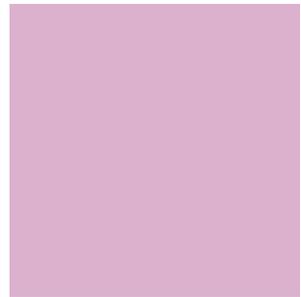




THE REPUBLIC OF UGANDA

Millennium Development Goals Report for Uganda 2013

Special theme: Drivers of MDG Progress in Uganda and Implications
for the Post-2015 Development Agenda



Ministry of Finance, Planning and Economic Development
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Foreword

The 2013 Millennium Development Goals Report for Uganda comes at a critical time, two years ahead of the 2015 deadline that the international community set itself during the Millennium Summit of 2000 to achieve the MDGs. As this report shows, Uganda has made considerable progress in attaining the MDGs, leading regional and global efforts to achieve these goals by 2015.

As discussed in the report, Uganda has already met two of its seventeen MDG targets – halving the number of people living in absolute poverty and achieving debt sustainability – and is on track to achieve another eight. Despite this success, there are a number of areas where progress remains slow, has stagnated or has experienced a reversal. Trends in maternal mortality and HIV-AIDS are particularly worrying, given their direct impact on the lives of so many Ugandans. We hope this report serves as a platform from which to galvanize a national response to these challenges and helps mobilize the will, resources and efforts to accelerate progress and enable Uganda achieve the MDG commitments by 2015.

The 2013 Uganda MDG Progress report also comes at a time when the world is embarking on a global debate on the new Post-2015 International Development Agenda that will replace the MDG framework after 2015. We very much welcome, in this regard, the forward-looking approach that this report takes and the government's commitment to actively engage in this global conversation with concrete proposals from the Vision 2040 exercise that Uganda has recently completed. In the same way as Vision 2040, The United Nations also believes that socioeconomic

transformation that creates wealth and equitable opportunities for all constitutes the most effective way of attaining the aspirations of Ugandans for greater prosperity. It is important, however, that these benefits reach all, those living today as well as future generations; that mechanisms are put in place that take care of those most in need, especially children, the elderly and people with disabilities; and that the means and space for citizen participation are provided to allow all people to meaningfully contribute to development.

Finally, I would like to take this opportunity to thank all those people in government, academia and the United Nations, as well as the numerous development practitioners and stakeholders that, in one way or another, have taken part in the preparation of this report. On behalf of the UN in Uganda, let me reiterate our commitment to continue assisting the Government of Uganda, other national partners and, more generally, the Ugandan people in their efforts to realize their collective vision of becoming a just, peaceful and prosperous country by 2040.



Ahunna Eziakonwa-Onochie
United Nations Resident Coordinator in Uganda

Preface

As a signatory to the Millennium Declaration, the Government of Uganda is committed to maximising the country's progress towards the Millennium Development Goals (MDGs) and improving the lives of all Ugandans. Thirteen years into the new millennium, the MDG framework has proven extremely valuable in focusing attention on some of the most important challenges facing Uganda and the world. This fourth MDG country report provides a credible assessment of Uganda's recent progress.

I am pleased to report significant improvements in many important areas. The benefits of economic growth have clearly been felt across the income distribution; Uganda achieved the first MDG target of halving the proportion of people below the national poverty line more than five years ahead of the 2015 deadline. Sustained improvements in nutrition mean that the share of underweight children has reduced by half since 1995. In recent years the rate of progress in reducing child mortality has increased by a factor of seven, driven by the success of Government's ongoing fight against malaria and dramatic improvements in the availability of essential drugs.

Government is revitalising its approach in areas that have seen slower progress. In the education sector, quality initiatives and curricula reforms are achieving results – children are on average completing primary school earlier and staying in school for longer, while basic learning outcomes such as literacy are steadily improving. Additional public health workers have facilitated the delivery of maternal health interventions, with skilled assistance at birth improving significantly over recent years. To reverse the spread of HIV/AIDS, Government is revitalising the prevention strategies responsible for the remarkable progress achieved in the 1990s. Government's recently launched Vision 2040 aims to ensure a better future for generations to come. To realise this vision we have to focus on the journey, not only the ultimate

destination. With this in mind, this report considers how best to accelerate progress towards the MDGs in the Post-2015 era. Allocating more resources to public education and health services will not be sufficient, particularly without further improvements in the efficiency of service delivery. MDG progress relies heavily on the expansion of economic opportunities, and, therefore, on Government's broader development strategy.

Public investment in transport infrastructure is stimulating local economies and improving access to public services. Electrification is diversifying rural economic activity and the use of modern inputs and equipment is increasing agricultural productivity and value addition, helping to relieve pressure on the country's limited natural resources. Improvements in Government's urban planning capacity are helping to realise the huge development potential of urbanisation. All of these strategies must be strengthened to accelerate progress towards the MDGs and ensure Uganda's sustainable economic and human development.

While led by my Ministry, this report is the product of a consultative process involving different Government agencies and the United Nations fraternity. As we approach the end of the MDG era, the Government of Uganda hopes to strengthen its constructive working relationship with international Development Partners. I am confident that the evidence contained in the report will make a significant contribution to a new global development agenda fully aligned to Uganda's transformative vision.

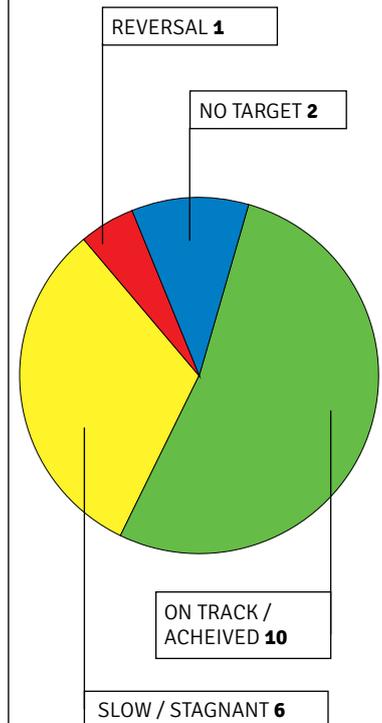


Hon. Maria Kiwanuka

Minister for Finance, Planning and Economic Development

Uganda's MDG progress at a Glance

Goal 1: Eradicate extreme poverty and hunger	
Target 1.A: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day	ACHIEVED
Target 1.B: Achieve full and productive employment and decent work for all, including women and young people	NO TARGET
Target 1.C: Halve, between 1990 and 2015, the proportion of people who suffer from hunger	ON TRACK
Goal 2: Achieve universal primary education	
Target 2.A: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	SLOW
Goal 3: Promote gender equality and empower women	
Target 3.A: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015	ON TRACK
Goal 4: Reduce child mortality	
Target 4.A: Reduce by two thirds, between 1990 and 2015, the under-five mortality rate	ON TRACK
Goal 5: Improve maternal health	
Target 5.A: Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio	STAGNANT
Target 5.B: Achieve, by 2015, universal access to reproductive health	SLOW
Goal 6: Combat HIV/AIDS, malaria and other diseases	
Target 6.A: Have halted by 2015 and begun to reverse the spread of HIV/AIDS	REVERSAL
Target 6.B: Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it	ON TRACK
Target 6.C: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	ON TRACK
Goal 7: Ensure environmental sustainability	
Target 7.A: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources	SLOW
Target 7.B: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss	SLOW
Target 7.C: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation	ON TRACK
Target 7.D: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers	NO TARGET
Goal 8: Develop a global partnership for development	
Target 8.B: Address the special needs of the least developed countries	SLOW
Target 8.D: Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term	ACHIEVED
Target 8.E: In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries	ON TRACK
Target 8.F: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications	ON TRACK



Executive summary

Progress towards the attainment of MDGs

Uganda has made important progress towards the Millennium Development Goals (MDGs) since the last progress report was published in 2010. Most notably, the first of the 21 MDG targets – halving the proportion of people below the national poverty line – has been achieved well ahead of the 2015 deadline. The poverty gap has also reduced across all regions of the country, meaning that individuals below the poverty line are less poor today than in the past. Economic growth has been closely linked to an expansion in more secure and productive forms of employment for poorer households and has therefore benefited Ugandans across the income distribution.

The share of the workforce in wage employment continues to increase, even though the majority of opportunities remain in the informal sector, and population growth and improved education attainment have resulted in high youth unemployment. There has been a substantial reduction in hunger and under-nutrition – since 1995 the share of underweight children has been reduced by half. Following a drive to expand malaria prevention and control measures, the heavy burden imposed by the disease is beginning to be rolled back.

Access to affordable essential drugs through public health facilities and treatment for HIV/AIDS for those who need it has also improved significantly. Improvements in child health outcomes have recently registered a marked acceleration, with the under-five mortality rate falling by 34% between 2006 and 2011. Uganda remains on track to meet the target for access to safe water and sanitation, driven by substantial improvements in rural areas.

Government is stepping up numerous efforts to address those areas (MDG indicators) in which progress has been slow. The MDGs in which progress has been below expectations include the following;

- The primary school completion rate has increased slightly, but the pace of progress is insufficient to enable all Ugandan children to complete the full course of primary education by 2015. Concerns regarding education quality and poor learning outcomes persist, although basic literacy is gradually improving. While gender parity in primary education has been achieved, progress at the secondary and tertiary levels has slowed.
- Despite significant improvements in skilled assistance at delivery, maternal mortality remains a big challenge with many deaths occurring more than a day after the birth.
- Past gains in the fight against HIV/AIDS have not been sustained, with a disturbing recent increase in new infections. The percentage of people with comprehensive knowledge of HIV/AIDS transmission has increased but remains low especially among the 15-24 age group.
- There are also disturbing trends relating to the loss of environmental resources, such as reduced forest cover and declining soil fertility. Rapid urban growth has the potential of relieving environmental pressures, but has to be well-managed, especially given the rapid pace at which it is happening.

In the education sector, several quality initiatives and policy reforms have been undertaken in recent years, including a revised lower primary curriculum and customised performance targets for school leaders. There has been major progress in the delivery of health services, including dramatic improvements in drug availability resulting from strengthened supply chain management by the National Medical Stores and Government's medicine grant to private not-for-profit providers. The training and recruitment of additional health workers has facilitated the delivery of

maternal health interventions, with skilled attendance at birth improving significantly over recent years. Further progress relies partly on interventions outside the health sector. Government's investment in the rural road network, for instance, can improve access to emergency obstetric care and reduce the large share of maternal deaths that result from complications more than a day after delivery.

To match the recent improvements in access to treatment for HIV/AIDS, Government is revitalising the prevention strategies responsible for the remarkable progress achieved in the 1990s. Declining forest cover reflects encroachment by agricultural land and the current reliance on biomass to meet the population's energy needs. This is being addressed through rural electrification and other strategies to diversify economic activity away from agriculture.

The Ministry of Water and Environment is also supporting the establishment of fast-growing bio-energy plantations for fuelwood and charcoal production. To improve the living conditions of urban dwellers and to realise the huge development potential of urbanisation, Government is investing in its urban planning capacity, and the computerisation of the land registry – finalised in early 2013 – will improve the security of land tenure and encourage investment in the housing market.

Drivers of MDG achievement in Uganda

With the 2015 MDG deadline fast approaching and a growing consensus that the post-2015 agenda should pay greater attention to the root causes of development, this fourth MDG report seeks to identify the underlying factors affecting progress towards the MDGs in Uganda. In-depth analysis was undertaken using Uganda's most-recent household surveys. This evidence indicates that MDG achievement is intimately tied to the expansion of economic opportunities. Household income is a strong predictor of almost all the MDG outcomes, particularly access to sanitation, child health and progression to higher levels of education.

Social service provision may not always be the policy instrument best targeted to accelerate MDG achievement. Government spending on social services is found to have been a relatively weak driver of past progress towards the MDGs. Larger improvements in the MDGs are often associated with public investment in physical infrastructure, such as rural feeder roads. The effectiveness of social sector spending is undermined by inadequate complementary infrastructure – poor-quality roads, for example, make public services less accessible and therefore less effective in improving MDG outcomes. Public infrastructure investment is also found to be an important driver of household income growth, with knock-on implications for the other MDGs. The structure of local economies emerges as another critical factor – the prevalence of non-farm economic activities is important for income poverty as well as other MDG outcomes such as under-five mortality.

Implications for Uganda's Post-2015 Development Agenda

The report assesses Uganda's options for accelerating progress towards the MDGs up to 2030. Given that MDG progress is closely related to the expansion of economic opportunities, the linkages between human and economic development are explored within an economy-wide framework. Implementation of Government's long-term development strategy – the recently launched Vision 2040 – is found to have far-reaching implications for the country's human development trajectory. Policy simulations suggest that implementing the Vision 2040 will double the rate of poverty reduction. Other MDGs can be achieved between six and 10 years earlier.

Investment in physical infrastructure is at the core of Government's strategy to deliver Vision 2040. The simulation results illustrate that improved infrastructure can have large economic and human returns and will have the largest long-run impact if stepped up as quickly as possible. A temporary increase in foreign borrowing to frontload public investment could help make this possible. Maximising the rate of progress will require a significant increase in foreign

borrowing within the next few years. External financing can then be reduced from the mid-2020s as domestic tax revenue, efficiency savings and oil and gas royalties increase. The simulations indicate that this financing strategy will not increase the level of public debt in 2030, but will accelerate human development progress and enhance the country's long-term economic prospects.

Vision 2040 aims to expand modern renewable energy generation and targeted support for tradable sectors such as agriculture and manufacturing. Simulations indicate that all of these interventions have large potential to boost economic productivity and the MDG outcomes, but the agricultural sector is likely to be the most critical for sustainable human progress. There is large scope, in this regard, to enhance agricultural productivity by providing support to research, provision of quality seeds through seed multiplication and certification, extension services, improving disease control, improving the land tenure system and soil fertility management. This will help to release labour from the agricultural sector and relieve pressure on the country's finite natural resource base. Agricultural productivity growth and support for agro-processing will spur urbanisation and have large positive spillovers for higher-value activities, which can place the economy on a new, more-rapid and greener growth trajectory.

As illustrated earlier, realisation of the Vision 2040 is necessary to maximise Uganda's progress towards the MDGs. Achieving this goal requires continued focus on both social and economic (productive) sectors. Current evidence shows that in Uganda today, human development returns of additional investments in physical infrastructure outweigh those to additional social sector spending by a significant margin. Accelerated progress towards our MDG targets will therefore require that infrastructure projects are implemented quickly and effectively while at the same time ensuring value for money in social sector spending.

To mobilise the necessary resources, Government must improve tax efficiency, cut back on unnecessary expenditure, and tap into international financial markets. In addition, land reform must be consolidated to allow the agricultural sector to drive the economy forward towards higher-productivity and more environmentally sustainable activities. Government must work with the private sector to diffuse new technologies and overcome coordination problems, and the global development agenda must re-align around this transformative vision.

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List of acronyms

AIDS	Acquired Immunodeficiency Syndrome	HIPC	Heavily Indebted Poor Countries
ARI	Acute Respiratory Infection	HIV	Human Immunodeficiency Virus
ART	Antiretroviral Therapy	ICT	Information and Communication Technology
BTVET	Business, Technical and Vocational Education and Training	IFPRI	International Food Policy Research Institute
BCG	Bacillus Calmette-Guérin	ILO	International Labour Organisation
CD4	Cluster of Differentiation 4	IMPAC	Managing Complications in Pregnancy and Childbirth
CGE	Computable General Equilibrium	ITN	Insecticide-Treated Mosquito Net
CO2	Carbon Dioxide	GDP	Gross Domestic Product
COMESA	Common Market for Eastern and Southern Africa	MAAIF	Ministry of Agriculture, Animal Industries and Fisheries
DAC	Development Assistance Committee	MAMS	Maquette for MDG Simulations
DOTS	Directly Observed Treatment Short Course	MDG	Millennium Development Goal
DPT	Diphtheria, Pertussis and Tetanus	MFPED	Ministry of Finance, Planning and Economic Development
DSA	Debt Sustainability and Risk Analysis	MLHUD	Ministry of Lands, Housing and Urban Development
EAC	East African Community	MMR	Maternal Mortality Ratio
EPRC	Economic Policy Research Centre	MOH	Ministry of Health
ESSAPR	Education and Sports Sector Annual Performance Report	MRDR	Maternal Perinatal Death Review
FAO	Food and Agriculture Organization	MW	Megawatt
FDI	Foreign Direct Investment	NA	Not available
FY	Fiscal Year		

NDP	National Development Plan	UAIS	Uganda Aids Indicator Survey
NEMA	National Environment Management Authority	UBOS	Uganda Bureau of Statistics
NFA	National Forestry Authority	UCC	Uganda Communications Commission
NRM	National Resistance Movement	UDHS	Uganda Demographic and Health Survey
ODA	Overseas Development Assistance	UGX	Uganda Shilling
OECD	Organisation for Economic Co-operation and Development	UHSBS	Uganda HIV/AIDS Sero-Behavioural Survey
ORS	Oral Rehydration Salts	UMIS	Uganda Malaria Indicator Survey
PEAP	Poverty Eradication Action Plan	UN	United Nations
PNFP	Private Not-for-Profit provider	UN-DESA	United Nations Department of Economic and Social Affairs
PPA	Participatory Poverty Assessment	UNDP	United Nations Development Programme
PPP	Public Private Partnership	UNEP	United Nations Environment Programme
PRSP	Poverty Reduction Strategy Paper	UNHS	Uganda National Household Survey
SAM	Social Accounting Matrix	UNPS	Uganda National Panel Survey
SMC	Safe Male Circumcision	UPE	Universal Primary Education
SURE	Securing Ugandan's Right to Essential Medicines	USD	United States Dollar
TB	Tuberculosis	USDS	Uganda Service Delivery Survey
TFP	Total Factor Productivity	VIP	Ventilated Improved Pit Latrine
		WHO	World Health Organisation

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1. Introduction

The Millennium Development Goals (MDGs) were established following the adoption of the United Nations Millennium Declaration in New York in September 2000. Universally endorsed by all UN member states, the eight MDGs reflect the global consensus on the most important challenges facing humanity and a shared vision for human and social development. These are:

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health

6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

Each goal has specific, time-bound targets, most of which are to be achieved by 2015, and each target has specified indicators to help monitor progress.

Uganda is committed to achieving the MDGs and Government has aligned its development strategies and policies accordingly. Government also monitors the progress towards each of the indicators, targets and goals on a regular basis, and has produced a series of national MDG progress reports.

1.1 Objectives of the MDG progress report

This fourth MDG progress report for Uganda provides an overview of where Uganda stands in terms of progress towards attaining the MDGs, with emphasis on developments since the publication of the last progress report in 2010. The format of the report is very similar to Uganda's three previous progress reports, and the objective to provide a credible and realistic assessment of progress remains unchanged. Areas where progress has been slow are highlighted with a view to stimulating change and galvanising action.

The second part of the report is a special thematic chapter on the drivers of MDG achievement and the implications for Uganda's post-2015 development strategy. This topic was chosen in light of important changes occurring both within Uganda and on the global stage. With just two years remaining to 2015, efforts are on-going to update the global development agenda. In May 2013, the High-Level Panel

of Eminent Persons appointed by the Secretary General of the United Nations released a report calling for a 'paradigm shift and profound structural transformation' to overcome new obstacles to sustained prosperity. While the outcomes targeted by the MDGs remain unanimously accepted, there is a growing consensus that underlying drivers of these outcomes should receive greater attention, including sustainable growth to create jobs and transform economies.

The objectives of the thematic chapter are to identify these underlying drivers in the Ugandan context, and in light of the complex interdependencies between Uganda's economic and human development, to guide policies for accelerated progress towards the MDGs up to and beyond 2015. The recently launched Vision 2040 encapsulates Government's long-term development strategy and provides a natural framework for this analysis.

1.2 Data and indicators

Progress towards the MDGs is reported in line with the current official MDG framework which has been effective since January 2008. In total there are eight goals, 21 targets and 60 indicators. All of the eight goals are directly relevant for Uganda and reported on. Some indicators are not applicable or have been modified in light of Uganda's specific context or due to data availability. Progress against related national targets is also reported.

Data are drawn from national sources, including administrative data and household surveys, although in a few cases data is collected or processed outside of Uganda – such as remote satellite imaging used to measure forest cover. The use of national sources means that some indicators may not be directly comparable with other countries. Care has been

taken to use data that is comparable over time, although this can be a challenge where methods of data collection have changed – and this is highlighted in the presentation. The most recently available data are used but some sources are updated infrequently creating a time lag. The last nationally representative survey to measure household consumption – the Uganda National Household Survey (UNHS) – was conducted in the 2009/10 fiscal year, while the most recent Demographic and Health Survey (UDHS) is for 2011.

The analysis underpinning the thematic chapter made use of several additional sources of data, including the Uganda National Panel Survey (UNPS) and detailed national accounts.

1.3 Assessing progress towards the targets

Progress is assessed by examining the trends in the specified indicators over time, and comparing this to the trajectory required to achieve the target by the 2015 deadline. Some targets – such as to reduce income poverty by half – have already been achieved ahead of the deadline. If the observed trend in a given indicator matches or is above the target trajectory, progress is assessed to be 'on-track'. If the trend is positive but significantly below the target trajectory, the progress is assessed as 'slow'. A marginal or absent improvement is classified as 'stagnant', while a reversing

trend is indicated as 'reversal'. Targets that are achieved or on-track are colour-coded in green. Slow or stagnant progress is indicated in yellow, and reversals are highlighted in red. Note that these assessments relate to the likelihood of achieving each target by 2015, and not only the most recent performance. Slow initial progress – for example in reducing under-five mortality during the 1990s and early 2000s – can make it more difficult to reach the 2015 target even if recent progress has been substantial (as has been the case with child mortality).

1.4 Acknowledgements

The 2013 MDG progress report was prepared through an extensive collaboration between the Government of Uganda and United Nations agencies, funds and programmes and in consultation with a range of stakeholders among national and international development partners. The process was led by the Economic Development Policy and Research Department of the Ministry of Finance, Planning and Economic Development (MFPED), in close collaboration with UNDP. The MDG Sub-Committee chaired by the Uganda Bureau of Statistics (UBOS) led efforts to strengthen official data collection and address any gaps in the national data available. Technical assistance related to the application

of the MAMS CGE model was provided by the Development Policy and Analysis Division of the United Nations Department of Economic and Social Affairs (DPAD/UN-DESA) in New York. The MAMS model was previously calibrated to the Ugandan economy as part of the capacity-development project 'Realizing the Millennium Development Goals through socially-inclusive macroeconomic policies', which was implemented by UN-DESA, in close collaboration with UNDP in Uganda. The capacities built through this project have made this current application of the model possible.



2. National development context

Uganda's overarching goal is to become a modern and prosperous country by the middle of the century, as reflected in the Vision 2040. This goal is to be realised through the implementation of successive 5-year National Development Plans – the first of which was launched in April 2010. Vision 2040 and the National Development Plan (2010/11 – 2014/15) were formulated against a backdrop of significant socioeconomic progress since Uganda attained independence in 1962, and particularly in the period of relative peace and security since 1986. There are however a number of bottlenecks constraining the rate of socioeconomic transformation, including: underdeveloped human resources; inadequate physical infrastructure; an underdeveloped private sector; and low production and productivity in agriculture.

Government has since 1986 pursued several economic and governance reforms that have seen: the restoration of macroeconomic stability and confidence in the national economy; improvement in service delivery through a decentralised system of government; improved functioning of institutions under the three arms of Government – the Legislature, Executive and the Judiciary; restoration of

political pluralism; and the restoration of peace and security across the country, notwithstanding the insecurity that characterised some parts of northern and eastern Uganda between 1986 and 2005. Government's priorities for up to and beyond 2015 – the target year for the MDGs – are articulated in the National Development Plan (NDP) for 2010/11 to 2014/15 and Vision 2040. They include: maintaining national security and defence; developing physical and institutional infrastructure; enhancing agricultural production and value addition; building a competitive workforce; and furthering regional integration within the context of the East African Community (EAC) and the Common Market for Eastern and Southern Africa (COMESA).¹ Both the NDP and Vision 2040 are also cognisant of the major international development frameworks including the Istanbul Plan of Action (2011-2020).

The subsequent sections of this chapter provide an insight into the environment within which national development is being pursued, by highlighting the progress made and outstanding challenges and prospects with regard to economic and socioeconomic development.

2.1 Peace and governance

At the signing of the Millennium Declaration in 2000, most parts of Uganda were already enjoying relative peace, except for Northern Uganda where there was insurgency. Since then Government has led stakeholder efforts to cement peace and stability in the northern region, resettle and reintegrate internally displaced persons and support income-generating activities and economic recovery. At 50 years of independence (1962-2012), governance throughout the country is undergoing a progressive deepening of democratic principles and citizen participation. Multiparty democracy, re-embraced in 2005, continues to take root, as evidenced by the peaceful conduct of the second successive multiparty national election in 2011.

Local Governments are constitutionally empowered and responsible to deliver essential services to the population, and decentralisation was further entrenched through the 2010 amendment of the Local Government Act (1997), which among other things strengthened its alignment with the National Development Plan. A series of reforms in the Justice, Law and Order sector have improved access to justice and strengthened the rule of law by expanding the physical and functional presence of the legal system across the country.

2.2 Performance of the economy

Uganda’s real GDP growth averaged 7% per year between 2000 and 2012, implying an increase in national income by a factor of 2.25. The contribution to GDP by the key sectors of the economy, namely: agriculture, forestry and fishing; industry; and services, has been changing over the years, reflecting the changing structure of the economy.

Structural change

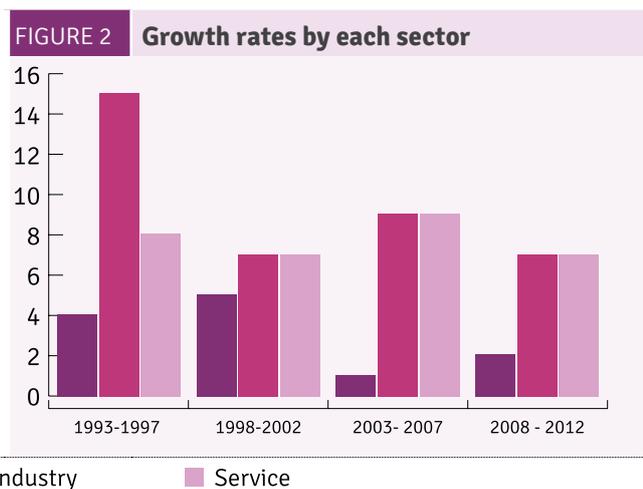
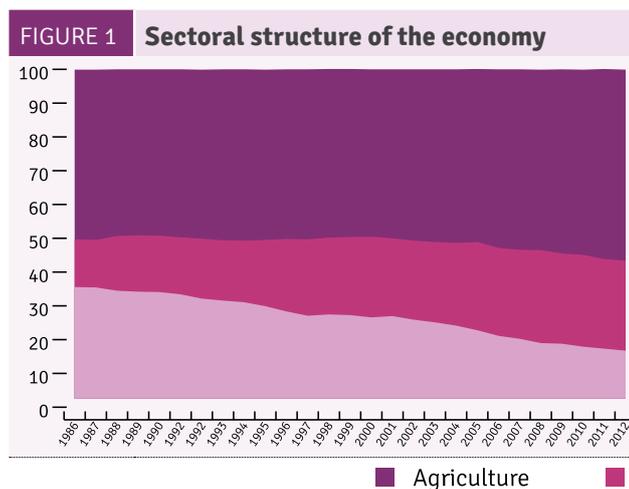
The contribution of the agricultural sector to total GDP has declined from 32% in 1990 to 15% in 2012 (Figure 1). Conversely, agricultural value added has expanded less than 2% per year on average since 2000 – significantly below the rate of population growth.² This modest performance, which is attributed to drought in some years, outbreak of diseases, poor quality inputs, high transport costs, declining soil fertility, subsistence farming practices, and land conflicts, has partly contributed to rising domestic food prices in recent years, thereby adversely impacting household purchasing power (see Figure 3).³ On the other hand, there has been strong growth in the industrial and services sectors (Figure 2), which is associated with rising incomes that allow households to spend more on non-agricultural products (Figure 3).

