (VODP) on household livelihoods and poverty reduction. The second study, conducted between June and July 2014, evaluated the impact of the Social Assistance Grants for Empowerment (SAGE) programme. Its aim was to generate further evidence to inform the possible scaling-up of social assistance programmes and interventions and their fiscal risk within Uganda’s planning and budgetary framework.

1.5 Methodology

Previous PSRs have combined stakeholder dialogue with micro-econometric analysis of the demand or consumption side of the economy. However, the theme of structural change combines both the demand and supply side of the economy. Thus, the analysis of the impact of structural change necessitates use of economy-wide modelling techniques in order to understand the transmission mechanisms and propagation channels through which both demand and supply-side shocks such as increases in agricultural productivity may affect economic activities and economic agents such as households. In this regard, Computable General Equilibrium (CGE) and Social Accounting Matrix (SAM) multiplier models were used. An additional innovation in the 2014 PSR is the analysis of the multiple deprivations experienced by the poor which goes beyond a pure focus on income (or monetary) poverty.

1.5.1 Descriptive analysis

Descriptive analysis – which involves the cross-tabulation of the poor by household, individual and community characteristics – was used to build a poverty profile for Uganda for the period 1992/3 to 2012/13 and analyse key features of the labour market. Analysis of the poverty profile provides valuable information on the status of poverty in Uganda and how it has changed over time.¹ For example, breaking down poverty levels by region and by various other dimensions, helps to reveal the degree of inequality that exists and the effectiveness of various poverty reduction policies and interventions.

1.5.2 Poverty measures

Poverty has multiple dimensions.² In practice however, the vast majority of empirical work on poverty uses a one-dimensional measure of well-being, usually household income or consumption expenditure.³ This is also largely the case in Uganda although Government’s policy frameworks (e.g. the NDP) conceptualise poverty in a

broader way to include deprivations in education, health, water and sanitation among others. Interventions designed based on monetary poverty measures alone may not target those most in need. It is preferable to integrate the various forms of poverty, enabling Government programmes to prioritise groups that simultaneously suffer from all forms of poverty.

Throughout this report, the term poverty is used to refer to income poverty, unless otherwise stated. Income poverty in Uganda is measured using a consumption aggregate (consisting of food and non-food items, both purchased and consumed out of own production), which is considered the most reliable measure of permanent income.⁴ The consumption aggregate is expressed in terms of 2005/06 prices by appropriately taking into account spatial and inter-temporal price variations using the official consumer price index (CPI). It is also adjusted for differences in household size and composition (in terms of age and sex) using the World Health Organisation adult equivalence scales.⁵ The resulting welfare measure of income poverty is real private consumption per adult equivalent (CPAE).

The poverty rate is estimated by comparing CPAE with the official poverty line.⁶ Any household whose CPAE is below the poverty line is poor (i.e. in absolute/extreme poverty). However, in order to improve the understanding of relative poverty in Uganda, the non-poor households are divided into two groups – insecure non-poor and the middle class – based on whether their consumption is higher or lower than twice the poverty line. This categorisation was first introduced in the 2012 PSR. Households above two times the poverty line are termed middle class. Those below twice the poverty line but above the poverty line are termed insecure non-poor – they are not living in absolute poverty but are poor relative to the middle class – and they are vulnerable to falling back into poverty. The term vulnerability as used in this report is associated with the probability of being poor in the future. It includes the risk of becoming poor in the future if not currently poor; or of poor households remaining in poverty. Poverty reflects a current state of deprivation, of lacking resources or capabilities to satisfy current needs. Vulnerability on the other hand reflects a household's future prospects.

The report also analyses multiple forms of poverty and living standards. A multidimensional poverty index for Uganda is computed and used to profile poverty at the household level. Household deprivations across a range of non-monetary dimensions of wellbeing such as education, health and standards of living are used to measure the number of people who are multi-dimensionally poor and the number of deprivations poor households are typically faced with.⁷ The index identifies which groups and regions are experiencing poverty most acutely, and in which dimensions, so that interventions can be appropriately targeted to alleviate the struggles of the most vulnerable groups. Furthermore, an analysis of whether multidimensional and monetary poverty measures identify the same poor is performed.

1.5.3 Econometric analysis

Econometric analysis is the main tool used to understand the underlying dynamics of poverty in Uganda, and the determinants of household consumption growth, exploring the links between employment status, sector of employment and poverty reduction.⁸

1.5.4 Economy-wide modelling

Given the macro thematic focus of the 2014 PSR, economy-wide modelling is used to complement the traditional micro poverty analysis. A SAM-based multiplier model is used to identify the key sectors with strong linkages to the rest of the economy.⁹ This analysis is important for understanding the distributional and poverty reduction effects associated with structural change driven by growth in different sectors.

Transformation of Uganda's poverty and employment profile will materialise through a variety of overlapping transmission channels. In order to design effective policies, it is important to assess how the livelihoods of Ugandans change in response to different policy interventions. Economy-wide simulations using the MAMS (Maquette for MDG Simulations) CGE model are used to assess the effects of different productivity shocks and other drivers of structural change on poverty reduction, growth and employment, to help identify the type of structural change and policies needed in Uganda.¹⁰

Notes for chapter 1

¹ A poverty profile can be defined as a detailed presentation of poverty according to specific characteristics of the unit analysed. For example, individuals: age (e.g. child vs. adult), sex, education, etc; households: age/sex/education of household head, household size, principal activity, etc; and community: size, location, presence of a school/health facility, etc.

² Amartya Sen (1979, 1985 and 1987).

³ In the literature, this traditional approach to poverty conceptualisation, definition and measurement is called monetary, uni-dimensional or indirect approach.

⁴ For details see Ssewanyana and Kasirye (2010), Ssewanyana and Okidi (2007); Appleton and Ssewanyana (2003).

⁵ See Appleton (2001) for calculations of adult equivalence scales for the Ugandan households.

⁶ Uganda has 9 poverty lines – a national poverty line and 8 poverty lines for rural and urban areas in each of the four regions of the country (Central, Eastern, Northern and Western) (see Appleton, 1991, 2001, 2009). The national poverty line is equivalent to USD 1/per person per day.).

⁷ The UMPI aggregation procedure is based on the approach proposed by the Alkire and Foster (2007, 2011) 'counting and dual cut-off' framework. A brief description of the methodology is presented in annex B and full details can be found in Alkire and Foster (2011) 'Counting and multidimensional poverty measurement' – Journal of Applied Economic Modeling.

⁸ The detailed econometric methodology and results are provided in annex A.

⁹ In-depth description of the methodology is provided in annex C.

¹⁰ A description of the MAMS modeling framework is provided in annex D.

CHAPTER 2: UNDERSTANDING POVERTY TRENDS

This chapter provides an updated analysis of income poverty trends in Uganda. The drivers behind these trends and characteristics of the poor are also examined. The chapter also discusses subjective poverty – derived largely from the Mini PPA – and provides an in-depth analysis of the multiple deprivations suffered by the poor.

2.1 Trends in poverty status: 1992/3 to 2012/13

Absolute poverty in Uganda has decreased considerably in the past two decades. In 1992/93, more than half of the population (56.4 percent) was living below the poverty line. This rate has dropped significantly to 19.7 percent in 2012/13 (Table 2.1). In the last ten years – 2002/03 to 2012/13 – the share of the population in poverty fell by 19.1 percentage points. This translates into an annualised poverty reduction rate of nearly 2 percent per annum. There was a reduction of 4.8 percentage points over the most recent three-year period (2009/10 to 2012/13). This decline in poverty at the national level is statistically significant and robust to the choice of the poverty line.¹ Uganda has surpassed the first Millennium Development Goal (MDG) target of halving the proportion of people living in extreme poverty by 2015 by a substantial margin, and the country is comfortably on track to achieve the Vision 2040 target of reducing the poverty rate to 5 percent or less.

Moreover, despite the population almost doubling (from 17.4 million in 1992/93 to 34.1 million in 2012/13), there were significantly fewer people living in absolute poverty in 2012/13 (6.7 million) than there were two decades ago (9.8 million).

Table 2.1 Trends in poverty status at a national level

	Population (millions)	Poor		Insecure non-poor		Middle class	
		Millions	%	Millions	%	Millions	%
1992/3	17.4	9.8	56.4	5.8	33.4	1.8	10.2
1999/00	21.4	7.2	33.8	9.4	43.9	4.8	22.4
2002/03	25.3	9.8	38.8	10.1	39.9	5.4	21.2
2005/06	27.2	8.4	31.1	10.9	40.2	7.8	28.7
2009/10	30.7	7.5	24.5	13.2	42.9	10.0	32.6
2012/13	34.1	6.7	19.7	14.7	43.3	12.6	37.0

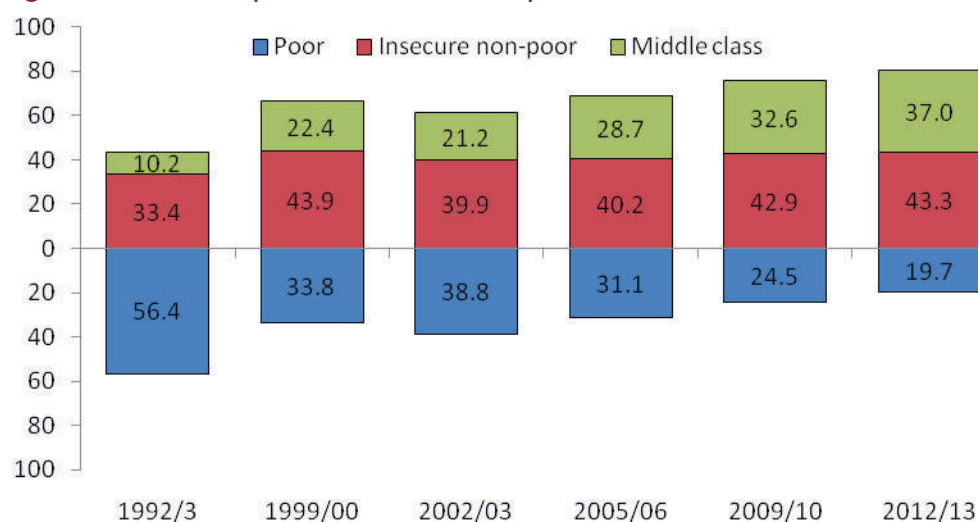
Source: UNHS, 1999/00-2012/13 and IHS, 1992/3

Table 2.1 also reveals that the number of Ugandans in the middle class has increased by seven times from 1.8 million in 1992/93 to 12.6 million in 2012/13. 2.6 million Ugandans have acquired middle class status in the last three years (2009/10 – 2012/13) alone. On the other hand, many Ugandans that have moved out of

poverty have failed to attain middle-class status. In 2012/13, the number of insecure non-poor individuals (14.7 million) was 2.5 times higher than what it was in 1992/93 (5.8 million). Although this category is classified as non-poor, they are highly vulnerable, and the occurrence of a shock – such as a drought – can push them into poverty. The middle class, on the other hand, are more resilient as they tend to have stable incomes and more assets, which help to mitigate shocks and avoid sharp changes in consumption.

Figure 2.1 shows the share the population that are poor, non-poor insecure and middle class. The rapid reduction in poverty is reflected in the expansion of the middle class, but a large group of insecure individuals has persisted throughout the period. There was a slight increase in the population share of insecure non-poor from 42.9 percent in 2009/10 to 43.3 percent in 2012/13, but the middle class grew by an encouraging 4.4 percentage points from 32.6 percent to 37.0 percent over the three-year period. The rapidly growing middle class represents an engine for socioeconomic transformation because of its greater spending power and, more importantly, the ability to save and invest in the future. Nonetheless, a large section of the population (63.0 percent) who are either poor or insecure non-poor are vulnerable. The dominant insecure non-poor group (43.3 percent) also require targeted attention as they remain highly vulnerable and are at a risk of falling back into poverty. Chapter 4 of this report discusses different policy options for reducing vulnerability in Uganda.

Figure 2.1 The poor, insecure non-poor and the middle class, 1992/3-2012/12



Source: UNHS various years, IHS 1992/3.

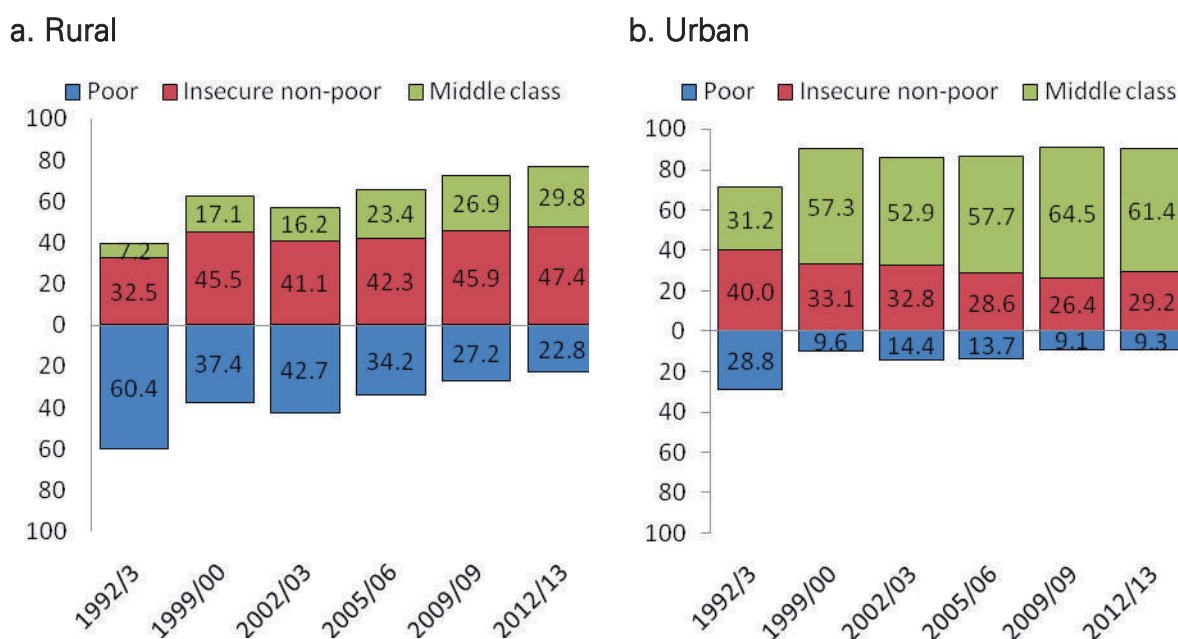
Rural and urban areas

Although the majority of Ugandans live in rural areas, the urban population is growing faster. In 1992/93, about ninety percent of Ugandans lived in rural areas,

while in 2012/2013 this had fallen to 77 percent. Over the last three years from 2009/10 to 2012/13, the urban population increased by 3.1 million from 4.6 million to 7.7 million, which implies an increase in the urbanisation rate from 15 percent to 23 percent.² Urbanisation presents both opportunities and challenges for poverty reduction.

Figure 2.2 shows that poverty is much lower in urban than rural areas, although there was no statistically significant reduction in the urban poverty rate between 2009/10 and 2012/13.³ Poverty reduction efforts are bearing fruit in rural areas, with poverty falling by almost two-thirds in the last two decades from 60.4 percent in 1992/3 to 22.8 percent in 2012/13. The share of Ugandans in the middle class is higher in urban areas, but has rapidly increased in rural areas.

Figure 2.2 The poor, insecure non-poor and middle class in rural and urban areas, 1992-2013



Source: UNHS various years, IHS 1992/3.

The insecure non-poor in urban areas have steadily decreased over the last 20 years, except for a small reversal from 26.4 percent in 2009/10 to 29.2 percent in 2012/13. On the other hand, the insecure non-poor in rural areas have steadily increased from 32.5 percent in 1992/93 to 47.4 percent in 2012/13. This group coupled with the 22.8 percent still in absolute poverty imply that 70.2 percent of those in rural areas are not yet secure, compared to 38.5 percent in urban areas.

Performance across regions

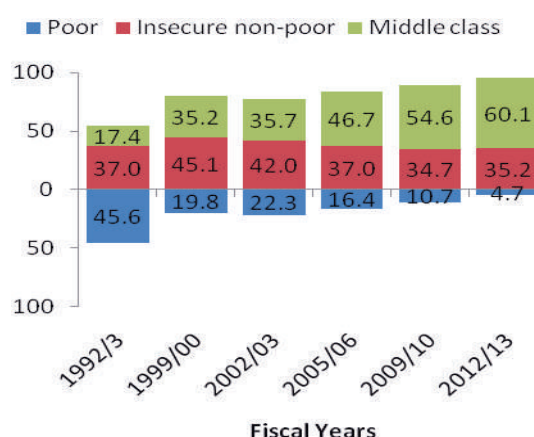
The results for Uganda's four regions – central, eastern, northern, and western – are presented in Figure 2.3. Since 2009/10, poverty has fallen in all regions except the eastern region. The western and central regions have made remarkable progress

and their poverty levels are below the national average. The western region has experienced the largest decline in poverty over the last 20 years (44 percentage points) from 52.7 percent in 1992/93 to 8.7 percent in 2012/13. In the central, the proportion of people unable to meet their basic needs declined from 45.6 percent to 4.7 percent over the same period.

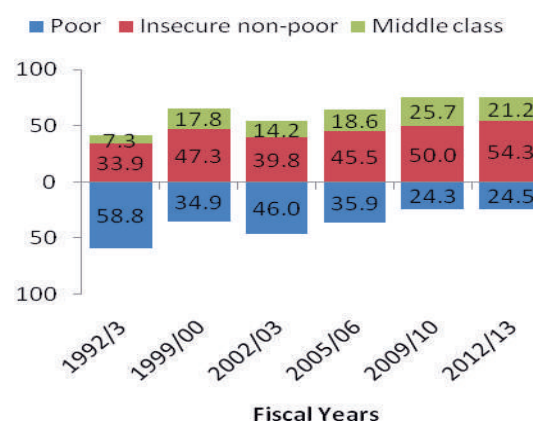
The eastern and northern regions continue to lag behind with poverty levels above the national average. Between 1992/93 and 2012/13, absolute poverty in the eastern region declined from 58.8 percent to 24.1 percent, but there was a slight increase of 0.2 percentage points in this region between 2009/10 and 2012/13, mainly due to an increase in rural poverty. Although the northern region has significantly reduced its poverty level from 73.5 percent in 1992/93 to 43.7 percent in 2012/13, it remains more than twice the national average. The rapid reduction in poverty in the northern region is reflected particularly in rural areas.

Figure 2.3 The poor, insecure non-poor and middle class in each region of Uganda, 1992-2012

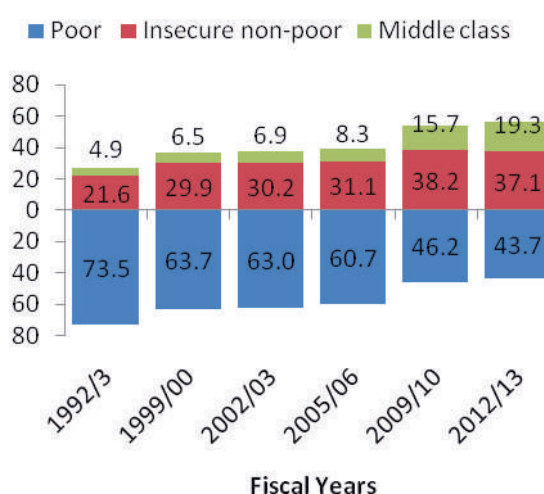
a. Central



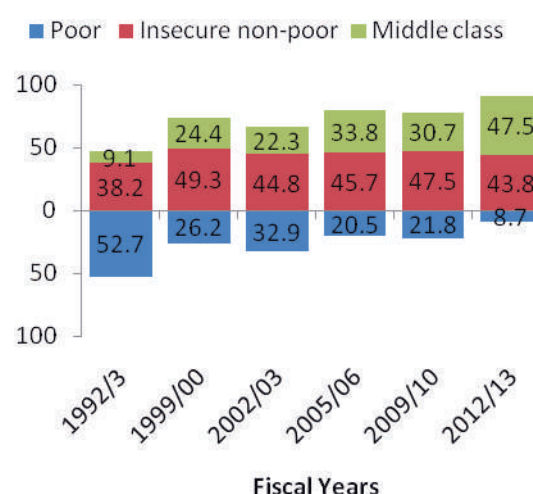
b. Eastern



c. Northern



d. Western

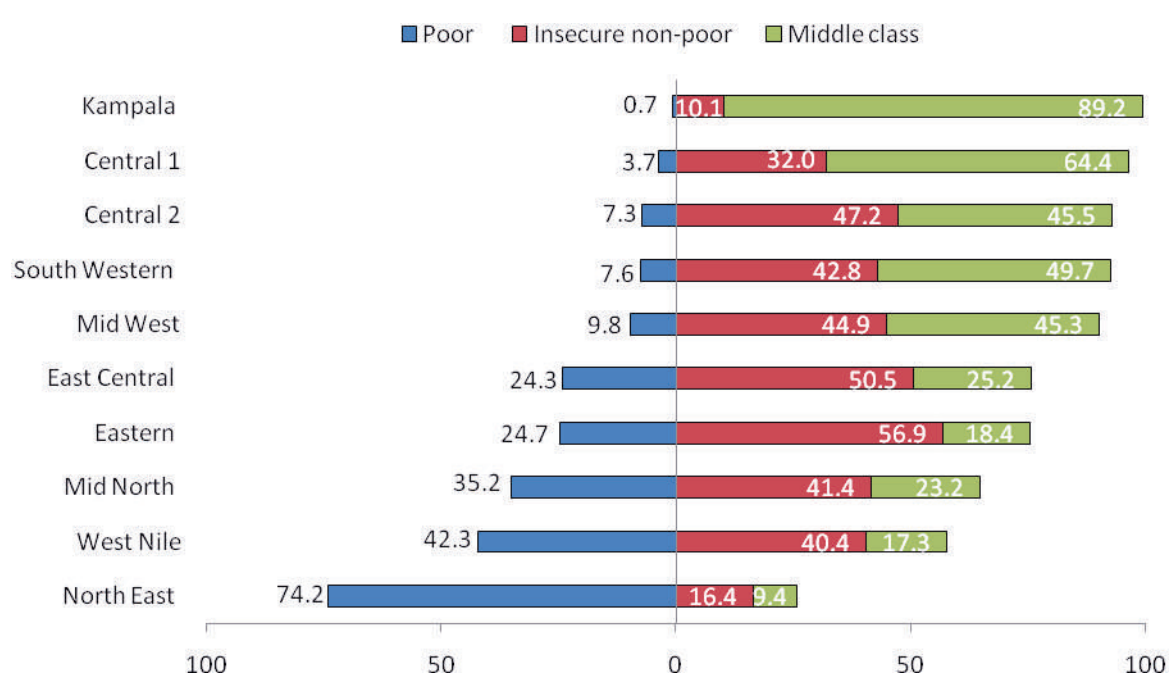


Source: UNHS, 1999/00-2012/13 and IHS, 1992/3

Sub-regional picture

Breaking down the analysis to a lower level gives a detailed picture of poverty across the country. Figure 2.4 presents the sub-regional picture in 2012/13, and reveals stark differences in poverty by location. Nearly 90 percent of households in Kampala are in the middle class, and less than 1 percent are classified as poor. By contrast, less than 10 percent of households in the North East are in the middle class, with nearly three quarters of all households in the region living in poverty. The majority of the middle class are concentrated in Kampala, Central 1, South Western, Midwest and Central 2.

Figure 2.4 Sub-regional picture, 2012/13

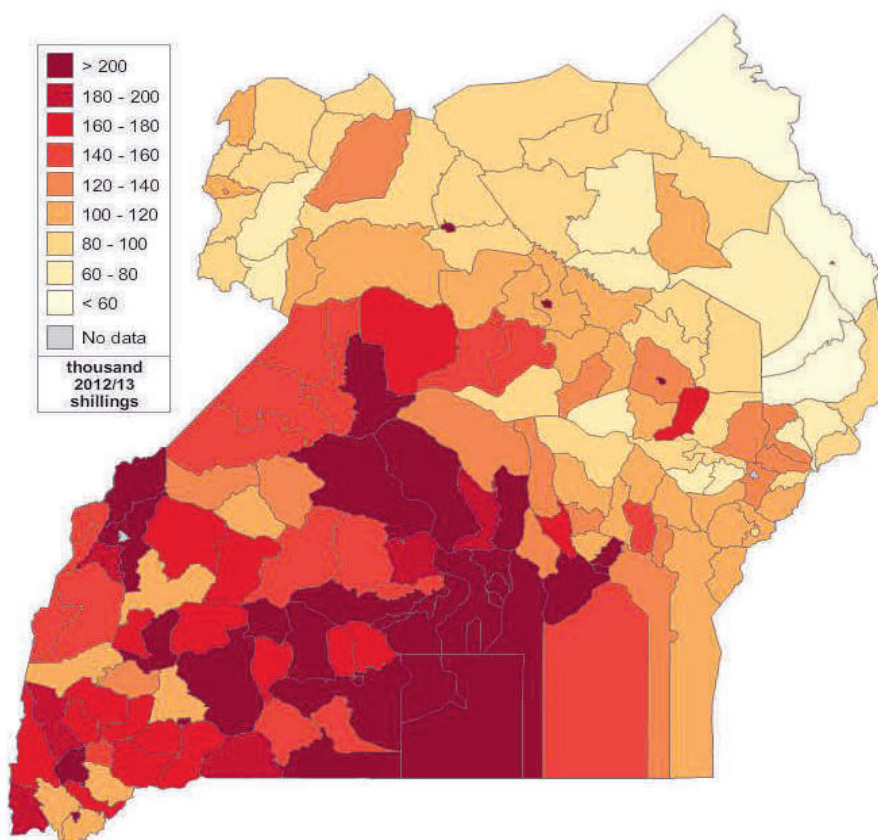


Source: UNHS 2012/13. Notes: Apart from Kampala, each of the remaining sub-regions is composed of several districts. Central 1: Kalangala, Masaka, Bukomansimbi, Lwengo, Kalungu, Mpigi, Butambala, Gomba, Rakai, Sembabule, and Wakiso; Central 2: Kayunga, Kiboga, Kyankwanzi, Luwero, Mubende, Mityana, Mukono, Buikwe, Buvuma, Nakasongola, Nakaseke; East Central: Bugiri, Namayingo, Busia, Iganga, Namutumba, Luuka, Jinja, Kamuli, Buyende, Kaliro, Mayuge; Eastern: Kapchorwa, Kween, Bukwo, Mbale, Manafwa, Bududa, Pallisa, Kibuku, Budaka, Sironko, Bulambuli, Tororo, Butaleja, Busia, Kaberamaido, Katakwi, Amuria, Kumi, Ngora, Bukedea, Serere and Soroti; Mid-North: Apac, Kole, Gulu, Amuru, Nwoya, Kitgum, Lamwo, Oyam, Lira, Alebtong, Otuke, Amolatar, Dokolo, Agago and Pader ; North East (or Karamoja region): Kotido, Abim, Kaabong, Moroto, Napak, Amudat and Nakapiripirit; West Nile: Adjumani, Arua, Nyadri, Koboko, Moyo, Nebbi, Zombo and Yumbe; Mid West: Bundibugyo, Ntoroko, Hoima, Kabarole, Kamwenge, Kasese, Kibaale, Kyenjojo, Kyegegwa, Kiryandongo, Bulisa and Masindi; and South Western: Bushenyi, Nsiika, Kibingo, Mitooma, Rubirizzi, Kabale, Kanungu, Kisoro, Mbarara, Ibanda, Isingiro, Kiruhura, Ntungamo, and Rukungiri.

Establishing exactly where the poor are located is an important prerequisite for any poverty reduction strategy. Poverty maps provide greater disaggregation than is possible merely from analysis of poverty at the regional level and can be used to

design and implement pro-poor development strategies that are both effective and inclusive. Map 2.1 illustrates the monthly mean consumption per adult equivalent at the county level. Consistent with poverty levels observed in Figure 2.3, the central and western regions have higher monthly consumption per adult equivalent than the eastern and northern regions. Monthly consumption per adult equivalent in the central region is at least Shs 40,000 higher than in the northern region.

Map 2.1: Monthly consumption per adult equivalent



Source: Uganda National Household Survey (UNHS) 2012/13. Note: This map demonstrates the broad pattern across the country; the UNHS was not designed to generate estimates for individual counties, and the sampling error is therefore relatively wide.

2.2 Characteristics of the poor, the insecure non-poor and the middle class

Understanding the characteristics of the different categories is necessary to better understand poverty issues at large, and helps in establishing the routes that can be taken by individuals to move out of poverty. Ascertaining the socioeconomic characteristics of the poor and the non-poor insecure as well as the constraints they face is a prerequisite for effective policy design and achievement of the Vision 2040 target of reducing poverty to five percent, particularly as the characteristics of poor individuals are changing over time. Selected characteristics of the poor, non-poor insecure and the middle class over the last ten years are presented in Table 2.2.

Poor households are less likely to have at least two meals a day than those living above the poverty line. Furthermore, there has been a reduction in the share of poor households able to have at least two meals a day from 86 percent in 2002/3 to 79 percent in 2012/13. As expected, poor households have remained larger than the national average. They are also more likely to live in poor quality housing; only 36 percent of poor households live in iron-roofed houses. There are children without a pair of shoes in 86 percent of poor households, and this proportion has stagnated over the last decade. These statistics suggest that while there has been significant progress in reducing the number of poor households, the living conditions for those remaining below the poverty line have not changed significantly.

Table 2.2 Characteristics of the poor (P), non-poor insecure (NP) and the middle class (MC)

	2002/3				2005/6				2009/10				2012/13			
	P	NP	MC	NA	P	NP	MC	NA	P	NP	MC	NA	P	NP	MC	NA
Share in urban areas	5	11	34	14	7	11	31	15	6	9	30	15	11	15	38	23
Average household size	6.0	5.2	3.9	5.1	6.1	5.3	4.3	5.2	6.2	5.3	3.9	4.9	6.1	5.4	3.9	4.8
Share that takes at least two meals	86	97	97	93	84	95	98	92	78	94	97	91	79	94	96	92
Share in which all children have at least one pair of shoes	10	42	80	45	15	41	81	50	18	47	80	58	14	45	80	57
Share owning a mobile phone	0	3	26	7	1	10	45	17	19	42	74	46	31	58	83	60
Share with agriculture as primary income source	52	42	23	38	63	61	35	49	58	55	28	42	55	56	34	42
Share who sleep in iron roofed houses	45	72	87	63	37	64	86	61	35	61	78	62	36	67	83	68

Source: UNHS 2002/03 – 2012/13. Note: P refers to the poor; NP to the insecure non-poor; MC to the middle class; and NA is the National Aggregate. The last three characteristics are reported at the household level.

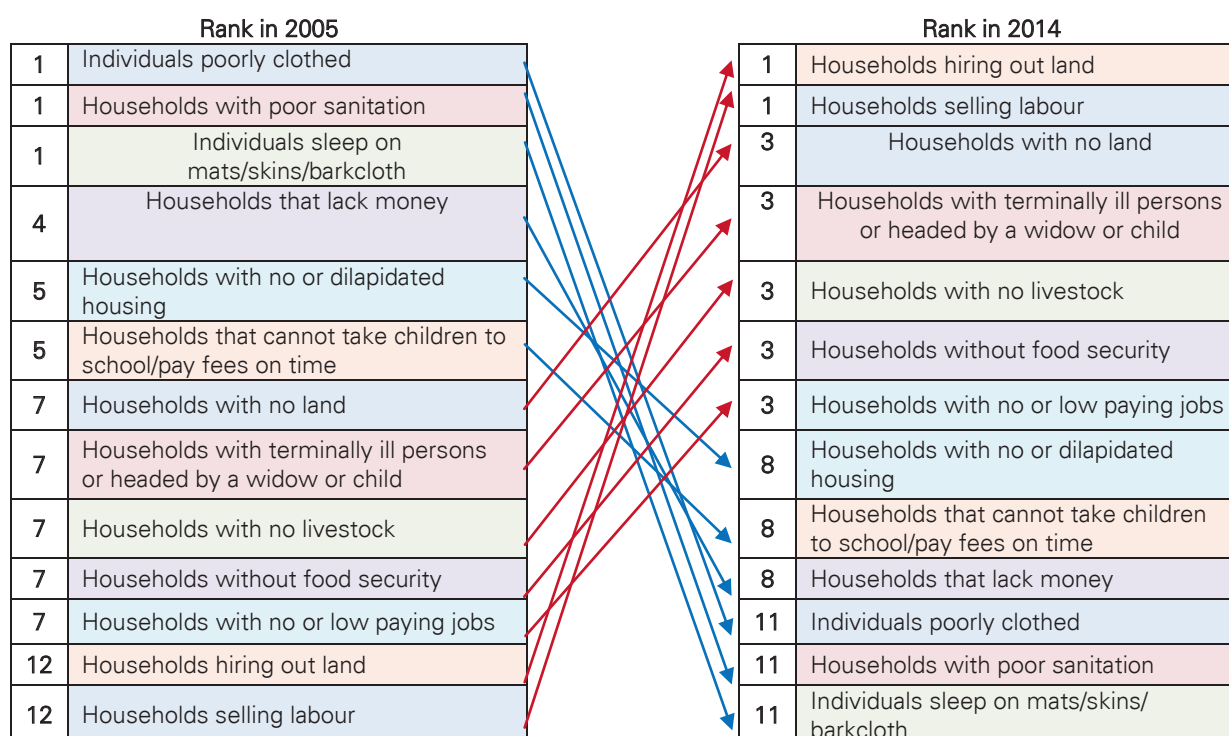
Middle-class households enjoy higher living standards and are secure in the basic necessities of human life. They have relatively stable income derived from multiple sources – only 34 percent rely on agriculture as their most important source of earnings. With diversified sources of income, they are less vulnerable to shocks and have a lower chance of falling back into poverty. They also have fewer children and spend much more on education and healthcare. The middle-class households are much more likely to have access to running water, latrines and electricity. This is mainly because the household heads are more educated, have higher purchasing power and relatively stable incomes. Middle-class households also have greater access to credit, which helps to smooth consumption in periods of income volatility

and provides capital for business ventures, though credit constraints still pose a barrier to entrepreneurship among the middle class.⁴Policies to reduce family size, improve access to education and healthcare, create productive employment, and promote financial inclusion will all help to reduce the number of poor and vulnerable households.

2.3 Changing perceptions of poverty

Perceptions of poverty have changed as Uganda’s socioeconomic environment has evolved. Mini PPA evidence indicates that there have been significant changes in peoples' understanding of what it means to be poor. In 2005, poor individuals were those with poor clothing, poor sanitation and without mattresses to sleep on (Figure 2.5). These material factors are no longer perceived to be important indicators defining what it means to be poor, as the large majority of the population now has access to these basic necessities. Most factors that have emerged as indicators of poverty over the last decade relate to growing land and labour constraints in rural areas: households with no land, casual labourers, and those who hire out their land (rather than cultivating it themselves) are perceived to be poor. Food security and inadequate employment opportunities have also emerged as important challenges reflecting higher food prices, and higher educational attainment and urbanisation respectively.

Figure 2.5 Changes in the perceived indicators of poverty



Source: Analysis of Mini PPA findings. The indicators ranked more highly were perceived to be the more important factors defining what it meant to be poor in the respective year.

In the 2014 Mini PPA study sites, extreme and relative poverty rates were perceived to be 28 and 38 percent respectively, which is roughly comparable to the national share below the poverty line and the non-poor insecure (20 and 43 percent respectively). The non-poor insecure can afford basic human necessities, but they have unstable incomes and are thus vulnerable to falling back into poverty, which may help to explain why many of this group is perceived to be relatively poor. Community perceptions are based on higher thresholds and multiple criteria, and also on comparisons with one another.

2.4 Drivers of the reduction in poverty

This section discusses the factors responsible for the poverty trends observed across the country. The considerable reduction in poverty over the years can be attributed to Uganda's general economic development, significant public investment in physical infrastructure, and several targeted Government interventions, some of which are discussed below.

2.4.1 Agricultural development

72 percent of the workforce and 87 percent of the working poor are primarily engaged in agricultural activities.⁵ Increasing the productivity and commercialisation of the sector are therefore critical drivers of poverty reduction. Uganda's significant reduction in poverty over recent years would not have been possible without substantial progress in the agricultural sector, which is supported by evidence from the Mini PPA. Farmers consistently report increased demand for their produce, reflecting improved access to growing local, urban and regional markets. Although commercial agriculture is not yet well established at the smallholder level, strong farmer groups have emerged in some areas and this has been accompanied by the increasing cultivation of higher-value cash crops and significant growth in agro-processing activities. The opportunities and challenges associated with agricultural development are discussed at length in Chapter 3.

2.4.2 Growth of non-farm household enterprises

Poverty reduction in rural areas is closely associated with the diversification of household livelihood portfolios away from agricultural activities towards non-farm household enterprises. Diversification away from the agricultural sector increases and stabilises household incomes and improves welfare. The proportion of households operating a non-farm enterprise expanded markedly during the 1990s, and grew further from 19 percent in 2002/03 to 24 percent in 2012/13. Despite this, the proportion relying on agriculture as their main source of earnings has remained almost stable at about 42 percent, indicating that most households operate non-farm enterprises as a supplementary source of income, with only a small number shifting away from agriculture entirely.

