Building a Globally Competitive Economy

KENYA ECONOMIC REPORT 2009

KENYA INSTITUTE FOR PUBLIC POLICY RESEARCH AND ANALYSIS

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Building a Globally Competitive Economy

The KENYA INSTITUTE for PUBLIC POLICY RESEARCH and ANALYSIS

Nairobi, Kenya
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Bishops Garden Towers, Bishops Road
PO Box 56445 - 00200, Nairobi, Kenya
Tel: +254 20 2719933/4; Fax: +254 20 2719951
Cell: +254 724 256078, 736 712724
email: admin@kippra.or.ke
website: http://www.kippra.org

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Foreword

The publication of this report comes at a timely moment and provides a valuable contribution to the understanding of Kenya's competitiveness in the global economy. Indeed, the Vision 2030 envisages that Kenya will become a globally competitive and prosperous middle-income country within the next two decades.

Before the post-election violence in early 2008 that dealt a severe jolt to the economy, Kenya was rapidly consolidating its position as a regional economic powerhouse. In 2007, the economy expanded by 7.1 per cent, marking the fifth year of consecutive economic expansion. However, the events following the disputed presidential elections, coupled with an unfavourable international environment, have led to a downward revision of the country's growth prospects to about 1.5-1.9 per cent in 2008.

This report identifies the key economic concerns, analyses the policy implications and benchmarks Kenya's economic performance against comparator and selected middle-income countries. The broad areas that are covered include: the macro and socio-economic performance; selected sector performance and policy issues; and the medium-term prospects.

The Kenya Institute for Public Policy Research and Analysis (KIPPRA) has been given the statutory mandate to compile the report. KIPPRA is a public policy research institute established under the KIPPRA Act No. 15 of 2006 to develop human and institutional capacities by undertaking economic forecasting, policy analysis and research, and contributing to the formulation of medium and long-term strategic perspectives for the economic and social development of Kenya.

In accordance with the KIPPRA Act, Part V section 23(3), the Institute is required to prepare and submit to the Minister in charge of planning an annual report on:

(a) The performance of Kenya's economy during the preceding financial year; and,

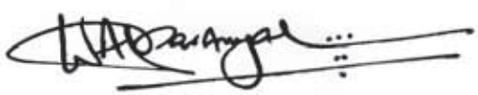
(b) The country's economic prospects for the next three financial years.

Upon submitting to the Minister, the report is then tabled before the National Assembly as soon as is reasonably practicable. This is the inaugural report.

Like many other developing countries, Kenya has faced unstable energy and food prices, and the global financial crisis that could lead to lower than projected medium-term growth. However, the recent growth experience reveals that, with a serious commitment to reforms, the country can move towards realizing the ambitious growth targets set in Vision 2030. This report reviews the recent encouraging growth trends, but also cautions against complacency.

The theme of this report, *building a competitive economy,* is in line with the Vision 2030, the country's development blueprint over the next three decades. In addition to the key areas of the mandate, the Institute will in each of the subsequent annual reports include a special policy thematic issue based on its research.

I hope that this and subsequent annual reports will become a valuable contribution to the understanding of the many economic development challenges that face the nation. Particularly, I hope that it will be useful to policy makers, legislators and other stakeholders as they work to create an enabling environment to realize the national development goals as envisaged in Vision 2030, as well as the attainment of the Millennium Development Goals.



Hon. Wycliffe Ambetsa Oparanya, EGH , MP
Minister of State for Planning, National Development and Vision 2030

Preface

This report analyses Kenya's recent economic performance, prospects for the medium-term period 2008/09-2011, and national competitiveness. In addition, it benchmarks Kenya's performance against comparator and selected newly industrialized countries. In accordance with the KIPPRA Act, it has been prepared in consultation with the Ministry of Planning, National Development and Vision 2030; Ministry of Finance; and the Central Bank of Kenya.

Most of the data in the report covers the period up to September 2008 and has not taken into account the Kenya Economic Survey 2009.

In 2007, the Kenyan economy continued to expand for the fifth consecutive year with a sustained expansion that marked a break from two decades of erratic growth and economic stagnation. Economic growth accelerated from 2.9 per cent in 2003 to 7.1 per cent in 2007. Before the political crisis beset the country following the disputed presidential elections of December 2007, the economy was projected to continue on the expansionary trend and to grow at 7.6 per cent in 2008. Indeed, the social and economic disruptions and damage arising from the political violence, coupled with an unfavourable international environment, have led to a downward revision of Kenya's economic growth prospects to about 1.5-1.9 per cent in 2008.

The crisis dented Kenya's international image as a peaceful and prosperous nation. This resulted in travel advisories against the country and a down-grading of its sovereign rating, which adversely affected tourism and access to international capital markets. Heightened insecurity arising from threats and activities of armed militias led to an estimated 1,300 deaths and internal displacement of 350,000 Kenyans. The disruptions in Rift Valley Province also had adverse effects on agricultural production in 2008. At the same time, transport was paralysed, affecting distribution of commodities within the country and the neighbouring countries.

On the international scene, the environment is also not conducive. While the rise in global energy and food prices in 2008 and a slowdown in global growth due to the global financial crisis will have a negative effect on the Kenyan economy, high domestic food prices pose serious challenges to recent poverty reduction gains. Therefore, the nature of the challenges gives rise to an alternative scenario on Kenya's prospects for 2009; that is, challenges in the management of the affairs of the Grand Coalition Government to implement the agreed reforms, coupled with worsening global prospects, could result in low growth of about 2.0 per cent in 2009.

There is now a growing consensus on what needs to be done to return Kenya to the path of stability and growth to realize development goals such as the Millennium Development Goals (MDGs) and Vision 2030, goals of prosperity and improved living standards. What is required is the will and innovativeness to undertake the necessary policy reforms.

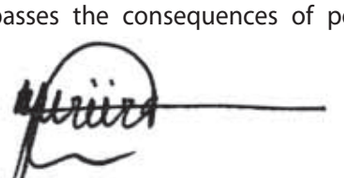
The social and economic policy reforms that the government has been implementing were largely informed by the Economic Recovery Strategy for Wealth and Employment Creation (ERS) 2003-2007, unveiled in 2003 by the NARC government. The year 2007 was the final year of implementing the ERS and the beginning of the development of *Kenya Vision 2030* to guide the country on political, economic and social transformation between 2008 and 2030.

The Vision 2030 provides the overall policy framework that should lead Kenya to attain the status of a newly industrialized country by the year 2030. The economy is envisaged to expand at a sustainable annual average rate of about 10 per cent up to 2030. The path of growth is anchored on three pillars, namely economic, social and political. Under the Economic Pillar, six critical sectors have been identified for coordinated policy action, namely: (1) Agriculture; (2) Manufacturing; (3) Wholesale and Retail Trade; (4) Business Services; (5) Tourism; and (6) Financial Services. While the Social Pillar aims at building a just and cohesive society, enjoying equitable social development in a clear and secure environment, the Political Pillar aims at ensuring that Kenya develops an issue-based, people-centred, result-oriented and accountable democratic political system.

Vision 2030 will be implemented through five-year medium-term rolling plans, the first covering the period 2008-2012. The Vision 2030 recognizes the critical importance of developing a globally competitive and prosperous nation. The concept of competitiveness as used in this report relates to the policies, factors and institutions that enhance growth and productivity of Kenyan enterprises without supplanting the long-term public policy goals of growth, equity, poverty reduction and environmental protection. It encompasses the consequences of political, social, technological, environmental, and legal and regulatory factors on the accumulation and productivity of the country's national assets, both tangible and intangible. The political crisis of early 2008 indicates clearly that political stability and social cohesion are critical to any competitiveness strategy that the country may wish to pursue. Competitiveness is, thus, multi-dimensional and cannot be reduced to a single factor or 'recipe'.

The report is organized into four parts. In both Parts I and II, Kenya's performance is evaluated in comparison with 'peer' countries and those countries that Kenya aspires to catch up with. The ambition of the report is to be tracking this relative performance regularly to ensure that the country gains ground on the 'bigger' economies. While Part I reviews the macro and socio-economic performance of the Kenyan economy, Part II analyses the state of the economy at the sector level using selected sectors, including agriculture, trade, manufacturing, financial services, tourism and environment. Part III presents the projected medium-term prospects for the economy covering the period 2008-2011. The analysis of the prospects takes into account the impact of the political crisis. Part IV provides a synthesis of the key issues in Kenya's competitiveness and suggests policy options for making the country globally competitive.

Although this year's report coincides with the Medium-Term Plan (MTP) 2008-2012 for Vision 2030, subsequent reports will continue to monitor Kenya's policy and economic performance against 'benchmark' countries. This particular report attempts to provide an independent assessment of policy performance. The overall message is that the country has much to do. The challenges are enormous and the country has a long way to go if it is to catch up with the middle-income countries.



Dr. Moses Ikiara
Executive Director
KIPPRA

Prof. Agnes W. Mwang'ombe
Chair, Board of Directors
KIPPRA

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This report has been prepared by the staff of the Kenya Institute for Public Policy Research and Analysis (KIPPRA). The work was undertaken under the overall guidance of the Executive Director of KIPPRA, Dr Moses M. Ikiara. The core team that prepared the report comprised Dr Dickson Khainga (Team Leader), Dr Wilson Wasike (Assistant Team Leader), Dr Lydia Ndirangu, Dr Jacob Chege, Roselyne Misati, David Muthaka, Fred Miencha, Dr Samuel Mwakubo, Moses Njenga, Benson Kiriga, and Pamela Audi. The Advisory Committee comprised Dr Eric Aligula, Dr John Omiti, Dr Rose Ngugi, Dr Damiano Kulundu Manda and Dr Wilfred Nyangena.

In accordance with the KIPPRA Act, there was consultation with the Office of the Prime Minister, Ministry of State for Planning, National Development and Vision 2030; Ministry of Finance; and the Central Bank of Kenya who constituted the collaborative team. We gratefully acknowledge the support from these institutions and their continued collaboration in the development process.

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Many others have made very valuable contributions to this report, and we are grateful to the KIPPRA staff: Eldah Onsomu, Nancy Nafula, Fred Owegi, Nashon Adero, John Mutua, Guyo Roba, Eliud Moyi, Joseph Sirengo, Dr Shem Ouma, Dr Maureen Were, Samuel Mbutu, Nicholas Waiyaki, Christopher Onyango, and Simon Kiarie. We are also grateful to Felix Murithi for coordinating the editorial, design and production of this report, and Jeremy Ng'ang'a and John Ngugi for their editorial and design interventions, respectively.

KIPPRA acknowledges generous financial support from the Government of Kenya, European Union (EU) and African Capacity Building Foundation (ACBF).

Abbreviations and Acronyms

ACP	Africa Caribbean and Pacific
AGOA	African Growth and Opportunity Act
APRM	Africa Peer Review Mechanism
ARD	Agriculture and Rural Development
ART	Antiretroviral therapy
ARVs	Antiretroviral (drugs)
ASAL	Arid and semi-arid lands
BPO	Business Process Outsourcing
CBD	Convention on Biological Diversity
CBF	Constituency Bursary Fund
CBS	Central Bureau of Statistics (now KNBS)
CDF	Constituency Development Fund
CDM	Clean Development Mechanism
CDS	Cluster Development Strategy
CDTF	Community Development Trust Fund
CIPI	Competitive Industrial Performance Index
CMA	Capital Markets Authority
COMESA	Common Market for Eastern and Southern Africa
CPI	Consumer Price Index
DALY	Disability Adjusted Life Years
DFIs	Development Finance Institutions
DOTS	Directly Observed Therapy/Treatment
DRC	Democratic Republic of Congo
EAC	East African Community
EFA	Education for All
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Coordination Act
EPAs	Economic Partnership Agreements
EPZs	Export Processing Zones
ERC	Energy Regulatory Commission
ERS	Economic Recovery Strategy
EU	European Union
FAOSTAT	FAO statistics
FDI	Foreign Direct Investment
FPE	Free Primary Education
GATS	General Agreement on Trade in Services
GCI	Global Competitiveness Index
GDI	Gender Development Index
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GER	Gross Enrolment Ratio
GHI	Global Hunger Index
GJLOS	Governance, Justice, Law and Order Sector
GNP	Gross National Product

GPI Gender Parity Index
GSP Generalized System of Preferences

HDI Human Development Index
HIPC Highly Indebted Poor Country
HIV/AIDS Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome

IATA International Air Transport Association
ICA Investment Climate Assessment
ICAP Investment Climate Action Plan
ICEG International Centre for Economic Governance
ICOR Incremental Capital Output Ratio
ICRG International Country Risk Guide
IFPRI International Food Policy Research Institute
IGAD Inter-Governmental Authority on Development
ILO International Labour Organization
IPCC Inter-governmental Panel on Climate Change
IPOs Initial Public Offerings
IPPs Independent Power Producers
IT Information Technology
ITNs Insecticide Treated Nets

JICA Japanese International Development Agency

KACC Kenya Anti-Corruption Commission
KAM Kenya Association of Manufacturers
KBA Kenya Bankers Association
KEFRI Kenya Forest Research Institute
KEPI Kenya Expanded Programme on Immunization
KESSP Kenya Education Sector Support Programme
KFS Kenya Forest Service
KIHBS Kenya Integrated Household Budget Survey
KIPPRA Kenya Institute for Public Policy Research and Analysis
KNBS Kenya National Bureau of Statistics
KNOCS Kenya National Occupations Standards
KPLC Kenya Power and Lighting Company
K-REP Kenya Rural Enterprise Programme
KTB Kenya Tourism Board
KTMM KIPPRA Treasury Macro Model

LATF Local Authority Transfer Fund

MAPSKID Master Plan Study for Kenya's Industrial Development
MDGs Millennium Development Goals
MFIs Micro-Finance Institutions
MICE Meetings, incentives, conventions and exhibitions
MSEs Micro and Small Enterprises
MSMEs Micro, small and medium enterprises
MTEF Medium Term Expenditure Framework
MTP Medium Term Plan

NACC National AIDS Control Council
NAIC National Accord Implementation Committee
NARC National Rainbow Coalition
NASI Nairobi All Share Index
NATO North Atlantic Treaty Organization
NCPB National Cereals and Produce Board
NCSE National Council for Small Enterprises
NDS National Debt Strategy
NEMA National Environmental Management Authority
NEPAD New Partnership for Africa's Development
NER Net Enrolment Rate

NGOs Non-government Organizations
NHSSP National Health Sector Strategic Plan
NICs Newly Industrialized Countries
NIDC National Industrial Development Commission
NPLs Non-performing loans
NSE Nairobi Stock Exchange

ODA Overseas Development Assistance
OSS One-Stop Shop
OTC Over the Counter

PCK Productivity Centre of Kenya
PCR Pupil-Classroom Ratio
PEM Public Expenditure Management
PPP Public-Private Partnership
PPP Purchasing Power Parity
PRSP Poverty Reduction Strategy Programme
PSDS Private Sector Development Strategy
PTR Pupil-Teacher Ratio
RMLF Road Maintenance Levy Fund
RPED Regional Programme on Enterprise Development

RTH Regional Telecommunications Hub

SACCOs Savings and Credit Cooperative Organizations
SAM Social Accounting Matrix
SAPs Structural Adjustment Programmes
SMEs Small and Medium Enterprises
SPSS Sanitary and Phyto-Sanitary Standards
SRA Strategy for Revitalizing Agriculture
SSA Sub-Saharan Africa

TBA Traditional birth attendant
TFP Total factor productivity
TIVET Technical, Industrial, Vocational and Entrepreneurship Education
TLB Transport Licensing Board
TTCI Travel and Tourism Competitiveness Index

UNESCO United Nations Education Scientific and Cultural Organization
UNFCCC United Nations Framework Convention on Climate Change
UNIDO United Nations Industrial Development Organization
UNPSA United Nations Public Service Award
UNWTO United Nations World Tourism Organization
UPE Universal Primary Education

VCT Voluntary Counselling and Testing

WEF World Economic Forum
WHO World Health Organization
WTO World Trade Organization
WTTC World Travel and Tourism Council

Executive Summary

Macroeconomic and Socio-economic Performance

Macroeconomic Performance

There has been a remarkable improvement in Kenya's economic performance in the last five years up to 2007. It is only in 2006 and 2007 that per capita income of Kenyans exceeded the levels registered in 1997. Vision 2030 targets a GDP growth of 10 per cent per annum, which implies that Kenya's income per capita would double by 2018. In addition, sustainable growth, as envisaged in the Vision, requires that the growth strategy takes into account social and environmental concerns. In the recent past, only a handful of countries, mostly oil-producing, have been able to grow at a double digit rate. Kenya's growth target is, therefore, ambitious and cannot be realized and sustained without a keen commitment to reforms.

Analysis of the recent growth in GDP reveals that although there has been some increase in external demand for Kenyan products, growth has largely been supported by increase in domestic demand, especially private consumption and investment. The key challenges to growth in exports include: lack of diversification, low value exports and supply-side constraints related to the investment climate. Concomitant with the strong growth in aggregate demand is an emerging trend of increasing savings-investment deficit, fiscal deficit and current account deficit. This calls for balanced growth in aggregate demand and the potential or capacity of the economy to produce goods and services. In this regard, there is need to refocus efforts towards the supply constraints in the different sectors of the economy and to adopt policies that exploit and enhance domestic inter-linkages in the economy and further boost productivity growth.

Despite recent improvements in investment growth, Kenya has one of the lowest investment rates among comparator countries. The key challenges to improving the investment climate include insecurity, corruption, poor infrastructure (including roads and energy/electricity), and limited access to credit by small and medium enterprises.

Estimates on growth in productivity reveal that total factor productivity (TFP) has played a significant role in the recent growth performance, growing at about 2.6 per cent between 2003 and 2006 compared to an average of about -1.0 per cent between 1990 and 2000. The key prerequisites to increasing productivity include improving the investment climate, developing infrastructure, research and development, and development of human skills.

The high cost of food, energy and transport pushed inflation from 10.5 per cent in 2005 to 14.5 per cent in 2006, before declining to 9.8 per cent in 2007. However, during the first five

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months of 2008, inflation increased to 31.5 per cent. Between 2006 and 2007, about three-quarters of direct increases in overall inflation were due to changes in food prices. Kenya still suffers high food deficits and hunger. Given that the poorest proportion of the population spends a disproportionately high share of income on food, this population segment is affected the most by food price inflation. In this regard, it is clear that relying on the traditional monetary policy instruments to control inflation would be insufficient in realizing and maintaining overall price stability. The post-election violence that disrupted economic activity, coupled with rising international food and energy prices in 2008, exacerbated the situation. Although the government can increase national food reserves to help stabilize prices in the short run, it should provide incentives to increase output and productivity, including production of traditional foodstuffs in the medium and long-term period.

Kenya needs to mobilize sufficient resources to finance the development process. Although the savings rate has improved in the recent past, it remains low compared to comparator countries and the medium-term targets. The key challenges relate to sustaining growth, enhancing development of financial services, generating public savings and realizing a demographic transition that reduces dependence on the working population.

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Kenya has underperformed in attracting foreign direct investment (FDI). Indeed, it has not regained its regional leadership, which was lost in early 1990s. In the past, FDI has suffered from such factors as poor infrastructure (including roads, telecommunications and electricity), corruption, high cost of borrowing, crime and insecurity, poor economic performance and low investor confidence due to intermittent commitment to reforms.

The flow of foreign remittances into the country has been increasing remarkably over time and stood at about Ksh 42.5 billion (or US$ 611 million) in 2008. There are several options to encourage remittances and exploit its potential, which include encouraging flows through the formal system by enhancing affordability, improved reporting, encouraging transfers through cell phone encryption and even considering issuance of Diaspora bonds.

Governance and Public Expenditure Management

It is now widely recognized that good governance contributes positively to the realization of national development goals. It is an integral part of the development strategy as outlined in the ERS and in Vision 2030 and its five-year medium-term plan. In 2005, Kenya undertook a detailed governance survey under the NEPAD Africa Peer Review Mechanism (APRM) covering political governance and democracy, economic governance and management, corporate governance and socio-economic development. The overarching issues that were identified are: managing diversity in nation building; transformative leadership; implementation of national development plans and strategies; constitutional review; poverty and inequality of wealth distribution; land; corruption; gender equity; and, youth unemployment. Today, these issues still remain key challenges in Kenya's development process. The aftermath of the political crisis in early 2008 has provided the opportunity to refocus attention on governance issues.

The Grand Coalition Government's policy agenda as contained in the Report of the National Accord Implementation Committee (NAIC) pledged a new constitution in 12 months; enhanced war against corruption by establishing a Truth and Reconcilliation Commission to bring to closure past corruption crimes; legislation to prohibit any form of ethnic discrimination; and reforms to enhance service delivery. The key challenge is to ensure effective working of the Grand Coalition Government to deliver the agreed pledges. Some of these reforms require commitment at the political level. It is advisable that the NAIC continues to review and monitor progress. To enhance predictability, transparency, accountability, participation and commitment to reforms, progress reports should be laid before the National Assembly on a regular basis.

An assessment of the country's governance performance based on the World Bank's six aggregate governance indicators (namely voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption) reveal that by 2006/07, substantial progress had been made on voice and accountability and government effectiveness. However, the country's ranking on political stability, regulatory quality and rule of law dropped. The post-election violence of early 2008 is likely to see the country's ranking on governance drop. Kenya should utilize the opportunity and undertake deep and sustainable governance reforms. Indeed, the overall level of corruption in Kenya remained largely unchanged between 2004 and 2007, underlining the urgency for re-assessment of the country's anti-corruption strategy.

The government has been undertaking reforms to strengthen public expenditure management (PEM). The key achievements include introduction of a results-based management system and strengthening of the legal framework for public expenditure management. However, various challenges remain that need immediate attention.

At the national level, the legal framework for budget formulation and preparation remains weak. There is need for an Organic Budget law that clearly spells out roles and responsibilities of different players in the budget formulation and preparation process. The budget law should be harmonized with the Fiscal Management Bill. The major challenge facing the current decentralization framework is lack of a clear policy backed by a supportive legal framework. As a result, the administrative infrastructure for planning, budgeting, oversight and monitoring and evaluation remains weak, leading to wastage, duplication, inefficiencies and corruption.

Efforts should also be made to strengthen the PEM systems at the sub-national level by developing a clear decentralization policy that has a legal backing and effective administrative infrastructure. The implementation of public finance management reform programme needs to be strengthened to bring the system to international standards. Performance contracting needs to be reviewed, strengthened and anchored within the MTEF budget system. The monitoring and evaluation function needs further strengthening, especially at the sub-national level.

Population dynamics and socio-economic performance

Kenya is still at the early stages of a demographic transition characterized by a large proportion of youths resulting in high dependency ratio, currently estimated at about 84 per cent. In the 1980s and 1990s, the country was undergoing a demographic transition when fertility and death rates declined, leading to reduced age dependency, large working age population and slower population growth rates. Fertility rates declined from 8.1 per cent in the late 1970s to 4.7 in the late 1990s. However, data from the 2003 Kenya Demographic and Health Survey indicate that this transition may have halted prematurely, with fertility rates estimated at about 4.8 per cent in 2000-2003. This period was also associated with declining health standards as shown by indicators such as infant and child mortality rates, vaccination coverage and adult and maternal mortality.

There were notable improvements in the health standards between 2005 and 2007. However, there is room for more rapid progress as the country's performance on health indicators remains below those of many comparator countries. Public expenditure resource allocations to health have increased in recent years, but they remain below the levels recommended by World Health Organization (WHO) and even the Abuja Declaration. Thus, demographic dynamics have important implications for public expenditure policy especially in relation to provision of education, health and other services to a large cohort of children and youth dependent on a smaller proportion of tax-paying or working population. Failure to effectively provide for the population will mean failure to equip the next generation with the relevant skills and

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health necessary to meet future challenges in leadership, employment, entrepreneurship and parenthood.

Kenya's average annual labour force growth of about 3 per cent in the period 1990-2005 is one of the highest among the comparator countries. The policy implication is that creation of jobs should expand at least at the same rate to forestall increases in unemployment. There are four key employment challenges, namely a rapidly growing labour force, high youth unemployment, the problem of the working poor and under-employment. The unemployment challenges call for a concerted and sustained effort aimed at searching for and implementing innovative and realistic solutions.

The country has a comparatively low education index, implying that a big proportion of the Kenyan labour force has not attained basic education and skills and/or requisite technical skills and knowledge necessary for improved labour productivity, competitiveness and innovation. The highest level of education completed by majority of Kenyans (86.4%) is primary education, followed by secondary education (25.0%), pre-primary (9.5%), and university (1.2%). Countries such as South Africa and Mauritius have a higher education index reflective of relatively high overall gross enrolment rate (primary, secondary and tertiary) and adult literacy levels. There is, therefore, an urgent need to improve education in Kenya, especially access to quality education at post-primary education, and learning achievements at all education levels.

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Recent reforms in the education sector are bearing fruit. For instance, access to education at all levels, internal efficiency and gender equity in terms of access to primary education improved nationally. However, regional disparities exist, with low enrolment rates observed in ASAL and urban informal settlements. North Eastern and Nairobi provinces continue to experience the lowest enrolment rates.

Internal inefficiency is of major concern. Based on the 1994-2006 cohorts, about 70 per cent of pupils enrolled in Standard 1 in 1994 progressed to Standard 5, while only 53 per cent made it to Standard 8 and 22 per cent to Form 1. In the 2006/07 academic year, only 4.4 per cent of Form 4 students were admitted to local universities, implying low retention rates. The transition rate between Standard 8 and Form 1 was about 41.7 per cent in 2002 and 59.7 per cent in 2006. Most Asian countries have been able to maintain higher post-primary enrolment rates due to automatic promotion policy and external and internal efficiency of their education systems. There is need to address the socio-cultural factors constraining access.

Kenya's poverty levels declined in 2006/07 but there are significant differences within and across provinces. Moreover, although the proportion of the population living in poverty has declined, the number of those living below the poverty line is estimated to have increased from 13.4 million in 1997 to about 16.6 million in 2006. Although inequality situation in Kenya has improved over the last couple of years, it remains a policy concern. Analysis of household consumption expenditure distribution reveals that the poorest 10 per cent (1st 10%) of rural households control only 1.63 per cent of the total expenditure, while the richest 10 per cent (10th 10%) control 35.9 per cent of total household expenditure.

Selected Sector Performance and Policy Issues

Agriculture

The agricultural sector contributes about 24 per cent of GDP and about 19 per cent of the formal wage employment. An estimated 60 per cent of all households are engaged in farming activities, and 84 per cent of rural households keep livestock. Through linkages with agro-based sectors and associated industries, the sector also indirectly contributes a further 27 per cent to the country's GDP. Agriculture is also key to national food security.

Given the importance of the sector to the economy, its dismal performance especially

on productivity has remained of much policy concern. The sub-optimal performance of the sector is manifested in low levels of employment and incomes, regional inequalities, and food insecurity. The rise in food prices and hunger in the country further exposes a vulnerable sector that is unable to respond rapidly to rise in incentives. The high national inflation makes the situation worse; the food component constitutes over 50 per cent of overall inflation, meaning that stable food supply is critical for macroeconomic stability. However, the national food price stability cannot be realized in the context of highly unstable world market prices unless Kenya controls a substantial degree of the food supplies domestically.

Competition for agricultural products for production of bio-fuels poses a new challenge to food production, although accrued income may lead to more food security. Local factors that constrain agricultural production include over-reliance on rain-fed agriculture, erratic droughts and floods, not withstanding high production costs and lack of access to credit. The post-election crisis has worsened agricultural productivity in the affected areas.

The government's strategy for the development and transformation of the agricultural sector is outlined in the Strategy for Revitalizing Agriculture (SRA), 2004-2014 and the first Medium Term Plan (MTP) for implementation of Vision 2030. The key policy goals include raising agricultural productivity through increased resource allocations, exploiting irrigation potential, commercializing agriculture, reviewing comprehensively the legal and policy framework for agriculture, and improving governance in key agriculture institutions, especially cooperatives and farmer organizations.

The development of arid and semi-arid areas (ASALs) remains a major challenge. Despite the country having only 17 per cent of its land as arable, its large livestock potential remains largely unexploited. Indeed, the country's livestock sector contributes 10 per cent to GDP, about 42 per cent of total agricultural output and about 30 per cent of all marketed agricultural output. More than 60 per cent of Kenya's livestock is found in the ASALs and employs 90 per cent of the local population. The formation of the Ministry of Development of Northern Kenya & Other Arid Lands is a realization of this unexploited potential. Related to the development of ASALs, and rain-fed agriculture in general, is the need to developing risk management instruments. Worth noting, however, is that despite challenges of under-development of the livestock sector, the Ministries of Livestock and Fisheries have only absorbed, on average, about 40 per cent of their allocated budgets in the last five years. With the planned increased investment in the livestock sub-sector, there is need to ascertain the major constraints that have previously limited use of allocated funds.

Land sub-division and lack of a comprehensive land use policy is also an outstanding challenge for rural development. Special attention is needed to address problems of pastoral land tenure relations with agro-based farmers as it has implications for sustained agricultural development.

Manufacturing

Kenya's manufacturing sector contributes about 10.0 per cent of GDP and in 2007 accounted for 8.8 per cent of growth in GDP. The sector accounts for about 14.0 per cent of wage employment, mainly in food processing, beverages, textiles, garments, wood processing, furniture and fabricated metal. The government's policy framework for the sector is outlined in the National Industrial Policy (NIP) that was completed in 2007.

The NIP identifies 12 sub-sectors whose industrial policies will be implemented within the framework of the Master Plan for Kenya's Industrial Development (MAPSKID). The Vision 2030 also identifies manufacturing as a key sector for Kenya's growth and development.

The main concern about manufacturing in Kenya is that the sector's contribution to GDP has been stagnant for decades. Although the sector has shown signs of recovery and growth in recent years, the performance has been lower than that of the East African countries,

Competition for agricultural products for production of bio-fuels poses a new challenge to food production, although accrued income may lead to more food security. Local factors that constrain agricultural production include over-reliance on rain-fed agriculture, erratic droughts and floods, not withstanding high production costs and lack of access to credit. The post-election crisis has worsened agricultural productivity in the affected areas.

particularly Uganda and Tanzania. The size of the sector is small compared to the newly industrialized countries such as Singapore, Malaysia and Indonesia. For instance, in 2006, Indonesia's share of manufacturing value added to overall GDP was at least twice that of Kenya.

The structure of Kenya's manufacturing sector shows that processing of food commodities and refining of petroleum products are the main industries in terms of value added. Thus, manufactured exports mainly comprise agro-processed products. Consequently, the country faces the challenge of transforming the industrial base from traditional industries to high technology-based manufacturing. Whereas Export Processing Zones have been successful in propelling growth of the manufacturing sector in South-East Asia, Kenya has been less successful in garments and textiles due to lack of competitiveness. There is need to analyze the backward linkages associated with the Africa Growth Opportunity Act (AGOA), and particularly the revival of the cotton industry, to inform further reforms.

The areas that require immediate attention in the manufacturing sector include provision of incentives to stimulate production of intermediate products, particularly those with export potential; encouraging sub-contracting and other forms of alliances between local firms and multinationals; and improving the investment climate and supporting value addition in agro-processing industries.

Another concern is that improved output growth in the manufacturing sector has not been associated with strong employment creation. Except for garments/textiles and rubber and plastic sub-sectors, other sub-sectors experienced declining proportion of manufacturing employment between 2002 and 2007. Countries with more diversified economies that give premium to manufacturing machinery and high technology-based products have experienced high labour productivity and employment growth. Some of the key challenges facing the sector include: lack of consistent transformation and diversification in manufacturing industry; lack of coherent industrial policies; and, weak investment climate including infrastructure, security and corruption. The areas that require immediate attention in the manufacturing sector include provision of incentives to stimulate production of intermediate products, particularly those with export potential; encouraging sub-contracting and other forms of alliances between local firms and multinationals; and improving the investment climate and supporting value addition in agro-processing industries.

Micro and Small Enterprises

The micro and small enterprises (MSEs) sector contributes about 18 per cent of GDP in Kenya. Further, the sector accounts for 87 per cent of all the new jobs created and it employs 77 per cent of the total number of employees in the country. In addition, the sector accounted for 85 per cent of the total number of employees in the manufacturing sector and 47 per cent of the manufacturing firms in 2005.

The main concern is to improve the MSE sector so that it can contribute more to GDP and employment creation. In the short run, there is need to create a conducive environment for MSE growth by reducing the cost of starting business and business registration. However, in the long run, the MSE sector must be integrated into the relatively larger firms within production and marketing arrangements beneficial to both categories of firms.

The performance of the MSE sector is hindered by a number of factors, including inaccessibility to financial services, deficiencies in technical and management skills, dilapidated infrastructure, and increasingly volatile input and output markets. There has been a slow rate of capital formation and minimal investment activity in Kenya's small-scale manufacturing firms. The immediate policy issues include improving coordination of MSE activities, reducing the costs of doing business, encouraging formation of business linkages, and promoting creativity and innovation among MSEs.

Trade

Trade has been identified in Vision 2030 as one of the key drivers towards industrialization. Indeed, many new industrialized countries in East Asia used export orientation as a key driver towards industrialization. These countries shifted from export of agricultural goods to export of manufactured goods, and the share of their exports to world exports increased significantly. Although Kenya's value of exports

has been increasing over time, the country has remained predominantly an exporter of agricultural products.

Many of Kenya's exports are not competitive in the world market, as they are semi-processed, less diversified and concentrated in a few markets. They also go to those markets that offer preferential treatment. For example, clothing and textile products go to the USA and EU, through AGOA and Cotonou trade agreements, respectively.

The main challenges facing Kenya's export competitiveness are supply-side constraints and low technological development and innovation. To achieve industrialization through export-led growth, Kenya has to add value to its exports, diversify into more export products and markets and address supply-side constraints. There should be a coordinated policy action to shift the export structure towards export of manufactured products.

Although the deficit in merchandise trade has been increasing over time, trade in services has enjoyed a surplus, with exports of services outweighing the imports. This is mainly due to strong performance in tourism.

Wholesale and retail trade provides more opportunities for employment. Most of the employment is found in the informal sector, which is relatively well distributed across the country and, therefore, is a key driver in reduction of poverty and unemployment. However, the sector has not received proper attention and suffers from lack of an appropriate regulatory framework, inefficient supply chain due to poor infrastructure, lack of adequate access to market information and poor access to finance.

Tourism

Tourism is a key economic sector in Kenya. It contributes about 5.0 per cent of GDP and 4.0 per cent of total employment. However, the tourism sector, which includes backward and forward linkages, contributes 11.6 per cent of GDP. In 2007, tourism revenue grew by 16.4 per cent and remained the leading foreign exchange earner with estimated earnings of Ksh 65.4 billion and 1.82 million international visitors. Consequently, tourism is recognized in Vision 2030 as a key sector in the transformation of the country into a middle-income status. The tourism goal in Vision 2030 is for Kenya to become a top-ten long haul destination in the world.

Tourism development has largely been guided by policies outlined in the *Sessional Paper No. 8 of 1969*; hence, the need for a new policy, which was identified in the early 1990s. Subsequently, the Tourism Master Plan was developed in 1995, but it was not adopted. Efforts initiated in 2002 led to the development of a draft policy and a bill, both of which are yet to be finalized. Kenya's budgetary allocation of US$ 5.4 million for tourism marketing is small compared to other major destinations such as Malaysia (US$ 117.9 million), Singapore (US$ 89.5 million), South Africa (US$ 70.2 million), Egypt (US$ 48.0 million) and Tunisia (US$ 43.1 million). Likewise, Kenya's marketing spending per tourist is among the lowest.

In spite of increased tourism earnings and average length of stay, per capita tourist expenditure in Kenya is low compared to other destinations, including Tanzania, Tunisia, Malaysia and Mauritius. Data on average room rates indicate that there is over-supply of accommodation especially for 1 to 3-star hotels, thus contributing to comparatively lower room rates. Park entry fee is also relatively low. In fact, Kenya is classified as a cheap destination and is ranked number 15 out of 130 countries. While Tunisia and Morocco are short haul destinations from the European tourist generating countries, South Africa is a long haul destination like Kenya and stands out as the main competitor destination.

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Tourism activities are largely concentrated in the coast region (63%) followed by Nairobi (20%). This pattern of high concentration indicates that income and employment benefits from tourism are unevenly distributed. Economic benefits accruing from wildlife are also unequally distributed, with community benefits typically accounting for only a small

proportion of the total value of wildlife. For instance, it has been estimated that the local community benefits from the Maasai Mara are less than 1 per cent of the total revenue; that is, despite the high concentration of tourism at the coast and the Maasai Mara, these areas have a high poverty incidence. There is need, therefore, for concerted capacity building to improve business, entrepreneurial and labour skills, and avail concessional credit to get the local communities more involved in the sector.

Kenya faces various challenges in realizing the full potential of the tourism sector. These include low competitiveness with regard to infrastructure; lack of an effective policy environment and lower number of developed heritage sites; slow issuance of work permits in the tourism industry; relatively high levels of taxation in the tourism industry; negative publicity due to insecurity; and, environmental degradation and congestion. Immediate policy attention should be focused on these challenges. There is need, therefore, to fast-track the finalization of the tourism policy and Bill and increase investment in tourism infrastructure, increase expenditure allocations, and increase concerted capacity building for local communities.

The full potential of the financial services sector has not been exploited due to a number of challenges. These include limited accessibility to banks' financial services, with only 19 per cent of the bankable population utilizing formal financial services, and large interest rate spreads. The recent wave of pyramid schemes is a threat to the stability of the sector as they have gone down with millions of depositors' money. Inadequate legal and regulatory framework is still a major constraint.

Financial services

The financial system plays an important role in the development process, particularly through the financial intermediation process. In recent years, the sector's performance has improved as manifested in increased profitability and financial deepening. There have been efforts to improve the legal and supervisory role, particularly with efforts towards accommodating the informal sector through legislation of the Micro Finance Act, 2006.

However, the full potential of the financial services sector has not been exploited due to a number of challenges. These include limited accessibility to banks' financial services, with only 19 per cent of the bankable population utilizing formal financial services, and large interest rate spreads. Information asymmetry in the lending environment remains a big challenge in the analysis of credit risk. The recent wave of pyramid schemes is a threat to the stability of the sector as they have gone down with millions of depositors' money. Inadequate legal and regulatory framework is still a major constraint. For instance, the Anti-money Laundering Bill is yet to be enacted and, in spite of enactment of a law to deal with bouncing cheques, the problem persists and undermines the confidence of using the cheque payment system.

Several challenges impede full development of the capital market. These include a limited menu of financial instruments, with equities and bonds being the only products traded in the market; entry barriers for the informal sector and small and medium-scale enterprises; and laxity in enforcement of anti-fraud measures particularly in the brokerage industry.

The other financial institutions are not contributing fully to the financial sector development due to various constraints. The SACCOs are constrained by poor marketing strategies and low capital base, while the insurance market is still under-developed, with penetration of the service remaining low. Also, awareness on unit trusts as alternative financial products remains limited and there is still a glaring gap in the provision of long-term finance as the existing development finance institutions are facing a myriad of problems.

Therefore, there is need for:

- Enhanced competition to help reduce interest rate margins;
- Vigilant establishment of credit bureaus to effectively mitigate risks and eliminate information asymmetry;
- Improved financial education on the diversity, availability and costs of various financial products beyond the usual advertisements and sale of such products;
- Review of the existing policy on bouncing cheques to seal loopholes;

- A conducive legal and administrative framework to promote the development of bonds market in Kenya;
- Diversification of financial instruments in the market to provide investors with more risk diversification opportunities;
- Development of an alternative market to cater for small, medium and growing companies, which otherwise do not meet the Capital Market Authority requirements for listing;
- Comprehensive review of the Capital Market Authority supervision strategies;
- Demutualization of the Nairobi Stock Exchange to improve on its efficiency;
- Development of the insurance industry to make it offer multiple and attractive products that enhance coverage of all sectors and regions in the country; and,
- Fast tracking of a strategy for development finance institutions (DFIs).

Environment and natural resources

Kenya is facing key environmental challenges that include deforestation, soil erosion, desertification, loss of biodiversity, water scarcity and degraded water quality, poaching and domestic and industrial pollution. An analysis of various natural resources including land, water, wildlife, forestry, fisheries, biodiversity and climate reveal different challenges that require immediate policy attention. This is critical to ensuring that the country's socio-economic development is sustainable.

Land management faces various challenges, including high inequality in ownership, weak legal and administrative framework for resolution of land ownership disputes, long and cumbersome process of registration of land and transfer of ownership, and lack of a coherent land policy. Due to the limited nature of arable land, increased agriculture production needs to rely increasingly on productivity growth rather than expansion of land under cultivation. The initiatives on land policy, land cover and land use mapping should be concluded by 2012 as planned in order to help address some of these challenges.

Kenya is a water-scarce country, with renewable fresh water per capita at 647 m^3 against the United Nations recommended minimum of 1,000 m^3. It is, therefore, critical to conserve the country's five major 'water towers': Mt Kenya, Aberdare Ranges, Mau Complex, the Cherangani Hills and Mt Elgon. Water resources are under threat from agricultural chemicals, urban and industrial wastes, and from use for hydroelectric power. Available data reveal that the levels of water pollution have been increasing.

There are also considerable disparities in access to water. In the ASALs, the average access to safe water is estimated at below 40 per cent compared to the national average of over 70 per cent. Only 7.8 per cent of Kenya's households have access to piped water in their dwellings. In most rural parts of the country, people obtain their drinking water from untreated surface and/or ground resources. Thus, Kenya needs to make large investments in upgrading and extending water supply systems to increase access to 80 per cent by 2015.

There is increasing generation of solid, liquid and gaseous waste in most urban areas, mainly due to economic activities and urbanization, but most local authorities lack adequate disposal infrastructure. Only 40 per cent of the wastes are collected and disposed of in designated sites. Overall access to improved sanitation in Kenya is expected to reach 96 per cent (96% urban and 89% rural) by 2015, but it currently stands at about 46 per cent. The key challenges include: low levels of investment; lack of a solid waste management policy; old and dilapidated infrastructure; unsustainable water and land use policies; growing pollution; degradation of rivers, lakes, wetlands and catchments; and water use conflicts due to inadequate access.

Kenya's forested area declined from 6.5 per cent in 1990 to 6.2 per cent in 2005, way below the international benchmark of above 10.0 per cent. The key challenges include declining output due to resource degradation and over-exploitation,

An analysis of various natural resources including land, water, wildlife, forestry, fisheries, biodiversity and climate reveal different challenges that require immediate policy attention. This is critical to ensuring that the country's socio-economic development is sustainable.

funding, and systematic and periodic excision of forests.

Kenya has diverse and abundant wildlife resources, but about 70 per cent of the wild animals live outside the protected areas and are the main source of serious human-wildlife conflict. The underlying challenges for the wildlife sub-sector include inadequate incentives for private conservation as wildlife belongs to the state, human-wildlife conflicts, and inequality in the distribution of benefits.

The production of fisheries faces challenges such as Sanitary and Phyto-Sanitary Standards (SPSS) in international trade, weak governance, and open access (inadequate set of property rights).

Kenya has a varied biodiversity resource base that provides food, fuel, wood, medicines and income from tourism. However, currently there is need to establish a legal and regulatory framework to regulate access to genetic resources.

Finally, climate change effects are increasingly becoming apparent mainly in the form of recurring droughts and floods, increasing intensity of droughts, and changing weather patterns. It is, therefore, crucial that Kenya mainstreams adaptation to climate change and other environmental issues into development planning.

Medium-Term Prospects

The economic prospects for the medium term will depend on both domestic and external factors. On the domestic front, effective implementation of the Grand Coalition government policy agenda, including maintaining macroeconomic and political stability, is important in restoring investor confidence following the post-election violence.

As for external factors, Kenya is a small open economy sensitive to international factors. The key factors that have immediate effect on the Kenyan economy include movements in the international energy and food prices and the slowdown in the global economy due to the global financial crisis.

The prospects for 2008 were largely affected by the aftermath of the political violence that caused economic and social disruptions, and developments in the international economy. The sectors most affected by the post-election violence were tourism and agriculture. The high international energy and food prices and the global financial crisis have contributed not only to inflationary pressure but also to the slow growth of the economy.

During the first quarter of 2008, there was a significant drop in tourist arrivals from key source markets. For instance, tourists from UK dropped by 55 per cent, US by 43 per cent and Germany by 57 per cent. The outlook for tourism will depend on domestic reform efforts, the global financial crisis, and the impact of piracy on maritime tourism. These factors combined led to a downward revision of growth projections for 2008 from an earlier 7.6 per cent before the political crisis to 1.5-1.9 per cent.