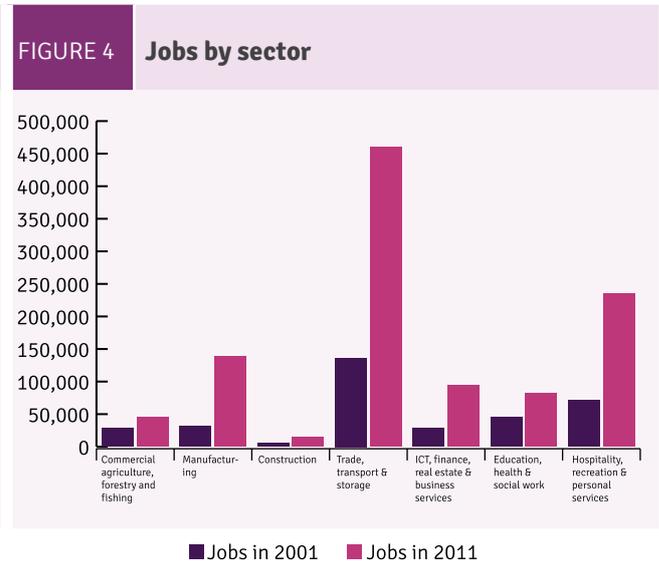
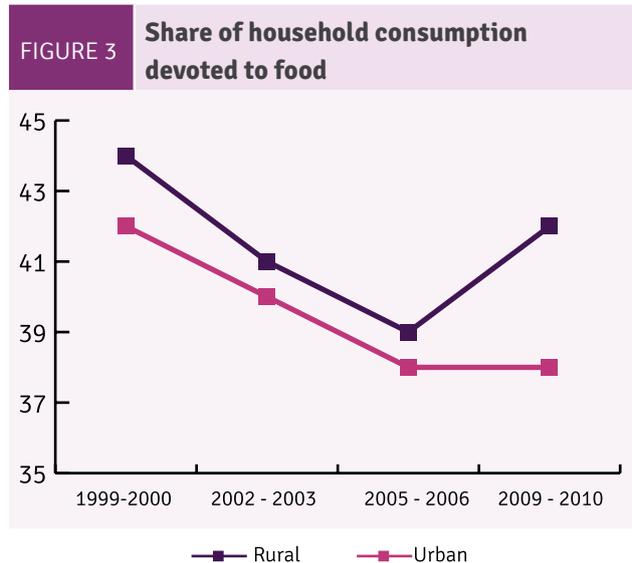
Structural change is increasingly evident in the sectoral and occupational composition of the labour force. Although most of the population is engaged in agricultural activities, only 42 percent of households rely on subsistence agriculture

as their most important source of earnings,⁴ while private non-agricultural wage employment has been growing at around 12% per year, the second highest rate of any African economy, only behind Ghana.⁵

Economic growth is increasingly driven by the construction and the services sectors – particularly telecommunications, real estate and financial services. These are high productivity activities that rely on a relatively small number of skilled workers, and thus do not generate significant employment opportunities. Employment in formal manufacturing has expanded but remains relatively low. The majority of new jobs have been created in low productivity subsectors, such as retail trade and hospitality (Figure 4).

While strong macroeconomic management since the 1990s has ensured relatively rapid and inclusive growth, the productive base of the economy remains underdeveloped. In 2007 the World Bank attributed the absence of truly transformative structural change or large-scale industrialisation to inadequate investment in public infrastructure.⁶ Growing domestic and regional demand and significant improvements in financial sector development represent large opportunities for further growth and job creation, which Government will exploit by addressing binding supply-side constraints – most notably by increasing investments in physical infrastructure for transport and energy.





Sources: Uganda Bureau of Statistics for Figures 1 and 2. UNHS I-IV for Figure 3. Census of Business Establishments 2001/2 and 2010/11 for Figure 4. Notes: Figures 1 and 2 are based on value added at constant prices. GDP shares therefore also reflect differences in relative prices compared to the base year (2002). Rising agricultural prices since 2002 mean that the agricultural share of GDP in current prices is higher than that suggested by Figure 1. Food consumption in Figure 3 includes both purchases and consumption out of home production, but excludes spending on alcoholic beverages, tobacco and restaurants.

Vulnerability of the national economy

Uganda's economy remains vulnerable on account of a number of factors, including: adverse and unpredictable weather, which mainly affects agriculture; limited development financing options; reliance on a narrow range of low-value-added activities and non-renewable natural resources; an inadequate energy supply; and changes in the international environment. Particularly notable, is the continued weak demand in advanced economies that has led to a slowdown in Uganda's exports, notwithstanding the fact that Uganda's relatively low level of financial integration shielded the country from the first round effects of the global economic crisis that began in 2007/08. In 2011/12, the country experienced macroeconomic challenges characterised by high inflation, peaking at 30.5% in October 2011, while real GDP growth fell to a low of 3.4%, in 2009/10 down from 5.9% the previous year. Subsequently, Government tightened both monetary and fiscal policy, resulting in a reduction in headline inflation to 6% in 2012/13 which is close to BOU's target of 5%. Economic growth recovered to 5.1% in the 2012/13 fiscal year.

Development financing

While public expenditure stands at around 20% of GDP, domestic tax revenue has stagnated at just 12 to 13% of GDP for almost a decade, significantly below most other African countries. Although significant improvements have been made in tax administration, a narrow tax base, low compliance and generous investment incentives continue to undermine domestic resource mobilisation. The shortfall has traditionally been met by foreign aid inflows, but these have proven unreliable. In the 2012/13 fiscal year almost USD 300 million in general budget support was frozen by donors, who cited fiduciary concerns. While the short-run growth impact is expected to be relatively small,⁷ continued austerity measures in many traditional donor countries make it increasingly likely that Uganda will have to rely on non-concessional loans, perhaps leveraging future oil revenues, to finance the investments required for the country's long-term development. Government is developing and implementing a Public Private Partnership (PPP) framework and making use of Contractor-Facilitated Financing as a means of raising resources for infrastructure projects and minimising delays arising from reliance on treasury and donor cash flows.

Trade and regional integration

A narrow export base makes Uganda vulnerable to global demand and price shocks. A number of new export industries have emerged over the last decade, but traditional commodities such as coffee, tea and tobacco, which are typically subject to large fluctuations in global prices, continue to generate the majority of export earnings. Rising fuel costs, greater capital equipment needs, and the decline in demand from traditional export markets in Europe have steadily increased the current account deficit, which reached 11.5% of GDP in the 2010/11 fiscal year. Having remained relatively stable against the US dollar between 2000 and 2005, the Uganda shilling has since lost around 50% of its value.⁸ Short-term exchange-rate volatility is high, but appears to have moderated since the Bank of Uganda introduced its Central Bank Rate in 2011, improving communication of the monetary policy stance.

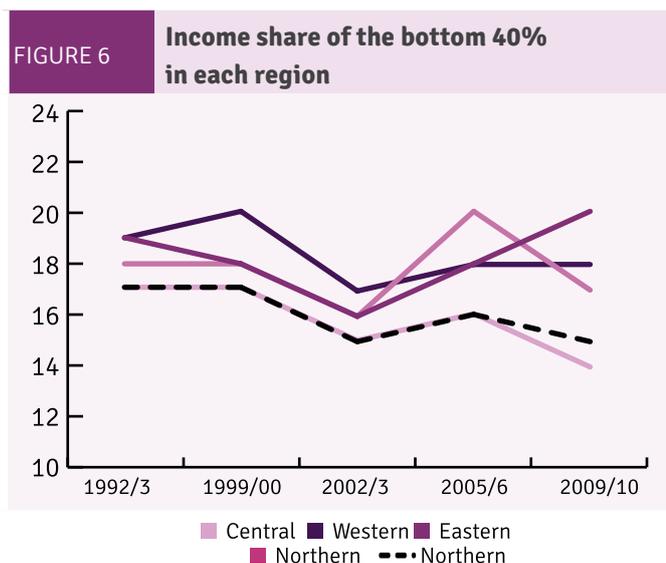
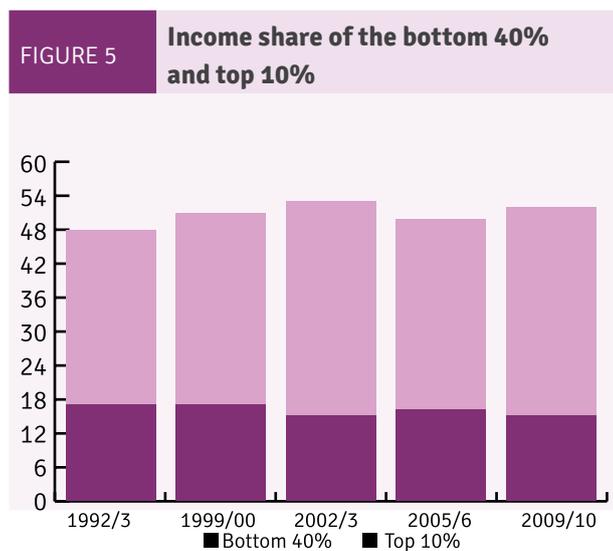
Given weak growth prospects in advanced economies, it is critical for Uganda to fully exploit growing regional demand. Uganda’s exports to other African countries increased sevenfold during the first decade of the millennium, and are more likely to be processed goods than raw commodities. This is partly the result of the Customs Union between the East African Community (EAC) Member states introduced in 2005, which eliminated intra-regional trade tariffs. Implementation of the East African Common Market in goods, labour and capital (introduced in 2010) and the Monetary Union Protocol (currently under negotiation) hold huge promise for further enhancing cross-border trade and investment flows. In recent years, it is exports to South Sudan and the Democratic Republic of Congo that have grown most dramatically, highlighting the importance of stability in the wider region as well as deeper economic integration.

2.3 Socioeconomic development

Poverty and Inequality

Between 1992/3 and 2009/10, each 1% increase in GDP was associated with a 1.4% decrease in the poverty rate – suggesting growth in Uganda has been more inclusive than most other African countries.⁹ But as absolute poverty has declined from 56% in 1992/3 to 24.5% in 2009/10, relative poverty has become a greater concern with issues

surrounding inequality becoming a prominent feature of policy discussions. The income share of the bottom 40% of the income distribution has gradually fallen, from 17% in 1999/2000 to 15% in 2009/10, while the top 10% have increased their share from 34% to 37% (Figure 5).¹⁰ These trends reflect growing inequality within the central region and between the central region and the rest of the country (Figure 6).¹¹



Sources: The Integrated Household Survey 1992/93, and the Uganda National Household Surveys 1999/2000 – 2009/10.

The emergence of new economic opportunities – particularly more productive wage jobs – has contributed to rising inequality. Although job creation in Uganda has been faster than in most African countries, it has not been sufficient to absorb all of the available labour supply, and has been highly uneven across different locations. Two thirds of the jobs created between 2001/02 and 2010/11 were confined to just six districts.¹² Geographically uneven progress results from powerful economies of scale and agglomeration effects, which have characterised almost every successful developing country. However, the benefits of Uganda’s ‘growth poles’ are constrained by inadequate connective infrastructure that limits market integration between different regions.¹³

Social service delivery

Access to and quality of social services is critical in determining socioeconomic outcomes. For example, while universal primary education has significantly improved access to education in Uganda, the gross primary completion rate still stands at 54% (that is including those who repeat grades). There are also significant differences across regions and socioeconomic groups. A child in the Northern region in a household headed by an uneducated subsistence, for example, has a much lower probability of completing primary school than a similar child living elsewhere.¹⁴ Children that fail to complete primary school earn less as adults, and their children will in turn be less likely to receive a good education, threatening both the inclusiveness and rate of Uganda’s long-term development. The underlying challenges that face education cut across the other social sectors. Government’s focus therefore will continue to be geared towards improving efficiency of public service delivery and reducing economic vulnerabilities that discourage poor households from investing in their own human capital.¹⁵

The MDG-related sectors (education, health and water and sanitation) remain important policy priorities. The education sector accounts for the largest share of Government spending even after the recent increase in infrastructure investment. But the quality of public services needs to be improved significantly. Regardless of funding levels, slow

progress for some MDGs can persist unless weaknesses in public oversight mechanisms are addressed.¹⁶ As well as improving supervision and accountability, Government is aiming to address the demand-side constraints to service delivery by strengthening social protection systems. For example, regular cash transfers to mitigate economic vulnerability are currently being piloted for the elderly and those with limited labour capacity. To ensure such social assistance is affordable, it is more important than ever to support economic growth and wealth creation.

The employment challenge

The need for more-rapid employment growth is one of the largest economic and social challenges facing Uganda, and a core theme of the National Development Plan, 2010/11 – 2014/15. The path that the large youth population take into the labour force will have a large and long-lasting influence on Uganda’s development trajectory. Uganda is experiencing its demographic transition later than most other countries – the fertility rate has only recently begun to fall and remains one of the highest in the world.¹⁷ The number of entrants into the labour force is increasing rapidly, and with over half of the population under the age of 15 this is set to accelerate.

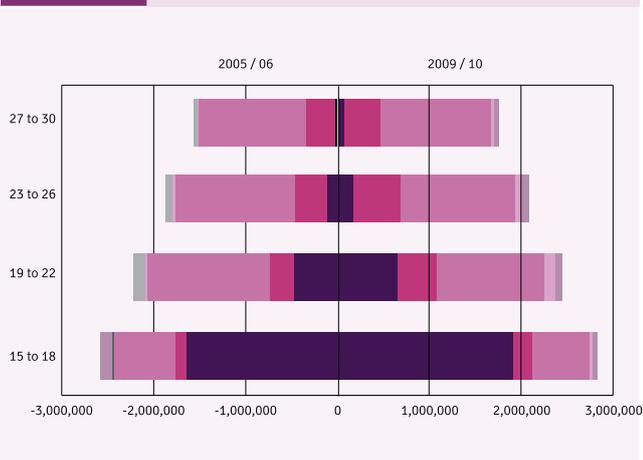
The youth are better educated than in the past and remain in school for longer, but are often unable to fully utilise higher levels of human capital. Five percent of the labour force has higher educational attainment than required for their current job, with this percentage as high as 19% in Kampala. The proportion of youth able to find wage employment has increased but remains lowest for the most recent labour market entrants, with up to three quarters employed by themselves or their families (Figure 7). Open unemployment has increased, but still remains rare and usually confined to the relatively well-off who can afford to wait for a better opportunity. Under-employment is of much greater concern, with women and those engaged in agriculture particularly likely to work fewer hours.¹⁸

While there may be between 600,000 and 700,000 new entrants into the labour market each year, net job creation is a fraction of this (perhaps just 10%, see Figure 8). The vast majority of new jobs are created through the very high entry of new businesses, with few established firms expanding

their employment levels.¹⁹ New enterprises tend to be small (with only 1.6 workers on average), and have poor survival prospects. More than a quarter of jobs may be lost each year due to business failure, and with the entry of small and microenterprises likely reaching a limit, recent employment

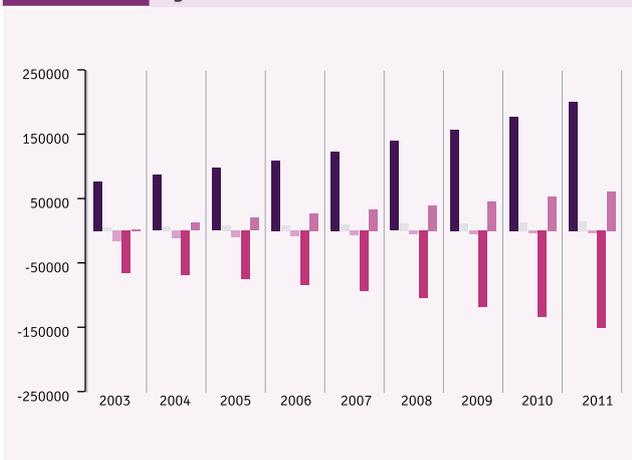
growth may prove unsustainable. The imbalance between labour supply and demand is likely to only grow unless the binding constraints to the entry and expansion of professional business ventures are removed, particularly the shortfall of appropriate technical and managerial skills.

FIGURE 7 Employment status by age



■ In school or training ■ Wage employees ■ Out of labour force and school
 ■ Unemployed ■ work for self or family

FIGURE 8 Estimated job creation and destruction by source



■ Firm entry ■ Firm growth ■ Firm contraction
 ■ Firm exit ■ Net job creation

Sources: UNHS and UBOS Statistical Abstracts for Figure 7. MFPED (2013), 'Firm dynamics and the binding constraints to job creation' for Figure 8. Notes: The National Household Surveys were used to estimate the employment profile of each age category. The size of each age category was estimated from UBOS Statistical Abstracts. Unemployment is defined using the ILO definition, which regards a person who has worked for at least one hour in the reference week as employed. The estimates in Figure 8 are based on the Census of Business Establishments for 2001/2 and 2010/11.

Government is increasing attention and resources to boost the employability of the country's workforce, especially the youth. The Skilling Uganda programme, launched in October 2012, will work closely with employers and private training providers to accelerate reforms and guide investments in the Business, Technical and Vocational Education and Training (BTVET) sector. Various initiatives under the programme

will help raise the economic relevance of BTEVT, increase the quality of skills provided; provide equitable access to skills development, achieve greater organisational and management effectiveness, and increase resources and internal efficiency. Provision of training in entrepreneurial skills is also being supported by Government through support to Enterprise Uganda.

2.4 Sustainable development

Agriculture and climate change

With the majority of the population remaining reliant on rain-fed agriculture, global climate change will inevitably have far-reaching implications for Uganda's socioeconomic development. Average temperatures are projected to increase by 1 to 2°C by 2050 and rainfall patterns may change significantly. Models that attempt to predict agricultural yields based on a variety of possible weather trends produce ambiguous results²⁰ but less-predictable weather patterns – regardless of the actual temperature and rainfall changes – raise the risks faced by farmers and may discourage the transition from subsistence to commercial agriculture. The incidence of droughts has already increased, partly explaining the record food price increases during 2011 which are likely to have affected welfare in a predominantly negative way, even for many in rural areas.²¹ Rising temperatures may restrict Uganda's coffee production – particularly of the higher-value Arabica bean – jeopardising an important source of income for poor rural households and the country's largest export, further underlying the need to diversify the country's traditional economic activities through greater value addition. Government has recently adopted a commodity-based approach to agricultural development, which will coordinate support for a number of strategic value chains and provide a more realistic means to allocate resources based on immediate and known needs.²²

The environment and energy supply

Uganda's development will only be sustainable if the total value of physical, human, social and natural assets keeps pace with population growth, which is currently 3.2% per year. While significant improvements have been made to

the stocks of physical and human capital, depletion of the country's natural wealth is of concern. While there is a paucity of evidence, environmental degradation has been estimated to cost the country 4% to 12% of national income each year, principally through soil erosion.²³ Declining soil fertility means farmers are experiencing reduced yields and increasingly switching to lower value but less nutrient-intensive crops.²⁴ The low value of agricultural commodities reduces the incentive for farmers to invest in the soil, and the use of chemical fertilisers to restore fertility remains low. Agricultural practices have traditionally used land extensively, but this limits growth potential and has led to significant encroachment on forests, grass- and wetlands. With rapid population growth, some areas are experiencing acute land constraints that have reduced fallowing and accelerated degradation. Soil erosion also contributes to the siltation of lakes and rivers which threatens the fishing industry, particularly where wetlands have been converted to cropping. Declining biodiversity could also jeopardise the country's market niche in ecotourism.

The link between Uganda's natural resources and economic development is particularly clear in the energy sector. Over 92% of the population relies on biomass for their energy needs, principally charcoal and fuel wood.²⁵ Uganda's energy consumption per person is among the lowest in the world, but population growth has escalated harvesting of biomass, placing significant pressure on the country's natural vegetation and contributing to large-scale deforestation. Satellite imaging suggests that Uganda's forest cover was reduced by 37% between 1990 and 2010, declining from 25% to 15% of the total land area.²⁶ To reduce environmental pressure it is necessary to generate more non-farm income opportunities based on alternative energy sources.

Government is pursuing the growth of manufacturing as a key component of its job creation strategy. In line with this strategy, Government is continuing to invest in rural electrification which has resulted in growth of agro-processing enterprises and creation of jobs in some small townships away from the capital city. The cost of energy is known to be a big constraint facing Ugandan manufacturing firms.²⁷ Given an unreliable electricity network, costly self generation using imported fossil fuels was the norm for large firms prior to the commissioning of the 250 MW Bujagali hydropower dam in 2012.

The current average available electricity supply to the national grid is just over 600 MW, just sufficient to meet current demand. This contrasts to Uganda's large power potential, estimated at 5,300 MW, mainly based on renewable sources such as hydropower (2,200 MW), geothermal (450 MW) and solar (200 MW). The National Development Plan, 2010/11 – 2014/15, prioritises an increase in the power supply, particularly through the construction of a 600 MW hydroelectric plant at Karuma. The rural electrification strategy aims to increase access to the national grid from 11% to 20% over the same period, while refurbishment of the distribution network and measures to curb illegal connections are intended to reduce energy losses from 40% to 15%.

The prospect of oil production

Uganda's development prospects were greatly enhanced with the confirmation of commercially viable oil deposits in 2006. This discovery of oil will enable the country to cut back on fuel imports and finance large-scale infrastructure projects, but efforts must be taken to limit the environmental impact and biodiversity loss. The discoveries made to date can support an estimated production of 100,000 barrels of oil per day for 25 years, sufficient to justify a large-scale refinery in the country.

Cumulative investments in petroleum exploration since 1998 are estimated at USD 1.7 billion, while investments in the production and refining phases of development are likely to be in excess of USD 10 billion. Oil production is expected to have a large impact on public finances starting

from the FY 2018/19, with Government revenue excluding grants projected to increase from the current 12% to 22% of GDP by 2023.²⁸ In 2008, Government, finalised the Oil and Gas Policy, which is being implemented by enactment of key legislations, namely: an updated Public Finance Bill to provide for the management of oil revenues; the Petroleum Resource management Act; and the Petroleum Refining, Gas Processing and Conversion, Transportation and Storage Bill. In addition, a Petroleum Fund to be managed by Bank of Uganda is to be established with Parliamentary oversight. Government is also placing emphasis on building the human and management capacity required to provide leadership for the oil sector.

After reviewing progress towards each of the MDGs in the following chapter, this report provides an in-depth explanation of the interlinkages between the socioeconomic outcomes targeted by the MDGs and Uganda's overall development process. This analysis is intended to place policy debates surrounding the social sectors within a broader context, guide implementation of the NDP; and with just two years remaining to the MDG deadline, contribute to a Post-2015 international agenda that is fully aligned to Uganda's national objectives of growth, employment and socioeconomic transformation for prosperity.

Notes for chapter 2

1. The NDP develops specific interventions linked to these policy priorities, the most important being the 15 core projects, which include irrigation schemes, the oil refinery, the Karuma Hydroelectric Power Plant, and improvements to the road, rail and water transport networks. Ten of these core projects have so far taken off with cumulative expenditures for the first three fiscal years (2010/11 to 2012/13) amounting to US\$ 1.88 trillion (USD 740 million), 17% short of the NDP target.
2. The World Bank however believes that the national account statistics underestimate the recent rate of agricultural growth. World Bank (2011), 'Agriculture for inclusive growth in Uganda', Inclusive Growth Policy Note 2.
3. Food prices have been rising globally since 2008 but Ugandan price trends also reflect domestic supply constraints. Food crops tend to be poorly integrated into global markets (see Kaspersen and Føyn, 'Price transmission for agricultural commodities in Uganda: An empirical vector autoregressive analysis', IFPRI Uganda Strategy Support Program Working Paper No. 6, 2010), and models of the Ugandan economy are unable to replicate the observed food price trends without assuming significant reductions in domestic agricultural productivity (see IFPRI, 'The impact of food prices on the Ugandan economy', 2012).
4. UNHS 2009/10.
5. Fox and Pimhidzai (2011), 'Is Informality Welfare-Enhancing Structural Transformation? Evidence from Uganda', World Bank Policy Research Working Paper No. 5866.
6. World Bank (2007) 'Uganda Moving Beyond Recovery: Country Economic Memorandum'. Poverty Reduction and Economic Management Unit, Africa Region.
7. Eberhard (2013), 'Responding to aid cuts in Uganda: An assessment of the economy-wide implications of a reduction in budget support', MFPED Policy Discussion Paper.
8. The Uganda shilling is a free-floating currency.
9. MFPED (2012), 'Uganda Poverty Status Report'.
10. The income share of the fifth to ninth deciles – to middle 50% – is around half of national income and has remained almost constant over time, nationally and in each region. This is true in most countries: Cobham and Sumner (2013), 'Putting the Gini back in the bottle? "The Palma" as a policy-relevant measure of inequality'.
11. Inequality within the Western regional is lower but has increased, while inequality in the Eastern and Northern regions has declined.
12. These districts are Kampala, Wakiso, Mukono, Mbarara, Jinja and Arua.
13. World Bank (2012), 'Uganda: Promoting Inclusive Economic Growth, Synthesis Report'.
14. MFPED (2012), 'Uganda Poverty Status Report'.
15. Investing in preventative healthcare or a child's education requires sacrificing some present consumption in the hope of realising a long-term payoff. Given low and uncertain levels of income, many poor and vulnerable households will not make these investments.
16. On the day of recent spot checks, 20% of public primary school teachers were found to be absent. Uganda National Panel Survey Community Module, 2009/10.
17. The Total Fertility Rate – the average number children a woman of childbearing age can expect to have – was 6.9 in 1995, falling to 6.7 in 2006 and 6.2 in 2011.
18. Warren-Rodríguez (2013), 'Why do Ugandan women work fewer hours than men? The role of gender in shaping differences in work intensity in Uganda'.
19. MFPED (2013), 'Firm dynamics and the binding constraints to job creation'.
20. Gashaasha, Thomas, Waithaka and Kyotalimye (2012), 'East African Agriculture and Climate Change: A comprehensive analysis', IFPRI.
21. IFPRI (2012), 'The impact of food prices on the Ugandan economy'.
22. MAAIF (2012), 'Proposed Action Plans for the Agriculture Revolution of Uganda'.
23. NEMA, 'State of the Environment Report for Uganda 2010'.
24. An example is the significant shift from bananas to cassava and sweet potatoes in the central region.
25. NEMA, 'State of the Environment Report for Uganda 2010'.
26. The reduction in forest cover has been compensated for by an increase in other wooded land, mainly on account of agricultural land abandoned during the conflict in the north reverting to bush and woodlands. FAO (2010), 'Global Forest Resources Assessment, Country Report: Uganda'. Forestry Department, Food and Agriculture Organization of the United Nations.
27. World Bank (2007) 'Uganda Moving Beyond Recovery: Country Economic Memorandum'. Poverty Reduction and Economic Management Unit, Africa Region.
28. MFPED (2012), 'Uganda Debt Sustainability Report'.



3. Progress towards the MDGs

This chapter goes goal by goal and indicator by indicator through each of the MDGs to provide an update on the status and trends towards meeting the targets. Focus is on the targets set globally following the adoption of the Millennium Declaration, but, where national targets exist, progress towards these is also reported. Additional indicators that are particularly relevant for assessing progress in Uganda

are reported even if they do not form part of the global framework. There is a brief discussion of the factors driving the trends under each MDG and Government interventions to sustain and accelerate progress, but these issues are covered in more detail in the special thematic chapter that follows this one.

3.1 Goal 1: Eradicate extreme poverty and hunger

Uganda achieved the target to halve the proportion of people whose income is less than one dollar a day well ahead of the 2015 deadline. This has been driven by an increase in more secure and productive forms of employment and has resulted in a steady reduction in hunger and under-nutrition. The national poverty head count declined from 56.4% in 1992/93 to 24.5% in 2009/10 (Table 1). Due to this progress, the general perception of who is poor has also changed to

reflect a demand for opportunities rather than absolute deprivation. For example, today lack of an ox plough is perceived to indicate poverty, while the same communities in 1990 considered those lacking a hand hoe to be poor.²⁹ If current trends continue, Uganda is on course to reach the much more ambitious national target to reduce the poverty rate to 10% by 2017 (Figure 9).