More evidence from the Mini PPA shows that diversification away from agriculture to non-farm enterprises has been welfare enhancing. The enterprises that households have ventured into include mobile money services, video shows (Bibanda), Bodaboda transport, trade in agricultural produce, charcoal burning, restaurants, brick laying, chapatti making, mini bus taxis, and carpentry. Econometric analysis shows that operating a non-farm enterprise increases consumption per adult equivalent between 6 and 8 percent.⁶ This supports the evidence presented in the PSR 2012, which suggested that the dramatic growth in non-farm activities over the last 20 years has been one of the main drivers of Uganda's large reduction in poverty.⁷ Some of the success stories captured in the Mini PPA are illustrated in Box 2.1.

Box 2.1 Role of non-farm household enterprises in poverty reduction

"I succeeded because I used to engage in several ventures. From fish hawking, produce buying, poultry farming, coffee dealing to retail trading. If one venture failed I would profit from another. I never put all my eggs in one basket as the adage says."

– Respondent from Kaliro district

"Diversification of sources of income was key in enabling this growth. Even having grown my businesses to include tea growing, real estate and wholesale, I still sell millet porridge which I started with."

– Respondent from Bushenyi district

2.4.3 Trade

Trade has been a major factor reducing poverty in some areas. Urban poverty in the eastern region decreased partly because of growth of cross-border trade. The eastern highway route acts as a transit for goods from Kenya to Rwanda, Congo and South Sudan.⁸ Towns such as Malaba, Busia, Iganga and Mbale are key trading posts for the region, attracting large volumes of tradable goods such as sugar and agricultural produce especially to South Sudan in the recent past. The western region has also exploited growing regional markets in Rwanda and Congo; higher food prices and increased production of major crops have benefited net food sellers especially in rural areas, contributing to the significant decrease in poverty levels in the region. Evidence from the Bushenyi district Mini PPA report highlights the importance of relative price stability in tea and coffee, improved milk prices, higher matooke prices and improved access to regional markets. However, there are a number of challenges experienced by farmers including the theft of animals (Box 2.2).

Box 2.2 Challenges of cross-border trade

“The South Sudanese have ready cash, and are willing to pay more for animals. For example, they can willingly pay Shs 1,000,000 for a bull whose actual value is Shs 800,000. This has made it difficult for us to obtain the commodities we want because we cannot afford the higher prices. Also, there has been an increase in theft of animals to sell to the South Sudanese, prompting some people to sleep in the kraals to guard their cattle.”

– Respondent from Lira District

“Due to the poor state of roads, you may spend more than a week while travelling to the neighbouring countries. As result, those engaged in trading perishable goods like tomatoes and cabbages sometimes incur loses as the items rot on the way.”

– Respondent from Nebbi district.

2.4.4 Improved infrastructure

Road network

Government’s investment in road transport infrastructure facilitates economic growth and poverty reduction. In financial year 2013/14, 830 km of new roads were completed, and periodic or routine maintenance was carried out for 17,650km of national, district, urban and community access roads.⁹

District and community access roads integrate agricultural households into regional and national markets, which is important for mitigating local supply shocks. Econometric evidence suggests that delayed rainfall can increase poverty by up to 12 percentage points in remote rural areas, but this effect is much smaller in better-connected rural areas.¹⁰ Another study suggests that the economic returns to investment in rural feeder roads are approximately twice as large as for national roads.¹¹ The same study estimated that 3,156 rural poor people are lifted out of poverty for every billion Uganda shillings invested in feeder roads, compared to 386 people when the same amount of resources is invested in national roads.¹² The above evidence is also supported by findings from the Mini PPA, which indicate that feeder road improvement has far greater effects in improving access to agricultural markets for crop, animal and fishing products. To sustain these benefits and ensure value for money, it is critical that rural feeder roads are maintained in good condition.

Box 2.3 Perceptions on improved road infrastructure

“In the past one had to transport his or her produce to Kaliro town on a bicycle – a distance of more than 28km. Today, buyers of produce find us on our farms”

– Respondent from Kaliro district

“The improved road network and quality has increased access which is important for trade. Our capacity to trade with the mainland and other islands in Kalangala has improved. Farmers’ market options have increased; they sell their produce to Entebbe, Masaka and Kampala.”

– Respondent from Kalangala district

“I have seen several roads been constructed recently, there is a feeder road from the sub country to the village. The roads are connecting to feeder roads and transporting our produce to the market now is a bit easier.”

– Respondent from Akaidebe, Lira district

Rural Electrification

Rural electrification promotes productivity, the growth of small and medium enterprise (SMEs), job creation, and better health and education services in rural areas. This reduces the push factors behind rural-urban migration and therefore the problems related to urban congestion. Since the early 2000s, Government has constructed a total of 3,100 km of low voltage line and 5,000 km of medium voltage. As a result of the rural electrification programme, over 1,280 rural communities (villages and trading centres) have access to power.¹³ Many households have exploited this to increase their production levels and engage in non-farm enterprises. Government’s target is to achieve rural electricity access of 22 percent by 2020, from the current level of 7 percent.

Improved ICT

Following Government’s liberalisation of the ICT sector, telecommunication companies, postal services, broadcasting infrastructure, information technology, and library and information services have flourished. Now 60 percent of households own a mobile phone and the number of mobile money subscribers increased from 8.87 million in 2012 to 14.24 million in 2013. The value of transactions increased from Shs. 11.6 trillion to Shs. 18.6 trillion over the same period. Active internet subscriptions increased by 0.9 million over the same time.¹⁴

ICT, particularly mobile phones and associated services such as mobile money, have demonstrated significant potential for reducing poverty. Poor people have experienced benefits in the form of increased income, improved education and training, access to job opportunities, contacts with family and friends, enterprise development opportunities, and increased agricultural productivity. This is supported by Mini PPA findings in all the study sites, where ICT was among the most important factors reported to have transformed livelihoods. Sale of credit (air time)

and mobile money agency has generated employment and income. The internet and mobile phones have facilitated access to vital goods and services and markets, and has significantly improved the lives of many people.

2.4.5 Targeted development programmes

A number of development programmes mainly focusing on rural areas have contributed to the reduction in rural poverty levels. Among the most prominent of these are the palm oil project in Kalangala, the Peace Recovery and Development Programme (PRDP) in the northern region, and Government's rural financial services programme.

Vegetable Oil Development Project in Kalangala

The Vegetable Oil Development Project, a public-private partnership between the Government of Uganda, the International Fund for Agricultural Development (IFAD) and the private sector, has had a transformative impact on smallholder farmers in Kalangala. According to the UNDP Human Development Index for Uganda, in 2000 Kalangala was ranked the 71st poorest district in Uganda, out of 76. By 2007, Kalangala had improved to 7th position, indicating that oil palm development has brought large livelihood benefits for farmers in the district. The oil palm industry and associated infrastructure have significantly improved household incomes – oil palm outgrowers are able to improve their houses and send their children to school, while also saving in SACCOs. The palm oil project is discussed further in Chapter 3.

Peace Recovery and Development Programme

Established in 2009, the Peace Recovery and Development Programme (PDRP) has strengthened coordination and monitoring of national and internationally supported programmes and investments in northern Uganda.¹⁵ Various interventions under PRDP as illustrated in Table 2.3 have greatly contributed to improvement in access to key social services like health, water, education and roads to empower communities and revitalise the economy in the North. This has created more employment opportunities and increased incomes and hence reduced poverty.

Access to water registered a steady increase in Bukedi, Karamoja and Acholi sub regions, surpassing the target of 77 percent access to safe water. There is, however, need for additional interventions to cater for former Internally Displaced Persons (IDPs) who have returned to their homes. There was also a notable improvement in sanitation across the region due to improved access and functionality of water points. PRDP has contributed significantly in the construction of outpatient departments, maternity wards, staff houses, purchase of ambulances; directly contributing to increased access to health facilities. In the north in 2011, 88 percent of children under five with a fever received advice or treatment from a

health centre, compared to 82 percent nationally; 80 percent received anti-malarial drugs, compared to 65 percent nationally.¹⁶ As a result of PRDP, there has been an improvement in the teacher-to-classroom ratio from 90 in 2009 to 68 in 2013, which is below the national average of 72.

Table 2.3 Key achievements of PRDP, 2009-2012

Education	Number of Classrooms constructed	2,808
	Number of Classrooms rehabilitated	253
	Number of Teachers houses	2,634
	Number of Latrines stances	4,023
	Number of Desks	43,050
Water	Shallow wells	420
	Number of Boreholes	1,672
	Number of Valley tanks constructed	16
	Protected springs	176
	Pipe water project	81
	GFS projects	82
Health	Wards constructed (children, general, maternity wards)	342
	Latrine stances	1,206
	Staff houses	1,204
	OPDs constructed	182
	HC II constructed	53
Works	KMs of Feeder roads rehabilitated	2,636
	KMs of Community access roads	2,089

Source: OPM (2014).

Northern Uganda Social Action Fund

The Northern Uganda Social Action Fund (NUSAF) has supported communities to undertake higher-value enterprises such as goat rearing, poultry farming, piggeries, and institutional projects like the construction of classroom blocks and health centers. These enterprises were undertaken by groups therefore benefitting a number of households, and institutional projects benefit almost all community members who access services from these institutions. Evidence from the Mini PPA highlights the success of these Government programmes and improved security as the main drivers of poverty reduction in Northern Uganda.

Rural financial services

Rapid expansion of the financial sector has played a significant role in reducing poverty. The western region leads all other regions in terms of access to credit from non-bank formal institutions, where 14 percent of the adult population accessed credit from these institutions, compared to 3 percent in northern Uganda and 5 percent in the central region. The share of adults with access to formal banking institutions, for either saving or borrowing, increased from 18.3 percent in 2009 to

Box 2.4 Successful SACCOs in the western region

“I got a bank loan and that was an opportunity to expand my business. Another factor for my success has mainly been my dedication and hard work and honestly I did not marry more than one wife and I do not drink Alcohol. Those are the things that could have squandered my money but I avoided them”.

– Respondent from Bushenyi district

“Getting credit from the SACCO of Kyamuhunga People’s Savings and Credit Society also enabled me to expand my business. So, I currently do both farming and trading”.

– Respondent from Bushenyi district

Vocational and technical training

Vocational and technical training is another important driver of poverty reduction across the country. Results from panel data analysis support Government’s emphasis on technical and vocational training as a means of improving labour productivity and earnings for self-employment. For example vocational training is estimated to increase consumption by between 7.1 percent and 7.6 percent.¹⁷

2.4.6 Drivers of the poverty increase in the rural east

Unlike the other three regions of Uganda, the east did not register a significant reduction in income poverty between 2009/10 and 2012/13. This reflects an increase in poverty in the rural east, as urban areas in the region saw significant progress. This is attributed to adverse weather conditions including floods, the risks associated with the production and marketing of cash crop such as sugarcane, and structural factors including large family size.

Adverse weather conditions

Unreliable rainfall has had large negative effects in rural areas. Econometric analysis shows that household consumption is reduced by around 14 percent if the main rainy season begins a month or more later or earlier than usual.¹⁸ The eastern region has also recently been affected by unusually high rainfall and floods, which have reduced food crop production, increased post-harvest losses and prices. This results in lower rural incomes and higher living costs.

Sugarcane growing

Another factor that may have contributed to the slight increase in poverty in the east is the significant shift among smallholder farmers to the production of sugarcane. Although sugarcane can offer high returns, many outgrowers have become disillusioned with the crop (Box 2.5). The move away from food crop production, combined with limited market integration, may have also affected food security for

net buyers. The risks associated with cash crop production are discussed further in Chapter 3.

Box 2.5 Challenges of sugarcane growing in the eastern region

“Currently here in Luuka district almost every household grows sugarcane. In the past only a few households grew sugarcane, but when Kaliro Sugar Works started operating, we all took advantage. We used to grow a variety of crops with different nutrients (eg bananas, sweet potatoes, beans and groundnuts) but today we do not have enough land to grow these varieties.”

– Respondent from Luukadistrict

“Some of us have not been paid since July 2013 yet we have borrowed money from banks expecting immediate payments from the factory. Interest on the borrowed money is increasing.”

– Respondent from Kaliro district

“I borrowed Shs 4,000,000 to manage my 8 acre sugarcane plantation. The factory was my guarantor because I am a registered out grower. But because the cane was not cut and bought on time by the factory, the loan has accumulated to Shs 6,000,000.”

– Respondent from Kaliro district

Large family size

The slight increase in poverty in the eastern region is partly attributed to large family sizes. In 2012/13, average household size in the east was 5.4 compared to the national average of 4.8. The total fertility rate is estimated at 7.5 compared to the national average of 6.2. Studies indicate that households with many children can become embroiled in a poverty cycle. When supporting a large number of dependents, the household head is often unable to save money for development since all his earnings are spent on the basic requirements of the family. This inability to save often means that the household has few assets, and would be unable to mitigate the impact of any substantial shock.

2.5 Beyond income poverty: the multiple dimensions of welfare

The evidence presented in the preceding sections confirms the considerable progress Uganda has made in reducing income poverty. However, poverty is a complex phenomenon involving multiple deprivations. An analysis of the multiple and often overlapping deprivations among the poor is important because progress in one dimension of human well-being is not necessarily associated with improvements in others.¹⁹

Because of its multidimensional nature, people define poverty using different measures. For example, recent evidence on subjective poverty from UNHS 2012/13 reveals only limited overlap between income poverty and subjective measures, and this is a source of concern for policymakers. While the majority of the households (92.8 percent) that are classified as income poor indeed accept to be either poor or

very poor, nearly 80 percent of the those households classified as insecure non-poor and 56 percent of the middle class classify themselves as either very poor or poor. 42.8 percent of the middle class judge themselves as being neither poor nor rich. Overall, the level of subjective poverty (70.2 percent) is higher than the income poverty rate of 19.7 percent (Table 2.4). Many Ugandans living above the poverty line still feel poor. This partly reflects their insecurity; subjective poverty is more closely related to wealth (asset ownership) than income.²⁰

Table 2.4 Perceptions about poverty for the poor, the insecure non-poor and the middle class

Self-assessed poverty status	Income poverty status			Total
	Poor	Non-poor insecure	Middle class	
Very poor	36.3	17.3	8.2	16.1
Poor	56.5	61.2	47.3	54.1
Neither poor nor rich	7.1	20.9	42.8	28.8
Rich	0.1	0.5	1.7	1.0
Total	100	100	100	100

Source UNHS 2012/13. Notes: The survey asked households heads to classify themselves using the following options: whether they are very poor, rich, neither poor nor rich, or poor. They were also asked to rate their standard of living using the same set of options.

Human wellbeing is a complex and multi-dimensional concept that cannot be summarised in one indicator such as income poverty. This is reflected in Government's continued emphasis on achieving the Millennium Development Goals (MDGs) – the comprehensive set of goals, targets and indicators spanning education; gender equality; child mortality; maternal health, HIV/AIDS, malaria and other diseases; and environmental sustainability, including access to safe water and sanitation. With just one year before the 2015 deadline, Uganda's MDG record includes a number of important achievements, reflecting the substantial resources Government has directed to front-line service delivery in the education, health and water sectors (Box 2.6), as well as the country's broader economic development.

On-going domestic and global debates, particularly surrounding Uganda's second National Development Plan (NDP II) and the Post-2015 Sustainable Development Goals (SDGs), have focused on alternative ways to monitor the multiple dimensions of poverty. One new approach that has gained considerable momentum is the multi-dimensional poverty index first proposed by Alkire and Foster (2011).²¹ This report contributes to these debates by computing the first nationally defined multi-dimensional poverty index for Uganda (hereafter UMPI). The UMPI captures multiple aspects of poverty, with education, health, access to public utilities and housing conditions, and access to information taken to comprise the four key dimensions of wellbeing. A total of 12 indicators are used to construct the index, as explained in Annex B. The remainder of this chapter presents the results at the national level,

and disaggregated by population subgroup (e.g., urban/rural, and regions) and household characteristics.²²

Box 2.6 Service delivery and progress towards the MDGs

The reach and quality of services delivered to poor households has improved significantly over the last decade. Government has promoted gender equality and empowered women, especially in education. The ratio of girls to boys in primary education increased from 93.2 percent in 2000 to 99.9 percent in 2012. Between 2006 and 2011 under-five child mortality fell from 137 to 90 per 1,000 live births. Uganda has made progress in five of the six MDG indicators for maternal health, for example between 2006 and 2011 there was a large increase in the proportion of births assisted by health workers, from 42 to 58 percent. The proportion of the population with advanced HIV/AIDS with access to antiretroviral drugs improved from 44 percent in 2008 to 83 percent in 2014. Uganda is also on track to achieve the MDGs relating to access to safe drinking water and basic sanitation.

Coherent Government communication strategies in the health and education sectors have helped to boost enrolment in UPE and USE schools; and increased the demand for anti-malaria, immunisation and family planning services. Local Government community management through Village Health Teams (VHTs) has increased emphasis on preventive health measures. The improvement in service delivery is backed by evidence from the Mini PPA:

“Almost every parish has a school; children no longer walk long distances like in the past days when Kaliro was still under Kamuli district.”

– Assistant Community Development Officer, Kaliro Town Council.

“Every sub county at least has a health centre. This has helped in medication though in most cases, patients don’t find there drugs but at least they get prescription. VHT system is also functional although they are not paid.”

– Female respondent, Kaliro district.

“We are told these days an HIV positive mother can give birth to a healthy baby without HIV infection. This was not the case in the 1990s and even early 2000s”

– Male respondent, Akworo sub-county, Nebbi district

Sources: MFPED (2013a) and Mini PPA report.

2.5.1 National performance

Table 2.5 shows Uganda's overall performance in each of the 12 individual indicators used to construct the UMPI. Between 2009/10 and 2012/13 there was progress in almost all of these non-monetary measures of wellbeing. The only exception is the indicator for sanitation, but it should be noted that alternative definitions and data sources – such as Uganda’s official MDG for improved sanitation – indicate significant progress in this area as well.²³ The most rapid progress has taken place in access to information – the number of households that do not own a radio or television, or a mobile phone has reduced by more than 10 percentage points. Other

significant improvements are observed in access to safe drinking water and the quality of housing structures.

Table 2.5 Share of households suffering each deprivation

	2009/10	2012/13	Change
Education			
All HH members have less than 5 years of schooling	21.9%	21.4%	-0.5 p.p.
At least one 6 to 15 year old not attending school	25.3%	21.3%	-4.0 p.p.*
Health			
Sick HH member did not seek treatment [^]	12.4%	11.4%	-1.0 p.p.
HH member suffered malaria/fever or respiratory illness ⁺	32.6%	30.1%	-2.5 p.p.*
Access to public utilities and housing conditions			
HH does not have safe water source within 15 minute walk	71.6%	66.9%	-4.7 p.p.*
HH has no electricity	90.1%	88.8%	-1.3 p.p.
HH does not have sole use of improved sanitation facility	25.5%	30.9%	5.4 p.p.*
HH has dirt, sand or cow dung floor	74.9%	74.9%	0.0 p.p.
Household has poor quality walls	69.1%	62.4%	-6.7 p.p.*
More than 3 household members per bedroom	43.0%	40.6%	-2.4 p.p.*
Access to information			
HH does not own a radio or television	44.8%	34.6%	-10.2 p.p.*
HH does not own a mobile phone	53.1%	38.3%	-14.8 p.p.*

*Represents a statistically significant percentage point change at 5% level of confidence. [^]Any household member that fell sick and did not seek medical treatment for any other reason other than the sickness being mild. ⁺For more one week or more in the last 30 days. For further details on the indicators see annex B.

The health and education indicators show slightly slower progress than for public utilities, housing conditions and access to information. Over the three-year period, there was only a small improvement in average educational attainment of the whole population. But more promisingly, attendance rates among school-age children improved significantly, reflecting Government's continued efforts to improve the quality of education provided by UPE schools. There was a statistically significant reduction in morbidity – as measured by the prevalence of malaria/fever and respiratory illness lasting seven or more days – which may be attributed to Government policies on malaria control, such as the distribution of free mosquito nets, and a significant reduction in drug stock outs in public health centres.²⁴

Aggregate multidimensional poverty

Table 2.6 combines these 12 indicators of wellbeing to estimate the breadth and depth of multidimensional poverty, or the share of the population classified as multi-dimensionally poor (the headcount) and the average share of deprivations experienced by the poor. A household is considered to be multi-dimensionally poor if it is deprived in at least one third (four of the 12) of the indicators.²⁵

Between 2009/10 and 2012/13, the share of the population that is multi-dimensionally poor reduced by 10.1 percentage points, from 63.9 percent to 53.8 percent; a reduction that is significantly larger than the reduction in income poverty over the same period. The depth of multidimensional poverty also reduced; the average share of deprivations experienced by households that remained poor fell by 2.2 percentage points.

Table 2.6 Change in multidimensional poverty between 2009/10 and 2012/13

	2009/10	2012/13	Absolute change 2009 – 2013
Multidimensional headcount ratio	63.9%	53.8%	-10.1 p.p.*
Average deprivation share among the poor	51.7%	49.4%	-2.2 p.p.*

*Represents a statistically significant absolute percentage change at 5% level of confidence.

2.5.2 Performance across geographic regions

First, we consider Uganda's performance across rural and urban areas. Table 2.7 shows the multidimensional headcount ratio and the average deprivation share among the poor, for both rural and urban areas.

Table 2.7 Performance across rural and urban areas

	2009/10		2012/13	
	Multi-dimensional headcount ratio	Deprivation share among the poor	Multi-dimensional headcount ratio	Deprivation share among the poor
Rural	70.6%	52.1%	61.5%	49.6%
Urban	26.0%	45.4%	26.8%	48.5%
Rural/urban gap	44.5 p.p.	6.7 p.p.	34.7 p.p.	1.1 p.p.
Rural/urban ratio	2.7	1.1	2.3	1.0

Source: Computed from UNHS 2009/10, UNHS 2012/13.

Between 2009/10 and 2012/13, rural areas registered larger reductions in both the incidence and intensity of poverty, or larger improvements in the standards of living. Multi-dimensional poverty in urban areas is much lower, but has increased slightly over the three-year period. This may be attributed to a number of factors. The share of the population residing in urban areas increased from 15 percent in 2009/10 to 23 percent in 2012/13, driven both by rural-urban migration and the reclassification of some areas as town councils and town boards. It is likely that some of the poorer rural population in 2009/10 was classified as urban in 2012/13, limiting the reduction in multidimensional poverty in urban areas. Another explanation is that rural areas have seen larger improvements in living standards than urban areas. Given that urban areas are already relatively well served, the rural population has benefited more from the extension in coverage of public services such as UPE, water and health services.

The same pattern is observed in the estimates of income poverty. Both types of poverty measure show faster reductions in rural than in urban areas. Whereas there was a decline in income poverty in rural areas from 27.2 percent in 2009/10 to 22.8 percent in 2012/13, poverty increased from 9.1 percent to 9.3 percent in urban areas. Although the urban-rural disparity in multidimensional poverty has declined, it remains significantly larger than that in income poverty, suggesting that the official poverty headcount may underestimate the difference in living standards between urban and rural areas.

As with urban and rural areas, disparities also exist between the different regions of the country (Table 2.8). The pattern observed for income poverty is largely replicated using the multidimensional poverty index: the Northern region is the poorest followed by the Eastern region while the Central region is the least deprived. Despite making significant progress, the Northern region continues to lag behind the rest of the country, regardless of the poverty measure used. The reduction in the incidence of multidimensional poverty was steepest in the west. The Eastern region saw a significant reduction in poverty, measured using the multidimensional index. This is a notable difference compared to the income poverty estimates, which suggested little progress had been made in the region.

Table 2.8 Performance across geographic regions

	2009/10		2012/13	
	Multi-dimensional headcount ratio	Deprivation share among the poor	Multi-dimensional headcount ratio	Deprivation share among the poor
Kampala	13.6%	42.7%	5.7%	43.9%
Central*	48.7%	49.9%	42.6%	46.4%
Eastern	74.7%	50.8%	64.1%	48.8%
Northern	76.1%	54.6%	69.0%	53.4%
Western	64.6%	51.7%	44.7%	48.0%

Source: Computed from UNHS 2009/10, UNHS 2012/13. *Excludes Kampala.

2.5.3 Performance across household characteristics

To see how multidimensional poverty varies by household characteristics, the population is classified along four different dimensions: by gender and education of the household head, household size, and by the household's main source of income. The results are presented in Table 2.9.

The reduction in multidimensional poverty has been slightly larger for male than female-headed households, falling by 11.4 percentage points, from 61.8 percent in 2009/10 to 50.5 percent in 2012/13. Female-headed households have nonetheless experienced a reduction in poverty measures, indicating that the reduction in overall poverty has benefited both types of households. In terms of education level, multidimensional poverty has fallen for all groups except those with 11 or more

years of education. This may be an indication of Uganda's skills mismatch, which has been associated with an increase in the unemployment rate for those with higher levels of education.²⁶

Table 2.9 Performance by Household Characteristics

	2009/10		2012/13		Change in headcount ratio
	Multi-dimensional headcount ratio	Average deprivation share among the poor	Multi-dimensional headcount ratio	Average deprivation share among the poor	
Head's gender					
Female	69.5%	53.5%	62.8%	51.7%	-6.7 p.p
Male	61.8%	50.9%	50.5%	48.4%	-11.4 p.p
Head's education					
No education	84.2%	56.6%	77.5%	54.6%	-6.7 p.p
1-4 Years	80.3%	55.3%	71.6%	51.1%	-8.7 p.p
5-11 Years	55.6%	46.8%	41.4%	44.6%	-14.2 p.p
11-12 Years	11.1%	38.4%	19.1%	38.4%	8.0 p.p
12 Years or More	13.6%	38.9%	13.3%	45.1%	-0.3 p.p
Household size					
1-3	51.0%	49.7%	42.4%	48.3%	-8.5 p.p
4-5	60.2%	51.1%	53.9%	48.7%	-6.3 p.p
6-7	68.3%	52.8%	55.0%	50.1%	-13.3 p.p
8-9	70.1%	52.9%	54.0%	51.2%	-16.2 p.p
10 or more	66.4%	50.1%	65.4%	48.0%	-1.0 p.p
Household's main source of income					
Subsistence agriculture	75.7%	51.8%	61.9%	48.6%	-13.8 p.p
Commercial agriculture	61.0%	50.6%	41.5%	41.6%	-19.5 p.p
Wage	50.8%	51.9%	46.5%	51.1%	-4.3 p.p
Self-employment	51.9%	50.7%	44.3%	50.5%	-7.6 p.p
Transfers & Others	62.5%	53.6%	57.6%	49.5%	-4.9 p.p

Source: Computed from UNHS 2009/10, UNHS 2012/13.

Consistent with income poverty findings, multidimensional poverty is higher among larger households. Poverty has fallen across households of all sizes, but the reduction has been fastest among households with between six and nine members. Slightly slower progress for households with five or few members has occurred as average household size has fallen.

The population depending on agricultural income (subsistence and commercial) experienced the largest reduction in multidimensional poverty. This should be interpreted in light of high food prices the country experienced in 2011 that has benefited households that are net food sellers.

2.5.4 Comparing monetary and multidimensional poverty measures

Table 2.10 shows how multi-dimensional poverty compares with the traditional monetary measure in terms of the groups of people that are classified as poor and non-poor. Out of all those classified as income poor (19.7 percent of the population), 83.5 percent are also classified as being poor using the multidimensional measure. Only 16.5 percent of the monetary poor are classified as non-poor using the multidimensional measure. These results, together with the broad similarities between the two measures discussed above, highlight the usefulness of the simple monetary measure to capture or proxy for a large amount of information on the multiple deprivations experienced by the poor.

Table 2.10 Overlap and differences in headcounts of multidimensional and monetary poverty

		Monetary poverty		
		Non-Poor	Poor	Total
Multidimensional poverty	Non-poor	42.9% (53.6%)	3.3% (16.5%)	46.2%
	Poor	37.4% (46.5%)	16.4% (83.5%)	53.8%
	Total	80.3% (100%)	19.7% (100%)	100%

Source: Computed from UNHS 2012/13. Note: the figures in parentheses show the distribution by multidimensional poverty status of monetary poor and non-poor households.

On the other hand, the multidimensional index is a more comprehensive measure of wellbeing, providing a higher threshold for the minimum acceptable living standards. A large proportion (46.5 percent) of households classified as income non-poor are poor in the other dimensions considered. This helps to explain the high prevalence of self-defined subjective poverty discussed above, and underlines that Government efforts to improve the welfare of Ugandans cannot focus only on the 19.7 percent of the population living below the poverty line. In this regard, Government's broader focus on economic growth and structural change is already bearing fruit. The multidimensional poverty measure indicates that Uganda has made more rapid and inclusive progress than suggested by the income poverty estimates.

Notes for chapter 2

¹ Household consumption increased across the distribution, such that poverty levels in 2012/13 are lower than those in 2009/10 regardless of the choice of poverty line.

² This trend is partly explained by the creation of new districts which have resulted in gazetting many new administrative areas into Town Councils and Town Boards.

³ Poverty rates estimated using household surveys are subject to sampling error. Given the small change in the estimated urban poverty rate (from 9.1% in 2009/10 to 9.3% in 2012/13), it is not possible to say with certainty that poverty in urban areas increased (i.e. the increase is not statistically significant).

⁴ See ILO Research paper no 6, 2013

⁵ UNHS 2012/13.

⁶ Detailed analysis of econometric results are presented in the annex in table A.2

⁷ For similar results, see Onyeiwu and Liu, (2012) (for Kenya and Nigeria) and Talukder and Chile (2013).

⁸ A significantly share of cross-border trade is informal.

⁹ Budget speech 2014/15, Ministry of finance planning and economic development.

¹⁰ See econometric results in annex A.

¹¹ Mwanje D, 2014 "Impact of Road Transport Infrastructure Investments on Economic Growth and Poverty in Uganda", Phd Thesis Makerere university, College of Business and Management Sciences

¹² National roads have substantial economy-wide benefits that impact poverty indirectly through a number of channels which may not be fully captured by this estimate.

¹³ Background to the budget 2012/13

¹⁴ Background to the budget 2012/13

¹⁵ PRDP cover eight sub regions of West Nile, Acholi, Bunyoro, Lango, Teso, Karamoja, Elgon, and Bukedi with a total of 55 District Local Government and 9 municipalities.

¹⁶ Uganda Demographic and Health Survey 2011.

¹⁷ See annex A for more details.

¹⁸ See annex A.

¹⁹ Uganda's MDG Report 2010 affirms this observation.

²⁰ Garry and Marks (2013); Garry (2005); DoriPosel& Mike Rogan (2013)

²¹ Alkire and Foster (2011) approach is useful for several reasons. Notably, in identifying who is multi-dimensionally poor the approach uses two thresholds or 'cutoffs', one that is dimension-specific and another that relates to the number of dimensions in which an individual has to be deprived to be considered poor. The approach also satisfies several desirable properties, or axioms, including decomposability, which makes it particularly suitable for policy analysis and targeting. Further details on the Alkire and Foster methodology are presented in annex B.

²² Dominance analysis is also carried out to verify the results' robustness for each of the poverty measures estimated for each value of poverty cut-off.

²³ MFPED (2013a). According to the official MDG indicator, the proportion of the Ugandan population using an improved sanitation facility increased from 72.7% in 2006 to 75.7% in 2011. The MDG indicator draws on data from the Uganda Demographic and Health Surveys (UDHS), while table 2.5 is based on the UNHS. The UDHS uses a standardised questionnaire in each survey round and is therefore more reliable for estimating trends over time. Nonetheless, poor sanitation continues to be a major challenge, associated with very high economic costs, estimated at UGX 389 billion annually. Water and Sanitation Program (2012). Economic Impacts of Poor Sanitation In Africa.

²⁴ MFPED (2013a).

²⁵ More precisely, a household is considered to be multi-dimensionally poor if it is deprived in 33 percent of the total weighted indicators. This poverty cutoff value of 33% was selected following previous authors like Levine, Muwonge and Batana, (2011), Alkire and Santos (2010) and Alkire et.al (2014) who use a similar value.

²⁶ MFPED (2014b).

CHAPTER 3: STRUCTURAL CHANGE AND POVERTY REDUCTION

Since the early 1990s, Government's overarching development strategy has prioritised the maintenance of macroeconomic stability and an enabling environment for private-sector-led growth. This approach facilitated rapid economic recovery, greatly improved allocative efficiency across the economy and allowed significant resources to be channelled to social sectors such as health and education to address gaps in service delivery, but as economic activity expanded a number of bottlenecks emerged. To address these constraints and sustain economic progress, Uganda's development strategy is now focused on realising the benefits of structural change, particularly the creation of productive employment in high-value activities. The National Development Plan (NDP) introduced in 2010/11 emphasises "a quasi-market approach ... to evolve a meaningful working relationship between the public and private sectors as a means to forge ahead".¹ Government is taking an increasingly active approach, prioritising infrastructure provision and other active interventions to catalyse job creation in high-value sectors such as agro-processing. The movement of workers from low-productive sectors – such as subsistence agriculture – to modern industries has the potential to increase and sustain economic growth and simultaneously reduce poverty.

Structural change is both necessary for and an outcome of rapid economic growth, but the uneven expansion of different economic sectors will have distributional consequences. Market imperfections – such as limited access to credit – can lead to uneven economic growth across sectors. This type of growth may remain uneven if the growing sectors are capital intensive or heavily reliant on a small number of educated workers, such that the benefits of growth are distributed less widely. Positive structural change requires patterns of change that are inclusive, generate employment and reduce poverty. To help ensure Uganda's growth expands the opportunities available to poor households, this chapter explores the linkages between structural change and poverty reduction.

This chapter provides the definition of structural change used in the report and gives an overview of recent structural changes in the Ugandan economy. An economy-wide model is used to explore the sources of structural change and the implications for poverty reduction. The final two sections contain more detailed micro analysis of structural changes within the agricultural and non-agricultural sectors respectively, based mainly on qualitative evidence collected during the 2014 Mini Participatory Poverty Assessment (PPA).

3.1 What is structural change?

Developing economies are characterised by large productivity gaps between different parts of the economy. When workers move from less productive to more productive sectors, overall productivity increases, incomes expand and the economy grows. This structural transition is complete when labour productivity in agriculture is comparable to other sectors, as is the case in most advanced economies. Countries that manage to pull out of poverty and get richer are usually those that are able to diversify away from agriculture and other traditional products. Socioeconomic transformation depends on the rate at which this change takes place.

Many natural resource-rich countries have experienced a movement from agriculture to resource extraction and development. In these economies, capital intensive extractive sectors have tended to dominate output but have not provided sufficient jobs to significantly reduce poverty. Positive structural change in Uganda will require the diversification away from agriculture to more dynamic labour-intensive activities, and the reallocation of oil revenues to support activities that can create productive jobs.

This type of structural change will involve the rise of new, more productive activities, and the reallocation of labour from low to high productivity sectors. Given underemployment in the agricultural sector, there is scope for excess labour to move into non-farm activities while maintaining the growth of agricultural output, particularly if structural change is accompanied or driven by improvements in agricultural productivity. But with the reallocation of labour, high-value sectors are likely to grow more rapidly than traditional activities, meaning the share of agriculture in total GDP is likely to fall.

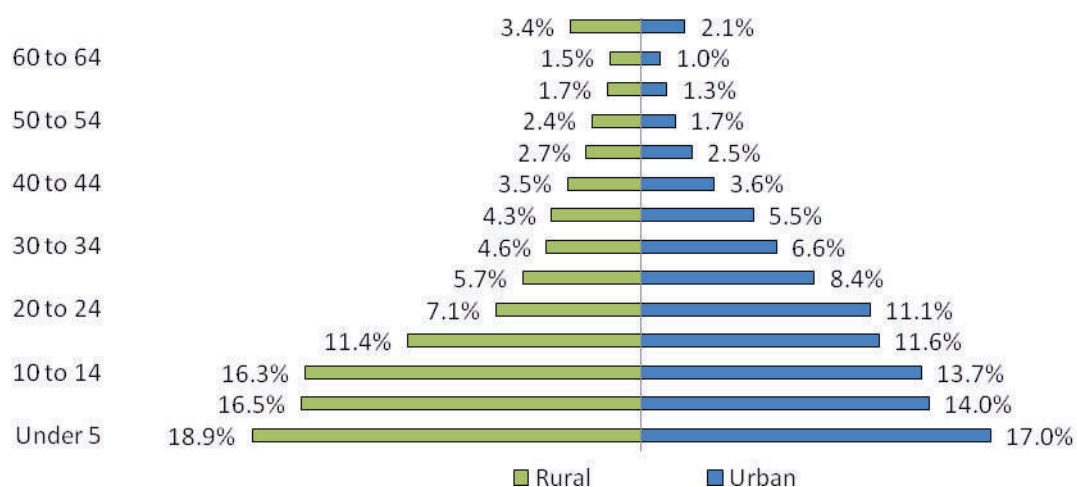
This report defines structural change as shifts in the sectoral share of employment and GDP in favour of more productive and dynamic activities. The distribution of workers across agriculture, industry and service sectors depends on changing modes of production within these broad sectors, including the shift from subsistence-orientated to commercial agriculture and from self and family employment to greater wage employment. Structural economic change is closely related to social and demographic changes. Most countries that have experienced structural change have seen rapid urbanisation as people migrate from rural to urban areas, and a demographic transition characterised by rapid growth of the working age population. In all countries, inter-sectoral labour mobility has predominantly been an intergenerational process, and structural change is therefore often accelerated by rapid population growth and the development of new productive capacities and skill sets.