The economy is projected to recover in 2009/10 subject to effective implementation of the government's policy agenda, favourable weather conditions and a stable external environment. GDP growth is expected to grow by 2.0-2.5 per cent in 2009 and improve further to 3.1-3.9 per cent in 2010. However, the medium-term macroeconomic prospects are subject to risks and uncertainties related to the depth and length of the global financial crisis, ability to maintain political stability, the weather outlook, ability to secure effective funding of the budget and effective implementation of the reform programme.

The key challenges and priorities for the medium term relate to maintaining macroeconomic stability through prudent fiscal and monetary policy. Price stability is critical in the short and medium-term prospects. Commitments to address supply-side constraints in the key sectors of the economy need to be adhered to, and especially food production and agricultural productivity, and the other Vision 2030 priority sectors. Improved investment climate and effective public expenditure management are

critical in the growth process. Political stability is necessary to restore investor confidence. Effective implementation of the Grand Coalition government policy agenda is, therefore, critical in the short and medium term.

Substantial investments in the education sector are required to cope with high enrolments. Recent reforms in the education sector, including free primary education and subsidized secondary education, coupled with improvements in efficiency, are expected to result in high enrolment rates. Primary school enrolment is projected to increase from 7.5 million pupils (5% enrolled in private schools) in 2006 to about 8.8 million pupils (6% in private schools) by 2010. Secondary school enrolment is projected to rise from 1.03 million students (8.5% enrolled in private schools) in 2006 to about 2.3 million (7% in private schools) in 2010.

Making Kenya a Globally Competitive Economy

The *Kenya Vision 2030* aims to create "a globally competitive and prosperous country with a high quality of life by 2030". Part IV of this report examines how the concept of competitiveness is applied, its drivers, and the key competitiveness challenges that Kenya faces. The term competitiveness is defined variously but covers both price/cost and non-price dimensions. The price dimension includes unit labour costs and real effective exchange rates. The non-price definitions emphasize such aspects as technology, design, quality, efficiency and productivity. Other approaches use composite indexes that combine different aspects of competitiveness into one index, for instance the World Economic Forum's Global Competitiveness Index (GCI), and UNIDO's Competitive Industrial Performance Index (CIPI).

The definition of competitiveness adopted here is 'holistic' and relates to the "set of institution, policies and factors that determine the level of productivity of a country" (World Economic Forum 2007/08). Simplified definitions have merit but they may hide the key underlying factors and information from interested stake holders and policy makers. Competitiveness also relates the consequencies of political, social, environmental, technological and regulatory regimes to the accumulation and productivity of national assets.

The Global Competitiveness report 2007/08 ranks Kenya number 10 in Africa, ahead of neighbours Uganda and Tanzania. However, Kenya compares unfavourably against the East Asian newly industrialized countries in such areas as: the quality of institutions, macroeconomic stability, market sophistication, infrustracture, and technological readiness.

Kenya ranks low in global competitiveness based on the GCI as well as the CIPI. Although Total Factor Productivity increased between 2003 and 2006, comparative labour productivity levels remain low especially compared to the high performing Asian economies. This implies that a worker in East Asia produces more output per hour than his/her counterpart in Kenya.

The key factors that determine a nation's competitiveness include social and political stability, an efficient and predictable legal system, macroeconomic stability and an enabling microeconomic environment, especially improved infrastructure, efficient regulatory framework, skilled manpower, efficient government services and processes, clusters and technological readiness. Some scholars believe that nations compete in offering an enabling investment environment for businesses to invest and grow.

The major challenges facing Kenya's overall competitiveness include ensuring social and political stability following the disputed December 2007 presidential election, continued investment of basic social economic infrustracture, building an efficient and effective legal system and enhancing the rule of law. Other challenges are in business registration and licensing, security, macroeconomic stability, property rights,

The major challenges facing Kenya's overall competitiveness include ensuring social and political stability following the disputed December 2007 presidential election, continued investment of basic social economic infrustracture, building an efficient and effective legal system and enhancing the rule of law.

regulation, skills development, corruption, finance, enhancing technology and innovation, and development of infrastructure.

This report explores only four key drivers of competitiveness, namely: education and training, business environment, technology and innovation, and physical infrastructure. These are among the key challenges that have been identified in recent Investment Climate Assessment (ICA) surveys of the World Bank.

Education and training increases the efficiency and productivity of individuals entering the labour markets. There has been an improvement in education performance in recent years. However, Kenya still ranks poorly in basic and advanced human capital compared with countries that it aspires to catch up with.

The country has under-invested in human capital development, especially at technical and other tertiary levels. The key challenges for Kenya include low transition rates between schools levels, low and declining tertiary education enrolments especially in technical subjects, declining quality of industrial training, lack of coherent policy framework for technical education and vocational training, and a mismatch between firm labour needs and the skills in the market. There is scope for developing a framework for public-private partnership in provision of training.

The business environment needs urgent upgrading especially with regard to business regulation, procedures and licences, service delivery by public institutions, law and order and resolution of commercial disputes. Infrastructural development should remain a key concern for policy makers, while efforts need to be directed at improving technological readiness, especially innovation and adoption/adaptation of improved technologies. The Cluster Development Strategy (CDS) is increasingly being adopted as an economic tool for improving growth and competitiveness. It is, therefore, advisable that the country considers the use of this strategy in its development efforts.

PART I

Macro and Socio-economic Performance

This part discusses Kenya's macroeconomic and socio-economic performance in 2007/08, which is viewed against that of the previous years and against comparator economies that Kenya aspires to become. The discussion is based on analysis whose purpose is to identify the critical socio-economic issues that policy makers should concentrate on for rapid, sustainable and shared economic development.

Part I comprises three chapters. Chapter 1 is on Macroeconomic Performance, Chapter 2 on Governance and Public Expenditure Management, and Chapter 3 on Population Dynamics and Socio-Economic Performance.

1 Macroeconomic Performance

1.1 Economic Growth

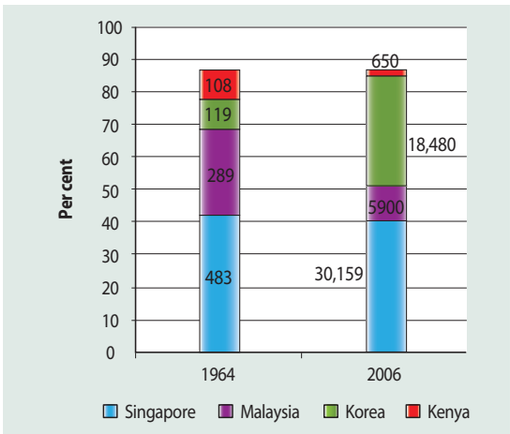
Kenya's economic performance has witnessed remarkable improvement in the last five years up to 2007, with growth in real GDP estimated at about 7.0 per cent in 2007, the highest in the last two decades. Nevertheless, the gap between Kenya's economy and those of the high performing East Asian countries has widened tremendously since the country's independence in 1963. Figure 1.1 shows a comparison of per capita income between Kenya and some of the East Asian countries– South Korea, Malaysia and Singapore.

At the time of independence, the level of income enjoyed by the average Kenyan was almost similar to that enjoyed by the citizen of the East Asian high performing economies. Then, Kenya's per capita income was estimated at US$ 108, while that of South Korea stood at about US$ 119. By 2006, however, the latter's income per capita was about 28 times larger. In addition, while Singapore's per capita income was about four and half times that of Kenya in 1964, this had widened to slightly more than 46 times by 2006.

Figure 1.1 underlines the magnitude of the challenge that the country faces if it were to close the gap. Indeed, the main question is: What is it that South Korea, Singapore and other 'Tiger' economies have done to create this widening disparity? What has Kenya failed to do to account for the widening gap?

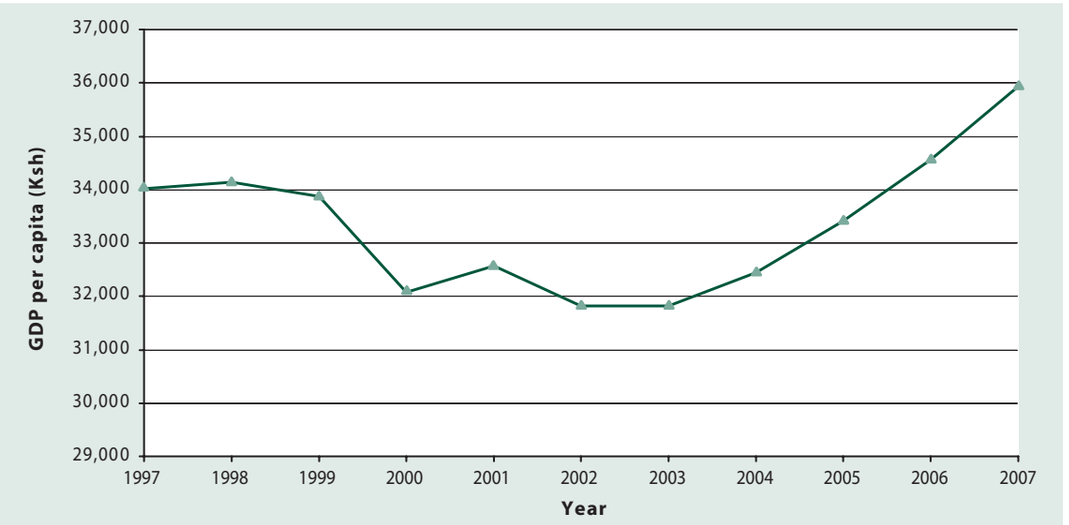
In the 1980s and 1990s, the Kenyan economy was characterized by stagnant and erratic growth. Following the implementation of the *Economic Recovery Strategy* (ERS) 2003-2007, economic growth accelerated considerably. The ERS, published by the government in 2003 as *Economic Recovery Strategy for*

Figure 1.1: Per capita income (in US$) in 1964 and 2006



Data Source: World Bank (2007), International Financial Statistics

Figure 1.2: Trends in real GDP per capita in Kenya, 1997-2007



Data Source: Government of Kenya (various), Economic Survey

Wealth and Employment Creation, 2003-2007, identifies the private sector as the engine of growth. Using the strategy, the government sought to: maintain macroeconomic stability; improve investment climate; restructure public expenditure to support growth; ensure equity and poverty reduction measures; improve public service delivery; carry out financial sector reforms; and develop infrastructure and the productive sectors of the economy.

However, it is only during 2006 and 2007 of ERS implementation that per capita income exceeded the levels registered in 1997, as illustrated in Figure 1.2. Again, this speed underlines the magnitude of the growth challenge facing the country's target of becoming a middle-income economy by 2030 (Kenya Vision 2030 envisages that by the year 2030, Kenya will have become an industrialized middle-income country). To achieve this, the government targets a GDP growth rate of 10 per cent per annum, which implies that income per capita would double by 2018.

In the recent past, only a handful of countries have been able to grow at a double-digit rate. For instance, between 2006 and 2007 in Asia, the fastest growing economies were China and India at an average rate of 11.2 per cent and about 9.5 per cent per annum, respectively. In South America, Venezuela grew at about 9.3 per cent. In Africa, Sudan, Angola and Equatorial Guinea have grown at double-digit levels after discovering new oil fields. Ethiopia is the only non-oil exporting sub-Saharan African country that has been growing at double digit, mainly due to high infrastructure investment and commercialization of agriculture. However, its growth is now threatened by high inflation and vulnerability to drought.

Going by the above analysis, Kenya's growth target is seemingly ambitious and cannot be realized and sustained without serious commitment to reforms. Moreover, if growth is erratic then it will be difficult to realize the time-bound goals.

Vision 2030 envisages sustainable development. In this regard, the growth strategy has to take into account social and environmental concerns. Social concerns relate to poverty and income inequality and are discussed in detail in Chapter 2. Environmental concerns include deforestation, water and land quality, air pollution, biodiversity and declining fisheries. These are the subject of discussion in Chapter 10.

Kenya's growth target is seemingly ambitious and cannot be realized and sustained without serious commitment to reforms. Moreover, if growth is erratic then it will be difficult to realize the time-bound goals.

1.2 Sector Contributions to Growth and Economic Transformation

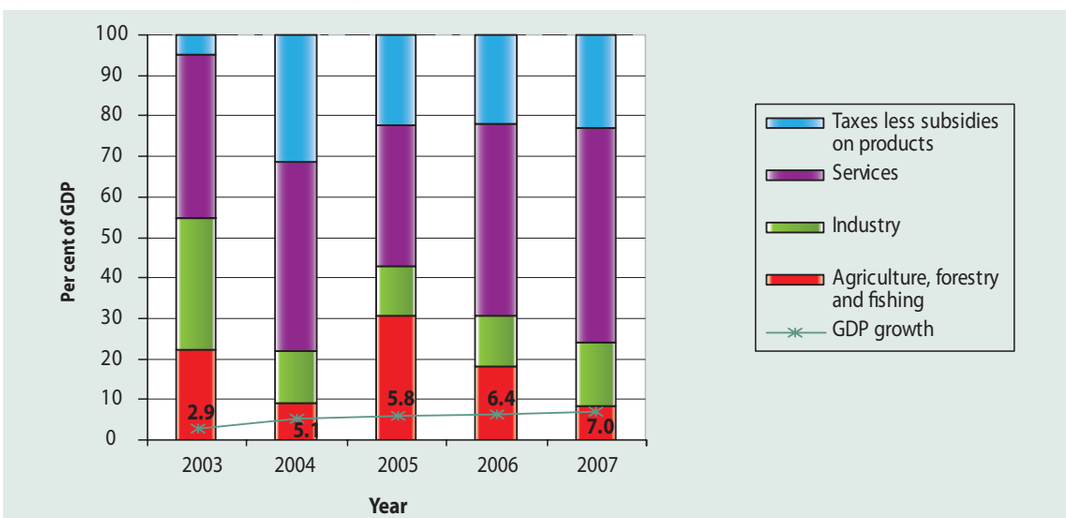
The economic transformation envisaged in Vision 2030 should be reflected in sector composition in total output. According to economic histories of many countries, the agricultural sector dominates in total output and employment creation at the early stages of growth. Its contribution declines gradually as the role of industry expands. After industry, the next stage is dominated by services.

Available data reveals that many Newly Industrialized Countries (NICs) of Asia went through this process. Industrial development in Kenya has, however, stagnated with the sector's share in total output remaining at about 12 per cent for decades. In the Asian NICs, the share of output from the industrial sector increased to about one third. Although Kenya has the largest manufacturing sector in East Africa, it reflects under-performance even when compared with Egypt and South Africa. The key challenges that have hampered industrial development in Kenya–especially in manufacturing–include high production costs, lack of transformation, and a weak industrial policy framework. The policy itself has been characterized by lack of effective interventions targeted at promoting industrial expansion and a conducive investment climate (see Chapter 5).

The economic growth registered between 2003 and 2007 has been broad based, as illustrated in Figure 1.3. During this period, the services sector contributed about 45 per cent of growth in GDP, with the key sub-sectors being transport and communication, wholesale and retail trade, and hotels and restaurants. The agricultural sector, which includes forestry and fishing, accounted for about a quarter of GDP but contributed about 18 per cent to its growth. Industry contributed about 17 per cent to growth in GDP at market prices.

Interconnectedness between sectors, both in terms of backward and forward linkages, is an important feature of the economy. A backward linkage indicates the extent to which a sector consumes or buys inputs from other sectors of the economy, while a forward linkage indicates the extent to which a sector sells its outputs to other sectors of the economy. Sector analysis provides information that is useful for policy purposes as it helps not only in understanding the interconnectedness, but also in the identification of the sectors that have the highest impact on economic growth. Table 1.1 contains information on backward and forward linkages of the various sectors of the economy.

Figure 1.3: Sector contributions to GDP growth



Data Source: KIPPRA computations

According to the table, the construction, wholesale and retail trade, and the transport and communication sectors have the highest level of backward linkages in the economy. Manufacturing, transport and communication, and financial services (which include real estate and business services) have the highest level of forward linkages. Although, overall, the manufacturing sector does not have strong backward linkages, within the sector, the bakery and confectionary and leather and footwear sub-sectors exhibit strong linkages. It is important to note that agriculture, which includes forestry and fishing, has the lowest level of backward linkage. This indicates that the sector is less integrated with other sectors in relation to the purchase of its key inputs such as fertilizer, chemicals, and agricultural equipment and tools. There is need, therefore, to develop industries that supply agricultural inputs to enhance the impact of the sector in overall economic growth.

Analysis of the recent growth in terms of aggregate expenditure components of GDP reveals that although there has been positive growth in external demand for Kenyan products (exports), the bulk of GDP growth has been supported by growth in domestic demand, especially with regard to private consumption and investment (Figure 1.4). In effect, the contribution of net exports of goods and services to GDP growth has been on the decline, which is reflected in a growing current account deficit. Indeed, there is a notable deterioration of trade and current account balance between 2004 and 2007 attributable to stronger growth in imports than exports, owing to the high income elasticity of imports so that an increase in gross domestic income leads to a disproportionate increase in imports. This situation has been exacerbated by high international oil prices, appreciation of the Kenya shilling against the major hard currencies, and deterioration in terms of trade (ratio of export price index to import price index).

Using current account deficit as a measure to assess the growth strategy, it is inevitable to conclude that the export-led strategy

Table 1.1: Backward and forward linkages of the various economic sectors

Sectors	Backward Linkages	Forward Linkages
Agriculture	1.294	1.365
Mining and Quarrying	1.653	1.012
Manufacturing	1.476	4.914
Electricity and Water	1.368	1.230
Construction	2.020	1.067
Trade	1.840	1.329
Transportation and Communication	1.752	1.846
Restaurant and Hotels	1.463	1.378
Financial Services	1.468	1.688
Public Administration	1.658	1.083
Education	1.410	1.001
Health	1.387	1.000
Other Services	1.483	1.358

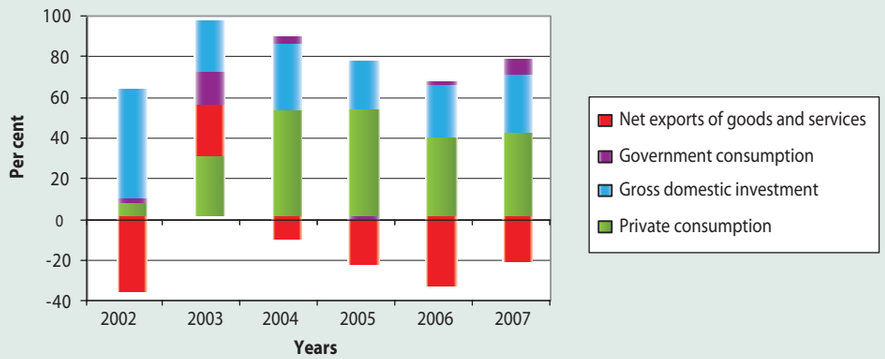
Data Source: KIPPRA estimates – Social Accounting Matrix (SAM) 2003

emphasized in the ERS and in Vision 2030 is yet to be realized. The challenges to export growth include lack of diversification, low value exports and supply-side constraints, which are discussed in Chapter 7.

As noted above, investment has continued to play an important role in GDP growth. Its efficiency as measured by incremental capital output ratio (ICOR) has also been improving. Figure 1.5 shows that although investment rates have been increasing in the recent past, the current level remains below the ERS target of 24 per cent and the Vision 2030 target of 30 per cent.

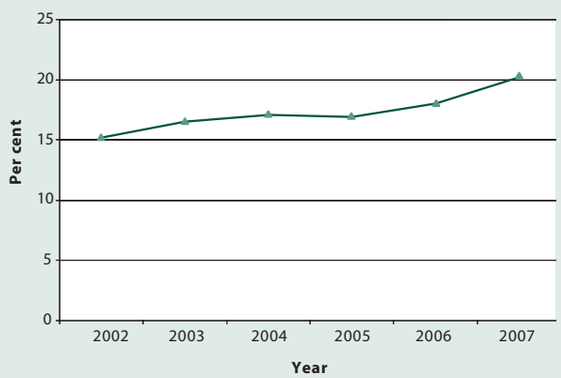
Despite the recent improvements, Kenya has one of the lowest rates among the comparator countries as shown in Figure 1.6. In 2006, the economy recorded an investment rate of 19.0 per cent of GDP compared with Uganda's 23.0 per cent, 32.0 per cent in Ghana and 34.0 per cent in India. China registered a rate of 45.0 per cent in the same period. The key challenges to improving the investment climate include insecurity, corruption, poor infrastructure (including roads and energy/electricity), and limited access to credit by small and medium enterprises.

Figure 1.4: Contribution of domestic demand to GDP growth (%)



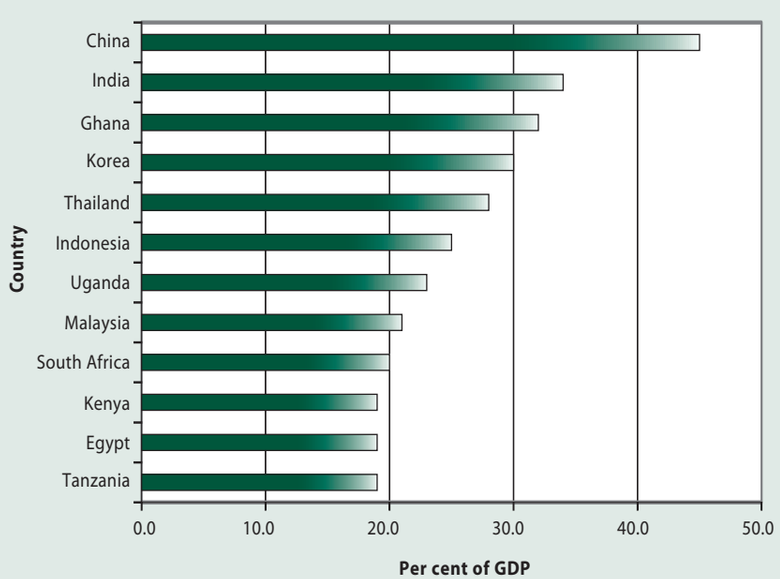
Source: Government of Kenya (2008), Economic Survey

Figure 1.5: Investment as a percentage of GDP



Source: Government of Kenya (various), Economic Survey

Figure 1.6: Cross-country comparison of fixed investment as % of GDP, 2006



Data Source: World Bank (2007 and 2008)

Moreover, there is an emergent trend of increasing savings-investment deficit, fiscal deficit and current account deficit, which calls for the need to balance growth in aggregate demand and the potential or capacity of the economy to produce goods and services. To achieve growth in a stable macroeconomic environment, growth in domestic demand should not out-pace domestic production capacity. There is, therefore, need to support productivity-enhancing measures, re-orient policy towards more investment and savings, address production constraints in various sectors of the economy, adopt policies that exploit and enhance domestic inter-linkages in the economy, and ensure that fiscal and monetary policy remains prudent. Efforts towards encouraging external demand of Kenya's products, such as regional integration and various trade arrangements, should also be enhanced.

Total Factor Productivity (TFP) is the other important source of growth in total output or GDP and is a key element in national competitiveness. According to the *World Development Report 2005*, between 1960 and 2000, 45-90 per cent of cross-country differences in GDP growth were attributable to TFP growth. Studies on Kenya indicate that the country did not realize sustained growth in TFP in the 1980s and 1990s (World Bank, 2007). It grew at an average of -1.0 between 1990 and 2000 and, therefore, the main source of aggregate economic performance was accumulation of real inputs–human and physical capital.

Recent estimates of growth in TFP, however, reveal that it has played a significant role in GDP growth, growing at about 2.6 per cent between 2003 and 2006. The key challenges to productivity growth are discussed in Part IV of this report and include investment climate, infrastructure development, research and development, and skills development.

Kenya has recognized the importance of productivity and has started to establish the relevant institutional framework. An example is the Productivity Centre of Kenya (PCK), which was established in 2004 to mainstream productivity improvement in the national development planning process by, among other things, developing a national productivity strategy. According to Vision 2030, Kenya ought to achieve an annual TFP growth of 2.5 per cent.

The other important source of growth is investment in human capital; that is, education and training. Investment in human capital makes labour more adaptable, efficient and productive. It is, therefore, important to provide basic skills to Kenyan workers through basic education and to ensure well-being through provision of better healthcare.

Although there have been remarkable improvements in enrolment in primary and secondary schools, human capital development in Kenya faces challenges that include inadequate funding for early childhood education and tertiary training, weak links between education investment and labour market needs, low enrolments in engineering and science disciplines, lack of regional and gender equity, and internal inefficiency. Indicators on well-being/health declined in early 2000. Life expectancy, for instance, declined from about 62 in the 1980s to about 45 in 2002, but it is estimated to have increased to about 55 per cent in 2007. Data from the 2003 Kenya Demographic and Health Survey indicates that between 2000 and 2003, there was a decline in health indicators such as infant and child mortality rates, vaccination coverage, and adult and maternal mortality. These challenges are discussed in greater detail in Chapter 3.

1.3 Inflation and Exchange Rates

To achieve growth in a stable macroeconomic environment, growth in domestic demand should not out-pace domestic production capacity.

1.3.1 Inflation rate

Low and stable prices are critical for the achievement of sustainable growth. Higher cost of food, energy and transport pushed inflation from 10.5 per cent in 2005 to 14.5 per cent in 2006, and slowed down to 9.8 per cent in

2007. Core inflation, which excludes the three items–food, energy and transport–averaged about 5.4 per cent in 2005, 3.9 per cent in 2006, and 5.4 per cent in 2007. However, during the first five months of 2008, inflation increased to double digit, reaching 31.5 per cent in May.

An analysis of the components of inflation in the overall household consumption 'basket' reveals that food inflation is the major direct contributor to overall cost of living as measured by changes in the Consumer Price Index (CPI). This is partly due to the large share of the item in the overall basket. Food inflation increased from 7.3 per cent in 2005 to 12.2 in 2006, before declining to 7.6 per cent in 2007. Between 2006 and 2007, about three-quarters of the direct increase in overall inflation was due to increases in food prices (Figure 1.7). Given that the poorest proportion of the population spends a disproportionately high share of their income on food, then food price inflation affects the poorest of the society more than the rest of the society.

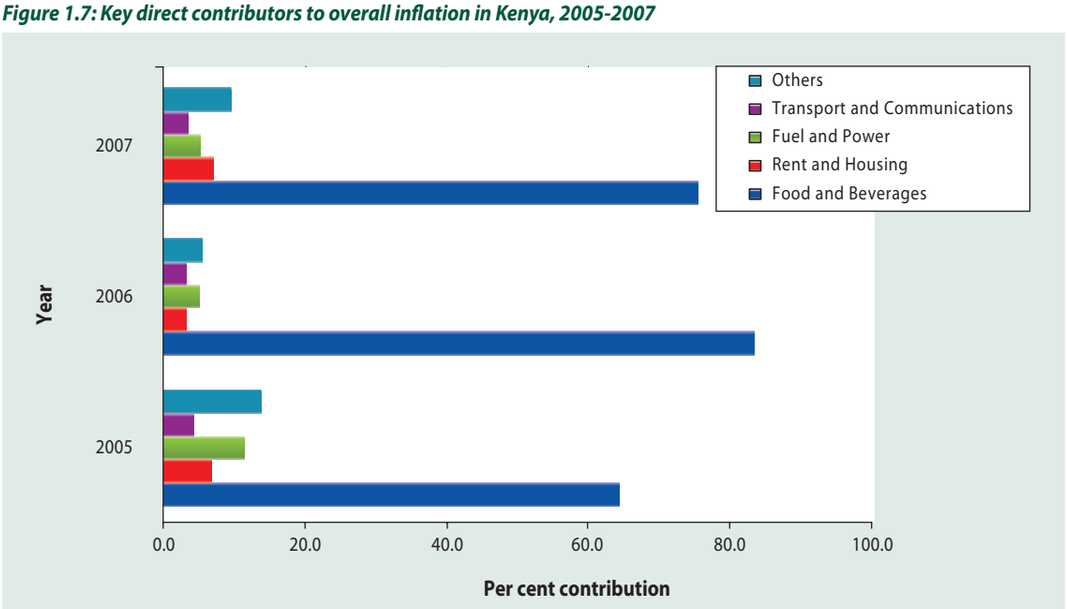
The goal of monetary policy is to ensure low and stable prices. The Central Bank of Kenya implements monetary policy aimed at maintaining core inflation below 5.0 per cent. Since the monetary policy target excludes food, it is clear that relying on the traditional monetary policy instruments would be insufficient in realizing and maintaining overall price stability.

Options available for mitigating inflation include active stabilization of food prices and subsidizing food production. However, some countries such as Egypt that have relied on subsidies are finding it difficult to sustain them in the face of increasing global prices. Thus, the Kenya government policy of increasing national food reserves is timely in helping to stabilize prices. However, in the medium to long-term, the government should provide incentives to increase productivity and encourage production of traditional foodstuffs, and include some of these in the national food reserves. Some of the key constraints facing agricultural growth are the subject of discussion in Chapter 4.

When analyzed against comparative and catch-up countries, Kenya has been a poor performer in inflation management (Figure 1.8). Between 2000 and 2006, the country recorded an average inflation rate of 8.9 per cent, while countries such as Singapore, China and Malaysia all recorded rates below 2.0 per cent. Within the East Africa Community, Kenya still fared poorly

The Kenya government policy of increasing national food reserves is timely in helping to stabilize prices. However, in the medium to long-term, the government should provide incentives to increase productivity and encourage production of traditional foodstuffs, and include some of these in the national food reserves.

Figure 1.7: Key direct contributors to overall inflation in Kenya, 2005-2007



Source: KIPPRA estimates

compared to Uganda and Tanzania, which recorded overall inflation rates of 4.7 per cent and 3.7 per cent, respectively. It is important to establish the nature of inflation and develop appropriate measures to reduce it.

1.3.2 Exchange rate

Kenya has maintained a flexible market-determined exchange rate, which has appreciated in recent years. Between 2004 and 2007, the shilling (the country's unit of currency) appreciated against the US dollar and the Euro by about 17.0 per cent and against the Sterling pound by about 7.6 per cent. The real effective exchange rate (REER),[1] which is an indicator of external competitiveness, has also appreciated by about 32.0 per cent over the same period. This implies that Kenya has been losing export competitiveness (Figure 1.9) and may partly explain why export-led growth strategy has not been realized.

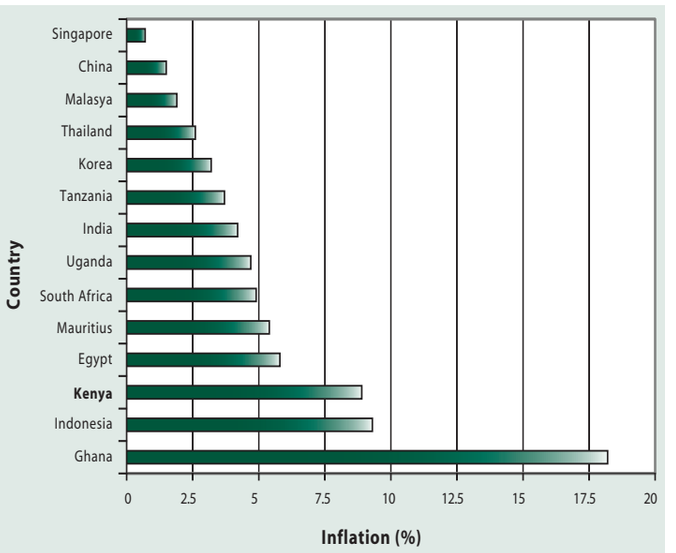
The appreciation of the Kenya shilling is explained by the recent surge in foreign exchange inflows, mainly remittances from Kenyans in the Diaspora, tourist receipts and short-term capital inflows. The key prerequisites to maintaining a competitive exchange rate in a regime where the exchange rate is flexible and market-determined are low domestic inflation, high productivity and effective management of high financial inflows.

1.4 Savings, Foreign Direct Investment and Remittances

1.4.1 Savings

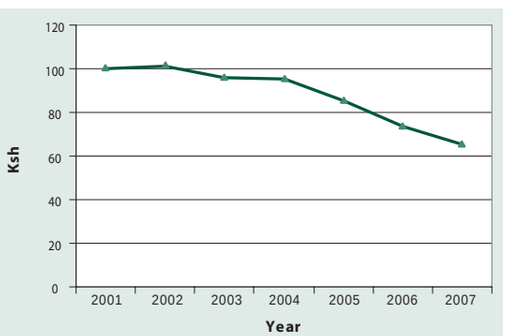
Kenya needs to mobilize sufficient resources to finance the development process. The country's savings rate increased from 10.1 per cent in 2003 to about 16.0 per cent in 2006, but this is estimated to have declined to 13.6 per cent in 2007 (Figure 1.10). Since the medium-term target is to raise savings rate to 25-28 per cent, the fall in savings rate in 2007 should be of concern.

Figure 1.8: Average inflation rate for selected countries, 2000-2006



Source: World Bank (2007 and 2008)

Figure 1.9: The shilling's real effective exchange rate (REER 2001=100)

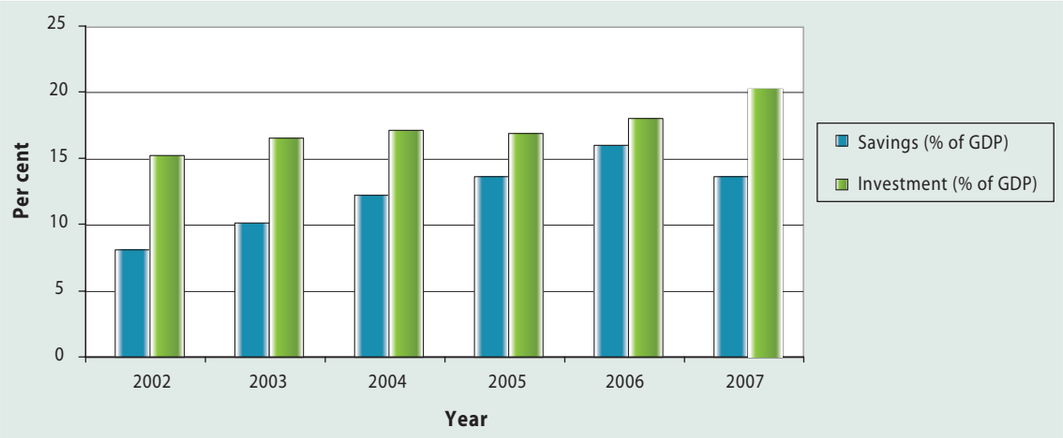


Data Source: KIPPRA computations

Available comparable data on savings rate indicate that Kenya has under-performed when compared to other countries as shown in Figure 1.11. In 2006, the country had a savings rate lower than those of Ghana, Egypt and Uganda, which recorded 27 per cent, 22 per cent and 15 per cent, respectively. The East Asian NICs are able to save up to about one third of their GDP.

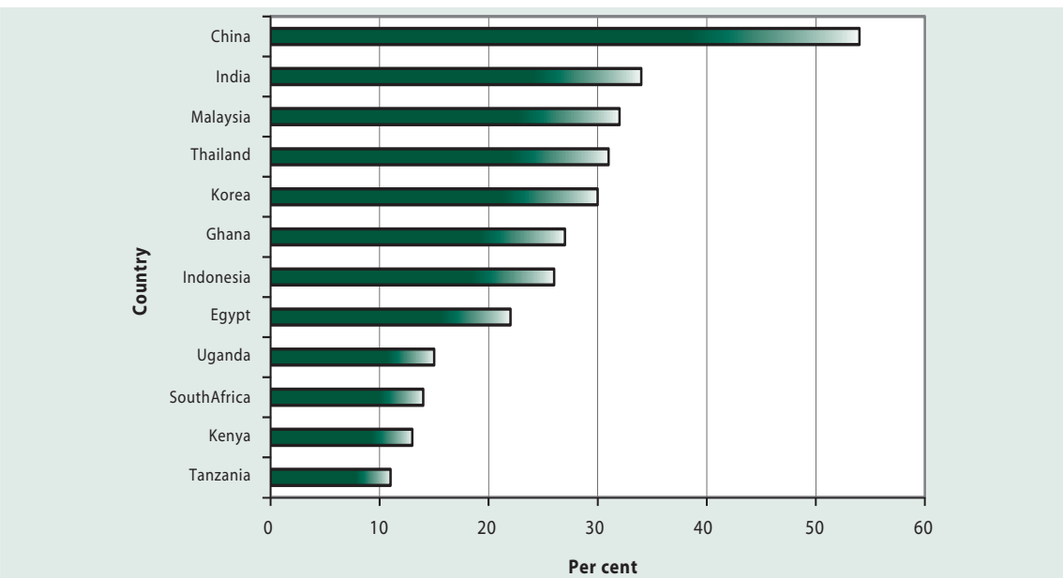
The key determinants of savings are income levels, rate of income growth, financial infrastructure, government policy and demographic factors, especially levels of dependency. The recent improvement in Kenya's savings rate is mainly due to

Figure 1.10: Savings and investment as a percentage of GDP for Kenya, 2002-2007



Data Source: Government of Kenya (2007; 2008) Economic Survey

Figure 1.11: Gross savings as a percentage of GDP for selected countries, 2006



Data Source: World Bank (2007, 2008)

improvement in income levels and economic environment. However, the demographic transition that had started to take place in Kenya in the 1980s and 1990s appears to have halted the improvement, thus denying the country the window to boost savings. Although the financial sector can play an enhanced role in savings mobilization, the sector is facing numerous challenges, key of which are analyzed in Chapter 9.

In Figure 1.11, China has the highest gross savings where enterprises (as opposed to households and government) have continued to account for the largest share of the increase in investment since the late 1990s. They accounted for about three quarters of the total gross capital formation in 2005 and half of the 5 percentage points of GDP increase in investment since the late 1990s. Unlike the 1990s, the non-state enterprise sector has been the key driver behind the recent investment surge. Foreign-invested enterprises (FIEs) account for a small share of investment, and foreign capital is only a small share of investment financing.

A study conducted by Barnett and Brooks (2006) established the following as the drivers of investment in China:

- Liquidity or availability of funds (i.e. profits retained by the firm), implying that firms' decision to invest is driven by more than just current profitability
- Rising household incomes
- Low real interest rates
- Good infrastructure and massive investment in the real estate segment
- Housing and bank reforms

The Indian economy has proven to be highly attractive to domestic and foreign investments. The country's domestic investments have been cited as the propelling force towards the country's attainment of self-sustained growth through rapid industrialization. An IMF survey on capital inflows has established the following drivers of investment in India:

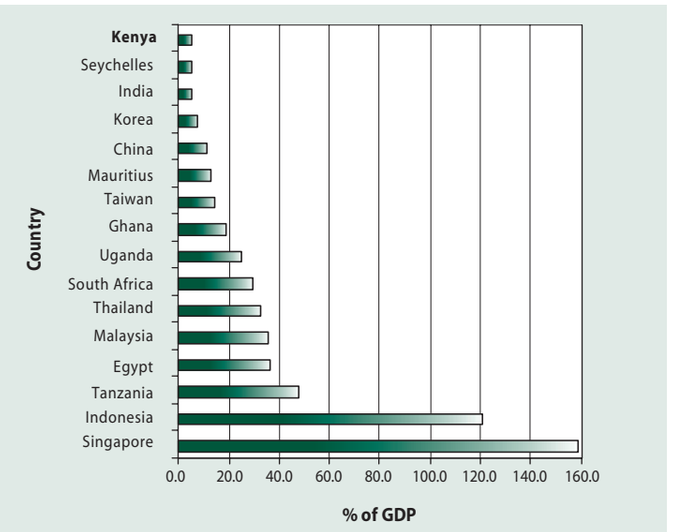
- Rising incomes
- Robust business confidence
- Buoyant corporate profits, although Bhattacharyya (2008) has established that internal liquidity (retained earnings) is relatively more important than profitability in firms' investment decisions
- Increased demand in the external market

1.4.2 Foreign Direct Investment

Kenya has under-performed in attracting Foreign Direct Investment (FDI) and has not regained the regional leadership it lost in the early 1990s. FDI inflows increased from US$ 21 million in 2005 to US$ 51 million in 2006, which remains relatively low compared with other countries as shown in Figure 1.12. For example, in 2006, Uganda and Tanzania attracted FDI worth U$ 377 million and U$ 307 million, respectively.

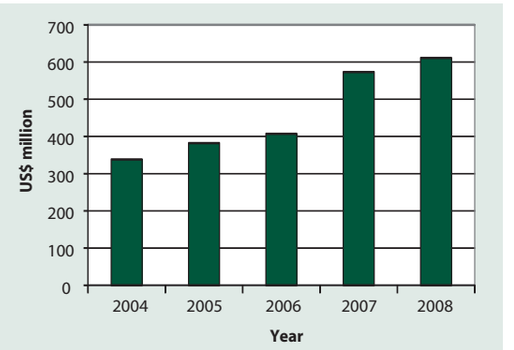
Both foreign and domestic investment in Kenya suffered in the 1980s and 1990s due to a combination of factors that include poor infrastructure (roads, telecommunications and electricity), corruption, high cost of borrowing, crime and insecurity, poor economic performance, and lack of investor confidence due to weak commitment to reforms (Government of Kenya, 2003; UNCTAD, 2005).

Figure 1.12: Foreign direct investment stock as a percentage of GDP for selected countries, 2006



Source: UNCTAD (2007), World Investment Report

Figure 1.13: External remittance inflows to Kenya, 2004-2008



Data Source: Central Bank of Kenya (2008)

1.4.3 External remittances

The flow of foreign remittances into Kenya has been increasing remarkably over time as shown in Figure 1.13. In 2008, remittances stood at Ksh 42.6 billion or US$ 611 million. In 2006, available data reveals that remittances exceeded foreign direct investment and were more than half the amount of net

Overseas Development Assistance (ODA) that the country received. During this year (2006), Nigeria was the largest recipient of remittances in Africa with about US$ 3.3 billion. Kenya was nevertheless among the top ten recipients in the continent.

Cross country studies on remittances indicate that they can have an important impact on poverty reduction. In effect, a number of countries are undertaking measures to make remittances more effective. These measures include encouraging flows through the formal financial sector as opposed to informal systems (e.g., *hawala*), making formal systems affordable, improving on reporting,[2] and encouraging cellphone encryption technology as has been used to facilitate transfers between OECD countries and other countries such as Zambia and Philippines. In Mexico, there is a government financial institution, Sociedad Hipotecaria Federal, through which long-term financing and partial mortgage insurance to providers of *peso*-dominated loans is made available. The loans are provided to emigrants for house construction. Another potential channel for exploiting Diaspora resources is through issuance of Diaspora bonds, as used in India and Israel (Ketkars and Ratha, 2007).

1.5 Conclusion

In 2007, Kenya's economy recorded the best performance in decades. Real GDP growth reached 7.0 per cent, and is correlated to political reforms, strong evidence that political processes matter for development. Performance on other macroeconomic parameters (inflation rate, investment rate, foreign direct investment, total factor productivity and remittances) was also impressive. However, several challenges remain. Among these key challenges are escalating inflation (especially in the first half of 2008), low investment rate and FDI stock as a per cent of GDP, low savings rate and a slowdown of the savings rate in 2007, and appreciation of the real exchange rate. In addition, the bulk of GDP growth has been supported by growth in domestic demand, especially private consumption and investment, with the contribution of net exports declining in recent years.

For Kenya to build a globally competitive economy and thus achieve rapid, sustainable and shared growth, these challenges have to be addressed in a relentless and concerted manner. In order to achieve growth in a stable macroeconomic environment, growth in domestic demand should not out-pace domestic production. There is, therefore, need to support productivity-enhancing measures, re-orient policy towards more investment and savings, address production constraints in various sectors of the economy, adopt policies that exploit and enhance domestic inter-linkages in the economy, and ensure that fiscal and monetary policy remains prudent. Efforts directed towards encouraging external demand of Kenya's products, such as regional integration and various trade arrangements, should also be enhanced.

End notes

[1] This is a trade-weighted exchange rate that takes into account movements in overall domestic and foreign prices. The overall consumer price index (CPI) is used to represent domestic price level.

[2] For instance, World Bank data indicates that in 2004, Kenya received US$ 620 million while the corresponding figure from the Central Bank of Kenya is US$ 338 million, almost a half (*www.sitesources.worldbank.org/introspects/resources*).

Governance and Public Expenditure Management

2

2.1 Governance

Good governance is now widely recognized as a positive contributor to development outcomes. It should, therefore, be a major plank in Kenya's efforts to build a globally competitive economy for the achievement of rapid, sustainable and shared growth.