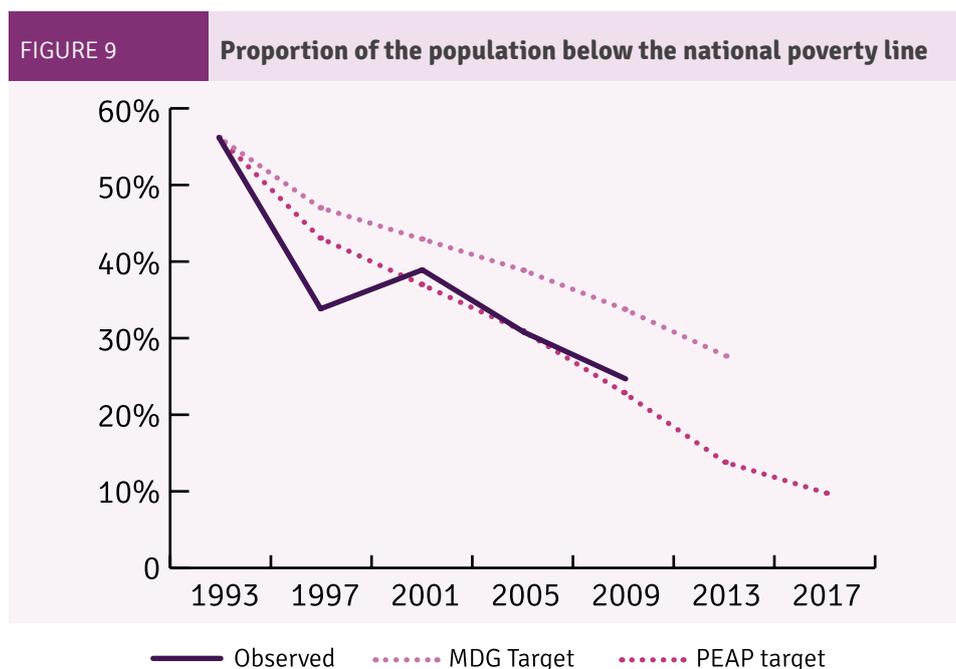
TABLE 1 **Target 1.A Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day**

STATUS OF PROGRESS: ACHIEVED						
Indicator	1992/93	1999/2000*	2002/3	2005/6	2009/10	2015 target
1.1 Proportion of population below national poverty line (poverty headcount)	56.4%	33.8%	39.0%	31.0%	24.5%	25.0%
1.2 Poverty gap ratio	20.3	10.0	11.9	8.8	6.8	
1.3 Share of poorest quintile in total household consumption	6.9%	6.7%	6.3%	6.4%	6.2%	

Source: UNHS 1992/1993, 1999/2000, 2002/2003, 2005/2006, 2009/10. Note: * Estimates exclude the districts of Bundibugyo, Kitgum, Gulu, Pader and Kasese, which were not covered in the 1999/2000 survey due to instability. Notes: The poverty gap ratio is the average distance below the poverty line as a proportion of the poverty line. This measure can be interpreted as the per capita cost of eradicating poverty, as a percentage of the poverty line, if money could be channeled perfectly to the poor.

Inequality however remains a concern. The poorest quintile (the bottom 20% of the income distribution) account for only 6.2% of national consumption, although this has remained stable over time (see Table 1). The poverty gap ratio – a measure that estimates the depth of poverty by establishing how far individuals are below the poverty line – has declined

faster than the headcount index (Table 1). This is true regardless of geographical location, and is indicative of rising average consumption among Uganda’s poor, meaning that individuals below the poverty line are less poor today than in the past.



Source: UNHS 1992/3, 1999/2000, 2002/03, 2005/6 and 2009/10.

TABLE 2 Target 1.B Achieve full and productive employment and decent work for all, including women and young people

STATUS OF PROGRESS: NO TARGET				
Indicator	1992/3	2002/03	2005/06	2009/10
1.4 Growth rate of GDP per person employed	NA	NA	NA	NA
1.5 Employment-to-population ratio	84.7%	77.5%	70.3%	75.4%
1.6 Proportion of employed people living below national poverty line	NA	NA	NA	NA
1.7 Proportion of own-account and contributing family workers in total employment	87.3%	85.3%	80.6%	74.4%

Source: UNHS 1992/1993, 2002/2003, 2005/2006, 2009/10. Note: Indicator 1.7 refers to an individual’s primary job.

Self and family employment has decreased in importance but still accounts for three quarters of total employment. As in most other low-income countries, time-related underemployment – that is, individuals being unable to work as many hours as they would like – and involuntary self or family employment are problems in Uganda.³⁰ The proportion of own-account and contributing family workers has decreased markedly with rapid growth in wage employment, particularly since the early 2000s (Table 2). Full and productive employment for all will require faster expansion in the number of wage and salary jobs, particularly in the higher-value industrial and service sectors, and higher agricultural productivity to release more workers from low-paid agricultural activities.

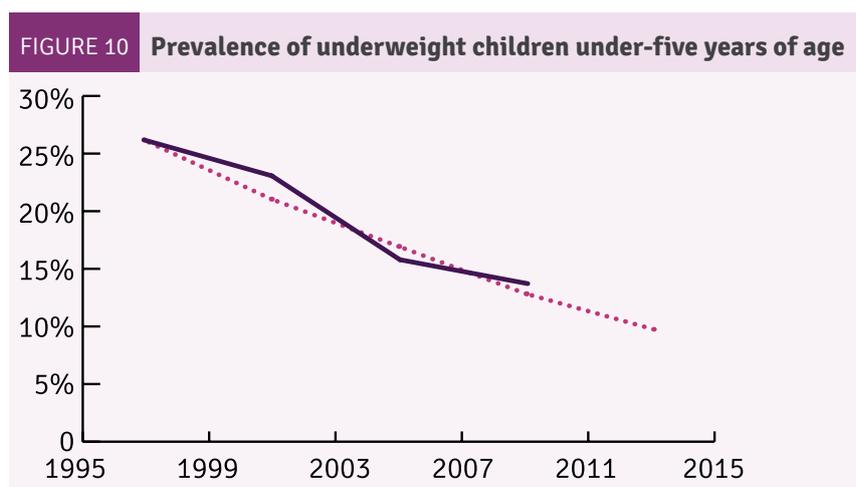
Significant progress has been achieved in improving nutrition. Weight-for-age takes account of both chronic and acute malnutrition, and is often used as an overall indicator

of a population’s nutritional health. Nutrition is particularly important during early childhood, influencing an individual’s health, cognitive development and economic outcomes into adulthood. Globally, undernutrition is estimated to be a cause of 45% of all child deaths.³¹ Fortunately, Uganda’s reduction in income poverty has been accompanied by significant improvements in child nutrition. The share of underweight children under five years of age declined from 25.5% in 1995 to 13.8% in 2011 (Table 3). Based on this trend, Uganda is on track to meet the hunger-reduction target by 2015 (Figure 10). To ensure the target is met, the Uganda Nutrition Action Plan for 2011–2016 targets a number of simple, cost-effective measures to improve maternal nutrition and care, including exclusive breastfeeding for the first six months of life; timely, adequate, safe and appropriate complementary feeding and micronutrient intake between 6 and 24 months; and the fortification of common staple foods.

TABLE 3 Target 1.C Halve, between 1990 and 2015, the proportion of people who suffer from hunger

STATUS OF PROGRESS: ON TRACK					
Indicator	1995	2001	2006	2011	2015 target
1.8 Prevalence of underweight children under five years of age	25.5%	22.8%	15.9%	13.8%	10%
1.9 Proportion of population below minimum level of dietary energy consumption	NA	NA	NA	NA	

Source: UDHS 1995, 2001, 2006, 2011. Notes: indicator 1.8 refers to the share of children below two standard deviations of the median weight for age.



Source: UDHS 1995, 2001, 2006, 2011. Notes: Refers to the share of children below two standard deviations of the mean weight for age.

3.2 Goal 2: Achieve universal primary education

Universal Primary Education (UPE) introduced in 1997 dramatically increased primary school enrolment and continues to reduce inequalities in access to education relating to gender, income and location.³² It has also increased the probability that children start primary school

on time.³³ Dropout rates and grade repetition remain high however and it is unlikely that all Ugandan children will be able to complete the full course of primary schooling by 2015.

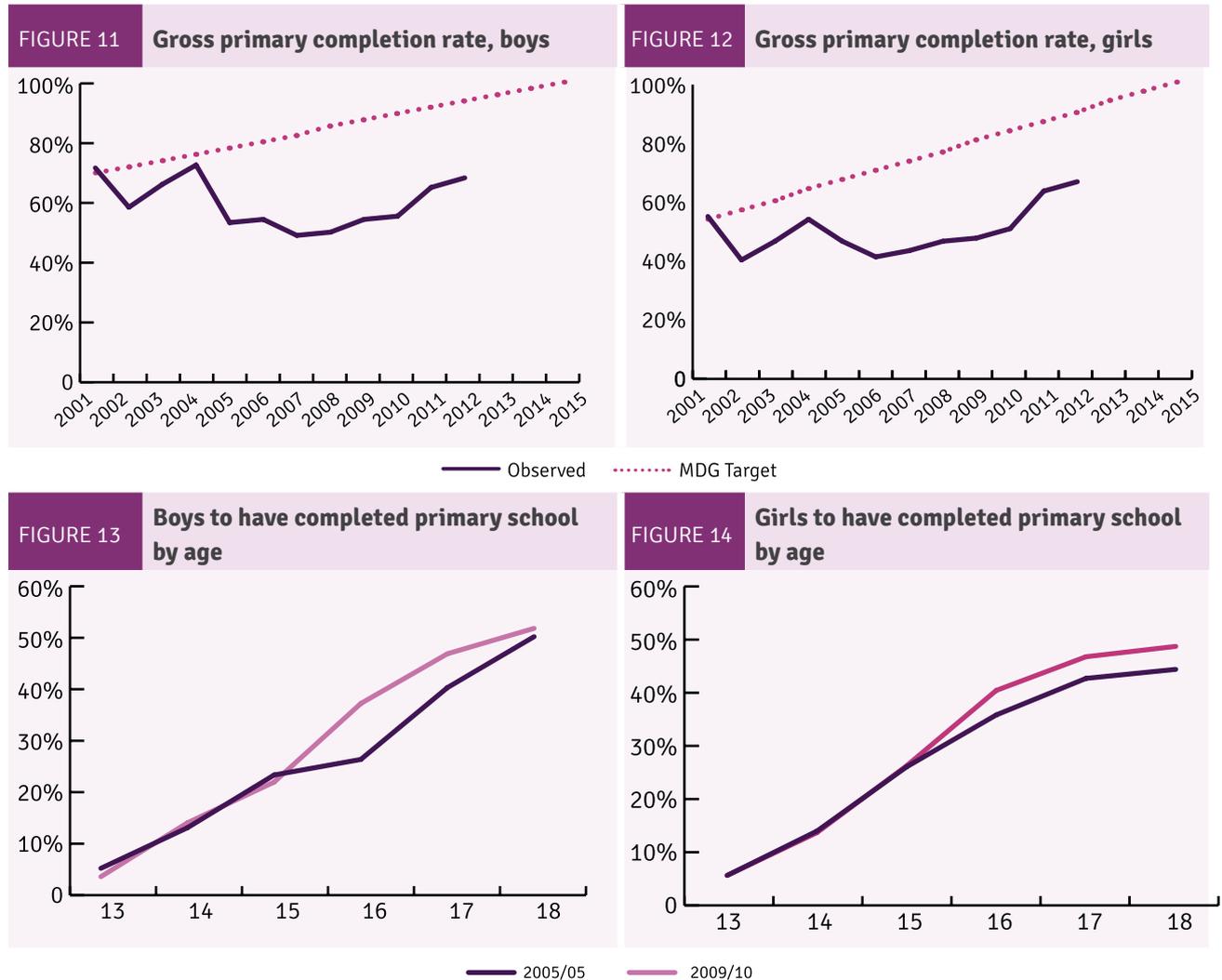
TABLE 4 **Target 2.A Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling**

STATUS OF PROGRESS: SLOW				
Indicator	2002	2006	2010	2015 target
Gross primary school enrolment rate ¹	126%	126%	120%	
Boys	129%	128%	121%	
Girls	123%	124%	120%	
2.1 Net enrolment ratio in primary education ²	86%	84%	83%	100%
Boys	85%	84%	82%	100%
Girls	86%	85%	83%	100%
2.2 Gross primary completion rate ³	49%	48%	54%	100%
Boys	59%	55%	56%	100%
Girls	41%	42%	51%	100%
On-time completion rate ⁴	11%	6%	5%	
Boys	11%	5%	3%	
Girls	11%	7%	7%	
2.3 Literacy rate of 15-24 year-olds ⁵	59%	60%	76%	
Men	65%	70%	77%	
Women	53%	58%	75%	

Sources: ^{1,2}, ⁴UNHS 2002/03, 2005/6, 2009/10; ³ESSAPR 2011/12; ⁵UDHS 2001/2, 2006, 2011. Notes: ^{1,2,4,5}data for the fiscal year in which the survey was conducted, see sources; ¹refers to the total number of pupils attending primary school as a percentage of the total population aged 6-12; ²refers to the number of children aged 6-12 attending in primary education as a percentage of the total population aged 6-12; ³refers to the number of candidates in the primary-school leaving exam as a percentage of the total number of 12 year olds; ⁴refers to the proportion of 13 year olds who have at least completed P7; ⁵refers to those who can read a complete sentence or have attended secondary school.

By 2002/03, as the first UPE cohort was due to complete the final grade of primary school, the gross enrolment ratio had reached 126% (Table 4). This meant that there were more primary school pupils than there were children of primary school age, mainly because many children entered late and repeated grades. The net enrolment ratio – the percentage

of children of primary-school age who are attending school – stood at 86% in 2002/03. The progress on the net enrolment ratio has however slowed and declined slightly to 83% in 2009/10. While the UPE policy eliminated tuition fees, other direct and indirect costs are still borne by parents and families – including stationary, uniforms and school meals.³⁴



Source: Gross primary completion from ESSAPR 2011/12; Figures 13 and 14 from UNHS 2005/6 and 2009/10. Notes: Gross primary completion refers to the number of candidates in the primary-school leaving exam as a percentage of the total number of 12 year olds.

The MDG target goes beyond access – all children should be able to complete the full course of primary schooling. There has been some improvement in primary school completion rates, but progress is slow. The gross primary completion rate – the number of pupils in the final year of primary school as a percentage of all 12 year-olds – increased from 49% in 2002 to 67% in 2012, mainly driven by girls closing the gap with boys (Figures 11 and 12). The net or on-time completion rate – measured using the Uganda National Household Survey (UNHS) as the share of 13 year-olds who had completed primary school – was just 5% in 2009/10. This is lower than for pre-UPE cohorts (Table 4), indicating that

repetition and dropout rates have risen with the expansion in enrolment. The Education Management Information System shows that the survival rate from P1 to P7 fell significantly as the first UPE cohort was due to complete primary school, from 61% in 2002 to 24% in 2003.³⁵ Although the number of classrooms and the number of teachers on the Government payroll were both more than doubled in the decade following 1997, resources may still be stretched too thinly and not used efficiently.³⁶ There has been some progress more recently however. Girls and boy of any given age were significantly more likely to have completed primary school in 2009/10 than in 2005/06 (Figures 13 and 14).

This indicates that the average age at which children complete primary school has fallen, but remains considerably above the official primary-school leaving age.³⁷ Education outcomes – such as basic literacy – have also improved over recent years, particularly among girls (Table 4). Government is continuing efforts to improve the quality of education. Numerous quality initiatives, policies and curricula reform

have been undertaken in recent years. These include a revised lower primary thematic curriculum in 2007, which focuses on literacy, numeracy and life skills and is taught through the medium of local languages. Other key initiatives include customised performance targets for head teachers and deputy head teachers to ensure compliance with set school management standards.

3.3 Goal 3: Promote gender equality and empower women

The Government has made progress in promoting gender equality and empowering women, most notably in achieving gender parity in primary education. Uganda's affirmative

action policies have helped to steadily increase the share of women who take part in political decision making at all levels of society.

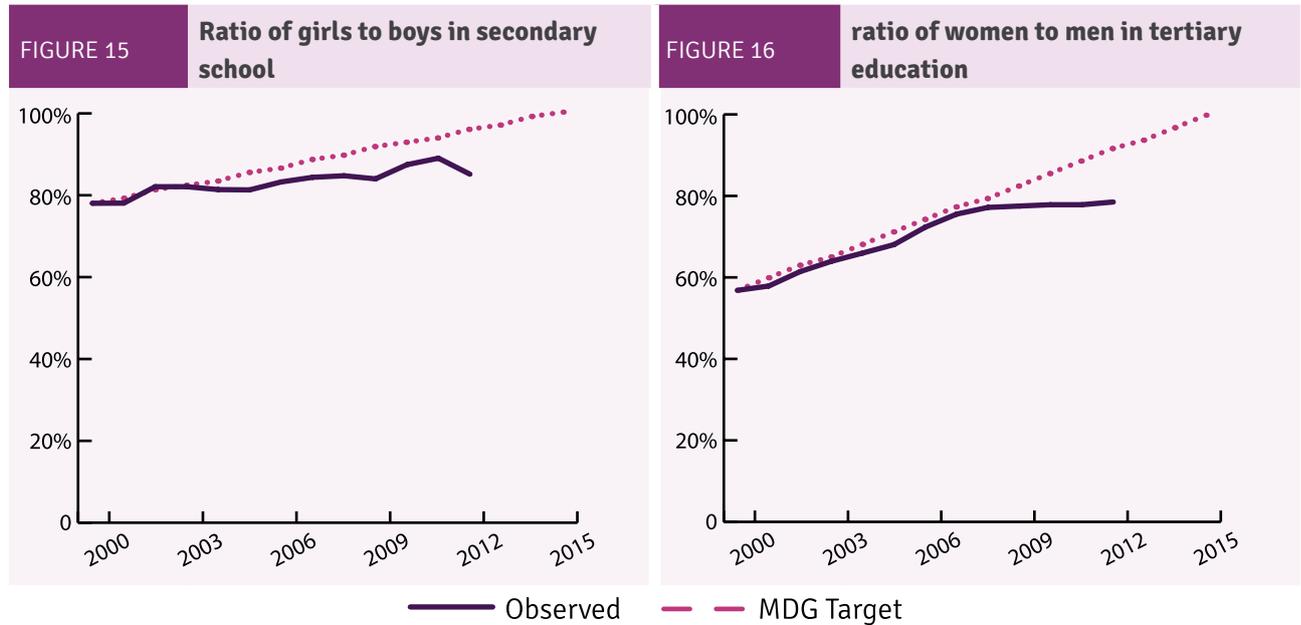
TABLE 5 **Target 3.A Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015**

STATUS OF PROGRESS: ON TRACK						
Indicators	2000	2003	2006	2009	2012	2015 target
3.1 Ratio of girls to boys ¹						
in primary education	93.2%	97.1%	99.4%	99.9%	99.9%	100%
in secondary education	78.8%	82.4%	83.5%	84.2%	85.2%	100%
in tertiary education	58.0%	64.7%	72.7%	77.6%	78.6%	100%
3.2 Share of non-agricultural wage workers who are women ²	NA	NA	28.1%*	33.4%**	NA	
3.3 Proportion of seats held by women in Parliament ³	17.9%	24.7%	23.9%	30.7%	35.0%	

Sources: ¹ESSAPR 2011/12; ²UNHS 2005/06 and 2009/10; ³UNSTATS. Notes: *Year is 2005/06; **Year is 2009/10.

Girls have closed the gap with boys in enrolment in primary education (Table 5), largely on account of Government's introduction of Universal Primary Education in 1997.³⁸ In 2010, for the first time, there were more Ugandan girls enrolled in primary schools than there were boys. In the early 2000s, Uganda appeared on course to achieve gender parity at all levels of education by 2015, boosted

by affirmative action policies in the admission procedures of public universities. But more recently the positive trend at the secondary and tertiary levels has slowed, and as of 2012 there were still only 85 and 79 girls for every 100 boys enrolled in secondary and tertiary education respectively (Figures 15 and 16).



Source: ESSAPR 2011/12.

Greater gender equality in the education system has been slow to translate into the economic and social spheres. Gender inequalities are evident in patterns of time use. On average women work seven hours a week less than men in economic activities (working for pay or profit, or contributing to a family business or farm), but significantly more in homecare activities (the collection of firewood and fetching of water, construction of own dwellings and farm building, milling and other food processing for own consumption).³⁹ Women are more likely than men to work in low-value-added primary activities, accounting for 55% of the workforce in the agriculture, forestry and fishing sector in 2009/10. Of the women working outside of the agricultural sector, 62% are employed in the informal sector compared to 55% of men.⁴⁰

Women are at a major disadvantage in the labour market. Men’s median wages are around double that of women’s regardless of the type of work undertaken.⁴¹ A recent study concluded that while women face elements of gender-based discrimination, the most important obstacles affecting

women in the labour market are structural in nature, and that transformation of the Ugandan economy – particularly shifting labour out of agriculture into non-farm activities – will help to significantly reduce gender-based inequalities.⁴² The rapid growth of non-agricultural wage employment over recent years – albeit from a low base – is benefiting women as well as men. Although women account for only around one third of non-agricultural paid employees, this proportion is gradually increasing (Table 5).

The share of women in Parliament increased from 18% in 2000 to 35% in 2012 (Table 5), rising well above the international average (20%). This progress was largely sustained by a quota system whereby each district elects one woman representative – 112 of the current 130 women MPs were elected in this manner. In 2011 a woman was elected Speaker of the Ugandan Parliament for the first time. In the current cabinet, women hold more than a third of senior ministerial portfolios, including finance, health and education.

3.4 Goal 4: Reduce child mortality

Uganda has reduced child mortality markedly since the publication of the 2010 MDG Report. If the recent accelerated

rate of progress is maintained, Uganda has a chance to meet the MDG target by 2015.

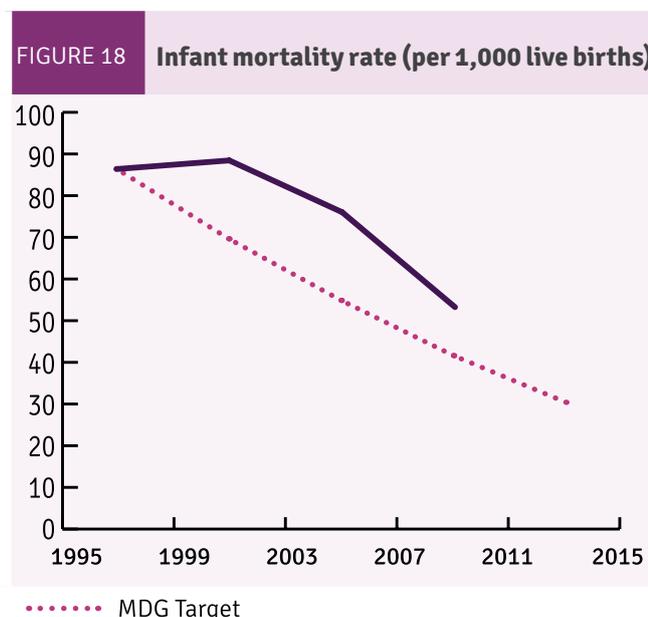
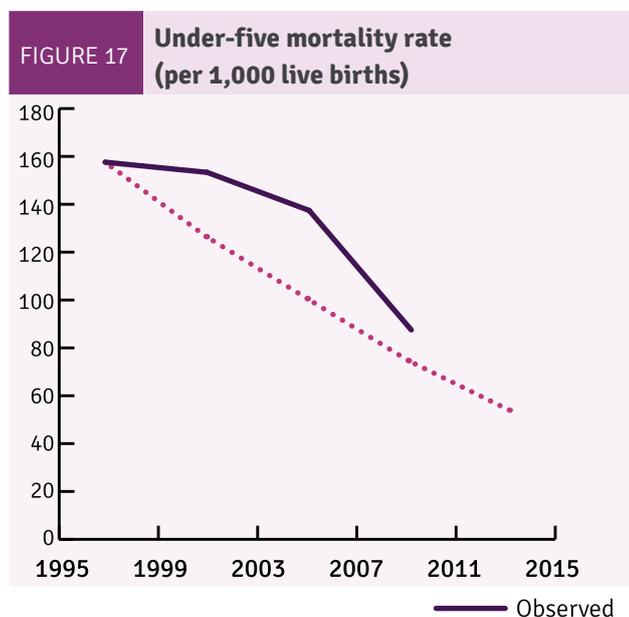
TABLE 6 **Target 4.A Reduce by two thirds, between 1990 and 2015, the under-five mortality rate**

STATUS OF PROGRESS: ON TRACK					
Indicator	1995	2001/02	2006	2011	2015 target
4.1 Under-five mortality rate (per 1,000 live births)	156	152	137	90	56
4.2 Infant mortality rate (per 1,000 live births)	86	88	76	54	31
4.3 Proportion of 1-year-old children immunized against measles ¹	59.6%	56.8%	68.1%	75.8%	

Source: UDHS 1995, 2001/2, 2006, 2011. Notes: ¹refers to the percentage of children between 12 and 23 months who had received at least one dose of the measles vaccine at any time prior to the date of survey, according to either a vaccination card or mother’s report. It is generally recommended for children to be immunised against measles at the age of 9 months.

MDG 4 requires an average reduction in the rate of under-five deaths of 5% each year. In the 11 years between 1995 and 2006, the under-five mortality rate fell from 156 per 1,000 live births to 137 per live births, translating into an average annual reduction of only 1.2% (Table 6). The recent acceleration in progress has been encouraging – between 2006 and 2011 the child mortality rate fell from 137 to 90

deaths per 1,000 live births, an average annual reduction of 8.1%. The extent of this turnaround is remarkable – the annual rate of progress has increased by a factor of seven. Infant mortality has followed a similar trend.⁴³ But Uganda will have to sustain the current rapid rate of progress to achieve the 2015 target (Figures 17 and 18).



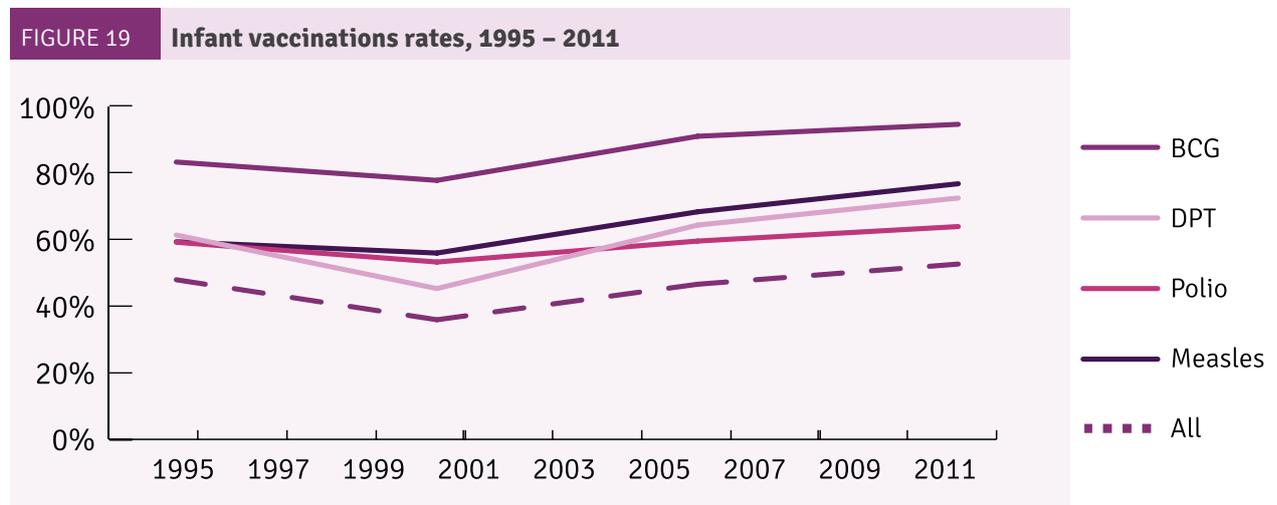
Source: UDHS 1995, 2001/2, 2006, 2011.