3.2 Structural Change in Uganda: An Overview

Uganda’s strong macroeconomic management since the 1990s has ensured rapid and inclusive economic growth, which has been accompanied by significant structural change in the sectoral and occupational composition of the labour force. In 1992/3, 54 percent of households relied exclusively on subsistence agriculture;² but this had fallen to 26 percent by 2012/13.³ This shift away from the agricultural sector has occurred both through rural-to-urban migration, and diversification within rural areas. The proportion of Uganda’s population living in urban areas has doubled, from 12 percent in 1992/3 to 24 percent in 2012/13. Family agriculture remains the most important source of income in rural areas, but non-agricultural household enterprises and wage employment have emerged as important income sources, on average accounting for 15 percent and 14 percent of household income respectively.⁴

These structural shifts in Uganda’s labour market have been facilitated by improved service delivery, and Uganda’s impressive progress towards the MDGs. For instance lower under-five mortality, which fell by 34 percent in just five years between 2006 and 2011,⁵ has contributed to the rapidly growing labour force. Access to education has improved dramatically since Government introduced Universal Primary Education in 1997. 49 percent of the youth aged 18 to 30 have now completed primary school or higher, compared to just 21 percent of those aged 45 to 65.⁶ Uganda’s younger and better educated labour force is increasingly seeking opportunities in the non-agricultural sector, often migrating to Uganda’s rapidly expanding urban centres. The impact of rural-to-urban migration is evidenced in the age composition of the rural and urban populations. Urban areas have a significantly higher concentration of individuals aged between 15 and 44, while rural areas have a greater share of the population aged under 15 or over 45 (Figure 3.1). Nationally, there are 119 dependents for every 100 Ugandans of working age. The dependency ratio is as high as 129 in rural areas, but only 91 in urban areas.⁷

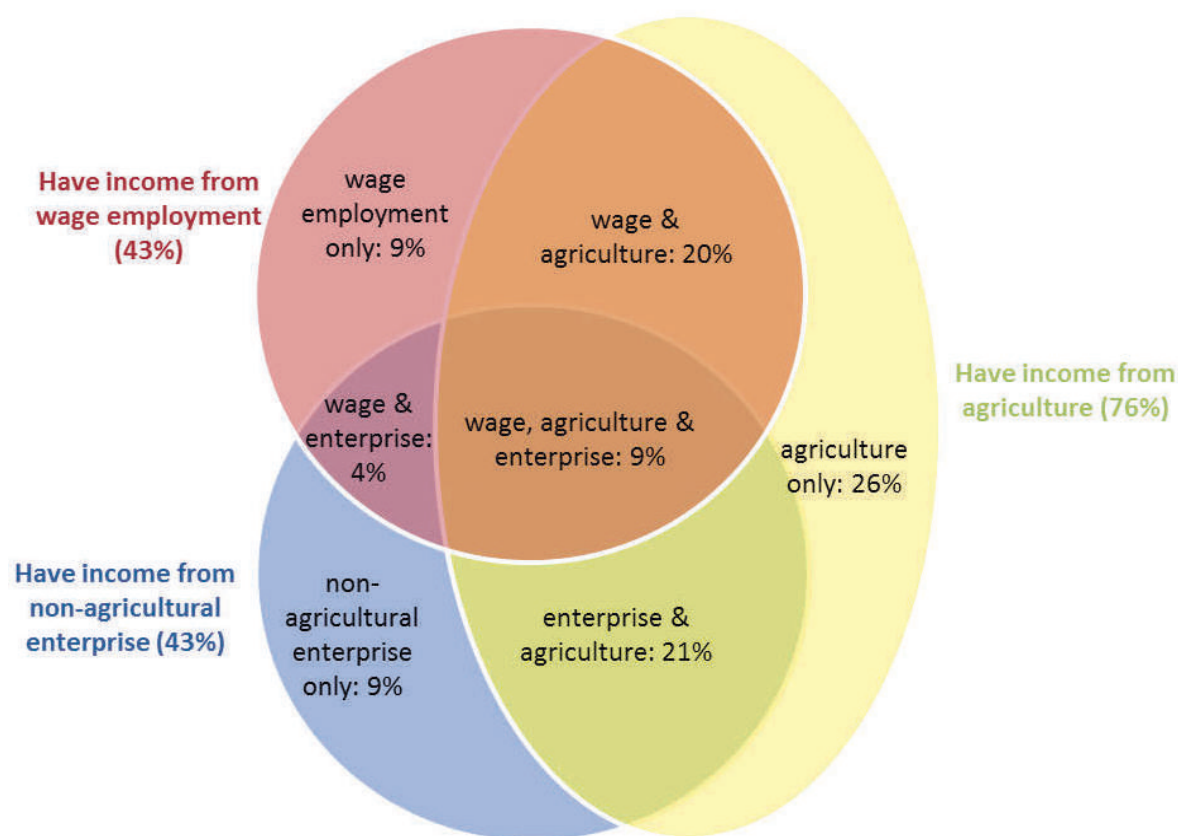
Figure 3.1 Rural and urban population by age group



Source: Uganda National Household Survey 2012/13.

There has been considerable economic diversification over the last 20 years, with households today significantly more likely to have multiple sources of income. 76 percent of households still earn some income from agricultural production, but it is the most important source of income for only 42 percent of households, and only 26 percent of households rely on agriculture exclusively. Although 72 percent of workers are primarily engaged in agriculture, only 54 percent of the total hours worked are in agricultural activities.⁸The dramatic growth of off-farm employment over the last 20 years has helped to reduce underemployment and supplement and stabilise household incomes— over 70 percent of households earn income from either wage employment or non-agricultural enterprises (Figure 3.2). These important changes are not clear when observing the sectoral composition of the workforce by main activity, as a large number of workers engage in multiple activities in different sectors.⁹

Figure 3.2 Household income sources



Source: MFPEd (2014), based on Uganda National Household Survey 2012/13.

Wage employment has expanded significantly over the last decade. The number of wage employees in registered firms increased from 544,723 in 2001/02 to 849,461 in 2010/11, or at an average annual rate of 5.1 percent.¹⁰The creation of non-agricultural wage jobs has been more rapid than in most other African countries,¹¹ but the share of the working population in formal wage employment remains low.

The most common types of activity remain own-account work and unpaid-family work; 80 percent of the labour force works primarily for themselves or their families, mainly in the agricultural sector. In 2012/13, only 11 percent of the working population was primarily engaged in non-agricultural wage employment. Self-employment is often the last resort for individuals who cannot find regular wage employment, although in some cases individuals actively choose to work for themselves over a wage job (Box 3.1).

Box 3.1 Perceptions of self and wage employment

“Our chances of getting office jobs are diminishing every year so we choose to engage in the service sector where you can be your own boss. Ideally, we would have wished to be doing something bigger but the conditions in our country dictate otherwise, so we have no other option but to sell computer chips and related items.”

– Respondent from Rubaga Division, Kampala.

“When I look back at the time I spent working in a bank, I regret it so much. I was working for very long hours and earning peanuts. Now, I sell imported clothes (jeans and skirts) from China and am earning three times what I used to earn from the bank job. I wish I had known this earlier.”

– Respondent from Central Division, Kampala.

Over recent years, job creation has only just kept pace with the growing working-age population. Between 2009/10 and 2012/13, the total number of wage jobs grew by 4.2 percent per year, compared to a 4.1 percent annual expansion in the working-age population (Error! Reference source not found.). Most wage jobs created were casual and often temporary. The majority were in the agricultural sector. Farm labourers are among the most vulnerable groups – 27 percent of agricultural wage workers live below the poverty line, 10 percentage points higher than the average for all workers. Rather than positive structural change, these labour market trends are in part driven by negative push factors, including growing land constraints in some rural areas (Box 3.2).

Table 3.1 Number of regular and casual wage jobs

	2009/10	2012/13	Annual growth
Regular wage jobs (main activity)	2,788,042	2,700,047	-1.1%
Agriculture	803,909	1,060,051	9.7%
Non-agriculture	1,984,133	1,639,996	-6.2%
Casual wage jobs (secondary activity)	750,958	1,292,384	19.8%
Agriculture	547,412	952,121	20.3%
Non-agriculture	203,546	340,263	18.7%
All wage jobs	3,539,000	3,992,431	4.1%
Agriculture	1,351,321	2,012,172	14.2%
Non-agriculture	2,187,679	1,980,259	-3.3%
Working-age population	14,599,000	16,502,000	4.2%

Source: Uganda National Household Survey 2009/10 and 2012/13. Note: Regular wage jobs are defined as wage jobs that were reported as the main activity in the previous 12 months. Casual wage jobs are wage jobs that were reported as secondary or tertiary activities in the previous 12 months.

Box 3.2 Drivers of casual wage employment

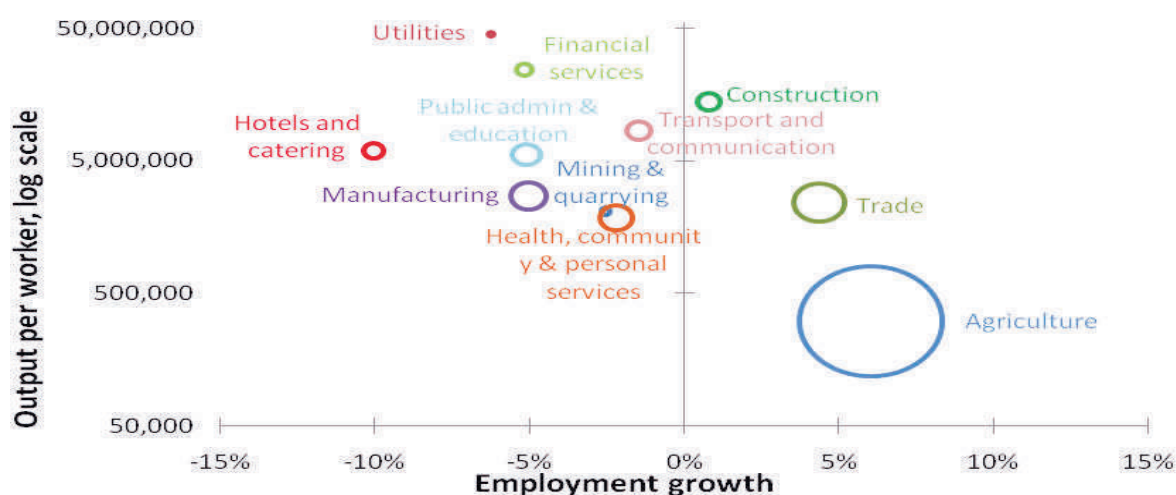
“Having no land is a problem that my parents face. We have no land to cultivate so we keep on doing ‘Lejaleja’ (casual work) for survival”.

– Female respondent from Nakapiripirit district

Although fewer workers are reliant on the agricultural sector, many have entered petty trade, the informal service economy or other activities with limited scope for sustained productivity and income growth. There remain very large discrepancies in labour productivity across different parts of the economy. In 2012/13, average value added by each worker in the manufacturing sector was 9 times value added per worker in the agricultural sector. Relative to the agricultural sector, labour productivity was 46 times higher in the construction sector and 80 times higher in financial services. 83 percent of workers primarily engaged in the agricultural sector work fewer than 40 hours per week.¹²

Only a small proportion of excess agricultural labour has found employment in high-value sectors. Over recent years, the number of workers in lower-productivity sectors – such as agriculture and trade – has expanded, while the number in many higher-value activities has fallen (Figure 3.3). Structural change is usually an intergenerational process, but four in every five Ugandan youth that enter the labour market end up working for themselves or their family, most often in the agricultural sector.¹³ However, with large improvements in human capital and significant movement of workers into urban areas, Uganda’s labour force is much better placed to exploit new opportunities. Government’s current efforts to transform agricultural production and enhance agricultural productivity; and to improve the skills and capabilities of the youth and expand productive employment opportunities for the utilisation of these skills and capabilities; will also help to encourage more positive and inclusive patterns of structural change.

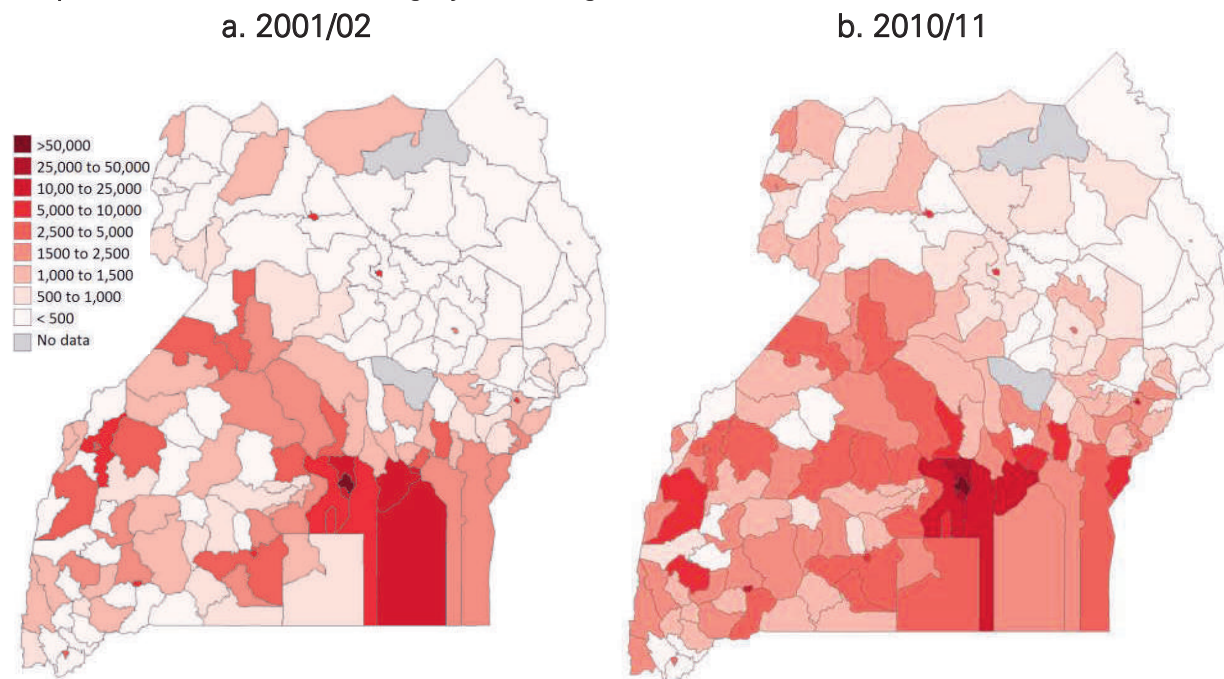
Figure 3.3 Productivity and employment growth by sector, 2009/10 to 2012/13



Source: MFPED (2014b). Note: The area of each bubble is proportional to primary employment in each sector in 2012/13. Output per worker is measured in 2002 shillings.

The rate of structural change is limited by inadequate job creation in high-value sectors. Uganda's economic growth over the last 20 years has in large part been driven by high-value services such as telecommunications, finance and real estate – activities which are not employment intensive and instead rely on a relatively small number of skilled workers. Manufacturing and construction have also grown strongly, but still account for only 4.3 percent and 1.9 percent of the workforce respectively.¹⁴ Uganda's unemployment rate currently stands at 9.4 percent. Accelerating the progress made over the last two decades relies on addressing the binding supply-side constraints identified in the NDP – most notably the inadequate stock of physical infrastructure which increases the cost of transport and energy. Job growth has been particularly strong along the major transport corridors in which Government has invested heavily (Map 3.1).

Map 3.1: Number of wage jobs in registered firms

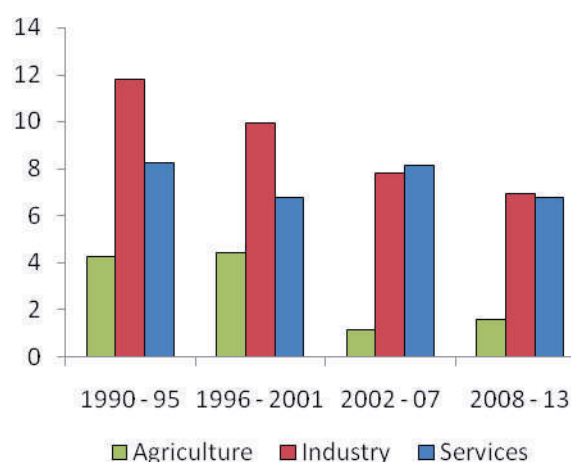


Source: Census of Business Establishments.

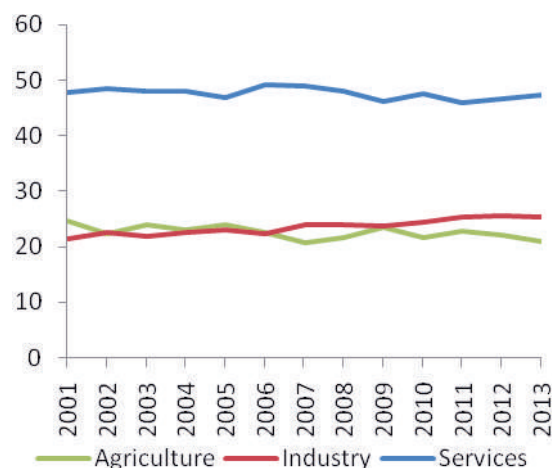
Agricultural productivity growth is a central component of structural change; to compensate for the movement of workers out of the sector each worker that remains must produce more. The growth of agricultural output has slowed to below 2 percent per year on average over the last decade (Figure 3.4a). This is despite a significant increase in the land under cultivation – agricultural land has increased from around 60 percent of Uganda's total land area in 2000 to over 70 percent currently. Agricultural production has grown more slowly than the rest of the economy, but this has been offset by a steady increase in the price of agricultural goods. Given the rising price of agricultural products, the sector has accounted for an almost constant share of economic activity, fluctuating between 21 percent and 24 percent of GDP over the last decade with no clear trend (Figure 3.4b).

Figure 3.4 GDP by sector

a. Real average annual growth, %



b. Share of GDP, %



Source: UBOS.

Rising food prices reflect increased demand – particularly from growing urban centres and new regional export markets such as South Sudan – which has helped to reduce poverty in rural areas. But higher food prices also reflect lower growth in agricultural production resulting from stagnant agricultural productivity and the movement of more productive youthful workers out of the sector (Box 3.3). This has reduced rural income growth, increased the cost of living in urban areas and hindered structural change.

Box 3.3 Drivers of rising food prices

“The youth have left cultivation to their old parents, you find that in a family of people it is only the woman doing cultivation, the youth have gone to towns and production of food has declined because there are many eaters but few producers. That is what has reduced food in the villages and this has increased prices of food in the towns because everybody wants to eat.”

– Male respondent, Bushenyi district

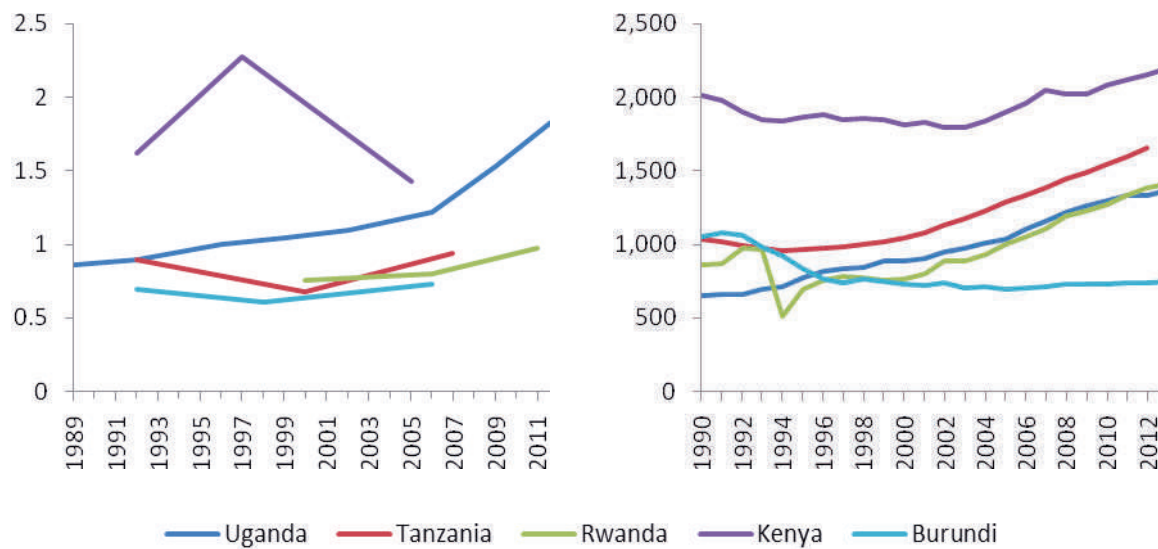
To exploit the opportunity provided by Uganda’s growing non-agricultural population, it is important that more households take up farming as a business, and use land more efficiently by increasing the use of inputs such as improved seeds and inorganic fertilisers, improving soil fertility management, and adopting new practices and modern equipment.

3.3 Growth, structural change and poverty reduction

Compared to most other African countries, Uganda’s growth over the last 20 years has been remarkably inclusive. Although Uganda ranks below Tanzania and Rwanda in terms of GDP per capita (Figure 3.5b), median income (estimated using household surveys) is much higher in Uganda (Figure 3.5a). This indicates that a much larger share of Uganda’s national income accrues to the bottom half of the population.¹⁵

Furthermore, the poorer half of the population have felt the benefits of growth to a much greater extent in Uganda than in other regional economies, reflecting the country’s impressive poverty-reduction record. Since 2005/6, Uganda’s real median income has grown at an average annual rate of 6.4 percent, in line of GDP growth, whereas the benefits of growth in many other countries have accrued to the relatively well off, leaving median income almost unchanged.

Figure 3.5 Median and mean income in Uganda and other EAC economies
 a. Median per capita consumption, constant US\$ per day (PPP) b. GDP per capita, constant US\$ (PPP)



Sources: Dykstra, Dykstra and Sandefur (2014); UNHS 2012/13; and World Bank, World Development Indicators.

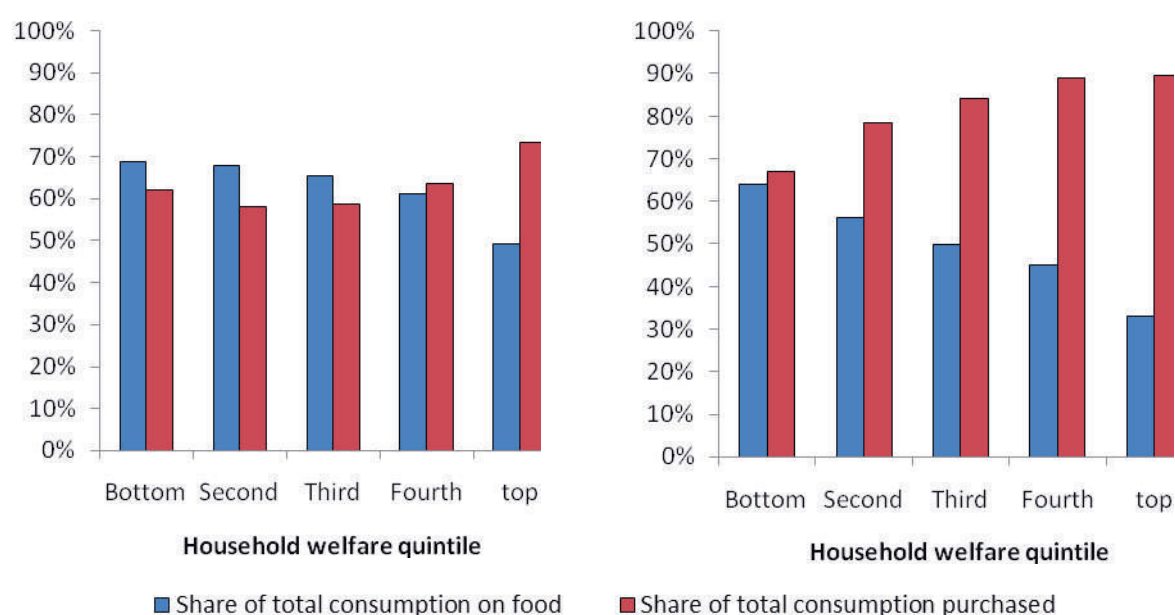
Economic growth is necessary to reduce poverty, but the source of growth and the associated pattern of structural change determine the extent to which poor households share the benefits. It is important to understand why the pattern of growth in Uganda has had a large positive impact on the poor and to assess the sustainability of this trend. The remainder of this section provides a framework to analyse the sources of growth and structural change and the mechanisms through which this influences poverty reduction.

3.3.1 Drivers of structural change

All developing countries that have maintained rapid growth have experienced significant changes in economic structure, particularly a decline in the relative size of the agricultural sector, and the rapid expansion of urban areas and the working-age population. Expansion of the non-agricultural sector is both a cause and a consequence of economic growth, urbanisation and demographic change, but a country’s pattern of structural change is also heavily influenced by interactions with the global economy and Government interventions to support particular economic activities.

As incomes rise, household consumption patterns change. Poorer households tend to spend a larger share of their income on food. In Uganda, food accounts for 69 percent of consumption among the poorest rural households, but only 33 percent among the richest urban households (see Figure 3.6). Better-off households are also more likely to purchase goods and services rather than rely on own production. Economic growth therefore increases the size of the domestic market and the demand for non-agricultural goods grows more than the demand for agricultural goods. This is an important reason why Uganda’s industrial and service sectors have grown more rapidly than agriculture over the last 20 years.

Figure 3.6 Composition of household consumption by welfare quintile
a. Rural households **b. Urban households**



Source: UNHS 2012/13.

Significant investment is needed for modern high-value economic sectors to expand. As incomes increase, households tend to save and invest more, but this must be complemented by improved financial intermediation and greater Foreign Direct Investment (FDI). Investment returns must also be sufficiently attractive and secure, which depends on a wide range of factors such as the macroeconomic and business environment, transport and energy infrastructure, education of the labour force, the availability of production inputs and market potential.

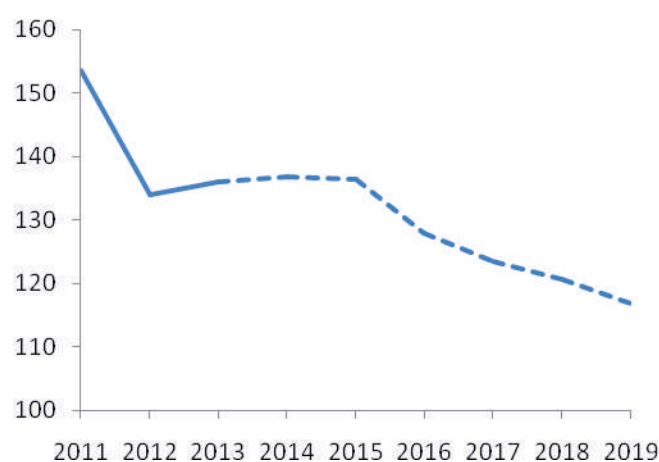
Uganda performs relatively well in these areas. Inward FDI as a share of GDP is higher than in most neighbouring economies; deposits in financial institutions increased from 14 percent of GDP in 2006/7 to 20 percent of GDP in 2013/14; and the country ranks 42 out of the 189 countries in the World Bank’s 2014 Doing Business indicator for ‘Getting Credit’, compared to the average rank for African countries of 113. These factors have facilitated a gradual rebalancing towards greater investment – the growth of total investment in the economy averaged 8

percent per year in real terms over the last decade, compared to 6 percent annual growth in consumption. A number of new industries such as telecommunications, flower and fish exports have also emerged over the last decade, reflecting the diffusion of technological knowledge and management expertise.

In addition to the investments required to encourage the growth of high-value economic sectors, successful structural change requires continued growth in agricultural production as the agricultural labour force declines. Rapid agricultural productivity growth – or a ‘green revolution’ – is therefore a fundamental part of the industrialization process. Bottlenecks in the agricultural sector may give the appearance of structural change – as the share of agriculture in GDP declines – but this can in fact militate against strong growth in the modern non-agricultural sector. Low agricultural productivity reduces rural incomes and the domestic market for non-agricultural goods and services, and leads to higher food prices, higher living costs for urban workers and a less competitive non-agricultural sector.

Uganda’s pattern of structural change is strongly affected by external factors and the nature of the country’s integration into the regional and global economy. Sectors in which Uganda has or can create a comparative advantage will grow more rapidly. Historically, Uganda’s main comparative advantage has been in the production of unprocessed agricultural commodities, but this is starting to change. Global prices of agricultural raw materials have fallen substantially since 2011, and this trend is expected to continue over the medium term. Global demand for industrial inputs is falling as large emerging economies, particularly China, restructure to reduce their reliance on investment and manufactured exports. Global prices for most industrial inputs are expected to fall significantly from 2015 (see Figure 3.7). These global trends will make it less attractive for Uganda to export agricultural raw materials, facilitating efforts to add value to agricultural commodities within the country, while providing a boost to many industries that rely heavily on imported inputs. These global developments will be reinforced by Uganda’s further integration into the regional economy. Within the EAC market Uganda exhibits a stronger comparative advantage in processed goods such as vegetable oils, building materials and other industrial products.¹⁶ The regional market therefore offers opportunities for Uganda to further diversify into more sophisticated products.

Figure 3.7 Agricultural raw materials, projected global price index (2005=100)



Source: IMF World Economic Outlook Database, April 2014. Note: Includes timber, cotton, wool, rubber, and hides price indices.

Government plays a central role in determining Uganda's pattern of comparative advantage and structural change. The industrial sector and modern tradable services are known to have large potential to drive economic growth and job creation, but face a number of bottlenecks that only Government can address, including inadequate transport and energy infrastructure. Given limited resources, each public intervention favours some economic activities over others. For instance, if Government grants a tax exemption or electricity subsidy to manufacturers, there will be less public resources available to invest in rural feeder roads to benefit the agricultural sector. Given such tradeoffs, it is critical to identify the economic activities with the greatest potential to drive economic growth and poverty reduction.

3.3.2 The impact of structural change on poverty

The previous section identified the following factors as among the most important drivers of growth and structural change in Uganda:

1. Private investment in modern high-value sectors, including FDI;
2. Agricultural productivity growth;
3. International trends that affect Uganda's comparative advantage; and
4. Government interventions to support sectors with high growth and employment potential.

This section explores these different sources of structural change, and the implications for poverty reduction. Possible trajectories of Uganda's structural changeup to 2025 are simulated using an economy-wide model. The alternative scenarios, capturing the different sources of growth and structural change described

above, are summarised in Table 3.2. The economy-wide model captures the income and consumption patterns of different household groups and a microsimulation model is used to evaluate the poverty effects of macroeconomic changes. The scenario analysis is complemented by an exploration of Uganda's current economic structure, particularly the linkages between different economic activities as captured in the Social Accounting Matrix.¹⁷

Table 3.2 Summary of structural change scenarios

Scenario	Description
Baseline	Economy grows in line with current projections. Growth recovers to 7 percent by 2015/16 and remains at this level over the medium term. FDI evolves according to current official projections and global prices are assumed to remain constant.
High FDI	FDI into Uganda permanently doubles from 2014/15, relative to the baseline scenario. Under this scenario FDI averages around 8 percent of GDP, compared to around 4 percent in the baseline scenario.
High agricultural productivity	Agricultural total factor productivity growth increases by two percentage points a year from 2014/15, relative to the baseline scenario. This is consistent with the experience of developing countries that have undergone rapid structural change, particularly in Asia. ¹⁸
Low commodity prices	The world price of agricultural commodities declines in line with IMF projections (see Figure 3.8 above). This contrasts to the baseline scenario, where global prices are assumed to remain constant.
High industrial productivity	These scenarios reflect Government interventions to support high-potential non-agricultural sectors. Total factor productivity growth in manufacturing and construction is increased by two percentage points per year from 2014/15. Total factor productivity growth in the services sector is increased by one percentage point per year, reflecting the lower scope to increase productivity in non-tradable activities. Simulations isolating particular industrial sub-sectors (such as agro-processing) were also conducted.
High services productivity	

Table 3.2 reports the poverty impact of each of these scenarios. Agricultural productivity growth has by far the largest potential to improve the lives of those living in poverty and those not in absolute poverty but still vulnerable. The poverty effects of growth and structural change can be direct or indirect. Agriculture is a source of income for a large majority of the population, but also has a strong income multiplier effect. Agricultural productivity growth is strongly associated with increased consumer demand and the movement of labour out of the sector, and this has important indirect economy-wide effects which help to accelerate growth and reduce poverty. In contrast, low global commodity prices, which creates headwinds for Uganda's farmers, leads to slower poverty reduction relative to the baseline scenario.

Table 3.3 Economic growth and poverty reduction under alternative scenarios, 2013 to 2025

	GDP growth	Poverty rate in 2025	Insecurity rate ⁺ in 2025	Poverty elasticity of growth [◇]	Insecurity elasticity of growth [*]
Baseline	6.98%	5.1%	41.5%	1.52	0.49
High FDI	7.40%	4.3%	34.4%	1.60	0.66
High agricultural productivity	8.04%	3.8%	29.7%	1.60	0.76
Low commodity prices	7.02%	5.9%	43.8%	1.37	0.43
High industrial productivity (all)	7.42%	4.3%	33.6%	1.61	0.69
Agro-processing	7.10%	4.6%	38.0%	1.61	0.58
Other manufacturing	7.14%	4.9%	39.4%	1.53	0.54
Construction	7.13%	4.9%	38.9%	1.54	0.55
High services productivity	7.39%	4.3%	33.8%	1.61	0.69

Source: MAMS simulation results. Notes: ⁺The proportion of the population below twice the poverty line. This was 63.0 percent in 2012/13. [◇]Calculated as the average annual percentage fall in the poverty rate divided by the average GDP growth rate. ^{*}Calculated as the average annual percentage fall in the insecurity rate divided by the average GDP growth rate.

To understand the results reported in Table 3.2, it is helpful to think about the transmission mechanisms between structural change and poverty reduction. There are multiple channels through which growth and structural change affect the welfare of poor households:

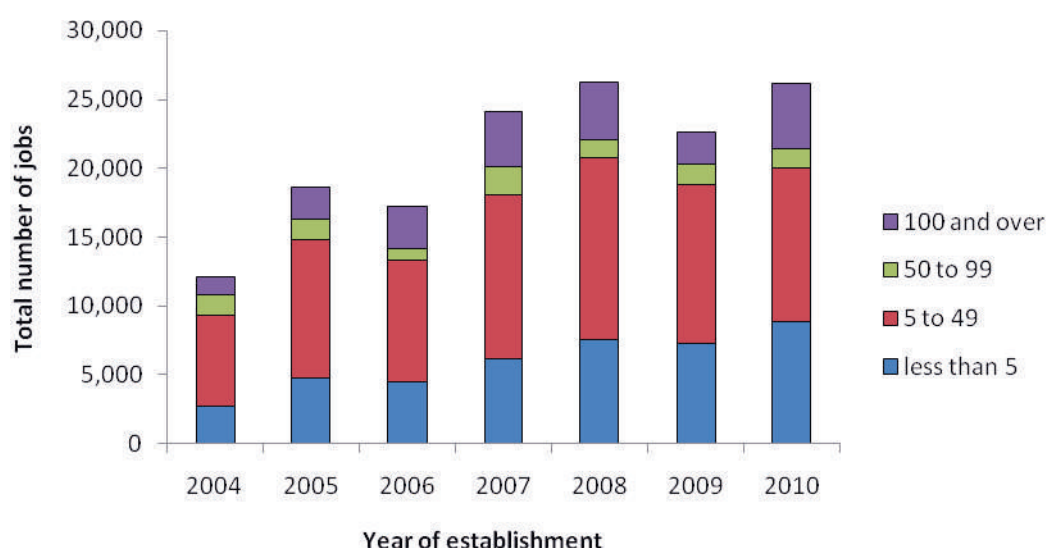
1. **Employment creation.** Investment in high-value sectors reduces poverty directly by generating jobs to employ poor individuals.
2. **Indirect channels.** In many cases, the poor are not directly involved in high-growth sectors but stand to benefit indirectly. For instance:
 - a. **Intersectoral linkages.** Economic growth in one sector increases the supply of production inputs and creates demand for other sectors. This can take the form of **production linkages** (growth of the hospitality industry increases the demand for food products, for example), or **consumption linkages** (income growth in urban areas creates a larger market for agricultural goods). Income growth also means households will save a higher proportion of their income, helping to finance higher **private investment** and the accumulation of productive assets. These effects often lead to relative **price changes** – higher food prices are one way that farmers benefit from the growth of the non-agricultural economy.
 - b. **Intergenerational mobility.** Poor individuals often lack the appropriate skills to participate in high-value modern sectors, but growth creates opportunities that their better-educated children will be able to exploit. In all countries, structural change of the labour market has mainly been an intergenerational process.
 - c. **Public redistribution.** Economic growth leads to a corresponding increase in tax revenues, which Government can use to deliver social services or invest in infrastructure. The poor account for a small share of total tax

revenue, but a significant share of the benefits associated with social services such as health, education and social protection.