In the Economic Recovery Strategy (ERS) unveiled by the NARC Government in 2003, good governance was identified as one of the key pillars of the strategy. The key reform areas targeted were the judiciary, strengthening of the rule of law, fight against corruption, improved security as well as enhancement of transparency and accountability in public administration systems (IP-ERSWEC, 2003). In 2005, Kenya undertook a detailed governance survey under the NEPAD-Africa Peer Review Mechanism (APRM). The review covered political governance and democracy, economic governance and management, corporate governance and socio-economic development. The key overarching issues that were identified were management of diversity in nation building, transformative leadership, implementation of national development plans and strategies, constitutional review, reduction of poverty and inequality of wealth distribution as well as land, corruption, gender equity and unemployment of the youth. The political crisis precipitated by the disputed December 2007 presidential election and discussion of the underlying causes of the crisis have thrust these overarching governance issues into the national agenda.

The Grand Coalition government policy agenda, as contained in the Report of the National Accord Implementation Committee (NAIC), for instance, promised a new constitution in 12 months, enhanced war against corruption by establishing a Truth and Restitution Commission to bring to closure past corruption crimes, introduction of legislation to prohibit any form of ethnic discrimination, address gender equity and reforms to enhance service delivery. Thus far, two key bills have been enacted, namely, the National Cohesion and Integration Act, and the Truth, Justice and Reconciliation Commission Act.

In addition, there are various other reforms at different stages of implementation, some of which require unprecedented political commitment. It is important that the NAIC continues to review and monitor progress in the implementation of governance reforms.

To enhance predictability, transparency, accountability and participation so as to enhance commitment to reforms, it would be useful to produce and disseminate frequent progress reports on the National Accord. These reports should then be presented and discussed by Parliament.

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The Annual Progress Reports prepared by the Monitoring and Evaluation Directorate of the Ministry of State for Planning, National Development and Vision 2030 outline the various achievements that have been realized during the 2003-2007 period. The achievements include: recruitment, training, equipping and provision of housing units for the police to enhance performance of security agents; purging of corrupt judicial officers; strengthening of the department of public prosecutions; decongestion of penal institutions; efforts towards realization of a new constitution; drafting the Kenya Law Reform Commission Bill; and institutionalization of results-based management in the public sector to enhance performance and accountability.

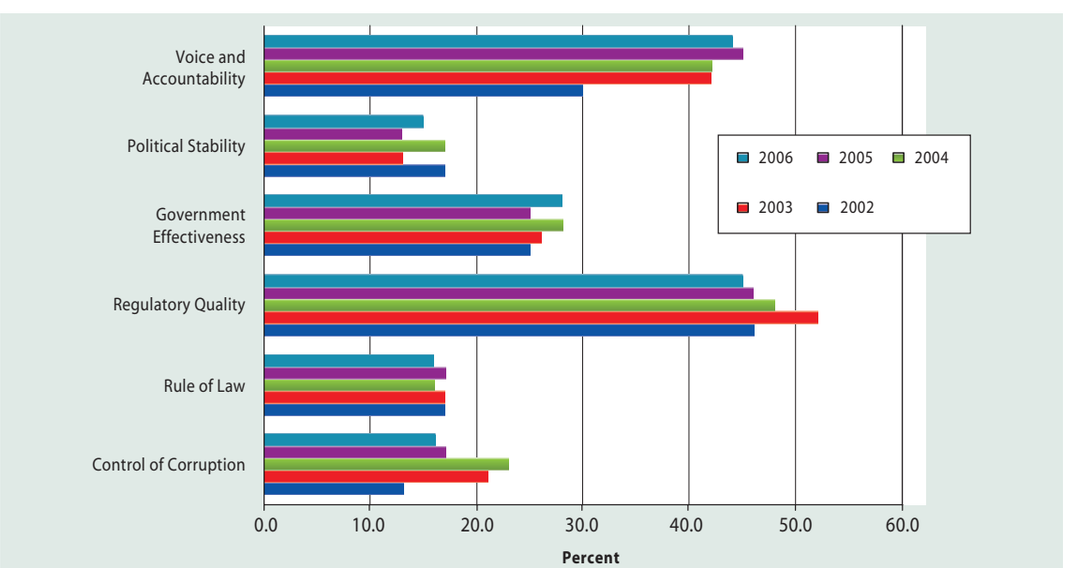
With regard to implementation of the NEPAD-APRM National Programme of Action, the Kenya Annual Progress Report, June 2006-June 2007, lists various achievements, which include efforts to finalize the National Land Policy, gains in poverty reduction, initiatives to restart the constitutional review process, empowerment of women through the establishment of the Ksh 2 billion Women Development Fund, the passing of the Sexual Offences Bill into law, carrying out of procurement reforms to enhance project implementation, increased budgetary allocations to the Youth Fund, and efforts towards combating corruption.

2.2 Performance and Challenges of Governance in Kenya

Figure 2.1 shows Kenya's governance performance based on the World Bank's six aggregate governance indicators. These are: (1) voice and accountability; (2) political stability; (3) government effectiveness; (4) regulatory quality; (5) rule of law; and (6) control of corruption.

Of the six indicators, Kenya has substantially increased its score with regard to voice and accountability, government effectiveness and control of corruption. However, the country's score on political stability, regulatory quality

Figure 2.1: Aggregate governance performance for Kenya, 2002-2006



Source: Adopted from Kaufmann *et al.* (2007)

and rule of law declined during the period. The aftermath of the December 2007 General Elections, including violent clashes and the political crisis, are likely to see the country's governance scores fall further. On the positive side, the crisis may provide greater impetus towards re-examination and implementation of governance reforms.

The key challenges lie in the effective working of the Grand Coalition government to deliver on the agreed actions, including those identified in the Report of the National Accord Implementation Committee on National Reconciliation and Emergency Social and Economic Recovery, and the medium-term plan for Vision 2030. These actions include enactment of a new constitution, operationalization of an independent Truth, Justice and Reconciliation Act, operationalization of the National Cohesion and Integration Act, and fast-tracking the implementation of Agenda Item 4 of the Kenya National Dialogue and Reconcilliation.

The overall level of corruption in Kenya remained largely unchanged between 2004 and 2006, and the country dropped in the corruption ranking for 2007. The Transparency International Kenya Bribery Index reveals that while the likelihood of encountering bribery had increased, the average size of bribe declined from about Ksh 4,958 in 2004 to about Ksh 1,236 in 2006. The most corruption-prone areas include law enforcement, access to services such as education and utilities, compliance with regulations, and in securing jobs and promotions of staff. The police and the Transport Licensing Board (TLB) remained the most corruption-prone institutions. Other corruption-prone institutions include CDF offices, law firms, Ministry of Local Government, Ministry of Public Works and Ministry of Labour.

Available evidence shows that corruption remains largely unchanged despite various measures taken by the government. There is thus need for a re-assessment of the countries anti-corruption measures. Such measures include the enactment of the Anti-Corruption and Economic Crimes Act 2003, leading to the establishment of the Kenya Anti-Corruption Commission (KACC) to fight corruption, and the Public Officer Ethics Act that requires government officials to declare their wealth annually as a way of deterring illegal accumulation of wealth.

The KACC annual reports reveal enormous cases of corruption within the public sector. According to the Commission's 2007/2008 annual report, one of the key challenges hindering efforts to fight corruption is the fact that quick conclusion of grand corruption cases continues to be delayed through legal defence opportunities that are afforded in the Kenyan laws, poor record keeping in public offices and lack of legal frameworks for dealing with transnational investigations of corruption cases. The government should also improve effectiveness of communication about its governance efforts to influence perceptions. It is recommended that bilateral and multilateral agreements with other countries be negotiated and mutual legal assistance laws established to support transnational investigations. The fight against corruption, therefore, remains a major challenge.

2.3 Public Service Delivery

Government efforts to enhance efficient public service delivery by introducing performance contracts dates back to 1989 and 1990, with Kenya Railways and the National Cereals and Produce Board (NCPB), respectively. Initial efforts failed due to lack of political will, coupled with a weak performance incentive system.

Performance contracting system was re-introduced in 2003 and by 30 September 2005, it had been introduced in various state corporations and extended to the local government. Initial assessment of the system revealed improved performance in the participating public agencies (Kobia and Mohammed, 2006). On 26 June 2007, Kenya was among 14 countries that won the prestigious United Nations Public Service Award (UNPSA) for its extensive system of performance-based contracting and for fostering responsiveness

Available evidence shows that corruption remains largely unchanged despite various measures taken by the government. There is thus need for a re-assessment of the countries anti-corruption measures.

and accountability in the civil service. The other countries that won the award are Australia, Austria, Azerbaijan, Chile, India, Lebanon, Morocco, Korea, Singapore, South Africa, Switzerland and the United Arab Emirates.

Despite significant progress, the public service faces challenges that require immediate attention. These include:

- Lack of a clear policy on public service remuneration, which has resulted in major distortions in pay structure;
- Recruitment freezes of the 1990s, which have created succession management challenges;
- Lack of parliamentary vetting of most senior public appointments; and
- Need to enhance allocations towards operations and maintenance to enhance effectiveness.

There is need to deepen reforms, including strengthening citizen charters, service delivery surveys, expand and align performance contracting system within the MTEF budget, undertake a functional review of government in order to establish optimal structure to eliminate duplication and wastage (*inter alia*), implement regular rotation of employees, and ensure public service remuneration reforms.

2.4 Public Expenditure Management

In pursuit of rapid, sustainable and shared growth, effective and strategic public expenditure is paramount. Kenya's fiscal performance has improved steadily since 2003/04. However, it was adversely affected in 2008 by economic disruptions arising from the political crisis of early 2008.

In 2007/08, total revenue increased by 38.8 per cent (or Ksh 120.9 billion) to stand at Ksh 432.2 billion (or 21.6% of GDP), up from Ksh 311.3 billion in 2005/06. The improved performance in revenue collection in the recent years has been due to improved economic performance and reforms in revenue administration, including automation and introduction of electronic tax registers. The key challenges relate to increased modernization of tax administration, including use of IT to enhance efficiency and compliance, simplification of the tax regime, including adoption of the

There is need to deepen reforms, including strengthening citizen charters, service delivery surveys, expand and align performance contracting system within the MTEF budget, undertake a functional review of government in order to establish optimal structure to eliminate duplication and wastage (inter alia), implement regular rotation of employees, and ensure public service remuneration reforms.

Table 2.1: Fiscal outturn (percentage of GDP), 2003-2008

Fiscal Outturn (% of GDP)	2003/04	2004/05	2005/06	2006/07	2007/08
Total revenue	22.3	22.8	19.9	20.1	21.6
Revenue	19.8	20.9	18.1	18.4	19.8
A-in-A	2.5	1.9	1.8	1.7	1.5
Expenditure and net lending	24.7	23.8	24.5	22.2	26.7
Recurrent expenditure	21.4	20.2	19.6	17.7	20.1
Development expenditure	3.3	3.6	4.3	4.4	6.6
Deficit excluding grants (commitment basis)	-2.4	-1.1	-4.6	-2.0	-5.1
Grants	1.4	1.2	1.3	0.8	1.3
Deficit including grants (commitment basis)	-1.0	0.1	-3.3	-1.2	-3.8
Deficit including grants (cash basis)	0.0	0.6	-2.3	-2.1	-3.0
Financing	0.0	-0.6	2.3	2.1	3.0
Foreign financing	-0.8	0.0	0.1	0.0	0.3
Domestic financing	0.8	-0.5	2.3	2.1	2.7

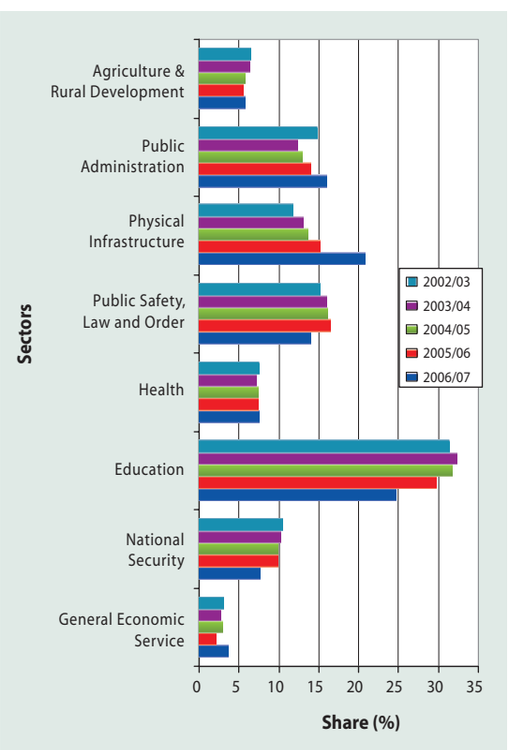
Data Source: Ministry of Finance, Quarterly Budget Review, 2006/07

One-Stop-Shop (OSS) concept, expansion of the tax base, and harmonization of tax policy and administration in line with regional integration.

The goals of public expenditure management are ensuring fiscal discipline, efficient utilization and strategic allocation of resources. Expenditure and net lending to public institutions grew by 39.8 per cent from Ksh 382.8 billion in 2005/06 to Ksh 535.2 billion in 2007/08. This is equivalent to 26.7 per cent of GDP in 2007/08 (Table 2.1).

The budget deficit (including grants) increased to Ksh 77.2 billion in 2007/08 or 3.8 per cent of GDP compared to Ksh 51.5 billion (3.3% of GDP) in 2005/06. The government had set a target of 3.7 per cent of GDP. The budget operations occasioned a financing requirement of Ksh 60.2 billion in 2007/08 compared to 36.5 billion in 2005/06. This gap was to be filled mainly through domestic financing to a tune of Ksh 53.6 billion.

Figure 2.2: Public expenditure allocations by sector, 2002-2007



Source: Ministry of Planning and National Development Public Expenditure Review (2007)

The country's overall fiscal performance compares well with other countries such as Egypt, Malaysia and Mauritius, where comparable data is available. Kenya's fiscal deficit improved significantly between 1995 and 2005. Other countries such as South Africa, Thailand, Korea and Singapore have been able to run fiscal surpluses (see Appendix Table A2.1).

The government has been improving strategic allocation of public expenditure by increasing allocations to priority sectors, with the largest share going to education, public sector law and order, physical infrastructure, public administration, national security and health in that order as shown in Figure 2.2. There have been efforts to increase allocations to the development budget. While the share of recurrent expenditure in total expenditure declined from 24.5 per cent in 2005/06 to 22.2 per cent in 2006/07, that of development expenditure increased from 4.3 per cent to 4.4 per cent.

2.4.1 Public debt

Total public debt decreased from Ksh 717.7 billion by end of June 2006 to Ksh 715.5 billion by 30 June 2007. There was a reduction in external debt by about 7.9 per cent partly due to the appreciation of the Kenya shilling against the major foreign currencies, and an increase in domestic debt by 11.1 per cent mainly due to increased borrowing to finance the budget. Table 2.2 shows the debt position, both domestic and external. From the table, it is clear that the debt burden is on a downward trend. The total debt situation improved from 48.5 per cent of GDP in 2005 to 44.3 per cent in 2006 and further to 39.4 per cent in 2007. These gains need to be sustained.

As shown in the table, debt per capita increased to Ksh 19,235 in 2007 as compared with Ksh 17,391 in 2002. The average per capita debt over that period is Ksh 19,091, which means that every living Kenyan owes that much. With a sustainable debt position, Kenya is not a Highly Indebted Poor Country (HIPC) according to World Bank classification. Therefore, the country has not been able

Table 2.2: Central government's public debt, 2002-2007 (Ksh million)

	2002	2003	2004	2005	2006	2007
Domestic debt (Ksh million)	200,608	245,630	254,647	253,501	286,451	318,402
External debt (Ksh million)	359,370	353,264	443,157	434,453	431,237	397,139
GDP (Ksh million)	1,035,374	1,131,783	1,273,973	1,418,071	1,620,732	1,814,243
Population (million)	32.2	33.2	34.2	35.1	36.1	37.2
Debt per capita (Ksh)	17,391	18,039	20,404	19,600	19,881	19,235
Domestic debt as % of GDP	19.4	21.7	20.0	17.9	17.7	17.6
External debt as % of GDP	34.7	31.2	34.8	30.6	26.6	21.9
Total debt as % of GDP	**54.1**	**52.9**	**54.8**	**48.5**	**44.3**	**39.4**

Source: Government of Kenya (2008), Economic Survey

to benefit from debt relief under the HIPC initiative.

Nonetheless, the government has been exploring poverty/development-debt swaps. In May 2007, a National Debt Sustainability Analysis was undertaken to form the basis for the development of a National Debt Strategy (NDS). The strategy should be completed to guide debt management reforms, which will bring Kenya's debt management to international standards.

2.4.2 Fiscal decentralization

The level of fiscal decentralization has increased considerably in Kenya, with more than Ksh 40 billion budgeted (in fiscal year 2007/08) for disbursement through various decentralized institutions, including: Constituency Development Fund (CDF), Road Maintenance Levy Fund (RMLF), Constituency Bursary Fund (CBF), Community Development Trust Fund (CDTF), Youth Development Fund, Women Development Fund and Local Authority Transfer Fund (LATF).

Vision 2030 and the political manifestos of the country's major parties indicate the desire for the country to achieve more effective decentralization. The major challenge facing the current decentralization framework is lack of a clear policy backed with supportive legal framework. As a result, the administrative infrastructure for planning, budgeting, oversight and monitoring and evaluation remains weak and leads to wastage, duplication of efforts, inefficiencies and corruption.

2.5 Conclusion

In spite of the improvements noted in public expenditure management, various challenges remain that need immediate attention. The legal framework for budget formulation and preparation remains weak. Legislation on the budget should be enacted to spell out the roles of various players, and it should be harmonized with the draft Fiscal Management Bill. Efforts should also be made to strengthen the public expenditure management (PEM) systems at the sub-national level by developing a clear decentralization policy that has legal backing and a strengthened administrative infrastructure.

The implementation of public finance management reform programme and budget formulation control, reporting and execution should be enhanced to bring Kenya's PEM system to international standards. In addition, performance contracting should be reviewed and strengthened by, for example, anchoring it within the MTEF budget system. Monitoring and evaluation should also be strengthened further especially at the sub-national level.

End notes

[1] Adapted from Kaufmann *et al* (2007), "Governance Matters VI: Governance Indicators for 1996-2006". Government should improve effectiveness of communication about its governance efforts to influence perceptions.

Population Dynamics and Socio-Economic Performance

3

The manner in which a country's population and socio-economic issues are managed is key to its success in achieving rapid, sustainable and shared growth. The mechanisms for achieving this include opportunity to increase savings and investment rates and productivity of labour. This chapter deals with the population in Kenya in relation to performance of socio-economic indicators.

3.1 Demographic Transition

In 2007, Kenya's population was estimated at 37.2 million. As at 2005, the population was growing at a rate of about 2.9 per cent per annum, one of the highest growth rates among the countries in comparison (Appendix Table A3.1). The country is still at the early stages of demographic transition, characterized by a large proportion of youth cohort. About 53 per cent of the Kenyan population falls within the 0-19 years' age bracket. In the middle-income countries, the demographic transition is at an advanced stage, characterized by a fall in the levels of dependence.

A decline in dependence levels can boost growth through increased share of the working people in total population and a high savings rate. Indeed, some studies on East Asia indicate that declining dependence ratios may have boosted growth in some of the countries.

Kenya underwent a demographic transition in the 1980s and 1990s when fertility and death rates declined, leading to reduced age dependency, a large working age population and slower population growth rates. Fertility rates declined from 8.1 per cent in the late 1970s to 4.7 in the late 1990s. However, data from the Kenya Demographic and Health Survey (KDHS) 2003 indicates that this transition may have halted, with the fertility rate estimated at about 4.8 in 2000-2003. This period was also associated with declining health indicators such as infant and child mortality rates, vaccination coverage, and adult and maternal mortality.

Kenya underwent a demographic transition in the 1980s and 1990s when fertility and death rates declined, leading to reduced age dependency, a large working age population and slower population growth rates.

Demographic transitions are important for public expenditure management in key areas such as education and training, urbanization, health and pensions. In the industrialized countries, which are at very advanced stages of demographic transition, pension and support for the elderly increases pressure on expenditure. Investment in the human capital of children and youth has the potential of increasing future economic growth, as they are

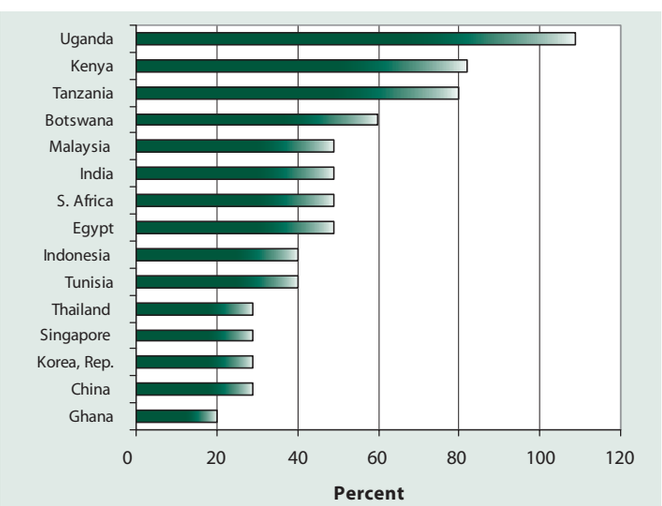
the next generation of entrepreneurs, parents, workers and leaders.

Kenya's population and development goals, targets and objectives for the period up to the year 2010 are contained in *Sessional Paper No. 1 of 2000 on National Population Policy for Sustainable Development*. Family planning should be accorded new policy focus to support demographic transition. In addition, incentives to support the same transition should be considered.

3.2 Dependency Ratio

Kenya's population structure reflects a high age dependency ratio, calculated as the population aged below 15 and above 64 years over the working-age population, mainly aged 15-64 years. Results of the Kenya Integrated Household Budget Survey indicate that the national age dependency ratio is 84 per cent, with the rural ratio (91.2%) exceeding the urban ratio (60.2%). Eastern Province has the highest dependency ratio at 132.3 per cent followed by Western Province at 99.4 per cent and Nyanza Province at 88.0 per cent. Nairobi has the lowest ratio at 54.4 per cent. Figure 3.1 shows comparative figures in selected countries; Kenya's dependency ratio appears among the highest.

Figure 3.1: Dependency ratio for selected countries, 2005



Source: World Bank (2007)

The implication of a high dependency ratio is that Kenya has a big challenge in providing education, health and other services to a large cohort of children and youth dependent on a smaller proportion of a tax-paying or working population. Failure to play this role effectively means that the society fails to equip the next generation with the relevant skills and healthcare necessary to meet future challenges in leadership, employment, entrepreneurship and parenthood. The question is: What have countries such as China, Korea, Thailand, Singapore and Ghana done to achieve low dependency ratios?

China adopted a 'one child family' policy in 1979, which limits family size, encourages late marriage and childbearing and the spacing of children when the second one is permitted. About 87 per cent of all married women use contraceptives. Fertility rate decreased from 2.9 in 1979 to 1.7 in 2004 and reduced the dependent population aged 0-14 years. However, the rapid decrease in birth rate combined with improving life expectancy led to another dependency problem, the "4:2:1" phenomenon, whereby a couple (2) is responsible for the care of one child and four parents. In the absence of old-age pensions, about 70 per cent of the elderly in China are dependent on their offspring.

In an attempt to reduce the burden of the 4:2:1 phenomenon, the Chinese government has eased access to pensions and launched schemes to encourage saving for private pensions. In addition, it is expected that the one-child policy will be relaxed gradually to address the anticipated high dependency ratio. Some cities are allowing couples to have a second child for the same reason. The government is also piloting an incentive programme aimed at reducing the tendency among rural residents to have more children so that they can be supported during old age. The pilot programme grants US$ 6 per month to each rural parent who is over 60 years of age and has one child or two girls.

The low dependency ratios in Korea and Thailand have been achieved through reduction in fertility rate, increase in life expectancy,

employment growth due to technological advancement, and a high retirement age of 60 years. Similar strategies have reduced dependency in Singapore. In addition, Singapore has placed strong emphasis on high economic growth and prudent fiscal management to stimulate political, economic and demographic initiatives. The country has also relied upon relatively large-scale and sustained but selective migration, opening of job placement offices for the elderly and introduction of subsidies to companies that offer employment to elderly workers.

Ghana has relied upon a strong campaign to curb population growth. It was the third country in Africa, after Mauritius (1958) and Kenya (1967), to develop a comprehensive population policy in 1969. In 1970, the Ghana National Family Planning Programme was implemented with the aim of slowing population growth to 1.7 per cent annually.

3.3 Labour Force and Employment

In the period 1990-2005, Kenya's average annual labour force growth was about 3.0 per cent. This growth is among the highest in the countries under comparison (Appendix Table A3.2). In 2007, the labour force stood at about 14.6 million, which was largely youthful, with about 58 per cent being within the 15-34 years' age bracket. The policy implication is that creation of jobs should expand at the same rate to forestall increase in unemployment.

In 2006, unemployment rate was estimated at about 12.7 per cent, which is an improvement over the 14.6 per cent recorded during the 1998/99 labour force survey. Urban unemployment was higher than rural unemployment at 19.9 per cent and 9.8 per cent, respectively.

Kenya faces five key employment challenges, namely: high youth unemployment; rapidly growing labour force; under-employment; the problem of the working poor; and gender inequality in employment. Unemployment is highest within the age groups of 15-19 and 20-24 at about 25 per cent. Female youth unemployment is higher in these age groups at about 27 per cent. Youth unemployment is, therefore, more than double the national unemployment rate.

The level of under-employment (i.e., the proportion of employed people who are involuntarily working less than the normal hours of work) is also relatively high. The rate of under-employment to the labour force is 21.4 per cent. This rate was higher in rural areas than in urban areas at 23.9 per cent and 14.6 per cent, respectively.

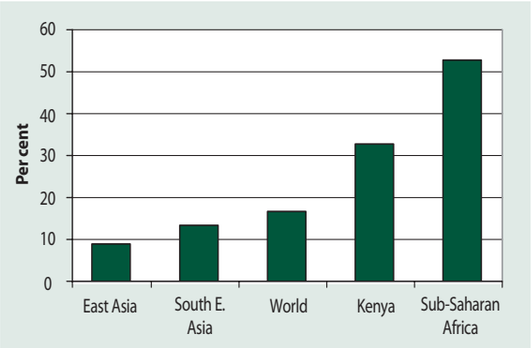
The informal sector remains the major employer, accounting for over 75 per cent of total employment. In 2006, informal sector employment grew by 6.5 per cent, creating 410,000 new jobs compared to formal sector employment that grew by 2.8 per cent or 50,000 new jobs (Appendix A3.3). However, a large number of those employed in the formal sector are the 'working poor'.[1] Figure 3.2 shows that Kenya has a large proportion of this group compared to other regions of the world. The predominance of informal employment also raises policy questions related to the decency of employment.[2]

Sector analysis of employment reveals that the services sector is the main source of employment (Appendix A3.4). In 2007, the sector accounted for approximately 60 per cent of formal sector employment, while the manufacturing sector accounted for less than 10 per cent. In terms of gender, formal sector employment is still male-dominated, with women accounting for about 30 per cent of total formal employment. Of female employees in the modern/formal sector, about 58 per cent work in the community, social and personal services.[3]

A detailed study on employment is necessary to identify innovative and highly effective policy measures to address the above challenges and provide a basis for the development of a national employment strategy and policy. In particular, innovative interventions to generate quality jobs for the youth are critical and urgent.

Kenya faces five key employment challenges, namely: high youth unemployment; rapidly growing labour force; under-employment; the problem of the working poor; and gender inequality in employment.

Figure 3.2: Proportion of working poor against total employment among regions, 2007



Data Source: ILO (2008); Government of Kenya (2007b)

3.4 Poverty and Income Inequality

Kenya's poverty levels are estimated to be on the decline, but there are significant differences within and across provinces. Data available from the Kenya Integrated Household Budget Survey (KIHBS) show that national absolute poverty declined to about 46 per cent in 2005/06 from 55.5 per cent in 2000. Although the proportion of the population living in poverty has declined, the number of those living below the poverty line is estimated to have increased from 13.4 million in 1997 to about 16.6 million in 2006.

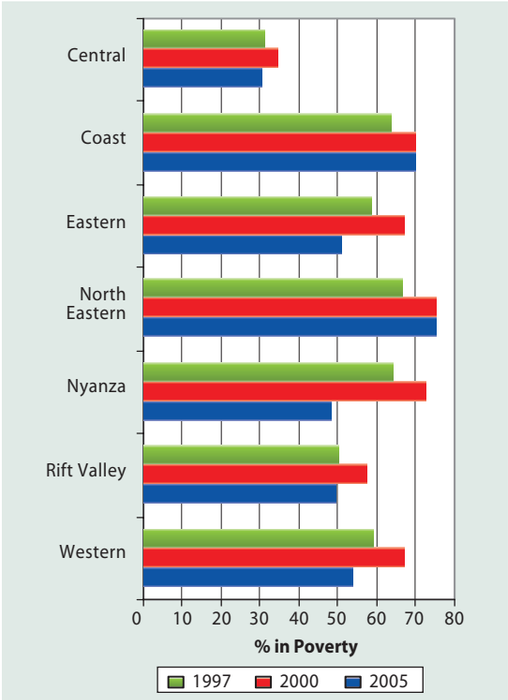
The incidence of poverty is higher in rural areas at 49.1 per cent compared with 33.7 per cent in urban areas. There are also regional differentials, with Central Province having the least prevalence while North Eastern and Coast provinces showed increasing poverty levels (Figure 3.3).

There are also substantial differences in poverty within regions (i.e. provinces). For instance, while overall Central Province recorded improvements in poverty reduction, the levels of poverty in Nyandarua District increased from 30.3 per cent in 2000 to 46.1 per cent in 2005/06. Also, although poverty levels increased in Coast Province as a whole, there were notable reductions in poverty level in Taita Taveta and Lamu districts.

The proportion of the population living in poverty has declined but the number of those living below the poverty line has increased.

National surveys set the rural poverty line at Ksh 1,239 and Ksh 1,560 per month in 1997

Figure 3.3: Overall rural poverty levels in Kenya by province, 1997, 2000 and 2005

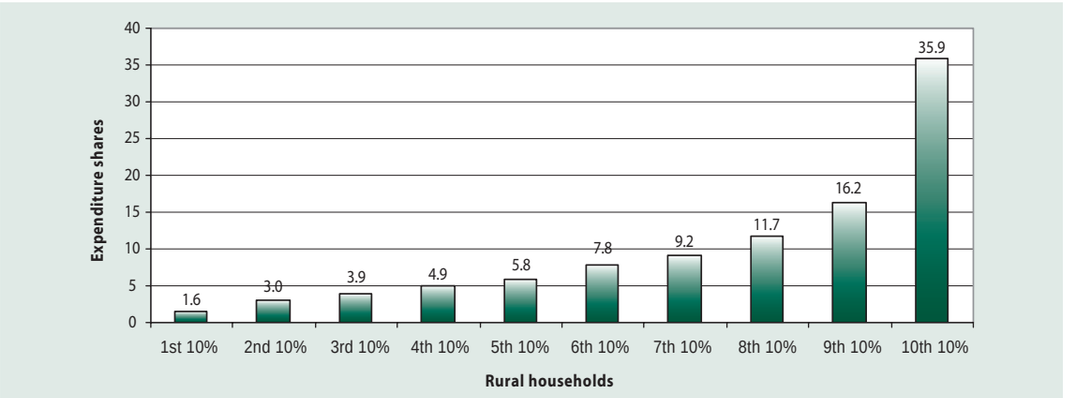


Data Source: Government of Kenya (2007b)

and 2005, respectively. The corresponding poverty lines for urban areas were Ksh 2,648 and Ksh 2,930. At the current exchange rate, the national poverty line for the rural areas is lower than the international poverty line of US$ 1 per day. When per capita incomes are adjusted for the cost of living, the 1997 per capita income levels are almost at par with 2005/06 levels.

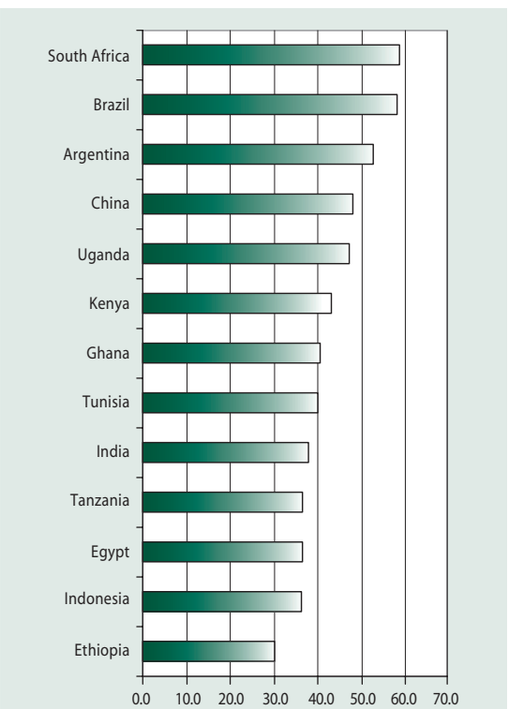
Analysis of household consumption expenditure distribution reveals that the poorest 10 per cent (1st 10%) of rural households control only 1.63 per cent of the total expenditure, while the richest 10 per cent (10th 10%) control 35.9 per cent of total household expenditure. Cumulatively, the top (richest) 30 per cent of households control 63.8 per cent of household expenditure. Figure 3.4 presents the distribution of expenditure shares for every 10 per cent of the rural households, starting with the poorest 10 per cent (1st 10%) to the richest 10 per cent (10th 10%).

Figure 3.4: Expenditure shares for rural households in Kenya



Source: KIPPRA Staff Estimates from KIHBS Data

Figure 3.5: Gini coefficient for selected countries (in %), 1999-2003



Source: World Bank (2007)

Kenya is among the countries with relatively high levels of inequality. Recent comparative data indicates that the country compares unfavourably with Ethiopia, Tanzania, Egypt and Ghana. Figure 3.5 lists inequalities of a number of countries as measured by the Gini coefficient.[4]

The inequality situation in Kenya has been improving. Currently, the Gini stands at 0.41, having declined from 0.43 and 0.45 in 2000 and 1995, respectively.

A recent approach to the analysis of inequality (World Bank, 2006) identifies three inter-locking mechanisms: political, economic and social-cultural inequalities. These mechanisms interact with institutions (including laws, regulations, norms and customs) to perpetuate inequalities and could generate 'inequality traps', whereby they are passed over from one generation to another. It is important, therefore, that in their conceptual design, policy makers take into consideration the political, socio-cultural and economic aspects of inequality and how they interact with institutions in the society.

Kenya's improvements in poverty reduction and income inequality have been attributed to the recent policies that have focused on increasing resources to the social sectors (education and health), infrastructure development, use of decentralized funds such as the Constituency Development Fund, and increases in per capita income. The creation of the Ministry for Northern Kenya and Arid Areas is expected to address spatial inequalities that have led to stagnation in the North Eastern and Coast provinces.

The country can continue to address income inequalities through enhanced budgetary reforms that continually improve the efficiency and effectiveness of public resources directed towards the social sectors, maintenance of a

stable macroeconomic environment, equitable infrastructure development, effective fiscal decentralization and implementation of land reforms. The latter would address inequities in access to land. On the social-cultural side, institutionalized gender bias needs to be addressed through reform of out-dated socio-cultural practices. In addition, the proposed National Ethnic and Race Relations Commission should help to promote equity and peaceful co-existence. On the political front, the key challenges include enactment of a new constitution, strengthening of the electoral process, and reform of the judicial system to enhance equal access to justice.

3.5 Health

A country has to invest in, among other areas, health if it has to accumulate the human capital necessary for sustainable economic growth. Healthy individuals increase their value in the labour markets. An increase in productivity frees up resources to create new technologies, new businesses and new wealth, eventually resulting in increased economic growth and human welfare.

3.5.1 Sector performance

The social and private returns to health are enormous, as some of the health problems may be contagious. The health sector grew by about 3.9 per cent in 2007 and its share in GDP is about 2.5 per cent. Employment in the sector also grew by 7.8 per cent from 97,542 in 2003 to 105,834 persons in 2006.

This section provides an overview of public expenditure on health and the sector outcomes in the form of life expectancy, fertility, mortality and nutrition. It also identifies the underlying challenges and policy options.

Public expenditure and policy framework

Healthcare in Kenya is financed from different sources, including the government, employers, development partners, private companies, non-government organizations (NGOs) and households. The Kenya National Health Accounts report of 2002 revealed that households contributed 51.1 per cent of their healthcare cost, while government, development partners and NGOs contributed 29.6 per cent, 16.3 per cent and 0.6 per cent, respectively. This changed with the introduction of the 10/20 policy aimed at reducing the burden of cost sharing. The government has also been increasing expenditure allocations to the health sector as part of the ERS policy to enhance equity.

Total health spending increased from Ksh 15.4 billion in 2002/2003 financial year to Ksh 32.4 billion in 2007/08. As a result, per capita expenditure increased from US$ 6.52 in 2003/04 to about US$ 13.8 in 2007/08, although this was still below the WHO recommended level of US$ 34 (Table 3.1). As a share of GDP, expenditure on health is estimated at about 2 per cent.

Expenditure on preventive and promotive health as a share of total ministry expenditure increased from about 5.3 per cent in 2002/03 to about 9.8 per cent in 2006/07. Rural health expenditure has also been increasing in line with government policy. Although the share of expenditure on curative health is declining gradually, it still takes the largest share of ministry expenditure (Table 3.1).

Per capita health expenditure in purchasing power parity (PPP) and as a share of GDP remains comparatively low in sub-Saharan Africa. In PPP terms, Kenya performs poorly against Uganda and other countries under comparison; Kenya spent about US$ 86 compared to Uganda's US$ 135, South Africa's US$ 748 and South Korea's US$ 1,135 as shown in Table 3.2.

The health sector is one of the key components in addressing equity under the social pillar in Vision 2030. The current policy framework is outlined in the National Health Sector Strategic Plan (NHSSP), 2005-10 whose theme is "Reversing the Trend". The NHSSP specifies the objectives, strategies and priority goals for the sector up to 2010. The key objectives include increasing equitable access to health services, improvement of quality and effectiveness of

Table 3.1: Total spending on health (Ksh million)

Ksh Million		2002/03	2003/04	2004/05	2005/06	2006/07 (Printed)	2007/08 (Estimates)
Recurrent		14,405	15,438	17,417	19,765	21,484	22,745
Development		946	1,003	1,741	3,242	5,988	9,609
Total		15,351	16,441	19,158	23,007	27,472	32,354
MoH expenditure per capita	Ksh	469.40	487.90	552.90	646.30	750.60	983.00
	US $	6.10	6.52	7.40	9.10	10.90	13.80
MoH expenditure (gross) as % of total government							
Recurrent		8.69	7.76	7.66	6.29	7.50	6.70
Development		5.12	2.77	2.01	3.73	7.70	5.80
Total		8.33	6.99	6.10	5.73	7.60	6.40
MoH expenditure (gross) as % of GDP							
Recurrent		1.40	1.41	1.41	1.29	1.20	1.10
Development		0.09	0.09	0.14	0.21	0.30	0.60
Total		1.49	1.51	1.55	1.50	1.50	1.70
Expenditure as % total MOH expenditure							
Preventive and promotive		5.30	5.80	9.00	8.30	9.80	21.00
Rural health		10.60	13.00	13.10	16.50	14.90	15.30
Curative		50.80	48.50	46.00	46.50	45.00	39.30

Source: Ministry of Health (2008)

service delivery, and improved financing of the health sector. The key public expenditure policies include increased resources to dispensaries and rural health centres to enhance equity and access. The strategy also calls for increased focus of the Ministry from curative to preventive and promotive healthcare.

The government still maintains the cost sharing policy, but it has harmonized user fees to enhance equity and access by introducing the 10/20 policy. Through this policy, patients are charged only for registration and services at Ksh 10 and Ksh 20 in dispensaries and health centres, respectively. The government also has fee waiver provisions and exemptions to ensure that the poor have access to healthcare services. Moreover, treatment policies have been introduced to help curb high morbidity rates of emerging diseases such as TB, malaria and HIV/AIDS. For instance, TB treatment and provision of ARVs is free in public health facilities. NASCOP is also up-scaling the HIV/AIDS programme.

Table 3.2: Per capita health expenditure for selected countries, 2004

Country	Public % GDP	Private % GDP	Per capita US$ (ppp)
Tanzania	1.7	2.3	29
Mozambique	2.7	1.3	42
Kenya	**1.8**	**2.3**	**86**
Uganda	**2.5**	5.1	135
Egypt	2.2	3.7	258
China	1.8	2.9	277
Thailand	2.3	1.2	293
Malaysia	2.2	1.6	402
Mauritius	2.4	1.9	516
Chile	2.9	3.2	720
South Africa	3.5	5.1	748
Singapore	1.3	2.4	1,118
Korea	2.9	2.7	1,135
Argentina	4.3	5.3	1,274

Data Source: UNDP, Human Development Report (2007/08)

Procurement and distribution of medical supplies (drugs and non-pharmaceuticals) has been continuously reformed to enhance efficiency. Each hospital now receives drugs every month, while dispensaries and health centres receive an enhanced drug kit once every three months.[5] Kits for rural health facilities have been revised to include non-pharmaceuticals that were previously not in the kits, such as dressings, gloves and gauzes. Recent policy reforms have started bearing fruits. However, there are still major challenges.

Life expectancy

Kenyan's life expectancy at birth stood at about 60 years in early 1980s. It declined to about 45 years by 2002 before increasing to about 53 years in 2006. The fall in life expectancy has been attributed to the emergence of diseases such as HIV/AIDS, malaria and TB, among others, as well as stagnation in economic growth. However, as shown in Figure 3.6, 3.10 and 3.11, there has been improvements in life expectancy, infants mortality and HIV/AIDS prevalence in the recent years. This could be attributed to, among other things, increased funding to health. For instance, the government has reduced the cost of ARVs and malaria drugs. There is also a policy of free treatment for all under-5 year olds.

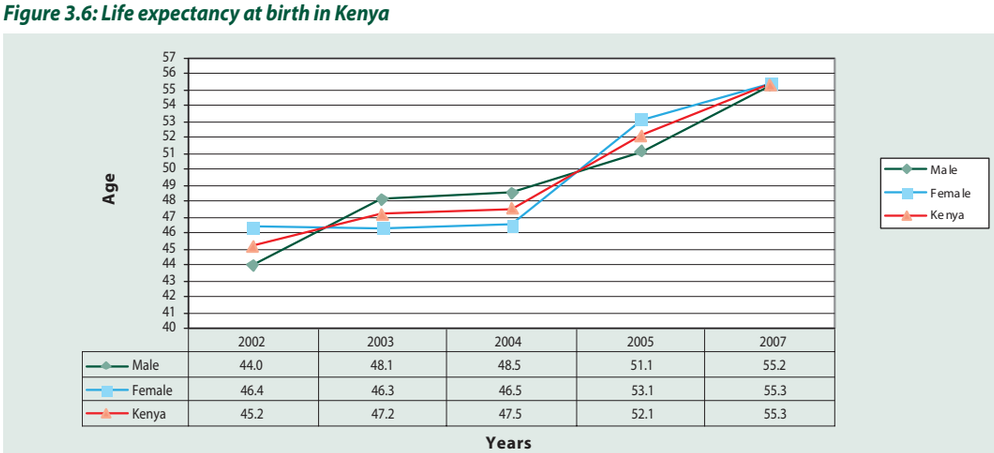
In Kenya, life expectancy has a gender dimension (Figure 3.6). In some years, life expectancy for men has been higher than for women. It is only in 2007 that both men and women had almost the same life expectancy levels.

A regional dimension can be observed too. For instance, some districts such as Meru exhibit higher levels of life expectancy of more than 60 years while others such as Mombasa have low life expectancy of about 30 years[6] mainly due to differences in incidence of disease.

In a comparative perspective, Kenya and many other sub-Saharan African countries perform poorly on life expectancy as an indicator. Globally, this indicator has risen over time as shown in Figure 3.7, with the largest gains realized in middle-income countries of Singapore, Korea, Argentina and Chile, which had a life expectancy of over 75 years in 2006, a significant improvement since 2002.