In 2011/12 the most commonly diagnosed causes of under-five mortality included malaria (28%), pneumonia (15%), anaemia (10%), and other respiratory infections (9%).⁴⁴ Although malaria remains the most cited cause of death among under-fives, it has reduced most rapidly over recent years (from 39% of diagnosed under-five deaths in 2008/09), almost certainly helping to explain the overall reduction in under-five mortality. Along with inadequate micronutrient intake, severe malaria is a common cause of anaemia. There has been a large reduction in the prevalence of anaemia among under-fives from 73% in 2006 to 49% in 2011.⁴⁵ Malnutrition – an important contributing factor to a large share of child deaths – has improved steadily over recent years (see Table 3). Children born to better-educated mothers have a greater chance of survival, but the recent reduction in child mortality has in fact been most rapid for less-educated mothers.⁴⁶ Education of the mother is critical in reducing the incidence of diarrhoea – perhaps reflecting better knowledge of proper sanitation among educated mothers – but appears to be less important for respiratory infections or malaria.⁴⁷

Compared to other leading causes of under-five mortality, less progress has been made in tackling pneumonia and other respiratory infections.⁴⁸ One study indicates that

the most important factors influencing acute respiratory infection (ARI) in Uganda include breastfeeding practices and housing conditions, as well as wealth status.⁴⁹ The median period of exclusive breastfeeding has increased only slightly from 3.1 months in 2006 to 3.4 months in 2011, and still falls short of the 6 months recommended by the World Health Organisation (WHO).⁵⁰

Vaccination is known to be effective in preventing infant and child deaths. Research has shown that district-level DPT vaccination rates for example display a highly significant effect in bringing down infant mortality rates in Uganda.⁵¹ The slow progress in reducing mortality rates in the late 1990s and early 2000s is partly explained by a reversal in vaccination rates. This was addressed by Government through the implementation of the 2001-2005 Immunization Revitalization Strategic Plan. Between 2001/02 and 2011, the proportion of infants to receive all the basic vaccinations (BCG, measles and three doses each of DPT and polio vaccine) increased by 41% (Figure 19). But there is substantial room for further improvement. The measles immunisation rate for example reached 75.8% in 2011 (Table 6), which is still significantly below the 90% national target that is required to stop transmission.



Source: UDHS 1995, 2001, 2006, 2011. Notes: Percentage of children aged 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother’s report). DPT and polio vaccination rates refer to all three recommended doses (excluding polio vaccine given at birth).

The MDG target to reduce under-five mortality by two thirds is within Uganda's reach, but will require continued efforts to scale up targeted, cost-effective interventions. Improved vaccination coverage, micronutrient supplementation, the promotion of insecticide-treated bed nets, improved hygiene and breastfeeding practices can be achieved at

relatively low cost. Over the last five years, the Ministry of Health has been conducting Child Days that focus on vitamin A supplementation, immunisation, mass deworming and health education. A Child Survival Strategy is being developed at all levels of care and will expand successful community-based interventions.

3.5 Goal 5: Improve maternal health

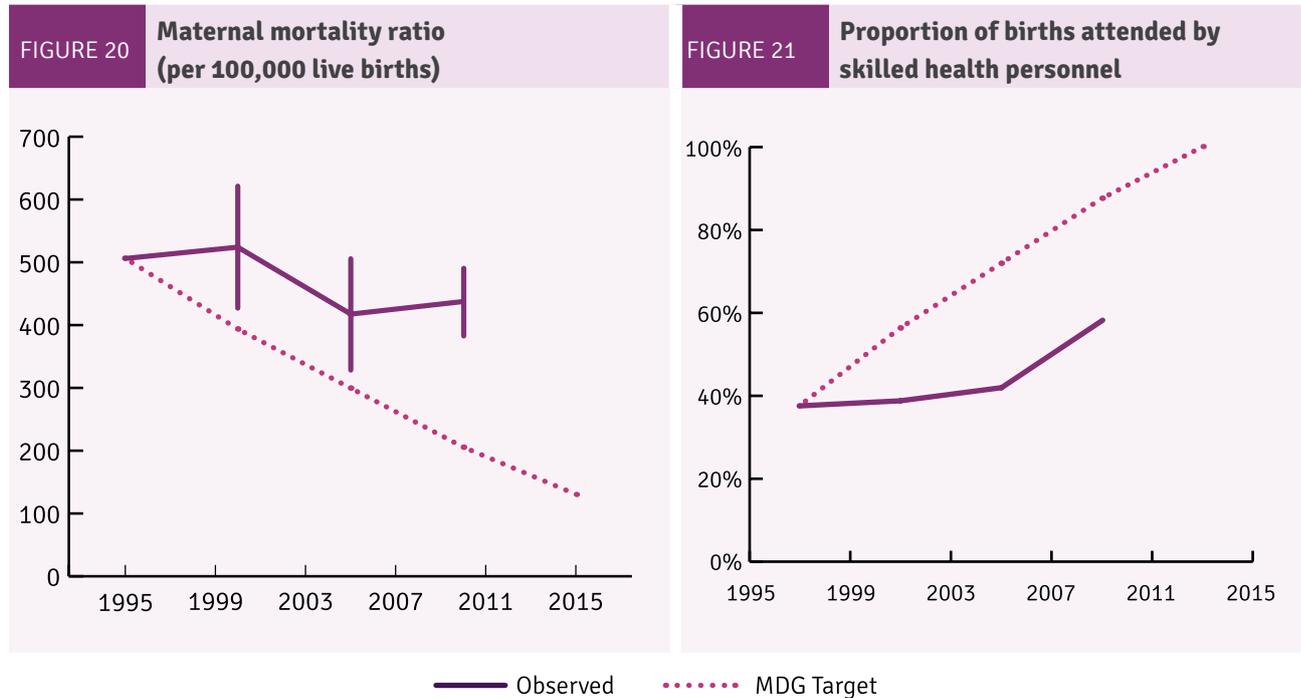
Uganda has made progress in five of the six indicators for maternal health since the publication of the last MDG report, but is unlikely to meet the targeted reduction in maternal mortality by 2015 (see Table 7 and Table 8). Between 2006 and 2011 there was a large increase in the proportion of births assisted by a trained health worker, from 42% to 58% (Table 7 and Figure 21). This marked improvement over the past trend has occurred across all regions of the country including hard-to-reach rural areas. There has also been an improvement in access to care after childbirth, with 33% of women receiving postnatal care within two days

following delivery in 2011, compared to 27% in 2006. The contraceptive prevalence rate has doubled from 15% in 1995 to 30% in 2011, which has lessened maternal and infant health risks by preventing unintended or closely spaced pregnancies and has helped to reduce the adolescent birth rate (Table 8). But in spite of this progress, there has been no statistically significant change in the maternal mortality ratio (Table 7 and Figure 20), and Uganda is unlikely to meet the MDG target to reduce the maternal mortality ratio by three quarters.

TABLE 7 **Target 5.A Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio**

STATUS OF PROGRESS: STAGNANT					
Indicator	1995	2001/02	2006	2011	2015 target
5.1 Maternal mortality ratio (per 100,000 live births) ¹	506	524	418	438	131
5.2 Proportion of births attended by skilled health personnel ²	37.8%	39.0%	42.1%	58.0%	100%

Source: UDHS 1995, 2001/2, 2006, 2011. Notes: ¹Maternal deaths per 100,000 live births in the seven-year period preceding the survey, except for 1995 where the estimate refers to period from 1986 to 1995. Note that some previously published estimates for 2001/02 and 2006 refer to the 10-year-period prior to these surveys. To compare across time these estimates were recalculated for the seven-year period preceding the surveys. ²Among births in the five years preceding the survey. Skilled provider includes a physician, nurse, midwife, clinical officer, or medical assistant.



Source: UDHS 1995, 2001/2, 2006, 2011. Note: Figure 20 includes the two-standard-deviation confidence limits.

A survey of 553 health facilities across Uganda found the most important direct causes of maternal mortality to be haemorrhage (accounting for 42% of maternal deaths), obstructed or prolonged labour (22%) and complications from abortion (11%); important indirect causes included malaria (which was a factor in 36% of the maternal deaths recorded), anaemia (11%) and HIV/AIDS (7%).⁵² Since 2008 the Ministry of Health, through the Maternal Perinatal Death Review (MPDR) committee, has audited health facilities where maternal deaths are reported.

According to the MRDR auditing teams, the most common underlying cause of death between 2009 and 2011 was inadequate staff numbers, which was a factor in 63% of cases (compared to only 4% of cases where lack of blood products or other supplies was cited as a factor). One research study identified the availability of midwives as the most important factor affecting obstetric care, with the potential to avert 80% of maternal fatalities occurring in health facilities.⁵³

The situation has improved substantially over recent years as Government continues to recruit and train additional health workers, improve medicine procurement and distribution through the National Medical Stores, and provide additional funds to maternal health through various loans and grants.

In the early 2000s a national assessment found that only 3% of health facilities expected to offer emergency obstetric care were able to do so.⁵⁴ But according to the 2012 Service Availability and Readiness Assessment, around half of Government healthcare facilities were providing basic obstetric care or had at least one staff member trained in Managing Complications in Pregnancy and Childbirth (IMPAC).⁵⁵

Government is concerned that this progress is not quickly translating into significant reduction in maternal mortality. This is in part due to the use and quality of services along the continuum of care – from pregnancy, to child birth, and to the

post-child birth period. International evidence suggests that good prenatal care can prevent up to a quarter of maternal deaths by increasing a women's awareness of potential complications and danger signs during pregnancy.⁵⁶ Women who attend the WHO recommended four antenatal visits have stagnated at less than 50%. Although over 90% attend at least once (Table 8), expecting mothers typically receive their first antenatal visit late in pregnancy – at a median

gestation age of 5.1 months. 64% of mothers still do not receive any postnatal check-up, yet over 60% of maternal deaths in developing countries are estimated to occur 23 to 48 hours after delivery due to postpartum haemorrhage and hypertensive disorders or after 48 hours because of sepsis.⁵⁷ Government investments in rural transportation infrastructure are critical for improving access to emergency obstetric care to prevent these deaths.

TABLE 8 **Target 5.B Achieve, by 2015, universal access to reproductive health**

STATUS OF PROGRESS: SLOW				
Indicator	1995	2000/01	2006	2011
5.3 Contraceptive prevalence rate ¹	14.8%	22.8%	23.7%	30.0%
5.4 Adolescent birth rate ²	204	178	152	135
5.5 Antenatal care coverage				
at least one visit by skilled provider	91.3%	92.4%	93.5%	94.9%
at least four visits by any provider	47.2%	41.9%	47.2%	47.6%
5.6 Unmet need for family planning ³	21.9%	24.4%	40.6%	34.3%

Source: UDHS 1995, 2001/2, 2006, 2011. Notes: ¹percentage of currently married or in-union women age 15-49 using any method of contraception. ²Number of births per 1,000 women aged 15-19 in the three-year period preceding the survey (estimates published elsewhere may refer to a longer period prior to the survey). ³Share of currently married women aged 15-49 who indicate that they either want no more children or want to wait for two or more years before having another child, but are not using contraception.

3.6 Goal 6: Combat HIV/AIDS, malaria and other diseases

Goal 6 is about performance in three major health conditions – HIV/AIDS, malaria, and tuberculosis. Progress has been registered in reducing the burden of all three diseases, particularly malaria and tuberculosis. Improved access to treatment has reduced the number of

deaths associated with HIV/AIDS,⁵⁸ but the prevalence rate among the 15 to 24 age group has increased (Table 9). This may partly be because improved treatment has indirectly contributed to a rise in the number of new infections by ensuring greater longevity for those living with HIV.

TABLE 9 **Target 6.A Have halted by 2015 and begun to reverse the spread of HIV/AIDS**

STATUS OF PROGRESS: REVERSAL				
Indicator	2000/01	2004/05	2006	2011
6.1 HIV prevalence among population aged 15-24 years ¹	NA	2.9%	NA	3.7%
15-19 years, female	NA	2.6%	NA	3.0%
15-19 years, male	NA	0.3%	NA	1.7%
20-24 years, female	NA	6.3%	NA	7.1%
20-24 years, male	NA	2.4%	NA	2.8%
6.2 Condom use at last high-risk sex, 15-24 year-olds ^{2*}	53.1%	54.0%	46.5%	56.1%
female	44.2%	52.9%	38.4%	51.0%
male	62.0%	55.1%	54.5%	61.1%
6.3 Proportion of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS ^{3*}	34.5%	32.4%	35.1%	38.8%
female	28.5%	29.5%	31.9%	38.1%
male	40.4%	35.3%	38.2%	39.5%
6.4 Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years ⁴	NA	NA	96%	87%

Sources: ¹UHSBS 2004/05 and UAIS 2011; ², ³UDHS 2001/2, UHSBS 2004/05, UDHS 2006, 2011; ⁴UDHS 2006, 2011. Notes: ²higher-risk sex refers to sexual intercourse with a non-marital, non-cohabitating partner, expressed as a percentage of men and women age 15-24 who had higher-risk sex in the past 12 months. ³Comprehensive knowledge means knowing that consistent use of a condom during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing a healthy-looking person can have the AIDS virus, and rejecting that AIDS can be transmitted through mosquito bites and that a person can become infected with the AIDS virus by eating from the same plate as someone who is infected. *The total is calculated as the simple arithmetic mean of the percentages in the rows for male and females.

TABLE 10 **Target 6.B Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it**

STATUS OF PROGRESS: ON TRACK					
Indicator	2008	2009	2010	2012	2015 target
6.5 Proportion of population with advanced HIV infection with access to antiretroviral drugs	44%	54%	50%	62%	80%

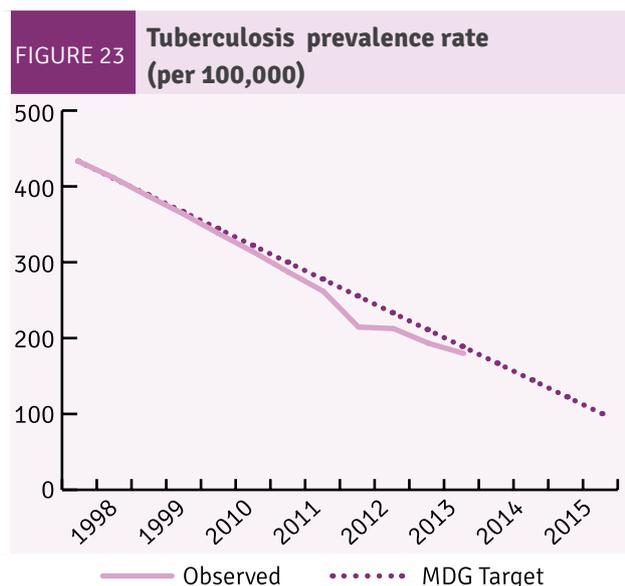
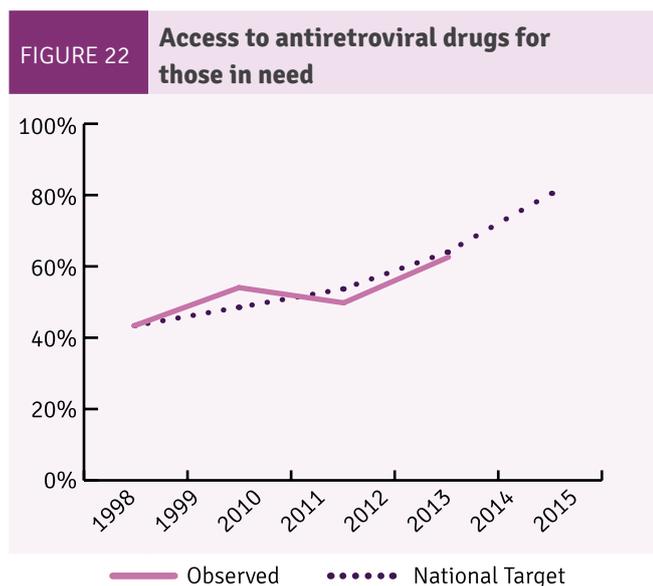
Source: Uganda AIDS Commission. Note: the 2015 target refers to the target set in Uganda's National Strategic Plan for HIV&AIDS, 2011/12 – 2014/15.

The share of the population with advanced HIV receiving antiretroviral therapy (ART) increased from 44% in 2008 to 62% in 2012 (Table 10). This progress prompted the Ministry of Health to expand ART eligibility in 2011 – under the new criteria adults with HIV can initiate treatment much earlier, while all children below two years of age and TB sufferers are automatically eligible.⁵⁹ Even with the expansion in the eligible population, Uganda is on course to achieve the national target of providing antiretroviral drug to 80% of those in need by 2015 (Figure 22).

To reverse the spread of HIV/AIDS Government is revitalising the preventions strategies that accounted from the significant decline in new infections during the 1990s. The Uganda Aids Commission estimates that 37% of new infections are among persons reporting multiple sexual partnerships, 35% occur within discordant monogamous couples, 18% are due to mother to child transmission while 9% arise from commercial sex networks.⁶⁰ There has been no

significant improvement in condom use for higher-risk sexual activity – around half of the youth population engaging in sexual intercourse with a non-marital or non-cohabiting partner still do not use a condom (Table 9). The National HIV Prevention Strategy launched in 2011 prioritises behaviour change to reduce high-risk sexual activity through HIV counselling, and education and information campaigns. To prevent mother-to-child transmission, the Ministry of Health is rapidly rolling out revised WHO guidelines to ensure HIV infected mothers and their infants receive triple ARV prophylaxis during labour and through breast feeding.

In addition, the Ministry of Health has launched the Safe Male Circumcision (SMC) programme. Around a quarter of the male population was circumcised in 2011, but the SMC programme targets this to reach 50% by 2015. While beneficiaries must be aware that this is not 100% effective, a randomised trial found the procedure reduces the risk of HIV infection in men by approximately 60%.⁶¹



Sources: Uganda AIDS Commission, and WHO Global TB Database.

TABLE 11 **Target 6.C Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases**

STATUS OF PROGRESS: ON TRACK					
Indicator	2001	2006	2009	2011	2015 target
6.6 Incidence and death rates associated with malaria					
Reported cases of malaria per 100,000 ¹	22,593	57,407	32,003	37,142	
Prevalence of malaria among children ²	NA	NA	42.4%	NA	
6.6 Proportion of children under 5 sleeping under insecticide-treated bed nets ³	NA	9.7%	32.8%	42.8%	
6.7 Proportion of children under 5 with fever treated with appropriate anti-malarial drugs ⁴	NA	61.3%	NA	64.5%	
6.8 Incidence, prevalence and death rates associated with tuberculosis⁵					
Incidence rate per 100,000 population ⁶	400	283	226	193	
Prevalence rate per 100,000 population ⁷	410	288	215	183	103
Death rate per 100,000 per population ⁸	40	26	18	14	35
6.9 Proportion of tuberculosis cases detected and cured under directly observed treatment short course					
Case detection rate ⁹	37%	49%	57%	69%	70%
Treatment success rate ¹⁰	56%	70%	67%	71%*	85%

Sources: ¹MOH, Annual Health Sector Performance Reports; ²UMIS 2009; ³UDHS 2006, UMIS 2009, UDHS 2011; ⁴UDHS 2006, UDHS2011; ^{5, 9, 10}WHO, Global TB Database. Notes: ²Percentage of children aged 0-59 months testing positive for malaria according to microscopy. ³Percentage of children aged 0-59 months who slept under an insecticide-treated net the night before the survey. ⁴Percentage of children aged 0-59 months who were ill with a fever in the two weeks preceding the survey that received any anti-malarial drug. ⁵Refers to pulmonary, smear positive, and extra-pulmonary tuberculosis cases, including patients with HIV. ⁶New cases of tuberculosis per 100,000 people. ⁷Total number of tuberculosis cases per 100,000 people. ⁸Excluding patients who are HIV+. ⁹The percentage of newly notified tuberculosis cases (including relapses) to estimated incident cases. ¹⁰The percentage of new, registered smear-positive (infectious) cases that were cured or in which a full course of treatment was completed. ⁴Years are 2001/02, 2005/06, 2008/9 and 2010/11.*Year is 2010.

Malaria remains Uganda's largest public health concern and a leading cause of poverty and low productivity. In 2009, Uganda's Malaria Indicator Survey (UMIS) found the prevalence of malaria among children under five, according to microscopy test results, to be 42.4% (Table 11).⁶² But significant progress has been made to roll back the disease in recent years.

Between 2006 and 2011, the rate of reported malaria cases decreased by 50% (Table 11).⁶³ There has been a large decline in the share of child deaths attributed to malaria, from 39% in 2008/09 to 28% in 2010/11,⁶⁴ and lower incidence of

malaria may have also contributed to a substantial decline in the prevalence of anaemia among children (see Section 3.4). This impressive progress is in large part attributed to malaria prevention and control measures spearheaded by Government. There has been a substantial increase in the proportion of children using insecticide-treated mosquito nets (ITNs), from 9.7% in 2006 to 42.8% in 2011 (Table 11). The 2011 UDHS revealed that an Indoor-Residual Spraying campaign had reached two thirds of households in the malaria-endemic Northern region. Government is working to maintain these achievements and continue to improve efficiency and effectiveness in service delivery.

Uganda has also made substantial progress in the fight against tuberculosis. The prevalence of tuberculosis fell from 410 per 100,000 in 2001 to 183 in 2011 (Table 11 and Figure 23). Over the same period the death rate fell by 65%, well ahead of the MDG target. This progress has to a great extent been driven by improved case detection rates under the directly observed treatment short course (DOTS) – the WHO estimates that Uganda successfully detected 69%

of new cases of TB in 2011 compared to 37% in 2001. The treatment success rate has stagnated at around 70% over recent years however, short of the 2015 MDG target of 85%, reflecting a number of challenges including a shortage of qualified laboratory personnel, high HIV prevalence, and the emergence of drug-resistant strains. To address these challenges, Uganda has launched the STOP TB Strategy to build on the successes of DOTS.

3.7 Goal 7: Ensure environmental sustainability

Goal 7 – ensure environment sustainability – focuses on targets in three areas: biodiversity loss, safe water and basic sanitation, and the lives of slum dwellers. Government recognises that the country’s natural resource base will be a

crucial factor in the socioeconomic transformation process, and is committed to developing the economy without putting undue pressure on the environment or in any way compromising the ability of future generations to meet their needs.

Target 7.A: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources and Target 7.B: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss

TABLE 12

STATUS OF PROGRESS: SLOW					
Indicator	1990	2000	2004	2006	2010
7.1 Proportion of land area covered by forest	25%	21%	18%	18%	15%
7.2 CO ₂ emissions, per person (in metric tons)	0.08	0.08	0.08	0.09	0.11
7.3 Consumption of ozone-depleting substances (in metric tons)	15.8*	30.6	24.3	6.5**	0.3
7.4 Proportion of fish stocks within safe biological limits	NA	NA	NA	NA	NA
7.5 Proportion of total water resources used	NA	NA	0.5%	NA	NA
7.6 Proportion of terrestrial and marine areas protected	13%*	15%***	15%	15%	15%
7.7 Proportion of species threatened with extinction	NA	NA	NA	2%	NA

Sources: NEMA, State of the Environment Reports (2006/2007 and 2008/2009); FAO, Global Forest Resources Assessment 2010; Carbon Dioxide Information Analysis Center; UNEP Ozone Secretariat. Notes: Year is 1992; ** Year is 2005; *** Year is 2002

There is concerted effort on the part by Government and stakeholders to progressively integrate the principles of sustainable development in National policies and programmes. There has also been progress in access to safe water, basic sanitation, and improvement in the lives of slum dwellers since the 2010 MDG Report albeit at a slow pace. Uganda is not a significant contributor to the global environmental crisis. Uganda’s carbon dioxide emissions

have increased slightly over recent years, but remain extremely low – according to the Carbon Dioxide Information Analysis Center, Uganda is ranked 202 out of 215 countries in terms of fossil-fuel carbon emissions per person.⁶⁵ Uganda has also been successful in reducing consumption of ozone-depleting substances in line with the commitments made under the Montreal Protocol (Table 12).

Uganda however still struggles with loss in biodiversity. With depletion of Uganda's natural wealth estimated to cost the country 4 to 12% of national income each year,⁶⁶ it is critical that more is done to monitor and reverse the loss of environmental resources. The latest satellite imaging data released by FAO indicate that the proportion of Uganda's land area covered by forests was 15% in 2010, compared to 18% in 2005 and 25% in 1990 (Table 12).⁶⁷ This has been driven by land clearing for agriculture and wood extraction for energy. Reduced forest cover seriously threatens biodiversity and potentially lucrative economic activities such as ecotourism. Although Uganda protects a

substantial share of its land area as national parks or wildlife reserves (Table 12), deforestation is occurring even within these protected areas at an estimated rate of 1.9% each year.⁶⁸ Low levels of compliance with legal and regulatory frameworks partly explain the slow progress in some of the indicators. This is despite the inclusion of environment and natural resource-related indicators in assessing the performance of local governments – which are responsible for the management of environment and natural resources in a decentralised manner. To increase compliance, Government has created the environment police protection unit to enforce environmental laws and regulations.

Target 7.C Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation

TABLE 13

STATUS OF PROGRESS: ON TRACK				
Indicator	2001/02	2006	2011	2015 target
697.8 Proportion of population using an improved drinking water source	52.0%	67.1%	70.0%	
Urban	89.0%	89.7%	89.6%	100%
Rural	46.4%	63.8%	66.6%	70%
707.9 Proportion of population using an improved sanitation facility	NA	72.7%	75.7%	
Urban	NA	93.6%	92.6%	100%
Rural	NA	69.6%	72.8%	77%

Source: UDHS 2001/02, 2006, 2011. Notes: some figures may differ to those published elsewhere as the definitions of safe water sources and sanitation facilities have been adjusted to ensure comparability over time. Improved drinking water sources are defined to include a household connection (piped), private and public taps, boreholes, a protected/dug well or spring, rain and bottled water. Improved sanitation facilities are defined to include flush toilets, ventilated improved pit latrines, pit latrines with a slab/cover, composting toilets, and Ecosans, whether or not share this facility is shared with other households.

Government has stepped up efforts to monitor environmental trends and identify necessary reforms in ecosystem management, for example through the periodic publication of the Sustainable Development Report whose pioneer edition is expected in 2014. To ease environmental strains, Uganda's renewable energy policy (2007) targets an increase in the use of modern renewable energy from the current 4% to 61% of the total energy consumption by 2017. Dependence of biomass will be reduced by moderating the demand for fuelwood and charcoal – through more efficient cooking stoves for instance – as well as increasing the

supply – the Ministry of Water and Environment is extending the Sawlog Production Grant Scheme, which has directly supported the establishment of over 25,000 hectares of timber plantations, to fast-growing bio-energy plantations for fuelwood and charcoal production. The climate change policy currently under formulation is expected to further facilitate access to low-cost sustainable energy for all and reduce dependency on non-renewable energy sources. Government interventions to diversify economic activity away from agriculture, such as rural electrification, will also help to reduce encroachment into forested areas.