Employment creation

The creation of jobs to employ poor individuals is a direct way economic growth and structural change reduces poverty. However, this factor alone cannot explain Uganda's successful poverty reduction record. In recent years new business ventures (excluding informal microenterprises) have created around 25,000 jobs a year (Figure 3.8). Even if all these opportunities are taken by the poor, this would only account for 0.1 percent of the 2.5 million working adults currently living below the poverty line. This indicates that Uganda's dramatic reduction in poverty is mostly explained by indirect benefits of the expansion in economic activity, such as increased demand for agricultural goods, greater off-farm income-earning opportunities, and higher tax revenue to finance public investment and social service delivery.

Figure 3.8 Employment creation by firm employee size



Source: Census of Business Establishments 2010/11. Note: Includes firms with annual turnover of more than UGX 10 million.

A large increase in FDI would accelerate GDP growth by almost half a percentage point, but this is not projected to generate a significant number of additional jobs (Table 3.4). Many foreign investment projects are capital-intensive, and even under the high-FDI scenario the number of jobs created is small relative to the size of Uganda's labour force. FDI does help to reduce poverty however (see Table 3.3). This mainly occurs through indirect linkages rather than the jobs created directly. For example, foreign investors demand inputs supplied by local firms, which creates income-earning opportunities down the value chain and increases demand across the economy. The jobs created by foreign firms may not affect most poor households directly, but these indirect effects have larger benefits. There does not

have to be a tradeoff between poverty reduction and job creation. Non-agricultural job creation increases most under the high-agricultural-productivity scenario, which is also associated with the largest poverty reduction gains.

Table 3.4 Economic growth and employment creation under alternative scenarios, 2013 to 2025

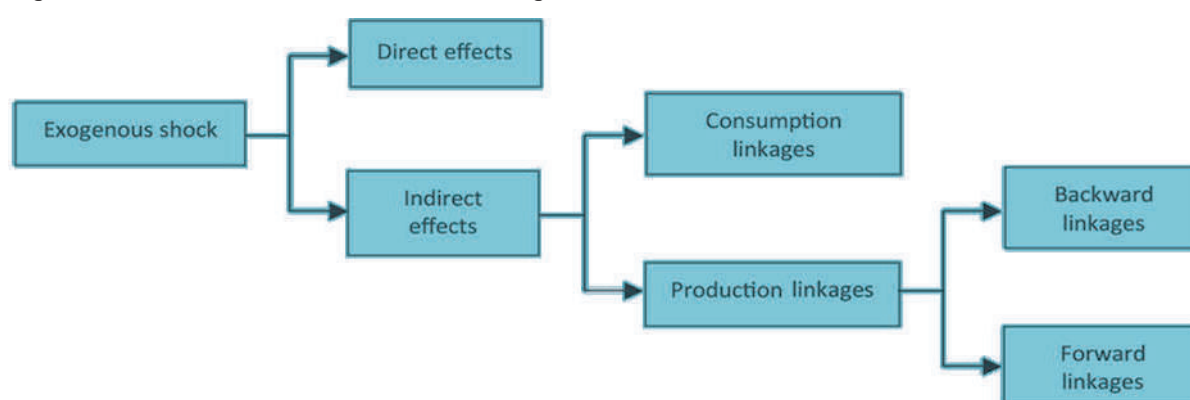
	GDP growth	Non-agricultural employment growth	Employment elasticity of growth
	(a)	(b)	(b)/(a)
Baseline	6.98%	5.20%	0.74
High FDI	7.40%	5.25%	0.71
High agricultural productivity	8.04%	6.29%	0.78
Low commodity prices	7.02%	5.57%	0.79
High industrial productivity	7.42%	5.13%	0.69
High services productivity	7.39%	5.00%	0.68

Source: MAMS simulation results.

Intersectoral linkages

The simulation results in the previous section demonstrate that growth in the agricultural sector can result in greater positive structural change than higher FDI or productivity in the non-agricultural sector, and leads to significant welfare improvements for the poorest households. This is a reflection of the indirect linkages between agriculture and the rest of the economy which give rise to a ‘multiplier effect’ that amplifies the benefits of agricultural growth. Indirect linkages can be separated into production and consumption linkages (Figure 3.9).

Figure 3.9 Direct and indirect linkages



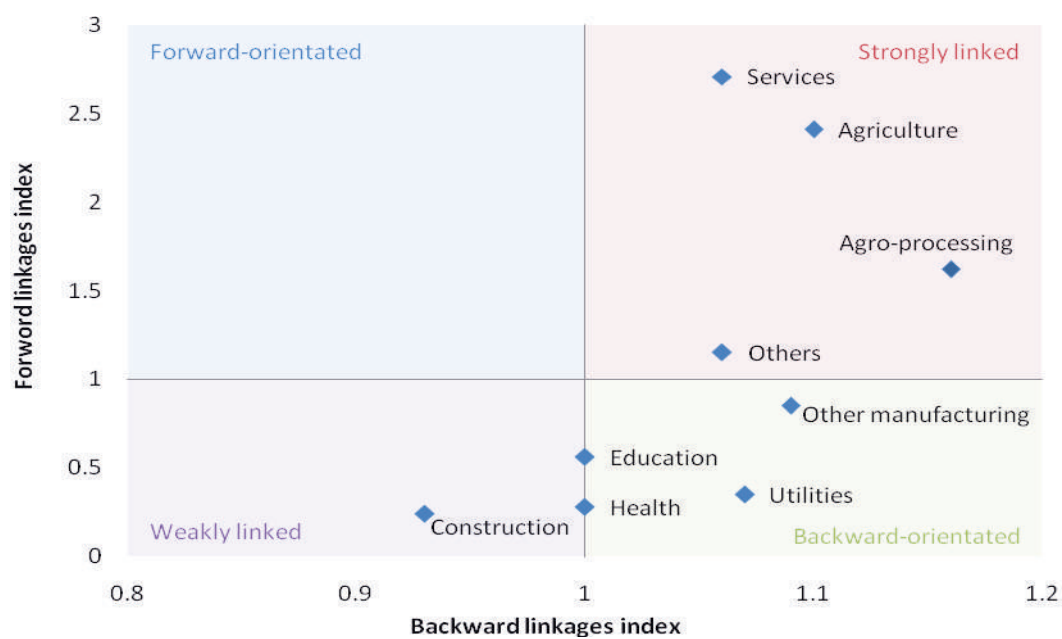
Source: Breisinger, Thomas and Thurlow (2009).

Production linkages comprise both backward and forward linkages:

- a. **Backward linkages** refer to the additional demand for production inputs generated by growth in a particular sector. For example, when agricultural production expands, it provides a stimulus to sectors supplying agricultural inputs, such as fertiliser, machinery and transport services.
- b. **Forward linkages** refer to the increased supply of inputs for upstream industries. For example, when agricultural production expands, it can supply more goods to the agro-processing sector.

In Uganda, the agriculture sector exhibits particularly strong forward and backward production linkages (Figure 3.10). This is one reason why agricultural productivity growth is projected to have a large impact on economic growth and job creation. Other strongly linked sectors include agro-processing, which has particularly strong backward linkages (mainly to the agricultural sector), and services, which has particularly strong forward linkages – reflecting the use of transport and financial services as an input to other economic sectors.

Figure 3.10 Intersectoral production linkages in Uganda



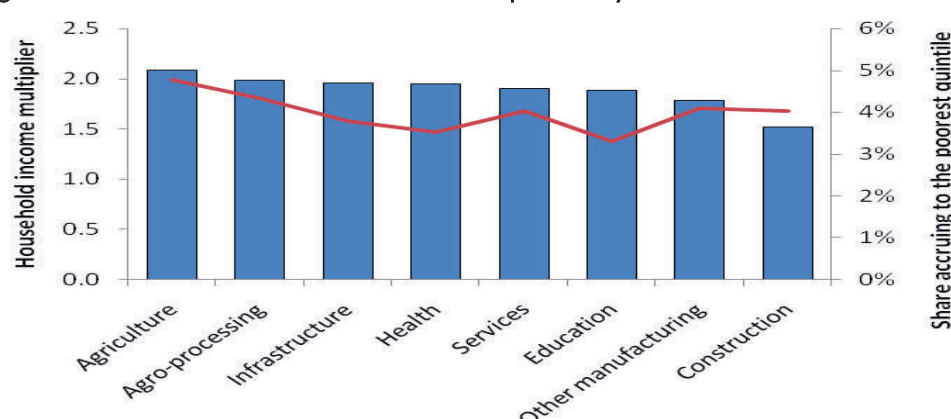
Source: Calculations based on Uganda SAM 2009/10 (see annex C for details).

Consumption linkages arise when growth in one sector increases household incomes, which are then used to purchase goods and services. For example, higher agricultural production increases farmers’ incomes and consequently the demand for consumer goods. Or as one of the youth interviewed in Kaliro town council explained:

“Many people employed by the [Kaliro Sugar] factory are buying bricks and building houses hence the growth of my brick-laying business.”¹⁹

Production and consumption linkages both give rise to income multiplier effects. The total income multiplier associated with Uganda’s agricultural sector is 2.09. This means that a 1 million shilling increase in demand for agricultural goods, due to higher export demand for instance, will eventually increase household incomes by 2.09 million shillings, taking into account all the direct and indirect production and consumption effects. Agriculture exhibits the highest income multiplier of Uganda’s main economic sectors (Figure 3.11). Although the services sector has strong production linkages, its overall multiplier effect is relatively low. This reflects relatively weak consumption-linkage effects, which in general tend to outweigh production linkages.²⁰ Many high-growth service sectors, such as financial services and telecommunications, rely on a small number of educated workers. The growth of these sectors has therefore not increased the demand for other goods significantly, particularly as better-off households tend to spend relatively more on imports rather than domestically produced goods. Agriculture and agro-processing not only have the highest aggregate income multiplier, but are also the most pro-poor, with a larger share of income accruing to the poorest 20 percent of households.

Figure 3.11 Household income multipliers by sector



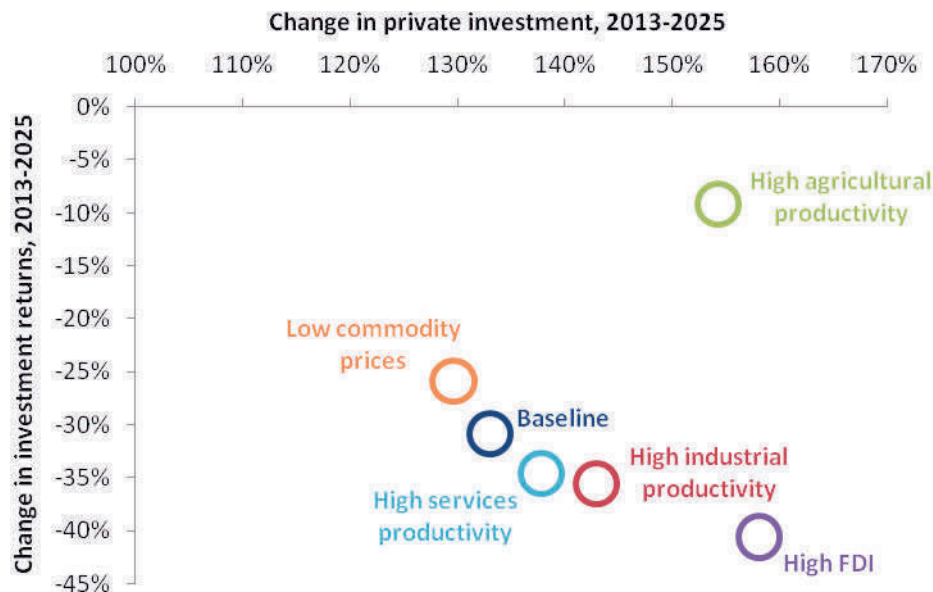
Source: Calculations based on Uganda SAM 2009/10 (see annex C for details).

3.3.3 The impact of distributional outcomes on growth

Pro-poor growth driven by the agricultural or agro-processing sector has a number of indirect benefits – such as increasing the size of the domestic market and the pool of domestic savings and reducing the price of agricultural commodities – which are important for sustaining rapid growth and structural change. The multiplier effects discussed in the previous section do not take into account the impact of structural change on private investment or prices. Since household saving rates increase with income, growth increases the pool of domestic savings. As capital becomes less scarce and more investment opportunities are exploited, average investment returns are expected to fall – a common feature of the development process. Private investment increases the most under the high-FDI scenario, but these results in a larger fall in investment returns (Figure 3.12). In general, the more private

investment increases, the more investment returns are projected to fall – a reflection of diminishing marginal returns.

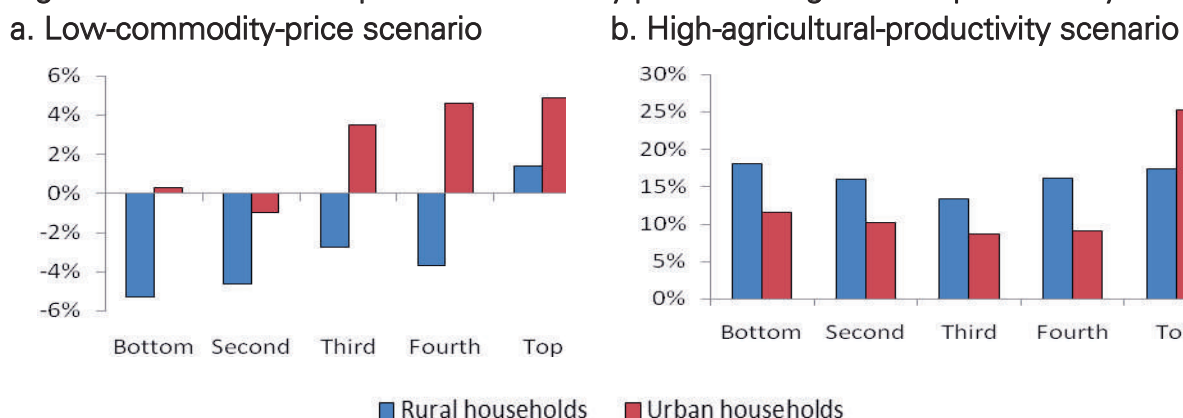
Figure 3.12 Change in private investment and investment returns, alternative scenarios



Source: MAMS simulation results.

The scenario with high agricultural productivity growth is an exception to this pattern. Under this scenario, private investment increases significantly while investment returns remain high, resulting in much higher economic growth and employment creation. This is partly because higher agricultural production puts downward pressure on commodity prices, enhancing the competitiveness of the non-agricultural sector. This is also the case under the scenario with lower global commodity prices, which also sees a significant expansion in non-agricultural employment. But lower agricultural commodity prices harm less well-off rural households, who continue to make up the majority of the population (Figure 3.13a). This reduces the size of the domestic market and the pool of domestic savings leading to lower private investment than under the baseline scenario. High agricultural productivity raises incomes across all rural and urban households (Figure 3.13b). A larger pool of savings finances a large expansion in private investment, while the larger domestic market and relatively cheap agricultural commodities ensure high investment returns and strong employment growth. This demonstrates that the broad distribution of economic opportunities is not only important for poverty reduction, but is also critical for sustaining growth. Growth without improvements for the poorest households will limit growth and the extent of structural change.

Figure 3.13 Welfare impact of commodity prices and agricultural productivity

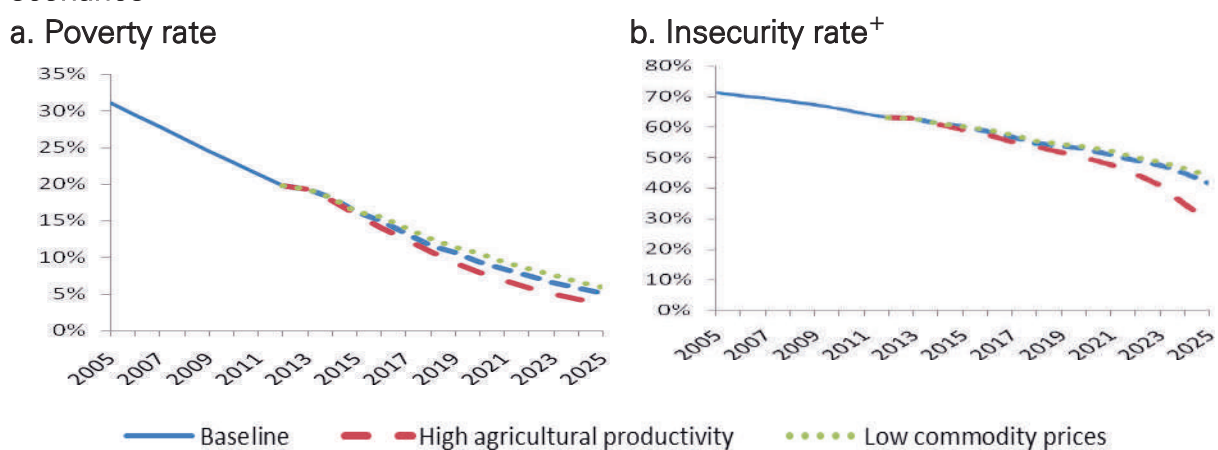


Source: MAMS simulation results. Note: Shows the change in income in 2025 relative to baseline scenario.

3.3.4 Harnessing structural change for poverty reduction and growth

The expansion of high-value sectors is a key means to accelerate Uganda’s economic growth, but a number of factors influence the extent to which structural change can be harnessed to reduce poverty. A shift in Uganda’s comparative advantage from agricultural commodities to higher-value processed goods, without an improvement in agricultural productivity, may even slow the rate of poverty reduction (Figure 3.14). Weak global demand for agricultural commodities is projected to facilitate Uganda’s value-addition efforts and increase employment growth in the non-agricultural sector, but most of the benefits will accrue to better-off urban households. In the short and medium term, lower agricultural income means most rural households would be worse off. This highlights the need to strengthen the channels through which growth and structural change improve the welfare of poor households.

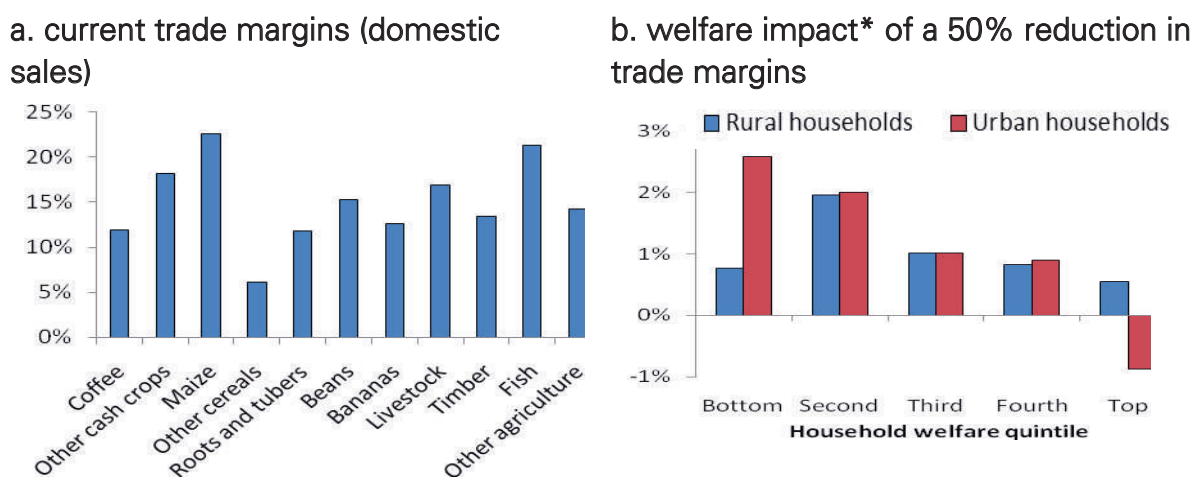
Figure 3.14 Income poverty and insecurity under alternative structural change scenarios



Source: MAMS and microsimulation results. Notes: ⁺The proportion of the population below twice the poverty line.

Flexible markets for production inputs and consumer goods allow the benefits of structural change to be broadly distributed, and particularly for farmers to benefit from the growth of the non-agricultural economy. But market imperfections may prevent poor households from receiving a higher price for their products or purchasing cheaper consumer goods as supply grows. Trade margins for agricultural commodities are currently high, with the gap between farm-gate and market prices averaging around 15 percent (Figure 3.15a). Reducing trade margins is extremely important for allowing the poor to enjoy the benefits of growth. Since these goods account for a large share of consumption by poor households, reducing these margins would significantly improve welfare of the poor. A permanent 50 percent reduction in domestic trade margins would improve the welfare of the poorest households by around 2 percent per year (Figure 3.15b). This is significantly greater than the welfare improvement associated with higher agricultural productivity growth. This simulation suggests that Government’s numerous interventions to reduce trade costs, improve value-chain integration and encourage producer associations have played a critical role in Uganda’s poverty reduction.

Figure 3.15 The welfare impact of reducing trade margins for agricultural commodities



Sources: Uganda SAM 2009/10 and MAMS simulation results. Notes: *annual welfare improvement of household quintiles, relative to the baseline scenario. Household welfare is measured in terms of equivalent variation, which captures the effect of changes in income and prices.

Price effects are an important transmission mechanism through which economic growth can benefit poor households. As explained in section 3.1, structural change is characterised by non-agricultural production expanding more rapidly than production in the agricultural sector. This means the relative price of food will increase. Higher food prices are an important way that farmers benefit from the growth of the non-agricultural economy. But from a macroeconomic perspective, this is likely to create inflationary pressures – since the price of non-agricultural goods is unlikely to fall by a corresponding amount.²¹ As structural change accelerates, Uganda’s economy could become prone to higher inflation.

Macroeconomic policy must take account of these intersectoral effects. An overly cautious monetary policy may hinder relative price adjustments. This would restrict the benefits of growth to a narrower section of the population, and thereby undermine long-term growth potential.

3.4 Structural change in the agricultural and agro-processing sectors

The simulation results presented in section 3.3 illustrate that agricultural productivity growth has large potential not only to reduce poverty but also to accelerate overall growth and job creation in the non-agricultural sector. Improving the integration of agricultural value chains, and therefore reducing the gap between producer and consumer prices, may be even more important for poverty reduction. Structural change within agriculture, particularly the integration of subsistence-orientated producers into the commercial economy, is an important source of growth and will help to ensure positive structural change at the macroeconomic level.

The agricultural sector has seen significant progress over recent years. Farmers report increased demand for their produce, driven by improved access to growing local, urban and regional markets. Strong growth prospects are evident in the gradual professionalisation of the sector and growing level of interest among middle-class and commercial investors. Stronger farmer groups in many areas and growth in the agro-processing sector have also been critical, providing farmers with a ready market for their produce and facilitating access to credit and quality inputs (Box 3.4).

Box 3.4 Agricultural changes in Lira district

“In the past, we used to produce food crops such as beans, sweet potatoes, millet and cassava but presently, we have included simsim, rice, sorghum, sunflower and ground nuts as cash crops. Of these new crops, sun flower is by far the most popular crop. The increase in popularity is mainly because the farmers have ready market for their farm produce from Mukwano and Mt. Meru factories. Mukwano factory sells hybrid seeds to the farmers which give them high yields. Two kilograms of improved sunflower seeds bought from Mukwano factory are reported to yield about 250 kilograms. There is a reported general improvement of household livelihoods and the community as a whole due to the presence of Mukwano factory since it provides ready market for the produce and job opportunities for the people”.

– Respondent from Lira district

Much of this progress was catalysed by increased public investment. The share of paved roads in the national road network has risen fourfold from 4 percent in 2009/09 to 16 percent in 2012/13,²² significantly improving access to national and regional markets, and attracting agribusiness investments. More feeder roads have been opened up and maintained at the Local Government level. Access to electricity is critical for the spread of agro-processing industries across the country. Total installed energy capacity has increased by a third since the commissioning of the Bujagali hydropower plant, and the Government’s rural electrification programme

However, the national picture obscures a number of instances where significant agricultural commercialisation has taken place. A number of these cases were covered under the Mini Participatory Poverty Assessment, including oil palm in Kalangala, sunflower seeds in Lira and sugar in the eastern region. Bushenyi district has benefited from a particularly dynamic agricultural sector, with a significant shift from food crop production to a variety of higher-value cash crops, particularly tea (Box 3.5).

Box 3.5 Agricultural changes in Bushenyi district

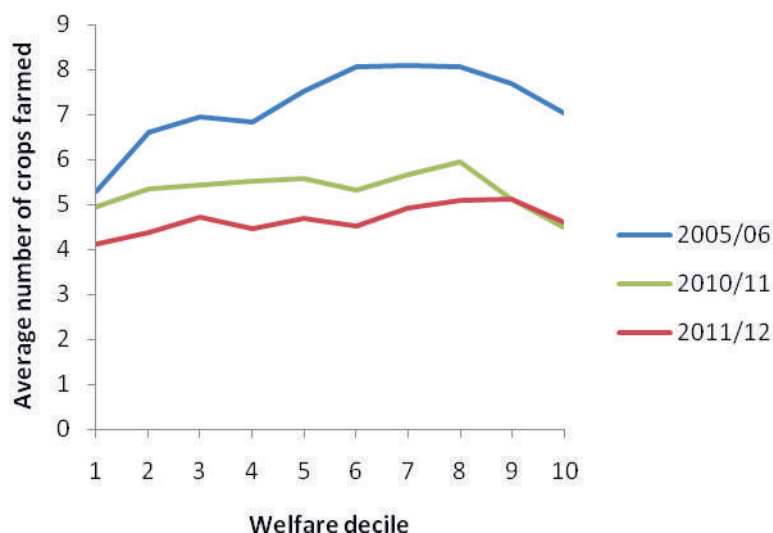
- ❖ *Dairy production is on the decline due to unstable and low farm-gate prices. Land that had been used for dairy farming is progressively being converted to other crops such as tea, coffee, bananas and horticulture.*
- ❖ *Most tea plantations were abandoned and overgrown 20 years ago but now the majority of land is now under tea production (both factory and individually owned).*
- ❖ *Household livelihoods have shifted from a reliance on subsistence agriculture to tea outgrowing and wage labour in tea plantations for those with limited land.*
- ❖ *Coffee is rebounding and recovering after the coffee wilt devastation of early 2000s.*
- ❖ *People used to grow crops for home consumption but now they grow crops for sale like greens, matooke, cabbages, pineapples.*
- ❖ *New agricultural enterprises including poultry, piggery, apiary, wine production and horticulture have been adopted.*
- ❖ *The land rental market is more active, such as in Bunyaruguru by residents of Mashonga, but many youth are not fully engaged in agriculture because they do not have land.*
- ❖ *There is increased access to credit for agriculture through SACCOs, microfinance institutions and village savings groups.*
- ❖ *The use of herbicides and fertilisers has increased to maintain high productivity.*
- ❖ *Many farms rely on hired labour.*
- ❖ *New farming input enterprises including hatcheries, an animal feed factory and drug shops have emerged.*

Source: Mini PPA Bushenyi district report.

On average, agricultural households cultivate fewer types of crop than in the past. In 2005/06 there was a clear inverted-u relationship between household welfare and the number of crops grown. Smallholders tended to diversify their production as they became better off and there was a trend towards specialisation only among the richest 30 percent of households. Most farmers sought to reduce the risks they faced by cultivating a large variety of crops rather than focus on a narrow range of activities. Since then the curve has flattened (**Error! Reference source not found.**). As incomes have grown smallholders have become less vulnerable, reducing the need to diversify production and facilitating gains from specialisation. The availability of pesticides, herbicides and drought-resistant strains has also allowed farmers to make crop production decisions with less fear of incurring losses.²³ But in some cases farmers may be forced to cultivate fewer crops, due to growing land constraints for instance. The average number of crops farmed has fallen across the country, but the largest fall was in the eastern region. This reflects the returns to specialising in cash crops such as sugar but also declining soil fertility which has

become a significant constraint to agricultural productivity growth and poverty reduction.²⁴

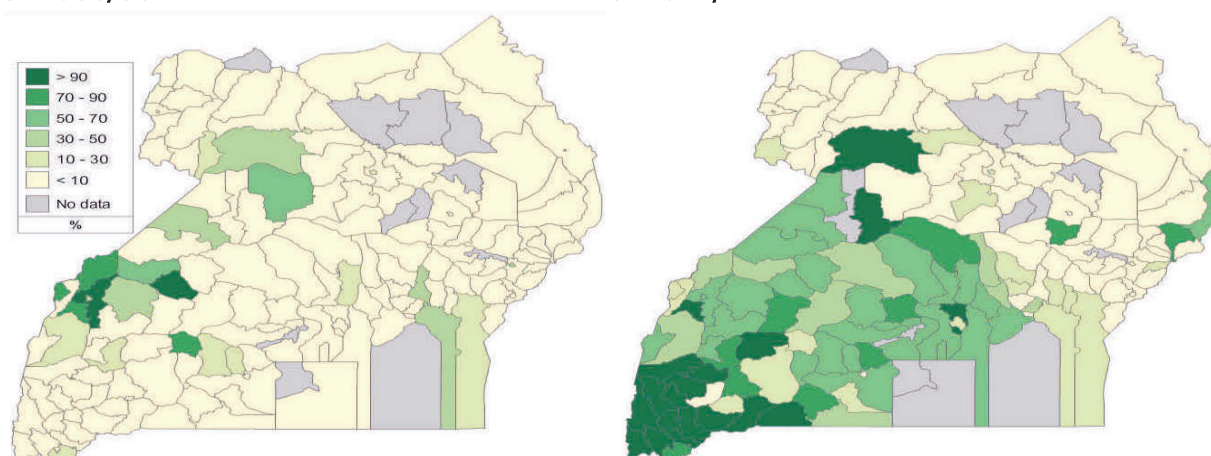
Figure 3.16 Crop diversification by household welfare decile



Source: Uganda National Panel Survey.

Secure land tenure is a precondition for agricultural growth. With overlapping rights, farmers are less likely to invest in the land they cultivate – by planting higher value perennial crops or using sustainable land management practices to preserve soil fertility for instance. In Uganda, the lack of full ownership rights under customary tenure systems reduces agricultural productivity by at least 25 percent.²⁵ Land titles also facilitate land market activity, which further encourages investment as households can liquidate such investment if required, and helps to bring land to more efficient use, as has happened in Bushenyi (see Box 3.5). For these reasons, Uganda's National Land Policy regards freehold as the property regime of the future. Government has made significant progress in converting customary and leasehold tenure to freehold in the central and western regions, particularly in the south west (Map 3.3). This helps to explain the dynamism of the agricultural sector in this part of the country. Controlling for other factors, communities where all agricultural land is under freehold tenure have experienced 13 percent to 20 percent higher income growth than communities where customary tenure prevails.²⁶ Reaping the benefits of land tenure security will require more resources for adjudication, consolidation and registration of land in all areas of the country, particularly in the north and east.

Map 3.3: Proportion of agricultural land under freehold tenure
a. 2005/06 **b. 2011/12**



Source: Uganda National Panel Survey. Note: This map intended to demonstrate the broad pattern across the country rather than provide precise estimates for individual counties; the UNPS is not stratified at the county level and the sampling error is therefore relatively wide, but given that the survey tracks the same households over time the trend in the variable of interest can be measured more precisely compared to a cross-sectional survey.

Agricultural productivity growth has coincided with the movement of workers out of the sector. For example in Bushenyi it was reported that the youth often enter food vending or bodaboda riding rather than farming. While some youth complained that limited access to land meant that they were unable to farm, the majority reported that non-farm enterprises offered high returns. An individual engaged in chapatti making was reported to earn Shs. 35,000 per day for instance, while bodaboda riders reportedly earn Shs. 30,000 per day.²⁷ Although population growth has put pressure on the limited supply of land, it has also contributed to the growing local market. Higher incomes resulting from agricultural productivity growth have increased the demand for non-agricultural products and services and helped to generate new economic opportunities for the youth (see Box 3.6).

Box 3.6 Drivers of off-farm employment

“It was very difficult for the youth to have money those days to engage in small businesses. But now, the village is developing and that is why we can do some work and get some money to start these businesses.”

– Female respondent from Akaidebe village, Lira district

One of the main barriers to agricultural productivity growth at the smallholder level remains limited use of intermediate inputs, such as improved seeds and fertilisers. This often reflects credit constraints – smallholder farmers are unable to adopt productivity-enhancing practices due to the required capital outlay (Box 3.7). Government has addressed these constraints through a number of prominent interventions, including the direct delivery of inputs through National Agricultural Advisory Services (NAADS), and the promotion of rural finance through the Rural

Financial Services Strategy, particularly Savings and Credit Cooperatives (SACCOs). NAADS is most often viewed in a negative light by smallholder farmers, who feel the programme has only benefited a small number of individuals and that the targeting is unfair. In some cases, NAADS officers were reported to have knowingly supplied farmers with counterfeit seeds, hindering the development of the market in genuine improved seeds.²⁸

Box 3.7 Access to agricultural inputs

“To improve agricultural productivity, one needs to use tractors, ox ploughs, hoes, herbicides and as such, they may need to borrow money. But the interest rates are very high! The Government just needs to look into favourable conditions like affordable interest rates and specifically provide agricultural loans to farmers.”

– Respondent from Lira district

“In the last ten years we were getting direct benefits from Government programs like PRDP, nowadays we are not getting. We were getting benefits from send a cow, but they are not here anymore. Only NAADS is remaining, yet they only select two beneficiaries”

– Respondent from Lira district

Government’s Rural Financial Services Strategy has contributed to a significant improvement in access to financial services in rural areas (Box 3.8). SACCOs in particular have often played a critical role in financing agricultural activities. However, there is significant variation in the effectiveness of different SACCOs. This has led to a perception among some stakeholders that “SACCOs don’t produce – they kill production and encourage consumerism”.²⁹ This may be the case for many of the Programme SACCOs that were formed after Government began channelling wholesale credit for onward lending. Funds were often advanced to NGO, Women and Youth SACCOs without sufficient safeguards or conditions for repayment. Members had little incentive to abide by the rules, and high default rates resulted from a common misperception that the loans were in fact grants that did not need to be repaid.

Box 3.8 Access to rural financial services

“We used to go for banking in Arua, now we have banks in Nebbi like Stanbic and Centenary banks. We also have MFI and SACCOs. Almost in every village there are VSLAs and a village can have more than one VSLA. Money lenders have also become many although some are not registered”

– Nebbi District Planner

Other SACCOs have emerged to advance the common economic interests of a particular group. For instance some farmers that were unable to transport their produce when acting alone have formed groups to bulk and sell their produce at a better rate, and also to save and borrow. These producers respect their group rules and are committed to the survival off their SACCO. This social and economic foundation plays a critical role in the SACCO’s sustainability.³⁰ This helps to explain

why SACCOs in the western region have generally been more successful than those in the east and north, where the history of insecurity may have undermined group cohesion. Government, through the Microfinance Support Centre, has helped to build the capacity of SACCOs and Area Cooperative Enterprises (ACEs). This has helped Matooke farmers in Isingiro district for instance to undertake cooperative marketing, facilitate learning and diffusion of the best agronomic practices, and promote a savings culture. The farmers even developed a communal response to disease control, whereby they jointly hired extension support to address banana wilt.

Contract farming and out-grower arrangements linking agribusinesses with smallholder farmers have become increasingly common. These arrangements have often helped to strengthen agricultural value chains, facilitated the emergence of new higher-value crops, and provided smallholders with access to information, agricultural inputs and credit. Controlling for other factors, interaction with large-scale commercial farmers or agribusinesses is associated with a 28 percent to 41 percent increase in consumption among smallholder farmers.³¹ One of the most successful initiatives is the Vegetable Oil Development Project (VODP) in Kalangala.

The Vegetable Oil Development Project in Kalangala

In 2003 Government signed an agreement with BIDCO Uganda Limited to undertake an integrated palm oil project on Bugala Island in Kalangala District. Oil Palm Uganda Limited (OPUL) was set up to manage all plantation-related activities and the extraction of crude oil from the fresh fruit bunches. Government owns 10 percent of the shares in OPUL. VODP has received a total of Shs. 389 billion in public funding. There are currently 10,088 hectares of oil palm plantations – 6,255 under OPUL and 3,863 owned by about 1,600 smallholders or out growers (with about 450 harvesting fruit). OPUL provides a ready market for the fresh fruit bunches. The harvesting takes place every month throughout the year, so palm oil growing provides not only a decent, but also a stable source of income. On average, fresh fruit bunches from 5 acres of land fetched Shs. 1.5 million per month, significantly above the average monthly income of a Ugandan household.

The success of the VODP has resulted from its design and a number of complementary interventions:

- i. **Credit extension.** Under the agreement with BIDCO, individuals have been helped to access credit for the purchase of land, seeds and other farm inputs. Government has allocated Shs. 31.4 billion to be distributed to farmers in the form of loans for the purchase of land, procurement of seedlings, fertilisers and other inputs, and plantation maintenance. Kalangala Oil Palm Growers Trust (KOPGT) has been set up to manage these loans on behalf of Government. Credit has been allocated to VODP farmers on the basis that funds will

automatically be deducted from their marketed output, which acts as a non-traditional form of collateral.