Most sub-Saharan African countries had a life expectancy of below 50 years by 2006, though Egypt had attained life expectancy of about 70 years and Mauritius even slightly more. This is attributed to improvement in human development indicators in these countries, including low levels of child mortality, high levels of immunization rates and steady economic growth. The initial impressive gains in life expectancy over the past several decades have been slowed in many countries or, in the most serious cases even reversed, due to the impact of HIV/AIDS pandemic. For

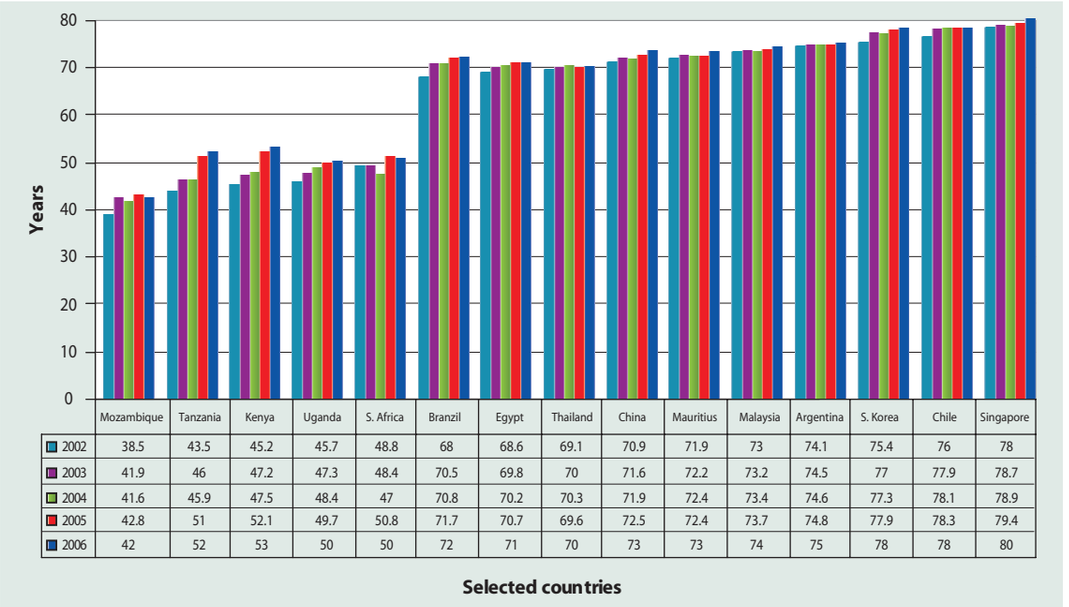
Figure 3.6: Life expectancy at birth in Kenya



	2002	2003	2004	2005	2007
Male	44.0	48.1	48.5	51.1	55.2
Female	46.4	46.3	46.5	53.1	55.3
Kenya	45.2	47.2	47.5	52.1	55.3

Data Source: UNDP (various), Human Development Reports

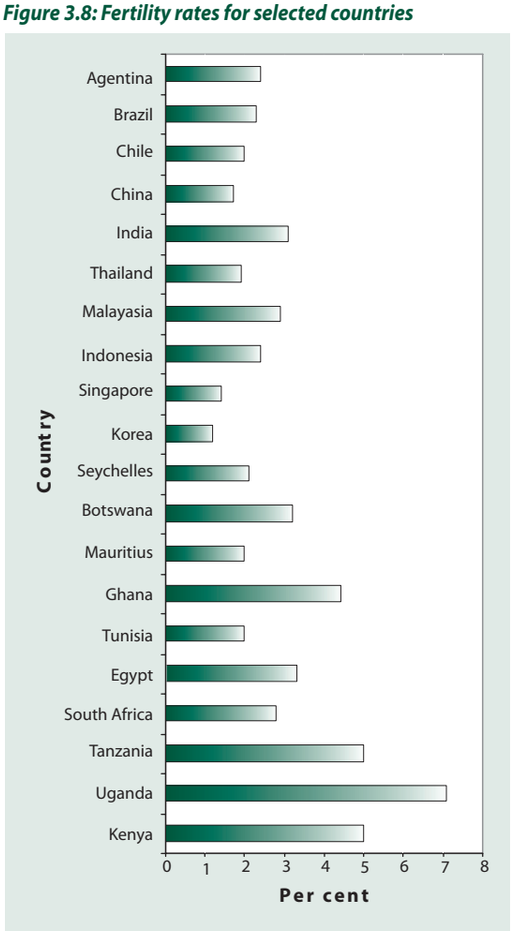
Figure 3.7: Life expectancy for selected countries, 2002-2006



	Mozambique	Tanzania	Kenya	Uganda	S. Africa	Branzil	Egypt	Thailand	China	Mauritius	Malaysia	Argentina	S. Korea	Chile	Singapore
2002	38.5	43.5	45.2	45.7	48.8	68	68.6	69.1	70.9	71.9	73	74.1	75.4	76	78
2003	41.9	46	47.2	47.3	48.4	70.5	69.8	70	71.6	72.2	73.2	74.5	77	77.9	78.7
2004	41.6	45.9	47.5	48.4	47	70.8	70.2	70.3	71.9	72.4	73.4	74.6	77.3	78.1	78.9
2005	42.8	51	52.1	49.7	50.8	71.7	70.7	69.6	72.5	72.4	73.7	74.8	77.9	78.3	79.4
2006	42	52	53	50	50	72	71	70	73	73	74	75	78	78	80

Data Source: UNDP (various), Human Development Reports

Figure 3.8: Fertility rates for selected countries



Data source: World Bank (2007), World Development Indicators

instance, in a country such as Mozambique, life expectancy has declined to below 40 years. Provision of improved healthcare is critical in Kenya's efforts to enhance life expectancy, and the big regional disparities should receive attention.

Fertility

Kenya's fertility rates are among the highest as shown by the comparative data in Figure 3.8. The number of births per woman, which had declined from an average of about 8.1 in 1975-78 to about 4.7 in 1995-98 increased to 4.8 in 2000-2003. Although fertility rates have declined almost universally in all countries, they remain comparatively higher in less developed countries. However, while fertility rates are high in Africa and the Middle East, they are below replacement rates in East Asia, and Central and Eastern Europe.

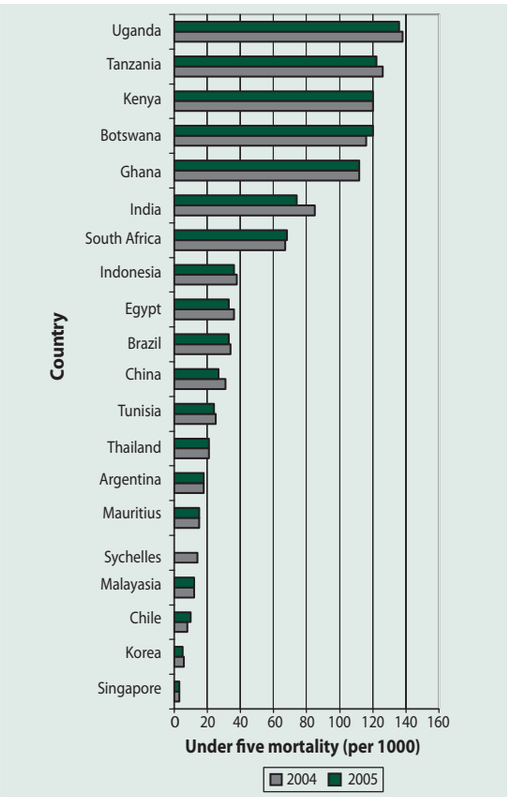
There are considerable differences within the eight Kenyan provinces, with the rates being highest in North Eastern Province and lowest in Nairobi Province. It should be noted that areas/regions with high levels of development, education and improved health services for children and mothers have low fertility and mortality rates.

Under-5 mortality rates

The probability that a newborn baby in Kenya will die before reaching five years of age, measured through the under-5 mortality rate, is high relative to many of the countries under comparison (Figure 3.9).

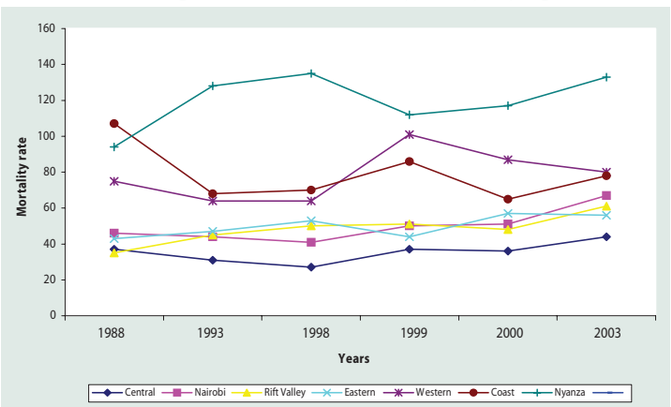
Under-5 mortality is below 20 per 1000 in some Asian countries while it is above 100 per 1000 in sub-Saharan Africa (SSA), Kenya included. Child mortality from malaria accounts for the highest increase in SSA. Other increases in child mortality are due to HIV/AIDS, acute respiratory infections, diarrhoeal diseases, measles and malnutrition.The quality and availability of prenatal services, and mother's level of education determine child mortality rates.

Figure 3.9: Under-five mortality rate for selected countries



Data Source: UNDP, Human Development Report 2007/08

Figure 3.10: Infant mortality in Kenya by region



Data Source: UNDP, Human Development Report (various)

Regional comparison within Kenya indicates that infant mortality is higher in rural than urban areas. It is also conspicuously higher in some provinces such as Nyanza, Western and Coast as compared to other provinces.

Maternal mortality

It is estimated that in Kenya, maternal mortality per 100,000 was 670 in 1990, 365 in 1990-94, 590 in 1998 and 414 in 2003 (Ministry of Health, 2007). Approximately 14,700 women of reproductive age die each year due to pregnancy-related complications, while between 294,000 and 441,000 suffer from disabilities caused by complications during pregnancy and childbirth.

Maternal deaths have both direct and indirect causes. About 80 per cent of the deaths have causes directly related to pregnancy and childbirth (i.e., unsafe abortions and obstetric complications such as severe bleeding, infection, hypertensive disorders and obstructed labour). Women also die of causes such as malaria, diabetes, hepatitis and anaemia, which are aggravated by pregnancy.

There is lack of reliable regional estimates of maternal mortality. In addition, figures vary widely by source and are highly controversial. They should, therefore, be interpreted with caution.

HIV/AIDS prevalence

HIV/AIDS remains a major challenge not only in Kenya but also in the whole of SSA because of the relatively high prevalence and its devastating effects. Since 1986, more than 75 per cent of all AIDS cases in Kenya occur in adults between the ages of 20 and 45 years,

with the most affected being females of 25-29 years of age and males of 29-34 years of age. Encouragingly, due to concerted effort to fight the scourge, the prevalence has been steadily decreasing as shown in Figure 3.11. The rate stood at 6.7 per cent in 2003, having declined from 10.2 per cent in 2002.

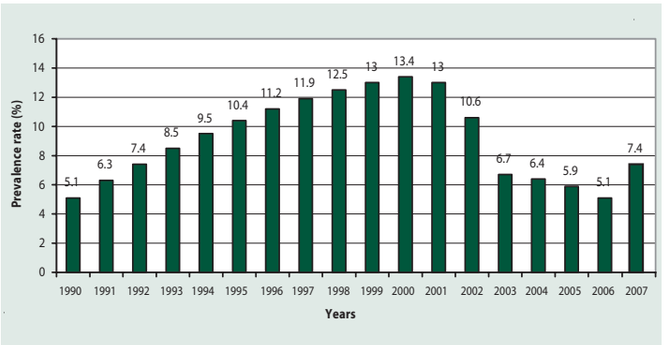
Despite the decline, there are pockets of resistance, especially with regard to some regions of the country and prevalence among young women. As per the Kenya Demographic and Health Survey (KDHS) 2003 study, Nyanza Province recorded the highest prevalence rate of 15 per cent followed by Nairobi with 10 per cent, Coast with 6 per cent and Rift Valley with 5 per cent.

Appendix Table A3.10 shows the HIV prevalence among pregnant women attending antenatal clinics in sentinel surveillance sites across provinces. Although the prevalence rate declined by 43 per cent between 2001 and 2004, the rate is higher than the national average. For instance, in 2003, the national average was 6.7 per cent compared with 9.3 per cent among pregnant mothers. This is an indication that women, particularly pregnant mothers and children at birth are more vulnerable.

Country comparisons on the prevalence of HIV/AIDS show that southern African countries of Botswana, Zimbabwe and South Africa are still leading in SSA. As Figure 3.12 shows, the highest prevalence rate in 2007 was in Botswana, which stood at 23.9 per cent. The rate among most of the other SSA countries was between 5 and 10 per cent.

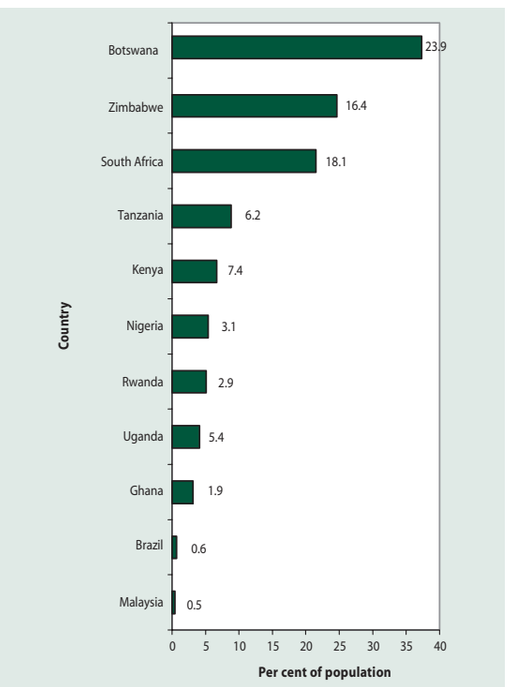
Considering its devastating impact on the most productive segment of the population, and the high cost of caring for AIDS sufferers and orphaned dependants, Kenya should sustain its focus on the HIV/AIDS scourge with the aim of minimizing the prevalence rates. The focus should remain on identifying and implementing new and innovative interventions, especially those targeted at the most resistant pockets. However, examples of countries such as Brazil and Cuba (Box 1) show that what is really required is a keen, sustained and aggressive awareness campaign; promotion of condom use and other preventive measures; provision of affordable or free treatment; and a close monitoring of the situation to identify pockets of resistance and addressing them.

Figure 3.11: HIV/AIDS prevalence in Kenya



Data Source: Ministry of Health (2007) Facts and Figures; NACC/NASCOP (2007)

Figure 3.12: HIV/AIDS adult prevalence rate for some selected countries (2007)



Data Source: UNAIDS/WHO (2008), Report on the Global AIDS Epidemic, July 2008

Nutrition

Stunting is the biggest nutrition problem among the under-5 children in many regions of Kenya, with a national average of about 33 per cent.[7] This is worse than the average for developing countries where at least 27 per cent and 31 per cent of the under-5s were suffering from moderate to severe underweight and

Box I: Some success stories in the fight against HIV/AIDS

Brazil

Brazil is a global model for prevention and treatment of HIV/AIDS. Its prevalence rate has been low and steady at 0.5 since 2000, according to UNAIDS. In the early 1990s, Brazil began rigorously promoting condom use–a campaign that is stepped up every year in the lead-up to the annual carnival. In 1996, the government offered free HIV treatment to everyone, using Brazilian pharmaceutical companies to supply cheap generic drugs. The free treatment helped people to come forward for testing, knowing that they would not face a potential death sentence. Brazil's treatment coverage is among the most comprehensive in the world. The country also promotes HIV testing, condom use, sex education and AIDS prevention programmes in schools. Condom usage has grown by 50 per cent between 1998 and 2005, according to UNAIDS. However, infection rates among injecting drug users are still very high. Studies in the states of Bahia, Rio Grande do Sul and Sao Paulo found that 37 per cent of injecting drug users were infected, according to UNAIDS.

Cuba

Cuba has been extremely successful in containing the HIV virus–its prevalence rate is one of the lowest in the world at 0.1 per cent. The government has used controversial methods to prevent its spread. When the country's first case emerged in the early 1980s, the government declared a *public health emergency*. It forcibly quarantined people living with HIV, and traced and tested their sexual partners. It tested all Cubans who had visited Africa, as well as pregnant women. Those found to be HIV positive received treatment to prevent transmission to their unborn children, and their babies were delivered by caesarean section.

At the same time, a massive media and information campaign was launched to teach people about the virus and encourage them to use condoms. The rules have been relaxed a little since then. There is no forced testing, but high-risk groups are strongly encouraged to come forward for the test. Those found to be HIV positive attend a two-month education programme in a sanatorium. The government maintains a database of those with HIV and their chain of sexual partners. Until 2001, very few anti-retroviral drugs were available on the island because of a US trade embargo. The WHO says 100 people received treatment through donations. However, in 2001, Cuban laboratories began making generic versions, and now the government offers free treatment to all AIDS patients. UNAIDS says death rates have fallen by 72 per cent since 2001.

For more details see *http://.alertnet.org/db/crisprofiles/HIV_CAR.HTML?v=in_detail*

Malaysia

Deep-rooted reticence about discussing sex and reluctance to admit the existence of a problem hinder Malaysia's fight against HIV/AIDS as infection levels accelerate. Marina Mahathir, President of the Malaysian AIDS Council, is of the view that the country is failing to tackle HIV/AIDS because Malaysian society is clinging to its Asian values and refusing to talk about the problem; and that the government's earlier reluctance to introduce sex education in schools has also hampered efforts. Malaysia has 57,000 reported HIV/AIDS cases, up from 3,000 a few months earlier, according to Marina. Needle sharing accounts for nearly 80 per cent of the cases, and heterosexual transmission (12%) is the second leading cause. According to Marina, the government needs to take the lead in the fight against the scourge as opposed to piecemeal efforts.

For more details, see *http://www.utopia-asia.com/aidsmal.htm*

stunting, respectively, between 1995 and 2003. Available data indicates that there have been improvements since 2000 with the number of those that are stunted, underweight and wasted declining from 35.5, 21.2 and 6.0 to 30.7, 20.2 and 5.7, respectively, by 2003.[8]

There are regional disparities in the prevalence of stunting (Table 3.3). Between 2003 and 2006, all provinces registered an increase in stunting. In addition, only four provinces have a prevalence rate better than the national average of 35. North Eastern and Eastern provinces had the worst rates at about 44 per cent and 43 per cent, respectively, in 2006. There is, thus, need for regional considerations in the country's effort towards elimination of stunting and other forms of malnutrition, through such programmes as school feeding.

Table 3.3: Prevalence of stunting by province

Province	1993	1994	1998	2003	2006
Nairobi	24.2	30.2	25.7	18.7	27.8
Central	30.7	28.7	27.5	27.0	30.0
Coast	41.3	38.3	39.1	34.9	36.0
Eastern	39.4	38.5	36.8	32.5	42.6
Nyanza	32.1	36.4	30.8	31.1	36.2
Rift Valley	28.5	31.8	33.1	31.6	32.1
Western	30.0	37.0	35.0	30.2	32.7
North Eastern	-	-	-	24.3	44.4
National	**32.7**	**33.6**	**33.0**	**30.7**	**34.7**

Source: Ministry of Health (2008)

Experiences from other countries show that besides investments in health and education (high literacy rates are associated with better nutrition intake), food fortification is becoming a simple and cost-effective method of addressing the issue of nutritional deficiencies. In Malaysia, the campaign focuses on fortification of staple foods (e.g. wheat flour) with micronutrients.

Fortification of staple foods is a well-established practice in developed countries where fortifying flour with iron and folic acid has contributed to a dramatic decrease in micronutrient deficiencies. For instance, available information shows that following the introduction of mandatory folic acid fortification, serious birth defects in USA, Canada and Chile went down by more than a third in five years.[9] The success of the global campaign to iodize salt is proof of the potential of the fortification approach.

Nutrition components have been successfully incorporated into anti-poverty and safety net programmes on a large scale in Mexico and Central America. Thus, for example, cash or food has been transferred in return for school attendance and the attendance of pre-schoolers at health clinics. These programmes have combined to reduce poverty today, while safeguarding human capital accumulation for the next generation.

Access to health services

Distribution of health facilities

Kenya has a pluralistic health system, where both the government and the private sector are involved in the provision of healthcare services.[10] Consequently, a large and diverse non-government health sector has developed, with facilities ranging from specialized hospitals and clinics to nursing homes and dispensaries. Private providers are perceived to be more efficient and offer higher quality service than public sector providers.

Within the government system, health centres and dispensaries are very important as they provide the first contact of healthcare provision before a patient is referred to the hospitals for specialized treatment. In 1999, the government controlled about 52 per cent of health facilities in the country while private providers controlled the rest. However, the situation had changed by 2006, with the government share declining to 41 per cent. The number of hospitals increased by 35 per cent between 1999 and 2006, with the growth in the government-controlled ones being higher at 44 per cent (Tables 3.4 and 3.5).

This increase in private health facilities is partly attributable to relaxation, in the 1990s, of regulations that allowed medical professionals (doctors, dentists and clinical officers) in public employment to run their own clinics. Despite the big increase in the number of health centres by private providers, the overall increase between 1999 and 2006 was 12.4 per cent.

The share of health facilities under control of the government declined from 52 per cent in 1999 to 41 per cent in 2006 while that of the private sector increased from 48 per cent to 59 per cent.

Although the number of health facilities in the country increased between 1999 and 2006, facility-to-population ratio declined from 6,521 to 6,629; that is, in 1999 each facility, irrespective of its category, was serving less people than in 2006. There was thus less congestion in the facilities. Apparently, the population increased faster than the rate at which health facilities were established during the period. The

Table 3.4: Distribution of health facilities by controlling agency, 1999

	Hospitals	Health centres	Dispensaries	Nursing & maternity homes	Clinics & medical centres	Total	Per % Total
Government	110	465	1583	0	94	2252	52
NGOs/Private	111	115	992	189	635	2042	48
Grand total	**221**	**580**	**2575**	**189**	**729**	**4294**	**100**
% total	5	14	60	4	17	100	
Facility/population ratio	126,697	48,276	10,874	148,148	38,409	6,521	

Source: Government of Kenya (2001)

Table 3.5: Kenya's health facilities by type and running agency, 2006

	Hospitals	Health centres	Dispensaries	Nursing & maternity homes	Clinics & medical centres	Total	Per % Total
Government	158	459	1,503	0	0	2120	41
NGOs/Mission	74	172	546	0	0	792	15
Private/Community	68	21	203	191	1,734	2,217	44
Grand Total	**300**	**652**	**2,252**	**191**	**1,734**	**5,129**	**100**
Facility/population ratio	113,333	52,147	15,098	178,010	19,608	6,629	
% total	5.8	12.7	43.9	3.7	33.8	100	

Data Source: Ministry of Health (2007)

critical issue for the country is to ensure that health facilities are utilized at an optimal rate and that health infrastructure development matches the rate of population growth, which is consistent with the demographic transition that the country requires.

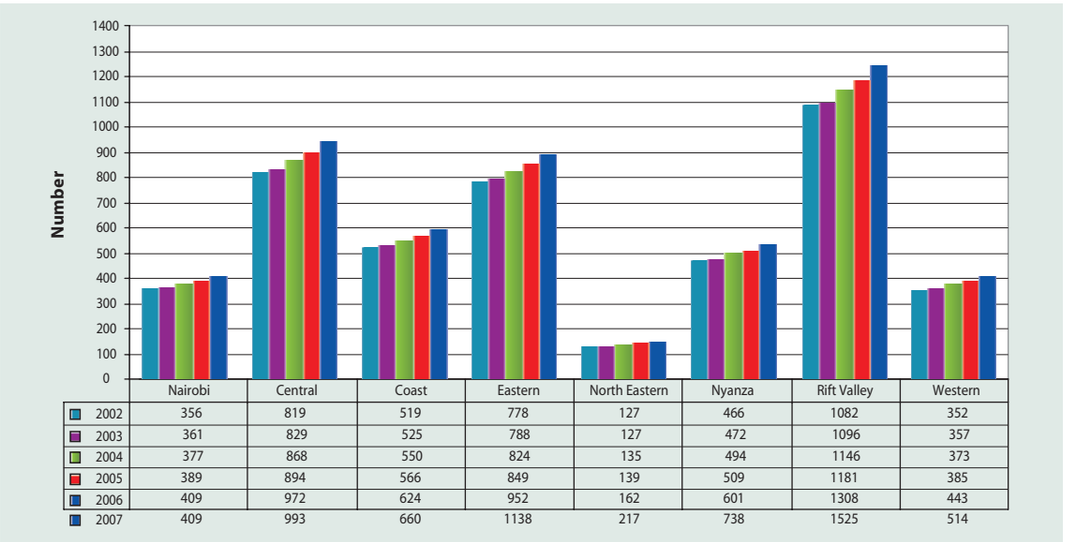
Health facility density and personnel by region

The Rift Valley Province leads with about 1,243 health institutions while North Eastern Province had only 146 by 2006 (Figure 3.13). The same provinces enjoyed the largest and lowest rates of growth in the number of facilities between 2002 and 2006, respectively. Interestingly, the provinces that had the largest number of health institutions by 2002 had also the highest increases between 2002 and 2006.

With regard to the number of health facilities per 100,000 people, the data shows a different picture (Appendix Table A3.6). Between 2002 and 2006, Central Province had the highest number of facilities at approximately 20, followed by Coast and Eastern provinces at approximately 18 and 15, respectively. Western Province had the smallest ratio at an average of 9.3, followed by Nyanza and North Eastern Provinces at 10 and around 11, respectively. Even though Rift Valley had the highest number of health facilities, the province may have suffered from congestion. Policy makers should base their decisions and planning on this kind of ratio rather than absolute number of facilities in different regions.

The number of health professionals in relation to the population is very low in Kenya, mainly due to flight to other countries for better employment opportunities and for other reasons, as well as due to government freeze on employment in line with its agreement with the World Bank to reduce the wage burden. It is only recently that recruitment of more personnel (especially nurses) resumed.

Figure 3.13: Number of health institutions by region



	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western
2002	356	819	519	778	127	466	1082	352
2003	361	829	525	788	127	472	1096	357
2004	377	868	550	824	135	494	1146	373
2005	389	894	566	849	139	509	1181	385
2006	409	972	624	952	162	601	1308	443
2007	409	993	660	1138	217	738	1525	514

Data Source: Government of Kenya (2008) Economic Survey

Comparatively, while Kenya had only 14 physicians for every 100,000 people during 2000-2004, Korea had 157 and Singapore had 140 as shown in Figure 3.14. Within Africa, South Africa and Egypt performed better, with 77 and 54 physicians per 100,000 people, respectively. Apparently, for Kenya to make a significant impact on its health challenges, it has to make innovative interventions to stimulate massive training and retention of physicians.

The problem of inadequate personnel seems to be most prevalent in Africa, but the severity varies across countries. There are fewer than 10 doctors for every 100,000 people in 24 of the 44 SSA countries.

One of the reasons for the poor doctor to population ratio is brain drain (Box 2). For example, there are more Senegalese (and Ethiopian) physicians in Chicago than in Senegal (and Ethiopia). According to an undated report, on average, Kenya loses 20 medical doctors each month.[11] The report says that Ghana lost 20 per cent of its medical doctors in the 1980s and that 600-700 Ghanaian physicians are currently practising in the US alone, a figure representing almost half of the total population of doctors in Ghana. The same problem affects other health professionals, including nurses, pharmacists and clinical officers.

Women attending antenatal clinics

In Kenya, 71 per cent of women who attend antenatal clinics do so in government facilities, mainly in health centres (27.5%) and hospitals (23.1%). Most of the women who seek these services in private facilities do so in mission hospitals/clinics (14.9%) and private hospitals/clinics (12.5%) as opposed to those who use nursing and maternity homes and other private facilities.

The way a newborn child is handled at birth increases or reduces his/her life expectancy and that of the mother. Only about 40 per cent of the total number of births in Kenya in 2003 were delivered in a health facility, which was worse than in the 1990s (Table 3.6). This is attributable to the declining ratio of health facilities to a set population, and the introduction of cost sharing in amidst increasing poverty during the 1990s and early 2000s.

Similarly, the proportion of all deliveries assisted by untrained or trained traditional birth attendants (TBAs) increased from 9.9 per cent to 27.4 per cent between 1998 and 2006 while the proportion assisted by a nurse/midwife declined from 30.2 per cent in 2003 to 28.5 per cent in 2006 (Table 3.7). The proportion of self-deliveries and deliveries assisted by

Box 2: Causes of brain drain

Push factors

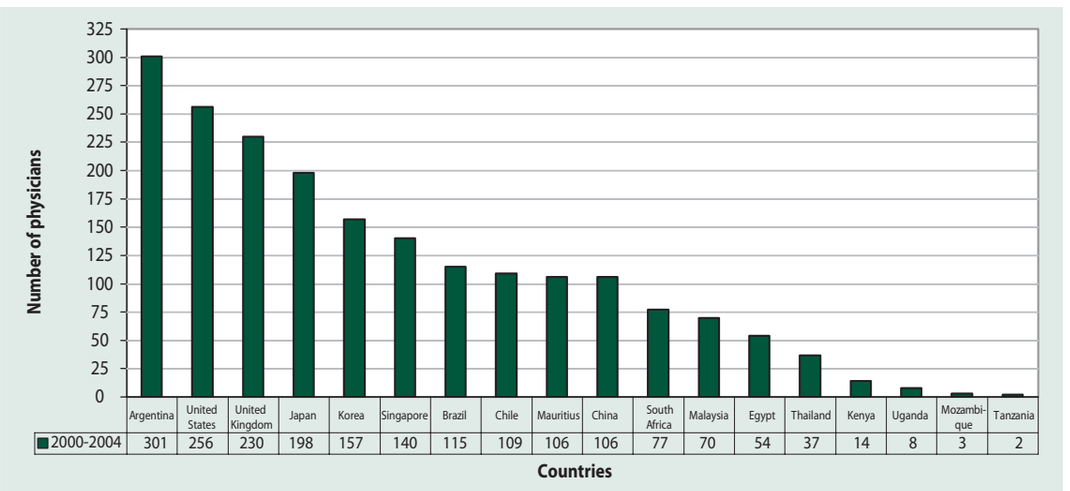
- Low and eroding wages and salaries
- Unsatisfactory living conditions, lack of transport, housing, etc
- Under-utilization of qualified personnel; lack of satisfactory working conditions; low prospect of professional development
- Lack of research and other facilities, including support staff; inadequacy of research funds; lack of professional equipment and tools
- Social unrest, political conflicts and wars
- Declining quality of educational system
- Discrimination in appointments and promotions
- Lack of freedom

Pull Factors

- Higher wages and income
- Higher standards
- Better working conditions; job and career opportunities and professional development
- Substantial funds for research, advanced technology, modern facilities; availability of experienced support staff
- Political stability
- Modern educational system; prestige of 'foreign training'
- Meritocracy, transparency
- Intellectual freedom

Source: Brain drain in Africa. Facts and figures (undated)

Figure 3.14: Physicians per 100,000 population for Kenya and selected countries



	Argentina	United States	United Kingdom	Japan	Korea	Singapore	Brazil	Chile	Mauritius	China	South Africa	Malaysia	Egypt	Thailand	Kenya	Uganda	Mozambique	Tanzania
2000-2004	301	256	230	198	157	140	115	109	106	106	77	70	54	37	14	8	3	2

Data source: Human Development Report, 2007/2008

relatives remain high, considering the high risk involved to the child and mother during such deliveries. Apparently, more than 50 per cent of deliveries in Kenya are not handled by skilled personnel, and this has serious implications on the achievement of the MDGs, infant and maternal mortality rates.

Fully immunized under-1 children [12]

Immunization is among the most cost-effective health interventions; it has had a major impact in reducing the burden of disease. Communicable diseases, many of which are vaccine-preventable, account for 77 per cent of the mortality gap between the world's poorest and richest 20 per cent (World Bank, 2001).

The government is implementing the Kenya Expanded Programme on Immunization (KEPI), which has led to significant improvement. Nationally, the percentage of full immunization coverage has been on the increase, reaching 70 per cent in 2006 from only 47 per cent in

Table 3.6: Distribution of births delivered in a health facility by province

Province	1993 (KDHS)	1994 (WMSII)	1998 (KDHS)	2003 (KDHS)	2006 (KIHBS)
Nairobi	79.0	80.9	75.6	77.9	77.0
Central	72.5	75.5	69.2	66.9	71.8
Eastern	45.9	52.5	49.0	37.7	37.6
Rift Valley	38.9	36.0	36.1	35.9	33.6
Nyanza	37.6	47.6	35.6	36.2	46.7
Coast	30.9	32.7	33.0	31.2	31.7
Western	32.6	32.4	26.6	28.4	25.7
North Eastern	-	2.8	-	7.7	11.7
National	**44.0**	**47.2**	**42.1**	**40.1**	**39.1**

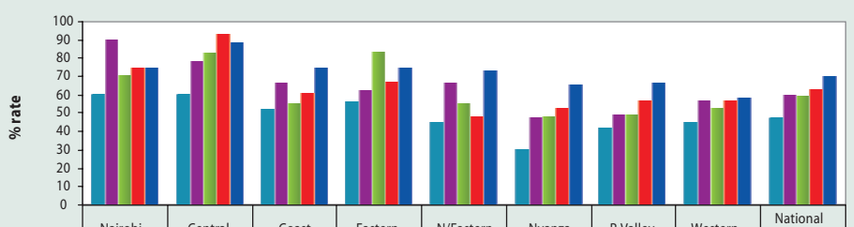
Source: Ministry of Health (2008)

Table 3.7: Births by type of assistance during delivery in Kenya, 1993-2006

Attendant during delivery	1993 (KDHS)	1994 (WMSII)	1998 (KDHS)	2003 (KDHS)	2006 (KIHBS)
Nurse/midwife	33.1	34.2	32.0	30.2	28.5
Other/relative	23.4	15.8	24.3	22.4	14.6
Untrained TBA	12.4	-	9.9	28.0	27.4
Trained TBA	8.7	26.5	11.3	-	11.7
Doctor	12.3	14.9	12.3	11.4	10.5
Self	10.1	8.6	10.2	8.0	7.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Ministry of Health (2008)

Figure 3.15: Full immunization coverage rate by province, 2002-2006



	Nairobi	Central	Coast	Eastern	N/Eastern	Nyanza	R.Valley	Western	National Coverage
2002	60	60	52	56	45	30	42	45	47
2003	90	78	66	62	66	47	49	57	60
2004	70	83	55	83	55	48	49	53	59
2005	75	93	61	67	48	53	57	57	63
2006	76	88	74	78	72	66	67	59	71
2007	78	85	78	78	81	66	70	68	73

Data Source: Government of Kenya (2008)

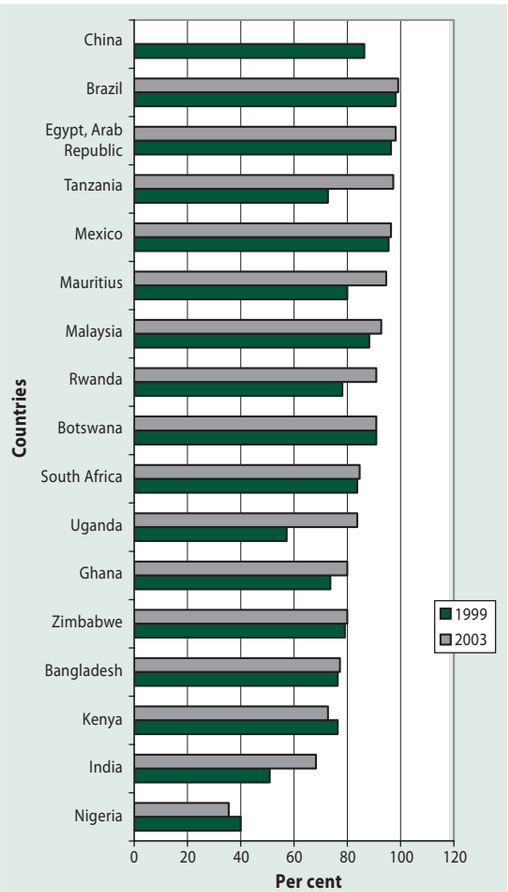
2002 (Figure 3.15). However, the coverage is still below the WHO recommended level of above 90 per cent.

All provinces except Central Province recorded increases in immunization levels between 2005 and 2006. Despite the drop, the province continues to lead in the overall level of immunization while Nyanza, Rift Valley and Western provinces have the lowest immunization coverage.

Measles is a vaccine-preventable disease, but remains a major cause of both morbidity and childhood mortality. Between 1999 and 2003, measles immunization coverage for Kenya declined from 76 per cent to 72 per cent (Figure 3.16).[13] It should be noted that the country hosts a large number of immigrants/refugees from neighbouring countries of Sudan, Somalia and Ethiopia, which have relatively lower coverage rates. This poses danger of leakage of the measles virus to Kenya, especially through immigrants.

Nevertheless, the success of measles immunization in some countries such as Brazil, Mexico and Malaysia has been associated with the governments' focus on such problems as infrastructure, health delivery systems and funding for routine immunization. However, above all these, use of effective communication strategies has played a key role in dealing with

Figure 3.16: Measles immunization coverage for some selected countries, 1999-2003



Source: World Bank (2004)

other factors such as anti-vaccination rumours that hinder uptake of vaccines.

3.5.2 Emerging challenges and policy options for the health sector

From the above discussion, the key challenges in the health sector are: low level of life expectancy; low level of funding; inadequate health infrastructure and personnel; high disease prevalence; and, inadequate promotion of preventive and promotive healthcare. Some policy interventions to address these challenges are proposed below.

a) *Raise life expectancy:* To raise the level of life expectancy, the country has to refocus its health goals to reduce infant mortality. Thus, more funds should be allocated to the fight against the burden of disease, including prevention of HIV/AIDS by increasing the coverage for ART, ARVs, PMCT, VCT and treatment of opportunistic diseases such as TB and malaria, among others. In addition, the Ministry of Health should focus more on preventable conditions that contribute to high mortality rates.

b) *Allocate more funding*: To meet most of the health challenges, the government needs to allocate more resources to the Ministry of Health. There is also need to enhance the efficient use of resources by channelling health funds directly to health facilities, as is the case with Free Primary Education (FPE) funds.

c) *Increase health infrastructure and personnel:* To promote access to healthcare will require not only the establishment of more health facilities, but also better regional distribution of the facilities. This would improve mortality and reduce disease occurrence across regions, as well as increase life expectancy.

   To address the acute inadequacy of health personnel in the country, the government should consider incentives to stimulate more training, retain health professionals in the public service and within the country, attract some of the professionals who are working outside the country and encourage health professionals to work in rural and remote areas. In addition, the 'Diaspora option', which is aimed at encouraging highly skilled expatriates to contribute to the development of their country without necessarily physically relocating, should be explored.

d) *Reduce disease prevalence*: High infant mortality rates show poor social and economic conditions of a country. The high maternal mortality rates also depict limited access to antenatal care and lack of availability of skilled birth attendants. The high mortality rates are also indicative of high rates of disease prevalence that include HIV/AIDS, malaria,

diarrhoeal diseases and malnutrition. To reduce the prevalence rates and hence mortality rates, the government should focus on prevention of HIV/AIDS and related opportunistic diseases through behaviour change programmes, and use of ART and VCTs. Immunization programmes through KEPI and other players should be enhanced, especially in ASALs that are more vulnerable to disease outbreaks. The experience of some comparable countries such as Chile, Thailand, Singapore, South Korea and Malaysia suggest that no country can succeed in the fight against TB without succeeding in the fight against HIV/AIDS because TB is one of the opportunistic diseases associated with HIV/AIDS. Nevertheless, other strategies that have had a major impact in the fight against TB include WHO's treatment model referred to as Directly Observed Therapy/ Treatment–DOTS; improvement of the level of detection and surveillance of the disease through efficient and high quality laboratory system; effective collaboration among players such as government, civil society, private sector and donor community; effective public awareness programmes; concerted effort to improve BCG vaccination coverage; and high political commitment. These should inform Kenya's efforts to fight the two diseases.

With respect to malaria, the experience of countries such as Egypt, South Africa, Mauritius, and Argentina suggests strategies that are effective in the fight against the disease. These include: public awareness campaigns; control of mosquito breeding grounds; surveillance of travellers who pass through malaria prone areas, and people living in mosquito-infested areas; use of leading technologies such as Artemisin-based combination therapies, DDT spraying and Insecticide Treated Nets (ITNs); in-door insecticide spraying; intermittent preventive treatment during pregnancy; and use of computerized management systems to facilitate better monitoring of spraying coverage, insecticide application and application rates.

e) *Improve promotion of preventive and promotive healthcare*: Inadequate allocation of funds continues to undermine the potential of preventive healthcare in promotion of health and in reduction of financial burden. Fortification of foods and use of food supplements should be promoted. In addition, the government should promote vitamin A supplementation. Improved community health awareness through the media to promote public health should be improved to help in combating preventive diseases. Other measures or programmes that should be promoted include breast-feeding and traditional medicine.

The WHO has described traditional medicine as one of the surest ways of achieving total healthcare coverage of the world's population. For instance, in Africa, traditional healers and remedies made from plants play an important role in the health of millions because of their availability, and due to lack of conventional doctors. In Ghana, for example, for every 224 people there is a traditional practitioner compared to one university trained doctor for nearly 21,000 people. The same applies to Swaziland where there is a traditional healer for every 110 people as compared to one university trained doctor for every 10,000 people.[14] There is, therefore, need for the government to establish the necessary institutional and financial support to promote the role of herbal medicine in primary healthcare delivery. This should include setting up of laboratories with adequate facilities for the assessment of the efficacy of medicinal herbs, and establishment of dosage norms for herbal extracts. The quality of medicines and services offered by traditional healers needs to be carefully assessed.

3.6 Education

Another key area that a country has to invest in for it to accumulate the human capital required for sustainable economic growth is education. Education facilitates the acquisition of new skills, knowledge and technology that increase productivity and thus competitiveness and industrialization. A strong integrated education system, right from early childhood development to the tertiary level, as well as appropriate skills development relevant to the labour market, are key requirements of any economy.

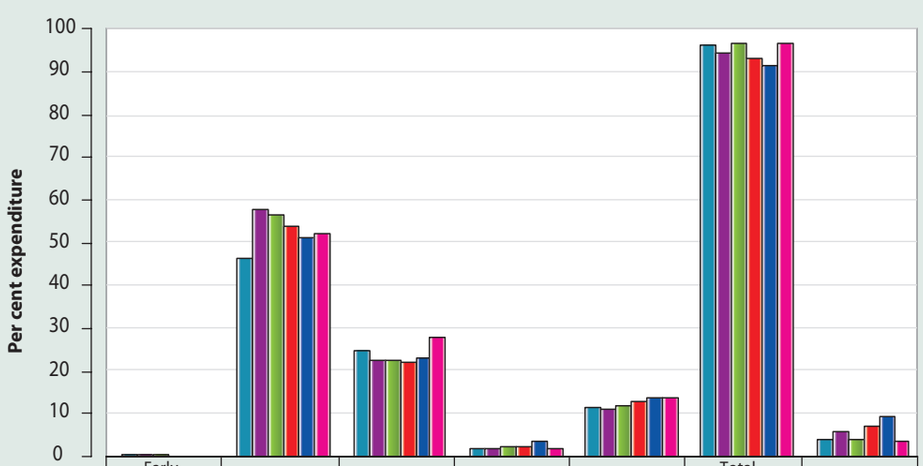
3.6.1 Public expenditure and policy framework

Kenya's education sector receives the largest (and rising) share of public expenditure. Total education expenditure as percentage of GDP rose from 6.2 per cent in 2002/03 to 6.5 per cent in 2007/08. However, the bulk of the funds go to recurrent expenditure (mainly payment of wages). In the 2007/08 financial year, for example, 96.5 per cent of the total expenditure was recurrent, up from 91 per cent in the previous year. On average, the total wage bill is 85 per cent of the total education budget.

Another major characteristic of the Kenyan education system is that primary education receives the largest share of the education sector budget while early childhood development and technical education receive little funding. In the 2007/08 financial year, for instance, the primary education sub-sector received 52 per cent of government expenditure on education, while the secondary and university sub-sectors received 28 per cent and 13 per cent, respectively. Free primary and secondary education capitation grants have had a major impact in raising the share of non-wage expenditure to about 16 per cent and 12 per cent by 2007/08 for primary and secondary education, respectively.