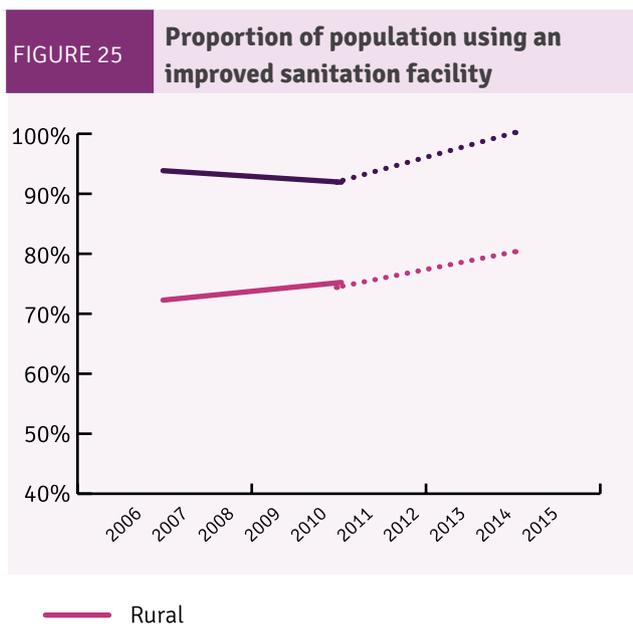
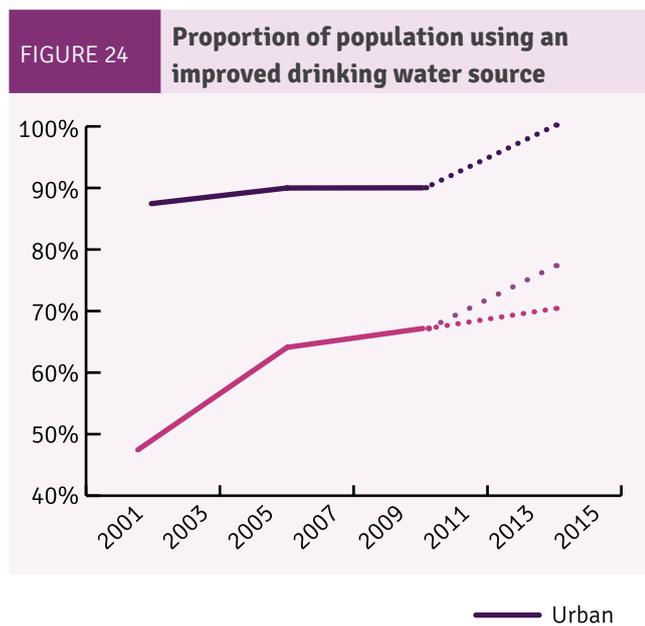
On safe water and basic sanitation, Uganda has made progress on the two indicators since the publication of the 2010 MDG Report (see Table 13). Access to safe drinking water is critical for health, human dignity and economic productivity. The proportion of the Ugandan population with access to improved drinking water sources has increased significantly from 52% in 2001/02 to 70% in 2011 (Table 13 and Figure 24).

Although a higher share of the urban population has access to safe water, the progress made over the last decade has been driven by greater access among the large majority of Ugandans living in rural areas, the result of high levels of investment in the sector by Government and development partners. Improved sanitation plays a critical role in controlling waterborne diseases, with multiple studies confirming that modern sanitation tends to have a larger impact on health outcomes than access to safe water

alone.⁷¹ There has been a steady increase in the share of the rural population using improved sanitation facilities, from 69.6% in 2006 to 72.8% in 2011, but progress in urban areas has stagnated (Table 13 and Figure 25).

If current trends continue, Uganda is on course to meet both the safe-water and sanitation MDGs by 2015 in rural areas (Figures 24 and 25). The NDP has set a more-ambitious target to increase rural safe-water access to 77% by 2015, but this may require further stepping up investment in the construction and maintenance of public water sources.

Meeting the targets for urban areas is not guaranteed. Currently only 64% of the urban population has access to piped water. Addressing this will require improved integration of water-network management within wider urban planning processes.⁷²



Sources: UDHS 2001/02, 2006, 2011. Note: Dotted lines of the same colour show the trajectories required to reach MDG target by 2015. The black dotted line in Figure 24 shows the trajectory required to reach the more-ambitious NDP objective (to increase access to safe water supply in rural areas to 77% by 2015).

TABLE 14 **Target 7.D By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers**

STATUS OF PROGRESS: NO TARGET					
Indicator	2002/03	2005/06	2008	2009/10	2011
7.10 Proportion of urban population living in slums	34%	34%	27%	29%	28%

Source: UNHS 2002/03, 2005/6, 2009/10; USDS 208; UDHS 2011. Notes: proxied by share of urban population living in houses with either walls or floors made of temporary materials, or with no or uncovered pit latrine.

There have been improvements in the lives of slum dwellers but progress over recent years has been slow. In 2011, 28% of Uganda's urban population was living in either temporary housing structures or with poor sanitation facilities, down from 34% in 2005/06 (Table 14). Urbanisation, if effectively managed, represents a large opportunity to simultaneously increase economic productivity and relax environmental pressures, but rapid urban growth over the last two decades has overwhelmed urban planning capacity, leading to congestion and the unrestricted sprawling of major towns.

The urban housing deficit is estimated at 211,000 units,⁷³ with the major challenges to affordable quality housing including inadequate long-term financing and overlapping land rights. The computerisation of the land registry, finalised in early 2013, will improve the security of land tenure and encourage investment in the housing market. Government is currently formulating a national housing policy, which is expected to further contribute to addressing the housing shortage, particularly for the urban poor.

3.8 Goal 8: Develop a Global Partnership for Development

The goal to develop a global partnership for development applies to the international community as a whole, with an emphasis on the actions of developed countries. Rather than monitoring Uganda's progress towards MDG 8, this section assesses how the global partnership for development is changing and how this has affected Uganda. Some indicators under MDG 8 are re-interpreted in the Ugandan context to facilitate this assessment, but where this is not possible no data is reported.

During the 1990s and early 2000s Uganda benefited from remarkably effective cooperation between Government

and its international development partners. Government pioneered new budgetary mechanisms such as the Poverty Action Fund to ring-fence pro-poor expenditure and attracted unprecedented levels of donor support particularly in the social sectors. Uganda became the first country in the world to receive support under the Heavily-Indebted Poor Countries (HIPC) initiative. Uganda's Poverty Eradication Action Plan (PEAP) inspired many other countries to develop their own Poverty Reduction Strategy Papers (PRSPs), impacting on development governance across the globe.⁷⁴

TABLE 15 Target 8.B Address the special needs of the least developed countries*

STATUS OF PROGRESS: SLOW					
Indicator	2008/9	2009/10	2010/11	2011/12	2012/13
8.1 Net ODA, total sum of off-budget and on-budget (in US\$ million) ¹	1,186	806	810	1,153**	1,015**
8.2 Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services ²	21.7%	23.8%	11.1%	18.5%	24.9%**
8.3 Proportion of bilateral official development assistance of OECD/DAC donors that is untied	NA	NA	NA	NA	NA
8.4 ODA received in landlocked developing countries as a proportion of their gross national incomes ³	5.3%	5.1%	4.5%	5.0%	4.5%**
8.5 ODA received in small island developing States as a proportion of their gross national incomes	NA	NA	NA	NA	NA
8.6 Proportion of total developed country imports (by value and excluding arms) from developing countries and least developed countries, admitted free of duty	NA	NA	NA	NA	NA
8.7 Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries	NA	NA	NA	NA	NA
8.8 Agricultural support estimate for OECD countries as a percentage of their gross domestic product	NA	NA	NA	NA	NA
8.9 Proportion of ODA provided to help build trade capacity	NA	NA	NA	NA	NA

Source: MFPED, Background to the Budget, various years. Notes: ¹ Total value of loan and grants disbursed to Uganda during the financial year; ² Donor-funded central government development expenditure on education, health, and water supply relative to total donor-funded central government development expenditure; ³ Total donor assistance/GDP in Uganda (outturn for 2008/09 – 2011/12, projected outturn for 2012/13). *Includes tariff and quota free access for the least developed countries' exports; enhanced programme of debt relief for heavily indebted poor countries (HIPC) and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction; **Approved estimate or projection.

However, the effectiveness of this partnership has deteriorated in recent years. The outlook for Overseas Development Assistance (ODA) has weakened substantially following the international financial crisis with continuing austerity measures in many traditional donor countries. Globally, total aid disbursements fell by 2.7% in 2011, or 4.5% when debt relief and humanitarian aid are excluded.⁷⁵ Uganda has not been spared from this contraction in development finance. The country's total donor assistance fell from 9.6% of GDP in 2004/05 to 4.5% of GDP in 2010/11 (Table 15). This general trend was exacerbated in the 2012/13 fiscal year when donors froze almost USD 300 million in general budget support, citing fiduciary concerns.

Although Uganda is striving to end its aid dependence, this unexpected reduction in donor assistance has had unfortunate consequences including unnecessary delays to a number of important infrastructure projects. The reduced credibility of donor commitments complicates Uganda's public financial management. Over recent years, donors have increasingly shifted resources from budget support to individual projects. But the majority of these projects do not receive funding as planned. Of the 114 donor-funded projects included in the 2010/10 budget, for example, 70 (61%) did not receive any funding during the course of the fiscal year while only 12 (11%) received the amount committed in full.⁷⁶

Aside from these challenges, donors are gradually responding to Government's changing priorities. In the 1990s, with over half the population living in poverty and many basic public services lacking, there was a clear need for significant aid targeting the social sectors. Government continues to recognise that education, health and gender equity are crucial in building human empowerment as an end and as a means to deliver economic progress. But with the change in Uganda's poverty profile over the last 15 years, the country's priorities have increasingly shifted towards infrastructure investments with greater transformation potential.

Donors, both traditional and emerging are responding to this change in emphasis. In the 2011/12 fiscal year the energy and roads sectors accounted for 43% of Central Government development expenditure financed by donors compared

to education, health and water supply which collectively accounted for 19%.⁷⁷ This is a promising indication that Government is beginning to forge a new relationship with its international development partners focused on the vision of socioeconomic transformation. The Paris and Accra agendas for aid effectiveness with their emphasis on developing country leadership are facilitating this transition, but the pace of change is constrained by the established framework that governs international development finance.

Particular challenges which must be addressed globally relate to the definition and reporting rules of ODA, which have restricted the traditional modalities of development finance, and the multilateral debt surveillance system which often inhibits economically viable external financing.⁷⁸ In Uganda's case this has left many high-return investment opportunities unfunded.

TABLE 16

Target 8.D Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term

STATUS OF PROGRESS: ACHIEVED				
Indicator	2008/9	2009/10	2010/11	2011/12
8.10 Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative)	NA	NA	NA	NA
8.11 Debt relief received under HIPC initiative (in US\$ million)	44.0	45.9	53.2	49.7
8.12 Debt service (% of exports)	4.1%	4.1%	4.4%	4.1%

Source: Bank of Uganda, Balance of Payments Analytical Tables.

The Debt Sustainability and Risk Analysis (DSA) conducted in 2012 showed that Uganda's debt is sustainable.⁷⁹ After qualifying for debt relief under the HIPC initiative, Uganda's debt service requirements have been brought down from 15% of export earnings in 2004/05, to around 4% of exports in recent years (Table 16). Given Uganda's sound financial position, the DSA concluded that there is room to increase

both concessional and non-concessional financing, particularly in light of the country's large infrastructure needs. To accelerate infrastructure development, Government is currently considering a number of alternative financing options including sovereign bonds, public private partnerships (PPPs) and contractor-facilitated financing.

TABLE 17 **Target 8.E In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries**

STATUS OF PROGRESS: ON TRACK					
Indicator	2007/8	2008/9	2009/10	2010/11	2011/12
8.12 Proportion of population with access to affordable essential drugs on a sustainable basis*	28%	26%	21%	43%	70%

Source: MOH, Annual Health Sector Performance Report, 2011/12. Note: *measured as the percentage of health facilities without stock outs of any 6 tracer medicines (first line antimalarials, depo-provera, sulfadoxine/pyrimethamine, measles vaccine, ORS sachets, and cotrimoxazole) in the previous 6 months.

MDG 8 also includes a target on access to affordable essential drugs. In partnership with private health service providers, Government has recently made substantial progress in this area. In 2009/10, only 21% of health facilities stocked a complete selection of the tracer drugs used to assess service availability, but this had increased to 70% by 2011/12 (Table 17). This remarkably rapid improvement is partly attributed

to the increased medicine grant that Government disbursed to private not-for-profit providers (PNFPs) through the Joint Medical Stores. The National Medical Stores, supported by the Securing Ugandan's Right to Essential Medicines (SURE) project, has also strengthened its supply chain management, enabling bimonthly drug deliveries tailored to local disease profiles.⁸⁰

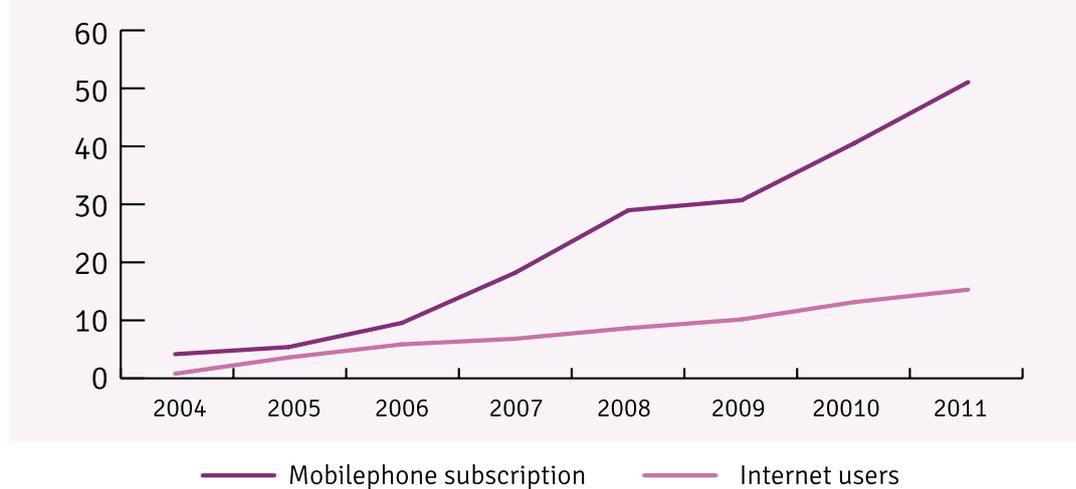
TABLE 18 **Target 8.F In cooperation with the private sector, make available the benefits of new technologies, especially information and communications**

STATUS OF PROGRESS: ON TRACK								
Indicator	2004	2005	2006	2007	2008	2009	2010	2011
8.13 Telephone lines per 100 population	0.3	0.4	0.5	0.6	0.6	0.8	1.0	1.4
8.14 Cellular subscribers per 100 population	4.5	5.7	9.8	18.3	28.9	30.6	40.4	50.7
8.15 Internet users per 100 population	1.1	3.7	5.8	6.7	8.4	9.8	12.6	14.6

Source: UBOS, Statistical Abstract, various years. Note: data refer to end of year estimates.

The final set of indicators relate to the availability of new technologies, particularly cellular telephones and the internet. Government's liberalisation of the telecommunications sector has allowed private firms to rapidly penetrate the Ugandan market, bringing large benefits for the Ugandan people. Mobile phone use has grown exponentially, with the number of subscribers per

100 Ugandans reaching 51 by the end of 2011, up from just 5 in 2004 (Table 18 and Figure 26). The penetration of mobile phones is linking previously remote rural areas to the rest of the country and the whole world in an unprecedented way, and has enabled many innovative new services to be delivered cost effectively, including the dissemination of agricultural market information and money transfers.

FIGURE 26 Number of mobile phone subscribers and internet users per 100 population

Source: UBOS, Statistical Abstract, various years.

A growing number of Ugandans are using the Internet. While only one in 100 Ugandans had access to the internet in 2004, this had increased to 15 by the end of 2011 (Table 18 and Figure 26). Although the vast majority of users access the internet through mobile devices, the number of fixed broadband connections is growing rapidly, more than doubling in the first half of 2011 from 35,000 to 85,000.⁸¹ While mobile

technology helps to increase coverage by overcoming infrastructural barriers, data access and speed is typically limited making mobile connections unsuitable for many business applications. Government is stepping up investment in the national fibre-optic network in order to expand access to high-speed broadband connections.

Notes for chapter 3

29. MFPED (2012), 'Uganda Poverty Status Report'.
30. For a discussion of the common characteristics of developing-country labour markets, almost all of which apply to Uganda, see Fields (2011), 'Labor market analysis for developing countries', *Labour Economics* 18, S16–S22.
31. Black et. Al. (2013), 'Maternal and child undernutrition and overweight in low-income and middle-income countries', *The Lancet*, Early Online Publication, 6 June 2013.
32. Deininger (2003), 'Does cost of schooling affect enrollment by the poor? Universal primary education in Uganda', *Economics of Education Review* 22: 291–305.
33. Grogan (2008), 'Universal Primary Education and School Entry in Uganda', *Journal of African economies* 18 (2): 183–211.
34. Avenstrup, Liang and Nellemann (2004), 'Kenya, Lesotho, Malawi and Uganda: Universal Primary Education and Poverty Reduction'. Paper presented at the Scaling up Poverty Reduction; A Global Learning Process and Conference in Shanghai, May 25–27, 2004. MoES (2003), 'Technical Note on Primary Repetition, Survival, and Completion Rates before and after Universal Primary Education (UPE) in Uganda', Essama-Nssah, Leite, and Simler (2008), 'Achieving Universal Primary and Secondary Education in Uganda: Access and Equity Considerations', World Bank, Poverty Reduction and Equity Group.

35. MoES (2013), 'Education and Sports Sector Fact Sheet 2000 – 2012'.
36. Zuze and Leibbrandt (2011), 'Free education and social inequality in Ugandan primary schools: A step backward or a step in the right direction?', *International Journal of Educational Development* 31: 169–178.
37. The improvement in primary school completion between 2005/6 and 2009/10 is mainly confined to older children (15 years and above), suggesting that dropout rates have fallen but that grade repetition remains high.
38. Deininger (2003), 'Does cost of schooling affect enrollment by the poor? Universal primary education in Uganda', *Economics of Education Review* 22: 291–305.
39. Warren-Rodríguez (2013), 'Why do Ugandan women work fewer hours than men? The role of gender in shaping differences in work intensity in Uganda'.
40. The informal sector is defined to include business establishments that employ less than five employees, and enterprises not registered for either income tax or value added tax.
41. Kasirye (2011), 'Addressing Gender Gaps in Uganda's Labour Market', EPRC Policy Brief Issue No. 12, Economic Policy Research Centre (EPRC), Kampala.
42. Warren-Rodríguez (2013), 'Why do Ugandan women work fewer hours than men? The role of gender in shaping differences in work intensity in Uganda'.
43. Between 1995 and 2011 56% of under-five deaths in Uganda occurred in the first year after birth.
44. MOH (2012), 'Annual Health Sector Performance Report 2011/12'. Kampala.
45. UDHS 2006 and 2011.
46. Between 2006 and 2011, the under-five mortality rate for children born to mothers with secondary education or higher fell by 23%, compared to 30% for mothers with only primary education.
47. Using multivariate analysis Bbaale (2011) finds that mother's education has a strong association with the incidence of diarrhoea but no association with the probability of ARI occurrence, 'Determinants of diarrhoea and acute respiratory infection among under-fives in Uganda'. *Australasian Medical Journal* 4(7): 400-409. In 2011, 43% of children born to mothers with primary education experienced fever in the preceding two weeks, compared to 40% of children born to mothers with no education. There is also no clear relationship between a mother's education and use of mosquito nets (UDHS 2011).
48. The share of diagnosed under-five deaths accounted for by pneumonia and other respiratory infections increased from 10% in 2008/9 to 23% in 2011/12. MOH (2012), 'Annual Health Sector Performance Report 2011/12'. Kampala.
49. Bbaale (2011), 'Determinants of diarrhoea and acute respiratory infection among under-fives in Uganda', *Australasian Medical Journal* 4(7): 400-409.
50. More positively, the proportion of infants breastfed within one hour of birth increased from 42.5% to 52.5% over the same period. Early suckling is encouraged as it stimulates breast milk production and the first breast milk contains colostrum, which is highly nutritious and has antibodies that protect the newborn from infection.
51. Matovu, Twimukye, Musisi and Levine (2011), 'Assessing Development Strategies to achieve the Millennium Development Goals in Uganda', Project Final Report, UNDP-RBA, UN Department of Economic and Social Affairs (UNDESA) and World Bank.
52. Mbonye et al. (2007), 'Emergency obstetric care as the priority intervention to reduce maternal mortality in Uganda', *International Journal of Gynecology and Obstetrics* 96: 220–225. This contrasts to the MPDR audit report 2009-2011 which lists the leading probable causes of perinatal deaths as hypothermia (39%), complications of prematurity (18.6%), pneumonia (13%) and septicaemia (13%), and haemorrhagic or haematological disease (9%).
53. Mbonye et al. (2007), 'Declining maternal mortality ratio in Uganda: Priority interventions to achieve the Millennium Development Goal', *International Journal of Gynecology and Obstetrics* 98: 285-90.
54. Mbonye et al. (2007), 'Declining maternal mortality ratio in Uganda: Priority interventions to achieve the Millennium Development Goal', *International Journal of Gynecology and Obstetrics* 98: 285-90.
55. MOH (2012), 'Annual Health Sector Performance Report 2011/12'. Kampala.
56. Dayaratna et al. (2000), *Reproductive Health Interventions: Which Ones Work and What Do They Cost?*, Policy Project.
57. World Bank (2009), 'Reducing Maternal Mortality: Strengthening the World Bank Response'.
58. Ortblad, Lozano and Murray (2013), 'The burden of HIV: insights from the Global Burden of Disease Study 2010', *AIDS* 27: 2003–2017.
59. ART eligibility for adults was changed from a CD4 count below 250 to a CD4 count below 350. This policy change is estimated to have increased the number of individuals eligible for treatment by 22%. Uganda Aids Commission (2012), 'Global Aids Response Progress Report'. Given this change in eligibility criteria it is appropriate to measure Uganda's progress against the revised national target of 80%.

60. Uganda Aids Commission and UNAIDS, 'HIV Modes of Transmission and Prevention Response Analysis', March 2009.
61. Gray et al. (2007), 'Male circumcision for HIV prevention in men in Rakai, Uganda: a randomised trial', *The Lancet* 369 (9562): 657 – 666.
62. This is very high compared to other African countries – the same type of survey found prevalence rates (among children aged 6-59 month) of 8.2% in Kenya and 4.1% in Tanzania. Excluding those aged under 6 months, Uganda's child prevalence rate was 44.7%. Kenya Malaria Indicator Survey 2010. Tanzania HIV/AIDS and Malaria Indicator Survey 2011/12.
63. Reported cases of malaria are higher than in the 1990s and early 2000s but it is likely that this largely reflects greater access to health-care and improved reporting.
64. MOH (2012), 'Annual Health Sector Performance Report 2011/12', Ministry of Health, Kampala.
65. Boden and Andres, 'Ranking of the world's countries by 2009 per capita fossil-fuel CO2 emission rates', Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory.
66. NEMA, 'State of the Environment Report for Uganda 2010'.
67. FAO (2010), Global Forest Resources Assessment.
68. NFA (2009). 'National Biomass Study Technical Report'. National Forestry Authority, Kampala.
69. For example see Günther and Fink (2010), 'Water, Sanitation and Children's Health: Evidence from 172 DHS Surveys', World Bank Policy Research Working Paper No. 5275.
70. MFPED (2012), Poverty Status Report.
71. MLHUD (2008), 'The National Slum Upgrading Strategy and Action Plan for Uganda', Ministry of Lands, Housing and Urban Development, Kampala.
72. Oxford Policy Management (2008), 'Independent Evaluation of Uganda's Poverty Eradication Action Plan (PEAP): Final Synthesis Report.
73. UNDP (2012), The Millennium Development Goals Report.
74. MFPED (2012), Background to the Budget for FY2012/13, Ministry of Finance, Planning and Economic Development, Kampala.
75. MFPED (2013), Background to the Budget for FY2013/14, Ministry of Finance, Planning and Economic Development, Kampala.
76. Xu and Carey (2013), 'The Renaissance of Public Entrepreneurship: Governing Development Finance in a Transforming World', Background research paper Submitted to the High-Level Panel on the Post-2015 development Agenda, May 2013.
77. MFPED (2012), 'Uganda Debt Sustainability Report', Ministry of Finance, Planning and Economic Development, Kampala.
78. MOH (2012), 'Annual Health Sector Performance Report 2011/12', Ministry of Health, Kampala.
79. UCC (2012), '2011/12 Half-Year Post and Telecommunications Market Review', Uganda Communications Commission, Kampala.



4. Special Theme: Drivers of MDG Progress in Uganda and Implications for the Post-2015 Development Agenda

4.1 Introduction

The development agenda is changing both within Uganda and at the global level. Government is taking on new and greater responsibilities to accelerate structural economic transformation. The new national planning framework, which is encapsulated in the recently launched Vision 2040, intertwines the ultimate objective of improvements in human welfare with a development strategy focused on the underlying drivers of economic progress.

At the international level, there is a vigorous on-going debate on what should succeed the Millennium Development Goals in the era after 2015. Mirroring trends in Uganda, there is a growing consensus that the post-2015 agenda should pay greater attention to the root causes of underdevelopment and not just its symptoms. To realise Uganda's development vision, and to help forge an international agenda fully aligned to this national objective it is important to better understand the complex interdependencies that exist between the outcomes targeted by the MDGs and Uganda's

broader economic development. The objectives of this thematic chapter are to identify some of the most important factors affecting progress towards the MDGs in Uganda, and to guide the prioritisation and sequencing of policy interventions to accelerate this progress up to and beyond 2015. This will also provide a solid evidence base to help inform Uganda's position on the post-2015 international agenda.

As well as existing literature, the analysis presented in the chapter is based on extensive new research, which was undertaken in two main areas. First, recent household surveys were used to identify the socioeconomic drivers of past progress towards the MDGs. These findings and many other pieces of information were then used to provide an integrated, economy-wide assessment of potential trajectories in Uganda's economic and human development up to 2030.

4.2 The drivers of MDG achievement in Uganda

International evidence and some existing studies on Uganda show that progress towards the MDGs depends on a variety of factors, including the availability and accessibility of public services, individual attributes of the population, as well as socioeconomic characteristics of communities. For instance, whether a household decides to send its children to school will depend not only on the existence of a nearby school, but also whether the household economy is strong enough to sustain itself without the support of its children, whether the quality of teaching is adequate and whether returns to schooling are sufficiently high. MDG progress is therefore not the outcome of one factor alone, but the interplay of several factors that are strongly intertwined and complementary to each other.

Based on extensive background research, this section summarises how these factors relate to each other in Uganda and whether some are more important than others in driving progress towards the MDGs.⁸¹ The analysis predominantly relies on the Uganda National Panel Survey (UNPS), which was linked to other datasets, including information on Government spending.⁸² Since this survey tracks the same households over time, it is possible to identify individual households that made progress towards each of the MDGs and the changes in household characteristics and local conditions that may explain this progress – such as spending by Local Governments, and the MDG-related services, infrastructure, economic opportunities and market conditions in each district. The main findings are briefly summarised below, with statistics presented in Annex D.

The importance of household income in determining education and health outcomes

Several MDGs reflect progress in access to social services in education and health. In order to access these services households must have adequate income to cover the associated costs. These costs may be direct, such as school uniforms, stationary or medication, or indirect, such as foregone household income when children are sent to school or when household members need to travel long distances to visit the nearest health facility. Therefore, low

incomes can be a major barrier to increasing access to basic social services when these costs are too high. In Uganda, the Government has focused in lowering the costs to basic social services through increased availability of health and schooling facilities, the abolition of tuition and user fees for public education and health services, vaccination programmes, and better water and sanitation infrastructure.

However, despite these efforts, background research for this chapter shows that households' incomes continue to be a major impediment to access to education and health services in Uganda. For instance, even after the introduction of Universal Primary Education, primary school enrolment and completion are still affected by incomes. This suggests that in Uganda out-of-pocket expenditure remains a significant barrier, particularly for poorer households who are unable to sacrifice some present consumption in the hope of realising a distant payoff. Increasing incomes were also found to be strongly associated with improvements in the average health of Ugandan children. Sanitation practices have a very large impact on health outcomes and are strongly influenced by household economic status.