- ii. **Infrastructure development.** Government partnerships with INFRACO and Kalangala Infrastructure Services (KIS) have supported the palm oil industry. To facilitate the palm oil project 640kms of road have been opened or improved (240kms by the local district government and 400kms by OPUL). KIS has been contracted to provide most infrastructural services on the island including: the extension of the electricity grid; water lines; management of a ferry to the mainland; and continued expansion of the road network. These projects have helped to improve accessibility to farmer plantations and the transportation of fresh fruit bunches to the factory, and increased the volume of business and trade with the mainland.
- iii. **Fertilisers.** OPUL provides fertilisers on loan to farmers. This helps to ensure the quality of fruits harvested and stable incomes for oil palm growers. However, some farmers have sold the fertilisers to others for quick money which has hindered loan recovery.
- iv. **Sensitisation.** The shift to commercialised agriculture in Kalangala has been gradual. Initially, farmers held apprehensions about dedicating their resources to growing a new and unfamiliar crop. However, a sustained sensitisation exercise by local leaders and Government convinced most to uptake oil palm growing by 2010. With visible transformations among pioneer oil palm farmers, interest in the VODP has increased, with even some absentee landlords returning from the mainland to participate and harness the benefits of palm oil growing.
- v. **Value chain approach.** The palm oil industry in Uganda covers the entire value chain. BIDCO operates a factory in Jinja where it refines the oil and uses the by-products to manufacture other products such as soap and cleaning detergents. These products help to supply the local market and are also exported to neighbouring countries in the East African region. Benefits from the VODP project therefore extend beyond enhancing the income earning capacities of smallholders in Kalangala, but also to providing business opportunities to transporters, wholesalers and retailers along the value chain.

The VODP has had positive spillovers in the district. Profits from palm oil growing have been reinvested in other income-generating activities, social service provision and projects to enhance their wellbeing. For example, the District Production Officer reports that about 500 farmers have started retail shops and 45 have built better (permanent) houses fitted with solar power. Earnings from the VODP have also trickled to other sectors such as transport, education and health. Farmers that sold off their land to OPUL have bought motorcycles (58) and cars (35), and smallholders and out growers engaged in the project can now afford to educate their children. Access to medical services on the island has improved with the construction of Government health centres, drug shops and clinics by private individuals.

Oil palm growers under the Ssese Oil Palm Growers Association (SOPGA) have formed a SACCO, which has helped to develop a savings culture among farmers. About 172 farmers saved Shs. 9 million in the first two months of SOPGA's operation. Members are borrowing money to start other income-generating activities, such as poultry and the rearing of animals. SOPGA funds are also helping farmers shift from rudimentary practices to the use of fertilisers (both organic and inorganic) on their plantations.

Box 3.9 Farmers' perceptions of the Vegetable Oil Development Project



"Palm oil growers who are harvesting get money on a monthly period. We call it 'salary'. We are like government workers each month we go to the bank to withdraw money."

– Respondent from Bbeta East, Kalangala district

"The oil palm project has been able to provide regular income to my household because from my 5 acres of land I have been able to realise 1 million shillings from my harvests every month; if you remove the labour payments that are around 200,000/=, you will realise that I remain with 800,000/= which has been important for meeting my household demands; the Government has really helped us because they were able to think for us and get such a crop that could sustain our families because the lumbering and fish businesses had failed. Through the project, we have been able to go to the bank and get ordinary loans for school fees for our children from them because they now have the confidence that at the end of the month we have the monthly income which they are able to get their money from. Some of us have been able to open up shops and to buy more land for oil palm growing because of the project."

– Female respondent, oil palm out grower, Kalangala district

"I would compare the oil palm project like the revolution of the car industry; this is the cash crop for the moment because it's paying a lot of money and is beneficial in so many other ways as compared to other traditional cash crops. It has helped me to support my family and my children in school because they have been able to study through primary, secondary, diploma and university level. I have four children in Makerere University and recently two of them graduated and before these two I had three other graduates from the same institution. At the moment I have one child doing tourism in Makerere University and the other is doing business in Makerere University Business School. The oil palm project has also enabled me to buy land and build for myself a home because I am not a native of this island."

– Male respondent, oil palm out grower, Kalangala district

Despite the success and widespread support for the VODP, some question the sustainability of the project. While there are known environmental regulations to ensure the protection of land located near water bodies (200m protection belt), they

have not been fully adhered to by some farmers. Limited compliance is largely due to enforcement deficiencies on the side of the district and NEMA. The siltation of agrochemicals such as fertilisers and other inputs used to grow oil palm is contributing to a reduction in fish stocks.

Challenges of contract farming

Although contract farming should provide smallholder farmers with a guaranteed market for their produce, this has not always happened in practice. The expected returns are often high, but growing cash crops instead of food crops for own consumption exposes farmers to a new set of risks that they are not always well equipped to manage. Agribusinesses are typically in a strong bargaining position relative to smallholder farmers, and in some cases farmers feel large firms have reneged on their agreements. This is a particular concern in the eastern region, where there are now seven sugar factories in operation and many smallholder farmers have converted land from subsistence production to sugar plantations (Box 3.10). This may create a trade-off between own consumption and market production if smallholders are unable to purchase food to meet their basic nutritional requirements. Out growers in Kalangala intercrop food crops in some of the oil palm plantations. But this is only possible in immature plantations, before the formation of the canopy. It is possible that food security concerns will emerge in around five years' time, when all plantations have formed canopies and intercropping is no longer possible. Oil palm out growers have already experienced some challenges with the receipting system – collective loading and transportation of the fruits means that many farmers have been affected by bad quality fruit from one farmer. These types of risk will become more important if the out growers become dependent on their oil palm output to meet their basic needs.

Box 3.10 Risks of cash crop production

“Time of harvesting sugarcane reached but the factory failed to buy it for unknown reasons. The cane has now taken over two years and has over matured. If I had planted maize or cassava I would have reaped already and got money to meet family needs. I have no money to pay school fees. All my money is tied up in the sugarcane.”

– Female respondent, sugarcane out grower, Luuka district

“As registered out growers, we agreed that our sugarcane would be bought by the factory at UGX 95,000 per tonne. But currently we’re being paid UGX 65,000 per tonne. This is not enough to pay off the factory costs and remain reasonable profit.”

– Male respondent, sugarcane out grower, Luuka district

“We need knowledge on marketing our produce and there are no opportunities. The factories buy just part of the produce but not all. If you planted food crops, you can eat the remainder, but for produce like sunflower, we just throw away the balance.”

– Respondent from Lira district

Self-organised farmer groups have often emerged to mitigate these types of commercial risks, particularly in the western region. The Ankole Coffee Producers’ Cooperative originated in the 1990s in response to coffee traders who were exploiting farmers by using faulty scales for example. The cooperative enforces quality standards, helping to give its 7,000-strong membership direct access to export markets, and ensures timely and competitive payment for their produce. The cooperative is now moving up the value chain by constructing a coffee processing factory. Close links between agricultural production and agro-processing, usually through farmer groups, have reduced the risks facing farmers and provided strong impetus to improve the consistency and volume of production in a number of commodity value chains. Tea growing has taken off in Bushenyi in large part due to two farmer-owned tea factories – Igara and Kyamuhunga. The Bushenyi Connoisseur Honey Cooperative Society trains bee farmers to ensure they produce good quality honey, and employs full-time workers to package, label and market the honey, which is sold to supermarkets in Kampala. Government has supported many similar farmer groups to move into agro-processing, for example through the One Village One Product Project, which has provided value-addition equipment such as honey extractors, rice hullers, maize mills and juice extractors to 26 enterprises since 2011.

3.4.2 Commercial farmers and agribusinesses

Growing interest among large private firms and middle-class players is a key trend driving change in Uganda’s agricultural and agro-processing sectors. The number of commercial farms and formal agro-processing firms has increased significantly over the last decade, although this has not occurred across the country evenly. Most large commercial farms are concentrated in the central and western regions, with relatively few operating in the east or north (Map 3.4).

Investment Authority (UIA) cites land ownership issues as the single biggest challenge facing investors, with multiple and often unfounded claims for compensation frequently delaying the start of production by a year or more. Agribusiness initiatives, including Kaliro sugar factory, the sunflower project in Lira and oil palm project in Kalangala, all reported lack of land as the main factor constraining their expansion. Only 10,000 hectares in Kalagala have been converted to oil palm growing, compared to the 26,500 initially planned. The Chief Executive Officer of BIDCO reports that “even with the 26,500 hectares, we will not be able to produce the amount of oil required by the country, so you will find that importation is inevitable.”

Access to credit, particularly long-term finance, is another major factor constraining commercial farmers and agro-processing ventures. Yet significant progress has been made, with the share of agricultural lending in total credit to the private sector increasing from 4.5 percent at the start of FY2009/10 to 9.1 percent in May 2014.³⁴ Over this period, the stock of credit for agricultural production has increased by a factor of seven, while credit for processing and marketing increased by a factor of 4. This progress was partly driven by direct Government interventions such as the Agricultural Credit Facility, which was established in 2009/10 to finance long-term investments by agribusinesses in equipment for value addition and processing, at a fixed interest rate of 10 percent. The Microfinance Support Centre has also developed asset financing products, targeting SMEs who can use the credit to acquire agro-processing equipment, with the equipment itself serving as security for the loan.

Box 3.11 Commercial banks venturing into the agricultural sector

Centenary bank has earmarked Shs. 150billion to boost the agriculture sector through value-chain financing. Under this arrangement, the bank will finance production of major crops and provide working capital for their purchase from farmers at harvest time. With this the farmers will be assured of good predetermined prices and timely payments for their produce. The bank will finance coffee, sunflower, cotton, maize, barley, shear beans, candlenuts used for bio-diesel production, rice as well as dairy products. According to the Bank's chief manager agricultural credit, Evans Nakhokho, the initiative will begin with financing of sunflower production in Northern Uganda in partnership with A.K Oils and Fats Ltd, a subsidiary of Mukwano Group of companies. “We have signed the first tripartite arrangement for sunflower financing and have earmarked about five billion shillings for this process targeting over 60,000 farmers in Lira, Apac, Alebatong, Kole, Pader, Amollatar, Agago, Dokolo, Kaberamaido and Otuke districts.”

DFCU is committed to train farmer groups in financial literacy, cooperative governance and better farming practices. Farmers need to be organised in groups and engaged in large contracts, which they can use as security. A project is being piloted in Masindi, where farmers are given inputs and the bank and buyers guarantee their market. The bank has also been providing working capital and asset financing to progressive farmers. To benefit, farmers need to have opened an account with DFCU and demonstrated a track record of saving. The bank uses the turnover on the farmer's account to assess the credit worthiness of the loan.

Recognising the potentially high returns available, commercial banks are strengthening their capacity to lend to the agricultural sector (Box 3.11). A number of Government interventions aim to leverage this growing interest in agricultural

financing. The Agribusiness Initiative (ABI) Trust for instance works with lower tier financial institutions and apex organisations, focusing on building technical capacity in product development, value-chain analysis, risk management, and savings mobilisation campaigns. ABI Finance protects financial institutions in the event of default for up to 50 percent of the outstanding principal advanced to agribusinesses. Portfolio guarantees are used to allow greater flexibility to protect small loans with minimal bureaucracy. This approach intends to provide financial institutions with experience in financing agribusiness such that they can learn to lend profitably without guarantees. Lines of credit are also advanced to increase liquidity, but only to pre-qualified financial institutions and the interest and fees charged help to sustain the Trust. ABI, through its partner financial institutions, has so far helped to finance more than 70,000 farmers and agribusinesses.

One of the most important constraints facing agro-processors is the unpredictable quantity and quality of raw commodity inputs. Poor crop husbandry and post-harvest handling among smallholder farmers reduces the quality of Uganda's agricultural commodities. Unpredictable yields and marketed output mean processors are rarely able to operate at full capacity. Agro-processing has been successful at a large scale where contract farming, out-grower arrangements or established farmers associations have facilitated quality control and the dissemination of good practices. Such arrangements are much more difficult where producers are scattered and not organised, which explains why many maize processors for instance operate an inefficiently small scale.

Government's commodity approach aims to strengthen value chains to ensure agricultural production and postharvest handling is aligned to the needs of agribusiness. Government support has been successful in a number of individual cases, such as the palm oil project in Kalangala. UIA's Business Linkage Promotion programme has also helped to ensure large investors such as Nile Breweries and KFC use local suppliers, working with farmers to ensure they meet the required standards. To achieve broader benefits and greater value for money, Government is aiming to expand these types of interventions within a more comprehensive, institutionalised framework. Reform of NAADS will extend the scope of collaboration with the private sector in developing enterprises along agricultural value chains. The Commercial Challenge Fund (CCF) for instance supports Public-Private Partnerships linking smallholders and farmer/out-grower organisations with large agribusinesses. Similarly the ABI Trust provides an integrated approach to agricultural development, focusing on six strategic commodities (maize, pulses, coffee, oilseeds, dairy and horticulture). The programme is helping to increase awareness of the available agricultural inputs and supports agro-dealers in developing their distribution networks. The performance and competitiveness of farmers and enterprises is promoted through market information, collective marketing and support for appropriate agribusiness services.

Despite this progress, there remain a number of challenges to stronger agricultural value chains. In the absence of a centralised and readily accessible database, inadequate information on agricultural production and commodity markets is hindering investment in the sector.³⁵ There is need for more Local Governments to play a proactive role in coordinating Public-Private Partnership at the local level. Agro-processors report that they often find it difficult to work with Local Governments, particularly due to the lack of transparency and consistency in Local Government tax assessment systems.³⁶ Significant progress has been made in improving the national road network, but more investment is required particularly in the rehabilitation and maintenance of feeder roads, and the lack of specialist infrastructure, such as abattoirs and cold-storage facilities, is undermining the development of several value chains. Ensuring agricultural commodities are of a consistent standard is critical for both agro-processors and for gaining access to export markets, but the Uganda Bureau of Standards (UNBS) must be strengthened to fulfil its mandate (Box 3.12).

Box 3.12 Perceptions of the Uganda National Bureau of Standards

“UNBS is known for confiscating weighing scales at shops in the community and not for setting standards for the emerging manufacturing sector at regional/district level and in the communities”.

– District Commercial Officer, Kaliro

“UNBS is very incapacitated to operate in an ethical way and guarantee safety of products on the market, partly a funding problem”.

– Policy Manager, Uganda Manufacturers Association

3.5 Urbanisation and growth of the non-agricultural economy

One of the most important benefits of growth in the agricultural and agro-processing sectors is intergenerational mobility. Higher incomes for agricultural households mean that parents can invest more in the education of their children, placing them in a better position to exploit emerging opportunities in the non-agricultural sector. Labour mobility in Uganda is high, as evidenced by the rapid rate of urbanisation over the last 20 years. Rapid demographic change and dramatic expansion in access to education since the introduction of universal primary and secondary education has accelerated occupational mobility. This has not only enhanced the economic opportunities available to migrants, but has also contributed to an increase in remittances for rural development. For example, the Mini PPA finds evidence that well-educated migrants from Bushenyi who are employed in urban areas such as Kampala and Mbarara are remitting significant sums of money in support of emerging household enterprises and rural transformation. Recent efforts by Government to establish a more comprehensive system of skills development – most notably its flagship ‘Skilling Uganda’ Plan – will ensure the labour force is well placed to exploit new opportunities as they emerge.

Higher expected income in urban areas contributes to rural-urban migration – in 2012/13 the average urban real monthly household income was more than double that for rural households (Shs. 389,000 compared to Shs. 163,000). However, not all migrants have been absorbed into productive employment opportunities. Inequality is higher within urban areas and some households some earn significantly less than the mean. Growing unemployment particularly among better-educated workers indicates that the rate of non-agricultural job creation has been inadequate. Although fewer workers are reliant on the agricultural sector, inadequate firm creation and growth mean that many youth leaving rural areas struggle to make a living in the informal service economy, and some migrants are driven by negative push factors, such as the poor quality of social services in many rural areas, rather than the pull of economic opportunities (Box 3.13).

Box 3.13 Living standards in the urban economy

“Limited capital led me to borrowing cassava, cooking oil and charcoal to start my pancake manufacturing business. In the end, I did not get market for the products, so I remained indebted for some time. I had to go back to the same people to borrow inputs until my business stabilised.”

– Respondent from Kaliro town, female youth

“I have limited capital to expand my produce business.....Ebirimebirimubbeeyi. Wetaagassentyiingiokugaziwa [produce is expensive, one needs a lot of money to expand].”

– Respondent from Kaliro town, a male produce seller

“It is just that we are too much obsessed with living in Kampala but there are many people in the rural areas that are living better lives than us.”

– Respondent from Makindye Division, Kampala

“Generally, the majority of all the newly arrived rural-urban migrants face tough times in the city. But with time, things improve especially if one has some relatives who help with the basic needs of life such as housing, food and medical care.”

– Respondent from Kampala, a migrant from Busoga

“Life in the city for any migrant is tough but there is no point going back to the village where there is no Government. Let’s fight for the few services that are only present here in Kampala.”

– Respondent from Kampala, a migrant from Oyam district

Enhancing self-employment generation and improving the productivity and sustainability of micro enterprises is critical for improving living standards in urban and rural areas. Government-supported SACCOs and vocational training have helped many youth to take advantage of the emerging opportunities (Box 3.14). Evidence from the Mini PPA in Bushenyi found that the lack of skills was a greater concern among the youth than a lack of employment opportunities. Those trained in technical or practical skills – such as brick layers, motor mechanics, beauticians and tailors – are easily making use of their skills for self-employment. In January 2014, Government launched the ambitious Youth Livelihoods Programme to provide

vocational skills and interest-free loans for self-employment generation to thousands of youth groups across the country.

Box 3.14 Drivers of self-employment generation

“I wouldn’t have managed to set up such a large unisex salon without the help of funding from a SACCO. I had no capital yet my dream was to set up a salon. When I joined the SACCO, it became possible for me to get the loan”

– Respondent from Kawempe Division, Kampala

“The training that I received at a technical institute in Masaka helped me a lot in starting this business. Originally, I wanted to become a lawyer but I am now fine with the electrical skills which enable me do installations and repair of various types of appliances”

– Respondent from Nakawa Division, Kampala

Further structural change of the Ugandan economy will increase urbanisation rates in the future. Rural-urban migration will need to be appropriately managed; ensuring the demand for labour in urban areas grows sufficiently to absorb the expanding labour force. The only way to sustain growth and poverty reduction in the long run is through the creation of a large number of wage jobs in high-value sectors. Uganda’s modern economic sectors are currently dominated by a small number of large firms. For instance, less than 400 large industrial users currently account for almost half of total electricity demand. Large firms (with more than 100 employees) tend to be much more productive and profitable than smaller enterprises, but together employ around 100,000 workers, equivalent to only 9 percent of jobs in registered firms or 0.7 percent of the workforce.³⁷

A vibrant SME sector is the only way to generate a sufficient number of jobs, but the linkages between different types of enterprise are often weak, hindering the ability of SMEs to learn and adopt modern technologies and professional business practices. Government is assisting large firms to develop supplier relationships with SMEs, through the Business Linkage Promotion programme for instance. In each of the new industrial parks established by UIA, an area of land will be gazette for Jua Kali, enabling SMEs to benefit from high-quality infrastructure and interactions with larger firms.

Although SACCOs and other financial sector interventions have made significant progress, underdeveloped financial markets currently make it difficult for startups or SMEs to access credit. Extending access to credit to more SMEs is critical for broadening the sources of growth, accelerating structural change and reducing poverty. A significant share of Uganda’s recent growth has been driven by the handful of large firms that have sufficient retained earnings to invest. Only 3 percent of investment by formal firms is financed by banks, with 80 percent financed internally.³⁸ Improved access to finance would lower the barriers to entry for SMEs and increase competition among incumbent firms.

As Uganda's urbanisation process continues, the construction sector holds particularly large job creation potential. The sector currently accounts for only 1.9 percent of the workforce however,³⁹ and is dominated by a relatively small number of large firms. The average construction enterprise has 22 employees, compared to the average of 2.3 employees in other sectors.⁴⁰ These firms tend to be capital-intensive and heavily reliant on imported inputs.⁴¹ Construction costs have outpaced general inflation over recent years and are accelerating, reflecting a number of constraints including high transport costs, inadequate skills, inappropriate building regulations, and limited access to land and finance. The construction of affordable formal housing on a large scale could greatly expand employment opportunities for the urban youth, particularly if driven by small construction firms using labour-intensive techniques.

Notes for chapter 3

¹NPA (2010), National Development Plan 2010/11 – 2014/15; 45.

² Fox and Pimhidzai (2011), 'Is Informality Welfare-Enhancing Structural Transformation? Evidence from Uganda', World Bank Policy Research Working Paper No. 5866.

³Uganda National Household Survey 2012/13.

⁴Uganda National Household Survey 2012/13.

⁵MFPED (2013a), Millennium Development Goals Report for Uganda 2013.

⁶Uganda National Household Survey 2012/13.

⁷UNHS 2012/13.

⁸Uganda National Household Survey 2012/13.

⁹ In the UNHS 2012/13, 24 percent of the economically active population reported working at two or more different jobs in the previous seven days, and secondary jobs are more likely to be in non-agricultural activities such as retail trade and informal manufacturing.

¹⁰Census of Business Establishments 2001/2 and 2010/11. This is excluding sole proprietorships with only one worker.

¹¹ Fox and Pimhidzai (2011), 'Is Informality Welfare-Enhancing Structural Transformation? Evidence from Uganda', World Bank Policy Research Working Paper No. 5866.

¹²Uganda National Household Survey 2012/13.

¹³MFPED (2014), Uganda's employment challenges: an evaluation of Government's strategy.

¹⁴Uganda National Household Survey 2012/13.

¹⁵This could also be an indication that Uganda's national accounts underestimate the country's GDP. UBOS will soon release a rebased GDP series, which will take better account of the structural economic changes over the last decade and is likely to result in a higher GDP estimate for Uganda.

¹⁶ Uganda's Revealed Comparative Advantage: The Evidence with the EAC and China – Isaac and Othieno, EPRC (2011).

¹⁷ See annex D for more detail on the methodological approaches used.

¹⁸ It is estimated that agricultural productivity growth in developing Asia increased from close to 0 in the 1960s and 70s to over 2% per year between 1980 and 2007. Fuglie (2010), 'Total Factor Productivity in the Global Agricultural Economy: Evidence from FAO Data', in *The Shifting Patterns of Agricultural Production and Productivity Worldwide*, Midwest Agribusiness Trade Research and Information Center: 63-95.

¹⁹MFPED (2014), Mini Participatory Poverty Assessment, Kaliro District Report.

²⁰In sub-Saharan Africa consumption linkages account for between 75% and 90% of total multiplier effects. Haggblade, Hammer and Hazell, 'Modeling agricultural growth multipliers', *American journal of agricultural economics* (1991).

²¹ Ray (2010), 'Uneven growth: a framework for research in development economics', *Journal of Economic Perspectives* 24(3): 45-60.

²² MFPED (2014), National Budget Framework Paper FY2014/15 to FY 2018/19

²³Key informant interview with the Director of the Policy and Advocacy Unit, Private Sector Foundation.

²⁴MFPED (2014), Mini Participatory Poverty Assessment Kaliro District Report.

²⁵Deininger and Ali (2008), 'Do overlapping claims to land reduce agricultural investment? Evidence from Uganda', *American Journal of Agricultural Economics* 90(4):869-882.

²⁶See econometric results in annex A.

²⁷Bushenyi district report.

²⁸ Key informant interview with the director of OTIS, a seed manufacturer in Lira district.

²⁹Key informant interview with the Chief Executive Officer of the Kampala City Traders Association (KACITA).

³⁰Key informant interview with the Head of Monitoring and Evaluation, Microfinance Support Centre.

³¹See econometric results in annex A.

³²MFPED (2014), Mini Participatory Poverty Assessment, Bushenyi District Report.

³³Key informant interview with Senior Investment Executive, Uganda Investment Authority.

³⁴Bank of Uganda.

³⁵Key informant interview with the Policy Manager, Uganda Manufacturers Association.

³⁶Key informant interview with the proprietor of K-Roma Limited (manufacturer of Bella Wine).

³⁷Census of Business Establishments 2010/11.

³⁸World Bank Enterprise Survey 2013.

³⁹Uganda National Household Survey 2012/13.

⁴⁰Census of Business Establishments 2010/11.

⁴¹This partly explains the weak production linkages currently observed between the construction sector and the rest of the economy, see figure 3.10 in section 3.3.2.

CHAPTER 4: REDUCING VULNERABILITY IN A MODERNISING ECONOMY

The current structure of Uganda's economy leaves a substantial section of the population in a precarious position. The large number employed in the agricultural sector are vulnerable to climatic shocks, pests, plant and animal diseases and price fluctuations; and those working in the informal sector usually receive low and irregular income. Even with the significant reduction in poverty over the last 20 years, the majority of the population remains vulnerable. Uganda cannot sustain the progress made unless the underlying structural causes of economic vulnerability are addressed, particularly in light of growing demographic pressures.

In line with Uganda's vision for socioeconomic transformation, Government has made a strategic choice to modernise the economy and diversify away from subsistence agriculture. This transformation requires addressing structural bottlenecks and boosting productivity in the economy. Government has therefore increasingly prioritised public investments in the productive sectors of energy and transport infrastructure.

This approach will spur growth and create opportunities to improve household incomes and welfare for many Ugandans, as discussed in Chapter 3. Improving the integration of agricultural value chains will allow subsistence-orientated producers to participate in a dynamic commercial economy, enhancing rural incomes, productivity and competitiveness. Greater productive capacity and employment opportunities enable the wider population to benefit from Uganda's socioeconomic transformation. Higher value and more stable income-earning opportunities will allow individuals to manage shocks and uncertainty, accumulate wealth and build social stability and cohesion.

However, the poorest and most vulnerable households often have limited assets or productive capabilities and are unable to afford basic services. They find it difficult to integrate into society or to take advantage of the emerging economic opportunities. Furthermore, socioeconomic transformation will require many households to undertake potentially risky investments and the modernisation of Uganda's economy is creating new sources of vulnerability that need to be appropriately managed. Commercial agriculture is associated with a number of business risks that subsistence farmers avoid. Population growth is contributing to land fragmentation and growing landlessness in rural areas. Growing urban centres offer significant opportunities, but migrants often possess few assets and face high risks, exacerbated by high competition for jobs, weak regulation of the urban economy and inadequate social care services. Uganda has a rich tradition of extended family

and community support for its most vulnerable people, but such systems have been eroded by rural-urban migration and changing social attitudes. The poorest individuals, with limited capacity to withstand shocks and cope with risks, are likely to struggle to improve their standard of living in an increasingly modernised and regionally and globally connected economy, and therefore need targeted support.

In this context, Government is strengthening efforts to target vulnerable groups and reduce inequalities. Protective measures to reduce vulnerabilities and build resilience will ensure future growth is inclusive. This chapter discusses the dynamics of poverty and insecurity in Uganda, the main drivers of vulnerability, and Government interventions in response to issues of vulnerability in a modernising economy.

4.1 Poverty dynamics

Uganda has achieved a significant reduction in poverty over the last two decades. However, in 2012/13 more than half of the non-poor population was classified as insecure, living below twice the poverty line. In total, 21.4 million Ugandans (63 percent of the population) were either poor or vulnerable to poverty. The positive overall trend in poverty reduction masks significant movements into and out of poverty. For instance, 29 percent of the insecure non-poor in 2005/06 had fallen back into poverty by 2011/12. In order to design effective policies and strategies for poverty reduction, it is important to understand the factors that drive this process of “churning”, where households frequently exit and enter poverty. The Uganda National Panel Survey (UNPS) – which tracks the same households over time – enables an in-depth analysis of these welfare dynamics.

Table 4.1 reveals that a large share (43 percent) of poor households in 2005/6 had escaped poverty by 2011/12. There would have been a corresponding reduction in the overall poverty headcount, except that a significant share (29 percent) of the insecure fell back below the poverty line. These results indicate significant fluctuations in household wellbeing over time – poor households have a strong chance of moving out of poverty, but not necessarily permanently; a large share of households remain vulnerable and at a risk of falling back into poverty.

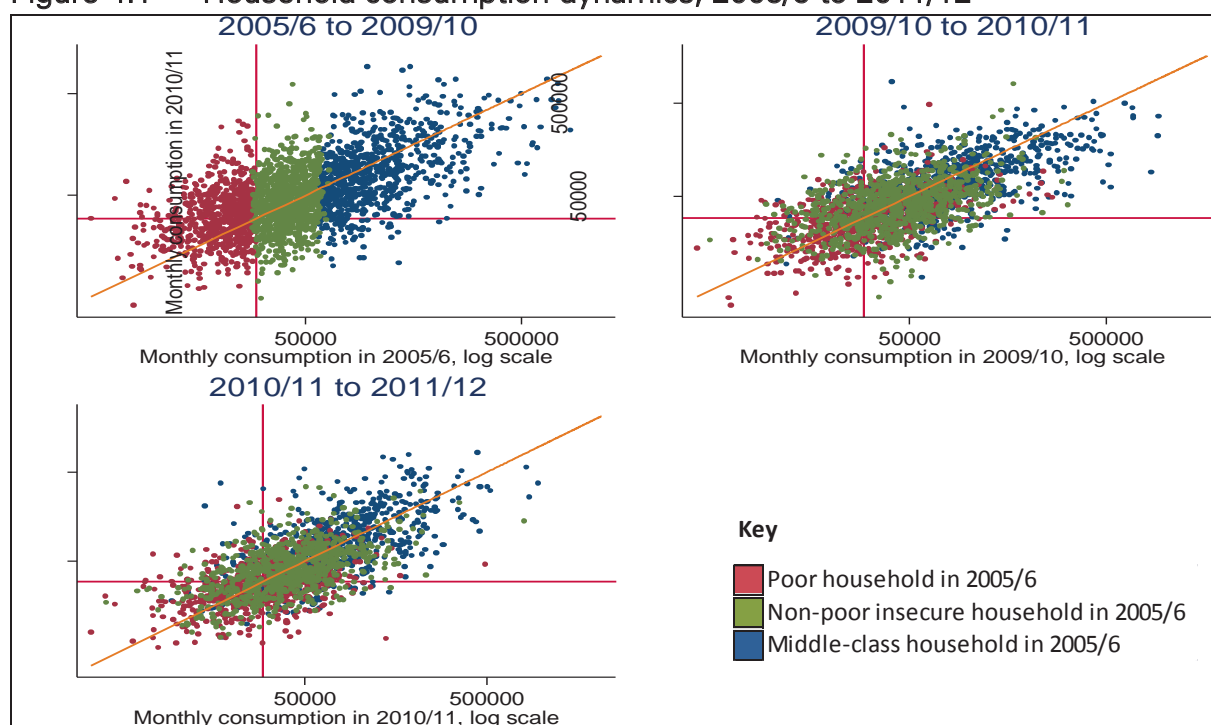
Table 4.1 Changes in poverty status, 2005/06 to 2011/12

		Status in 2011/12			Total
		Poor	Non-poor insecure	Middle class	
Status in 2005/06	Poor	57.2%	33.9%	8.9%	100%
	Non-poor insecure	28.9%	45.1%	26.0%	100%
	Middle class	12.3%	29.2%	58.5%	100%

Source: UNPS 2005/06-2011/12.

Figure 41 visualises the changes in household consumption in each round of the UNPS between 2005/6 and 2011/12. In each year, a significant share of households reported lower consumption compared to the previous survey (i.e. those appearing below the orange 45 degree line in Figure 41). It is also evident that the distinction between poor and non-poor insecure households quickly erodes over time – in the third panel of Figure 41 the distribution of initially poor and initially insecure households (marked in red and green respectively) is almost identical. In contrast, households initially in the middle class are significantly more likely to remain out of poverty. This suggests that the division between insecure and middle-class households may be more meaningful than the poverty line that divides vulnerable households.

Figure 4.1 Household consumption dynamics, 2005/6 to 2011/12



Source: UNPS 2005/6 to 2011/12. Notes: the red horizontal and vertical lines indicate the poverty line; the orange 45 degree line indicates unchanged consumption between the two years – households above this line saw consumption growth while those below experienced a fall in consumption. Monthly consumption per adult equivalent is measured in constant 2005/6 shillings.

The middle class are significantly more secure – the likelihood of a middle-class household falling back into poverty is low (only 12 percent of middle-class households in 2005/6 became poor). This suggests that once a certain threshold is achieved, households find it easier to avoid or cope with setbacks. Middle-class households are more likely to be employed in regular wage employment which provides a reliable and stable source of income. With higher and more stable incomes, the middle class are more likely to save, invest and accumulate assets which act as a buffer against shocks and income fluctuations. In addition, higher incomes increase the likelihood of accessing quality education, health and other social services, all of which enhance future capabilities, productivity and

socioeconomic opportunities. Average years of education and the value of household assets emerge as important variables distinguishing the poor and insecure households that were able to overcome their initial vulnerability and enter the middle class.

Table 4.2 Household characteristics by poverty transition status, 2005/06 to 2011/12

		Household characteristics in 2005/6		
		Average years of education	Median monthly consumption	Median value of household assets
Poor households in 2005/6				
	that remained poor in 2011/12	2.9	21,371	179,500
	that became non-poor insecure in 2011/12	4.0	22,016	232,000
	that entered the middle class in 2011/12	3.9	22,234	221,800
Non-poor insecure households in 2005/6				
	that became poor in 2011/12	3.9	38,784	252,000
	that remained non-poor insecure in 2011/12	4.7	41,592	450,000
	that became middle class in 2011/12	5.3	42,817	732,000

Source: UNPS 2005/6 to 2011/12.

Table 4.3 shows how poverty dynamics vary by location. There has been considerable progress in the central and western regions. Almost seven in ten households in the central region that were classified as poor in 2005/06 have now escaped poverty. The proportion of households exiting poverty is lower in the eastern and northern regions but the higher proportion of insecure households falling back is equally notable. These dynamics helps to explain why these regions continue to lag behind, particularly the eastern region which saw the highest proportion of insecure households fall back. Rural households are more vulnerable to falling into poverty, indicating that rural livelihoods are typically less stable and more risky.

Table 4.3 Entry into and exit out of poverty by location, 2005/06 to 2011/12

	Initially poor	Poor who escaped poverty	Insecure non-poor who fell into poverty	Middle class who fell into poverty
Central	16.4%	67.6%	11.9%	3.9%
Eastern	35.9%	33.9%	44.0%	23.6%
Northern	60.7%	35.6%	32.1%	21.6%
Western	20.5%	51.6%	27.4%	16.6%
Rural	34.2%	42.6%	30.1%	15.6%
Urban	13.7%	47.5%	16.6%	3.6%
Uganda	31.1%	42.8%	28.9%	12.3%

Source: UNHS 2005/6 and UNPS 2005/06-2011/12.

4.2 Drivers of vulnerability

Understanding the drivers of vulnerability is critical for identifying interventions to prevent deprivation and build resilience. The most common setbacks reported by households are associated with climatic shocks (drought, irregular rains or floods), ill health, crop or livestock disease and pests, and insecurity (conflict, violence or theft). Almost 4 in 10 Ugandans experienced at least one of these shocks during the previous 12 months, and 29 percent of those experiencing the shock involuntarily changed their dietary patterns (relied on less preferred food options, reduced portion sizes or skipped meals) as a result (Table 4.4).

Table 4.4 Most common setbacks experienced

	Experienced shock in the previous 12 months	Changed dietary patterns due to shock
Drought/irregular rains	23.0%	33.1%
Floods	7.7%	20.7%
Unusually high level of crop pests & disease	2.5%	27.6%
Serious illness or accident of income earner(s)	2.4%	31.8%
Conflict/violence	2.3%	3.8%
Serious illness or accident of other household member(s)	2.1%	20.1%
Death of other household member(s)	1.3%	7.8%
Unusually high level of livestock disease	1.2%	1.4%
Unusually low prices for agricultural output	1.2%	20.2%
Theft of money/valuables/non-agricultural assets	1.1%	7.1%
Fire	1.1%	8.9%
Landslides/erosion	0.8%	69.4%
Unusually high costs of agricultural inputs	0.8%	23.3%
Death of income earner(s)	0.7%	12.2%
Theft of agricultural assets/output (crop or livestock)	0.5%	51.3%
Reduction in the earnings of currently (off-farm) employed household member(s)	0.4%	70.5%
Loss of employment of household member(s) (not due to illness or accident)	0.1%	6.8%
Any shock	38.6%	29.2%

Source: UNPS 2011/12.

Exposure to these risks is associated with the underdeveloped productive base of Uganda's economy, and continued reliance on low-productivity agriculture. A large section of the population with limited asset holdings or productive capabilities is poorly equipped to cope with setbacks such as climatic shocks or poor health. Structural change is reducing many of these vulnerabilities, but the modernisation of Uganda's economy and rapid population growth is also presenting households with new sources of vulnerability that need to be managed appropriately.