Although there is limited evidence to link overall education expenditure with education outcomes, countries that allocate larger shares of their education budgets to secondary

Figure 3.17: Education expenditure by sub-sector, 2002/03-2007/08 (% of total)



	Early Childhood Education	Primary Education	Secondary Education	Technical Education	University Education	Total Recurrent Exp	Total Devt Exp
2002/3	0.3	46.2	24.4	1.4	11.3	96	4
2003/4	0.2	57.4	22.5	1.6	11	94.4	5.6
2004/5	0.4	56.1	22.4	2.1	11.8	96.4	3.6
2005/6	0.04	53.6	21.8	2	12.8	93	7
2006/7	0.05	51	22.6	3.2	13.5	90.9	9.1
2007/8*	0.04	51.7	27.7	1.7	13.4	96.5	3.5

* Provisional data

Data Sources: Appropriation Accounts, Education Sector Report 2007; Education Sector Report and Ministerial Public Expenditure Review (various).

education tend to have higher participation levels, and relatively higher economic growth rates. For instance, the fast growing economies such as Korea, Brazil, India and Indonesia spend 39-50 per cent of their education budget on secondary education. Less developed economies spend relatively low percentages. They also tend to have low enrolment rates at secondary level.

As shown in Table 3.8, average per capita expenditure for public primary education increased from Ksh 4,821 in 2002 to Ksh 7,353 in 2007. Secondary education per capita cost is Ksh 50,833, constituting 54 per cent household and 46 per cent government contribution (Ministry of Education, 2007), which is 12 times that of primary education. On average, in 2007, the government spent Ksh 35,412 per child on secondary education (Table 3.8). The cost of secondary education is not only very high, but also leads to low participation levels. University education cost was Ksh 134,198 in 2007 (about 20 times that of primary education).

Unit costs of education and unit costs as a percentage of GNP are higher for Kenya relative to many other countries (Table 3.9). However, in purchasing power parity (PPP) terms, the unit cost of education in Kenya is quite low relative to other countries under comparison, with the exception of tertiary education. For instance, as per the table, the ratio of primary: secondary: tertiary education unit costs for East Asia (1:1.8:7.6); South Africa (1:1.5:3.6); Japan (1:1.2:1.15) and India (1:1.3:9) are lower than those for Kenya (1:3:24). In addition, the distribution of public expenditure across levels is more equitable in most of the countries.

Table 3.8: Unit public expenditure spending by level, 2002-2006 (in Ksh)

	2002	2003	2004	2005	2006	2007
Primary Unit Cost	4,821	4,945	5,812	6,259	6,654	7,357
Secondary Unit Cost	21,969	20,122	22,620	27,666	32,717	35,412
Technical Education	20,422	18,283	20,501	24,655	36,834	43,883
University Education	91,636	98,317	105,566	132,353	142,570	134,198

Source: KIPPRA computations

Table 3.9: Comparisons of unit costs of education for selected countries

Country	Unit Cost as % GNP per capita			Unit Cost in US$ (PPP)		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
Kenya*	**15**	**60**	**297**	**88**	**286**	**2,070**
South Africa	15	22	54	482	706	1,733
China	6	12	67	184	368	2,057
Korea	17	13	6	2,283	1,745	806
India	11	18	100	41	67	370
Argentina	8	15	18	716	1,343	1,611
Brazil	10	30	98	479	1,437	4,694
Japan	17	19	14	5,202	6,284	5,972
United Kingdom	17	20	40	3,206	4,609	8,169

* Kenya estimates are computed using national data, while unit cost is as percentage of GDP per capita

Data Source: Saavedra, J. (2002)

India and Korea are outstanding in their low unit costs of education; the former across all levels of education and the latter most particularly for tertiary education. Kenya needs to learn from these countries.

Sustainable options for financing education, reducing the unit cost and improving affordability of education are urgently required. These options include the following: development of a framework for public-private sector partnerships; community participation especially in the provision of school infrastructure; community empowerment and poverty mitigation; and targeted support for marginalized groups. Strong public-private partnerships exist in the financing of post-primary education in the countries with high enrolment levels and lower unit costs, such as in India and Korea. These governments also meet teacher costs in private not-for-profit schools and sponsor students to study in private schools through a voucher system. This indicates that there is scope for improvement in *allocative efficiency* and use of public-private partnerships in the delivery of tertiary education.

Sessional Paper No. 1 of 2005 provides the policy framework for education and training development. The implementation framework for the Sessional paper is the Kenya Education Sector Support Programme (KESSP) whose major policy objectives are increasing access, equity, quality, retention and completion rates in all levels of education, with emphasis on primary education. Among the key goals is to achieve Universal Primary Education (UPE) and Education for All (EFA) by 2015, and elimination of gender disparities both at primary and secondary levels and in all educational levels, consistent with the MDGs.

Specific recent policy reforms include introduction of Free Primary Education in 2003. The programme entails provision of capitation grants to all public primary schools for the purchase of teaching and learning materials, and for operations and maintenance costs. Other aspects of the programme include the following: institutionalization of in-service teacher training programmes in primary and secondary education; curriculum reform; improved decentralization of education management to local units, including districts, school level administrators and parents representatives; and strengthening of education management systems both at the national and district levels.

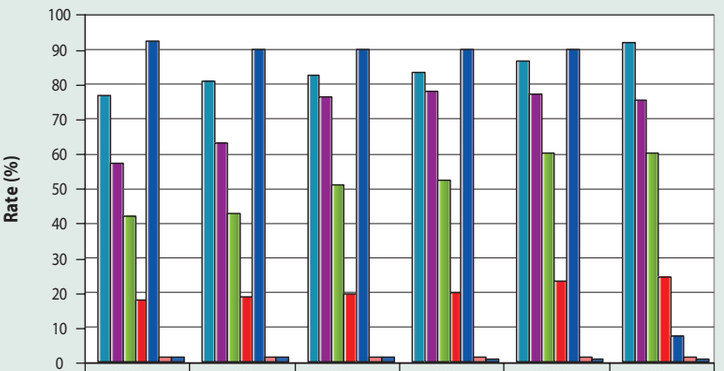
In January 2008, subsidized secondary education policy was introduced with the aim of making secondary education accessible and affordable. Other reforms were: decentralization of the management of the bursary scheme to constituency level; school feeding, health and nutrition support; provision of grants to special schools, targeting non-formal schools, secondary schools in ASALs and areas with pockets of poverty; higher education loans; and provision of science and laboratory equipment to targeted disadvantaged schools.

The government is currently reviewing the education and training legal framework by reviewing the Education Act, preparing a Science and Technology Bill, and preparing higher education strategies (secondary, university and TIVET). These strategies focus on key concerns affecting the sectors, including but not limited to the following: expansion of post-primary education; encouragement of science, innovation and technology; institutionalization of public-private sector partnerships in education and training; and setting up of centres of excellence. The government should place more emphasis on measures to reduce the unit cost of education, especially at the secondary and tertiary levels.

3.6.2 Education index

In 2005, Kenya recorded an education index of 0.690, which is below that of South Africa (0.806), Mauritius (0.813), Korea (0.980) and United Kingdom (0.970) (Appendix Table A3.10). Overall, gross enrolment rate (primary, secondary and tertiary levels) and adult literacy levels are higher for South Africa and Mauritius than for Kenya. The

Figure 3.18: Selected primary and secondary education indicators (2002-2007)



	2002	2003	2004	2005	2006	2007
Primary NER	76.4	80.4	82.1	83.2	86.5	91.6
Primary completion rate	56.9	62.7	76.2	77.6	76.8	75.3
Primary to secondary transition rate	41.7	42.6	50.6	52.1	59.7	60.0
Secondary NER	17.8	18.6	19.4	19.8	23.2	24.2

Data Source: Government of Kenya (various), Economic Survey; Government of Kenya Statistical Abstract; Government of Kenya Analytical Report on Population Projections (2002); Government of Kenya Education Statistical Booklet (1999-2004)

low education index for Kenya is, therefore, indicative of the fact that the majority of the labour force has not attained basic education, technical skills and knowledge for improved labour productivity, competitiveness and innovation. Indeed, the highest level of education completed by majority of Kenyans (86.4%) is primary education, followed by secondary education (25.0%), pre-primary education (9.5%), university education (1.2%) and none or other levels of education (4.1%).[15] Kenya recorded a primary NER of 76 per cent and secondary NER of 20 per cent in 2005, compared with countries such as Korea and Japan that had attained universal primary education (NER of 100%) and high secondary NER of over 80 per cent.

Although there is progress in primary education participation levels, there is need to sustain investment in skills training, close the knowledge gaps, address the quality challenge, and link education investments to labour market needs. Attainment of Vision 2030 requires adequate skills training and human capital in the key sectors of the economy, including science, innovation and technology, engineering, and manufacturing and construction. It also requires greater attention and funding to research and development.

3.6.3 Literacy and skills

In 2004, adult literacy rate in Kenya was 74 per cent compared to 82 per cent for South Africa, 84 per cent for Mauritius, 98 per cent for Korea and 89 per cent for Malaysia. In 2007, about 61.5 per cent of Kenyan adults had attained the minimum literacy level, but only 29.6 per cent attained mastery literacy competency.[16] The fact that over 70 per cent of Kenya's adult population have not attained mastery literacy competency is a major challenge for the country. The fact that enrolment in science, engineering, manufacturing and construction courses is over 40 per cent in Korea and Malaysia compared to Kenya's 29 per cent should also be of concern to the government.

3.6.4 Access to education

School enrolment rates

Enrolment in learning institutions is one measure of access to education. Pre-primary gross enrolment rate in Kenya increased from

Between 2002 and 2007, access to education at all levels increased; internal efficiency improved; and gender equity in access to primary education improved nationally.

51.8 per cent in 2002 to 59.3 per cent in 2007. Primary school NER increased from 77.0 per cent to 91.6 per cent during the same period, while completion rate increased from 56.9 per cent to 75.0 per cent. Secondary school NER rose from 17.8 per cent in 2002 to 24.2 per cent in 2007, while completion rate moved from 92.1 per cent to 87.5 per cent. The transition rate from primary to secondary education improved from about 41.7 per cent in 2002 to about 60 per cent in 2007. However, the transition rate from secondary to university education declined from 6.3 per cent in 2002 to 4.4 per cent in 2006/7.

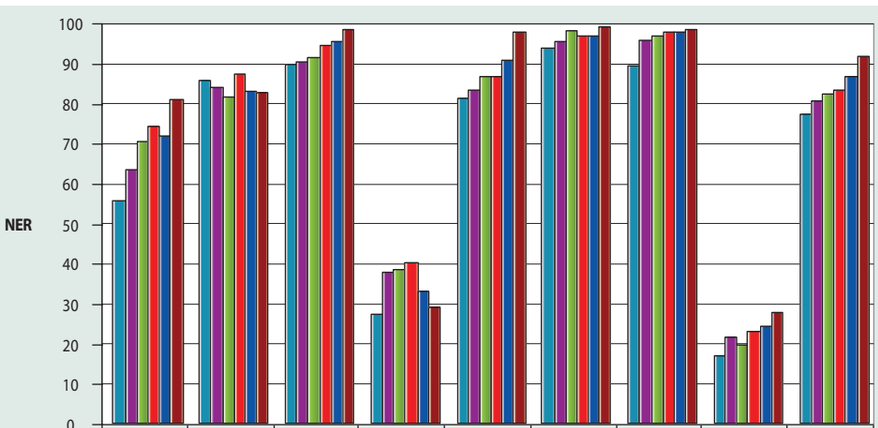
The positive performance in primary education can partly be attributed to the sectoral reforms implemented within the Economic Recovery Strategy (ERS), the Free Primary Education (FPE) introduced in 2003, and interventions under the Kenya Education Sector Support Programme, which include expansion of physical infrastructure in marginalized areas and provision of teaching and learning materials. While all the education sub-sectors have done very well over the last five or so years, the decline in completion rates for secondary education and the decline in the transition rate from secondary to university should be addressed.

Regional disparities in primary school enrolment rates exist. North Eastern and Nairobi provinces have the lowest enrolment rates, with Nyanza and Western provinces having the highest primary school enrolment rates over the years (Figure 3.19).

Another concern is that, unlike all other provinces, primary school enrolment rates in Nairobi and Central provinces have been on a declining trend since 2005. The problem should be investigated further and addressed with a view to reversing it.

In 2007, the national secondary NER was 24.2 per cent, implying that about 75.8 per cent of the secondary education school age population were not in school. North Eastern Province had the lowest secondary NER at 4.3 per cent, while Central Province recorded the highest at 33.3 per cent as shown in Figure 3.20.

Figure 3.19: Primary school net enrolment rate (NER) by region



	Coast	Central	Eastern	Nairobi	Rift Valley	Western	Nyanza	N/Eastern	National
2002	55.7	85.6	89.6	27.3	81.3	93.7	89.4	17	77.3
2003	63.5	83.9	90.4	37.7	83.1	95.3	95.8	21.6	80.4
2004	70.3	81.6	91.5	38.3	86.6	98.2	96.6	19.6	82.1
2005	74.2	87.4	94.3	40.1	86.6	96.8	97.8	23	83.2
2006	71.8	83	95.3	32.9	90.8	96.8	97.8	24.3	86.5
2007	80.8	82.5	98.3	29	97.8	99	98.3	27.5	91.6

Data Source: Education Statistics Booklet, 1999-2004; Ministry of Education, Statistics Section

Even by 2002/03, Korea, Chile, Brazil and Malaysia recorded high net enrolment ratios of 70 per cent and above. Mauritius and South Africa, too, have high NERs of 74 per cent and 66 per cent, respectively.

The problem of low secondary NER in Kenya is serious, especially because most of the young people out of school are idle, full of energy and frustrated. The harmony, peace and socio-econo-political stability required for the country to prosper makes it extremely important for innovative and cost-effective interventions to raise secondary school NER. Countries such as Korea and Malaysia that have done well on secondary NER are using innovative education financing policies and mechanisms such as public-private partnerships instead of over-relying on traditional sources such as public revenue and household contribution.

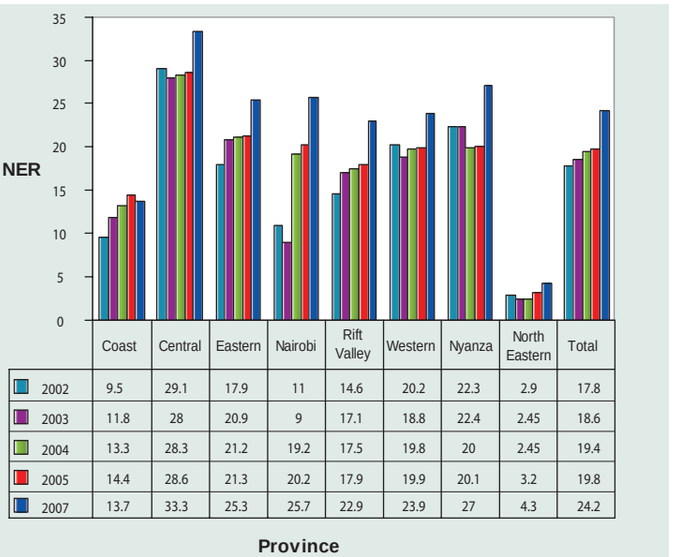
Regional distribution of schools

On average in Kenya, there is one primary school per 30 square kilometres, and one secondary school per 139 square kilometres. However, there are marked regional differences. Schools are concentrated in some parts of the country, leaving the vast marginalized areas with limited school infrastructure, leading to low enrolment rates.

In 2006, the average primary school size was 393 students nationally, but it ranged from a low of 321 students in North Eastern Province to a high of 1,229 in Nairobi Province. Average secondary school size is 242 students, but provincial averages range from 181 (for North Eastern) to 313 (for Nairobi) students. The two provinces have the highest population to school ratios.

The scenario in Nairobi depicts existence of limited school places due to urbanization, making it difficult for the government to cope with the increasing population influx. The most affected areas are slums, where 60 per cent of the urban population lives. For North Eastern Province, there is limited physical infrastructure, coexisting with low enrolments. This implies that different strategies have to be applied in different regions of the country.

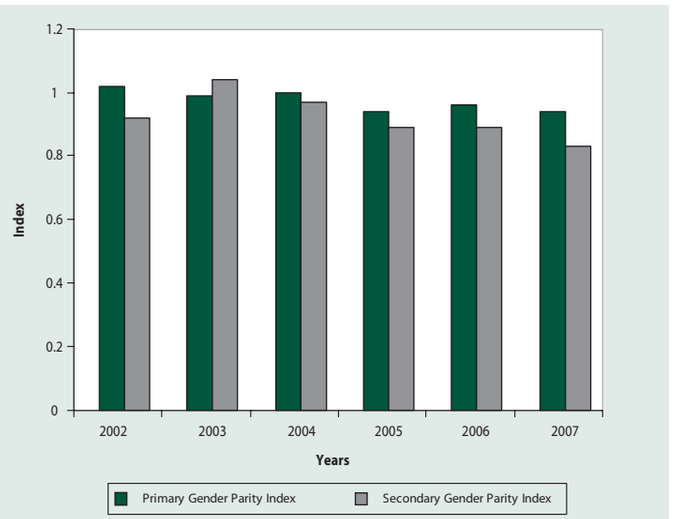
Figure 3.20: Secondary school net enrolment rate (NER) by region



	Coast	Central	Eastern	Nairobi	Rift Valley	Western	Nyanza	North Eastern	Total
2002	9.5	29.1	17.9	11	14.6	20.2	22.3	2.9	17.8
2003	11.8	28	20.9	9	17.1	18.8	22.4	2.45	18.6
2004	13.3	28.3	21.2	19.2	17.5	19.8	20	2.45	19.4
2005	14.4	28.6	21.3	20.2	17.9	19.9	20.1	3.2	19.8
2007	13.7	33.3	25.3	25.7	22.9	23.9	27	4.3	24.2

Data Source: Ministry of Education

Figure 3.21: Gender equity in school enrolment in Kenya, 2002-2007



Data Source: Ministry of Education Statistics Section

Gender equity in school enrolment

Gender disparity in enrolment has improved and is relatively low at primary school level, with the proportion of female students reaching 49 per cent. At secondary and tertiary levels, female enrolment was 46 per cent and 37 per cent, respectively. Primary education gender parity index (GPI) ranged between 1.02 in 2002 and 0.94 in 2007.[17] Secondary education GPI was 0.92 in 2002 and 0.83 in 2007 as shown in Figure 3.21.

Regional disparities in primary school enrolment rates exist. North Eastern and Nairobi provinces have the lowest enrolment rates, with Nyanza and Western provinces having the highest primary school enrolment rates over the years.

Girls' participation is negatively affected by retrogressive factors, the most visible being in North Eastern Province, which recorded the lowest secondary GPI of 0.45. These factors include gender discrimination in some cultures, as evidenced by early marriages, preference for boys' education and child labour. Disparities are also evident in terms of low placement of students with special needs.

3.6.5 Internal efficiency

Cohort survival, completion rates within levels and transition rates between levels are some of the best indicators of internal efficiency of the education sector. Table 3.10 presents survival rates from Standard 1 to tertiary education by gender for two student cohorts–1989-2001 and 1994-2006.

According to Table 3.10, about 70 per cent of pupils enrolled in Standard 1 in 1994 progressed to Standard 5, while 53 per cent made it to Standard 8. This indicates that although the primary education system has been able to increase participation rates, its ability to sustain them is weak.

However, survival within secondary education level is relatively high, implying higher efficiency. For instance, the 1997-2000 and 2002-2005 secondary education cohorts had completion rates of 98.9 per cent and 99.4 per cent, respectively. Consequently, the main challenge relates to increasing entry into secondary level, since those who enrol actually survive to the final class.

Transition rate between Standard 8 and Form 1 was about 41.7 per cent in 2002 and 47.3 per cent in 2007 (Figure 3.22). In some parts, the transition is affected by lack of capacity, low educational attainments among some of those who complete Standard 8, affordability and other socio-cultural factors.

Comparative analysis of internal efficiency indicates that in 2004, survival rate from (the equivalent of) Standard 1 to Standard 5 was relatively high for South Africa at 84 per cent, Mauritius at 99 per cent, Korea and Japan at 100 per cent and Malaysia at 98 per cent. In the Asian Tigers, secondary education is part of basic education and, therefore, enjoys tremendous public support. These countries have also adopted the policy of automatic promotion within and between levels, and recognize the need to focus on minority areas in an effort to reduce poverty and improve educational outcomes.

3.6.6 Transition to tertiary education

In Kenya, transition to the university level is significantly low as shown in Table 3.11. In the 2006/07 academic year, 18 per cent of Form 4 students qualified for university admission but

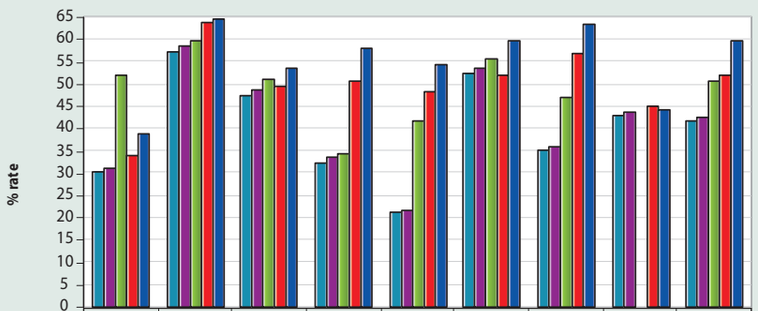
Table 3.10: Survival rates (%) in Kenya's education system

Survival rates	1989-2001 (Cohort 1)			1994-2006 (Cohort 2)		
	Boys	Girls	Total	Boys	Girls	Total
Survival rate (class	67.27	71.40	69.28	67.56	72.21	69.81
Survival rate class 1 to 8 (%)	45.06	43.52	44.31	53.30	53.22	53.26
Survival (transition) rate from Std 8 to Form 1 (%)	45.32	44.53	44.94	42.40	40.35	41.41
Survival rate from Std 1 to Form 1 (%)	20.42	19.38	19.91	22.60	21.47	22.05
Survival rate from Form 1 to Form 4 (%)	100.83	96.92	98.98	99.95	98.86	99.43
Survival rate from Std 1 to Form 4 (%)	20.59	18.78	19.71	22.59	21.23	21.93
Survival rate from Std 1 to University level (%)	1.55	0.78	1.17	2.09	1.26	1.69

NB: Cohort 1 was in Std 1 in 1989, Form 1 in 1997 and admitted to university (first year) in 2001. Cohort 2 was in Std 1 in 1994, Form 1 in 2002 and admitted to university (first year) in 2006.

Source: Government of Kenya Economic Survey (various) and KIPPRA computations

Figure 3.22: Primary to secondary school transition rates by region, 2002-2007



	Coast	Central	Eastern	Nairobi	Rift Valley	Western	Nyanza	North Eastern	National
2002	30.4	57.3	47.5	32.5	21.1	52.6	35.4	42.9	41.7
2003	31.0	58.5	48.9	33.5	21.6	53.7	36.1	43.8	42.6
2004	52.1	59.6	51.2	34.5	41.7	55.8	47.3	44.9	50.6
2005	34.0	63.7	49.4	50.9	48.5	52.0	57.1	45.1	52.1
2006	39.0	64.7	53.5	58.3	54.3	59.8	63.6	44.2	59.7

Provinces

Data Source: Government of Kenya (various) Statistical Abstract

Table 3.11: Trends in admission to public universities, 2002/03-2006/07

Academic Year	Total Form 4 enrolment	No. Qualified (C+ and above)	JAB Admissions	% Qualified	% Admitted
2002/03	174,018	42,158	11,046	26	6.3
2003/04	187,411	42,721	10,791	25	5.8
2004/05	190,717	58,218	10,200	18	5.3
2005/06	209,276	49,870	10,263	21	4.9
2006/07	243,106	58,293	10,632	18	4.4

Data Source: Joint Admissions Board and Statistical Abstract, 2007; KIPPRA computations

only 4.4 per cent were admitted to universities locally, representing 1.7 per cent of the students who enrolled in Standard 1 in 1994. Although students who are not admitted to universities are expected to join other middle level colleges for certificate and diploma courses, it is important that investment in post-secondary education, especially in technical programmes, is enhanced.

The draft strategies for university and TIVET education articulate interventions aimed at expanding tertiary education. The interventions include expansion of individual universities through creation of constituent university colleges, encouragement of other stakeholders through public-private partnerships, up-grading of polytechnics to university status, strengthening of the Commission for Higher Education (CHE), and placing of emphasis on revitalization of TIVET.

Despite these strategies, more effort is required particularly in ensuring that education and training programmes contribute to development of requisite human capital for the attainment of Vision 2030. Further, tertiary education should be prepared to accommodate additional graduates from the expanded secondary education due to the introduction of free secondary education. Centres of excellence should also be established in line with identified sectors in Vision 2030, and employment of youth should be promoted.

Currently, the main impediment to youth employment is lack of skills. Given the enormity of the youth bulge challenge, the country needs to transform the technical training sub-sector. Relevance and employability of education and technical training graduates could be improved through effective guidance and counselling on choice of training based on academic skills,

Between 2002 and 2006, the pupil-teacher and pupil-classroom ratios improved but did not reach the norms of 40 and 50, respectively; except for a few provinces at the primary school level. There is therefore considerable under-utilization of both classes/ schools and teachers in the country.

development of appropriate labour market information systems, ensuring education outputs are adequately absorbed in the labour market, undertaking skills inventory to inform the process of skills training, carrying out of regular tracer studies to track performance of graduates in the labour market, and use of feedback for review and improvement of skills development programmes.

In addition, support should be made available to graduates who may prefer to start their own enterprises or upgrade their skills. While the introduction of the Youth Enterprise Fund is a key achievement in this regard, the government should consider cost effective modalities of increasing the supply of affordable credit in all provinces, including establishment of provincial public banks or availing conditional incentives to the private sector for the purpose.

It is also critical that science, technology and innovation subjects are promoted and/or improved in all tertiary and skills training institutions. It should be noted that total enrolment in technical institutions increased from 51,349 (49% female) in 2002 to 68,379 (48.6% female) students in 2005.

3.6.7 Education quality

Pupil-Teacher Ratio (PTR) and Pupil-Classroom Ratio (PCR) are indicators of education quality. The norms for primary PTR and PCR are 40 and 50 students, respectively. At secondary education, there is no clear norm for PTR since staffing is based on school curriculum establishement (subjects offered) while class size norm is 50 students. According to the Economic Recovery Strategy (2003), the government targets a secondary school PTR of 35:1 nationally. In 2007, the primary PTR ranged between 34.5 in Central Province and 71.6 in Western Province. The lowest primary PCR was about 32 pupils (in Eastern Province), while the highest was about 45 students (in North Eastern) (Appendix Table B3.16).

In secondary schools, the PTR was 22 in 2007 (up from 21 in 2005), with Nairobi Province recording a low of 17 and Western Province recording a high of 25. The national class size was 33 students, ranging from 30 in Nyanza to 34 in Coast, Nairobi and Rift Valley provinces.

Low PCR and PTR imply under-utilization of physical and human resources, and inefficiency and high unit costs. Higher ratios could indicate over-crowding, which negatively affects efficiency and quality of education.

3.6.8 Emerging policy challenges and options

In spite of the unprecedented improvement in almost all education performance indicators between 2002 and 2007, considerable challenges remain. Some of these key challenges are:

(a) Most of the labour force in Kenya has not attained basic education and technical skills for improved labour productivity, as majority of Kenyans have only attained primary education.

(b) Despite the increase in enrolment, especially at primary school level, there are regional disparities in access to education especially at post-primary level and in marginalized areas. In addition, students with special needs are not targeted adequately.

(c) Gender disparities are apparent in some regions, especially in North Eastern Province, which is mainly attributable to socio-economic factors such as retrogressive cultural practices that inhibit girls from attending and remaining in school.

(d) Inequitable distribution of both human and capital resources imply under-utilization and overcrowding in some schools.

Despite establishment of boarding primary schools in ASALs, low participation rates persist in formal schools in the regions. Offering basic education in *madrassa* (facilities offering basic Islamic religious education to

young children) should be considered as a way of addressing the problem. In addition, subsidized secondary education, which started in 2008, is expected to reduce the cost burden on parents. The socio-cultural factors constraining access to education should be addressed comprehensively and consistently.

More is required particularly in ensuring that education and training programmes contribute to development of requisite human capital for the attainment of Vision 2030. This include relevant skills development programmes for youth to ensure that they fit in the labour market. In addition, science, technology and innovation should be promoted in all tertiary and skills training institutions and through institutionalized attachments, and public-private sector partnerships. With the upsurge in student enrolment in primary and secondary education, facilities at tertiary and university levels should be expanded.

3.7 Conclusion

Kenya underwent a demographic transition in the 1980s and 1990s when fertility and death rates declined, leading to reduced age dependency, a large working age population, and slower population growth rates. A decline in dependency levels can boost growth through increased share of the working people in the total population, and a high savings rate.

Kenya's population structure reflects a high age dependency ratio (calculated as the population aged below 15 and above 64 years over the working-age population, mainly aged 15-64 years). The high dependency ratio in many of the regions in Kenya reflects the low numbers of the population that is involved in active economic activities. This implies that unemployment rates are high and only a few working people in the population are supporting a very high proportion of the population. This also implies that the population is very young.

The country faces four key employment challenges, namely high youth unemployment; under-employment; the working poor; and gender inequality. Female youth unemployment is higher in these age groups at about 27 per cent. This has contributed to the high growth of the informal sector. In 2006, informal sector employment grew by 6.5 per cent, creating 410,000 new jobs compared to formal sector employment that grew by 2.8 per cent or 50,000 new jobs. In 2007, the sector accounted for approximately 60 per cent of formal sector employment, while the manufacturing sector accounted for less than 10 per cent.

The high population has put pressure on delivery of services in the country, as witnessed in the low access rates to both education and health services in the form of teachers and health professionals, respectively. Apparently, the population increased faster than the rate at which health facilities were established during the period. The critical issue for the country is to ensure that health facilities are utilized at an optimal rate and that health infrastructure development matches the rate of population growth, which is consistent with the demographic transition that the country requires.

Kenya has a relatively low Human Development Index and Education Index. This can be attributed to the low participation rates especially at post-primary level, high poverty incidence (low GDP per capita) and unsatisfactory health outcomes. In the education sector, regional disparities exist with low enrolment rates observed in ASALs and urban informal settlements. North Eastern and Nairobi provinces experience the lowest enrolment rates across levels and majority of the Kenya population have only attained primary education. TIVET sector and skills development should be priority investment sub-sectors, in addition to basic education in line with attainment of Vision 2030. Skills training on critical areas such as science, innovation, technology, engineering, research and development; addressing knowledge gaps, quality challenge and linking education investments to labour market are critical and will require improved resource mobilization. Sustainable options for financing education

will include developing a framework for public-private sector partnerships, community participation especially in provision of school infrastructure, community empowerment and poverty mitigation, targeted support for marginalized groups, and efficiency in utilization of available resources.

In a nut shell, population issues should be seen in a more comprehensive manner because people are always at the demand size of the economy.

End notes

[1] The working poor are individuals who, despite working, earn too little (usually less than US$ 1 or US$ 2 per day) to pull them and their families out of poverty.

[2] According to ILO, decent employment is defined to include the following: (1) work that is productive and secure; (2) work that ensures respect of labour rights; (3) work that provides an adequate income; (4) work that offers social protection; and (5) work that includes social dialogue, union freedom, collective bargaining and participation. See *Decent Employment Through Small Enterprises–A Progress Report on SEED Activities* (Geneva: ILO, 2003).

[3] This sector includes education, public administration, domestic and other services.

[4] Gini coefficient ranges from 0 to 1 where lower coefficients indicate more equal income or wealth distribution, while higher ones point to more unequal distribution.

[5] There are various kits for essential drugs. They include: inpatient kit, outpatient kit, rural health centre kit 1, rural health centre kit 2, dispensary kit 1, and dispensary kit 2.

[6] An in-depth analysis of the regional differences in life expectancy is provided in the 2007 Kenya Human Development Report.

[7] Stunting reflects failure to receive adequate nutrition over a long period, although it may also be caused by recurrent and chronic illness. A child who is below 2 standard deviations from the median of the Nation Centre for Health Statistics (NCHS) / WHO reference population in terms of height-for-age is considered short for his/her age or stunted, a condition reflecting the cumulative effect of chronic malnutrition. Height for age is a measure of linear growth (KDHS, 2003).

[8] Wasting represents failure to receive adequate nutrition and may be the result of inadequate food intake or recent episodes of illness causing loss of weight and onset of malnutrition. Wasting is considered severe if the child is below 3 standard deviations from the reference media. Nationally, 6 per cent of children are wasted, and the proportion of severely wasted children is 1 per cent (KDHS, 2003).

[9] More details available at http://www.unicef.org/malaysia/media_7257.html accessed on 24 April 2008.

[10] Private sector includes for profit and not-for-profit (NGOs and FBOs facilities) organizations.

[11] Brain Drain in Africa. Facts and Figures. Available at: *http:www//web.ncf.ca/cp129/factsandfigures.pdf*, accessed 15 May 2008.

[12] For a child to be considered fully vaccinated, he/she should receive one dose of BCG; three doses each of DPT/Hepatitis B/Influenza and polio; and one dose of measles.

[13] KEPI data puts the 2003 figure at 60, indicating the need for data harmonization.

[14] For more discussion, see the paper 'Overview on Medicinal Plants and Traditional Medicine in Africa (undated) from *http://www.conserveafrica.org.uk/medicinal_plants.pdf* accessed on 16 May 2008.

[15] Derived from KIHBS carried in 2005/6.

[16] Based on the Kenya National Adult Literacy Survey, 2007.

[17] Gender Parity Index (GPI) constitutes the ratio of female to male students. GPI tends to 1, with a GPI less than 1 implying more male than female students in learning institutions. The GPI is more than 1 when there are more female than male students.

PART II

Selected Sector Performance and Policy Issues

Part II analyzes economic performance and key policy issues and options in the main sectors of the economy, namely agriculture, manufacturing, micro and small enterprises, trade, tourism, financial services, and environment and natural resources. These sectors are key in employment creation and contribution to GDP. They are also the priority sectors in Vision 2030. Business Process Outsourcing (BPO) is the only priority sector that is not analyzed in this part. It will, however, be analyzed in sub-sequent reports.

Sector performance indicators are analyzed in comparison with selected peer countries and other model economies. In analyzing the sectors, outstanding policy issues are discussed and some policy options provided.

4 Agriculture

4.1 Sector Significance

The agricultural sector contributes about 24 per cent of GDP and provides about 70 per cent of total employment in Kenya. Also, about 19 per cent of formal waged workers are in agriculture. It is estimated that about 69 per cent of all households are engaged in farming activities and an estimated 84 per cent of rural households keep livestock. Through linkages with agro-based sectors and associated industries, the sector also indirectly contributes a further 27 per cent of the country's GDP. It is also key to Kenya's food security.

This chapter analyzes the contribution of the agricultural sector to poverty reduction, equity and employment, and particularly to food security in the country.

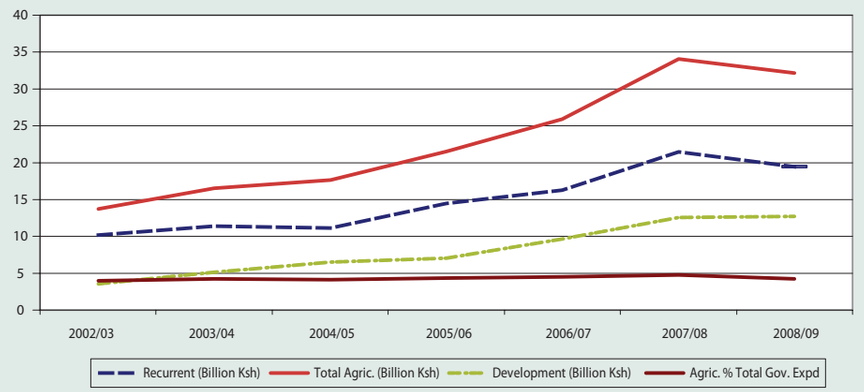
4.2 Expenditure Review and Policy Setting

The government's strategy for the development and transformation of the agricultural sector is outlined in the Strategy for Revitalizing Agriculture (SRA), 2004-2014. The key policy goals include: raising agricultural productivity through increased resource allocations; exploiting irrigation potential; commercializing agriculture; reviewing comprehensively the legal and policy framework for agriculture; and improving governance in key agriculture institutions, especially cooperatives and farmer organizations.

Figure 4.1 shows trends in budgetary allocation to agriculture and rural development ministries for the period 2002/03 to 2008/09. The average allocation to the sector for the period has been 4.3 per cent of the national budget. Kenya, thus, falls short of the Maputo Declaration that calls for increased agricultural sector allocation to at least 10 per cent of government budget.

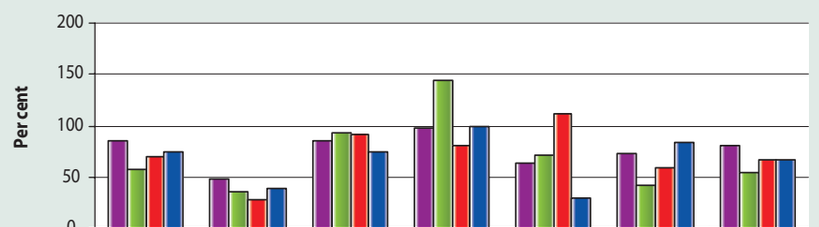
In terms of magnitude, however, allocations to the sector have been increasing, with development expenditure having quadrupled. Nevertheless, there are concerns about the absorption capacity of the development budgets. Figure 4.2 shows budgetary allocations to the sector against actual expenditure. On average, only 67 per cent of the allocation is spent. The worst affected are the Ministries of Livestock and Fisheries Development (now two: Ministry of Livestock Development and Ministry of Fisheries Development) and Ministry of Lands.

Figure 4.1: Government budgetary allocation to agriculture and rural development ministries, 2002-2009



Data Source: Ministry of Finance

Figure 4.2: Agriculture sector budgets absorption capacity, 2003/04 - 2006/07



	MOA	MOLFD	MENR	MRDA	MOL	MOCDM	Overall
2003/04	85	48	86	97	63	73	80
2004/05	58	35	93	144	72	42	55
2005/06	70	28	92	80	111	59	66
2006/07	74	38	75	100	29	84	66

Data Source: Ministry of Finance

MOA = Ministry of Agriculture; MOLFD = Ministry of Livestock and Fisheries Development; MENR= Ministry of Environment and Natural Resources; MRDA = Ministry of Regional Development Authorities; MOL=Ministry of Lands; MOCDM = Ministry of Cooperative Development and Marketing

4.3 Performance Indicators

4.3.1 Food security

Reduction of hunger is the first goal of the Millennium Development Goals (MDGs) and cuts across the three pillars on which Vision 2030 is anchored; that is, the economic, the social and the political pillars. Food security is largely determined by agricultural production and income of households. Long-term food security is also dependent on sustainable use of natural resources.

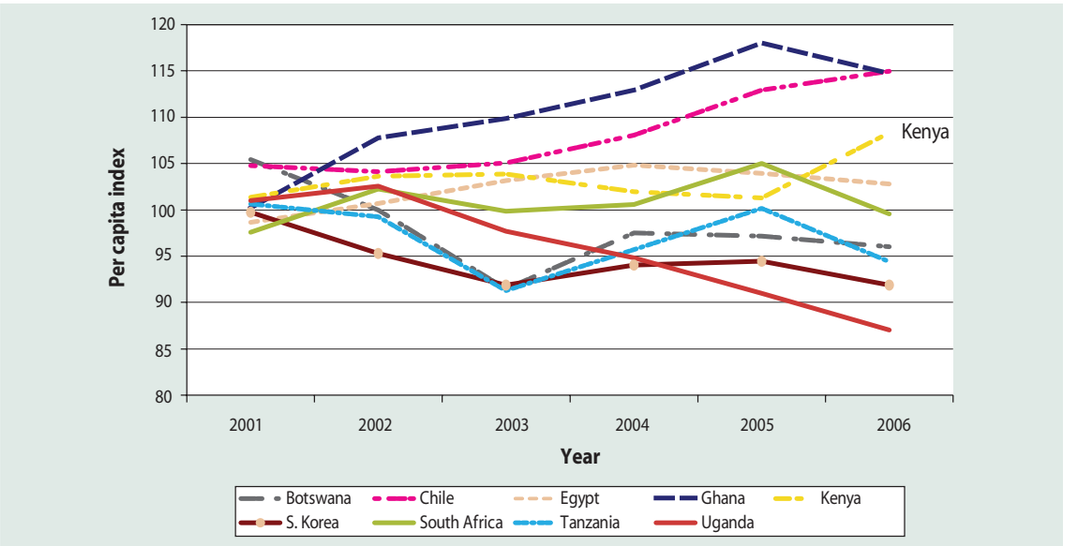
4.3.2 Agricultural production

Kenya's per capita agricultural production improved by about 8.3 points in 2006 compared with the 1999-2001 base period (Figure 4.3). Although Kenya's performance started off in 2000 at a lower rate than countries such as Ghana, Egypt and Chile, it has improved in recent years. This could be attributed to the implementation of broad-based growth policies under the Economic Recovery Strategy (ERS), and specifically the Strategy for Revitalization of Agriculture (SRA).

4.3.3 Food production

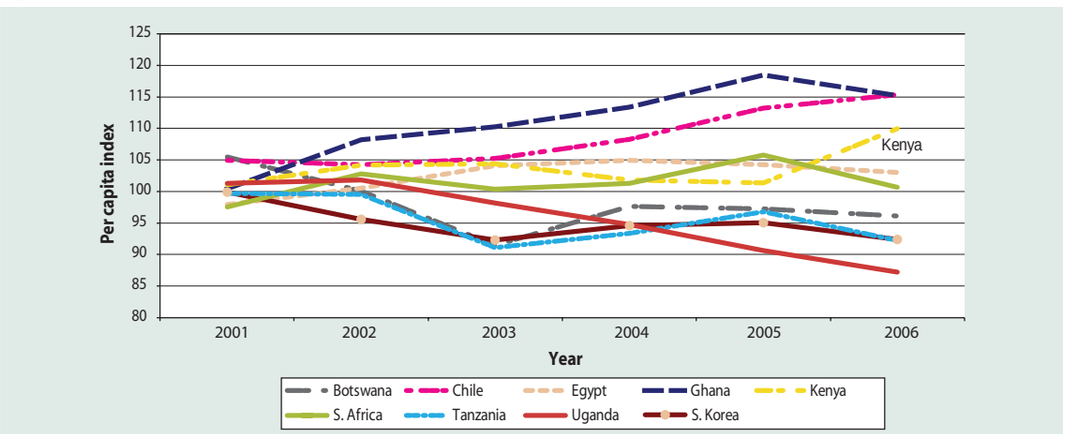
Kenya is a food deficit country, barely achieving the required daily recommended rate of 2,250 kcal/capita (Figure 4.5). However, an increase in per capita food consumption to 2,256 kcal/capita

Figure 4.3: Growth trends in agricultural per capita production index, base year 1999-2001



Data Source: FAOstat: 2001-2006

Figure 4.4: Trends in food production index, 2000-2006 (base year 1999-2001)



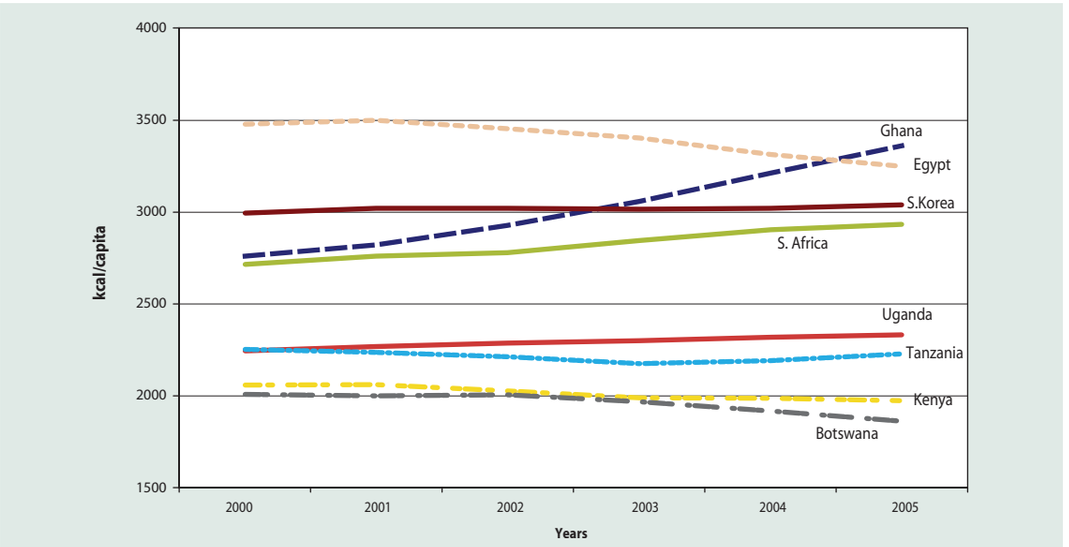
Data Source: FAOstat: 2001-2006

in 2005 may be a signal that efforts towards reduction of hunger are bearing fruit. According to Figure 4.4, food production increased by about 10 points between 2006 and the 1999-2001 base period. The country should adopt an accelerated growth path given that it still suffers from high food deficits and hunger (Figure 4.6). This increase also corresponds with the rise in agricultural production as earlier noted.