In the case of education, expectations of future economic conditions also play a critical role. Children may not complete school if households feel the returns to schooling are insufficient. This means that improvements in Uganda's economic fundamentals to create more jobs and increase the returns to education will help to maintain progress towards MDG 2.

These results underscore that Government efforts to increase access to economic opportunities are a core element of the strategy to improve education and health outcomes. Rising incomes and greater economic security will allow households to allocate more resources to education and health and therefore accelerate progress towards the MDGs.

The impact of public spending on increasing access to education, health and safe water

Public spending in the social sectors helps the poor to access basic services on similar terms as richer households.

However, Government spending on social services appears to have been a relatively weak driver of MDG outcomes. There is a much stronger relationship between MDG outcomes and the actual provision of health centres, schools or water sources. This suggests that Government's direct influence over MDG outcomes can be increased by improving prioritisation and reducing financial leakages and wastage in service delivery systems. The evidence suggests that such inefficiencies are most problematic in the case of health interventions, while the effects of public spending on access to primary schooling were more evident.

The efficiency of Government spending on water supply is higher, likely reflecting the relatively straightforward nature of the interventions involved (construction and maintenance of public water sources). In rural areas, access to safe drinking water is largely driven by direct public interventions. Government has recently increased the allocation of resources for rural water supply, particularly targeting areas with initially low coverage, and this is estimated to have increased access to safe water by around 9% between 2005/6 and 2009/10.

The role of infrastructure in driving MDG outcomes

Improved infrastructure, particularly rural feeder roads and electrification, can contribute substantially to MDG outcomes. It is unfeasible and inefficient to place a secondary school or a hospital in each village regardless of its size. In some cases, individuals will therefore have to travel a longer distance to attend class or see a doctor. Better connectivity to schools or health facilities not only reduces costs to accessing basic services, but is also essential to allow larger facilities to reach out to people living in remote places.

The results show that transport infrastructure does not appear to have a strong impact for primary education, but matters more at the secondary and tertiary levels, likely because student's average journey distances are longer. Similarly, the results indicate improved transport infrastructure helps to make existing health centres more accessible and therefore effective in improving MDG outcomes for a larger group of Ugandans. While the direct links between public infrastructure –

particularly roads – and MDG outcomes are evident, the indirect link through improved access to income opportunities is likely to be even more important. Public expenditure on Works was found to be an important driver of income growth at the household level, reflecting the paramount importance of infrastructure as the most-binding constraint to growth in the Ugandan context. Given the role of household income as a determinant of education and health outcomes, this has significant knock-on implications for the other MDG outcomes.

Complementarities between different MDG outcomes

There are important complementarities between different MDGs. For instance children with better health are likely to perform better in school. Similarly, access to safe drinking water and improved sanitation systems have been shown to improve children's health. The evidence from Uganda confirms that the impact of access to safe water and sanitation on child mortality is strong, particularly the latter. This is consistent with international evidence that has found modern sanitation to have a larger impact on child health than access to safe water alone.⁸³ However, the link between child health and education outcomes is relatively weak, perhaps suggesting there are more pressing constraints that prevent children completing school.

The importance of local economic factors

Other aspects of the local economic environment also have important effects on the MDGs. The penetration of new technologies – in particular mobile phones – is one of the most striking developments in recent years and was found to have had a strong effect on household income growth. The expansion in mobile phone ownership between 2005/6 and 2009/10 is estimated to have increased average household income by as much as 26%. The results also demonstrate the importance of non-farm household enterprises in providing many relatively poor households with an important supplementary source of income. Controlling for other factors, areas that have seen more rapid growth in non-farm informal enterprises have also seen significantly larger improvements in child health outcomes.

4.3 Uganda's Vision for a post-2015 Development Agenda

The Comprehensive National Development Planning Framework (CNDPF) policy, which was approved in 2007, provides for the development of a 30-year Vision to be implemented through six five-year National Development Plans (NDPs). The first NDP came into effect in the 2010/11 fiscal year, while the Vision 2040 was officially launched in April 2013. The new planning framework marks a shift in Government's focus from ensuring macroeconomic stability and the provision of social services towards an additional and more ambitious role in leading the economy's structural transformation. Key targets of the Vision 2040 include an acceleration in the rate of economic growth from the historical average of 7% to 8.2% per year; an increase in total investment from 24% to 30% of GDP; and an increase in manufactured exports to 50% of total exports.

These structural economic changes are to be driven by productivity improvements and a dramatic increase in infrastructure investments, targeting the strategic sectors of oil, energy, transport and ICT. The exploitation of Uganda's large renewable energy potential is expected to increase electricity consumption per person by 14% each year. Economic development and improvements in the institutional architecture of Government service delivery

are expected to dramatically improve human development outcomes, including those targeted by the MDGs.⁸⁴ The Vision will be financed by both Government and the private sector. Higher household savings, due to a lower dependency ratio and higher incomes, will contribute to the increase in private investment. There will be a significant expansion in public resources owing to economic growth, improved tax collection, oil and gas revenues and new forms of financing. Natural resource revenues, contractor-facilitated financing, and sovereign bonds will help to meet the infrastructure funding gap. The expansion of social services will rely to a greater extent on improvements in public sector efficiency and new institutional arrangements including public-private partnerships. These efforts will deliver profound socioeconomic changes in Uganda. They will not only improve the livelihoods of all Ugandans but also impact on the functioning of the economy as a whole. This calls for an integrated analysis of Uganda's economic and human development. This section uses the micro-level evidence summarised above and other data on the structure of the Ugandan economy to assess the potential trajectories in Uganda's MDG outcomes up to 2030 under alternative economic and policy scenarios.⁸⁵

4.3.1 Human development trajectories with and without economic transformation

Transformative changes to a country's economy, as envisaged in Vision 2040, materialise through a combination of different and overlapping transmission channels. It is thus analytically difficult to untangle these simultaneous effects and assess the final outcome on the economy as a whole. Through an economy-wide model called MAMS, which reproduces the current structure of the economy and can impose the changes envisaged in the Government's Vision 2040, it is possible to assess how the economy and the livelihoods of Ugandans will change in the future (see Box 2). In particular, this model is used to compare two scenarios. Under a 'business-as-usual' scenario the

economy essentially continues along its current growth path, without any changes in Government policy. An alternative 'Vision' scenario was constructed to incorporate important elements and targets in the Vision 2040, including a large increase in private savings and investment, greater tax effort, foreign borrowing to frontload infrastructure investment, improvements in the efficiency of Government service delivery, and more rapid productivity growth in strategic sectors such as electricity generation, agriculture and manufacturing. Both scenarios are described in more detail in Annex B.

Box 2 THE MAMS MODEL

Computable General Equilibrium (CGE) models are one of the most versatile and widely used tools for economic and policy analysis. They typically consist of a large set of equations determining the behaviour of producers, households and governments and a detailed database from the economy being modelled. The initial structure of the economy is described in a social accounting matrix (SAM), which captures the flow of payments between institutions (Government, households and the rest of the world), different economic activities and factors of production (labour, capital and land). After the model is calibrated using this and other data, simulations can reveal the likely consequences of a change in policy or external factor. Unlike economic theory alone, CGE models are able to estimate the magnitude of economic changes under different policy scenarios.

MAMS (Maquette for MDG Simulations) is a CGE model originally developed by the World Bank that is particularly suited to the analysis of medium and long-run development strategies in low and middle-income countries. MAMS has a number of advantages over other CGE models, including a highly disaggregated treatment of government spending and feedback mechanisms between education and the labour market. Most importantly, it was designed to analyse the evolution of MDG indicators, focusing on those that are likely to have large economy-wide effects. A dedicated MDG module uses variables from the core CGE model – such as government social-sector spending per capita, the stock of physical infrastructure and household income – to determine MDG-related indicators such as the rates of school entry and progression (which is used to estimate the net, on-time primary school completion), the child and maternal mortality ratios, and the proportions of the population with access to safe water and sanitation. It also allows for complementarities between different MDG outcomes, such as the impact of safe water and sanitation on health outcomes. The assumptions made by this part of the MAMS model were largely validated by the econometric results summarised in section 4.2, and these findings were used to adjust the relative importance of each factor in line with the specific circumstances in Uganda.

The analysis undertaken for this chapter uses base-year data from 2009/10. Government Policy changes and other shocks are introduced from the 2013/14 fiscal year. The simulation period runs up to 2030 in order to analyse the sustainability of Uganda's economic and human development in the post-2015 era. The model does not explicitly model the future Ugandan oil industry, but projected oil revenues are captured in all scenarios by increasing the flow of resources from the rest of the world to Government. The simulations therefore include 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.

Notes: The MAMS model was previously calibrated to the Ugandan economy as part of the capacity-development project 'Realizing the Millennium Development Goals through socially-inclusive macroeconomic policies', which was implemented by the Development Policy and Analysis Division of the United Nations Department of Economic and Social Affairs (DPAD/UN-DESA), in close collaboration with the World Bank and the United Nations Development Programme in Uganda. The capacities built through this project have made this current application of the model possible. For more information on MAMS see Lofgren, Cicowiez and Diaz-Bonilla (2012), 'MAMS: A Computable General Equilibrium Model for Developing Country Strategy Analysis', in Jorgenson and Dixon (eds.), *Handbook of CGE Modeling*.

The simulation results confirm that the Vision 2040 will significantly accelerate structural economic change. Realisation of the Vision is projected to more than triple real income per person by 2030, compared to a doubling under the business-as-usual scenario. This in part reflects a more rapid increase in the capital-to-labour ratio, meaning that the average worker is able to make greater use of capital equipment, machinery and physical infrastructure, therefore increasing labour productivity. There is also a

notable movement of workers from the agricultural sector into higher-value manufacturing and service activities, which is projected to occur only very slowly under the business-as-usual scenario. Improvements in transport infrastructure, electricity generation and the productivity of tradable sectors under the Vision scenario mean that exports grow more rapidly, and that the goods exported are significantly more likely to be manufactured products rather than unprocessed commodities.

TABLE 19 **Economic outcomes under the business-as-usual and Vision scenarios**

	2009	Business-as-usual scenario		Vision scenario	
		2030	Annual change, 2009 - 2030	2030	Annual change, 2009 - 2030
Real GDP, market prices (trillions of UGX)	34.7	130.3	6.5%	198.3	8.7%
Real GDP per person (millions of UGX)	1.05	2.12	3.4%	3.22	5.5%
Real capital per worker (millions of UGX)	0.68	1.20	3.6%	2.01	5.3%
Workers employed in agricultural sector	56.5%	53.2%	-0.3%	43.6%	-1.2%
Non-oil exports (% of GDP)	20.6%	27.8%	1.5%	35.0%	2.5%
Share of non-oil exports that are manufactured products	31.4%	28.8%	-0.4%	43.7%	1.6%

Source: MAMS simulation results. Notes: Agricultural employment includes workers primarily engaged in the production of food crops, livestock, coffee, tea, flowers, or forestry. GDP, GDP per person, and capital per worker are expressed in 2009/10 Uganda Shillings. See text and Annex B for a description of the scenarios.

The social sectors

The simulation results indicate that Uganda's education, health and access to water and sanitation MDGs, which were formulated at the international level with little account taken of local realities, are extremely ambitious. Under the business-as-usual scenario none of these MDGs are met by the 2015 deadline and the safe-water access target is not

even attained by 2030. However, the vision scenario delivers very large gains in all of these areas – the targets are met around six years earlier on average, and more than a decade in the case of access to safe water. Most of these gains result from improved complementary infrastructure and higher household incomes stemming from productivity growth (this will be explained in more detail in section 4.3.3).⁸⁶

TABLE 20 **Education, health and access to water and sanitation under the business-as-usual and Vision scenarios**

	2009	Business-as-usual scenario		Vision scenario	
		2030	Year MDG attained	2030	Year MDG attained
On-time primary school completion	15.5%	89.3%	-	98.9%	-
Gross primary school completion rate	48.6%	130.2%	2020	142.8%	2018
Gross secondary school completion rate	9.1%	33.7%	-	52.4%	-
Gross tertiary education completion rate	3.2%	18.1%	-	32.1%	-
Under-five mortality rate	100	44.3	2025	30.1	2019
Maternal mortality ratio	437	99.7	2027	44.9	2020
Access to safe water	73.8%	86.4%	-	97.0%	2020
Access to sanitation	63.8%	81.7%	2020	91.2%	2016

Source: MAMS simulation results. Notes: The gross primary completion rate is usually used as the MDG2 objective. The model computes gross completion as the ratio between the number of students that complete the final year of each education cycle and the population of the relevant age cohort. This ratio can exceed 100 percent if children enter primary school late and/or repeat grades. The on-time primary completion rate is defined as the share of the relevant age cohort that graduates from primary school, in the correct year, having passed each of the seven grades in an uninterrupted sequence. The under-five mortality rate is measured per 1,000 births and the maternal mortality ratio is measured per 100,000 births (See text and Annex B for a description of the scenarios).

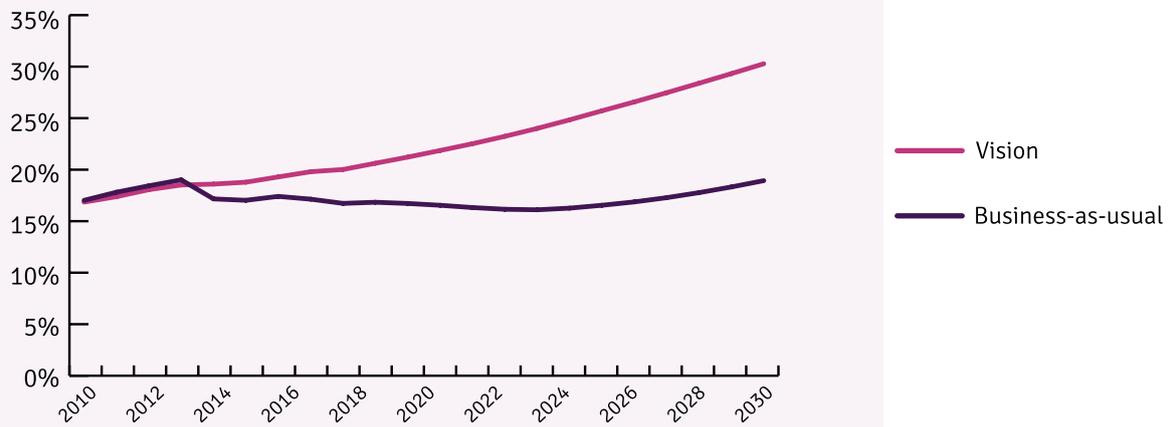
Income poverty

Uganda's progress in reducing income poverty over the last 20 years has been impressive – MDG1 was achieved more than five years ahead of the 2015 deadline. But if conditions remain the same over the next two decades projections suggests that this progress could slow, implying that it could become increasingly difficult to lift the remaining poor households up above the poverty line. On the other hand, if the economy undergoes structural change as under the Vision scenario, the rate of poverty reduction will be maintained or even accelerated. In this case, the share of the population living below the poverty line is projected to fall to 8.6% by 2030, well on course for the 5% Vision 2040 target.⁸⁷

Sustainable development and green growth

The long-term objective of the Vision 2040 is to ensure a better future for generations to come. However, the achievement of this objective will require a sustainable

use of non-renewable natural resources. For instance, one of Uganda's most important natural resources is the land used for agricultural production. If Uganda's current development path is continued under the business-as-usual scenario it is projected that land will be used more and more intensively (Figure 27), reflecting high population growth and low agricultural productivity growth. This, in turn, could place unsustainable pressure land and accelerate the depletion of soil fertility. By contrast, the increases in agricultural productivity envisaged in the Vision scenario, would ensure that land use is maintained at more sustainable levels. In practice this will be achieved through improved land governance that will facilitate the adoption of new technologies and more efficient and environmentally sustainable land management practices. The model suggests that this will release labour from the agricultural sector and generate large positive spillovers for higher-value non-agricultural activities; placing the economy on a new, more-rapid and greener growth trajectory.

FIGURE 27 The intensity of land use in economic activity

Source: MAMS simulation results. Notes: Shows the projected share of national income accruing to agricultural land.

4.3.3 The strategies to deliver structural transformation under the Vision 2040 framework

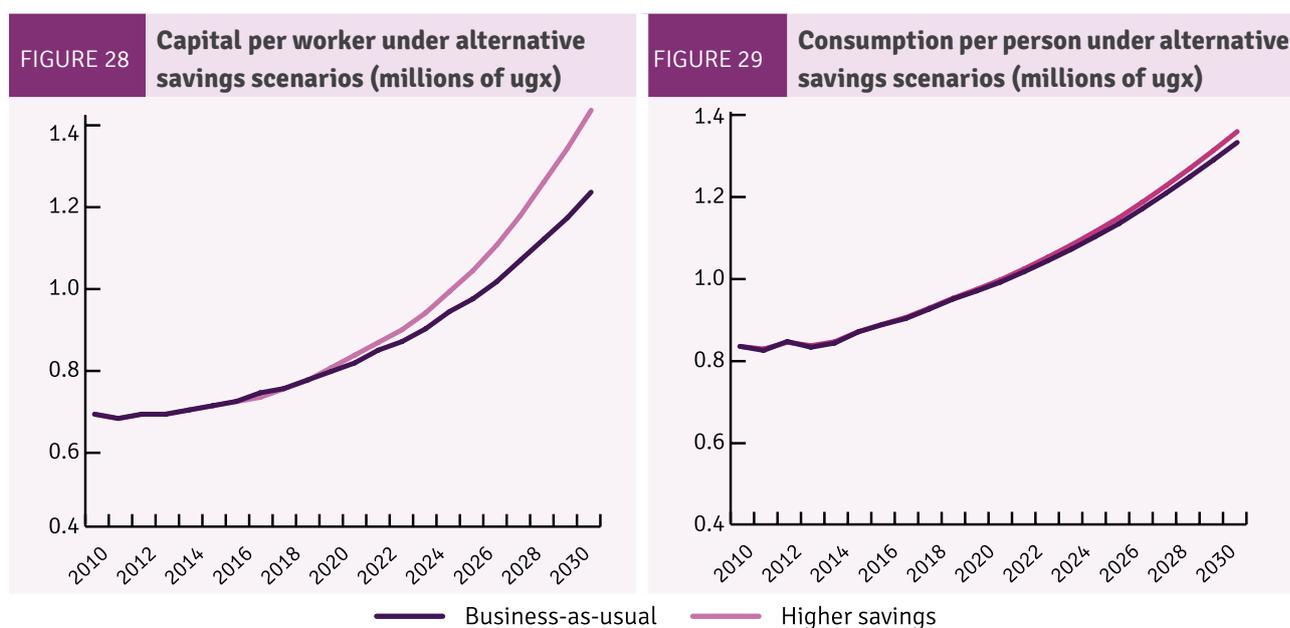
The Ugandan economy will have to undergo significant structural change for improvements in human development outcomes to be accelerated in the course of the next three decades. To see why this is the case, and to help maximise the pace, sustainability and inclusiveness of Uganda's development progress, it is necessary to understand the components of Uganda's development strategy in more detail, their implications for the MDG outcomes, and any trade-offs with other development objectives. Economic transformation will depend on a number of inter-related areas, including private and public financing; the allocation and efficiency of Government spending; value addition, productivity and trade. Simulations illuminating these key elements of the strategy to deliver the Vision 2040 are now discussed in turn.

Private savings and investment

The Vision 2040 targets an increase in gross national savings from the current level of 14.5% of GDP to 35% by 2040. This will in part result naturally from rising incomes and a falling dependency ratio, which will allow households

to save a higher proportion of their income.⁸⁸ To accelerate this transition, Government intends to promote a savings culture, reform the pensions sector, and expand access to a variety of other savings opportunities.

In the business-as-usual scenario, private investment grows only at the same rate as real GDP. To investigate the role of private savings and investment, another scenario was constructed where households are assumed to save a higher proportion of additional income, with the extra savings generated used to finance private investment.⁸⁹ The household savings rate increases from 15% in 2009 to 22% in 2030, which is matched by a similar increase in private investment. Since households only save a higher proportion of additional income, there is no trade-off between current welfare and long-term growth – rising incomes mean that households are able to increase both consumption and savings. A significant increase in capital per worker emerges during the 2020s and widens towards the end of the simulation period (Figure 28). Higher household savings trigger a virtuous circle that may prove critical for Uganda's long-term economic development.



Source: MAMS simulation results. Notes: capital per worker and consumption per person are expressed in millions of 2009/10 Uganda Shillings. See text and Annex B for a description of the scenarios.

The human development benefits will take time to be felt however. Higher savings, investment and growth are unlikely to impact the MDG outcomes in any significant way by 2030. Table 21 reveals that the impact is positive but relatively small.⁹⁰ This reflects the only modest increase in household consumption (Figure 29), and the fact that other determinants of the MDGs such as physical infrastructure and social services are largely unaffected by higher private investment. The expected fall in Uganda's dependency ratio (the so-called demographic dividend) and improved access to secure ways to save will almost certainly have

direct human development benefits – a savings buffer can engender a sense of economic security and enable poorer households to invest more in education and health – and the benefits of higher private investment will gradually accumulate as the economic returns are realised. But higher private savings and investment explain only a small proportion of the human development gains achieved under the Vision scenario. Without additional public investment or productivity gains, higher private investment alone will not be sufficient to accelerate economic growth and progress towards the MDGs in the short or medium term.

TABLE 21 Predicted outcomes with and without higher household savings

	2009	Business-as-usual	Higher savings
		2030	2030
Real GDP per person (% of 2009 level)	100	201	225
Real household consumption per person (% of 2009 level)	100	157	160
On-time primary school completion	15.5%	89.3%	89.9%
Under-five mortality rate	100.0	44.3	43.1
Maternal mortality ratio	437.2	99.7	95.1
Access to safe water	73.8%	86.4%	86.8%
Access to sanitation	63.8%	81.7%	82.3%

Source: MAMS simulation results. Notes: The on-time primary completion rate is defined as the share of the relevant age cohort that graduates from primary school in the correct year, having passed each of the seven grades in an uninterrupted sequence. The under-five mortality rate is measured per 1,000 births and the maternal mortality ratio is measured per 100,000 births. See text and Annex B for a description of the scenarios.

Public financing

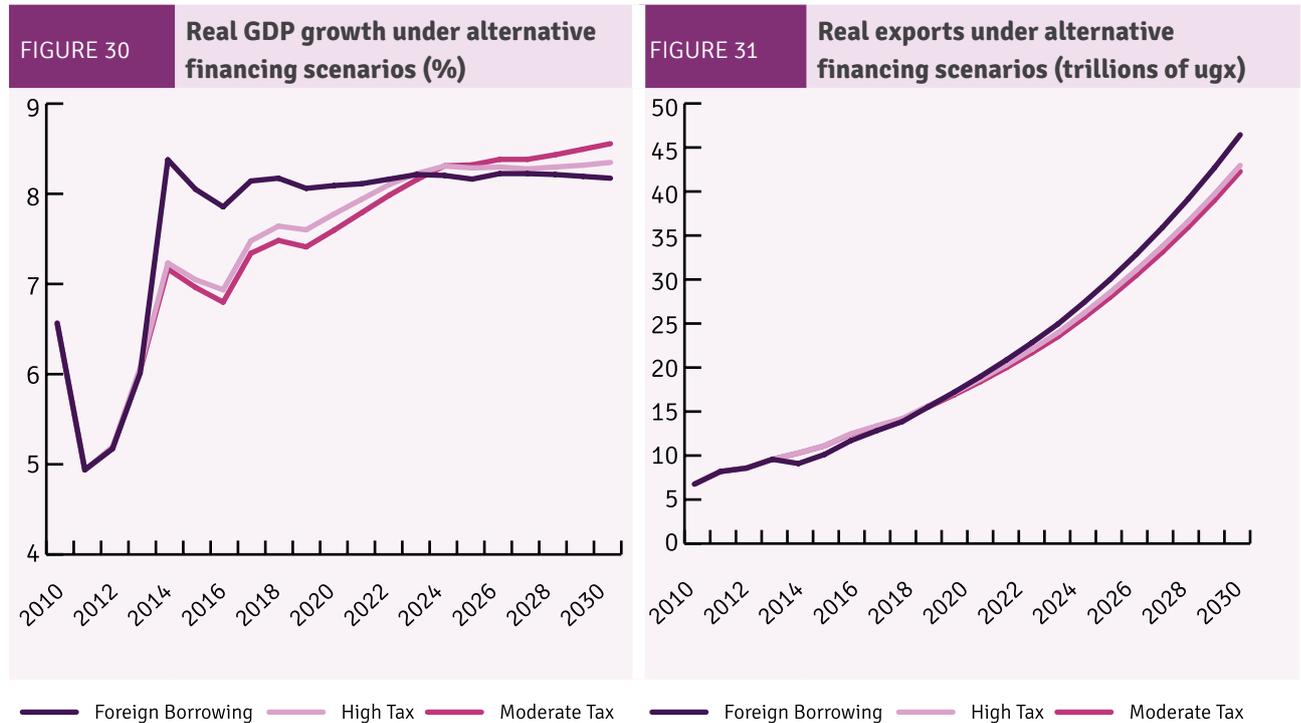
Government's financial wellbeing is expected to improve significantly over the next 20 years. By the 2020s, royalties from oil and gas production will have become a significant source of revenue. This will not be a panacea however, and Government will continue to focus on enhancing domestic tax revenue as the main mode of financing public expenditure. Structural change will expand the tax base and the increase in the tax-to-GDP ratio will be accelerated by improvements in tax administration and the streamlining of exemptions. This long-term expansion in fiscal space opens up a number of options, and Government is exploring additional financing mechanisms to hasten infrastructure development including public-private partnerships and sovereign bonds.

Government's financing strategy is likely to have far-reaching implications for Uganda's economic and human development. Different types of financing entail different trade-offs – borrowing may lead to unsustainable debt accumulation, foreign inflows may appreciate the shilling and reduce export competitiveness, and higher taxes may reduce household consumption or private investment. Three different scenarios are modelled. Under the 'moderate-tax' scenario there is an increase in non-oil tax collection from the current 12% of GDP to 16% of GDP in 2030. In the 'high-tax' scenario there is a more-ambitious increase in non-oil tax revenue to 19% of GDP in 2030.⁹¹ The 'foreign-borrowing' scenario combines the modest tax increase with a short-term increase in foreign borrowing.

Under this policy simulation, foreign borrowing increases from the initial level of 2.5% of GDP to 6.6% of GDP in the 2013/14 fiscal year before gradually reducing. To ensure the sustainability of public debt, foreign borrowing is brought below current levels from 2024 onwards – public debt in 2030 is the same share of GDP under all three scenarios. In all cases, the pattern of public expenditure is as under the Vision scenario, which means a large share of additional revenue is invested in public infrastructure.⁹²

The economic effects of higher taxes are not clear cut. With a moderate tax revenue increase to 16% of GDP, economic growth is around 0.1 percentage points higher each year compared to the baseline scenario. The additional growth benefits of the high-tax scenario – where non-oil taxes are increased to 19% of GDP in 2030 – are almost negligible. While greater domestic tax mobilisation helps to fund infrastructure development and contributes to economic growth, if taken too far this strategy will eventually restrict household demand and private investment, which offsets the benefits of greater public investment.

The economic returns to a temporary increase in foreign borrowing are much higher. Following the increase in external financing, economic growth accelerates by around one percentage point to over 8%, and is maintained at this rate even when borrowing is reduced (Figure 30). Without the increase in foreign borrowing, the pace of public investment is constrained by the rate of tax revenue improvements and economic growth increases more gradually. The risk of a sharp increase in foreign inflows appreciating the shilling and reducing export competitiveness is largely avoided – a short-term dip in exports is quickly reversed as the productivity gains from greater public investment are realised (Figure 31). The growth stimulus provided by the short-term increase in foreign borrowing leads to a permanent improvement in the country's development prospects: by 2030 the stock of public infrastructure is over 17% larger with no effect on the amount of public debt.