4.2.1 Ill health

High rates of morbidity are a significant economic burden for poor households. Leading causes of ill health include HIV/AIDS and malaria. 7.3 percent of Ugandan adults live with HIV.¹ The number of new infections has recently increased, reversing a downward trend in earlier years.² Although HIV/AIDS and other major health conditions affect all income groups, their impact on the vulnerable is particularly sharp and can increase poverty due to the loss of labour capacity, and impact of death on the livelihoods of other household members. However, increased investments by Government, in providing free HIV/AIDS healthcare and ARVs and mosquito nets, are helping to improve health outcomes.³

Ill health is perceived to be a common driver of poverty and vulnerability in the Mini PPA districts. Nationally, Government has made significant progress improving drug availability at health facilities; in 2009/10, only 21 percent of health facilities stocked a complete selection of the tracer drugs used to assess service availability, but this increased to 70 percent by 2011/12.⁴ Nonetheless, drug stock outs in Government health facilities are still frequent in some districts such as Nebbi. Respondents reported that the only medicine available is panadol and sometimes the antimalarial coartem. Drugs to treat other sicknesses are sometimes available at a cost when they should be free. This leaves poor households who cannot afford these drug costs or private alternatives particularly vulnerable to health shocks.

4.2.2 Climatic shocks

Climatic shocks are among the most common serious setbacks faced by households. In 2011/12, 23 percent of the population suffered from drought or irregular rains, and a third of these were forced to change their dietary patterns as a result (see Table 4.4). A further 8 percent were affected by floods. The high prevalence of climatic shocks, which have disproportionately affected the poorer northern and eastern regions, creates inherent insecurity for smallholder farmers reliant on rainfall for production. Mini PPA evidence from Kaliro identifies farmers' reliance on seasonal rains as a key limitation to agricultural productivity improvements, rendering agricultural production unpredictable and inefficient.

Rainfall shocks have a very large impact on household consumption and poverty. The impact on consumption tends to be higher in urban areas, where households are usually net food purchasers and therefore more vulnerable to food price hikes following negative climatic supply shocks. However, since more rural households are closer to the poverty line, rainfall shocks have a greater impact on poverty outcomes in rural areas. When the main rainy season is more than 30 days later or earlier than usual, poverty rates increase by up to 12 percentage points, with hard-to-reach areas the most affected (see Annex A for more details).

4.2.3 Labour constraints related to age or disabilities

People with limited labour capacity such as the elderly, children and those with disabilities are particularly vulnerable to falling into poverty. Old-age vulnerability is exacerbated by a range of factors including: the overwhelming concentration of older people in rural areas engaged in crop farming which is threatened by the deterioration of soil quality and adverse weather conditions; limited access to pension schemes; widespread chronic ill health and disability; and continuing care responsibilities – particularly for grandchildren who have lost their parents to HIV/AIDS and other diseases.⁵ The Mini PPA found the following challenges faced by the elderly in Bushenyi: lack of land, food and collateral to get loans; high probability of being a widow/widower, care responsibilities for orphaned grandchildren; disabilities; and lack of access to Government services such as NAADS. A common finding in Lira was the migration of youth from villages, leaving the elderly vulnerable with limited capacity to cultivate large pieces of land productively.

Orphans and Vulnerable Children (OVCs) live outside of a protective family environment and are subjected to multiple deprivations. Such deprivation in early childhood can have persistent effects. For example, malnutrition in the first 24 months (and in the womb) can seriously affect a child's development, compromising their future physical and intellectual capabilities. This is compounded when infants have poor access to healthcare and do not attend school due to a lack of household income to pay for school related costs or due to domestic and other income-earning commitments.⁶ Childhood deprivation increases susceptibility to illness and disability, thereby diminishing earning capacity in adulthood. These factors are often responsible for the persistence of poverty across generations.

Severe and partial disability is strongly correlated with poverty. In 2009/10, 92.3 percent of households with a severely disabled member were poor or insecure non-poor compared with the national average of 67.4 percent. In addition, individuals with disabilities are likely to have more expensive consumption needs to attain a given standard of living due to additional expenditures related to healthcare, assistive devices, transportation and assistance workers.⁷ The Mini PPA also found that individuals with disabilities are disproportionately affected by poverty. In Lira, it was reported that disabled individuals faced many problems with very little assistance from others or means of earning money. The disabled are registered at the sub-county but do not benefit from any special assistance or targeted programme.

4.2.4 Household livelihoods

Vulnerability is closely associated with the ways households earn their income. 80 percent of the labour force works primarily for themselves or their families, mainly in

the agricultural sector. The large number of Ugandans engaged in subsistence agriculture are vulnerable to climatic shocks, plant and animal diseases and pests. Those working in the informal sector usually do not receive a regular or continual income and engage in multiple activities to diversify their income sources to reduce vulnerabilities.

Income growth over the last 20 years has significantly reduced these sources of vulnerability, helping households to cope with the risks they face. Structural change, particularly the growth of non-farm enterprises and non-agricultural wage employment, has helped to stabilise household livelihoods. However, the shift towards higher-return activities can also be accompanied by greater risks. Cash crop farmers for instance face unpredictable prices that could jeopardise their food security (see Chapter 3). Indeed, the desire to minimise risk is one of the most important factors preventing subsistence-orientated farmers from embracing commercial agriculture.⁸

Migration to Uganda's growing urban centres offers significant opportunities, but can also lead to vulnerability. Relative to the number of job seekers, there are an inadequate number of productive employment opportunities that provide sustainable and reliable sources of income. The majority of rural-urban migrants are absorbed into low-productivity forms of employment in unregulated activities. Rural-urban migration has also weakened Uganda's traditional systems of extended family and community support for the vulnerable; and migrants often sell land in their village in order to migrate, leaving them with limited assets to cope with risks in the urban economy.

4.2.5 Population growth

With a Total Fertility Rate (TFR) of 6.2, Uganda has one of the fastest population growth rates in the world.⁹ This is putting considerable pressure on land resources, with 58 percent of farms now less than one hectare.¹⁰ Land fragmentation has increased insecurity for the 42 percent of households deriving their main source of income from subsistence farming (Box 4.1).

Box 4.1 Falling back into poverty: population growth and land fragmentation in Eastern Uganda

Annual population growth has been particularly high in the eastern region, estimated at 5.1 percent and driven by a total fertility rate of 7.5 compared to the national figure of 6.2. In Kaliro the rapidly increasing population has led to stiff competition for resources, with households dividing their land among members. Such land fragmentation has led to land overuse and soil exhaustion, constraining agricultural productivity and rural farming communities' progress in transiting out of poverty. Land is more productive when it is consolidated into large pieces which enable benefits from economies of scale and make commercial production viable. Over time land fragmentation is also a threat to food security.

In urban Kaliro, population growth is putting pressure on existing infrastructure, and exacerbating vulnerabilities for urban dwellers. The population in Kaliro Town has been expanding, not only due to high fertility rates of existing families, but also due to an increasing number of migrants attracted by business and trading activities and better public services such as education.

Source: Mini PPA Kaliro district report.

A high dependency ratio – estimated at 119 nationally and 129 in rural areas – means resources are spread more thinly among household members. For example, with a high number of children fewer resources are available to invest in the education and health of each child. Rapid population growth also puts pressure public services. Short-term capacity constraints reduce the access to and quality of key public services, such as education and health, which are used mainly by poor households who cannot afford private alternatives.

4.3 Interventions to reduce vulnerability

Government is committed to alleviating the deprivations faced by the 21.4 million Ugandans who are highly vulnerable to risks and shocks. The only way to eliminate this vulnerability is to implement the country's vision of socioeconomic transformation, as discussed in Chapter 3. Improving the stock of physical infrastructure – particularly roads, the railway and electricity production and distribution – is currently the most pressing intervention required to achieve this end. Infrastructure investment is already helping to address vulnerability through improved market integration. The negative effects of irregular rainfall are reduced by half for households close to a main road for instance.¹¹ To address the risks inherent to rain-fed agriculture, Government is also investing in large-scale irrigation schemes and setting up 30 small-scale irrigation demonstration sites across the country. Government's strong emphasis on physical infrastructure will help to sustain economic growth and create productive and stable employment opportunities for Uganda's growing labour force.

Government is complementing this strategy for structural transformation with targeted interventions to build the productive capabilities and resilience of vulnerable households. These interventions – including the provision of vocational training,

start-up capital and direct income support – are helping to ensure that poor and vulnerable households are able to take advantage of emerging economic opportunities. Reducing vulnerability contributes to Uganda's transformation process by allowing households to save for the future, invest in productive assets and embrace higher-risk high-value activities.

4.3.1 Building productive capabilities

A number of Government interventions have taken an integrated approach to reducing vulnerabilities among poor households, by supporting income-generating activities and providing cash or credit and skills for self-employment. The Youth Opportunities Programme (YOP) under NUSAF disbursed conditional cash transfers to groups of youth to either pay for technical or vocational training at a local institute, or tools and materials to practice a craft. Combining training with cash injections to increase business assets has been very successful in enhancing the incomes of vulnerable youth. One-off conditional grants disbursed under YOP increased earnings after four years by around 40 percent.¹² The Youth Livelihood Programme (YLP) is Government's most recent project aimed at providing youth with marketable vocational skills, financial support and relevant knowledge and information to enhance self employment opportunities and incomes. The project has been allocated a total of Shs. 265 billion over its five-year period (FY 2013/14 to 2017/18).

Government's Rural Financial Services Strategy has seen a dramatic improvement in financial inclusion, which has allowed vulnerable households to invest in productive assets and start new businesses. The Mini PPA documented a significant number of SACCOs, VSLAs and social network groups such as Nigiina associations in the East. Most SACCOs are vibrant and well managed and are enabling vulnerable households to access credit to invest in income-generating activities, which would otherwise not have been available. For example, members of saving groups (akaboxi) in Bushenyi are considered more creditworthy to qualify for loans. Kyamuhunha People's SACCO (KYAPS) started in 1998 now has a membership in excess of 15,000 and is one of the leading five SACCOs in the country. KYAPS has branches in 3 sub-counties extending loans between Shs. 50,000 and Shs. 300,000 to members for investment in agriculture and trade. KYAPS and similar SACCOs have been critical in providing vulnerable households with low-interest credit based on the assurance that members will be able to earn and repay.

Almost all community members interviewed in Bushenyi for the Mini PPA credited SACCOs for enabling them to start businesses, purchase necessary household items, meet input requirements for farming, or cover school fees and healthcare costs. SACCO membership is reducing vulnerability to shocks, by allowing households to smooth consumption and diversify their income streams. New high-value household enterprises (e.g. piggeries, apiary, poultry, juice and wine

production) are emerging as an alternative to subsistence farming. These have helped drive the growth of cottage industries such as wine and juice processing, animal feeds, grain mills and grain flour packaging. Women – a group particularly vulnerable to poverty – are also sharing the gains from savings groups which are helping them to setup tailoring and sewing businesses.

4.3.2 Building social resilience

Government is putting in place a comprehensive system of social protection to support citizens to manage risks and shocks; to access services; and to build more secure and resilient livelihoods. Government and development partners have been implementing numerous interventions to build social resilience ranging from state and formal pension schemes, through public work and unconditional cash transfer programmes, to social care and support services.

The draft Social Protection Policy being finalised by the Ministry of Gender, Labour and Social Development (MGLSD) outlines a clear vision for how the current social protection system can be strengthened. It defines social protection as “the public and private interventions to address risks and vulnerabilities that expose individuals to income insecurity and social deprivation, leading to undignified lives”.

The policy outlines two pillars: social security and social care and support services. Social security is comprised of social insurance (or contributory social security such as pensions or health insurance) and direct income support. Direct income support comprises non-contributory transfers to extremely vulnerable individuals and households without any form of income security. Social insurance is a contributory system to mitigate livelihood risks and shocks such as retirement, loss of employment, work-related disability and ill-health. Social care and support services are concerned with provision of care, support, empowerment and protection to vulnerable persons who are unable to fully care for themselves.

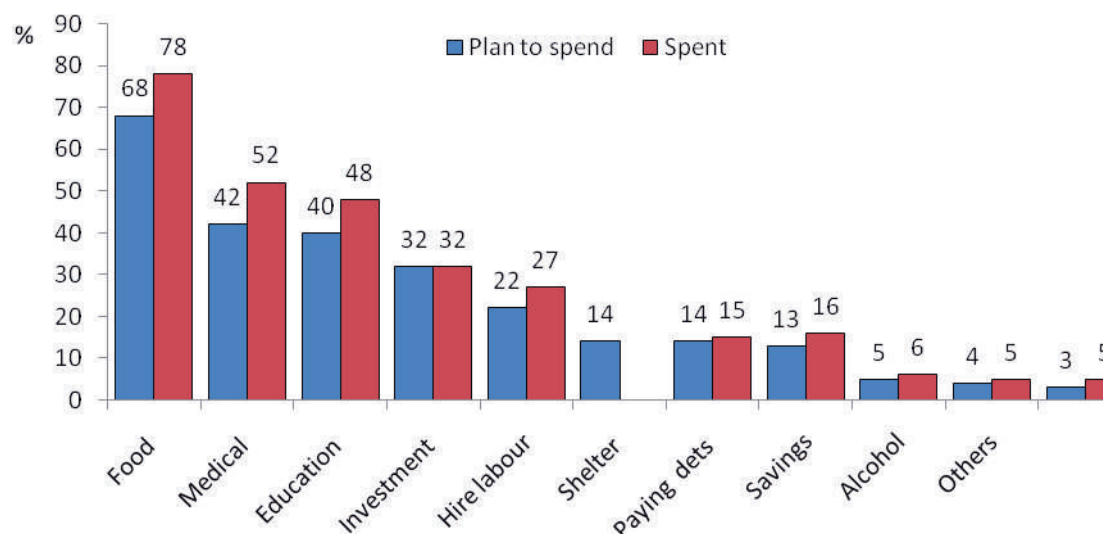
Direct Income Support

Since June 2010, MGLSD has been spearheading the Expanding Social Protection (ESP) programme. Supported by £50 million from development partners,¹³ the key outputs of the programme include a pilot direct income support scheme – Social Assistance Grants for Empowerment (SAGE) – and formulation of a viable policy and fiscal framework for social protection. In a joint Memorandum of Understanding, Government has pledged to provide counterpart funding of up to 15 percent in financial year 2014/15. As a pilot, SAGE is being implemented in fourteen districts in central, western, north-eastern and north-western Uganda.¹⁴ The SAGE aims to generate evidence of the impact of direct income support and to develop and test delivery systems for a national system of direct income transfers.

SAGE consists of two unconditional cash grants: (i) the Senior Citizens Grant (SCG) for citizens aged 65 years and above except in the Karamoja region where it is 60 years and above, and (ii) the Vulnerable Family Support Grant (VFSG) targeting households with high dependency and limited labour capacity. In both cash grants, direct monthly income support of Shs. 25,000 is made to each of the selected beneficiaries.¹⁵ The pilot is expected to reach around 600,000 people in about 95,000 poor and vulnerable households over a period of four years (April 2011 – Feb 2015), covering approximately 15 percent of households in 14 targeted districts.¹⁶

The poverty impacts of the pilot programme are yet to be evaluated but its most immediate effects are positive and has been met with considerable support among its beneficiaries. The Mini PPA found evidence of enhanced income security among beneficiaries – the cash transfer directly increased the incomes of beneficiaries and their ability to purchase consumption goods, including food, and hire labour to use in productive activities. This is consistent with findings from the Expanding Social Protection (ESP) programme exit survey conducted in July 2012 which found that beneficiaries of SAGE spend their grants on food, education and livelihood related items, and save the remainder (Figure 4.2).

Figure 4.2 Use of unconditional cash payments by SAGE beneficiaries



Source: ESP Exit Survey.

The grants have also enabled beneficiaries to acquire assets and carryout investments and join credit and savings groups (Boxes 4.2 and 4.3). Many beneficiaries are also now able to receive goods on credit from shop owners in their respective villages. SCG recipients are assumed to be more credit worthy, which has facilitated an expansion in access to credit for consumption and investment purposes. This is helping to fuel agricultural productivity and business growth in pilot SAGE regions.¹⁷ In Katakwi, three local markets have been reported to have opened in response to the programme,¹⁸ and there has been an alignment of market days to

suit SAGE pay days.¹⁹ Savings groups are not only helping the beneficiaries to save money and take advantage of business opportunities, but are also helping to build social security and community cohesion.

Box 4.2 The experience of a 71 year-old recipient of the VFSG in Atopi Parish, Apac District

She has a 72 year-old husband and cares for 7 of her grandchildren who have been orphaned. The grant has reduced the family's vulnerability by:

- i. Helping to fund a business start-up selling local brew.*
- ii. Asset acquisition in the form of a cow purchased for Shs. 600,000 (Shs. 400,000 from business profits and Shs. 200,000 from savings from the grant). The cow has now given birth to a calf.*
- iii. Funding the schooling for all orphans and therefore facilitating social mobility.*



Source: MPFED (2014c), Participatory and Qualitative Assessment of the SAGE Programme in Uganda.

Many grant recipients have also improved their housing conditions and benefited from greater social inclusion, resulting in improved social, emotional and physical security. SAGE beneficiaries and their households are experiencing improved socioeconomic representation in their communities as a result of the cash transfers.²⁰ The grants are also enabling orphans to remain in UPE schools by helping to cover the costs of scholastic materials and food.

In a few cases, the SAGE programme has been affected by incidents of fraudulence. Some chiefs have been suspected of deceitfully assisting the elderly in collecting grant payments on their behalf. This is possible since MTN agents make e-payments through SIM-embedded cards without requiring the presence of the beneficiary themselves. Cases of connivance by family and friends to conceal the death of beneficiaries have also been reported in some districts. However, these instances of fraud are being addressed, and relative to many other Government programmes, the use of mobile money services to disburse the grants has dramatically reduced administrative costs and financial leakages.

Box 4.3 The experience of a 62 year-old recipient of the VFSG in Oboko Village, Nebbi District

The grant has helped her to improve her shelter conditions, acquire assets and start up a business. She has built a new hut valued at Shs. 120,000 and acquired a goat. She has also joined a savings group with 20 other SAGE beneficiaries. Group members pool Shs. 5,000 each and pay out about Shs. 100,000 to a given member on a weekly basis. Members are willing to participate in the group since they know SAGE beneficiaries receive a reliable inflow of cash each month to provide a regular source of savings to the rotating fund. Her participation in the savings group has allowed her to set up her own business baking pancakes and selling them in the local trading centre.



Source: Participatory and Qualitative Assessment of the SAGE Programme in Uganda, Ministry of Finance Planning and Economic Development, 2014.

The Senior Citizen Grants has been effective in targeting those in need and is strongly supported by the broader communities and political leadership. However, targeting of the Vulnerable Family Support Grants has been less efficient. The VFSG uses an automated system of targeting which selects beneficiaries based on family size and number of children. This approach is poorly understood and often unpopular with beneficiary communities. Some of the selected beneficiaries under VFSG in Kiboga Town have instructed SAGE to remove them from the list, and some households with multiple deprivations have not been identified as targets by computer algorithms.

Contributory pension schemes

Contributory pension schemes are an important element of Uganda's social insurance system, and help to mitigate the lower income-earning capacity and greater vulnerability of older persons. All public servants benefit from the Public Service Pension Scheme (PSPS), while employees in the private sector may contribute to the National Social Security Fund (NSSF) or other voluntary schemes. Government is taking steps to improve the design and management of the country's pension system, and enhance coverage so as to reduce the proportion of the population at risk of poverty in their old age.

The Uganda Retirement Benefits Regulatory Authority (URBRA) was established in 2011 to improve the security of pension savings. The Retirement Benefits Sector Bill proposes to extend coverage to all workers in the formal sector, rather than

those in firms employing five or more workers, as is currently the case. This will extend coverage to a potential 2.5 million workers, or 17 percent of the current labour force. Under the bill, employees and employers in the informal sector or self-employed workers can also choose to make voluntary contributions into a licensed retirement benefits scheme.

Health insurance

Vision 2040 identifies universal health insurance as one of the key strategies to improve the efficiency, cost-effectiveness and responsiveness of Uganda's health service delivery system. The Ministry of Health has proposed plans for a National Health Insurance Scheme (NHIS). Under the scheme, persons employed in formal employment will be expected to contribute to and benefit from the scheme, helping to increase financing for the health sector. The NHIS is also an opportunity to ensure that poor and vulnerable people are able to access quality health services at affordable prices.

Notes for chapter 4

¹Uganda Aids Indicator Survey (2011).

² Uganda AIDS Commission (2012)

³ Evidence from Mini PPA male FGD in Nebbi District: "We are told these days a HIV positive mother can give birth to a healthy baby without HIV infection. This was not the case in the 1990s and even early 2000s".

⁴MFPED (2013a).

⁵ 2.1 million (13.7 percent) of children are cared for by an older person – Ministry of Gender, Labour and Social Development.

⁶ The inability to afford basic scholastic materials to take advantage of UPE and USE was a common characteristic of poor households across Mini PPA districts.

⁷Social Protection Review – Ministry of Gender, Labour and Social Protection (2014).

⁸MFPED (2012b).

⁹Uganda Demographic Household Survey (2011).

¹⁰Social Protection Review – Ministry of Gender, Labour and Social Protection (2014).

¹¹ See econometric results in annex A.

¹²Blattman et al. (2013), 'Generating Skilled Self-Employment in Developing Countries: Experimental Evidence from Uganda', *Quarterly Journal of Economics* 57.

¹³DFID, Irish Aid and the United Nations Children's Fund (UNICEF).

¹⁴ The 14 districts include: Apac, Kaberamaido, Katakwi, Kiboga, Nebbi, Kyenjojo, Moroto, Nakapiripiri, Amudat, Kyegegwa, Kyankwanzi, Zombo, Napak and Kole.

¹⁵ To date, there is a total of 72,323 beneficiaries (SCG—59,656 and VFSG—12,667).

¹⁶MoGLSD (2014).

¹⁷ These findings are consistent with Irahim and Namuddu (2014) who find transfers are contributing to booming business in pilot districts.

¹⁸ In Abaratake, SAGE beneficiaries voiced their request for the creation of a market through their parish chief and it was approved.

¹⁹ Recipients in Kaberamaido District have also succeeded in convincing their local leaders to open up markets in their locality and attract traders.

²⁰ During the Mini PPA exercise in Nebbi the elderly voiced that they are now being involved in decision making unlike previous years: "In the past we had no sources of income, with Government programmes like SAGE we are able to get money and buy things and hire labourers to build for houses for us the elderly."

CHAPTER 5: CONCLUSIONS AND POLICY RECOMMENDATIONS

Drawing together the key findings of the report; this section provides recommendations to inform a set of complementary policies to encourage inclusive patterns of structural change that generate productive employment, and reduce poverty and vulnerability. The recommendations are intended to inform both preparation and implementation of the second NDP, and prepare Uganda for the post-2015 development agenda and the launch of a set of sustainable development goals, which will undoubtedly feature the eradication of poverty as a central objective.

The first NDP in 2010 rebalanced the policy agenda in Uganda towards long-term issues related to structural change, productive capacity and the employment potential of economic sectors. This signalled a broadening of Government's objectives, beyond the narrow focus on extreme poverty which characterised the Poverty Eradication Action Plan (PEAP). With most gaps in basic public services addressed, to sustain progress Government increasingly needs to harness the poverty-reducing potential of economic growth, wealth creation and structural change.

Chapter 3 demonstrates the numerous channels through which growth and structural change help to reduce poverty. Economic growth is required to create jobs to employ the working poor and their children, but there are many more indirect benefits. For instance, demand resulting from growing urban markets and an increasingly connected region have helped the large majority of the poor engaged in agricultural production, and created a growing number of off-farm income-earning opportunities. Growth of agro-processing, financial services, telecommunications, transport and storage services and many other sectors is also benefitting agricultural households. Government's tax revenues have grown with GDP, helping to finance the expansion of services such as health, water and education, and public investment in roads and energy.

The broad distribution of economic opportunities is not only important for reducing poverty, but is also critical for sustaining growth and structural change. The simulation results presented in Chapter 3 indicate that growth without improvements for the poorest households will be self-limiting, mainly due to the smaller domestic market. On the other hand, broad-based growth driven by the agricultural sector allows for a larger pool of domestic savings to finance an expansion in private investment, while stronger domestic demand and relatively

cheap agricultural commodities ensure high investment returns and strong employment growth.

Government's strong emphasis on physical infrastructure will help to sustain economic growth and create productive and stable employment opportunities for Uganda's growing labour force, and will eventually deliver socioeconomic transformation as articulated in Vision 2040. However, Chapter 4 demonstrates that the poorest and most vulnerable households require support in order to exploit the emerging economic opportunities. Government must therefore complement its strategy for economic growth with targeted interventions to build the productive capabilities and resilience of vulnerable households. These interventions will allow all households to save for the future, invest in productive assets and embrace higher-risk high-value activities, and are therefore a critical element of Uganda's transformation process.

5.1 Macroeconomic management for structural change and poverty reduction

Over the last 25 years Government has focused on facilitating the private sector – for example by ensuring macroeconomic stability, and more recently stepping up infrastructure investments. This has enabled the private sector to evolve and take advantage of significant investment opportunities, but more needs to be done. Government must play a more active role in addressing the constraints to private-sector-led growth, adjusting its macroeconomic framework to accommodate more rapid infrastructure investment and incentivising the flow of private-sector credit to social priority sectors.

Government's macroeconomic framework must accommodate more rapid infrastructure investment for structural change and poverty reduction. Public infrastructure investment – in transport, energy and ICT – has increased dramatically since the beginning of NDP I, and has already helped to enhance growth, create jobs and reduce poverty. However investment has been significantly lower than planned, partly reflecting inconsistencies between the NDP and Government's fiscal framework.¹ These inconsistencies must be resolved, particularly as infrastructure investment requirements are set to double during the NDP II period.² The macroeconomic framework used to prepare the annual budget must capture the linkages between expenditure, economic performance, and future Government revenue. It may be advisable to tolerate larger fiscal deficits and moderately higher inflation in the short and medium term, to ensure that higher infrastructure investment accelerates growth and reduces Uganda's macroeconomic vulnerability in the long term.

Macroeconomic policy should allow for moderately higher inflation as structural change accelerates. Higher inflation may result from relative price effects associated

with structural change. As production in the non-agricultural sector expands more rapidly than the agricultural sector, the relative price of food will increase. Higher food prices are an important way that farmers benefit from the growth of the non-agricultural economy. But from a macroeconomic perspective, this is likely to create inflationary pressures – since the price of non-agricultural goods is unlikely to fall by a corresponding amount.³ As structural change accelerates, macroeconomic policy must take account of these intersectoral effects. An overly cautious monetary policy may hinder relative price adjustments and restrict the benefits of growth to a narrower section of the population, thereby undermining long-term growth potential.

Development banking and credit allocation policies need to be enhanced. Credit to certain sectors and activities – such as agriculture and SMEs – can have an important impact on structural change and poverty reduction. Recapitalising Uganda Development Bank (UDB) would help to expand the amount of subsidised credit for social priority activities – which might include commercially orientated smallholder farmers; SMEs; farmer groups and business associations. In addition, asset reserve requirements can be used to further incentivise social priority lending. For example, Government could set requirements for commercial banks to hold a minimum percentage of their loan portfolio – say 18 percent – in social priority sectors, or else hold the same proportion of their assets in a sterile cash reserve. To safeguard financial stability, Uganda could make such a system more flexible by allowing banks to lend to priority sectors indirectly, so that banks with particular expertise can account for a larger share of social lending.⁴ This would incentivise private financial institutions to lend to firms engaged in the targeted industries and activities, since any assets held in the cash reserve will not earn any interest income.

The scaling up of partial loan guarantees will help to expand financial access to higher-risk borrowers. Many firms and small-scale entrepreneurs are willing to borrow at prevailing market interest rates but commercial banks are unwilling to lend to them due to the difficulties associated with screening and monitoring higher-risk clients. Partial loan guarantees would help to increase the expected return from lending out funds to borrowers perceived to be high risk and therefore incentivise such lending, and may also help to bring down market interest rates. Government is already providing loan guarantees on a relatively smallscale through the Agricultural Business Initiative (aBi) Trust, but this needs to be extended to benefit more SMEs, particularly in agriculture and agro-processing. Beneficiaries of such schemes have experienced rapid employment growth, contributing to expanding incomes and reduced vulnerabilities.⁵

Credit conditionalities linked to skills development could also help to reduce risks associated with lending to less-established firms and entrepreneurs. Government-supported agencies such as Enterprise Uganda the Private Sector Foundation (PSFU) currently provide a comprehensive range of business development services (BDS) to assist both start-ups and existing businesses to overcome constraints and

prepare plans for expansion. These include: entrepreneurship training; business planning; marketing technology; business linkages; and business advisory and counselling services. Government could, for example, encourage commercial banks to lend to entrepreneurs and businesses that have completed intensive training courses (such as those provided by Enterprise Uganda) relevant to the planned use of funds.⁶ The skills and knowledge extended by such courses could be used as a screening device, since they would reduce the risk associated with the failure of borrowers' projects or an unproductive use of funds. Such a scheme would also help to incentivise the uptake of skills development courses related to entrepreneurship and business development.

5.2 Agricultural transformation

Structural transformation must begin in the agricultural sector – which currently employs 72 percent of the labour force and has significant potential for productivity improvements. According to a recent study by the Ministry of Finance, Planning and Economic Development, agricultural productivity growth has the potential to create almost 1 million additional non-agricultural jobs by 2040, while growth driven by services or manufacturing without corresponding improvements in the agricultural sector has limited job creation potential.⁷

Government needs to foster farmer organisations. A number of farmer organisations (e.g. coffee and tea producers) have emerged organically in Uganda. These groups have demonstrated that organised farmers can benefit from improved and stable prices as well as lower input costs and extension services. Farmers associations that have emerged organically are more likely to take account of local conditions and respond to the needs of their members. Government should therefore focus efforts to support the operations of existing organisations. For example, strengthening the Warehouse Receipt System or introducing a loan scheme, or incentivising private financial institutions, to support farmer and producer organisations would allow them to purchase large volumes of members' produce for bulk sale on a cash-payment basis. This would help to lower operational costs and increase prices paid to members.⁸

The promotion of agro-ecological zones will help to incentivise agro-processors to develop linkages with farmer organisations. Agro-ecological zoning can help to encourage farmer organisations specialised in a single crop or commodity. Such organisations would be of a larger scale and have to operate in a competitive environment. Cost sharing related to research, input supply, extension, credit, produce collection and marketing helps to increase the returns on member investments. Such clustering will also provide incentives for agro-processors to establish partnerships with farmer organisations, since it will facilitate the bulk purchase of a specific input. Government would be required to establish supportive regulatory and incentive frameworks to create competition, ensure quality

standards, and respect contractual arrangements between agro-processors and farmer organisations. Partnerships between Government and agro-processors can also facilitate agro-processors to provide services to farmer organisations that the Government is less well-placed to provide (e.g. extension services and skills development).

Produce markets need to be better regulated to ensure fair prices for farmers. Farmers are currently disadvantaged since traders and agro-processors often dictate crop prices which are significantly lower than those prevailing in local and export markets. A regulatory body should be created to ensure farmers receive fair and stable prices for their produce, without reducing healthy price competition in the market. As contract farming arrangements grow more common, it is important to provide farmers with recourse to resolve any disputes that arise. Market regulation will also help to respond to the challenge of compromised quality and therefore improve Uganda's competitiveness in world export markets. Strong farmer organisations would also facilitate farmers to collect their produce and sell in bulk to factories and other end buyers at mutually agreed on prices.

The Uganda National Bureau of Standards (UNBS) needs to be equipped to enforce bans on the importation and sale of substandard and counterfeit agro-inputs and manufactured products. Many farmers and traders are frustrated with common purchases of fake or substandard inputs, chemicals, seeds and equipment. Improved regulation of product standards is therefore required in order to ensure the continued growth of agricultural mechanisation and non-farm trading activities.

Government needs to enhance efforts to promote the development of agribusinesses and market-oriented production. A semi-autonomous body – possibly partnered with the School of Food Technology, Nutrition and Bio-Engineering at Makerere University – is needed to facilitate the growth of small and medium agribusinesses. Government should also increase its partnerships with private actors to promote the integration of smallholder farmers into larger value chains. The viability of applying the broad design and concept of the Vegetable Oil Development Project in Kalangala to other cash crops and regions in Uganda needs to be explored. Such arrangements provide benefits to smallholder farmers in terms of increased and more stable demand for their products, and often credit, training and other inputs provided by agribusinesses.

NAADS needs to be restructured to focus less on input provision and more on providing quality extension and advisory services. An electronic voucher system could help to improve efficiency and address the design and implementation weaknesses in the provision of inputs via NAADs, and help to develop input markets.⁹Efficiency savings should be invested into enhancing extension and advisory services. Extension advice is found to be most effective when delivered by large-scale commercial farmers and agribusinesses. NAADS could therefore contract

more Private Service Providers (PSPs) or agribusiness ventures with specialised skills in value addition, market knowledge and expertise in appropriate technologies. Support for existing and new learning demonstration sites should also be considered to allow farmers to try new practices on the farm. Farmer organisations could be encouraged by delivering extension and advisory services to established farmer groups. This would also help to reduce the total costs of providing these services.

More resources are required for adjudication, consolidation and registration of land in all areas of the country, particularly in the north and east. Overlapping rights and the lack of full ownership under customary tenure systems mean farmers are less likely to invest in the land they cultivate. This is estimated to reduce agricultural productivity by at least 25 percent.¹⁰ Government has made significant progress in converting customary and leasehold tenure to freehold in the central and western regions, and this has strengthened tenure security, and facilitated agricultural investment and land market activity, helping to explain the dynamism of the agricultural sector in these parts of the country. Extending the benefits of land tenure security will require more resources for land registration and adjudication, particularly in the north and east.

The Ministry of Agriculture, Animal Industry and Fisheries needs to maintain its focus on long-term food security concerns. Food insecurity is a particular issue in districts suffering from regular adverse climatic shocks and is an increasing challenge for farmers engaged in commercial agriculture. Improved storage and post-harvest handling systems are required, along with improved irrigation systems and a private market in weather-indexed insurance. The latter would be facilitated by constructing more weather stations to improve the country's weather measurement and forecasting capacity. Smallholder farmers in the areas most prone to irregular rainfall should receive training on the purpose and benefits of weather insurance. Government may need to temporarily subsidise farmers' insurance premiums in the face of initial apprehensions related to the unfamiliar financial product. Improved market connectivity and distribution networks will help to reduce the food insecurity of farmers that rely on cash crops. Large commercial projects such as VODP that work directly with smallholders should extend training in food security best practice.

SACCOs need to be restructured to increase effectiveness and sustainability. SACCOs have significant potential to strengthen agricultural value chains. SACCOs in Western Uganda which have been built around production chains have been particularly successful and long lasting. Capacity building efforts should focus on increasing lending for production purposes (e.g. purchasing seeds or fertilisers or hiring labour) or for asset financing in a value chain model. The promotion of SACCOs to serve specific sectors (e.g. tea, sugarcane, coffee and fishing) could facilitate shared investments to enhance production capacity. SACCOs could also position themselves in contract production systems, where volumes and prices are determined in advance. This would help to encourage the extension of production

loans and facilitate the collection of the payment of contracts directly into the accounts held by their members. These SACCOs could replicate the credit extension model used by the Kalangala Oil Palm Growers Trust (KOPGT), which lends to farmers on the basis that funds will automatically be deducted from their marketed output.

SACCOs need to be empowered to promote a savings culture. Many Ugandans primarily react to short-term considerations rather than exploiting opportunities for long-term gain, driven by food insecurity and other pressures. Capacity building of SACCO staff in understanding and communicating the importance of savings and forward planning for improved livelihoods would help to encourage a savings culture among SACCO members. Greater savings will lead to wealth creation and the accumulation of productive assets as well as facilitating improved governance and sustainability of the SACCOs. Effective regulation of the operation of SACCOs, through the Tier IV bill, is also required to curb cheating by members or fraud among the SACCO leadership.

5.3 Managing urbanisation, creating employment and building productive capabilities

Uganda's urbanisation rate increased from 15 percent in 2009/10 to 23 percent in 2012/13. Structural change is likely to further increase urbanisation in the coming years. Government interventions are therefore needed to support labour demand in urban areas and ensure public services and housing can respond to the growing demand from an increasing urban population. To enable all Ugandans to take advantage of the available jobs and other income-earning opportunities, Government must also expand access to skills development, particularly for self-employment generation.

Government needs to address bottlenecks in the housing construction sector. To avoid a rapid increase in disorganised slum developments – which are often characterised by unsanitary conditions – the construction sector needs to respond to the increasing demand for housing in urban areas. In recent years, construction costs have accelerated and surpassed general inflation. Addressing the constraints the sector currently faces is therefore important; these include: high transport costs, inadequate skills, inappropriate building regulations, and limited access to land and finance. Vocational skills development will be particularly important for increasing the supply of trained bricklayers, electricians, welders and plumbers. Government will need to step up its role in the housing finance market to ensure credit availability for small construction firms and mortgages; and also ensure its urban planning processes provide for the necessary infrastructure prior to any settlements. The construction of affordable formal housing in growing urban centres will help to expand employment opportunities, particularly if driven by small construction firms using labour-intensive techniques.¹¹

Kampala Capital City Authority (KCCA) should expedite plans to decongest the city. Congestion is becoming a serious problem in Kampala and is contributing to increased time and money costs for businesses operating in the city. The road network needs to be improved and expanded to accommodate the increasing numbers living and working in Kampala. KCCA should strengthen forward planning when relocating vendors to allow for provision of reasonable alternative work spaces. Government should also consider the construction of a city railway system to ease the movement of commuters in the long term.