Figure 4.6 shows trends in the level of hunger in selected countries as measured by the global hunger index (GHI).[1] Kenya only managed to reduce hunger by about 5 per cent in the period between 1992 and 2007. This compares poorly with countries such as Egypt and Ghana whose hunger levels declined by 48 per cent and 41 per cent, respectively. The strong performance for Ghana,[2] and to some extent Uganda, has been achieved through reliance on local indigenous foods such as roots, tubers and bananas.

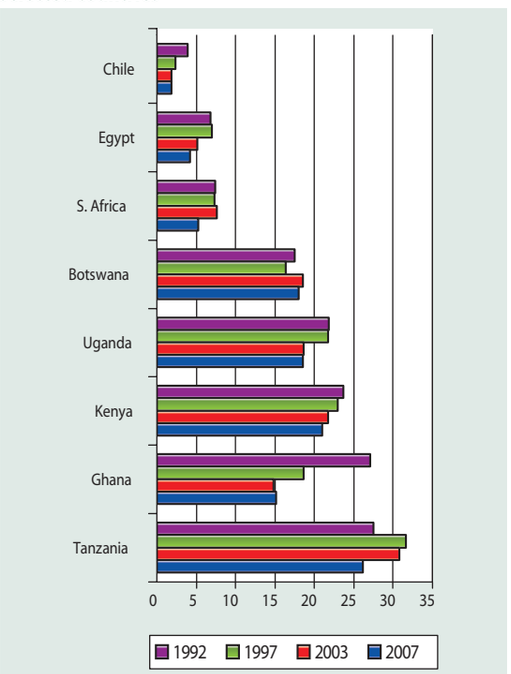
Ghana and Uganda have a relatively diversified source of calories compared to Kenya (Figure 4.7), which relies heavily on cereals. Dependence on cereals, specifically maize, is about 50 per cent. In Kenya, maize occupies about 79 per cent of the crop land under grains as shown in Figure 4.8. Apparently, there has not been an active government policy to diversify sources of calorific intake.

Figure 4.5: Trends in calorific intake among selected countries, 2000-2005



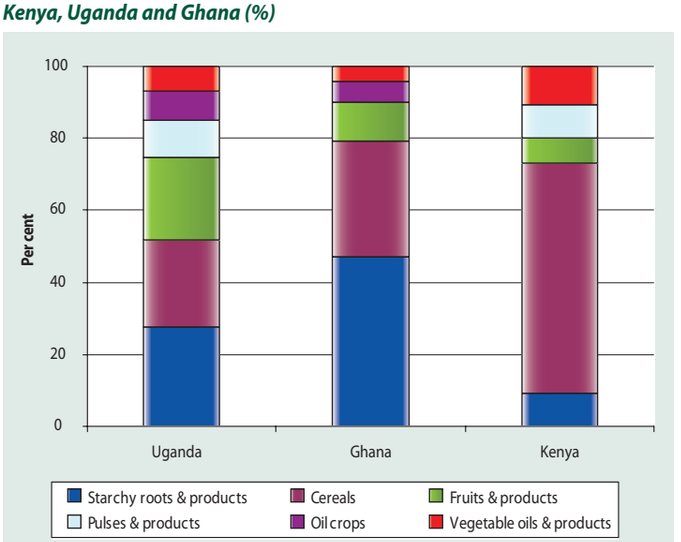
Data Source: FAOstat

Figure 4.6: Global Hunger Index (GHI), 1992-2007, for selected countries



Data Source: IFPRI (2007) [3]

Figure 4.7: Share in total dietary energy consumption in Kenya, Uganda and Ghana (%)

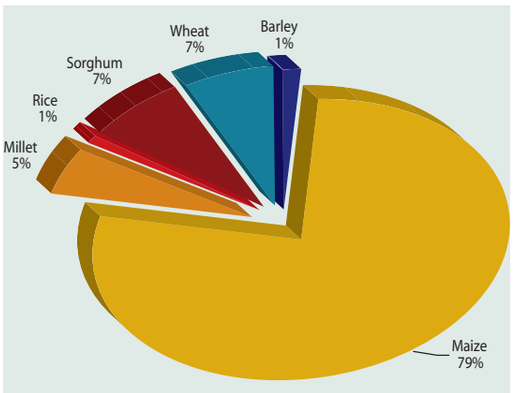


Data Source: FAO (2006)

4.3.4 Ability to import

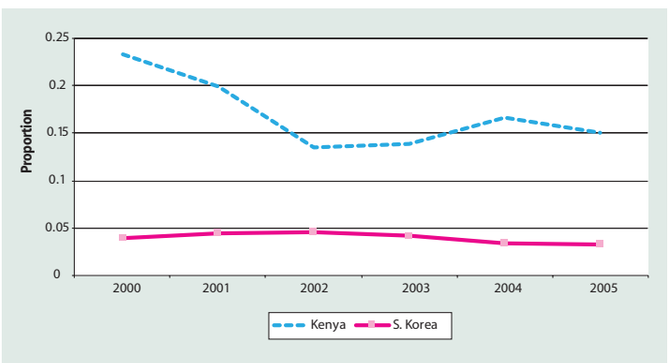
The need for investment in enhancing agricultural production for Kenya is also necessitated by the low ability to import commodities. This is indicated by the ratio of agricultural imports to total value of merchandise exports. In the period 2000-2006, Kenya spent almost 20 per cent of its export revenue on agricultural imports (Figure 4.9). For South Korea, the ratio of agricultural imports to total export ratio is a fifth of that of Kenya, where a large value of export revenue compensates for its declining level of agricultural and food production. Consequently, hunger levels in South Korea are negligible. Between 2000 and 2002, there was a marked improvement in the ability to import, but there has been little improvement in recent years.

Figure 4.8: Proportion of crop land area under various cereals in Kenya, 1990-2005



Data Source: KIPPRA Agricultural Data Comperidium

Figure 4.9: Ratio of agricultural imports to total exports for Kenya and South Korea



Data Source: FAOstat

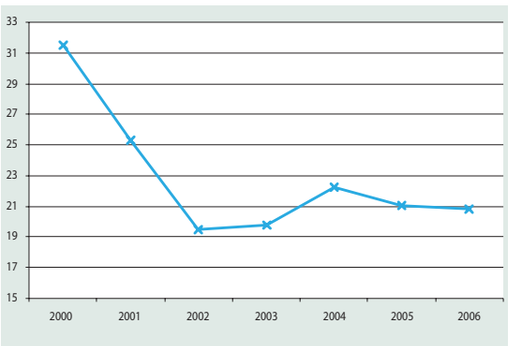
4.3.5 Cereal import dependency

The cereal import dependency ratio shows the degree to which a country is dependent on imports. Between 2000 and 2006, Kenya's dependency on imports has been on the decline, dropping from about 30 per cent in 2000 to about 21 per cent in 2006 (Figure 4.10). However, the performance is below the levels realized in 2002.

4.3.6 Regional differences in food poverty

The national food security performance masks regional inequalities in food availability. Figure 4.11 shows the proportion of the population that is unable to meet the minimum basic food consumption needs (food-poor) by districts in 1994, 1997 and 2005.[4] While some districts

Figure 4.10: Trends in cereal import dependency in Kenya, 2000-2006



Data Source: FAOstat (2001)

made good progress in reducing food poverty (e.g., Vihiga, Kericho and Meru), others, mainly those in marginal areas and ASALs (e.g., Kwale, Mandera, Turkana and Marakwet) became food poorer within the period. Some of the policy options for uplifting the food security status include increasing agricultural production, improving the functioning of food markets, targeting social protection measures and reducing levels of unemployment.

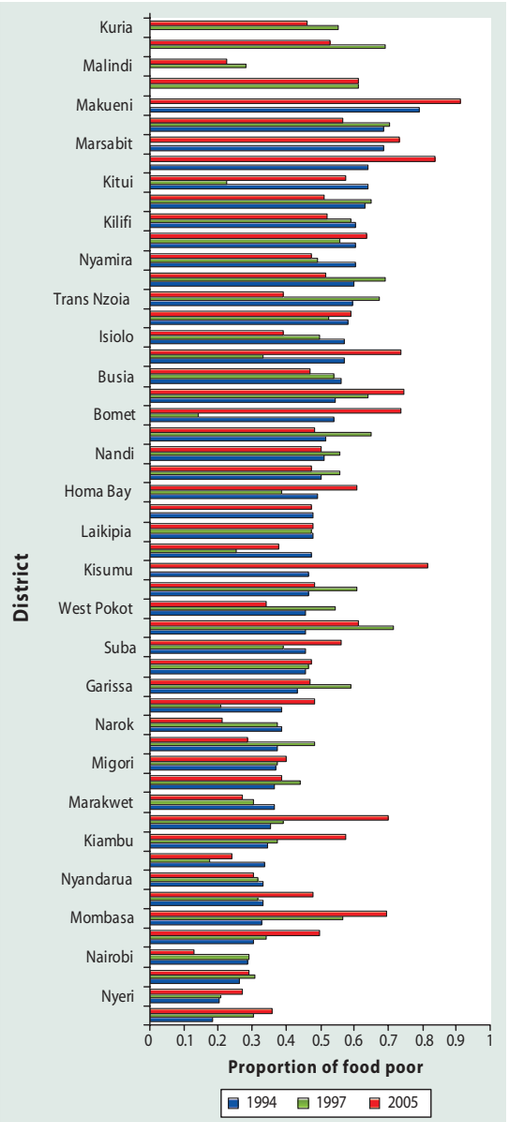
4.3.7 Rising food prices

Food prices have been increasing continuously in recent years, threatening any gains that the country has been making towards reducing poverty and hunger. While net producing households stand to benefit from the high food prices, the majority would suffer given that the poor spend more than 75 per cent of their income on food.

Rising food prices could be a medium to long-term phenomenon due to international and local factors. International factors include increasing demand for food from emerging economies, competition between biofuels and food production, and high fuel prices. Local factors are mainly supply-driven and include increasing frequency and severity of droughts and floods, high prices of inputs and low agricultural productivity. The post-2007 election crisis worsened the food situation in 2008.

Figure 4.12 shows the rising food price index between January 2000 and January 2008. While

Figure 4.11: Per capita food consumption in Kenya for selected districts



Data Source: Government of Kenya (1994, 1997, 2005), Statistical Abstracts

the prices have been on the rise since 2000, the most dramatic increase for all commodities has been in the last three years, where the index has almost doubled for all food commodities. The rise in the prices of vegetables, which also include Irish potatoes, is 10-fold compared to the beginning of 2000. Given the three years of continuous rise, the food price crisis experienced in 2008/09 should not have been a surprise.

Although there has been a general rising trend in maize prices, the prices in Kenya are higher than world prices and even those in neighbouring countries. Figure 4.13 compares Kenya's maize price trend with that of Uganda, Tanzania and the world. The figure shows little convergence between the world food prices and the local market, which suggests that local factors, especially the low productivity of agriculture, may also be playing a big role in the price increase.

The long-run solution to the food price crisis lies in policies that promote food production, improve functioning of input and output markets (incentives to stimulate strengthening production of agricultural inputs, especially machinery), diversification of the food basket, food fortification and other forms of value addition, subsidizing agricultural inputs, regional initiatives such as food reserves, and reducing unemployment.

The short-run policy option would include the promotion of social protection initiatives such as food or income transfers especially to the poorest households. Monetary policy instruments may not be effective in addressing food inflation given the high proportion of food component in overall inflation, which has been on average 50 per cent in the period 2000-2007.

4.3.8 Agricultural value added per worker

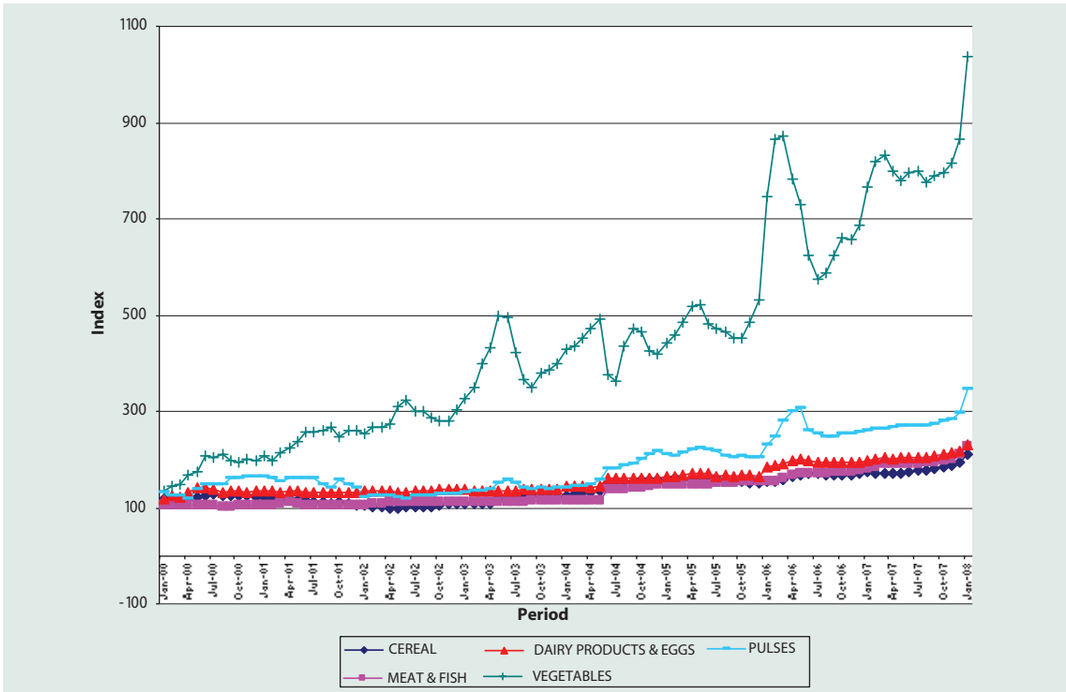
Figure 4.14 compares changes in agricultural value added per worker for Kenya and other selected countries. As indicator of agricultural productivity, this has remained stagnant for Kenya and other countries in sub-Saharan Africa.

The improvement in food security has largely been attributed to the increase in commercial agricultural production and improvements in yields since 1990s. Figure 4.15 (a-c) presents trends in yields for major food crops for selected countries. It shows that Egypt and Chile have maintained consistent high yields.

The good performance by Chile and Egypt can be attributed to their commitment to competitive agriculture and sustainable use of resources. For Chile, growth in commercial

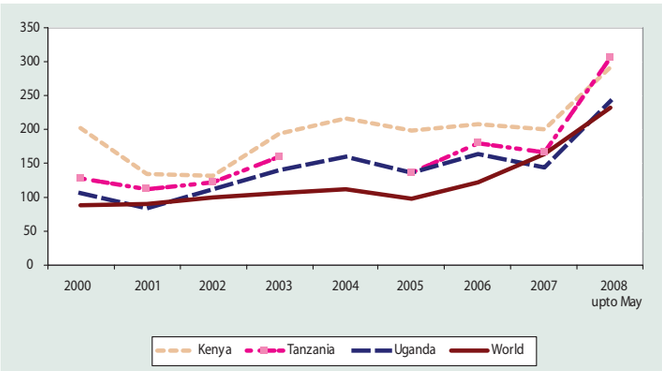
The long-run solution to the food price crisis lies in policies that promote food production, improve functioning of input and output markets (incentives to stimulate strengthening production of agricultural inputs, especially machinery), diversification of the food basket, food fortification and other forms of value addition, subsidizing agricultural inputs, regional initiatives such as food reserves, and reducing unemployment.

Figure 4.12: Monthly movement in food price index (base October 1997), January 2000-January 2008



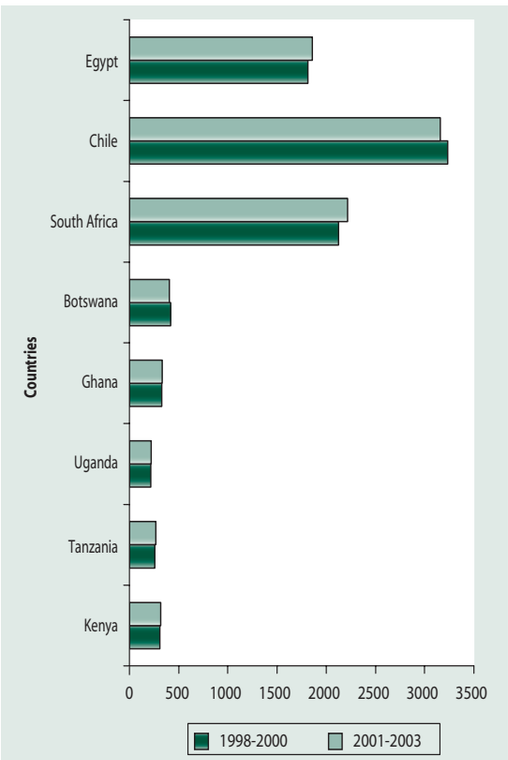
Data Source: Government of Kenya (various) Statistics Abstract

Figure 4.13: Trends in maize prices for Kenya, Tanzania, Uganda and World (in US$/ton), 2000-2008



Data Source: RATIN (2008)

Figure 4.14: Change in agricultural value added for selected countries, 1998-2003 (constant 2000), US$



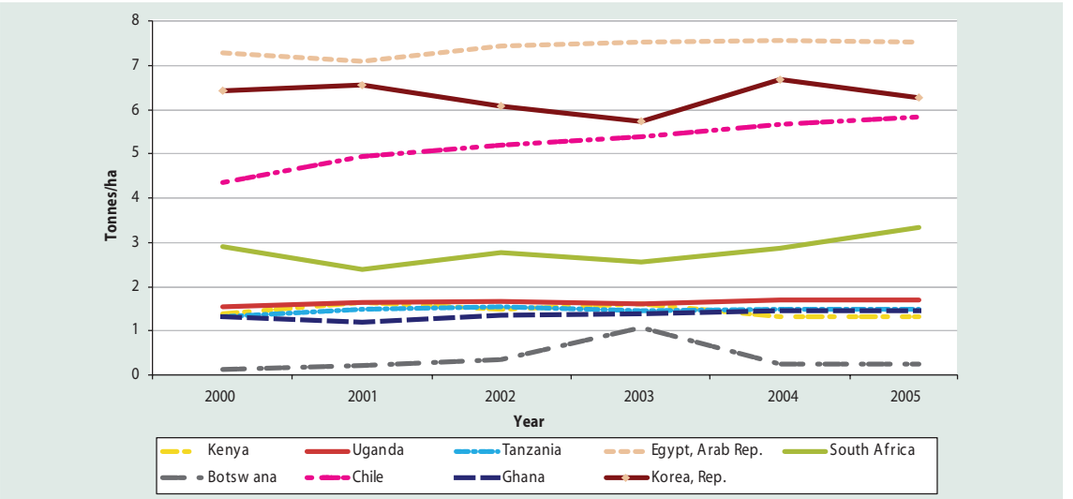
NB: Data for all countries only available up to 2003.

Data Source: World Bank (2007)

agriculture has acted as a centre for overall rural incomes over time, with apparent positive impact on food security, among other effects. The level of commercialization of agriculture can partly be indicated by the relatively high level use of fertilizer as shown in Figure 4.16.

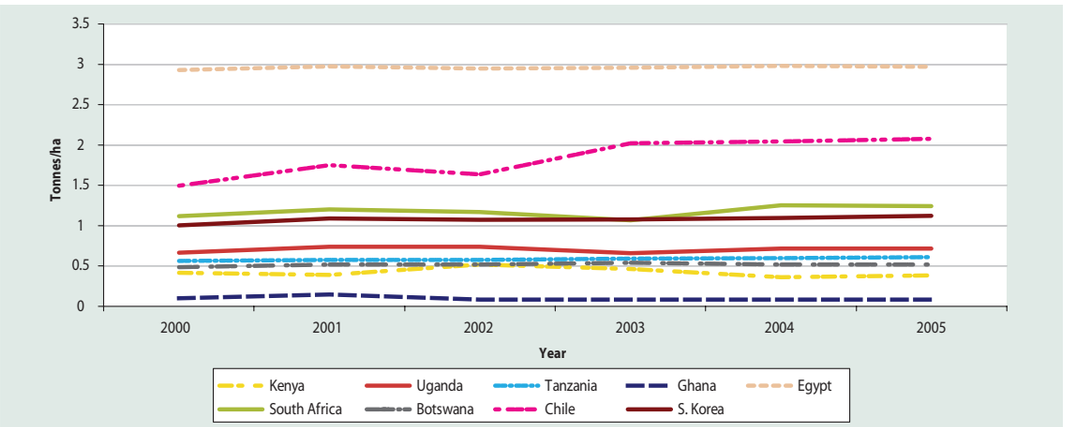
Other important sets of policy instruments that have propelled agricultural production in the more successful countries also relate to credit provision, combined with public sector

Figure 4.15(a): Cereal yields for selected countries (tonnes/ha), 2000-2005



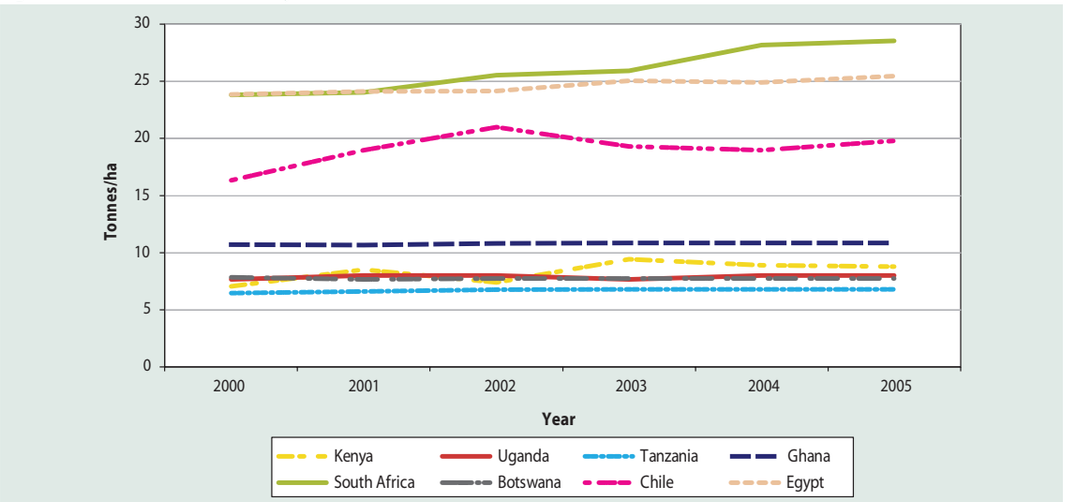
Data Source: FAOstat (2006)

Figure 4.15(b): Pulses yields for selected countries (tonnes/ha), 2000-2005



Data Source: FAOstat (2006)

Figure 4.15(c): Roots and tubers yields for selected countries (tonnes/ha), 2000-2005



Source: FAOstat (2006)

investments in rural infrastructure, agricultural research and extension, market development and policy support. The only exception is Chile, whose extension services are largely private sector-driven but with targeted public extension service to poor small-scale farmers. Empirical evidence from Kenya shows that government spending, especially on research and extension, has a big impact on agricultural productivity (Odhiambo *et al.*, 2004).

4.3.9 Contribution to employment, poverty reduction and equity

The agricultural sector is a key contributor to economic growth and employment and, therefore, its structure and growth has important implications for poverty and equity concerns. Growth that is associated with strong labour-intensive linkages on the consumption side is likely to enhance the employment and income multiplier effects that cut across rural and urban sectors. By contrast, if rural income gains from agricultural growth are concentrated in the more affluent households, the pattern and growth of rural household expenditures will favour capital-intensive products and imported goods rather than labour-intensive locally produced goods and services, thus weakening the impetus to a rapid and equitable overall growth.

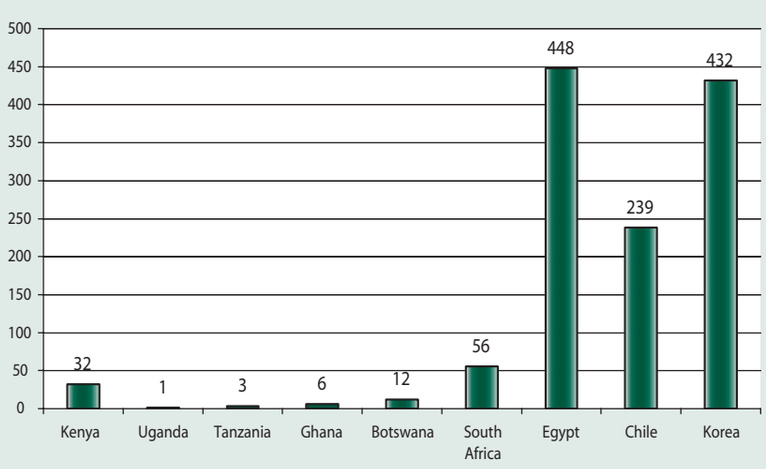
Given the recent history of improved economic growth but worsening inequalities in Kenya, there is significant policy interest in assessing the effectiveness of various agricultural growth paths in terms of not only raising national income, but also on its distribution. The distribution effects of agricultural growth arise from the fact that specific crops and livestock enterprises are associated with specific regions in the country. For instance, tea, dairy, coffee and horticulture are mainly concentrated in the highlands; pastoralism (beef cattle and goats) for interior lowlands in North and Eastern provinces; maize, roots, oil crops for midlands; and oil crops for coastal lowlands.

4.3.10 Production and total impact multipliers

Multiplier analysis is used to analyze the impact of different investments in agriculture on poverty and equity. A productive sector has two roles: (i) production and thus generation of income, and (ii) distribution of the income among primary factors of production and households. Where poverty reduction and redistribution are key policy objectives, the focus should be on those sectors that contribute most to the poor's labour and those that generate most income for the poor households.

Figure 4.17 shows the production and total impact multipliers of the productive sub-sectors of the agricultural sector. The first

Figure 4.16: Average fertilizer use intensity for selected countries (kg/ha), 1999-2002



Source: FAOstat (2006)

Figure 4.17: Production and total impact multipliers for the agricultural sector in Kenya

Source: Calculation based on SAM (2003)

bar for each commodity presents the inter-sectoral linkages among the productive sub-sectors. The multipliers in this column indicate the impact of a unit increase in the output of the target production sub-sector on the other sectors. For example, a multiplier of 3.81 for the maize sub-sector indicates that every one unit increase in maize production induces an increase in production of 3.81 units in the whole economy. Using this indicator to assess sectoral impacts, dairy production with a multiplier of 4.01 has the highest impact on other productive sectors, closely followed by goat production. Poultry, roots and tubers have similar effects as that of coffee on other productive sectors.

The second set of bars (the longer ones) provide the total impact of a sector on the whole economy as it captures both the production and consumption linkages generated through value added (remuneration to primary factors of production) and household's income generation.

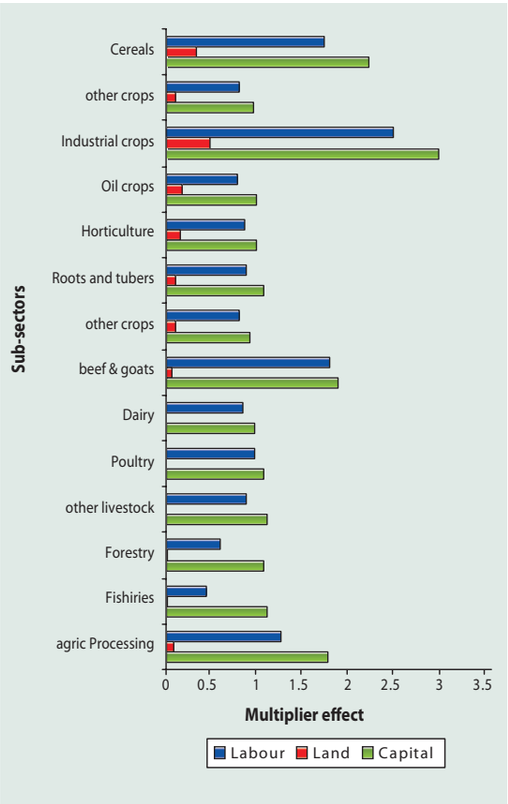
In general, just as in the inter-sectoral linkages, the livestock sub-sectors, led by poultry and goat production, add the most towards promotion of household income and factor remuneration. Among the crops, roots and tubers perform slightly better than tea, coffee, maize and horticulture. Yet, roots and tubers, poultry, and goat production receive very little policy attention. These results point to a need for policy re-assessment.

4.3.11 Payments to factors of production

The primary factors of production are labour, land and capital. Labour is sub-divided into two: rural and urban labour. These are further sub-divided into four categories: (i) skilled labour, (ii) unskilled labour, (iii) formal labour, and (iv) informal labour. Capital is categorized into three: (i) rural capital, (ii) urban formal capital, and (iii) urban informal capital. Figure 4.18 shows the distribution remuneration of the factors of production in the agricultural sector.

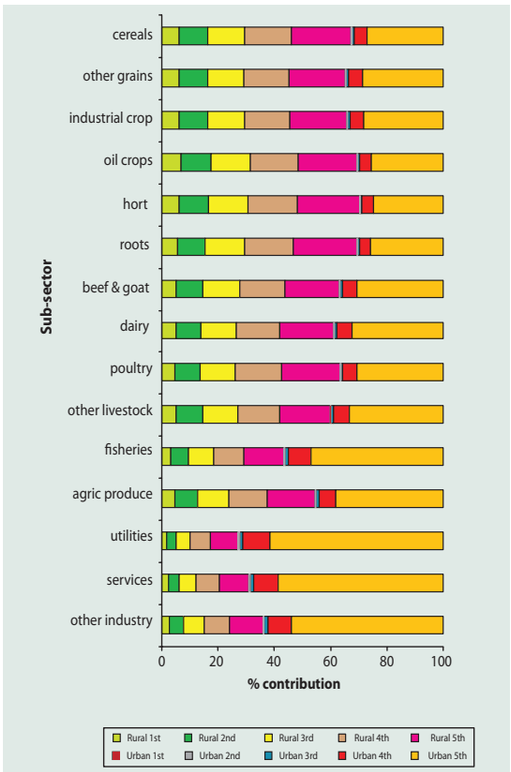
According to the figure, much of the factor income goes to capital and considerably little to land. The implication of this is that most of the income gains are concentrated in the better-off households who are the owners of capital. That this may be the case is indicated in Figure 4.19, which shows sectoral contribution to household income by quintiles for rural and urban households.

Figure 4.18: Sectoral contribution to factor payment



Source: KIPPRA calculations

Figure 4.19: Sectoral contribution to household income by quintiles



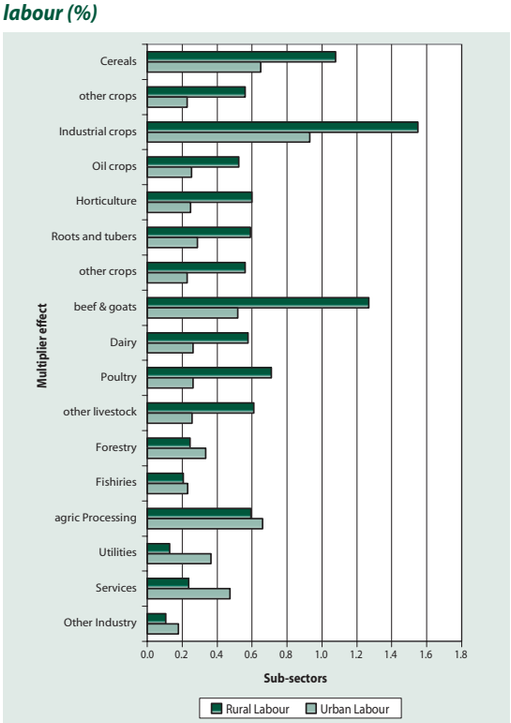
Source: KIPPRA calculations

On average, the uppermost urban quintile households receive about 33 per cent of the income from productive activities. Similarly, among the rural households, it is the uppermost 5th quintile that receives most of the income. As mentioned earlier in the introduction to this sub-section, this scenario weakens efforts towards rapid and equitable overall growth as it favours capital-intensive products and imported goods. Another implication of this finding is that, given the low payments to land, access to capital rather than land ownership is what may have an impact on poverty alleviation and reduction of inequality. There is, therefore, need to develop credit programmes, such as innovative microfinance packages, for the agricultural sector.

Figure 4.20 shows sectoral labour remuneration for rural and urban areas, while Figure 4.21 differentiates labour remuneration by skill.

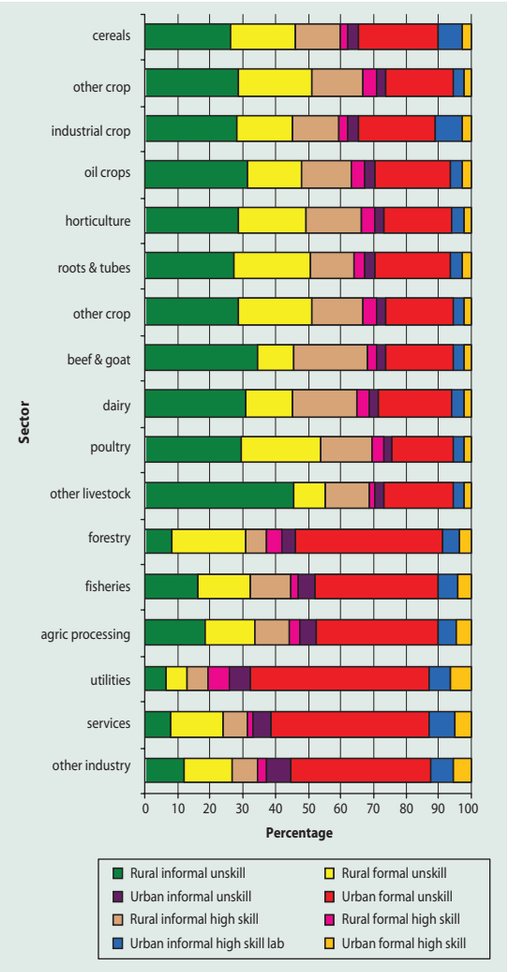
About 50 per cent of labour earnings from crop and livestock enterprises go to rural unskilled labour. Although Figure 4.20 suggests that

Figure 4.20: Sectoral contribution to rural and urban labour (%)



Source: KIPPRA calculations

Figure 4.21: Sectoral contribution to labour earnings by skill (%)



Source: KIPPRA calculations

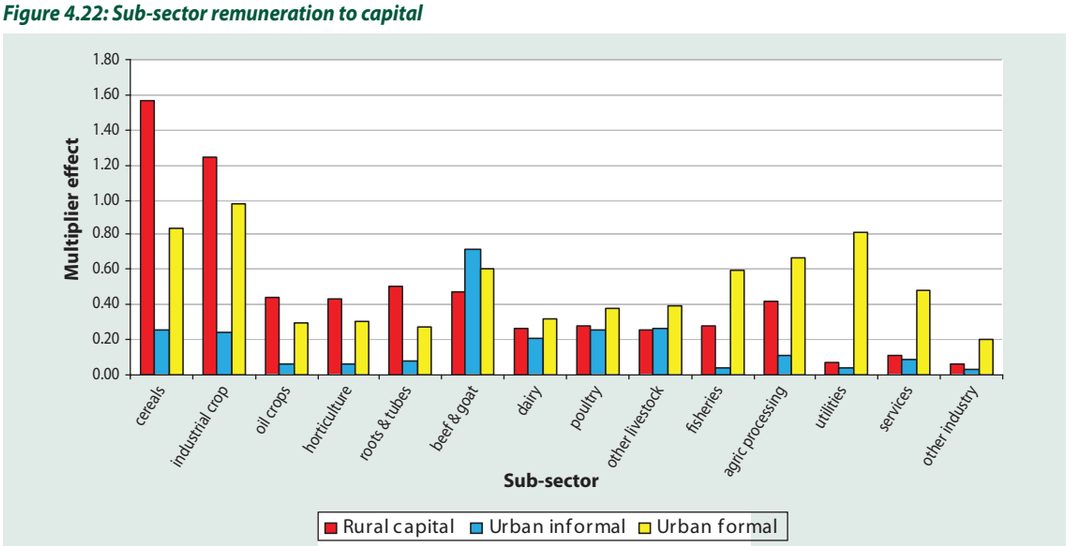
industrial crops contribute most to labour, the poultry and livestock sector contributes slightly more to the more vulnerable rural unskilled labour. Forestry and fisheries sub-sectors benefit the urban unskilled labour in the informal sector more.

According to the figure, cereals and industrial crops have the highest impact on both rural and total capital. In general, although the livestock sub-sectors have a larger impact on urban capital, the payments are fairly well distributed between the three forms of capital: rural, urban informal and formal (Figure 4.22) compared to other sectors. The fisheries and forestry sub-sectors are clearly capital-intensive, with the highest impact being on urban formal capital.

On land remuneration, Figure 4.23 shows that industrial crops have the highest impact, followed by cereals, oil crops and horticulture. Roots and tubers have a similar impact as that of agricultural processing.

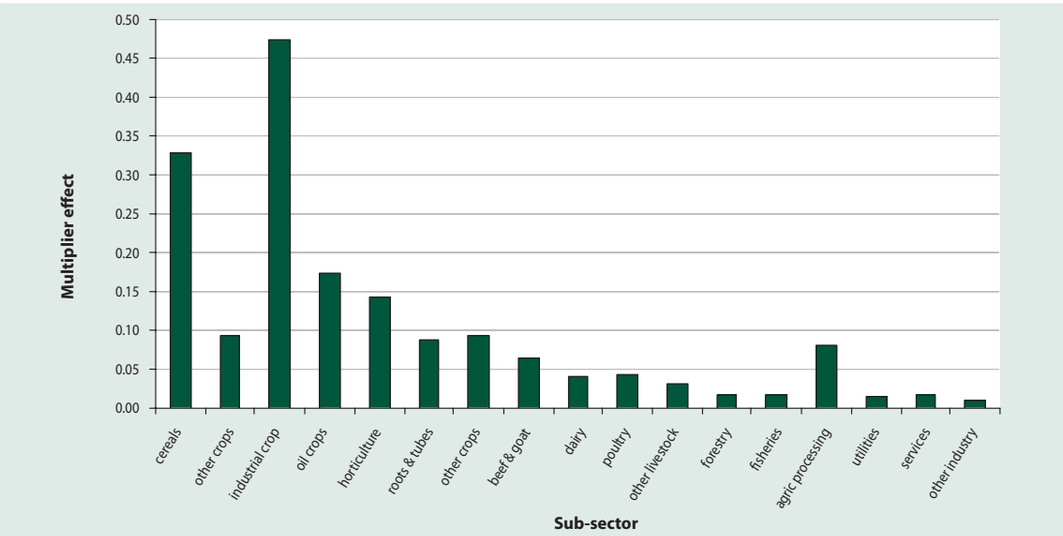
In summary, following the above analysis, if the country is to make more mileage in poverty reduction, more policy attention and public funding should be on livestock (sheep and goats) development, especially small livestock, and production of orphan crops such as roots and tubers. Commercialized agriculture, such as dairy farming, horticulture, coffee and tea farming would benefit through support from

Figure 4.22: Sub-sector remuneration to capital



Source: KIPPRA Staff Computations

Figure 4.23: Sectoral remuneration to land



Source: KIPPRA calculations

public-private sector partnerships supported with a favourable environment for private sector participation.

4.3.12 Households' income generation

The multipliers assist in identifying not only those sectors that have greater production linkages, but also those that generate more value added and have significant effects on the distribution of income between rich and poor households. The household has been categorized into rural and urban, with each category being in turn disaggregated into five expenditure quintiles.

Industrial crops have the highest impact on households' incomes (Appendix Table B4.1). A total household impact multiplier of 4.66 shows that for every shilling generated in the industrial crops sector, Ksh 4.66 is generated in the households. However, 72 per cent (Ksh 3.35) of this income is generated in the more affluent 4th and 5th quintile households. This applies across all the productive sectors.

The low income generated in households in the two lower urban quintiles for all sectors is worth mentioning. This scenario suggests that the urban poor are the most vulnerable to poverty. There is need to explore ways of boosting sectors with potential for income generation for these categories of households. In Part III of this report, the SAM multiplier is used to generate simulations that provide the criteria for identifying key sub-sectors in agriculture for investment for Kenya to reduce poverty and inequality.

4.4 Outstanding Challenges and Policy Issues

Stagnation of agricultural productivity

Although there is some evidence that productivity of some agricultural products is higher than it was ten years ago,[5] stagnation or declining productivity remains a concern for development. As a sector that engages about 75 per cent of the country's labour force, a poorly performing agricultural sector translates to lower levels of employment, incomes and, more importantly, food insecurity. It also has implications on inequality. Low agricultural productivity reflected in low yields per hectare also mean high unit cost of production. Among the reasons that explain this is the inability by farmers to afford high yielding farm technologies, which is partly blamed on poor access to financial services. There is also lack of financial services that are supportive of smallholder agricultural development.

High prices of input

High cost of purchased inputs, coupled with lack of credit facility for agriculture leads to low agricultural productivity. The increasing world prices of fertilizer and fuel limit the ability of farmers to take advantage of high food prices. The short-run solution may be to subsidize agriculture. This can be effectively implemented through public-private partnerships, using existing private sector agro-enterprise outlets. The cost may be worth less compared to cost of food aid. Subsidizing agriculture is demonstrated by the successful case of Malawi in 2006. After a disastrous maize harvest in 2005 leading to a situation where almost 40 per cent of the population was in need of emergency food aid, the Government of Malawi implemented a seed and fertilizer subsidy worth US$ 74 million. The subsidy yielded maize worth US$ 120-140 million. A shipment of food aid since 2002 was worth US$ 147 million. Maize production leapt to 2.7 and 3.4 million metric tons in 2006 and 2007, respectively, from 1.2 million metric tons in 2005. The subsidy was implemented through a voucher system where private sector stockists redeemed the cost of inputs from the government.

Over-reliance on rain-fed agriculture

Reliance on rain-fed agriculture makes the sector vulnerable to weather shocks. This is bound to get worse with the increasing incidence and intensity of droughts and floods, arising from climate change. It is necessary that the policy on increasing investment in irrigation be given the priority and budgetary commitment it deserves.

Limited specialization and value addition

Perhaps as insurance against risk, many small-scale farmers maintain a diversified crop and livestock portfolio mainly at the primary production level. Yet, a real transformation of the rural economy to commercialized agriculture as envisaged in the SRA and Vision 2030 would entail greater specialization in production and movement up the value chain. The SRA and the first phase of Vision 2030 Medium Term Plan recognize this and provide measures that include provision of appropriate incentives for establishing agro-industries in rural areas, focused research on value addition regarding processing, storage and packing of agricultural produce, promotion of partnerships between smallholders and agribusiness, and improvement of supportive infrastructure such as rural access roads, rural electrification, water and telecommunications.

Poor and inadequate rural infrastructure

High transaction costs in input and output markets, hence uncompetitive agriculture, results from poor and inadequate rural infrastructure. This constrains development of rural market centres. Development of the latter could also tap the growing youth, who is currently not attracted to the drudgery of agriculture. There is evidence that the Constituency Development Fund (CDF) is having a positive impact on rural infrastructure, especially in reducing distances of access to motorable roads and, thus, improving access to markets.

Limited development of the livestock sector

Kenya's livestock sector contributes 10 per cent to GDP, about 42 per cent of total agricultural output and accounts for about 30 per cent of all marketed agricultural output. More than 60 per cent of Kenya's livestock is found in the ASALs where it contributes to employment of 90 per cent of the local population. Despite only 17 per cent of Kenya's land being suitable for crop farming, the large livestock potential remains largely unexploited. The development of the livestock sector is constrained by recurrent droughts, lack of reliable markets, poor infrastructure, high cost of inputs, lack of veterinary services, prevalence of diseases and pests, as well as shortage of high quality breeding stock. Other challenges include land degradation, soil erosion and encroachment of the farming communities in the ASALs.

Although the country has a high potential for livestock exports, this remains unexploited due to inadequate capacity in standardization, quality control and processing capacity. The efforts towards reviving and privatizing the activities of the Kenya Meat Commission and improvement of markets near production areas could go a long way towards improving the status of the livestock sector.