Source: MAMS simulation results. Notes: GDP is measured at factor cost – growth in GDP at market prices (including taxes) is higher in all three scenarios. The value of exports is expressed in trillions of 2009/10 Uganda Shillings. Under the baseline scenario additional tax revenue and foreign borrowing is maintained at the baseline share of GDP. See text and Annex B for a description of the scenarios.

Government’s financing strategy matters for human as well as economic development. The improvements in complementary infrastructure and income-earning opportunities made possible by the temporary increase in external borrowing translate into noticeable improvements in health outcomes and in access to safe water and sanitation. The human development gains are in some cases higher than under the high-tax scenario, even though overall fiscal space does not expand so much.

This demonstrates the importance of timing – given decreasing marginal human-development returns (meaning that progress made towards the MDGs makes further progress increasingly difficult) it is optimal to frontload public investment. This requires a temporary increase in Government borrowing because it is not feasible to rapidly increase tax revenue (particularly without adverse economic consequences).

A temporary increase in foreign borrowing to frontload public investment is justified in both economic and human development terms. Given the impact on economic growth, significant additional borrowing can be taken on without adversely affecting Government’s long-term financial position. This is even truer in light of future oil revenues. The potential for oil revenues to accelerate the country’s development will be significantly increased if Government exploits financing mechanisms that leverage these future resources to address today’s pressing needs. Stepping up public investment in the short term, rather than waiting for increases in tax revenue or income from oil, can accelerate progress towards the MDGs, and enhance the economy’s productive base, competitiveness and development potential without jeopardising the sustainability of Government’s financial position. This underlines the importance of fast tracking non-traditional means of financing, such as the sovereign infrastructure bonds and investment funds.

TABLE 22 Predicted outcomes under alternative public financing strategies

	2009	Business -as-usual	Moderate tax increase	High tax increase	Foreign borrowing
		2030	2030	2030	2030
Real GDP per person (% of 2009 level)	100	201	230	231	239
Real household consumption per person (% of 2009 level)	100	157	154	149	159
On-time primary school completion	15.5%	89.3%	96.7%	97.1%	96.7%
Under-five mortality rate	100.0	44.3	39.9	39.1	38.1
Maternal mortality ratio	437.2	99.7	67.3	58.7	61.2
Access to safe water	73.8%	86.4%	88.1%	88.4%	88.8%
Access to sanitation	63.8%	81.7%	86.3%	87.8%	87.5%

Source: MAMS simulation results. Notes: The on-time primary completion rate is defined as the share of the relevant age cohort that graduates from primary school in the correct year, having passed each of the seven grades in an uninterrupted sequence. The under-five mortality rate is measured per 1,000 births and the maternal mortality ratio is measured per 100,000 births. See text and Annex B for a description of the scenarios.

The allocation of public spending

Government is committed to prioritising infrastructure development over the next 20 years. A large share of the human development gains predicted under the Vision scenario is accounted for by the expansion in public investment. Some observers are concerned however that Government's growing emphasis on physical infrastructure may come at the expense of public social service delivery, and thereby undermine human development outcomes. This possibility was assessed systematically by analysing the economic and human development implications of three alternative patterns of Government expenditure.

In all three scenarios Government revenue is allowed to increase due to moderate increase in domestic taxes, and a short-term increase in foreign borrowing that is reduced as oil revenues rise towards the end of the simulation period (as in the foreign-borrowing scenario discussed above). Under the 'infrastructure' scenario, the additional revenue mobilised up to 2030 is invested in physical infrastructure, with other spending items (including general administrative costs) growing at the same rate as real GDP.⁹³ Under the 'social-services' scenario all additional revenue is allocated to public service delivery (education, health and water).

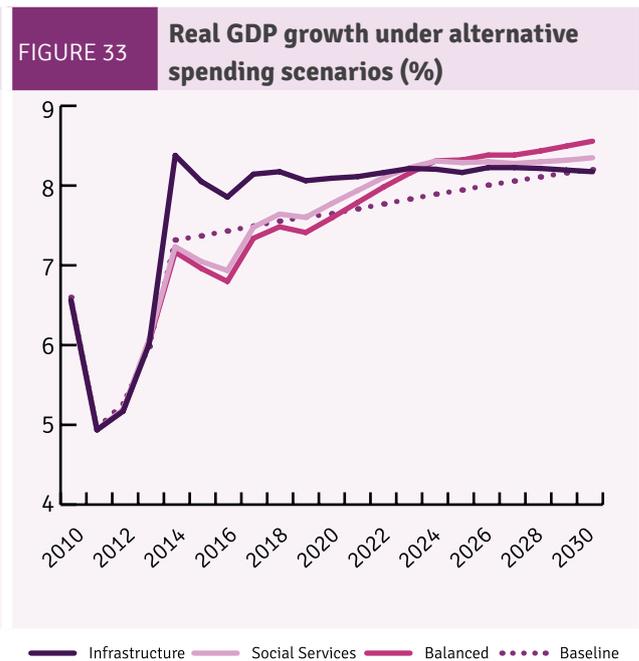
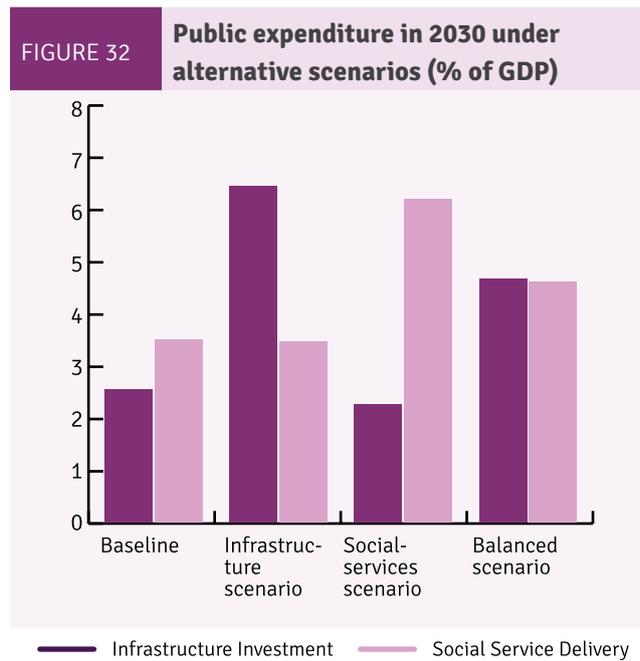
Under the 'balanced' scenario real expenditure on service delivery is allowed to increase 10% each year with the remaining additional revenue invested in physical infrastructure.

The expected expansion in public resources over the next 20 years will create significant room within Government's budget to accommodate new spending priorities. It is possible to significantly expand the share of national income for both public investment and service delivery, especially if spending on other areas such as general public administration is not increased beyond the rate of GDP growth (as in the balanced scenario, see Figure 32). Prioritising additional budgetary resources towards infrastructure leads to significantly faster economic growth – by an average 0.4 percentage points each year compared to the social services scenario (Figure 33), leading to an additional increase in tax receipts in 2030 of 10%. The discrepancy is much smaller between the infrastructure and balanced scenarios, indicating that social sector spending can be increased more moderately with little adverse effects on economic growth.

Economic growth under the high social sector spending scenario is lower than under the baseline scenario that maintains the current pattern of Government spending.

This partly reflects stronger exchange rate appreciation which reduces the competitiveness of Uganda’s exports. As discussed above, when foreign inflows (Government’s external financing) are invested in physical infrastructure productivity improvements are sufficient to offset the

exchange rate effect, leading to faster export growth (Figure 31). But when these foreign inflows are instead allocated to the social sectors, there is a larger impact on the exchange rate and the productivity effect (from a more productive workforce) is smaller and less-immediate.



Source: MAMS simulation results. Notes: GDP is measured at factor cost. Under the baseline scenario additional Government revenue is distributed evenly across all Government functions (including general administration) to maintain the current spending allocation. See text and Annex B for a description of the scenarios.

However, this is not to say that social service spending is always ineffective – the potential benefits of expanding service delivery are often large. But for this to be the case the returns to a better-educated and healthier workforce must be tangible, through more and better paying jobs. This in turn will only occur with productivity growth in the private sector – entrepreneurial activity must increase, firms must expand and new industries must be established. Another problem, discussed in section 4.1 above, is that in Uganda’s public spending in the social sectors is less effective than it could be, due to the inefficiencies and leakages that plague public service delivery. Recognising these inefficiencies, the Vision 2040 has called for the adoption of a ‘business approach’ to service delivery embracing the principles of new public management to ensure greater responsiveness to the needs of the people.⁹⁴

Nevertheless, the simulation results show that shifting resources to the social sectors alone will not accelerate progress towards most MDGs. With MDG progress strongly linked to the expansion of economic opportunities and the effectiveness of social services dependent on complementary infrastructure, reducing infrastructure spending will undermine human development gains through multiple channels. As discussed above, Government’s optimal strategy to raise additional resources is to temporarily increase foreign borrowing,⁹⁵ but if these foreign inflows are overly skewed towards social services there could be adverse macroeconomic implications operating through the real exchange rate which will dampen growth and restrict economic opportunities.

TABLE 23 Predicted MDG outcomes under alternative public spending strategies

		Baseline spending	Infrastructure scenario	Social services scenario	Balanced scenario
	2009	2030	2030	2030	2030
Real GDP per person (% of 2009 level)	100	226	241	222	239
Real household consumption per person (% of 2009 level)	100	156	159	151	159
On-time primary school completion	15.5%	91.7%	93.6%	95.0%	96.7%
Under-five mortality rate	100.0	42.6	37.4	44.9	38.1
Maternal mortality ratio	437.2	86.4	57.2	96.9	61.2
Access to safe water	73.8%	87.1%	89.2%	86.1%	88.8%
Access to sanitation	63.8%	83.3%	88.4%	81.7%	87.5%

Source: MAMS simulation results. Notes: under the baseline scenario additional Government revenue is distributed evenly to maintain the current allocation of spending. See text and Annex B for a description of the scenarios.

Productivity, value addition and trade

The Uganda Vision 2040 places a strong emphasis on accelerating development through productivity improvements within the private sector. There are limits to the rate at which investments in physical and human capital can be made, which means the pace and sustainability of Uganda's economic progress will depend on how effectively these factors are combined to produce more and higher-value products.⁹⁶ Government will help to increase productivity by supporting firms through a broad range of interventions and policy reforms. One of the most significant will be a dramatic expansion of the country's electricity generation capacity and distribution network – the cost and accessibility of energy is currently a major obstacle for manufacturing firms, as well as new income opportunities for many poor households and environmental sustainability (see Section 2.2). Electricity consumption is targeted to increase almost 50 times over the course of the Vision period, which translates into an annual growth rate of 14%.

This will be driven by an expansion in generation capacity, mainly relying on renewable technologies such as hydroelectric and solar, and rural electrification to expand access from 11 to 80% of the population. Given the wide current account deficit and weak demand for the country's traditional commodity exports, an important

policy objective is to boost both the volume of exports and the share of exports that are manufactured products. Since Uganda's exports to other African countries are more likely to be higher-value processed goods, these objectives will be facilitated by growing regional markets and deeper integration. By 2040, Uganda will be positioned within a strong federated East Africa and stand to benefit from a pan-African common market. There is a risk however that oil-related inflows will strengthen Uganda's currency and reduce the country's export competitiveness, making it even more important to support tradable sectors such as manufacturing and agriculture.

Government will undertake active interventions to foster the development of industrial clusters and value chains, focusing on strategic sectors such as agro-processing, iron and steel, petrochemicals, biotechnology, ICT and business-process outsourcing. To enhance agricultural productivity, Government will invest in new technologies such as improved seeds, the phosphate fertiliser industry and large-scale irrigation schemes, while reforming agricultural extension services. Land reforms, including the recently finalised computerisation of the land registry, will facilitate agricultural commercialisation and encourage better soil fertility management.

Together these policy reforms and interventions can have large impacts on productivity throughout the economy. In agriculture, studies have estimated that underinvestment due to overlapping claims to land currently reduce productivity by 25%. The Land Act (1998) has had a positive impact in strengthening occupancy rights but there remains significant room for further progress.⁹⁷ Poverty status and land tenure security have been identified as the most important determinants of soil fertility management.⁹⁸ As poverty continues to decrease and land management reforms continue to improve the security of tenure, the adoption of better soil conservation technologies will reduce the rate of nutrient loss – which studies have estimated may currently cost households 20% of their income each year.⁹⁹ In manufacturing and modern tradable services, there is strong evidence that once new industries become established, their productivity growth through technological diffusion can be very rapid. This is particularly true in countries such as Uganda that are initially a long way from the technological frontier.¹⁰⁰ As outlined in the Vision 2040, Government aims to leapfrog the economy towards the global productivity frontier by helping to initiate, import, modify and diffuse new technologies through the National Science, Technology and Innovation System. International competition with broader and deeper regional integration will also help to accelerate productivity growth as more productive firms will expand at the expense of those that are less able to compete.¹⁰¹

To assess the economic and human development implications of these types of reforms and policy interventions, the productivity of electricity generation, agriculture and manufacturing activities is increased in three separate simulations. In the ‘energy’ simulation, total factor productivity (TFP) of electricity generation grows and positively impacts on the growth of the sector to match the Vision 2040 target rate of 14% per year.¹⁰² In the next simulation, TFP of the agricultural sector increases by 2 percentage points each year from 2013/14. This is consistent with the magnitude of potential efficiency gains from improved land tenure security and soil fertility management, as well as the experiences of other successful developing countries.¹⁰³ Given the greater scope for productivity gains

through technological diffusion and regional integration, the ‘value-addition’ scenario simulates a larger TFP increase of 3 percentage points each year for manufacturing activities – which in the model includes food processing, textiles and other manufacturing. These three separate productivity improvements are combined under the ‘Vision’ scenario. All the scenarios incorporate the ‘balanced’ fiscal strategy discussed above as well as improvements in public sector efficiency,¹⁰⁴ and are described in more detail in Annex B.

Efforts to enhance economic productivity will have a large impact on the course of Uganda’s human development. This is particularly true for health outcomes – the combined productivity improvements are predicted to reduce child and maternal mortality in 2030 by 16%. The large majority of these gains are driven by improvements in agricultural productivity, with the expansion of the electricity sector and manufacturing growth having positive but relatively small effects. The increase in agricultural productivity has the largest impact on aggregate economic growth – an average increase of 0.65 percentage points a year compared to 0.17 percentage points for electricity and 0.32 for manufacturing. Electricity generation and distribution is rightfully a cornerstone of Government’s development strategy, but these results highlight that energy infrastructure will not be a panacea without additional targeted interventions to support strategic sectors.

Productivity growth in agriculture has larger consequences than productivity growth in manufacturing because of large positive spillovers for the rest of the economy – higher agricultural incomes increase the demand for non-agricultural goods and services, agricultural commodities are used as inputs in higher-value activities such as the manufacture of food products, and a fall in the relative price of agricultural products accelerates the rate of structural change. These inter-sectoral linkages are sufficiently strong that manufacturing grows faster under the agriculture scenario than with the direct (and larger) TFP shock in the value-addition scenario.¹⁰⁵ With a strong expansion in tradable activities, exports grow very strongly in the agriculture scenario, particularly of higher-value goods. This more than offsets the upward pressure on the exchange rate

from oil inflows. Expansion of the manufacturing base also increases Government revenue,¹⁰⁶ allowing for more public investment which further contributes to economic growth and progress in the MDG outcomes. These simulation results indicate that Uganda's structural transformation will heavily rely on improvements in agricultural productivity, underlining the importance of reversing the sector's disappointing recent performance. Most importantly this is likely to require improved land governance, which will facilitate the adoption of new technologies and more efficient and environmentally sustainable land management

practices. With a large share of Ugandan workers employed in the sector, agriculture-driven growth will be more inclusive; it has the largest impact on wage growth, particularly for less-educated workers. Value addition is an important source of economic growth and human development, but these benefits are currently moderated by the small size of the manufacturing base. To expand the benefits of value addition it is necessary to shift labour out of the agricultural sector into higher-value activities. The simulation results indicate that this will occur most rapidly with productivity growth in the agricultural sector itself.

TABLE 24 **Predicted outcomes under alternative productivity scenarios**

	2009	No TFP shocks	Energy	Agriculture	Value addition	Vision (all TFP shocks)
		2030	2030	2030	2030	2030
MDG outcomes						
On-time primary school completion	15.5%	96.9%	97.1%	98.4%	97.4%	98.8%
Under-five mortality rate	100.0	36.6	36.0	32.7	35.2	30.9
Maternal mortality ratio	437.2	53.8	52.5	49.1	50.6	44.9
Access to safe water	73.8%	94.2%	94.5%	96.2%	94.7%	97.0%
Access to sanitation	63.8%	88.5%	88.8%	90.0%	89.3%	91.2%
Economic outcomes						
Real GDP, at market prices (UGX trillions)	34.7	155.9	159.8	179.3	165.8	198.3
Real GDP per person (% of 2009 level)	100	240	246	276	256	306
Real household consumption per person (% of 2009 level)	100	158	161	186	164	200
Real capital per worker (% of 2009 level)	100	249	254	266	266	296
Workers employed in agriculture	56.5%	50.8%	50.9%	41.5%	52.8%	43.6%
Non-oil exports (% of GDP)	20.6%	31.1%	31.1%	35.5%	30.7%	35.0%
Non-oil exports (% manufactures)	31.4%	27.5%	26.8%	36.3%	32.7%	43.7%

Source: MAMS simulation results. Notes: Agricultural employment includes workers primarily engaged in the production of food crops, livestock, coffee, tea, flowers, or forestry. GDP is expressed in trillions of 2009/10 Uganda Shillings. See text and Annex B for a description of the scenarios.

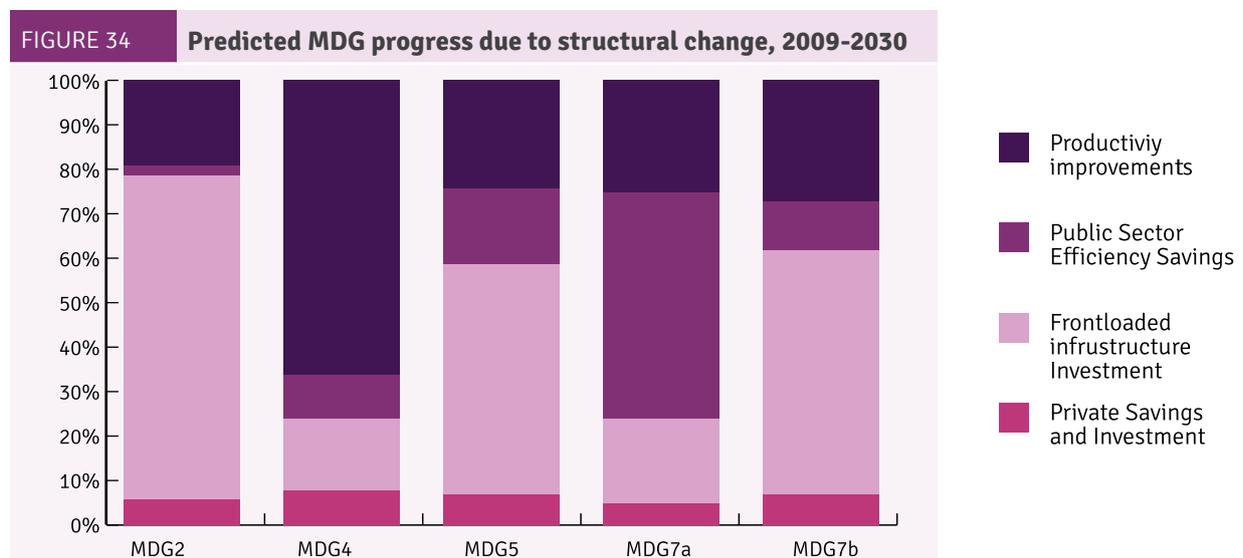
It should be noted that a significant share of the productivity improvements associated with structural transformation are likely to be generated by new economic activities that have not yet emerged. These improvements are not completely reflected in the results because the MAMS model only allows

for existing economic activities and does not capture the emergence of entirely new industries. Key elements of the Vision 2040 strategy aim to diversify the economy into new higher-value industries, which will almost certainly further contribute to Uganda’s human development.

4.4 Conclusion

For rapid, inclusive and sustainable human development, Uganda must achieve structural economic transformation and sustain high rates of economic growth, as targeted in the Vision 2040. The policy analysis presented in this chapter illustrates that this is within reach. To realise its vision for Uganda’s development, Government must implement infrastructure projects effectively and continue working towards removing inefficiencies and leakages that plague public service delivery. To mobilise the necessary resources, Government must improve tax efficiency, avoid unnecessary expenditure and make greater use of international financial markets. Land reform must be consolidated to reduce environmental pressure and boost agricultural productivity growth. Government must facilitate the expansion of high-value economic activities by diffusing new technologies and overcoming coordination

problems within the private sector. Uganda’s development partners and regional and global institutions must realign around this new transformative development agenda. Implementation of the Vision 2040 will bring huge human welfare gains. The results indicate that income poverty will be reduced twice as quickly. MDG 7 (safe-water) will be achieved a full decade earlier, MDG 5 (maternal mortality) seven years earlier, and MDG 4 (child mortality) six years earlier. Figure 34 demonstrates how different elements of the strategy underlying the Vision 2040 contribute to this acceleration in MDG progress. Uganda’s demographic dividend and higher private savings and investment will play a role, but will not be sufficient without a significant increase in public investment, efficiency improvements and productivity gains – Government must lead Uganda’s socioeconomic transformation.



Source: MAMS simulation results. Notes: Displays additional improvement in each MDG indicator achieved between 2009 and 2030 under the vision scenario, relative to progress under the business-as-usual scenario. This overall improvement is decomposed into the various simulations discussed throughout the chapter and in a background paper to this report. MDG 2 refers to the on-time primary school completion rate. MDG 4 refers to the under-five mortality rate. MDG5 refers to the maternal mortality ratio. MDG 7a refers to the safe-water access rate. MDG 7b refers to the sanitation-access rate.

In this context, perhaps the single-most important driver of Uganda's human development over the next 20 years will be a dramatic increase in physical infrastructure investment. The model used is particularly well-suited to analysing alternative fiscal policy options, and the results demonstrate that the manner in which public investment is made matters; timing is crucial. Infrastructure will yield the largest long-run economic and human returns if improved as quickly as possible. To maximise the rate of progress, foreign borrowing should be stepped up significantly within the next few years. External financing can then be reduced from the mid-2020s, as domestic tax revenue, efficiency savings and oil and gas royalties increase. The simulations indicate that this strategy will significantly accelerate human development progress and enhance the country's long-term economic prospects without affecting the sustainability of Government's financial position.

Without reforms to improve the efficiency and effectiveness of public service delivery, shifting public resources to the social sectors will have little impact on the MDG outcomes. But there would be greater scope to accelerate MDG attainment if substantial improvements in the effectiveness of social sector spending are achieved. Effective service delivery is easiest where relatively simple interventions are known to produce results, such as safe-water sources or vaccinations. Improving the functionality of the public

health and education systems is a much larger challenge however. Other options are increasingly feasible however. Fiscal space will increase significantly in the period up to 2030, making it possible to scale up other types of social assistance programmes such as cash transfers. An impact evaluation conducted in Northern Uganda found the rate of return to this type of intervention to be around 40%.¹⁰⁷ In the medium term, this type of programme may prove a more practical means to promote human development than reforming the supply-side of service delivery systems.

Another critical area highlighted is boosting economic productivity. Improved transport infrastructure, and investment in electricity generation and distribution are necessary but will not be a panacea without additional targeted interventions to support strategic sectors. The simulation results indicate that sustainable economic and human development will rely most heavily on improvements in agricultural productivity. Large scope for progress in this area lies in strengthening input markets, agricultural research, extension services and disease control, and in further land reform and improved soil fertility management. It will be crucial for Government to continue to pursue regional integration, facilitate technological diffusion and overcome coordination problems within the private sector to accelerate the productivity growth of existing industries and the emergence of new higher-value economic activities.

Notes for chapter 4

81. This section only reports the main findings coming out of the background research undertaken for this report. Full estimations results on which these findings build on are available, upon request, from the Economic Development Policy and Research Department (EDPR) of the Ministry of Finance, Planning and Economic Development.
82. The UNPS was linked to budget and other administrative data and supplemented by the Uganda National Household Survey (UNHS) 2005/6 and 2009/10, and the Uganda Demographic and Health Survey (UHDS) 2011.
83. See for example Günther and Fink (2010), 'Water, Sanitation and Children's Health: Evidence from 172 DHS Surveys', World Bank Policy Research Working Paper No. 5275.
84. It is targeted that by 2040 all Ugandans will access to safe piped water and sanitation; infant and maternal mortality will fall to 4 and 15 deaths per 1000 and 100,000 births respectively (from 63 and 438 in 2010); and that the share of the population below the poverty line will fall from 24.5 to 5%.
85. The simulation period runs up to 2030 so that the findings may inform the global debate on the Post-2015 Development Agenda (for the period 2015 to 2030).
86. The discrepancy in the assessment of progress towards MDG 4 (child mortality) in section 3.4 and the more pessimistic MAMS projection indicates that some important factors are not captured in the model. For instance, the burden imposed by malaria, one of the leading causes of child mortality, has been significantly reduced in recent years (see section 3.6) but this is beyond the scope of

- the MAMS model.
87. The predicted poverty rate was estimated by MAMS assuming a log-normal distribution of per-capita consumption.
 88. The ratio of Ugandans of working age to young and old dependents is expected to fall from the current 49% to 42% in 2030 and 38% by 2040. International evidence suggests that a 3.5 percentage pointfall in the youth dependency ratio is associated with a 1 percentage point increase in the savings rate, meaning that this effect may increase Uganda's savings rate by around 3 percentage points. Loayza, Schmidt-Hebbel, and Servén (2000), 'What Drives Private Saving Across the World?', *Review of Economics and Statistics* 82(2): 165-181.
 89. The marginal propensity to save (the proportion of each additional shilling of income that households save) was set at 0.24. This is consistent with cross-country evidence from Hussein and Thirlwall (1999), 'Explaining Differences in the Domestic Savings Ratio across Countries: A Panel Data Study', *Journal of Development Studies* 36(1): 31-52.
 90. The marginally slower progress towards MDG2 is due to the increase in private investment benefiting unskilled labourers slightly more than skilled workers, which reduces the economic returns to completing primary school.
 91. The improvements in tax effort were achieved in the model through a uniform increase in all domestic tax rates, gradually applied over the course of the simulation period. Import tariffs are fixed at current levels given that Uganda has limited direct control over its customs duties within the context of the EAC.
 92. Real expenditure on service delivery is increased at 10% per year and all remaining additional revenue allocated to infrastructure investment.
 93. In the case of education, spending is also adjusted in line with the size of the student population.
 94. A background paper to this report presents the results of an additional simulation where the efficiency of public service delivery is increased. The results suggest that this can have a significant impact on the MDGs, particularly if the efficiency savings are used to increase public infrastructure investment. This impact is displayed in figure 34.
 95. An alternative option that was not discussed is domestic borrowing. Increasing domestic borrowing by a similar magnitude would have much larger trade-offs by crowding out of private investment, and may not be feasible given the limited depth of Uganda's domestic financial markets.
 96. 'Productivity' is sometimes used to describe output per worker (labour productivity), yield per acre (land productivity) or the returns to a capital investment. To avoid this ambiguity, in this discussion and in the MAMS model, the term is used to mean total factor productivity (TFP), or how effectively all of these factors and intermediate inputs are combined in the production process.
 97. Deininger and Ali (2008), 'Do overlapping claims to land reduce agricultural investment? Evidence from Uganda', *American Journal of Agricultural Economics* 90(4):869-882.
 98. Birungi and Hassan (2010), 'Poverty, property rights and land management in Uganda', *African Journal of Agricultural and Resource Economics* 4 (1): 48-69.
 99. Pender, Nkonya, Jagger, Sserunkuma and Ssali, (2004), 'Strategies to Increase Agricultural Productivity and Reduce Land Degradation: Evidence from Uganda', *Agricultural Economics* 31 (2-3): 181-95.
 100. It has been estimated that the bottom 20% of formal manufacturing industries globally (in terms of initial labour productivity) on average grow 7 percentage points a year faster than industries at the technology frontier. Rodrik (2013), 'Unconditional convergence in manufacturing', *Quarterly Journal of Economics* 128 (1):165-204.
 101. A similar reallocation process among manufacturing firms in China is estimated to have increased aggregate productivity growth by 1.4 percentage points a year between 1998 and 2005. Hsieh and Klenow (2009), 'Misallocation and Manufacturing TFP in China and India', *Quarterly Journal of Economics* 124 (4): 1403-1448.
 102. Under the business-as-usual scenario the sector expands by 8% per year. To match the expected acceleration in growth, a 10% TFP shock is introduced in 2015/16 and gradually declines over the simulation period.
 103. It has been estimated that agricultural TFP in developing Asia for example 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.
 104. The simulations assume a moderate increase in tax-to-GDP and a short-term expansion in foreign borrowing (and in the long-term oil revenues) are used to finance a 10%-per-year increase in social service expenditure, with all additional resources and efficiency savings invested in public infrastructure. There is an increase in the efficiency of public service delivery as discussed in a background paper to this report. Public savings and investment are assumed to respond to changes in the level of income.
 105. The growth impact of higher agricultural productivity is only slightly higher for food processing than for other manufacturing activities, suggesting that demand and price linkages are more important than input supply.
 106. In the model this occurs through a rise in import duties following the large expansion in trade. This effect may be even larger in reality since a larger manufacturing sector facilitates tax administration and the collection of domestic as well as trade taxes.
 107. Blattman et al. (2013), 'Credit Constraints, Occupational Choice, and the Process of Development: Long Run Evidence from Cash Transfers in Uganda' (May 20, 2013). Available at SSRN: <http://ssrn.com/abstract=2268552>



5. Uganda's post-2015 Development Strategy

Vision 2040 articulates Uganda's development agenda for the next generation. It also identifies the guiding principles that must govern the pursuit of this agenda.¹⁰⁸ The analyses in the preceding chapters of this report have confirmed that the development thrusts encapsulated in Vision 2040 offer the optimal pathway for achieving sustainable development in Uganda.