More interventions are required to ensure urban areas can productively employ the rapidly growing labour force. The majority of migrants are currently absorbed into informal employment, often characterised by low productivity, poor remuneration and limited social protections. Stronger regulation of these activities will help to reduce this phenomenon and improve working conditions. Government also needs to play a more active role and support the private sector to expand operations and increase formal employment. Rather than providing further subsidies or tax exemptions, it is most important to remove the binding constraints to firm growth; these include: skill deficiencies; infrastructure bottlenecks; limited professional management capacities and inadequate access to affordable credit.¹²

Incentives for firms to hire more workers should be considered. Such incentives could take the form of Government subsidising wage payments, covering the business' NSSF contributions, or facilitating access to cheap credit. This may require significant Government funds, but could reap large benefits in terms of employment and incomes, private sector growth, and improved economic performance. The incentives could be made conditional on firms expanding their workforce by a given percentage over a certain period. Only supporting private players that make a large contribution to employment creation would limit the fiscal burden of the incentives, but monitoring and administrative costs would have to be well managed.

Government should ensure foreign investors maximise their employment impact and knowledge transfer. Uganda has the highest rate of Foreign Direct Investment in East Africa, but many foreign firms invest in capital intensive sectors such as real estate and create limited employment or income-earning opportunities for Ugandans. Government could consider a local employment target, of say 40 percent, to ensure Ugandans gain in terms of increased employment, but this may discourage prospective investors and it is more important to maximise the indirect benefits of FDI. To access Government support, potential investors could be required to complete an employment impact statement, including the indirect employment effects of the proposed project (i.e. the up- and downstream impact when the foreign investor purchases inputs from Ugandan firms). Together with a local content policy, this would help to encourage inter-firm linkages and knowledge spillovers. It is particularly important for local SMEs to pick up knowledge, skills, technology and information through increased interaction with foreign enterprises.

A more active Government role is needed to encourage the growth of productive clusters. The establishment of Special Economic Zones and Industrial and Business Parks must be expedited to facilitate clustering of activities in areas where all the essential public inputs are available. Other productive clusters could be encouraged by creating a fund to support groups of at least five businesses operating in the same industry. This would help to facilitate collaboration, enhance economies of scale and innovation and knowledge transfer, and ultimately create jobs.

Skills development has an important role to play in increasing the employability and productivity of Ugandans. Most of the unemployed participants in the Mini PPA identified limited skill sets as the key explanation for their situation rather than a lack of employment opportunities. Skill gaps – including a lack of quality technical-vocational skills, business management skills and financial literacy – threaten to limit the growth of key sectors and productive employment opportunities. Government has significantly increased funding for BTJET, but enrollment remains relatively low.¹³ Government needs to expand BTJET enrolment to meet the large unmet demand for vocational courses among disadvantaged sections of the population. To capitalise on the recent shifts to agricultural commercialisation and agro-industry, skills need to be developed in small process machine manufacturing, plant maintenance, product packaging and branding, distribution, marketing, storage and post-harvest management. Specialised training for potential professional entrepreneurs should be expanded to enhance financial literacy, opportunity identification, firm formation and business professionalism. Regular training needs assessments and a National Manpower Survey are also needed to assess the progress made by non-formal BTJET service providers and to identify remaining skill gaps.¹⁴

5.4 Building social resilience

Despite the significant achievements in poverty reduction over the last two decades, over half of the Ugandan population is still considered vulnerable. Structural change will sustain poverty reduction in the long-term. However, the impact of structural change on poverty and vulnerability may not be instantaneous; targeted policy measures are needed to support vulnerable individuals. Social protection interventions can build resilience, and enable all Ugandans to enhance their human capital and contribute to the country's transformation process.

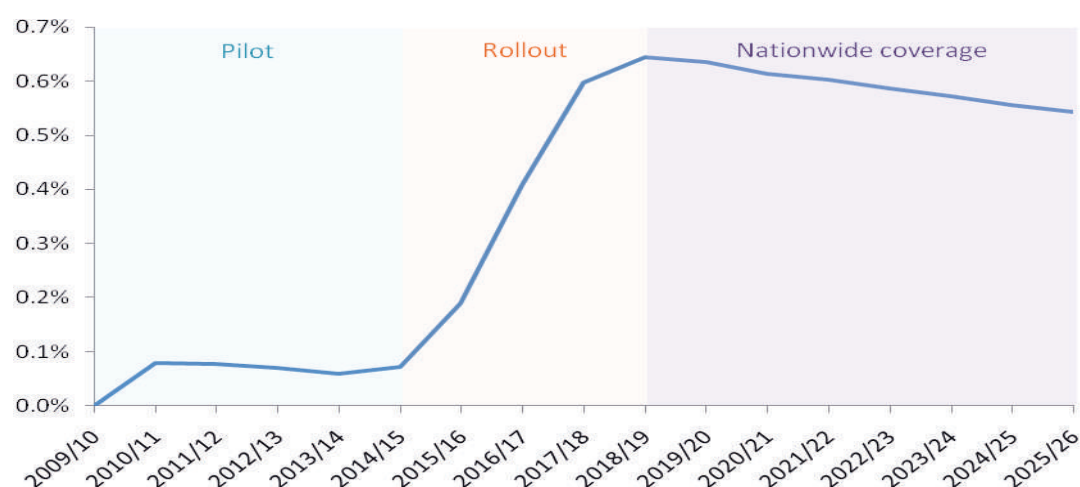
A greater share of Direct Income Support should be channelled through unconditional cash transfers, rather than higher cost Public Works Programmes (PWPs). The majority of PWPs have focused on the completion of community infrastructure projects rather than the employment provided or the long-term impact of this on beneficiary households.¹⁵ Government could consider establishing a

coordinated large-scale public works programme, but this would need to be motivated in terms of social protection – as a guaranteed source of employment for those suffering from short-term shocks. Relying on PWPs as a solution to Uganda’s infrastructure deficit risks reducing the efficiency of Government’s public investments. PWPs currently cost \$3 to \$5 for every \$1 transferred.¹⁶ It may be more cost-effective to allocate greater financial resources to other Direct Income Support measures such as unconditional cash transfers.

Government should examine expanding its Senior Citizens Grant (SCG) under the SAGE programme subject to its fiscal risk assessment framework. The SCG has proven to be cost-effective¹⁷ and very popular among beneficiaries, as well as the broader communities in the 14 pilot districts. The short-term, direct impact of rolling out the SCG nationally would be to reduce the poverty rate by 4 percentage points, but there may be even larger indirect and longer-term benefits. In the pilot districts, the grants are stimulating local businesses that are benefiting from increased demand for basic goods and services. At a national scale, such a flow of resources down to the village level would have a major economic impact that would benefit the entire population, not just SCG beneficiaries.¹⁸ The recipients are also using the grants to save, invest in productive assets, start businesses, hire labour and pay school fees – meaning that the benefits of the programme are likely to grow over time.

A national SCG would be financially sustainable over the long term. Importantly, the senior citizen population is projected to grow significantly more slowly than GDP and Government tax revenue. This means that the fiscal burden imposed by the programme will reduce over time (Figure 5.1). If Government phased the national rollout over a four-year period from 2015/16, the total cost of the programme would peak at around 0.6 percent of GDP in 2018/19.¹⁹ The relative cost of the programme would then fall, while the benefits of the transfers are expected to increase over time. Although the returns are potentially high, a nationwide expansion entails a significant financial commitment which Government must consider carefully. To minimise the fiscal tradeoffs, rollout of the programme should be accompanied by enhanced domestic resource mobilisation and a reduction in lower-priority recurrent spending.

Figure 5.1 Fiscal cost of expanding the Senior Citizens Grant, % of GDP



Source: MAMS simulation results. Notes: Projections assume that the national rollout is spread over 4 years between 2015/16 and 2018/19; the grant amount is kept constant in real terms (adjusted for inflation); the senior citizen population grows at same rate as overall population growth (around 3% per year, this is a conservative assumption given that past growth has been around 2.2% per year); the rollout is funded through tax reforms to increase domestic resource mobilisation; and GDP growth in the baseline scenario (without rollout of the SCG) is 7% per year.

A pension scheme should be designed specifically for informal sector workers. The Retirement Benefits Sector Bill is a good first step to extending pension coverage. However, given that the majority of Ugandans work in the informal sector, it is necessary to design pension schemes tailored to the needs of small informal firms and rural farmers. Uganda can learn from Kenya's success in expanding pension coverage to the informal sector. The Retirement Benefits Authority (RBA) of Kenya established the Mbao pension plan in June 2011, which covers micro, small and medium enterprises and Jua Kali Associations. Members must save at least 20 Kenyan shillings per day towards retirement and can make payments through M-PESA and Airtel money transfer services. The flexibility and accessibility of Mbao has made it the largest single pension plan in Kenya.²⁰ The strong mobile money payment infrastructure in Uganda would facilitate the development of a similar scheme for Ugandan workers operating in the informal sector.

Government needs to enhance the efficiency and quality of public healthcare services. Evidence from the Mini PPA suggests that progress in reducing drug stock-outs may have slowed. Interventions that have proved successfully in the past must be sustained, including improvements in supply chain management within the National Medical Stores and Government's medicine grant for private not-for-profit providers. In addition to ensuring regular supplies, monitoring and evaluation of facilities and skilled health professionals should be enhanced. Malaria interventions have improved health outcomes in many areas. The Village Health Team system should be supported to strengthen preventative measures in other areas, such as de-worming and improved sanitation practices.

There is a need to pilot schemes to extend health insurance coverage to the poor and vulnerable within the emerging social protection system. The proposed National Health Insurance Scheme (NHIS) covers persons employed in the formal sector, but leaves out the large majority of poor and vulnerable households engaged in informal income-generating activities. The draft health insurance bill should be reviewed to ensure that poor and vulnerable people are able to access quality health services at affordable prices. Government might consider means of linking cash transfer programmes with a subsidy for health insurance premiums. Such approaches to extending health insurance coverage are being used in Ghana and piloted in Kenya, while Rwanda has successfully extended coverage through a community-based health insurance scheme.

Notes for Chapter 5

¹ Lower public investment was mainly on account of lower-than-planned borrowing – since the start of NDP I, the fiscal deficit has averaged 3.6% of GDP, compared to the 5.5% of GDP planned in the NDP (MFPED 2014c).

²MFPED (2014c).

³ Ray (2010), 'Uneven growth: a framework for research in development economics', *Journal of Economic Perspectives* 24(3): 45-60.

⁴ See MFPED (2014b) for more details.

⁵ For example, Ugandan SMEs that borrowed with the support of the USAID-funded Development Credit Authority – which uses a similar approach to the aBi Trust – almost tripled their employment, on average creating 13 full-time jobs. USAID Uganda (2007), 'Evaluation of DCA Guarantee Programs & Impact: 2002-2007'.

⁶ This could be combined with the system of sector-specific asset reserve requirements, such that lending to these enterprises would count towards the banks' social priority portfolio.

⁷MFPED (2014b).

⁸International Food Policy Research Institute (IFPRI) (2010), 'Revival of Agricultural Cooperatives in Uganda', International Food Policy Research Institute Policy Note No. 10.

⁹ For more details see MFPED (2013b).

¹⁰Deininger and Ali (2008).

¹¹Collier and Venables (2014).

¹² Refer to MFPED (2014b) for specific policy recommendations on how to ease these constraints.

¹³ Public providers accommodate only around 1% of P7 completers, 3% of O-Level and 7% of A-Level graduates. Even when also accounting for private providers, enrolment levels are significantly short of the NDP targets which envisage the sub-sector enrolling 10% of all P7 completers and 30% of O-Level graduates.

¹⁴ It is particularly important to identify the skills in short supply that are required by oil-related industries, and other social priority sectors such as agro-processing, construction, building and industrial materials.

¹⁵The design of the largest PWP programme under NUSAF 2 provides assistance dependent on the approval of community proposed projects which will provide employment. The programme does not guarantee social protection or a minimum number of days of employment.

¹⁶Strategic role of social protection in poverty reduction efforts in Uganda – MoGLSD (July 2014).

¹⁷ The MTN Mobile Money System used to make payments is cost effective, efficient and accessible to most beneficiaries. MTN charge only 3.5 percent of the value of the transfer in fees, allowing SAGE to operate with much lower administrative costs and financial leakages than other Government programmes.

¹⁸ For example, spending on agricultural goods has an income multiplier of 2.09. Since rural households spend around 70 percent of their consumption on food, a nationwide SCG would likely have significant multiplier effects.

¹⁹ This is equivalent to around 2.5% to 3% of total Government expenditure. This is slightly higher than estimates produced by MLGSD, reflecting more conservative assumptions regarding growth of the elderly population.

²⁰ Uganda Economic Update - Reducing Old Age and Economic Vulnerabilities: Why Uganda should Improve its Pension System. World Bank (June 2014).

Annex A: The drivers of poverty reduction and household consumption growth: an econometric analysis of the Uganda National Panel Survey

The Uganda National Household Surveys (UNHS) suggests that recent poverty reduction has been uneven – with larger gains achieved in the western region compared to the east, and in rural areas compared to urban, for example. The strong performance of the western region has been attributed to a number of factors such as relatively well-functioning agricultural value chains, farmers’ associations and Savings and Credit Cooperatives (SACCOs). This analysis is largely speculative however; efforts to accelerate household income growth across the country should be informed by a more rigorous investigation to identify the most important factors. This annex presents the results of econometric analysis exploring these issues, conducted using the first four rounds of the Uganda National Panel Survey (UNPS).

Diversification of household incomes away from agriculture, rainfall shocks, connective infrastructure, the flexibility of land markets, interactions with large-scale commercial farmers and vocational and technical skills are all identified as important factors affecting poverty reduction and household consumption growth. In contrast, individual labour-market transitions, agricultural extension services and financial service use are not found to have been important factors.

Data and methodology

The UNPS is a nationally representative household survey that tracks the same individuals over time. A subsample of the 2005/6 UNHS (around 3,100 households or one third of the original sample) was selected for follow up in 2009/10, and subsequently in 2010/11 and 2011/12. Having data on the same households at more than one point in time makes it possible to observe dynamic concepts such as chronic and transitory poverty,¹ and makes it easier to analyse causal relationships – and therefore identify the drivers of poverty reduction and household consumption growth.

The UNPS includes detailed socioeconomic and agricultural modules, and has been linked to geospatial data on rainfall (from 2009/10 onwards). This means the analysis can cover the welfare impact of a wide range of potentially important factors, including: Education and vocational training; Household livelihoods; Rainfall shocks; Agricultural extension services; Access to land; and Financial services use. These variables and others used in the analysis are summarized in table below.

It is straightforward to identify the causal effect of exogenous variables – that is those that are random from the point of view of the household. Any systematic correlation between variations in rainfall and household consumption can be interpreted as the result of a causal relationship. But most variables of interest are

endogenous— partly determined by unobserved factors that are also related to household welfare. These unobserved factors may be constant over time (eg. talent) or dynamic (e.g. a temporary setback).

Using panel data, time-invariant unobserved factors can be controlled for using fixed effects, while time-varying unobserved factors can be controlled for using lagged-dependent variables. In many cases both constant and dynamic confounding factors may be a concern, but estimating a model containing both fixed effects and lagged-dependent variables is more challenging.² The standard approach is the generalized method of moments (GMM) estimator derived by Arellano and Bond (1991), but data constraints made this impossible in the current context. However, fixed-effect (FE) and lagged-dependent-variable (LDV) models can be estimated separately. The FE estimates may be biased by time-varying factors, while the LDV are likely to be biased by constant household-specific factors, but the results of the two models should bound the true causal effect (Guryan, 2001).³ In the results that follow both the FE and LDV estimates are reported – when both are statistically significant there is a high likelihood that the true casual effect lies between the two estimates.

Another potential concern is reverse causality. For example, access to land or financial services may result from (as well as cause) household income growth. To isolate the causal impact on household consumption, dependent variables were lagged by one period where appropriate. The main outcome variable is the natural logarithm (log) of household consumption. This is preferred over household poverty status (which is binary: poor/non-poor) as it uses more meaningful variation and avoids the difficulty of estimating marginal effects using a limit-dependent-variable model (which is particularly problematic in the fixed-effects case).⁴ Poverty status is used to supplement the analysis where fixed effects are not required (e.g., when exploring the impact of exogenous rainfall shocks). The analysis is limited to the determinants for income poverty and household consumption, and does not consider other dimensions of poverty. That kind of analysis was performed in Chapter 2, of the report using the National Household Survey data.

Table A.1: Summary Statistics

	2005/6			2009/10			2010/11			2011/12		
	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.
Monthly consumption per adult equivalent, 2005/6 shillings	3,120	70,739	86,786	2,869	68,337	85,900	2,609	62,755	76,714	2,819	70,247	260,593
Household is below poverty line	3,120	0.26	0.44	2,869	0.26	0.44	2,609	0.28	0.45	2,820	0.30	0.46
Household size	3,123	5.37	3.11	2,975	5.94	3.19	2,712	5.72	2.95	2,846	5.69	2.95
Young-age dependency ratio	3,036	1.12	0.99	2,884	1.17	0.98	2,617	1.22	1.07	2,746	1.19	1.03
Old-age dependency ratio	3,036	0.06	0.22	2,884	0.07	0.23	2,617	0.09	0.28	2,746	0.09	0.27
Average years of education for adult HH members	3,078	5.20	3.39	2,851	5.19	3.37	2,614	5.52	3.43	2,831	5.31	3.40
HH member has completed vocational training	3,121	0.11	0.31	2,885	0.13	0.34	2,650	0.13	0.34	2,835	0.12	0.33
Household has income from agriculture	3,123	0.76	0.43	2,939	0.67	0.47	2,631	0.69	0.46	2,805	0.69	0.46
Household has income from non-agricultural enterprise	3,123	0.43	0.50	2,939	0.49	0.50	2,631	0.46	0.50	2,805	0.39	0.49
Household head is a non-agricultural wage worker	2,913	0.19	0.39	2,770	0.17	0.37	2,716	0.15	0.35	2,568	0.17	0.37
Household head is an agricultural wage worker	3,123	0.05	0.22	2,770	0.04	0.18	2,716	0.03	0.17	2,850	0.03	0.16
Annual rainfall more than 15% above long-term average	0	-	-	2,951	0.02	0.14	2,669	0.06	0.24	2,758	0.41	0.49
Annual rainfall more than 15% below long-term average	0	-	-	2,951	0.14	0.34	2,669	0.00	0.00	2,758	0.00	0.00
Wettest quarter more than 30 days later than long-term average	0	-	-	2,951	0.19	0.39	2,669	0.01	0.10	2,758	0.33	0.47
Wettest quarter more than 30 days earlier than long-term average	0	-	-	2,951	0.14	0.35	2,669	0.28	0.45	2,758	0.00	0.06
HH received advice from NAADS	0	-	-	2,946	0.18	0.38	2,665	0.15	0.36	2,853	0.20	0.40
HH received advice from input supplier	0	-	-	2,946	0.02	0.13	2,665	0.00	0.06	2,853	0.00	0.06
HH received advice from cooperative	0	-	-	2,946	0.02	0.13	2,665	0.01	0.10	2,853	0.00	0.05
HH received advice from large-scale farmer	0	-	-	2,946	0.01	0.10	2,665	0.00	0.04	2,853	0.00	0.03
HH received advice from NGO	0	-	-	2,946	0.04	0.20	2,665	0.02	0.15	2,853	0.02	0.13
Value of non-land household assets, 000's 2005/6 shillings	3,118	3,392	15,800	2,958	13,800	75,900	2,709	12,600	63,800	2,806	10,700	37,500
Landholdings household owns, acres	3,123	11.96	364.35	2,946	4.32	19.94	2,696	4.48	27.86	2,852	3.01	6.90
Landholdings household has user rights to, acres	3,123	1.32	17.25	2,946	0.46	1.99	2,696	0.45	1.68	2,852	0.41	1.11
Share of land in community under freehold tenure	3,314	0.07	0.19	3,423	0.40	0.41	3,321	0.44	0.43	3,308	0.36	0.38
Household uses SACCO to save	0	-	-	2,937	0.07	0.25	2,670	0.07	0.25	0	-	-
Household uses SACCO to borrow	0	-	-	2,937	0.13	0.34	2,670	0.15	0.36	0	-	-

Note: Table summarises survey data without using sampling weights or adjusting for attrition; the statistics are therefore not nationally representative.

Education and vocational training

The results in Table A2 support Government's emphasis on technical and vocational training as a means to improve labour productivity and earnings from self-employment. Completing vocational training is estimated to increase consumption by between 7.1 percent and 7.6 percent. The estimated return to vocational training exceeds that of an additional year of formal education. The return to formal education is estimated to be relatively high in the LDV model – illustrating that the better-educated tend to have higher consumption – but the insignificant FE estimate suggests this relationship may not be causal.⁵ A low return to schooling may reflect concerns regarding the quality of education, as well as segmentation of the labour market – meaning that the supply of good jobs is rationed such that large differences in earnings cannot be explained by individual characteristics.

Table A.2: The welfare impact of education and vocational training, FE and LDV estimates

	Fixed-effects (1)	Lagged-dependent variable (2)
Average years of education for adult HH members	0.006	0.066***
HH member has completed vocational training	0.076***	0.071**
Number of observations	10,851	4,732

Notes: **, * and *** indicate the estimated impact is statistically significant at the 10%, 5% and 1% levels respectively. In both columns the dependent variable is log consumption per adult equivalent. Column (1) controls for household level fixed-effects; column (2) controls for household consumption in the previous period. Both regressions controlled for household demographic variables (not reported).

Household livelihoods

Operating a non-agricultural household enterprise is found to increase consumption significantly, by between 6.4 percent and 8.0 percent (Table A.3). This supports the evidence presented in MFPED (2012), which suggested that the dramatic growth of these activities over the last 20 years has been one of the main drivers of Uganda's large reduction in poverty. Activities such as petty trade and informal manufacturing help to reduce underemployment and supplement and stabilise household incomes, even if productivity and hourly earnings are often low.

Table A.3: The welfare impact of household livelihood variables, FE and LDV estimates

	Fixed-effects (1)	Lagged-dependent variable (2)
Household has income from non-agricultural enterprise	0.064***	0.080***
Household has income from agriculture	0.063***	-0.066***
Household head is a non-agricultural wage worker	-0.004	0.024
Household head is an agricultural wage worker	0.051	-0.006
Number of observations	10,350	4,503

Notes: **, * and *** indicate the estimated impact is statistically significant at the 10%, 5% and 1% levels respectively. In both columns the dependent variable is log consumption per adult equivalent. Column (1) controls for household level fixed-effects; column (2) controls for household consumption in the previous period. Both regressions controlled for household demographic variables and the education of household members (not reported).

On the other hand, there is no clear relationship between non-agricultural wage work and the level of household consumption. This likely reflects the low number of regular wage jobs, relative to the number that are temporary or a secondary activity. Given that a large number of workers engage in multiple activities, changes in the structure of primary employment have to date played only a minor role in Uganda's poverty reduction.

Rainfall shocks

Uganda heavily relies on rainfall for her agricultural production. It is therefore not surprising that rainfall shocks are found to have very large impacts on household consumption and poverty. The timing of the rainy season (whether delayed or early) tends to be more important than the total amount of rain over the course of the year, although unusually high annual rainfall (more than 15 percent above average) has a large negative effect in rural areas – perhaps reflecting the disruption caused flooding. For example, the recent increase in rural poverty in the Easter region has been partly attributed to flooding. The impact of rainfall shocks on consumption tends to be higher in urban areas – negative supply shocks are likely to increase food prices, which urban households (as net food purchasers) are most exposed to. But rural areas also experience large negative effects – household consumption is reduced by around 14 percent if the main rainy season begins a month later or earlier than usual (Table A.4). Moreover, with more non-poor rural households closer to the poverty line the impact on poverty is much higher in rural areas – up by 12 percentage points, illustrating the vulnerability of households reliant on rain-fed agriculture.⁶

Table A.4: The welfare impact of rainfall shocks, rural and urban areas

	Impact on consumption		Impact on poverty rate	
	Rural	Urban	Rural	Urban
High rainfall ¹	-8.1%***	n.s.	5.6 p.p.***	n.s.
Low rainfall ²	n.s.	n.s.	6.2 p.p.*	n.s.
Delayed rain ³	-14.0%***	-19.9%***	11.7 p.p.***	n.s.
Early rain ⁴	-14.1%***	-22.2%***	11.7 p.p.***	n.s.
Number of observations	5,240	1,445	5,240	1,445

Notes: ¹Annual rainfall more than 15% above long-term average; ²Annual rainfall more than 15% below long-term average; ³Wettest quarter of the year more than 30 days later than long-term average; ⁴Wettest quarter of the year more than 30 days earlier than long-term average. *, **, and *** indicate the estimated impact is statistically significant at the 10%, 5% and 1% levels respectively; n.s. means the estimated impact is not significant at the 10% level. The impacts on consumption are estimated using a random-effects linear model; the impacts on poverty are estimated using a random-effects logit model. All regressions controlled for household demographic variables, the education of household members, and labour market variables (not reported).

The impact of delayed rains is larger in hard-to-reach areas (those more than 10km from a main road), relative to better-connected rural areas (Table A.5), suggesting that connectivity and integration into regional and national markets can mitigate localised supply shocks. This may help to explain why rural areas with better connective infrastructure in the western and central regions have achieved the largest reductions in poverty over recent years.

Table A.5: The welfare impact of delayed rain¹, remote and non-remote areas

	Rural, non-remote	Rural, remote
Impact on consumption	-6.3%**	-12.5%***
Impact on poverty rate	4.9 p.p.*	12.2 p.p.***
Number of observations	3,413	1,827

Notes: ¹Wettest quarter of the year more than 30 days later than long-term average. *, **, and *** indicate the estimated impact is statistically significant at the 10%, 5% and 1% levels respectively; n.s. means the estimated impact is not significant at the 10% level. The impact on consumption is estimated using a random-effects linear model; the impact on poverty is estimated using a random-effects logit model. Both regressions controlled for household demographic variables, the education of household members, and labour market variables (not reported).

Agricultural extension services

Agricultural extension services are not found to be a major factor explaining poverty reduction and household income growth. NAADS has no clear impact on household consumption. This is also true for extension services provided by NGOs, input suppliers, cooperatives and farmers' associations. On the other hand, interaction with large-scale commercial farmers appears to have very large benefits for smallholders (Table A.6). This finding is based on a relatively small number of observations, but suggests that contract farming, out-grower arrangements, and

other means to strengthen agricultural value chains could have large poverty-reduction potential. Unlike other extension service providers, large agribusinesses stand to benefit directly from improvements in the quantity and quality of produce supplied by smallholder farmers.

Table A.6: The welfare impact of agricultural extension services, FE and LDV estimates

	Fixed-effects	Lagged-dependent variable
	(1)	(2)
Household received advice or information from...		
NAADS	-0.022	-0.008
Input supplier	0.04	0.057
Cooperative/farmers' association	-0.023	0.110
Large-scale farmer	0.284***	0.409*
NGO	-0.007	0.033
Number of observations	5,205	3,157

Notes: *,**, and *** indicate the estimated impact is statistically significant at the 10%, 5% and 1% levels respectively. In both columns the dependent variable is log consumption per adult equivalent and the sample is restricted to households engaged in subsistence agriculture. Column (1) controls for household level fixed-effects; column (2) controls for household consumption in the previous period. Both regressions controlled for household demographic variables, the education of household members, and labour market variables (not reported).

Access to land

Table A.7 shows that there is no clear causal relationship between the amount of land owned and household consumption, illustrating that some households have relatively large landholdings that they do not use effectively. On the other hand, there is a positive welfare impact associated with land for which households have use rights, suggesting households that rent land are more likely to put it to productive use. The partly reflects the multiple functions land has – a store of wealth, safety net and status symbol as well as a productive asset.⁷Rented land serves only as a factor of production, and is consequently likely to generate a higher economic return. A more flexible land market, by allowing the land-rich to sell or rent out land they are not using to land-constrained households, could bring large efficiency and poverty-reduction gains. Communities where free-hold tenure is more dominant – typically in the western and central regions – have systematically experienced higher income growth compared to communities where customary forms of tenure dominate (e.g., in Central).

Table A.7: The welfare impact of access to land, FE and LDV estimates

	Fixed-effects	Lagged-dependent variable
	(1)	(2)
Value of non-land household assets	-0.015*	0.050***
Landholdings household owns	0.009	-0.013
Landholdings household has user rights to	0.042*	0.034**
Share of land in community under freehold tenure	0.131**	0.201***
Number of observations	4,355	4,284

Notes: *,**, and *** indicate the estimated impact is statistically significant at the 10%; 5% and 1% levels respectively. In both columns the dependent variable is log consumption per adult equivalent. The inverse hyperbolic sine transformation was applied to the asset and land variables such that the coefficients can be interpreted as elasticities. Column (1) controls for household level fixed-effects; column (2) controls for household consumption in the previous period. To avoid reverse causality, all the variables reported are lagged by one period. Both regressions controlled for household demographic variables and labour market variables (not reported).

Financial services use

Government has achieved much success in terms of financial inclusion by extending financial access to poorer households, particularly through the extensive network of Savings and Credit Cooperatives (SACCOs). There is no evidence however, that this has had a significant impact on household consumption and poverty reduction (Table A.8).⁸

Table A.8: The welfare impact of SACCO use, FE and LDV estimates

	Fixed-effects	Lagged-dependent variable
	(1)	(2)
Household uses SACCO to save	-0.012	0.070**
Household uses SACCO to borrow	-0.038	-0.008
Number of observations	4,561	4,502

Notes: *,**, and *** indicate the estimated impact is statistically significant at the 10%; 5% and 1% levels respectively. In both columns the dependent variable is log consumption per adult equivalent. Column (1) controls for household level fixed-effects; column (2) controls for household consumption in the previous period. To avoid reverse causality, the variables reported are lagged by one period. Both regressions controlled for household demographic variables, the education of household members, and labour market variables (not reported).

Notes for Annex A

¹ Despite the large reduction in poverty observed in the UNHS, evidence from the UNPS shows that a large proportion of households remain vulnerable, frequently moving into and out of poverty (see MFPEd, 2012).

² Unobserved panel-level effects are correlated with the lagged dependent variables by construction, meaning standard estimators are inconsistent (Nickell, 1981).

³ Another drawback of the FE model is that only variation within households over time is used, making the estimator potentially less efficient. The LDV model (with random-effects) uses variation across households, although inclusion of the lagged-dependent variable reduces the effective number of observations.

⁴ The marginal effects depend on the value of the fixed effects, which are not estimated.

⁵ This may in part reflect limited variation in educational attainment within households over time, but the close-to-zero effect is estimated relatively precisely (standard error= 0.004).

⁶ This also illustrates the sensitivity of cross-sectional poverty estimates to transitory factors.

⁷This also likely applies to non-land household assets, which do not generate a clear economic return (table A.7).

⁸ This holds true across all regions of the country. It is possible that failure to identify a significant effect reflects data constraints – information on financial services use is only available in the 2009/10 and 2010/11 rounds of the UNPS.

Annex B: The Alkire and Foster (AF) methodology and construction of the Uganda Multi-dimensional Poverty Index

In developing a multidimensional poverty indicator, several decisions need to be made relating to the identification of the poor, the aggregation structure to be used, and the dimensions to be included, appropriate cutoff points, weighting, and the unit of analysis. These are discussed in detail below.

As mentioned before, the AF methodology was used we use to compute the UMPI and hence assess poverty as a conjunction of n dimensions of wellbeing simultaneously observed and experienced by households. The AF methodology produces a family of multidimensional poverty indicators that belong to the Foster Greer and Thorbecke (FGT)¹ family of poverty measures, some of which satisfy the axiomatic properties proposed by Sen (1976, 1979), desirable for any poverty indicator. The methodology allows us to determine not only the incidence of poverty but also its gap and severity as well, provided the data used is cardinal.

Identification of the poor population

Amartya Sen's often-cited 1976 paper titled, 'Poverty: An Ordinal Approach to Measurement', opens with the following sentence: 'In the measurement of poverty two distinct problems must be faced, viz., (i) identifying the poor among the total population, and (ii) constructing indicators/dimensions in which an individual has to be deprived to be considered poor.'² The approach also specifies several desirable properties or axioms, including decomposability, which makes it particularly suitable for policy analysis and targeting. Based on that paper, most poverty measurement methodologies include the two components of identification and aggregation. For one-dimensional poverty measurement, the identification step is characterised by setting a poverty line: anyone below the poverty line is identified as poor.

The family of AF measures identify 'who is multidimensionally poor' using two thresholds or 'cutoffs'; one is dimension-specific and another relates to the number of dimensions, k , one has to be deprived in so as to be considered multidimensional poor.³

Aggregation

For the aggregation step, usually the traditional FGT measures are used. For poverty measures that employ data on multiple dimensions, the identification and aggregation require modification and is more complex because it may involve the identification of deprivations with respect to each dimension, as well as across dimensions. Alkire (2011:60) writes that:

while details vary, broadly speaking four steps can be identified: (i) apply dimensional cutoff(s) to identify whether a person is deprived in a dimension; (ii) aggregate across dimensions; (iii) identify whether each person is multidimensionally poor; (iv) aggregate across people.

In summary, once a household/individual is identified as poor, the measures aggregate information on poor households/individuals' deprivations in a way that can be broken down to determine where and how household/individuals are poor. The resulting measures go beyond a headcount by taking into account the breadth, depth of an index of poverty using the available information on the poor.⁴

Selecting the value of k

As with any other poverty measure, poverty levels vary according to the threshold selected; lower poverty thresholds produce lower poverty rates and higher thresholds produce higher poverty rates. In general for the AF methodology and specifically for the UMPI, the k -threshold to identify the poor and non-poor populations represents the minimum *share of weighted indicators* in which a household should be deprived in order to be identified as poor. Therefore, the cutoff point k is the minimum weighted deprivation share that a household must have to be considered as poor. k may potentially take any value from 0 percent (the *intersection* criteria: everyone is automatically non-poor) to 100 percent (the *union* criteria: everybody poor).

It is important to note that there is no deterministic method for choosing this second cutoff point, and in much of the analysis of changes in multidimensional poverty, we compare poverty estimates obtained using the full range of k - thresholds. However, it is often necessary to generate a single estimate based on a selected value of k . For UMPI, $k = 33\%$ was used following a review of previous studies applying the AF methodology.⁵

The unit of analysis, dimensions and weighting structure for the Uganda Multidimensional Poverty Index

The unit of analysis used in the construction of the UMPI is the household. This implies that the deprivations are simultaneously experienced by all household members rather than isolated individuals. For instance, if school non-attendance is a deprivation (i.e., children between the ages of 6 and 15 not attending school), then it is assumed that this deprivation impacts not only upon the child who is not attending school, but also to the whole household. This means that all other individuals living in this household are considered deprived with respect to this dimension/indicator (school attendance). One of the main reasons for taking this assumption is that a household-based multidimensional poverty measure is arguably more consistent with the traditional poverty measures based on household

consumption expenditure. It is also easier to compare the two – if the individual was the analysis unit, deprivation would only be assigned to the individual rather than to the whole household. The result would indicate that the same household would hold individuals with and without deprivations, which would mean that the same household would be made up of poor and non-poor people. This situation would impede the use of the index to orientate and monitor public policy interventions targeted to households.

Table B.1: Dimensions and Variables used to construct the multidimensional poverty index

Dimension	Variable	Indicator	Weight
Education	Years of schooling	No household member has completed five (5) years of schooling.	1/8
	Child school Attendance	Any school-aged child (6 to 15 years) is not attending school. ⁶	1/8
Health	Access to health services	Any household member that fell sick and did not seek medical treatment for any other reason other than the sickness being mild	1/8
	Morbidity	Any household member suffered malaria/fever or respiratory illness for more one week or more in the last 30 days.	1/8
Access to public services and housing conditions	Electricity	The household has no electricity	1/24
	Improved sanitation	The household sanitation facility is not improved (according to MDG guidelines), or it is improved but shared with other households.	1/24
	Improved drinking water	The household does not have access to drinking water (according to MDG guidelines), or source of safe drinking water is more than 30 minutes walk from home, round trip.	1/24
	Flooring	The household has a dirt, sand or cow dung floor.	1/24
	Housing structure	The household has poor quality walls (unburnt bricks with mud, wood, mud and poles, tin/iron sheets, other).	1/24
	No critical overcrowding (Number of people sleeping per room, excluding the kitchen, bathroom and garage)	In a household, more than 3 people share a bedroom.	1/24
Information	Ownership of a radio or Television	The household does not own a radio or television.	1/8
	Mobile phone	The household owns a mobile phone	1/8

Note: All four dimensions are equally weighted by 1/2 and within each dimension the indicators are also equally weighted (e.g., within education, schooling and attendance, each gets a weight of 1/8).