Limited ability to absorb allocated sector budgets

With all the above challenges of under-development of agriculture and rural areas in general, the sector has in the last five years only absorbed on average about 67 per cent of its budgetary allocation. Key ministries in poverty reduction, such as livestock and fisheries, hardly absorb 40 per cent of their allocation. There is need to determine the constraints in the use of allocated budgets; the question is whether the sectors have indeed the ability to absorb the allocated funds. A sector needs assessment may reveal the capacity for the ministries to utilize allocated funds.

Inadequate research funding

In addition to overall low fund absorption, the sector experiences low government funding for research.

Land sub-division and lack of a comprehensive land use policy

Land is an important and sensitive resource in Kenya and lack of access to or ownership of land is one of the major causes of poverty, inequality and conflict. The country lacks a clearly articulated land policy, hence issues of land use, management, tenure reforms and environmental protection are inadequately addressed through the existing systems. Special attention needs to be placed on the problems of pastoral land tenure relations as it has implications for agricultural development. The country also lacks accurate and up-to-date database on land. Most information on land continues to originate from the districts.

Cultural inhibitions

Cultural factors have led to high sub-division of land in the country, with about 60 per cent of rural households currently owning parcels less than 0.5 hectares. A good land policy should address the issue of optimal farm size for different agro-ecological zones. As a way of addressing the land fragmentation problem, the government should explore use of settlement schemes whereby building of concentrated villages, that are also easy to provide services for, and farms are consolidated. This would allow support of large-scale production systems and an avenue for agricultural transformation.

Frequent famines

Kenya experiences frequent incidents of famine. Worse still, some famines could be avoided or their impacts significantly reduced given that most of them often follow bumper harvests. Inadequate early warning systems, disaster un-preparedness and poor logistics for emergency response are often to blame. Unsustainable farming practices such as the rampant destruction of rainfall catchments through encroachment by human settlements portend more famine incidents.

4.5 Conclusion

Improved agricultural productivity is critical for Kenya to achieve accelerated growth, sustainable development, and poverty and inequality reduction. The sector engages about 75 per cent of the country's labour force, with a sizeable proportion of the rural labour force (over 51%) engaged in small-scale agriculture. However, dismal performance of the sector, manifested by high unemployment levels and poverty, regional inequalities and food insecurity, has been a major concern for development.

Despite the country having only 17 per cent arable land, the large livestock potential remains largely unexploited. Kenya's livestock sector contributes 10 per cent to GDP, about 42

per cent of total agricultural output and about 30 per cent of all marketed agricultural output. More than 60 per cent of Kenya's livestock is found in the ASALs and employs 90 per cent of the local population.

The high food prices is a potential threat to attainment of MDGs and other national targets, mainly poverty and hunger reduction. Although producers stand to benefit from increasing commodity prices, producing units/ farms need to be expanded through adoption of modern production methods, including effective irrigation.

Further, competition for agricultural products in production of bio-fuels and food poses a new challenge not only for Kenya but in the global economy. Local factors that constrain food production include erratic droughts and floods arising from climatic changes, high production costs, and the effects of post-election crisis that has worked to worsen agricultural productivity in the affected areas. The high component of food inflation in overall inflation makes effective management of food supply within the country paramount for the stability of both food and the macroeconomy.

To address challenges facing the sector, the following policy interventions should be undertaken:

(a) Public funding on livestock development and sustainable production of orphan crops such as roots and tubers.

(b) Supporting commercialized agriculture, including dairy production, horticulture, coffee and tea through public-private sector partnerships and infrastructure development.

(c) Promoting food production through, for example, accelerated irrigation development, ensuring incentives to stimulate production, diversification of the food basket, food fortification, value addition, subsidizing agricultural inputs, undertaking regional initiatives for food reserves, designing effective implementation of means-tested targeted social protection measures, and reducing unemployment.

(d) Revitalizing provision of extension services and encouraging use of technology for increased agricultural productivity.

End notes

[1] GHI is an instrument that has been developed by the International Food Policy Research Institute (IFPRI) for tracking MDG 1.

[2] President Jerry Rawlings of Ghana (1982-2000) made a deliberate effort to promote indigenous foods.

[3] See "The Challenge of Hunger" in *Global Hunger Index: Facts, Determinants and Trends* (Washington, DC: IFPRI, 2006).

[4] The analysis is made from data collected for the Welfare Monitoring Survey 1994 and 1997, and the Kenya Integrated Household Budget Survey, 2005.

[5] Tegemeo panel dataset (1997-2007).

5 Manufacturing Industry

5.1 Sector Significance

Over the years, the manufacturing industry in Kenya has contributed about 10 per cent to GDP. From the 7.0 per cent economic growth experienced in 2007, 8.8 per cent came from manufacturing. This contribution has arisen from the sector's steady growth from 4.5 per cent in 2004 to 6.2 per cent in 2007. The manufacturing sector also contributes 14.0 per cent to wage employment, mainly in food processing, beverages, textiles, garments, wood processing, furniture and fabricated metal (Government of Kenya, 2007a).

5.2 Expenditure Review and Policy Setting

After independence, Kenya pursued import substitution as an industrialization strategy. However, limited local demand and operational inefficiency slowed down the strategy and the country shifted to an outward-looking strategy from mid-1980s. The import substitution strategy was nevertheless successful in establishing industries in textiles and garments, food, beverages and tobacco, which are still the dominant industries.

Initial efforts in mid-1980s to shift to export promotion were constrained by structural rigidities, low productivity and macroeconomic instability. To overcome these challenges, Kenya implemented Structural Adjustment Programmes (SAPs) up to the late 1980s, but they failed to promote economic growth and improve peoples' welfare. The country renewed its momentum towards export promotion strategy in early 1990s.

The import substitution strategy was implemented mainly through joint government-private sector ownership. However, the government began to disengage itself from manufacturing concerns following the 1979 Report on the Review of Statutory Bodies, and the 1982 Report of the Working Party on Government Expenditures. The two reports noted that most of government investments in commercial and industrial enterprises were inefficiently run and unprofitable, and were therefore a burden that stifled private incentive. The reports recommended, *inter alia*, that the government should divest from sectors in which the private sector could manage more efficiently.

In recent years, government involvement in industrial activities has mainly been restricted

to improving the business environment by improving infrastructure and regulatory reforms. Industrial policy developments in South East Asia show a similar trend, but markedly differ in re-orientation of these policies to economic realities worldwide. For instance, Singapore initially adopted an import substitution industrialization policy but, with limited market to sustain it, shifted to export promotion in 1965. Similarly, Malaysia followed the strategy after independence in phases, with the first phase (1957-1963) involving industrial investment by private sector alone while the government focused on infrastructural development. This phase preceded the state-led investment (1963-1970), which later led to the export promotion strategy in 1973.

Today, Kenya's industrial base is far much behind that of these South East Asian countries. Malaysia has had a well-planned transformation of her industrial sector from assembly-type import substitution in 1960s, medium and heavy technology industries and services in 1970/80s, high technology production in 1990s, to knowledge-based higher value added production in 2000 and beyond.[1]

From 2002, government efforts to improve the sector's performance culminated in drafting of the National Industrial Policy (NIP) for Kenya that was finalized in 2007. The document takes stock of non-implementation of industrial strategies outlined in *Sessional Paper No. 2* of 1997. Lack of a harmonized and coherent industrial policy hindered the implementation of the policies in the Sessional Paper.

The NIP proposes creation of institutions to coordinate and facilitate industrial development, with clear targets and benchmarks. Consequently, the National Industrial Development Commission (NIDC) will be established for policy guidance and implementation. NIDC will work closely with other institutions/forums in the private sector, the National Council for MSMEs, collaborating ministries, Technical Arm Consultative/forum and universities and research institutions. The National Industrial Policy identifies 12 sub-sectors whose industrial policies will be implemented within a framework of the Industrial Master Plan, the product of Master Plan Study for Kenya's Industrial Development (MAPSKID).

The National Industrial Policy, therefore, clearly captures the mechanism that will facilitate implementation of strategies in *Sessional Paper No. 2 of 1997* for Kenya to achieve global competitiveness by the year 2030. However, the document fails to identify industrial phases that the country needs to undertake to transform its industrial sector towards higher value-added production. Kenya should appraise global trends in trade so that it re-orients its industrial production to world demand.

5.3 Performance Indicators

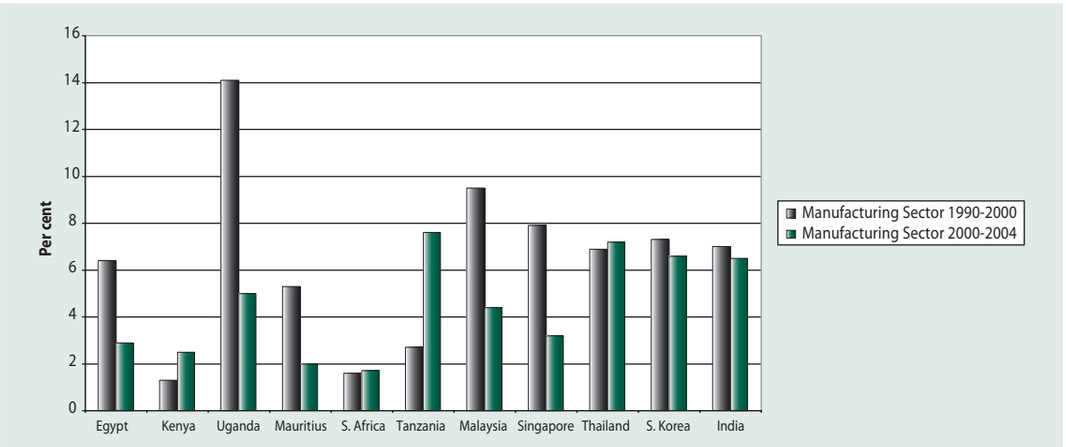
The performance of the manufacturing sector is reflected in the trends in relative size, growth, structure, exports, employment creation and labour productivity of the sector within the Kenyan economy, and how these trends compare in other parts of the world. The next sections of this chapter follow this analytical framework to understand how the manufacturing sector in Kenya has performed *vis-à-vis* the sector's performance in some selected parts of the world, and how various policy stances have influenced the growth of the sector.

As Appendix B5.1 and Figure 5.1 illustrate, the growth of the manufacturing sector in Kenya in 1990-2000 and 2000-2004 was far below the other East African countries. Given that these countries are the main importers of Kenya's manufactured products, such development could have serious repercussion for its manufacturing industry.

The other aspect that characterizes the manufacturing sector in Kenya is its small size. For instance, in 2006, the share of manufacturing value added to overall GDP in newly industrialized countries such as Singapore, Malaysia and Indonesia was at least twice the sector's per cent value added to GDP in Kenya (Appendix Table B5.2). Further, this

Malaysia has had a well-planned transformation of her industrial sector from assembly-type import substitution in 1960s, medium and heavy technology industries and services in 1970/80s, high technology production in 1990s, to knowledge-based higher value added production in 2000 and beyond.

Figure 5.1: Manufacturing growth trends in some selected countries



Source: Compiled from World Development Indicators, 2005, 2006, 2008

proportion declined during 2003 to 2006 for Kenya, whereas it was increasing for most of South East Asian countries. For most African countries, the manufacturing sector still constitutes a small part of GDP.

5.3.1 Structure of manufacturing industry

Although the manufacturing sector in Kenya is diversified in terms of activities, agro-processing of food commodities and refining of petroleum products are the main industries in terms of value added. For instance, in 2006, the contribution of these sub-sectors in manufacturing value added to GDP was 21 per cent and 15 per cent, respectively (Government of Kenya, 2007b). Thus, Kenya has not substantially transformed her manufacturing sector from traditional industries.

The main destination for Kenya's manufactures is limited to a few neighbouring countries. For global competitiveness, Kenya should seek new market avenues particularly from countries with high per capita incomes to gain scale economies from enlarged markets.

As shown in Appendix Table B5.3, the share of food, textile and clothing in total manufacturing has not only been small in South East Asia countries such as Malaysia, Singapore and Thailand, but it also declined between 1990 and 2002. For the same period, the per cent share of textile and clothing increased in Kenya. Food, beverages and tobacco still constitute about a third of manufacturing in Kenya (Government of Kenya, 2007a).

Lack of industrial transformation has a negative implication on overall growth of the manufacturing sector and the economy. Countries that have shifted from traditional industries to high technology-based manufacturing have made significant progress in economic development. For instance, the South East Asian countries, which mainly specialize in manufacturing of intermediate products such as machinery, have transformed their economies in the last 30 years. Malaysia concentrates on motor vehicle parts and accessories, air-conditioning and refrigerating equipment, computers and computer peripherals, semi-conductor devices and refining of petroleum products. Incidentally, the level of development in these countries is far much above that of Kenya.

5.3.2 Manufacturing exports

Most of Kenya's manufactured exports go to the regional market of COMESA, particularly to Uganda, Tanzania, and Rwanda. However, the country also exports textiles and garments to United States under the African Growth and Opportunity Act (AGOA) preferential trade arrangement. Thus, the main destination for Kenya's manufactures is limited to a few neighbouring countries. For global competitiveness, Kenya should seek new market avenues particularly from countries with high per capita incomes to gain scale economies from enlarged markets.

Kenya lags behind in increasing its share of manufactured exports as a ratio of total merchandise goods. As shown in Figure 5.2, Thailand, Indonesia and China increased the share of manufactured exports relative to total merchandise exports between 1990 and 2004, yet Kenya experienced a declining trend. Compared to these countries, Kenya became less globally competitive in manufactured products. The aspect of competitiveness is further aggravated by the fact that Kenya manufactured exports are mainly agro-processed products, which fetch relatively lower prices in world markets compared to other manufactures.

Manufacturing in Export Processing Zones

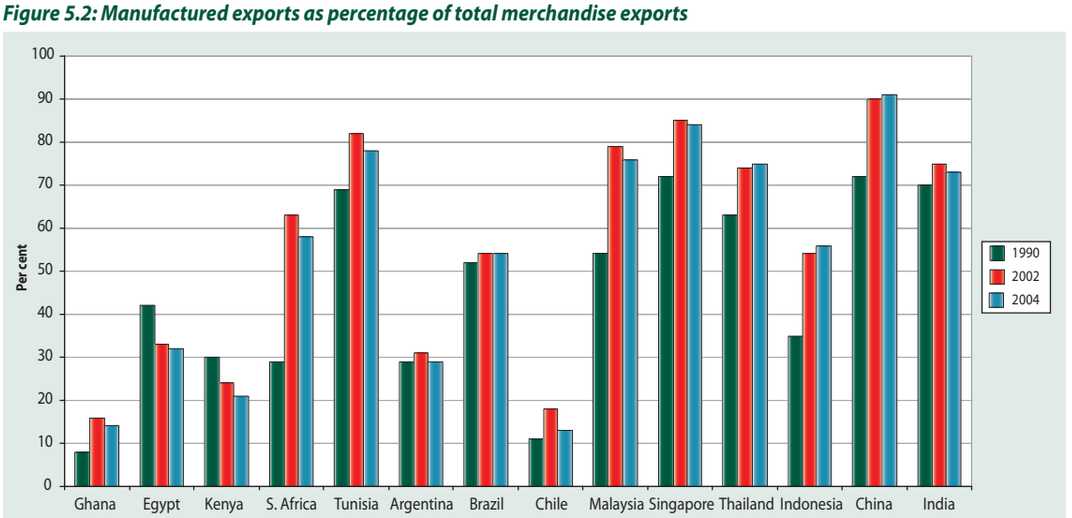
The establishment of Export Processing Zones (EPZs) was significant in promoting industrial development. EPZs are industrial zones with special incentives to attract investors, which include provision of basic infrastructure and tax holidays. These zones have been successful in Newly Industrialized Countries (NICs) such as Malaysia, Singapore and Indonesia.

Whereas EPZs have been successful in propelling growth of the manufacturing sector in the NICs, this has not been the case in Kenya. As shown in Appendix Table B5.4, the proportion of exports that comes from EPZs in Kenya (86.9%) is about the same for Malaysia (83.0%), yet the number of people employed in EPZs is ten times more in Malaysia compared to Kenya. Similarly, Malaysia generates US$ 12.6 billion annually of exports from EPZs as opposed to US$ 277 million in Kenya.

What accounts for the differences in industrial performance in the two countries? Possible reasons include:

- *Composition of exports*: Kenya's exports from EPZs mainly consist of garments/ textiles and processed tea, whereas Malaysia exports high-tech electronics, services and pharmaceuticals. It should be noted that garments and textiles was the main industry initially established in EPZs in many countries, including Malaysia, which has now moved to high value adding products. Kenya has continued to lay emphasis on exports of textiles/garments yet the country lacks competitive advantage in the production of such products, and the sub-sector barely survives on the AGOA initiative.
- *Level and structure of Foreign Direct Investment (FDI)*: The investing countries and level of foreign direct investment influence the type of investments and the number of firms that are established. Kenya has about 68 firms scattered in 43 EPZs and 11 industrial parks, whereas Singapore has 7,000 firms in 7 EPZs and 35 industrial parks. Japan, Korea and USA are

Figure 5.2: Manufactured exports as percentage of total merchandise exports



Source: Compiled from World Bank, (2005; 2006), World Development Indicators

the main investing countries in Malaysia through franchise-based industries that gain from networks with parent companies. The investing countries in Kenya EPZs are Indian and Sri Lankan garments/textiles industries, while a few firms from UK mainly concentrate on tea processing.

Manufacturing sector and AGOA

In 2001, the US government enacted the African Growth and Opportunities Act (AGOA), which allowed African countries to export textiles and garments duty-free and without import quota restrictions. The rise in exports of garments and apparel from Kenya has been attributed to this opportunity (Table 5.1). The decline observed in 2005 was as a result of closure of some firms due to anticipated end of Multi-Fabric Agreement on 1 January 2005, which allows African clothing manufacturers to continue using third country fabrics in their duty-free exports to the US. Though the US government had emphasized that it will not allow imports from countries whose firms do not source raw materials domestically by 2007, it has extended the deadline for compliance with origin criteria to the year 2012.

Whereas the AGOA initiative has contributed to employment creation in Kenya, the net gain to the economy has to factor in the tax exemptions and relatively infrastructural advantages given to the textiles/garments firms operating in EPZs. Further, the backward linkages associated with AGOA, particularly reviving the cotton industry, will need to be assessed in order to establish the actual gain of the initiative to the Kenyan economy.

5.4 Employment Creation and Labour Productivity

Despite the improved performance of the manufacturing sector in Kenya in terms of increased output, employment creation has been slow. Except for garments/textiles and rubber and plastic, other sub-sectors experienced a declining proportion between 2002 and 2006 (Appendix Table B5.5). The growth in employment in EPZs has not been as high as expected.

Table 5.1: Kenya textile and garments exports under AGOA

Year	No. of factories	No. of employees	Export Value US$
2000	10	10,000	30,000,000
2001	15	16,000	70,095,508
2002	25	26,000	119,907,104
2003	40	37,000	178,384,134
2004	36	32,000	261,214,768
2005	25	26,000	249,659,592

Source: Kenya Association of Manufacturers' 2006 survey of the manufacturing sector in Kenya

Kenya has relatively high unit labour costs. Though costs are comparable with Uganda and Tanzania, it has a higher unit labour cost than China and India. This pattern applies even when labour productivity is analyzed by firm size, particularly for medium and large firms.

The employment issue in Kenya's manufacturing sector is thus two-dimensional: there is the challenge of creating new job opportunities, and increasing labour productivity. Countries with more diversified economies that give premium to manufacturing machinery and high technology-based products have experienced high labour productivity and accelerated industrial expansion that brings with it new employment opportunities.

5.5 Outstanding Challenges and Policy Issues

5.5.1 Outstanding challenges

The industrial policies pursued by Kenya since its political independence have not resulted in a vibrant manufacturing industry. The import substitution strategy mainly promoted production of food, textiles, tobacco and beverages geared to a limited market. In a liberalized environment of the 1990s, competitiveness of firms was low.

Similarly, there has not been any significant transformation of the manufacturing sector up the value chain to production of high technology products. These factors have stifled efforts to achieve the threshold level of manufacturing sector size, structure and dynamism required to help increase the country's world share of manufacturing.

Nevertheless, Kenya, like many African countries, has not been unique in facing these constraints. A number of East Asian countries experienced similar challenges in the early years of industrialization. However, countries such as Thailand, Malaysia, Taiwan, Singapore and South Korea have not only overcome these constraints, but they have also gone ahead and become industrialized nations.

Kenya has a lot to learn from East Asian countries. As the country struggles to gain growth momentum in the manufacturing industry, and the overall economy achieves 10 per cent growth as envisaged in Vision 2030, some constraints that compromise its industrial competitiveness in manufacturing will have to be addressed. These challenges include:

a) *Lack of consistent transformation and diversification in manufacturing industry*: Whereas benchmarking countries have transformed their manufacturing sector to high technology and high value products, the Kenya manufacturing sector is still based on agro-processing, textiles and garments manufactures and motor vehicle assembling.

b) *Proactive industrial policy*: A clear foresight in global trade pattern seems to have guided the formulation of industrial policies in the South East Asian countries, and these policies have been instrumental in stimulating manufacturing growth. For Kenya, however, there is lack of coherent industrial policies, and there is no thread of policy development relating to the manufacturing industry. What is observed is a reactionary response to industrial challenges of the day. The import substitution strategy did not extend to production of intermediate goods; neither did the export promotion strategy take cognizance of the trend in global demand. The emphasis on textile and garment production in Kenya is pegged on opportunities from AGOA, with no remarkable efforts to develop local cotton and fabric production. As a result, Kenya's textile industry will continue to face strong competition from industries in Asian countries.

Table 5.2: Ratio of total wages to manufacturing value added in the median firm, by size

Country	Medium (10-49 employees)	Large (50-99 employees)	Very Large (>100 employees)	Overall
Kenya	0.38	0.41	0.34	0.36
Tanzania	0.56	0.42	0.25	0.39
Uganda	0.41	0.41	0.35	0.39
India	0.30	0.25	0.24	0.27
China	0.38	0.34	0.29	0.32

Source: World Bank/KIPPRA, CSAE (2004) RPED report on Investment Climate Assessment in Kenya

c) *High cost of production*: As highlighted in Vision 2030, the manufacturing industry faces costly raw materials, rising labour costs and unreliable and expensive energy (e.g. US$ 0.15c/Kwh in Kenya compared to US$ 0.07c/Kwh in China and US$0.04c/Kwh in South Africa). There are other concerns relating to poor infrastructure and inadequate services such as water and other input supplies, which inhibit the growth of the industry.

5.5.2 Policy issues

The foregoing analysis suggests areas in Kenya's enterprise base that require urgent policy attention for the country to double the contribution of manufacturing sector to GDP by 2012. Kenya has traditionally based its manufacturing sector on agro-processing and production of consumer products. Further, exported manufactures are mainly destined to neighbouring countries. The first challenge with this approach is the missed scale opportunities, since this market is limited for

Economies that give premium to manufacturing machinery and high technology-based products have experienced high labour productivity and accelerated industrial expansion that brings with it new employment opportunities.

a country that targets to markedly increase its industrial base. The market may even dwindle since these countries are rapidly widening their industrial establishment.

Secondly, Kenya may continue to lack international competitiveness as NICs go for high value adding manufacturing of electronics, electrical products, motor vehicle parts and computer ancillary parts. Policy developments in Kenya's manufacturing sector need to capture country-specific dynamics that have hastened robust growth in the industry in South East Asian countries. For instance, policy interventions should take cognizance of the form of industrial transformation that made NICs to be highly industrialized. Consequently, Kenya will have to institute a policy framework that strategically reflects the global trend patterns.

The Industrial Master Plan (the product of MAPSKID) is a remarkable starting point for industrial development because it identifies preconditions for industrial transformation. Nevertheless, strategic transformation of the industry will have to be undertaken for manufacturing contribution to GDP to more than double by the year 2030. The inability of Kenya to undertake a second stage of import substitution focusing on production of intermediate goods denied the country the momentum to transform its structure to production of high value yielding exports.

In the light of the above observations, the following policy interventions may be considered to address the lags in manufacturing industry in Kenya:

(i) Diversification of the industrial base with concentration on more value adding exports. One way to achieve this is to encourage investment by giving incentives to domestic and foreign firms whose core business involves production of intermediate products, particularly those with export potential.

(ii) Encouraging of sub-contracting and other forms of alliances between local firms and multinationals. The industrial growth in South East Asian countries can be traced to firms in Japan and Western countries outsourcing from firms in Asian countries. Local firms can improve product quality and gain from adopting foreign technologies if opportunities exist for firm-firm linkages.

(iii) Intensifying efforts in improving business environment through better infrastructure, improved public services and efficient regulatory and legal framework.

For Kenya to fully gain from the AGOA initiative, the textile firms that closed down in the 1990s should not only be revived and privatized, but they should also be given incentives to re-orient production to exports. As rightly put in Vision 2030, there is need to improve value addition in agro-processing industries. However, this should be a short-run strategy and a foundation for diversification of the manufacturing industry.

5.6 Conclusion

Though the manufacturing sector has performed relatively well between 2002 and 2007, the sector's contribution has stagnated at 10-12 per cent for the last two decades. This stagnation partly stems from concentration on few commodities, namely the processing of food commodities and refining of petroleum products. Further, there is lack of industrial transformation from these traditional commodities to machinery and high technology products, as is the case in countries such as Malaysia and Indonesia.

The policy challenge has been lack of a shift towards global economic realities. Policy intervention should, therefore, aim at diversifying the market destination of manufactured products as the Eastern African countries that constitute the major market are rapidly increasing their enterprise base, and their markets getting more liberalized.

Further, although increasing value addition in agro-processing is naturally the starting point to improve the manufacturing sector

in the short run, there is need to move towards production of machinery and other high-value products. The conditions that form the basis for industrial transformation as identified in the Industrial Master Plan require serious government attention. To achieve competitiveness of the manufacturing industry, the high cost of production due to unfavourable business environment that faces domestic firms requires serious policy interventions, such as provision of incentives for private power production, and investment in renewable sources of energy to reduce the cost of production.

End notes

[1] http://www.statistics.gov.my

6 Micro and Small Enterprises

Micro and Small Enterprices (MSEs) are involved in activities that range from manufacturing, agriculture and services. However, due to the informal nature of MSEs activities, data on the sub-sector is scanty in Kenya. The sub-sector is therefore not fully captured in analyzing mainstream sectors. Given the increasing role of MSEs in employment creation and poverty reduction, the discussion of MSEs is curved out of other chapters to highlight the crucial issues facing the sector.

6.1 Sector Significance

In Kenya, MSEs are defined as those enterprises that have between 1 and 50 employees, whether formal or informal (CBS, ICEG and K-REP, 1999; Government of Kenya, 2005). Micro-enterprises have no more than 10 employees while small enterprises have between 10 and 50 employees. There are a few MSEs that are formal, but majority do not regularize their operations beyond the licensing requirements by local authorities.

MSEs play an important role in the Kenyan economy. They create employment at low levels of investment per job, absorb surplus labour in the economy, use mainly local resources, promote local creativity and innovation, and provide skills training at a low cost to society. Indeed, the Economic Recovery Strategy (ERS) 2003-2007 envisaged that job creation will mostly come from this sector.

6.2 Policy Setting

Sessional Paper No. 2 of 2005 on Development of Micro and Small Enterprises for Wealth and Employment Creation for Poverty Reduction summarizes the intervention measures that will propel the development of the sector. For instance, the paper calls for 25 per cent of all government procurement and tenders to be awarded to MSEs. The government is also undertaking a Micro, Small and Medium Enterprises (MSMEs) Competitiveness Project to improve the performance of the sector. The project has three mutually reinforcing components, namely access to finance, strengthening enterprise skills and market linkages, and improving the business environment.

Vision 2030 and the First Medium-Term Plan (2008-2012) highlight the importance of the MSEs sector as a cornerstone of industrial development in Kenya. They indicate the planned government efforts to promote the sector through development of parks and Special Economic Zones for the small and micro enterprises, in addition to improving the business environment.

6.3 Performance Indicators

Cross-country comparison of MSEs performance is challenged by different definitions of the sector in different countries.

In addition, due to the informal nature of operations of many MSEs, data constraints complicate the comparative analysis of the sector's performance. However, performance indicators include employment levels, value added level and growth, levels of investment and structure of production.

The sector is crucial in various ways, including:

- *Contribution to GDP:* According to the most recent National Baseline Survey on Micro and Small Enterprises, the sector contributes about 18.4 per cent of GDP in Kenya (CBS, ICEG, K-REP, 1999).
- *Employment creation:* The sector accounts for 87 per cent of all new jobs created and it absorbs about 77 per cent of the total number of employees (Government of Kenya, 2007). In addition, the sector accounted for 85 per cent of the total number of employees in the manufacturing sector in 2005 (KAM, 2006).[2]
- *Size of MSE sector:* It is estimated that about 74.8 per cent of all businesses in the country fall within this category of enterprises (Government of Kenya, 2007). In 2005, about 47 per cent of the manufacturing firms were MSEs (KAM, 2006).
- *Contribution to value added:* MSEs accounted for about 12 per cent of value added in manufacturing (Government of Kenya, 2006).

Because of the low capital requirements in business start-up, there is potential of reducing poverty through the MSE sector.

6.4 Outstanding Challenges and Policy Issues

6.4.1 Outstanding challenges

The fact that the MSEs sector accounts for 77 per cent of total employment but generates only 18.4 per cent of GDP reflects the prevalence of low value addition, and perhaps disguised unemployment and under-employment in the sector. Similarly, research shows that growth of the MSEs sector is hindered by lack of access to financial services, deficiency in technical and management skills, dilapidated infrastructure, and increasingly volatile input and output markets.

The informal nature of most enterprises and information asymmetries in resource and product markets compromises the performance of enterprises. Although *Sessional Paper No. 2 of 2005* introduced an affirmative policy of reserving 25 per cent of all government procurement and tenders to the MSE sector, this policy is yet to be operational. In addition, the policy is not supported by any legislation or guidelines, as is the practice in countries with established affirmative public procurement programmes for MSEs, such as South Africa, Brazil and Peru. The forthcoming MSE Bill is expected to address this legal gap.

Other challenges include:

- Harassment by local authorities
- A large proportion of survivalist enterprises and weak growth
- Poor quality of jobs, which is linked to the informality and low value activities and productivity
- High mortality rates in the sector; almost half of MSEs die within the first three years of their establishment—they exhibit high birth rates and high death rates (CBS, ICEG, K-REP, 1999)
- Slow rate of capital formation and minimal investment activity in Kenyan small-scale manufacturing firms (World Bank *et al*, 2004)
- Saturated markets and stiff competition from cheap imports from South Africa, Egypt, China, Taiwan, Singapore, etc
- Loss of intellectual property; their inventions have found their way in the hands of foreigners, who have gone ahead to claim intellectual property rights
- MSE-related responsibilities are spread across a number of different government agencies, with little coordination

Although Sessional Paper No. 2 of 2005 introduced an affirmative policy of reserving 25 per cent of all government procurement and tenders to the MSE sector, this policy is yet to be operational. In addition, the policy is not supported by any legislation or guidelines, as is the practice in countries with established affirmative public procurement programmes for MSEs, such as South Africa, Brazil and Peru.

6.4.2 Policy options

In the long run, MSEs must grow and be integrated into the mainstream economic activities to raise their contribution to national output. This requires that MSEs, particularly the manufacturing firms, refine their products' quality and eliminate informational constraints inherent in their operations. However, in the short run, the MSMEs competitive project targets that policy interventions will:

- Increase the number of formally registered MSMEs by at least 25 per cent per annum;
- Reduce the cost of starting business to no more than US$ 100;
- Reduce time for registering business to at least two weeks in line with international best practice; and,
- Ease the process of licensing, registration and taxation by eliminating lengthy processes and procedures that emanate from multiplicity of institutions carrying out the functions.

Overall, for MSEs to adequately generate employment and income opportunities, there is need to take the following measures:

(a) *Improve coordination of MSE activities:* There is an urgent need to improve the coordination and implementation of the sector's programmes and policies. Currently, these are not well coordinated unlike the case in some other countries. For instance, India has a thriving small-scale enterprise sector, which contributes 40 per cent of the country's industrial output, and 45 per cent of total direct exports.[1] The Ministry of Micro, Small and Medium Enterprises in India is responsible for all matters relating to MSEs, including designing and implementing policies and programmes. This approach ensures that all policy matters are centralized in one government agency. This encourages proper policy design, coordination and implementation. Industrial policies in India, for instance, favour indigenous small-scale enterprises, thus supporting their growth and development. For instance, India has a reservation policy whereby 114 items (as of 2007) have been reserved for exclusive manifacture in small-scale sub-sector. There is also a credit policy where banks are compulsorily required to implement a percentage lending to MSEs. The MSEs legal framework envisaged in *Sessional Paper No. 2 of 2005* should be finalized to provide the basis for establishment of the National Council for Small Enterprises (NCSE), which will coordinate all activities of MSEs. The NCSE can be useful in information dissemination, advocacy and promotion of products of MSEs.

(b) *Reduce costs of doing business:* High energy costs, poor infrastructure, material constraints, low access to market and lack of market avenues are some of the major challenges facing enterprises in Kenya (*Vision 2030*). The problems are more acute to MSEs due to their nature of informality. Thus, the government should intensify efforts to improve the infrastructure and support institutions that can assist enterprises to widen their market avenues and access credit.

(c) *Encourage formation of business linkages*: For Kenya to achieve sustainable development through private sector-led growth, inter-firm linkages between MSEs and relatively larger firms should be encouraged through appropriate incentives in regulatory and legal framework. For instance, the government could recognize and reward large firms that establish sub-contracting networks with small firms. Further, compensation arrangements, similar to the existing training levy, could encourage sub-contracting between small and large firms.

(d) *Promote creativity and innovation among MSEs*: There is urgent need to carry out measures highlighted in *Sessional Paper No. 2 of 2005* to improve skills and technology in the MSEs sector. In particular, establishment of processing zones for MSEs incubation as articulated in Kenya

Vision 2030, and facilitating acquisition of intellectual rights, are urgent issues that require immediate implementation.

6.5 Conclusion

MSEs are crucial in economic development of a country and form the bedrock of improving skills, incubation for creativity and innovation. Further, due to low investment requirements, the sector has high potential to create employment and reduce poverty. Though *Sessional Paper No. 5 of 2005* identifies strategies to promote the growth of MSEs in Kenya, there is urgent need to encourage businesses' formalization, reduce the costs of regulatory compliance, and finalize the MSEs Bill in order to harmonize regulatory aspects for this sector. However, a more long-term approach to facilitate the growth of MSEs should encourage formation of business linkages with larger firms, promote creativity and innovation, and ensure proper coordination and implementation of sector programmes and policies.

End notes

[1] Information from the Office of Development Commissioner (MSME), Ministry of Micro, Small and Medium Enterprise, Government of India, available online from www.smallindustryindia.com

7 Trade

7.1 Sector Significance

Trade is a major contributor to GDP, and Kenya's Vision 2030 identifies trade as one of the key drivers to industrialization by the year 2030. The wholesale and retail trade sub-sector is crucial in economic development as it links production and consumption processes.

Informal and formal trade in Kenya accounts for approximately 10 per cent of GDP and 10 per cent of formal employment. Most of the employment in trade is in the informal sector; informal trade provided about 78 per cent of total employment and contributed about 87 per cent of new jobs in 2005/06 in the trade sector.

The main sectors in Kenya's external trade are in services, agriculture and manufacturing. In 2006, total trade as a share of GDP was 61.3 per cent, with exports accounting for 25.5 per cent while imports contributed 35.9 per cent. In 2007, merchandise trade contributed about 60.6 per cent of total exports, while services share of exports was about 38.8 per cent. Overall, the services sector in 2007 accounted for about 60 per cent of Kenya's GDP, with leading contributors being transport and communication (23.3%), postal and telecommunication (17.3%), and wholesale and retail trade (15.6%).

7.2 Policy Setting

Vision 2030 envisages a streamlined efficient value-chain between the producers and consumers, and high quality commodities in the market. The Vision also aims to raise the share of Kenyan products in the regional market from the current 7 per cent to 15 per cent by 2012 through increased capacity utilization and elimination of impediments to competitiveness. The Medium Term Plan 2008-2012 outlines measures to boost exports by establishing Special Economic Zones, establishing an export development fund to help support diversification and value addition, and by reviewing the National Export Strategy and formulating an incentive structure for targeted sectors. Some of the measures proposed to enhance internal trade include construction of wholesale, retail and hawkers markets and facilitation of producer groups. Besides, the government intends to nurture and encourage Business Process Outsourcing (BPO) as a new venture and source of income and employment.

7.3 Performance Indicators

The performance indicators in the trade sector include: wage employment, real growth in exports and imports; trade share in GDP; export share in GDP; and market share growth in exports. Kenya shows a mixed performance on different indicators of international trade performance (Appendix Table B7.1). Among the comparator countries in the COMESA region, Kenya performed poorly in terms of real growth in exports, while it performed relatively well in real growth in imports. Kenya's real growth in exports in the COMESA region grew by 0.7 per cent, while that of Rwanda and Egypt grew by 16.1 and 10.0 per cent, respectively. Kenya's total trade share in GDP grew by about 61.3 per cent compared to its main competitors, Egypt 73.5 per cent and Mauritius 131.5 per cent. However, Kenya continued to dominate the export market share for intra-COMESA trade, accounting for 34.0 per cent in 2006, with increased exports of manufactured as opposed to primary commodities.

7.3.1 Wage employment in wholesale and retail trade

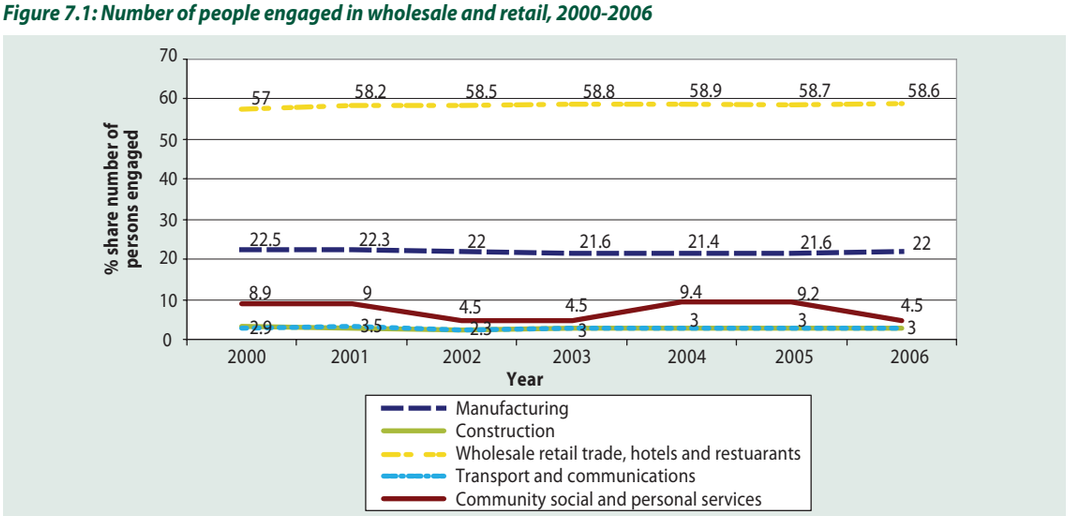
The wholesale and retail trade sector generates the highest number of jobs in the trade sector, estimated at about 59 per cent of all employment in 2006 (Figure 7.1). Manufacturing accounted for about 22 per cent of overall internal trade. Wholesale and retail trade sector is more distributed countrywide; it has the potential to play an important role in poverty reduction and rural employment in the rural areas.

The growth rate in the number of enterprises in retail trade has been on the decline, while employment has been increasing. The decline in the number of enterprises in the sub-sector can be explained by the fact that several of the informal players are occupying the premises of the formal retailers through the emerging "exhibition malls", while retaining their informal status. The activity with the highest growth is oil and petrol, which increased by 54.8 per cent during 2004/2005. Overall, during 2004/2005, employment in the retail trade sector increased by 4.4 per cent (Table 7.1).

7.3.2 Trends in Kenya's merchandise exports and imports

Over the period 2000 to 2006, the value of exports was on an upward trend (Figure 7.2). Exports grew by about 8.6 in 2007. In 2006, growth in the value of exports significantly declined to 8.7 per cent from 31.0 per cent in 2005 mainly due to a decline in re-exports. This trend in merchandise export performance suggests that Kenya has the potential to

Figure 7.1: Number of people engaged in wholesale and retail, 2000-2006



Source: Government of Kenya (various) Economic Survey

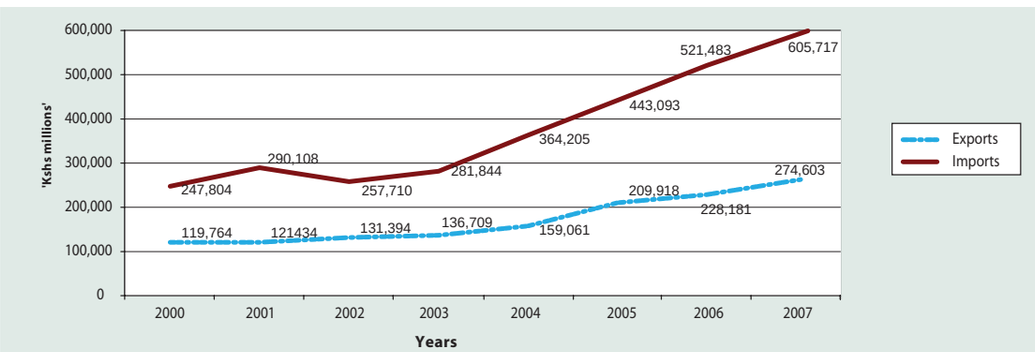
Table 7.1: Number of enterprises and employees in the retail trade

Activity	No. of Enterprises			No. of Employees		
	2004	2005	% Growth	2004	2005	% Growth
Food, drink and tobacco	571	529	- 7.4	2,243	2,468	10.0
Butcheries	164	153	- 6.7	1,469	1,632	11.1
Oil and petrol	343	531	54.8	5,209	6,000	15.2
Textiles, soft furnishings, clothing and shoes	971	890	- 8.3	4,398	4,447	1.1
Building materials, timber, and domestic hardware	639	597	- 6.6	4,482	4,222	- 5.8
Photographic and pharmaceutical goods	279	121	- 56.6	2,094	2,237	6.8
General retail	1,410	1,272	- 9.8	18,687	19,556	4.7
Retail n.e.s*	1,971	1,835	- 6.9	7,486	8,003	6.9
Restaurants, cafes and other eating and drinking places	1,067	993	- 6.9	11,791	12,244	3.8
Hotels, rooming houses, camps and other lodging places	1,087	1,038	- 4.5	38,308	39,582	3.3
Totals	**8,502**	**7,959**	**- 6.4**	**96,167**	**100,391**	**4.4**

Source: Government of Kenya Economic Survey (various)

NOTE: n.e.s - note else where specified

Figure 7.2: Merchandise exports and imports, 2000-2006 (Ksh millions)



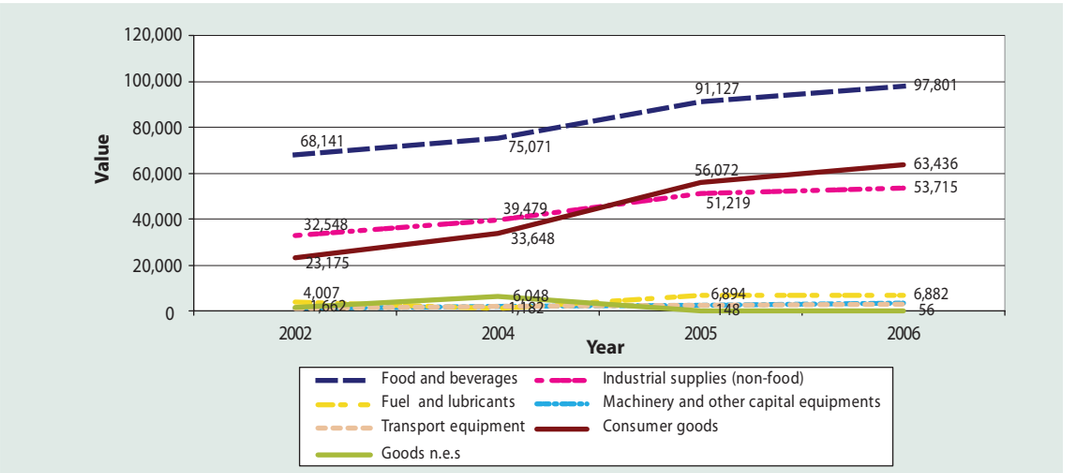
Source: Government of Kenya Economic Survey (various)

increase its world value of exports. On average, total imports have increased more rapidly than exports; increasing by 17.7 per cent in 2006 and by about 16.0 per cent in 2007. Consequently, earnings from total exports financed 45.4 per cent of the import bill in 2007 compared with 48.1 per cent in 2006 (Government of Kenya, 2008).