This chapter specifies the policy measures that Government will champion in the post-2015 era to deliver on Vision 2040. The headline development indicators and targets that inform Uganda's development agenda are already defined in Vision 2040 (Annex C). These indicators and targets are however not exhaustive. Additional indicators and targets will need to be identified to concretise Uganda's post 2015 agenda. In the meantime, Government has identified a set of operational strategies and measures that it will pursue in the post-2015 era. The specific targets associated with these measures will be developed and elaborated prior to the 2015 MDG-target year.

The specific measures contained in this chapter are organised around a set of six operational strategies. This move represents a departure from the common goal-based approach of casting a development framework. The decision to opt for an operational-based framework as opposed to a goal-based one is informed by two factors. First, is the fact that Uganda's overriding development aspiration is to graduate into a middle-income country and to subsequently transition into an upper middle-income country. The analysis in the preceding chapter illustrates that rapid economic growth and structural change is necessary to maximise the rate of Uganda's progress towards the MDGs. Second, is the recognition that the appropriate policy framework to propel

the country forward is already in place; what is needed is a refinement of the operational strategies and measures to translate development policy into development results.

The following section accordingly profiles the operational strategies and measures that will shape Uganda's development agenda in the post-2015 era:

1. Ensure security of person and property for every Ugandan Citizen:

Peace and security are foundational elements without which no meaningful or lasting development progress can be achieved – both at an individual and societal level. The honour that citizenship confers upon an individual is that of knowing that the state is willing and capable to defend their constitutional freedoms and liberties, and to spur them to a greater experience of prosperity. In the post-2015 era, Government will lead stakeholders to:

- 1.1 Have a registered national identification ascribed to every Ugandan Citizen
- 1.2 Have every citizen's property rights defined and registered
- 1.3 Have an emergency response system in place in every parish that guarantees a frontline response within a defined period
- 1.4 Improve the capabilities of law enforcement and other security forces in urban and rural areas to prevent and respond to lawlessness.
- 1.5 Eliminate case backlog in the courts of judicature
- 1.6 Accelerate social security reform to ensure universal coverage

2. Prioritise the development of value chains as a core measure of development results

- 2.1 Grow product trees for the 10 strategic agricultural commodities in line with the Commodity Value Chain Framework¹⁰⁹
- 2.2 Strengthen agricultural input markets and the multiplication and certification of high-quality seeds
- 2.3 Strengthen forward and backward industry linkages in the minerals and oil and gas sectors with a view to accelerating the development of an integrated economy
- 2.4 Migrate from sector-based to value-chain-based planning and budgeting for sectors like agriculture
- 2.5 Address coordination problems in the private sector by supporting and responding to the demands of organised industrial bodies and firm associations
- 2.6 Strengthen and improve access to contract enforcement and dispute resolution mechanisms, particularly for SMEs, to facilitate inter-firm linkages.

3. Increase efficiency of resource planning and management decisions within the public sector

- 3.1 Tap international financial markets, reform cash flow management and make greater use of public-private partnerships and contractor-facilitated financing to reduce delays and cost overruns in the execution of public investment projects
- 3.2 Build a robust institutional architecture to ensure high levels of transparency and accountability in the management of oil and gas revenues
- 3.3 Improve allocative efficiency of public sector spending by cutting back on administrative costs, prioritising proven cost-effective interventions, and strengthening the processes for selecting viable public investment projects
- 3.4 Transform the structure of the public sector workforce and human resource management systems

4. Facilitate the development of inclusive, productive and efficient urban centres:

Uganda's urbanisation process is gaining momentum and the trend will continue over the Vision 2040 period. In recognition of this trend and the strong contribution of urban centres in driving economic activity, Government will work with the private sector and communities to:

- 4.1 Ensure that all municipalities and cities have an approved Integrated Development Framework and execution plans for their implementation¹¹⁰
- 4.1 Develop and implement a strong compliance regime to promote observance of land use policies, building codes and standards and wider sustainability considerations

5. Leverage the East African Community integration process and globalisation to grow a competitive Uganda – its people, enterprises and government:

Increasing the base of competitive business enterprises is a major way out of the employment and tax revenue challenges facing Uganda. The growth of non-farm enterprises is also known to have played a significant role in driving down poverty rates¹¹¹. Uganda requires a greater number of enterprises with cross-border operations in order to realise the benefits of sustainable regional economic integration.

The transformative agenda that is essential for the achievement of sustainable development requires the public sector to adopt a business approach in its operations,¹¹² or what others have termed public entrepreneurship.¹¹³ Public entrepreneurship entails prudent development governance and management, which are pivotal in socioeconomic transformation because of the catalytic role they play in setting the right incentives to unleash the full potential of private sector – the role of “a risk-taking initiator, enabler, and accelerator”. To enhance the entrepreneurial capacities of both the private and public sectors in the post-2015, Government will spearhead efforts to:

- 5.1 Expand access to savings opportunities and reform the pensions sector to increase the availability of affordable long-term finance from domestic financial institutions
- 5.2 Build the capacity of the private sector by supporting management training for established businesses and prospective entrepreneurs, and expanding technical and vocational education to close the skills gap
- 5.3 Expand the fibre optic network to cover at least every sub-country Headquarters
- 5.4 Increase export opportunities by improving quality management and compliance with international standards
- 5.5 Increase and diversify Uganda's stock of physical infrastructure, including the national power generation, transmission and distribution capacity; rail connectivity with all neighbouring countries and the cargo carrying capacity of international airports
- 5.6 Strengthen the culture of positive experimentation and learning within the public sector and build greater legitimacy and trust based on improved performance

6. Ensure quality and parity in the provision of social services:

Social equity and equality are vital elements for social cohesion, solidarity and stability. Equity in access to economic opportunities depends on the quality of social services, particularly the education and healthcare received during childhood. In view of the fundamental role that social services play in the development process, Government will lead stakeholders to:

- 6.1 Define minimum service delivery standards for frontline service providers and establish a compliance regime mechanism
- 6.2 Continue to address gender, income and geographic disparities in access to essential social services
- 6.3 Increase the share of the population with health insurance coverage

Notes for chapter 5

- 108. The guiding principles are 1) ownership; 2) political Will; 3) good governance; 4) resource availability; 5) balanced development and 6) behaviour change.
- 109. The 10 strategic agricultural commodities are coffee; Tea; cotton; rice; maize; beans; Irish potatoes; cassava; fruits (citrus, pineapples and apples) and bananas.
- 110. This will include among others housing schemes, sewer networks; mass transportation system with an optimum mix of transport modes; modern solid waste and wastewater management systems; modern community parkland systems as well as an employment generation strategy.
- 111. MFPED (2012), Poverty Status Report.
- 112. NPA (2013), Vision 2040.
- 113. Xu and Carey (2013), 'The Renaissance of Public Entrepreneurship: Governing Development Finance in a Transforming World', Background research paper Submitted to the High-Level Panel on the Post-2015 development Agenda, May 2013.

Glossary

Access to basic sanitation. The proportion of the population using an improved sanitation facility (the same being defined as including flush toilets, ventilated improved pit latrines, pit latrines with a slab or cover, composting toilets and Ecosans) whether or not they share this facility with other households.

Access to safe water. The proportion of the population that obtains its drinking water from an improved source (one that is either a piped household connection, a private or public tap, a borehole, a protected or dug well, a spring, rain water or bottled water).

Computable General Equilibrium (CGE) model. A tool used widely for economic and policy analysis. It is made up of a large set of equations determining the behaviour of producers, households and Governments. It is calibrated using a detailed database from the economy being modelled. Simulations are used to estimate the likely magnitude of economic changes resulting from a policy change or external shock.

Contraceptive prevalence rate. The share of married women between 15 and 49 years of age who are using any method of family planning.

Gross primary completion rate. The number of pupils that complete the final grade of primary school as a percentage of the total number of 12 year olds. This ratio may exceed 100 percent if some children enter primary school late and, or, repeat grades.

Gross primary enrollment rate. The number of pupils enrolled in primary school as a percentage of the number of children of primary school age. This indicator may exceed 100 percent due to grade-delayed entry and grade repetition.

Incidence rate. The number of new cases or infections of a particular disease or condition expressed as a proportion of the population.

Infant mortality rate. The probability of a child born in the five years prior to the survey dying before reaching the age of one, expressed per 1,000 live births.

Marquette for MDG Simulations (MAMS). A Computable General Equilibrium model (see above) developed by the World Bank which is widely used for medium and long-term development strategy analysis in low and middle-income countries. The model includes a dedicated module to estimate selected MDG outcomes including primary school completion, child and maternal mortality and access to water and sanitation.

Maternal mortality ratio. The estimated number of maternal deaths in the seven-year period preceding the survey expressed as a ratio to every 100,000 live births. A maternal death is defined as any female death from any cause related to, or aggravated by, pregnancy or its management during pregnancy and childbirth or within 42 days of termination of pregnancy irrespective of the duration of the pregnancy.

Net (or on-time) primary completion rate. The proportion of children who enter primary school on time and pass each of the seven grades in an uninterrupted sequence. In the report, this is given based on the Uganda National Household Survey (UNHS).

Net primary enrollment rate. The proportion of children of primary school age who are enrolled in Primary School.
Poverty gap ratio. The distance below the poverty line averaged over a population, expressed as a ratio of the national poverty line.

Poverty headcount. The share of a population below the national poverty line.

Prevalence rate. The proportion of a population found to have a particular disease or condition.

Under-five mortality rate. The probability of a child born in the five years prior to the survey dying before reaching the age of five (expressed as a rate per 1,000 live births).

Annex A: Summary table of MDG indicators for Uganda

MDG	Indicator	Baseline	Current status	2015 target
1: Eradicate extreme poverty and hunger	1.1 Proportion of population below national poverty line	56.4% (1992/3)	24.5% (2009/10)	28%
	1.2 Poverty gap ratio	20.3 (1992/3)	6.8 (2009/10)	No target
	1.3 Share of poorest quintile in total household consumption	6.9% (1992/3)	6.2% (2009/10)	No target
	1.7 Proportion of own-account and contributing family workers in total employment	87.3% (1992/3)	74.4% (2009/10)	No target
	1.8 Prevalence of underweight children under-five years of age	25.5% (1995)	13.8% (2011)	10%
2: Achieve universal primary education	2.1 Net enrolment ratio in primary education	86% (2002/3)	83% (2009/10)	100%
	Boys	85%	82%	
	Girls	86%	83%	
	2.2 Gross primary completion rate	49% (2002)	54% (2010)	100%
	Boys	59%	56%	
	Girls	41%	51%	
	2.3 Literacy rate of 15-24 year-olds	59% (2001/2)	76% (2010/11)	No target
	Boys	65%	77%	
Girls	53%	75%		
3: Promote gender equality and empower women	3.1 Ratios of girls to boys in education	(2000)	(2012)	
	Primary education	93%	100%	100%
	Secondary education	79%	85%	100%
	Tertiary education	58%	79%	100%
	3.3 Proportion of seats held by women in national Parliament	17.9% (2000)	35.0% (2012)	No target
4: Reduce child mortality	4.1 Under-five mortality rate (per 1,000 live births)	156 (1995)	90 (2011)	56
	4.2 Infant mortality rate (per 1,000 live births)	86 (1995)	54 (2011)	31
	4.3 Proportion of 1-year-old children immunised against measles	59.6% (1995)	75.8% (2011)	No target

MDG	Indicator	Baseline	Current status	2015 target	
5: Improve maternal health	5.1 Maternal mortality ratio (per 100,000 live births)	506 (1995)	438 (2011)	131	
	5.2 Proportion of births attended by skilled health personnel	37.8% (1995)	58% (2011)	100%	
	5.3 Contraceptive prevalence rate	14.8% (1995)	30.0% (2011)	No target	
	5.6 Unmet need for family planning	21.9% (1995)	34.3% (2011)	No target	
6: Combat HIV/AIDS, malaria and other diseases	6.1 HIV prevalence among population aged 15-24 years	2.9% (2004/5)	3.7% (2011)	No target	
	6.2 Condom use at last high-risk sex, 15-24 year-olds	53.1% (2000/1)	56.1% (2011)	No target	
		Female	44.2%		51.0%
		Male	62.0%		61.1%
	6.3 Proportion of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS	34.45% (2000/1)	38.8% (2011)	No target	
		Female	28.5%		38.1%
		Male	40.4%		39.5%
	6.5 Proportion of population with advanced HIV infection with access to antiretroviral drugs	44% (2008)	62% (2012)	75%	
	6.6 Proportion of children under 5 sleeping under insecticide-treated bed nets	9.7% (2006)	42.8% (2011)	No target	
6.8 Prevalence rate associated with tuberculosis (per 100,000 population)	410 (2001)	183 (2011)	103		
7: Ensure environmental sustainability	7.1 Proportion of land area covered by forest	25% (1990)	15% (2010)	No target	
	7.8 Proportion of population using an improved drinking water source	52.0% (2001/2)	70.0% (2011)		
		Urban	89.0%	89.6%	100%
	Rural	46.4%	66.6%	70%	
	7.9 Proportion of population using an improved sanitation facility	NA	75.7% (2011)		
			Urban	92.6%	100%
Rural	72.8%	77%			
8: Develop a global partnership for development	8.4 ODA to GDP ratio	8.6% (2005/6)	4.5% (2012/13)	No target	
	8.12 Proportion of population with access to affordable essential drugs on a sustainable basis	28% (2007/8)	70% (2011/12)	No target	
	8.14 Cellular subscribers per 100 population	4.5 (2004)	50.7 (2011)	No target	
	8.15 Internet users per 100 population	1.1 (2004)	14.6 (2011)	No target	

Annex B: Key features of the policy scenarios

Scenario	GDP Growth	Private savings and investment	Public financing	Public spending	Public sector efficiency	Productivity improvements	External environment
Business-as-usual	Historical GDP growth rate of 7% per year imposed from 2014 to 2030.	Private investment fixed as a proportion of GDP. Foreign borrowing adjusted to clear the Government budget.	Current tax rates held constant. Foreign borrowing adjusted to clear the Government budget.	Current pattern of Government spending held constant	No change to current trends.	No change to current trends.	FDI, remittances, Government grants and oil revenues evolve according to official projections.
Vision	Higher economic growth driven by private and public investment and productivity improvements.	Private savings increase due to falling dependency ratio and rising incomes, leading to an increase in private investment as a share of GDP.	Domestic non-oil tax collection gradually improves. Foreign borrowing is increased initially and reduced in the long term to 'smooth' fiscal space over the simulation period.	Real expenditure on public service delivery is increased at 10% per year. All remaining additional revenue is allocated to infrastructure investment.	Efficiency of public service delivery improved.	Productivity of electricity generation, and agriculture, and manufacturing improved.	
Higher savings	Higher growth driven by increase in savings rate and private investment.		Current tax rates held constant. Foreign borrowing adjusted to clear the Government budget.	Current pattern of Government spending held constant	No change to current trends.	No change to current trends.	
Public financing	Moderate tax increase	Higher growth driven by increase in savings rate and private investment.	Private savings increase due to falling dependency ratio and rising incomes, leading to an increase in private investment as a share of GDP.	Domestic non-oil tax collection gradually improves.	Real expenditure on public service delivery is increased at 10% per year. All remaining additional revenue is allocated to infrastructure investment.	No change to current trends.	No change to current trends.
	FDI, remittances, Government grants and oil revenues evolve according to official projections.						

Annex C: Uganda's Development Indicators, Baseline Status and Vision 2040 Targets

No.	Development Indicator	Baseline Status: 2010	Target 2040	
1.	Per capita income	USD 506	USD 9500	
2.	Percentage of population below the poverty line	24.5	5	
3.	Income distribution (GINI Coefficient)	0.43	0.32	
4.	Sectoral composition of GDP (%)	Agriculture	22.4	10
		Industry	26.4	31
		Services	51.2	58
5.	Labor force distribution in line with sectoral contribution (%)	Agriculture	65.6	31
		Industry	7.6	26
		Services	26.8	43
6.	% share of national labor force employed	70.9	94	
7.	Manufactured exports as a % of total exports	4.2	50	
8.	Gross Capital Formation as % of GDP	24.1	30	
9.	Saving as a % of GDP	14.5	35	
10.	ICT goods & services as a % of total export	0	40	
11.	Technology up-take & diffusion (Technology Achievement Index (TAI))	0.24	0.5	
12.	Public expenditure as a % share of R&D to GDP	0.1	2.5	
13.	Innovation as measured by patents registered per year	3	6000	
14.	Electricity consumption (kWh per capita)	75	3668	
15.	% population with access to electricity	11	80	
16.	Water consumption (m ³ per capita)	26	600	
17.	% population with access to safe piped water	15	100	

No.	Development Indicator	Baseline Status: 2010	Target 2040
18.	% of standard paved roads to total road network	4	80
19.	% of cargo freight on rail to total freight	3.5	80
20.	% of population in planned settlements	Urban	100
		Rural	100
21.	% level of urbanization	13	60
22.	Labor Productivity (GDP per Worker - USD)	Agriculture	6,790
		Industry	24,820
		Services	25,513
		Total	19,770
23.	Life expectancy at birth (years)	51.5	85
24.	Infant mortality rate per 1000 live births	63	4
25.	Maternal mortality rate per 100,000 live births	438	15
26.	Under 5 mortality rate per 1000	96	8
27.	Child stunting as a % of under 5s	33	0
28.	Literacy Rate (%)	73	95
29.	Gender Related Development Index (GDI)	0.51	0.9
30.	Population growth rate	3.2	2.4
31.	Forest Cover (% land Area)	15	24
32.	Wetland Cover - % of total area	8	13
33.	Corruption Perception Index	2.5	7.1

Source: NPA (2013), Vision 2040.

Annex D: Elasticity summary tables

Table D.1: Selected elasticity estimates for education attainment

Elasticity point estimate [95% confidence interval]	Primary entry	Primary progression	Secondary entry	Secondary progression	Tertiary entry	Tertiary completion
Household characteristics						
Household consumption per adult equivalent	0.227 [0.060, 0.395]	0.138 [0.038, 0.238]	0.370 [0.182, 0.557]	0.340 [0.132, 0.547]	0.813 [0.264, 1.363]	0.248 [0.028, 0.468]
Child morbidity	-0.018 [-0.092, 0.055]	-0.009 [-0.058, 0.039]	-0.012 [-0.099, 0.075]	-0.091 [-0.193, 0.011]	-0.155 [-0.402, 0.092]	0.058 [-0.073, 0.190]
Average years of education of household members	0.215 [0.069, 0.361]	0.188 [0.096, 0.28]	0.612 [0.344, 0.879]	-0.003 [-0.331, 0.325]	-0.077 [-0.919, 0.765]	
District government spending						
Education expenditure	0.026 [-0.179, 0.231]	0.119 [-0.001, 0.240]	0.147 [-0.083, 0.378]	-0.101 [-0.346, 0.144]	-0.357 [-1.264, 0.549]	
Health expenditure	0.047 [-0.184, 0.277]	-0.105 [-0.210, 0.001]	-0.085 [-0.301, 0.132]	0.054 [-0.169, 0.276]	-0.275 [-0.905, 0.356]	
Works expenditure	0.032 [-0.070, 0.134]	0.032 [-0.037, 0.102]	0.090 [-0.055, 0.235]	0.012 [-0.108, 0.133]	0.181 [-0.170, 0.532]	
Water grant	-0.228 [-0.505, 0.049]	0.091 [-0.076, 0.258]	0.052 [-0.274, 0.378]	-0.139 [-0.481, 0.204]	0.231 [-0.538, 1.001]	
Government outputs						
Teachers per student	0.005 [-0.011, 0.021]	0.005 [0.002, 0.008]	0.002 [-0.001, 0.056]	-0.005 [-0.041, 0.031]	0.016 [-0.095, 0.128]	
Share of households with access to Government Health centre	0.235 [-0.382, 0.851]	-0.270 [-0.642, 0.101]	0.089 [-0.562, 0.741]	-0.761 [-1.497, -0.024]	-1.606 [-3.078, -0.134]	
Number of LG-funded water sources per capita	0.062 [-0.001, 0.125]	-0.008 [-0.060, 0.044]	0.001 [-0.090, 0.093]	-0.113 [-0.195, 0.031]	0.101 [-0.032, 0.233]	
Share of households with access to electricity	0.005 [-0.043, 0.052]	-0.000 [-0.033, 0.032]	0.002 [-0.036, 0.040]	-0.093 [-0.248, 0.062]	0.082 [-0.216, 0.380]	
Average time to district/feeder road	-0.034 [-0.078, 0.010]	0.012 [-0.023, 0.046]	0.020 [-0.040, 0.079]	-0.084 [-0.145, -0.022]	-0.197 [-0.350, -0.045]	

Elasticity point estimate [95% confidence interval]	Primary entry	Primary progression	Secondary entry	Secondary progression	Tertiary entry	Tertiary completion
District economic conditions						
Education premium	0.109 [-0.428, 0.645]	0.523 [0.156, 0.891]	0.270 [-0.056, 0.597]	-0.135 [-0.499, 0.230]	-0.410 [-1.202, 0.383]	-0.205 [-0.418, 0.009]
Share of labour for non- agricultural wage workers	0.117 [-0.147, 0.382]	-0.136 [-0.254, -0.017]	-0.171 [-0.364, 0.022]	-0.136 [-0.582, 0.309]	-0.016 [-0.93, 0.899]	
Share of non-agricultural wage workers that are female	0.073 [-0.079, 0.225]	-0.034 [-0.132, 0.064]	-0.002 [-0.186, 0.182]	-0.122 [-0.368, 0.125]	-1.098 [-1.88, -0.315]	
Share of households relying mainly on non-farm enterprise	-0.261 [-0.635, 0.113]	-0.262 [-0.484, -0.038]	0.013 [-0.315, 0.34]	-0.314 [-0.809, 0.181]	0.288 [-0.643, 1.22]	
Share of households owning a mobile phone	0.205 [-0.465, 0.874]	0.365 [0.051, 0.678]	0.570 [-0.072, 1.212]	0.336 [-0.569, 1.24]	-2.059 [-4.131, 0.012]	
Share of households using boda bodas	-0.024 [-0.388, 0.339]	-0.070 [-0.286, 0.146]	-0.065 [-0.431, 0.302]	0.222 [-0.26, 0.704]	1.036 [-0.178, 2.25]	

The elasticities and confidence intervals are computed from the regression results reported in table A2 in annex 1. Elasticities for variables that appear in more than one specification are obtained from the final specification for each outcome. Point estimates in bold are statistically significant at the 95% level.

Table D.2: Selected elasticity estimates for child health

Elasticity point estimate [95% confidence interval]	Child morbidity	Child mortality
Household characteristics		
Household consumption	-0.119	-0.511
excluding health expenses	[-0.180, -0.057]	[-1.02, -0.005]
Has access to safe water	-0.055	0.077
	[-0.180, 0.071]	[-0.407, 0.562]
Has access to basic sanitation	-0.090	-0.653
	[-0.213, 0.034]	[-1.109, -0.197]
District government spending		
Education expenditure	-0.020	-0.283
	[-0.132, 0.092]	[-0.977, 0.410]
Health expenditure	-0.027	0.606
	[-0.144, 0.090]	[-0.242, 1.453]
Works expenditure	0.022	0.084
	[-0.073, 0.118]	[-0.545, 0.712]
Water grant	0.200	-0.800
	[-0.283, 0.683]	[-1.779, 0.180]
Government outputs		
Share of households with access to	-0.059	0.187
Government Health centre	[-0.108, -0.011]	[-0.061, 0.435]
Number of LG-funded water	-0.078	-0.335
sources per capita	[-0.412, 0.256]	[-0.683, 0.014]
Share of households with	0.021	-0.098
access to electricity	[-0.437, 0.480]	[-1.428, 1.233]
Average time to district/feeder	-0.002	0.072
road	[-0.024, 0.021]	[-0.102, 0.246]

The elasticities and confidence intervals are computed from the regression results reported in table A3. Elasticities for variables that appear in more than one specification are obtained from the final specification for each outcome. Point estimates in bold are statistically significant at the 95% level.

Table D.3: Selected elasticity estimates for access to water and sanitation

Elasticity point estimate [95% confidence interval]	Access to safe water	Access to sanitation
Household characteristics		
Household consumption per adult equivalent	0.051 [-.003, 0.104]	0.073 [0.032, 0.113]
Average years of education of household members	0.051 [-0.025, 0.127]	0.028 [-0.035, 0.092]
District government spending		
Water grant	0.151 [0.024, 0.278]	-0.008 [-0.107, 0.091]
Education expenditure	-0.004 [-0.063, 0.056]	0.020 [-0.021, 0.061]
Health expenditure	0.068 [-0.001, 0.137]	-0.006 [-0.056, 0.044]
Works expenditure	0.025 [-0.029, 0.080]	0.051 [0.011, 0.091]
Government outputs		
Number of LG-funded water sources per capita	0.235 [0.102, 0.368]	0.174 [0.064, 0.284]
District economic conditions		
Share of district labour force non-agricultural wage workers	0.072 [0.005, 0.140]	0.021 [-0.023, 0.065]
Share of households relying mainly on non-farm enterprise	0.041 [-0.045, 0.127]	0.085 [0.025, 0.144]
District food price index	-0.195 [-0.298, -0.092]	-0.083 [-0.169, 0.003]
Average post-harvest losses	0.006 [-0.007, 0.019]	-0.013 [-0.024, -0.001]

The elasticities and confidence intervals are computed from the regression results reported in table A3. Elasticities for variables that appear in more than one specification are obtained from the final specification for each outcome, except the elasticities for consumption which are obtained from the first specification (which does not control for other economic conditions). Point estimates in bold are statistically significant at the 95% level

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