Table B.1 shows the dimensions and indicators used in the construction of the UMPI. Each of these dimensions contains one or more indicators reflecting a household's wellbeing. The selection of these dimensions and indicators was motivated by data availability but most importantly by ensuring that they are in line with the current MDGs and the proposed Sustainable Development Goals (SDGs) to be attained by 2030. The SDGs aim to end poverty in all its forms everywhere, and include broad topics such as hunger, health and gender, water and sanitation, energy, economic growth, sustainable consumption and production, climate change and biodiversity and marine conservation. The last column of Table B.1 shows the weight assigned to each indicator, following a nested weighting structure⁷, where each dimension has the same weight (1/4) and each variable has the same weight within each dimension.⁸

Selected Results

Table B.2 presents the multidimensional adjusted headcount ratio (M0) for different values of the poverty cutoffs along with its two sub-components - the multidimensional headcount ratio (H) and the Average deprivation share among the poor (A)- for the most recent survey: UNHS 2012/13. Keeping in mind that a specific poverty cutoff (k) corresponds to the proportion of poor population living in households that are deprived in at least the specified levels of weighted indicators, one can see that with k set at 10 per cent of the sum of weighted indicators, around 90 per cent of the population would be identified as poor. As the value of the poverty threshold increases, the poverty values fall. In particular, the headcount ratio decreases to less than 10% when $k=70$ per cent of the sum of weighted indicators. A large change in k on H comes in the range of 20 to 50 per cent of the sum of weighted indicators. The implication is that the multidimensional poverty index value in Uganda is quite sensitive to the choice of k in that range. For example, there is a relatively sharper fall in the value of both H and $M0$ when moving from a cutoff of 20 to 40 per cent, with H falling by 32.4 percentage in 2009/10 and 23.8 percentage points in 2012/13 while $M0$ falls 9.6 percentage and 11.2 percentage points respectively. This suggests that poorer households may be well represented when the poverty cutoff is set below 40 per cent of the sum of weighted indicators, thus justifying the choice of $k=30$ per cent used here to consider a household as multidimensionally poor.

Table B.2: Multidimensional Poverty Measures for Uganda, for UNHS 2002/13

Poverty cutoff (k)	Multidimensional poverty Index $M0=H \times A$		Multidimensional Headcount Ratio (H)		Average Deprivation share among the poor (A)	
	2009/10	2012/13	2009/10	2012/13	2009/10	2012/13
10%	0.378	0.335	90.5%	89.7%	41.8%	37.3%
20%	0.363	0.314	80.7%	75.5%	45.0%	41.6%
30%	0.316	0.254	62.2%	51.7%	50.8%	49.1%
40%	0.267	0.202	48.3%	37.1%	55.2%	54.5%
50%	0.183	0.132	29.5%	21.3%	62.0%	62.0%
60%	0.098	0.069	13.9%	9.7%	70.4%	70.5%
70%	0.052	0.035	6.8%	4.6%	76.5%	77.4%
80%	0.011	0.010	1.3%	1.1%	87.0%	86.7%
90%	0.003	0.003	0.4%	0.3%	93.9%	92.0%
100%	0.000	0.000	0.0%	0.0%	100.0%	100.0%

Source: Author's calculations from UNHS 2009/10 and UNHS 2012/13

Figure B.1 illustrates multidimensional poverty headcount ratio at the national level for all possible poverty cutoffs. As expected, all lines slope downwards indicating that higher poverty thresholds yield lower levels of poverty. The fact that the line of 2013 is everywhere below the line for 2009 is an indication that multidimensional headcount poverty in Uganda decreased continuously between 2009 and 2013; this is robust to changes in the value of the poverty cutoff.

Figure B.1: Multidimensional Poverty Headcount Ratio(H) for different values of k, 2009-2013

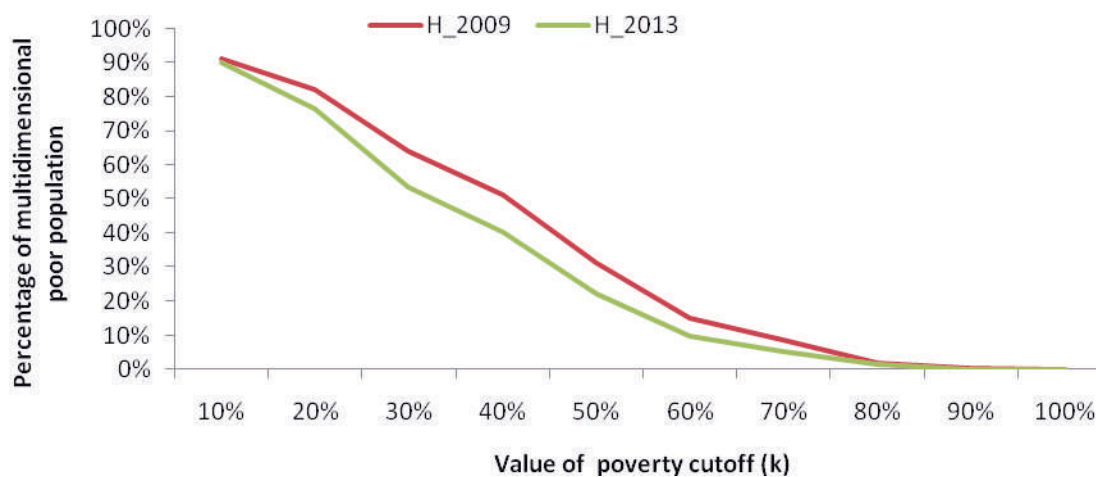


Figure Error! No text of specified style in document..1: Adjusted Multidimensional headcount ratio for different values of poverty cutoff

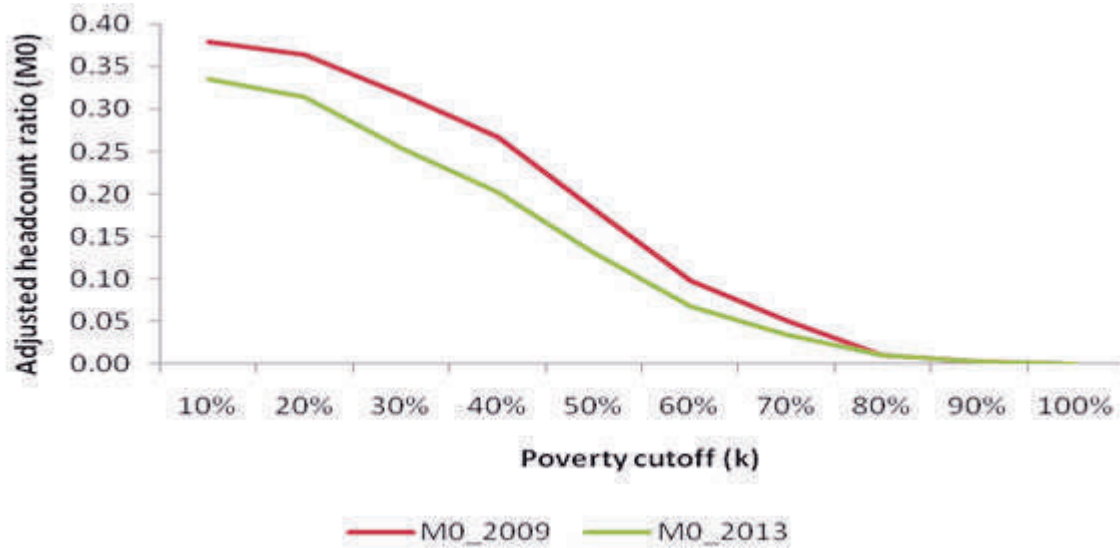
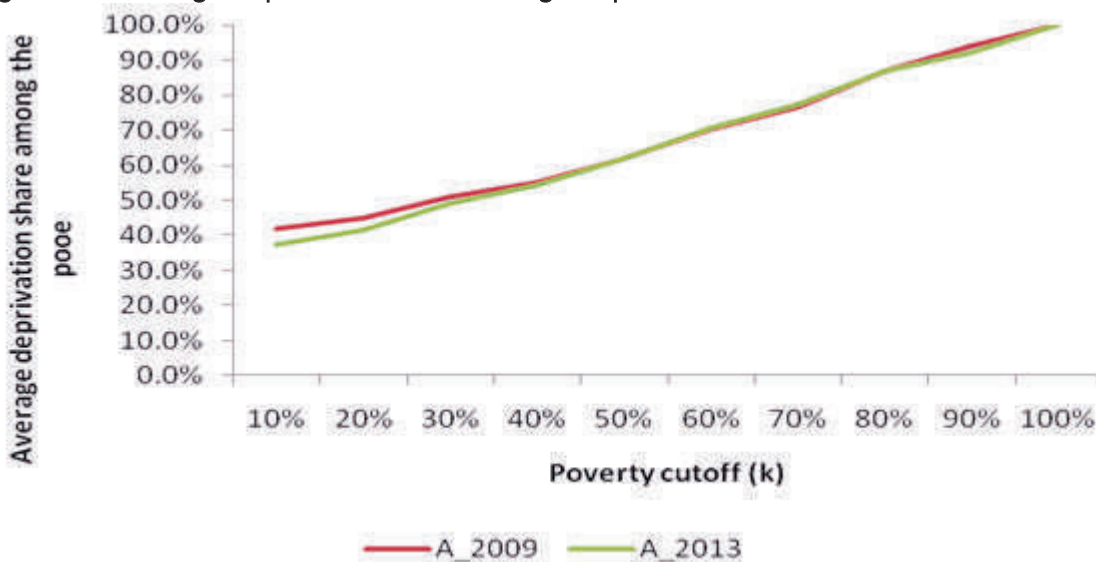


Figure B.3 shows how the average share of deprivation among individuals in poor households and the adjusted headcount ratio changed between 2009 and 2013 for all poverty cutoffs. Again, simple dominance shows that the results are robust to different poverty thresholds.

Figure B.3 Average deprivation share among the poor



Next, we examine the composition of poverty in order to unpack the UMPI further and to show the factors that drive changes over time. Table B.3 presents the contribution of all twelve indicators to the overall UMPI. The censored headcount ratio represent the proportion of the population residing in households that are simultaneously multidimensional poor and are deprived in that indicator. By

definition, the weighted average of the censored headcount ratios is equal to the adjusted headcount ratio. The difference between censored headcount ratios and incidence of indicator deprivation gives the information on the share of the population living in households that are deprived in the indicator but not multidimensional poor. Comparing results in Table B.3. with those in Table 2.5 one observes that reduction in the censored headcount ratios does not necessarily replicate the reduction patterns in the incidence of deprivations reported in Table 2.5

Table B.3: Changes in the contribution of all twelve indicators to overall poverty.

	Censored headcount ratio				%UMPI poor Deprived in Indicator			Contribution		
	2009	2013	Absolute Change	Percentage change	2009	2013	Change	2009	2013	Change
Schooling	21.2%	19.4%	-1.8%	-8.5%	33.2%	36.0%	2.9%	8.0%	9.1%	1.1%
Attendance	22.4%	17.7%	-4.6%	-20.8%	35.0%	33.0%	-2.1%	8.5%	8.3%	-0.1%
Seeking treatment	11.2%	9.5%	-1.8%	-15.9%	17.6%	17.6%	0.0%	4.3%	4.4%	0.2%
Morbidity	26.7%	22.4%	-4.3%	-16.0%	41.8%	41.7%	-0.1%	10.1%	10.6%	0.4%
Water	52.2%	42.2%	-10.0%	-19.2%	81.7%	78.4%	-3.3%	6.6%	6.6%	0.0%
Electricity	63.4%	52.9%	-10.5%	-16.6%	99.2%	98.3%	-0.9%	8.0%	8.3%	0.3%
Sanitation	22.4%	23.8%	1.4%	6.2%	35.1%	44.2%	9.2%	2.8%	3.7%	0.9%
House flooring	57.7%	49.6%	-8.2%	-14.1%	90.3%	92.1%	1.8%	7.3%	7.8%	0.5%
House walls	53.5%	42.8%	-10.7%	-20.0%	83.7%	79.6%	-4.1%	6.8%	6.7%	0.0%
Overcrowding	33.1%	28.1%	-5.0%	-15.0%	51.7%	52.2%	0.5%	4.2%	4.4%	0.2%
Radio/television	40.6%	30.2%	-10.4%	-25.6%	63.5%	56.2%	-7.3%	15.4%	14.2%	-1.2%
Mobile phone	47.9%	33.8%	-14.2%	-29.5%	75.0%	62.8%	-12.2%	18.1%	15.9%	-2.3%

Notes for Annex B

¹ Foster, Greer and Thorbecke (1984).

² Sen, (1976:p.219).

³This is why the AF approach is commonly referred to as the dual-cutoff and counting approach to multidimensional poverty measurement.

⁴Alkire and Foster (2011).

⁵See, for example, Levine, Muwonge and Batana, (2011) ,Alkire and Santos (2010) and Alkire et.al (2014).

⁶Please note that the official primary school age in Uganda is 6 to 12 years. However, available statistics indicate that some children start school late and others repeat. Therefore, a big number of children aged 13 to 15 years are still attending primary school.

⁷As in Batana (2008).

⁸ There is no definitive way of establishing appropriate weights. The equal weight assigned to each dimension reflects their equal importance as constituents of quality of life, and the literature reviewed suggested that equal weighting scheme was the option on which there was greater agreement among researchers and other experts.

Annex C: Economic Linkages and SAM-based Multiplier effects

The SAM is only a comprehensive data system but not a model as such. When transformed into a model, it can be a useful starting point in the analysis of economy-wide linkages and multiplier effects of exogenous shocks. To come to this point requires specifying which variables are exogenous and endogenous and link them through a set of mathematical relations.¹ The choice should be driven by the aim of the analysis.

Depending on which account are set exogenous different implicit assumptions (or closure rules) are possible. Usually, for small economies and for the purpose of policy analysis, factors of production, the production activities and commodities, households and firms are considered endogenous. The Government, the rest-of-the world, and capital accounts are considered as exogenous (i.e., their behaviour is not explained by the model itself) to the model.² Endogenous capital and ROW accounts reflects some kind of internal flexibility and relatively free trade respectively.

The easiest manner to transform a SAM into some kind of an economic model is to assume that all the relations are of linear type and that prices are fixed (at least in the short run).³ In that case the SAM can be used directly to simulate the effects of shocks on some exogenous variables or accounts.⁴ This type of exercise is known as *SAM multiplier analysis* and can be seen as an extension of Input-Output models. This is because it generates round by round multiplier effects that incorporate all types of linkages in an economy.⁵ To derive a SAM-based multiplier model, first consider the a simplified Schematic SAM shown in Table C.1.

Table C.1: Schematic Presentation of the SAM Multiplier Model

	Endogenous Account			Exogenous Accounts	Total
	Industries	Factors	Institutions		
Industries (Activities & commodities)	T_n			X	y_n
Factors					
Institutions					
Exogenous accounts	L			F	
Total	y'_n			z'	

Notes: T_n is the ($n \times n$) matrix of endogenous transactions, where n is the number of endogenous accounts; X is the ($n \times m$) matrix of exogenous injections (demand for goods and services and other receipts of endogenous institutions from Government, capital and RoW accounts), where m is the number of exogenous accounts; L is the ($m \times n$) matrix of leakages including outlays of endogenous towards exogenous accounts; F is the ($m \times m$) matrix of transactions among exogenous accounts that collectively represent the flow of funds of the considered economy; y'_n is ($n \times 1$) vector of totals for endogenous accounts; z is the ($m \times 1$) vector of totals for the exogenous accounts.

Let the matrix T_n represent all transactions among endogenous accounts. Then, the matrix of technical coefficient matrix, A_n , can be derived by dividing each element of T_n by the relevant element of vector, y_n . Each element of matrix A_n is a fixed expenditure propensity and is given by the following expression:

$$a_{ij} = \frac{t_{ij}}{y_{ij}}, i, j = 1, 2, \dots, n. \text{ In matrix notation:}$$

$$A_n = \hat{y}'_n T_n \tag{1}$$

where \hat{y}'_n denotes the diagonal matrix with the inverses of the elements of vector y_n its main diagonal. Assuming three endogenous accounts - production, factors of production, and agents (households and firms), the matrix A_n can be written as:

$$A_n = \begin{bmatrix} A_{11} & 0 & A_{13} \\ A_{21} & 0 & 0 \\ 0 & A_{32} & A_{33} \end{bmatrix}$$

From equation (1) it follows that the accounting identities for endogenous accounts can now be represented in terms of matrix A_n and vectors y_n and x , the latter including the row sums of elements of matrix X , (i.e. $x = X\ell$ where ℓ is a column vector of one's of the proper dimension):

$$y_n = Ay_n + x \tag{2}$$

From equation (2) it follows that

$$y_n = (I - A_n)^{-1} x = M_a \tag{3}$$

provided that $(I - A_n)^{-1}$ exists. This inverse has been termed *accounting multiplier* M_a which relates endogenous incomes, y_n , to injections, x .⁶

Each element m_{ij} of M_a quantifies the increase in totals for account i due to a unitary exogenous injection on account j . These multipliers account for all direct and indirect linkages within the economy. Direct linkages pertain to the sector that is directly affected by the shock.

The column total of the M_a gives total backward linkages while its corresponding row sum gives total forward linkages. The interpretation of these composite effects for several types of accounts is not straight forward and often one incurs double

counting by lumping all linkages effects. The simplest remedy to this problem is to normalize the total BL and total FL by dividing each by the average value of the total multiplier matrix to get the so-called normalized (or relative) backward and forward linkages. In this case, backward linkages (in percentage terms) of a particular sector j quantifies economy wide income, relative to the average change in the economy, caused by a unitary injection in the final demand of the same sector. On the other hand, forward linkage (in percentage terms) of the same sector j quantifies the change in income of the sector j , relative to the average change in the economy, caused by a unitary injection in the final demand of all sectors.

In light of the above, a *key (or strongly linked)* sector is usually defined as one with both backward and forward linkages greater than 1. A sector with backward (forward) linkages greater than 1, and forward (backward) linkages less than 1, is called *backward (forward)oriented*. If none of the linkages is greater than 1, the sector is called weak.

Uganda SAM for fiscal year 2009/10

The original SAM was obtained from UN-DESA/DPAD⁷ and is a disaggregated 150x150 square matrix consisting of six standard accounts: the production account (42 activities, 42 commodities, and 3 trade margins), the factors of production (5 natural resources including land, 1 operating surplus and 3 labour categories classified by level of education- less than completed secondary education, completed secondary education and completed tertiary education), agents account (1 Government (also includes 6 tax accounts), 1 ROW, and 10 households classified by rural/urban and by income quintiles (Q1-Q5)) and the capital account (12 household capital, 11 investment, and 1 inventory account).

The SAM used in this report is a simplified version (i.e. it modifies the structure /presentation but not the numbers) of the original SAM. For the sake of clarity and greater conformity to the national accounts published by the UBOS and in order to obtain some generalisable results, an aggregation of accounts was performed leaving us with a 40x40 square matrix UGASAM 2009/10 with the following accounts: production (9 activities and 9 commodities sub-accounts), private institutions (10 household groups), factors of production (3 labour, 1 land and 1 capital sub-accounts), core Government account (1), tax accounts (4), RoW account (1) and consolidated capital or savings-investment account (1).

Output, demand, Value-added ad Income Multipliers

Presented in Table C.2 are the direct and indirect multiplier effects extracted from the accounting multiplier matrix considering only the commodity-block multipliers⁸. Column totals within each sub-account gives the production activity (or *output*) multipliers; commodity (or *domestic supply/demand*) multipliers; factorial income (or

value-added/GDP) multipliers; and the institutional *income multipliers* which show the total effect on gross output, demand, GDP and household incomes respectively of a unit-income increase in a given endogenous account of the SAM.⁹

Table C.2: Aggregate Multipliers for a 1 million shillings increase in final demand of commodities (Absolute values)

	Commodities								
	agr	agrop	ind	cons	serv	educ	heal	wtsn	oinf
Production activities									
Agriculture	1.719	1.129	0.716	0.625	0.784	0.600	0.620	0.677	0.656
Agro processing	0.482	1.459	0.439	0.408	0.454	0.413	0.443	0.462	0.439
Industry	0.235	0.239	1.276	0.368	0.263	0.247	0.255	0.217	0.240
Construction	0.019	0.024	0.024	1.014	0.026	0.015	0.014	0.015	0.018
Services	0.975	0.981	1.205	0.750	1.905	0.854	0.724	0.818	0.986
Education	0.117	0.113	0.102	0.087	0.110	1.114	0.116	0.123	0.115
Health	0.029	0.028	0.026	0.021	0.027	0.025	1.027	0.030	0.034
Utilities (water & sanit, elec)	0.050	0.050	0.050	0.046	0.052	0.047	0.047	1.052	0.050
Others	0.314	0.334	0.318	0.265	0.303	0.330	0.304	0.400	1.335
Output multipliers	3.940	4.356	4.155	3.584	3.924	3.647	3.548	3.793	3.874
Demand multiplier	3.396	3.828	3.672	3.171	3.408	3.096	3.001	3.214	3.330
Factors of production									
Labour non formal education	0.212	0.211	0.190	0.165	0.203	0.157	0.141	0.193	0.241
Labour secondary education	0.080	0.092	0.090	0.079	0.097	0.127	0.094	0.097	0.131
Labour tertiary education	0.103	0.107	0.103	0.092	0.111	0.419	0.259	0.128	0.212
Private capital	1.179	1.247	1.184	1.005	1.277	1.018	1.296	1.530	1.197
Natural capital*	0.550	0.362	0.248	0.204	0.253	0.195	0.201	0.219	0.212
Total labour	0.395	0.410	0.383	0.336	0.411	0.704	0.493	0.419	0.583
GDP multipliers	2.124	2.020	1.815	1.546	1.941	1.916	1.990	2.167	1.992
Households									
rural-quintile 1	0.100	0.086	0.073	0.061	0.077	0.062	0.069	0.081	0.074
rural-quintile 2	0.171	0.150	0.128	0.108	0.136	0.109	0.124	0.146	0.131
rural-quintile 3	0.224	0.204	0.179	0.152	0.191	0.156	0.180	0.211	0.183
rural-quintile 4	0.297	0.265	0.229	0.194	0.244	0.207	0.229	0.264	0.238
rural-quintile 5	0.651	0.629	0.570	0.484	0.610	0.556	0.613	0.691	0.607
urban-quintile 1	0.030	0.028	0.025	0.022	0.027	0.022	0.026	0.030	0.027
urban-quintile 2	0.055	0.052	0.046	0.039	0.049	0.043	0.048	0.055	0.049
urban-quintile 3	0.080	0.080	0.074	0.063	0.079	0.075	0.080	0.090	0.082
urban-quintile 4	0.132	0.133	0.124	0.106	0.133	0.129	0.138	0.152	0.136
urban-quintile 5	0.351	0.357	0.333	0.287	0.358	0.522	0.445	0.406	0.428
Income multipliers	2.090	1.985	1.782	1.517	1.906	1.880	1.952	2.126	1.955

Source: Author's calculations from the Uganda SAM 2009/10. Notes: *includes land, forestry, fishing, and oil and gas; f-labn: less than completed secondary education, f-labs: completed secondary education, f-labt: completed tertiary education.

Table C.3 shows that a one million Uganda shillings (henceforth million) increase in the final demand for agricultural products, through exports, for instance, increases

agriculture's production by 1.719 million, services by 0.975 million and surprisingly, the agro processing sector which is more closely related to agriculture sector experiences an increase in production of only 0.482 million. If instead the one million injection occurred for agro processing, it would generate an increase of 1.459 million in its own production, 1.129 million in agriculture and 0.981 million in services. This means that an injection in the agriculture sector has less indirect influence on other sectors compared to the same injection in the agro processing sector.

The strong effect arising from injections in either agriculture or agro processing sectors have to do with the fact agriculture, agro processing and services sectors are the three important sector for the Ugandan economy with both backward and forward linkages, relative to the average value in the economy greater than one (Table C.3). In particular, the agriculture sector accounts for 19.4 percent of the total output (production) and 25.4 percent of the total GDP. On the commodity supply side, agriculture commodity alone represents 18.9 percent of total commodity supply, 21.2 percent of the total intermediate demand, 22.6 percent of the total private consumption demand, and 23.9 percent of total exports, while 27.5 percent and 15.0 percent of the processed agro processed products are used for private consumption and exports respectively.

The agriculture sector is also a major foreign exchange earner for the economy as it accounts for nearly 25 percent of all Uganda's exports. In 2010, the sector accounted for more than 60 percent of the merchandise exports.¹⁰ Therefore, from a policy standpoint, if Uganda is to achieve its poverty alleviation and economic growth targets by 2017 (mid-term) and vision 2040, policy interventions should focus on transforming the agricultural sector.

Table C.3: Backward and Forward Linkages for Ugandan economy

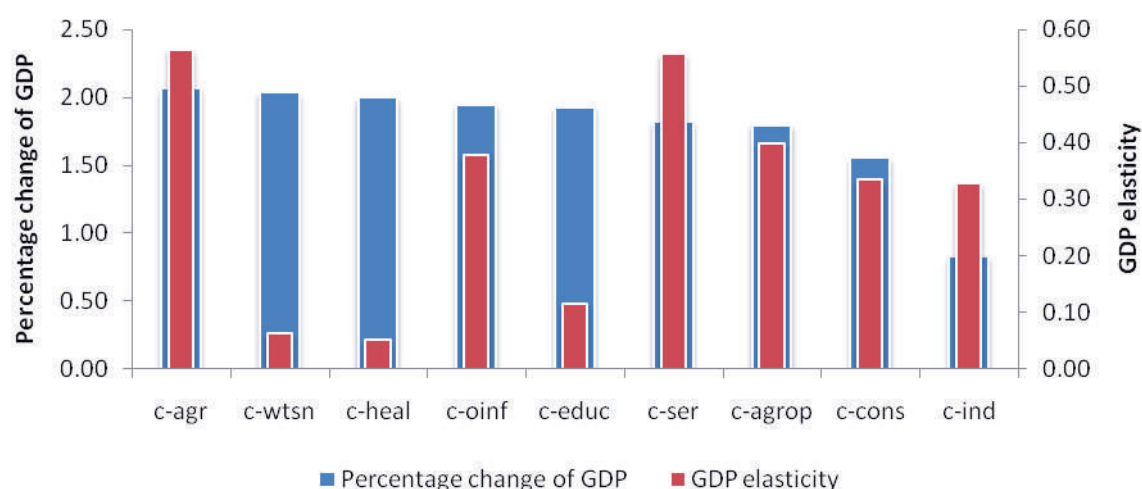
	Total Backward Linkages (<i>BL</i>)	Total Forward Linkages (<i>FL</i>)	Normalized <i>BL</i>	Normalised <i>FL</i>
Agriculture	11.55	25.37	1.10	2.41
Agro processing	12.19	17.07	1.16	1.62
Industry	11.42	8.99	1.09	0.85
Construction	9.82	2.53	0.93	0.24
Services	11.18	28.51	1.06	2.71
Education	10.54	5.92	1.00	0.56
Health	10.49	2.93	1.00	0.28
Utilities	11.30	3.64	1.07	0.35
Others	11.15	12.14	1.06	1.15

Source: Author's calculations from the Uganda SAM, 2009/10. Note: Figures in the last two columns are computed by dividing total backward and forward linkages across all production activities by the average of the total multiplier value of the M_a matrix (347.127) times the total number of all elements of endogenous accounts (n=33). This is done to avoid the problem of double counting as a result of lumping linkages.

The analysis of the GDP elasticity – the percentage change in aggregate GDP caused by a 1 percent change in the sector's production illustrated in Figure C.1 –

collaborates findings based on the rankings using backward and forward linkages, thus giving us reasonable confidence in the identified key sectors. Sector rankings in terms of their importance with regard to sectoral growth impact on one hand and GDP elasticity on the other when there is a shock of 1 percent of aggregate GDP¹¹ show that agriculture sector has the highest impact on aggregate GDP (2.06 percent), followed by utilities (2.03 percent), and health (2.00 percent). The sectors with lowest impacts are industry (0.82 percent), construction (1.55 percent) and Agro processing (1.79 percent). The sector with highest GDP elasticity is agriculture and services with an elasticity of 0.56, meaning that a 1 percent change in agriculture total supply causes a change in aggregate GDP of 0.56 percent. Agro processing, Construction, and Industry also have high GDP elasticities. These results seem to support Uganda’s current policy of targeting expenditure to agriculture, agro processing and manufacturing sectors.

Figure C.1: Sectoral growth impact and GDP elasticity due to a shock of 1 percent of aggregate GDP



Commodities: c-agr: Agriculture, c-agro: Agro processing, c-ind: industry, c-cons: construction, c-ser: Services, c-educ: education, c-heal: health, c-wtsn: utilities, c-oinf: Others.

Reading across the row of total activity (i.e., total output multipliers) and total commodity (i.e., total demand multipliers) of Table C.2, one observes that an one million increase in demand for agricultural products increases total domestic production and supply in the economy by 3.940 million and 3.396 million respectively. The effects would be 4.356 million and 3.828 million respectively if the increase in demand occurred for agro-processing sector. However, the high demand multiplier for the agro processing sector (3.828) compared to say industry (3.672) does not necessary mean that agro-processing is the most import dependent sector. In fact, the reverse is true. This is because 78.7 percent of the industry sector products are imported compared to exports of only 8.1 percent for agro processed products. Trade statistics computed from SAM indicate that the industry sector faced most import competition, with an Import Penetration Ratio (IPR) (the share of imports in the value of total demand) was 45.0

percent in 2010 compared to the Export Intensity Ratio (EIR) (share of exports in the value of gross output) of only 24.9 percent. By contrast, even though Uganda imports agricultural goods, these account for only a small part of total agricultural demand (IPR of 2.8 percent compared to EIR of 9.7 percent).

The value added (or GDP) and income multipliers capture the induced effects on GDP at factor cost and on households income. The results show that the utilities (water & sanitation, electricity) sector has the largest GDP multiplier. This is followed by agriculture, agro processing, health, services, and education sectors. An increase of one million in final demand for the utilities sector, after all general equilibrium effects have taken place, generates additional factor returns of 2.167 million. If the same injection went into the agriculture sector, the effect on GDP is 2.214 million. Regardless of which commodity account receives the injection, the production factor that benefits most is private capital. The share of the private capital multiplier in total GDP multiplier is highest for utilities (70.6 percent) followed by services (65.8 percent), industry (65.2 percent), health and construction sectors (about 65 percent) and agro processing (62 percent). In general, when private capital is excluded, then labour (less than completed secondary education) and natural capital (mainly land) are the key inputs in most sectors, but more particularly in the agriculture sector. This result should not be surprising since natural capital (especially land) accounts for bigger share in total value added for each of these sectors, the highest being in agriculture (47.8 percent).

A closer look at the income multipliers reveals the high degree of inequality between households in low income quintiles compared to those in high income quintiles in terms of knock-on effects. Results show that for rural households in the third to fifth income quintiles, strong knock-on effects would emanate from the agriculture and agro processing sectors while for their urban counterparts, significant impact would originate from shocks in services, education, health and utilities sectors thus confirming the importance of agriculture and services sector to rural and urban households in Uganda.

Regardless of the source of injection, most of the households' multiplier effects occur for the richest rural households, which show the highest row total of 5.41. This could be an indication of some redistribution urban areas to rural areas. If we go ahead considering the effects on different types of households, whether we look at the average values or single elements of the sub-matrix, it is clear that rural households are the beneficiaries of most of the income linkages. It is interesting to note that rural households benefit more than their urban counterparts in agricultural and non -agricultural activities. The systematically higher effect on incomes of rural households may be related to the fact that in this group there is the highest population share of Ugandan households. In 2009/10, 85 percent of Uganda's population lived in rural areas. This reduced to 77 percent in 2012/13 due to an

increase in the proportion of population living in urban areas from 15 percent in 2009/10 to 23 percent.

Notes for Annex C

¹ This is exactly what is done in a proper CGE model.

² Cohen (1989); Round (2003).

³ The demand-driven Keynesian framework assumes the existence of excess capacity and unused resources such that with fixed prices any increase in demand is satisfied by a corresponding increase in supply (Thorbecke, 2000). The assumption that functional relationships represented by the SAM columns are linear implies that activities in SAM models assume Leontief production functions and there is no substitution between imports and domestic production in the commodity columns (Arndt, Jensen, and Tarp 1998; Arndt, 2000).

⁴ Thorbecke and Jung, 1994

⁵ Breisinger, Thomas, and Thurlow (2009).

⁶ Pyatt and Round (1985): Social Accounting Matrix: A Basis for planning.

⁷ MoFPED is very grateful to Martin Cicowiez for sharing all the data.

⁸ Note that the discussion here is based on the commodity-block multiplier because in the Uganda SAM 2009/10, its mainly commodities and private institutions accounts that receive exogenous injections. However, it is not unusual for other accounts such as activities and factors of production to get exogenous demand from say the rest-of-the world.

⁹ Arndt et al., (2000, p.297).

¹⁰ UBOS, (2011).

¹¹ According to Parra and Wodon (2008), if " GDP_j and Y_j denote sector j 's GDP and total supply respectively while the variables without sub index denote aggregate figures, then sector j 's impact

$$\Delta GDP_j = \sum_i \frac{GDP_j}{Y_j} m_{ij} (shock / GDP)$$

on aggregate GDP can easily be computed as: , where the Shock is expressed as a percentage of aggregate GDP and is held constant across sectors j . The

endogenous percentage change in commodity j 's supply is given by $\Delta Y_j = m_{ij} (shock / Y_j)$. GDP

elasticity of commodity j 's total supply can be expressed as: $\epsilon_{GDP,j} = \frac{\Delta GDP_j}{\Delta Y_j}$."

Annex D: The MAMS CGE modelling framework

The main analytical tool used in section 3.3 of this report is Maquette for MDG Simulations (MAMS), a dynamic-recursive computable general equilibrium (CGE) model developed by the World Bank which has been used for medium and long-run development strategy analysis in over 40 low and middle-income countries. In a previous application, MAMS was used to inform the macroeconomic framework underlying NDP I.¹ Dedicated modules, calibrated to the specific circumstances in Uganda,² can estimate the impact on the poverty headcount and other MDG indicators including households' education decisions. With education behaviour treated endogenously, and feedback mechanisms between the education system and the labour market, the model can make sophisticated labour market projection under alternative economic and policy scenarios.

The MAMS model was calibrated to the Ugandan economy using, among other data, a SAM for the 2009/10 fiscal year. For the purposes of this report, the household sector in the SAM was disaggregated into 10 agents representing the five welfare quintiles in rural and urban areas, capturing the different consumption patterns, income sources and endowments of these household groups. A counterfactual distribution of per capita consumption was computed using an arithmetic microsimulation model, based on the changes in per capita consumption for each household category from the CGE model and the base-year distribution obtained from the UNHS 2009/10. These counterfactual distributions were then used to project trends in poverty and vulnerability under each of the scenarios.

Given that encouraging higher private investment is an important policy objective, this is determined endogenously in all the scenarios. To close the savings-investment balance, the household savings rate is determined based on the level of post-tax per-capita income and a fixed marginal propensity to save (MPS). The MPS was set exogenously at 0.24, in line with international evidence.³

As part of the calibration process, official growth projections were exogenously imposed under the baseline scenario. Current projections anticipate a recovery to Uganda's historical average growth rate of 7 percent by 2015/16, which was extrapolated to 2025. To ensure this growth rate under the reference scenario, the model adjusts the efficiency parameters of economic activities. The relative strength of this adjustment across activities was set to ensure a plausible pattern of structural change under baseline conditions. This element of total factor productivity (TFP), determined during the calibration process, is then exogenous under the policy simulations, but TFP can change in response to Government infrastructure investments, as well as the level of trade openness. Economic growth is therefore only exogenous in the reference scenario, but determined endogenously in all the

policy simulations. The marginal product of the public transport and electricity infrastructure stock is assumed to be 20 percent.

The oil industry is not modelled explicitly. Instead, estimated oil revenues are captured through a corresponding increase in the flow of resources from the rest of the world to Government.⁴This approximates the most important direct effects of oil production (on the Government budget and the balance of payments) but not any secondary effects on the market for petroleum products.

Under the baseline scenario, public infrastructure investment increases according to current sector investment plans. Domestic borrowing adjusts to maintain the current domestic debt-to-GDP ratio. Spending in other sectors grows at the (exogenous) rate of GDP growth. The Government budget is cleared through adjustments in foreign borrowing. In the policy simulations, spending and domestic financing/interest payments are fixed in absolute terms but domestic tax revenue is fixed as a share of GDP, such that changes in GDP growth directly affect fiscal space.

Notes for Annex D

¹Musisi, A (2009).

²As explained in Richens (2013).

³Hussein and Thirlwall (1999).

⁴Revenue projections (both oil and non-oil) are based on MFPED (2014), 'Uganda's medium and long-term fiscal strategy for socioeconomic transformation', assuming 70% of the projected oil revenue is transferred to budget and 30% saved offshore.

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