Kenya's composition of exports has remained broadly the same over the years; it is still dominantly an exporter of agricultural goods with food and beverages, consumer goods and lubricants being the key exports (Figure 7.3). However, exports of industrial supplies, fuel and lubricants, machinery and other capital equipment, transport and consumer goods have significantly increased since year 2000.

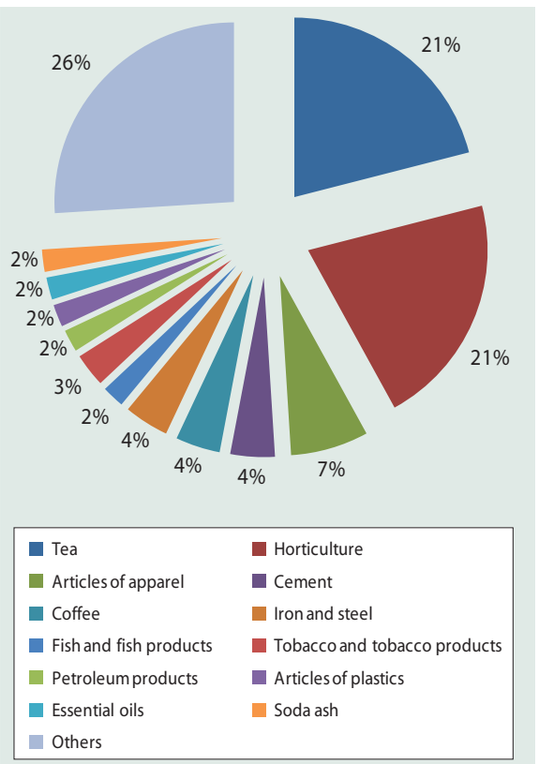
Although food and beverages have increased over time, their share in national exports has declined. Similarly, although the value of lubricants has also been increasing, the share in national exports has also declined. The share in broad categories shows that food and beverages accounted for about 43 per cent of total national exports in 2006, down from 52 per cent in 2002, while exports of consumer goods increased from about 18 per cent in 2002 to 28 per cent in 2006. Other

Figure 7.3: Value of exports by broad economic categories (US$ millions)



Source: Kenya Statistical Abstract (various)

Figure 7.4: Kenya's principal exports, 2006 (% share)



Source: Kenya Trade Map (2007)

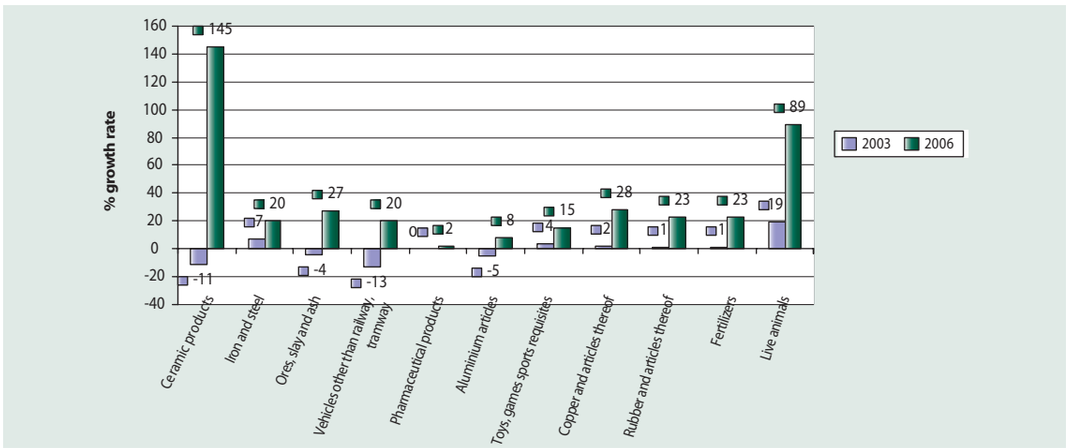
significant increases in share of national exports occurred in industrial supplies (non-food), machinery and capital equipment, and transport equipment. This shows that Kenya is slowly moving from exports of primary products to semi-processed and processed exports, and this can be explained by the increase in the share of industrial supplies (non-food) and machinery. East Asian countries of Malaysia, Singapore and Korea adopted selective policies in sectors such as steel and electronics, perceived to be important in their industrialization process. Kenya could explore the feasibility of such an approach, with specific incentives targeting selected sectors (Government of Kenya Trade Map, 2007).

7.3.3 Kenya's principal exports and imports

Kenya's principal merchandise exports by share of contribution to total exports are provided in Figure 7.4. The exports are highly concentrated in a few products, implying that the level of product diversification is low. More diversification of products is required to be able to remain competitive in international markets.

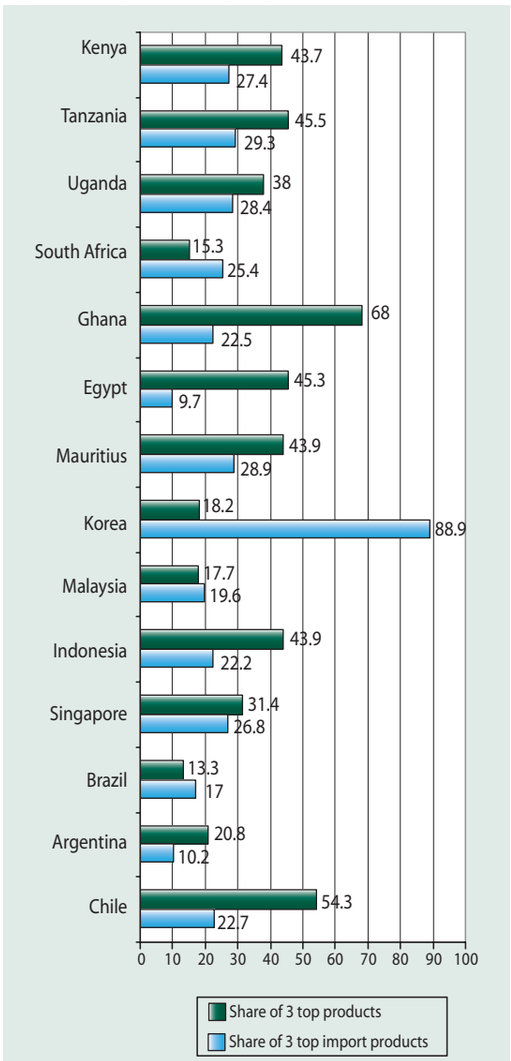
The export products with the most significant improvement are provided in Figure 7.5. Ceramic products, vehicles other than railway, tramway, rubber and related articles, and fertilizer have shown the most significant improvement in terms of growth. Others include live animals, pharmaceutical products, toys, games sports requisites and iron and steel.

Figure 7.5: Products with improved export growth rates, 2003-2006



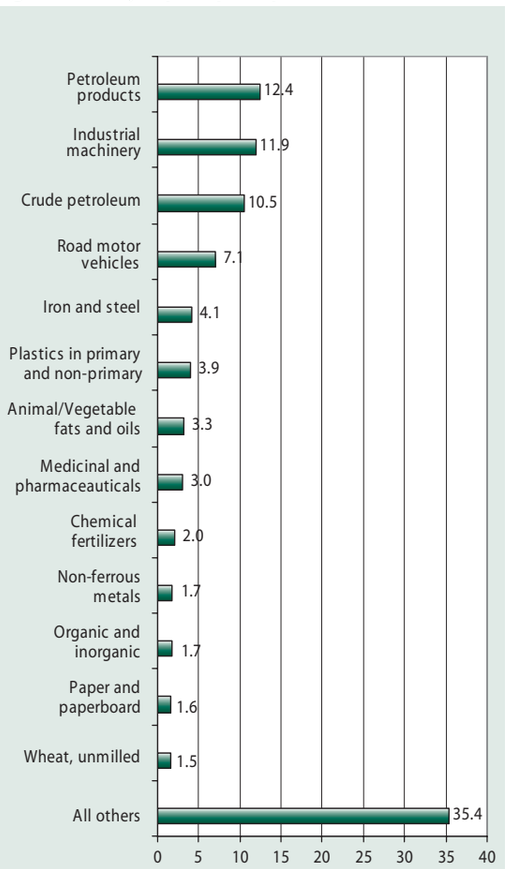
Source: World Trade Organization Database (2008)

Figure 7.6: Export and import product concentration, 2007



Source: World Bank (2008)

Figure 7.7: Kenya's principal imports, 2006



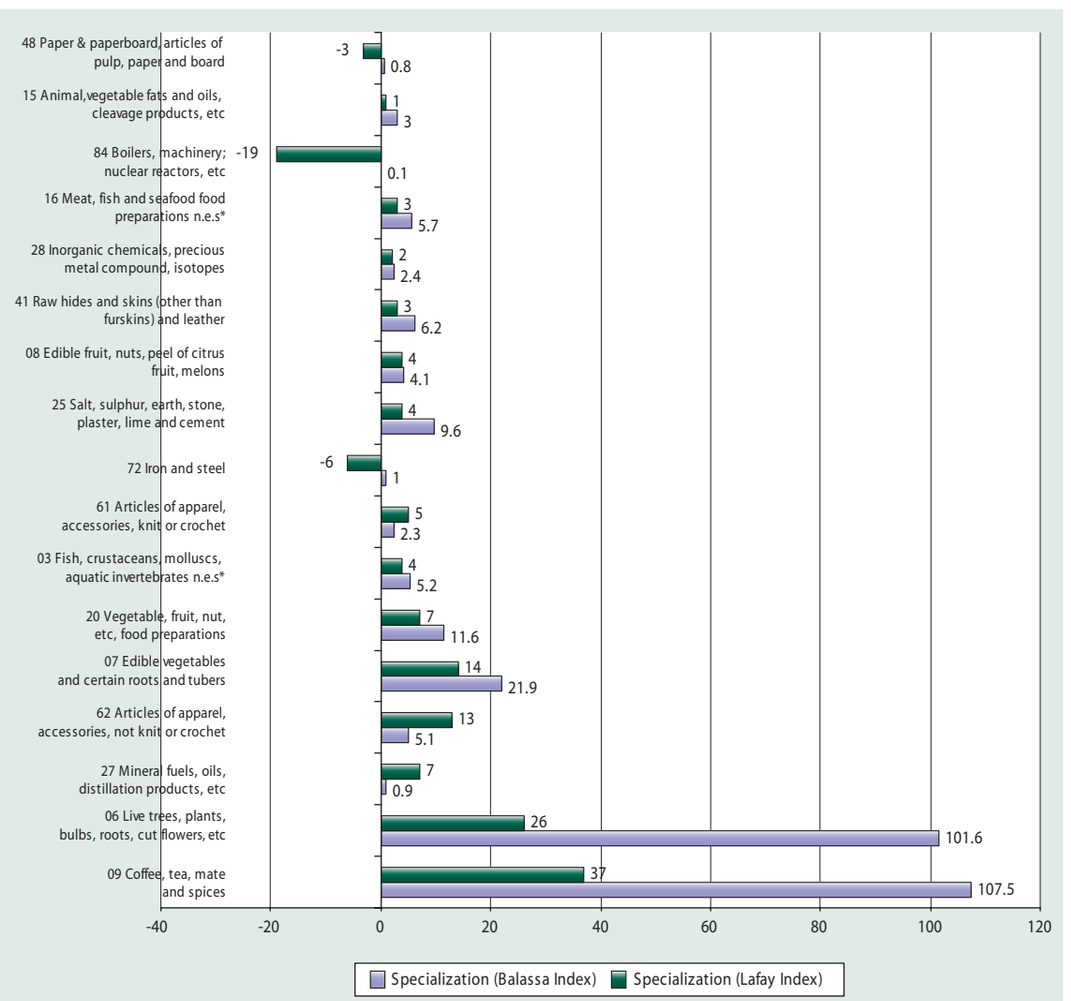
Source: Government of Kenya Statistical Abstract (various)

The top three export products (horticulture, tea and articles of apparel and clothing accessories) accounted for about 44 per cent of total exports in 2006, compared to Brazil (13.3%), South Africa (15.3%), Malaysia (17.7%), Korea (18.2%), Argentina (20.8%) and Singapore (20.8%), as provided in Figure 7.6.[1] This implies that Kenya's product export base is not well diversified and to reach the levels of comparator countries, policies targeting diversification and value addition should be persued. However, import products are relatively well diversified, with the three top import products accounting for about 27.0 per cent, which is close to countries such as South Africa (25.4%) and Singapore (26.8%).[2]

About 10 products account for about 60 per cent of Kenya's total imports (Figure 7.7). The main imports are industrial machinery (12%), crude petroleum products (8%), road motor vehicles (7%), and iron and steel (4%). Although a net importer, Kenya mainly imports intermediate goods for industrial productions.

Kenya has low levels of specialization in many of its export product lines (Figure 7.8). Among the 17 product lines at 2-digit level considered, only two product lines have a reasonable level of specialization, using both the Balassa index and Lafay index.[3] These products lines are: live trees, plants, bulbs, roots, cut flowers, etc; and coffee, tea, mate and spices. This is a low level of specialization for international

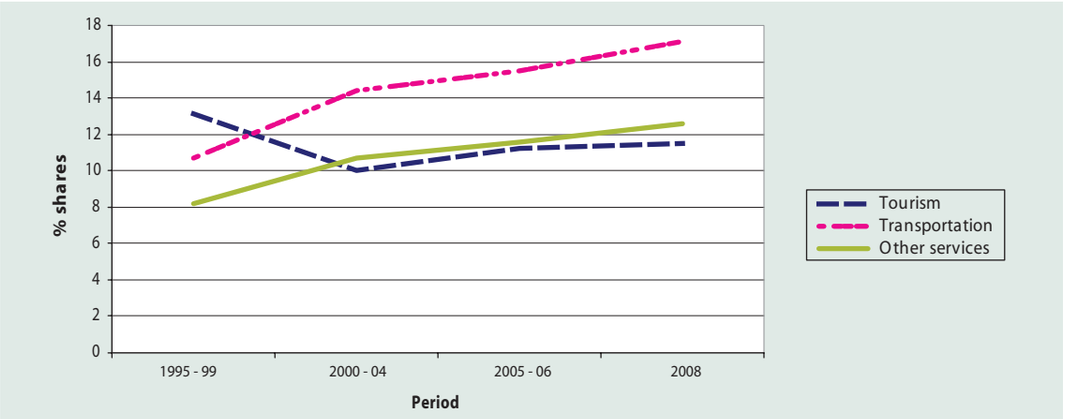
Figure 7.8: Specialization index of main exports



Source: Government Kenya Economic Survey (various)

NOTE: n.e.s - note else where specified

Figure 7.9: Services share of total exports



Source: WTO World Trade Indicators (2008)

Table 7.2: Comparison of trade in commercial services in selected countries in 2006 (US$ in current prices–millions)

Partners	Commercials Services ($ M)	% of World Trade	Transportation ($ M)	% of World Trade	TRAVEL ($ M)	% of World Trade	Other Commercial Services	% of World Trade ($ M)
World	2,765,700		627,100		753,900		1,384,700	
Botswana	771	0.0279	81	0.0129	537	0.0712	153	0.0110
Brazil	17,946	0.6489	3,439	0.5483	4,316	0.5725	10,191	0.7359
Burundi	6	0.0002	1	0.0002	1	0.0001	3	0.0002
China	91,421	3.3055	21,015	3.3511	33,949	4.5031	36,456	2.6327
Djibouti	103	0.0037	80	0.0128	9	0.0012	13	0.0009
Egypt	15,834	0.5725	5,489	0.8753	7,591	1.0069	2,754	0.1989
Hong Kong, China	72,283	2.6136	22,282	3.5532	11,629	1.5425	38,372	2.7711
India	75,057	2.7139	7,629	1.2166	8,934	1.1851	58,494	4.2243
Kenya	**2,011**	**0.0727**	**1,022**	**0.1629**	**688**	**0.0913**	**302**	**0.0218**
Mauritius	1,633	0.0590	362	0.0577	1,005	0.1333	296	0.0214
Nigeria	7,625	0.2757		0		0		0
Rwanda	74	0.0027	30	0.0048	31	0.0041	13	0.0009
South Africa	11,712	0.4235	1,488	0.2373	7,876	1.0447	2,348	0.1695
Tanzania	1,422	0.0514	321	0.0512	914	0.1212	167	0.0121
United Arab Emirates	6,259	0.2263	1,287	0.2052	4,972	0.6595	0	0

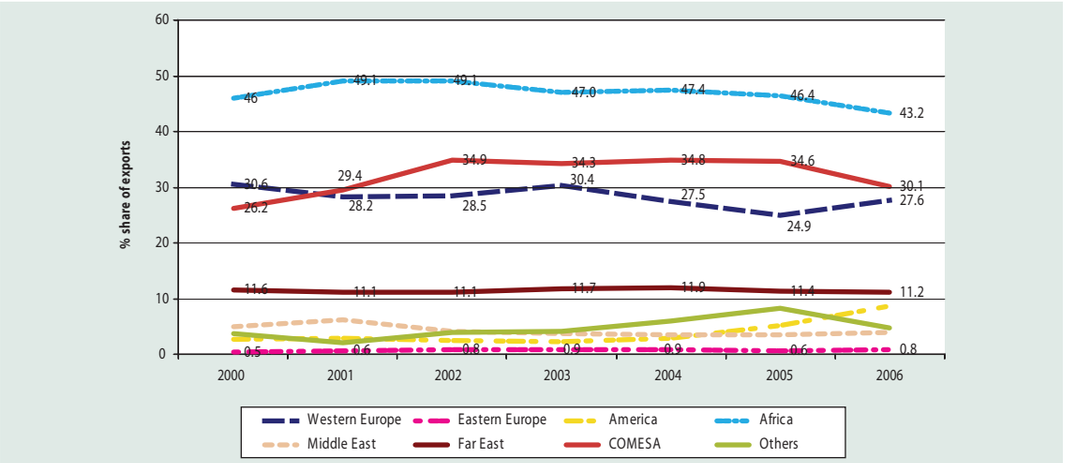
NB: Commercial services (exclusive of government services); Other commercial services (Commercial services excluding travel and transport)
Source: WTO Statistics (2007)

competitiveness and it reveals that Kenya lacks the technology to diversify into more high value products.

7.3.4 Performance of services trade

Latest statistics indicate that services share in total exports was 38.8 per cent during 2007. Of these, transport and tourism services were the leading export sub-sectors, accounting for 17.1 per cent and 11.5 per cent, respectively (Figure 7.9). Table 7.2 gives Kenya's exports in commercial services in comparison with world exports. Kenya's exports to the world in 2006 were negligible, hence the need to improve on the competitiveness of commercial services.

Figure 7.10: Kenya's value of exports per region



Source: Kenya Economic Survey (various)

7.4 Kenya's Direction of Trade

Kenya's main market destinations are more or less in eight categories. These are COMESA member countries, Europe–15 countries, Eastern Europe, Middle East, America, Far East, Australia, and South East Asia. The African region is the major market destination followed by Europe. The former accounted for about 43 per cent of total exports in 2007, while Western Europe, Far East and Australia accounted for about 27 and 11 per cent, respectively, during the same year. In Africa, COMESA is the leading export destination; in 2007, COMESA region accounted for about 30 per cent of total exports.

Other export markets for Kenya include the Middle East, accounting for about 5 per cent, Eastern Europe accounting for about 1 per cent, and America accounting for about 7 per cent. Two market destinations, Europe and COMESA, account for more than half of Kenya's exports (57.0%), an indication that export markets are not well diversified and, therefore, the need to put in place strategies to access other markets for the country to increase its exports. The high share of exports to COMESA and Europe is partly attributed to preferential treatment Kenya is granted in these markets.

Kenya's main export destinations are provided in Table 7.3. Uganda is the main market destination and contributed around 19.0 per cent of Kenya's total exports in 2007, followed by United Kingdom contributing about 16.0 per cent. Other main export markets in terms of share contribution in 2007 were Netherlands (12.0%), Tanzania (12.0%), Pakistan (8.0%) and Egypt (5.0%).

Africa has remained the main export market since 2002, with the share contribution increasing from 35.0 per cent in 2002 to 43.0 per cent in 2007. COMESA and EAC member states provide the largest market for Kenyan products. In 2007, the largest markets for Kenyan products were Uganda (19.0%), Tanzania (12.0%), Egypt (5.0%), and Rwanda (3.0%). This is attributed to the preferential market access within the two trading blocs, as well as proximity. In addition, unlike the US and EU markets, commodities exported to the regional markets were mainly processed and semi-processed products, including tea, refined petroleum products, beer, cigarettes, oils, perfumes, polishing and cleaning preparations, disinfectants, insecticides, paper and paperboard and fabrics, indicating Kenya's export manufactured products in the region.

Although the European market is the second main largest share market for Kenya after Africa, its share has remained relatively stable over the years. The American market has emerged as the main potential market, with its share contribution significantly increasing from 2.6 per cent in 2002 to about 11.0 per cent in 2007 due to the AGOA preferences. The Middle and

Table 7.3: Kenya's principal export markets

	2002	2003	2004	2005	2006	2007
EUROPE						
United Kingdom	11.6	11.8	12.2	9.1	15.9	16.0
Netherlands	6.5	7.7	9.3	7.0	11.5	12.0
Germany	2.6	2.9	2.5	2.0	2.7	3.0
France	1.4	1.7	2.0	2.0	2.2	2.0
AMERICA	2.4	2.1	3.3	5.1	12.6	11.0
AFRICA						
Uganda	18.5	16.7	20.2	16.4	16.3	19.0
Tanzania	8.4	8.0	9.3	7.7	10.7	12.0
Egypt	4.0	3.0	3.8	3.4	5.8	5.0
Rwanda	2.5	3.3	3.4	2.8	2.8	3.0
MIDDLE AND FAR EAST						
Pakistan	4.9	5.0	6.2	5.4	8.5	8.0
United Arab Emirates	1.6	1.2	1.3	1.6	2.3	5.0
India	1.5	1.4	1.4	1.6	2.2	3.0

Source: Government of Kenya Economic Survey (2007)

Far East is also a major potential market, given that export share has been increasing over time, although still insignificant despite the absence of preferences in this region, and other trade agreements. To diversify export market, it is important to explore trade agreements in these markets.

The main European markets include the UK, Netherlands, Germany and France. Kenya has sustained the growth in exports especially in the Netherlands and the UK, where the main exports are horticultural products, especially cut flowers. This trend in exports to the EU shows that Kenya has a comparative advantage in these products and should explore ways of increasing exports to other EU countries where exports remain relatively low. These countries include Italy, Denmark, Finland, Austria, Luxembourg, Greece, Norway and Turkey. Given the importance of these markets and preferences granted through the Cotonou Agreement, there is need for a deliberate prudent government strategy, in partnership with the private sector, targeting these markets.

The Middle East is also emerging as a major potential market destination for Kenyan products, with the main market destination countries being Israel, Yemen, South Arabia and Iran. Kenya is able to export to these countries despite the absence of an elaborate trade agreement as in the EU, African region and the US. Market access into these countries should be aggressively explored.

Appendix Table B7.2 shows Kenya's imports by region/country. The Middle and Far East is the main origin of imports to Kenya; it accounted for more than half of Kenya's imports in 2007 (about 55%), followed by Europe at about 20.0 per cent and Africa with about 13.2 per cent. The main import origin countries in 2007 included the United Arab Emirates (16.4%), India (10.4%), America (10.1%), China (10.4%, Japan (7.5%), South Africa and United Kingdom (5.4%).

While most of Kenya's trade preferences are in America, Europe and Africa, much of the imports come from Middle and Far East. This implies that there is potential for trade expansion. It will be important, therefore, for Kenya to intensify market promotion activities and trade agreements with countries in these regions to seek for balanced trade.

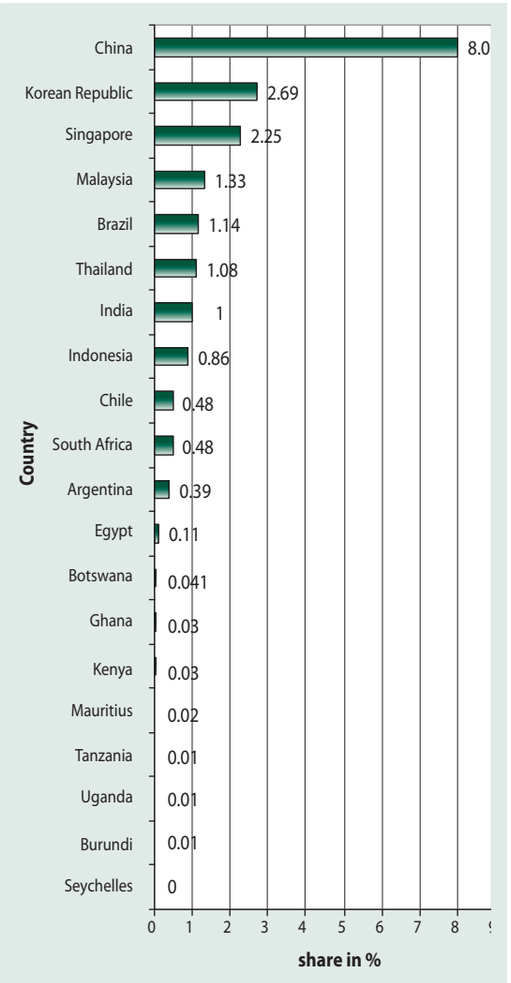
7.5 International Trade Performance and Competitiveness

7.5.1 Kenya's share in world trade

Compared with other selected African and Asian countries, Kenya's share in world exports is insignificant (Figure 7.11), contributing only 0.03 per cent in 2006 compared with Malaysia (1.33%), South Korea (2.69%), Singapore (2.25%) and Thailand (1.08%).

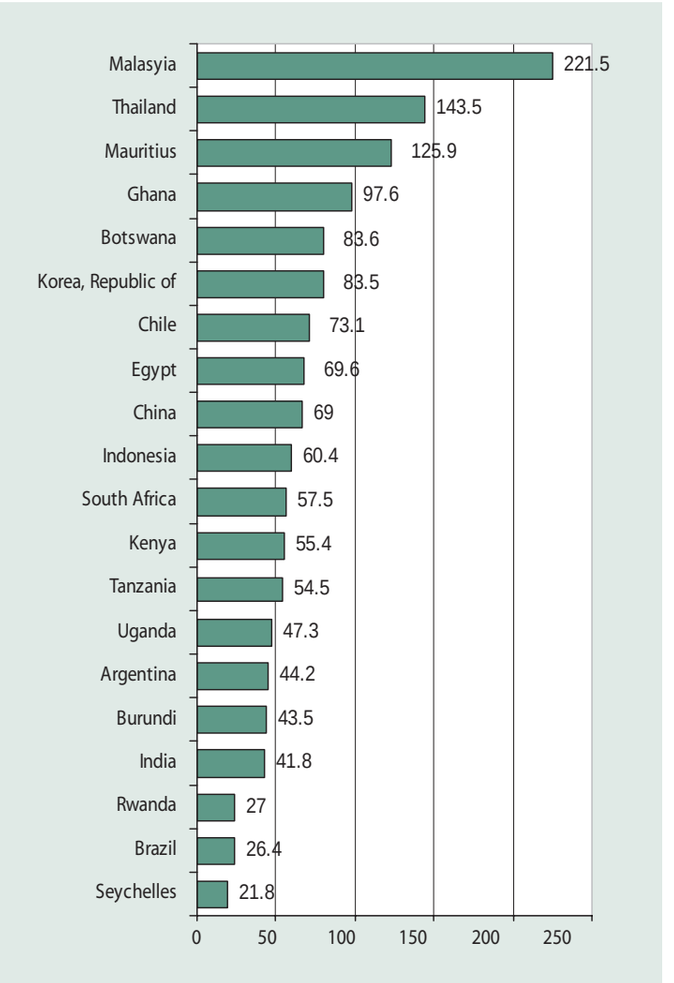
African countries with relatively high world export shares include South Africa, with about 0.48 per cent and Egypt with about 0.11 per cent. Countries with high world share in exports (China, South Korea, Singapore, Malaysia and Thailand) developed deliberate policies targeting particular sectors (machinery and electronics) that formed the basis of industrial development. Their experience may provide lessons for Kenya (WTO database, 2007).

Figure 7.11: Kenya's share in world exports, 2006



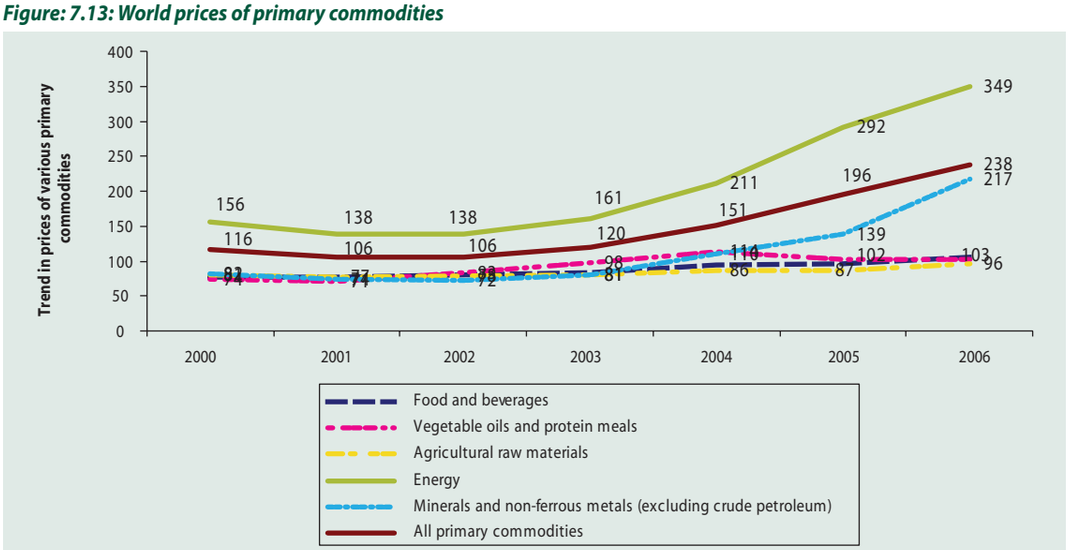
Source: World Trade Organization website (2007)

Figure: 7.12: Trade to GDP ratio



Source: World Bank website (2007)

Figure: 7.13: World prices of primary commodities



Source: World Bank (2008)

7.5.2 Contribution of trade to GDP

Kenya's trade as a per cent of GDP is provided in Figure 7.12. Trade as a per cent of GDP is 55.4 per cent, which is relatively small compared to countries such as Malaysia (221.5%), Thailand (143.5%) and Mauritius (125.9%). However, the country has performed better when compared with India (41.8%), Brazil (26.4%) and Seychelles (21.8%) and competes relatively well with countries such as South Africa (57.5%) and Egypt (69.6%) (World Bank, 2008).

7.5.3 Trend in world prices

World prices of agricultural raw materials and vegetable oils have either remained stagnant or have been declining over the years (Figure 7.13). Kenya's main exports are in this category and this means that to reap from the benefits of international trade the country needs to diversify into more value added manufactured exports (World Bank, 2008).

7.5.4 Trade restrictiveness

Kenya is among the least protected countries in terms of trade, with an average overall trade restrictiveness index of 8.51 per cent compared to Malaysia at 21.59 per cent, India 19.68 per cent, Egypt 32.08 per cent and Argentina 16.41 per cent (Appendix Table B7.3). In 2006, Kenya was ranked number 62 out of 175 countries in terms of overall trade protectiveness, much lower than India (88), Uganda (80), Brazil (73) and Egypt (68) and Tanzania (65)–the lower the ranking, the more open a country is in world trade. This implies that unlike its competitors, Kenya has significantly opened her trade regime.

Compared to other regional trade arrangements, EAC and COMESA are the most protective regional integration trade arrangements, according to the 2006 overall trade restrictiveness index (tariffs + non-tariff measures), with an overall index of 20.71 and 17.58, respectively, (Appendix B7.4). This implies that there is much more protection of the EAC and COMESA markets against the rest of the world, and hence the opportunity for Kenya to increase her share of exports to the region (World Bank, 2008).

7.5.5 Trade competitiveness

In terms of trade competitiveness, Kenya was ranked 30th in fresh food and 78th in food processing in 2006 (Appendix Table B7.5). Other sectors that are highly ranked include leather products (31), IT and consumer electronics (43), textiles (45), and electronic components (47) in the more than 100 countries compared. This is an indication that the country has great potential in textile, IT and consumer electronics and electronic components. This can be confirmed in diversification ranking, where wood, IT and consumer electronics and electronic components are relatively well ranked compared to other sectors (Kenya Trade Map, 2007).

In diversification, wood products perform better as the sector is ranked 19, together with IT and consumer electronic components. Electronic components, chemicals, non-electric machinery and transport sectors are also relatively well diversified and are ranked 48, 25, 26 and 22, respectively. In competitiveness ranking, the sectors that perform well are leather products (3), non-electronic machinery (6), transport equipment (10), clothing (12) and electronic equipment (17) (Kenya Trade Map, 2007).

7.6 International Trade Agreements and Negotiations

7.6.1 International trade agreements

Kenya is a member of the World Trade Organization (WTO) and multiple regional trade arrangements. As a result, the country has undertaken substantial trade liberalization initiatives within the WTO framework, including reduction of the Most Favoured Nation (MFN) tariffs, removal of quantitative restrictions, improvement of the business environment and trade facilitation.

At the regional level, Kenya is signatory to the Cotonou Partnership Agreement in 2000, which provided for non-reciprocal trade between the European Union (EU) and the Africa Caribbean and Pacific (ACP) countries. The Cotonou Agreement has been succeeded by a WTO-compatible reciprocal trade arrangement, the Economic Partnership Agreements (EPAs) beginning January 2008. Besides, Kenya is a member of the Common Market for Eastern and Southern Africa (COMESA) and the East Africa Community (EAC) and the Inter-Governmental Authority on Development (IGAD).

In addition, Kenya is a beneficiary of a number of preferential schemes, including the Generalized System of Preferences (GSP) with a number of industrialized countries, the Trade and Investment Framework Agreement (TIFA) and the African Growth and Opportunity Act (AGOA) with the United States. Kenya's 2006 utilization rate of US and EU preferences was high at 93 per cent, as was their value at 9.8 per cent of bilateral exports.

7.6.2 Ongoing trade negotiations

Kenya is simultaneously involved in trade negotiations at the multilateral and regional fronts in a bid to exploit the benefits of reduced trade barriers and improved market conditions for both goods and services. The country's participation in the Doha Round of negotiations has particularly been visible in agriculture, non-agricultural market access and services. Together with other developing countries, Kenya has been steadfast in pushing for reduction of domestic support to agriculture and effective elimination of tariff escalations by developed countries.

Under the Cotonou Agreement, Kenya signed an interim Economic Partnership Agreement (EPA) covering goods, market access, fisheries and development aid, and will sign a comprehensive EPA by mid-2009, which will also cover trade facilitation, agriculture, trade in services and technical barriers to trade. COMESA is expected to become a Customs Union by December 2008, while the EAC Common Market negotiations are underway after implementation of a Customs Union in 2005.

In the services sector, Kenya has made both horizontal and specific commitments under the General Agreement on Trade in Services (GATS). The horizontal commitments have been made with market access limitations on commercial presence (mode 3) and temporary movement of natural persons (mode 4). The specific commitments are on: (a) communication services; (b) financial services; (c) tourism and travel-related services; (d) transport services, and (e) other services (meteorological and data information).

At the regional level, Kenya is negotiating a services agreement with the European Union under the EAC/EU Economic Partnership Agreement for the reciprocal liberalization of trade in services with Europe. The services negotiations are taking place within the auspices of the Cotonou Partnership Agreement signed in 2000, which provides for Economic Partnership Agreement between the European Union and the ACP countries. In principle, the latter are not obliged to conclude EPA services negotiations, but if they do so, the liberalization of services should be within the provisions of the GATS. At the same time, Kenya is also negotiating the COMESA regional framework agreement on trade in services.

7.7 Outstanding Challenges and Policy Issues

7.7.1 Challenges

The wholesale and retail trade sector faces a number of challenges:

(a) The sector lacks an appropriate regulatory framework, which leads to influx of counterfeit, sub-standard and contraband goods in the market.

(b) The supply chain is inefficient due to poor infrastructure, highly fragmented distribution and retail outlets, leading to wastage and price escalation of goods and services. This hinders the growth and development of the sector.

(c) Majority of traders lack adequate access to market information, which denies them the opportunity to take advantage of existing opportunities in both local and external markets.

(d) Access to finances for start-up working capital and credit guarantees is poor. This is associated with high cost of finance, limited banking in rural areas, and requirement of collateral to access credit.

(e) Many traders are not able to expand and sustain local and international business opportunities due to lack of sound managerial skills and exposure to international best business practices. There is also inadequate understanding of legal requirements relating to participating in international trade.

7.7.2 Policy issues

For the wholesale and retail trade sector to flourish, a number of issues need to be addressed:

(a) Kenya exports are concentrated within a few product lines, thus reducing the potential to increase world trade share and increase export earning.

(b) Kenya's export markets are not well diversified. The country mainly depends on traditional markets in Europe and African region (COMESA).

(c) There still exists trade barriers in Kenya's potential markets, making the penetration of exports into these markets difficult.

(d) Kenya has eroded her trade policy space by significantly reducing tariff lines and non-tariff barriers.

(e) Supply-side constraints, such as Customs administration procedures and domestic infrastructure make Kenyan products uncompetitive due to high costs of doing business.

To achieve industrialization through export-led growth, Kenya has to add value to its exports, diversify into more export products and markets and address supply-side constraints. There should be a coordinated policy action to shift the export structure towards export of manufactured products.

7.7.3 Policy options

To address the above challenges and policy issues, Kenya should:

(a) Diversify into new niche markets and utilize the potential in the existing markets.

(b) Add value into export products and diversify into new products of high value.

(c) Review trade policies that protect local industries from unfair foreign competition. There is need to institute legal and institutional reforms to address issues such as counterfeit goods that affect the growth of locally produced goods.

(d) Secure access to markets and competitiveness in the markets where there is already comparative and competitive advantage, such as COMESA and EAC.

(e) Address supply-side constraints related to business environment that constrain the growth up the value chain, such as roads, railway and trade facilitation logistics.

(f) Develop an e-policy to facilitate e-trade.

(g) Establish an export development fund to promote product development, value addition, market development and diversification as proposed in the Medium Term Plan of Vision 2030.

In terms of trade agreements and negotiations, there are a number of challenges to be overcome. Specifically, there is need to:

(a) Strengthen institutional, administrative and technical capacities to effectively participate in parallel trade negotiations at multilateral, regional and bilateral levels.

(b) Review the multiple memberships to regional trade agreements and associated challenges of rationalizing, harmonizing and implementing various trade agreements.

(c) Address weaknesses in regulatory and institutional frameworks, particularly in the services sector, in order to guarantee the provision of efficient and quality services for domestic consumption and the poor state of infrastructure services such as roads, railway and other distributional channels.

The policy options in regard to these challenges include:

(a) Phasing out liberalization of services sectors, taking into consideration social and economic priorities, quality of governance and regulatory capacity.

(b) Pursuing the prospects for technical assistance specified in the Cotonou Agreement in the EPA negotiations, and making reciprocal liberalization tied to technical assistance with respect to regulatory design and institutional building.

Although Kenya has already submitted a request for mode 4 liberalization to major trading partners in the developed world, it stands to gain most in mode 4 in preferential liberalization under EPAs, EAC and COMESA if a broader definition is used than the one under the GATS, where many impediments to the temporary movement of natural persons exist.

7.8 Conclusion

Wholesale and retail trade account for the highest contribution to employment creation in Kenya (59%), but the sector's growth is constrained by unfavourable business environment, particularly poor roads and excess regulation compliance costs. Merchandise external trade is characterized by negative trade balance arising mainly from dominance of a few export lines, mainly the agro-based products, and an international tariff regime that favours exports from industrial countries. Kenya has eroded her trade policy space by significantly reducing tariff lines and non-tariff barriers without legal and institutional reforms, leading to prevalence of counterfeit goods in the local market that affect the growth of local firms.

Despite the potential to export, Kenya's market destinations are not well diversified; the country depends only on two main market regions–Africa and Western Europe. Even in Africa the concentration is mainly in the COMESA region. There is need to diversify into other market destinations with Africa and the Far East and Middle East.

To promote trade in Kenya, there is need to promote value addition in exports, particularly in agro-processing. In addition, Kenya has to diversify her exports into non-food items such as machinery and other high value products.

End notes

[1] According to data from Kenya Economic Survey, 2008, Kenya's top three exports accounted for about 48 per cent of total exports in 2007.

[2] Data from Kenya's Economic Survey 2007 shows that Kenya's top three imports (petroleum products, industrial machinery, and crude petroleum accounted for about 33 per cent.

[3] The Balassa Index basically measures normalized export shares where the normalization is with respect to the exports of the same industry.

The Lafay index is a measure of the contribution of each producer to the overall trade balance of a country. It varies between -50 (full dispecialization) and +50 (full specialization). This limit values can only be reached if the overall trade balance is zero.

8 Tourism

8.1 Sector Significance

Tourism contributes about 5 per cent of GDP and 4 per cent of total employment in Kenya (World Economic Forum, 2008). Despite this seemingly low contribution, however, the general tourism economy, which captures backward and forward linkages, contributes 11.6 per cent of GDP. The sector also contributes almost 23 per cent in foreign exchange earnings and employs about 253,000 people in the modern wage sector (World Trade and Tourism Council, 2007).

During the last few years, the tourism sector has witnessed unprecedented growth. Between 2003 and 2006, the average annual growth rate was 9.8 per cent compared to 5.4 per cent for Africa and 3.2 per cent for global tourism (Ikiara *et al*, 2007). In 2006, tourism revenue grew by 14.9 per cent and overtook horticulture to become the leading foreign exchange earner, with earnings of Ksh 56.2 billion. The sector has demonstrated potential for quick gains based on the available resources and registered earnings of about Ksh 65.4 billion by the end of 2007, with 2 million international visitors. Consequently, tourism has been recognized as one of the sectors that will drive economic growth towards achievement of Vision 2030.

According to Table 8.1, the tourism sector is significant in terms of contribution to GDP for Kenya (11.6%) than its sub-Saharan competitors, namely Tanzania (9.4%) and South Africa (8.3%). However, the sector has a higher contribution in Tunisia and Egypt at 18.1 per cent and 16.3 per cent, respectively. It is also of almost equal significance when compared with the South East Asian Tigers of Malaysia (13.3%) and Singapore (10.7%). The Table shows the level of contribution by the travel and tourism sector in selected countries, as estimated by the World Travel and Tourism Council (WTTC) in their Tourism Satellite Account for 2007.

With respect to exports, the tourism sector is significantly important for Kenya, Tanzania, Egypt and Tunisia, contributing over 20 per cent to total exports. Its contribution to total exports in South Africa, though less, is also substantial at 11.8 per cent. The sector contributes 6.9 per cent in Malaysia, but only about 2.0 per cent in Singapore where manufacturing exports take precedence. This shows that the contribution of tourism to exports is relatively smaller in those countries with a large industrial base.

8.2 Expenditure Review and Policy Setting

Tourism development in Kenya has largely been guided by policies embodied in *Sessional Paper No. 8 of 1969*. The need for a new policy was identified in the early 1990s and a National Tourism Master Plan was developed through the assistance of the Japanese International Development Agency (JICA) in 1995. The Plan was, however, not adopted. In 2002, the Ministry of Tourism and Wildlife initiated the process of developing a comprehensive tourism policy and legislation. Though a draft policy and bill have been developed, they are yet to be finalized. The draft Tourism Bill proposes the establishment of the Kenya Tourism Authority, Kenya Tourism Board, regional tourism boards, Kenya Tourism Research Institute, and Kenya Tourism Development Fund.

Kenya spends relatively less on tourism marketing (Figure 8.1). Considering the budgetary allocation for tourism marketing by the government in the different destinations in 2005, the country spent US$ 5.4 million for tourism marketing while Tanzania allocated US$ 3.2 million. On the other hand, among the comparator countries, Malaysia allocated the highest amount with US$ 117.9 million followed by Singapore (US$ 89.5 million) then South Africa (US$ 70.2 million). Egypt and Tunisia allocated US$ 48.0 million and US$ 43.1 million, respectively.

However, the total government expenditure on tourism in Singapore was much higher at US$ 370 million, most of which was directed to development of tourism infrastructure and attractions.

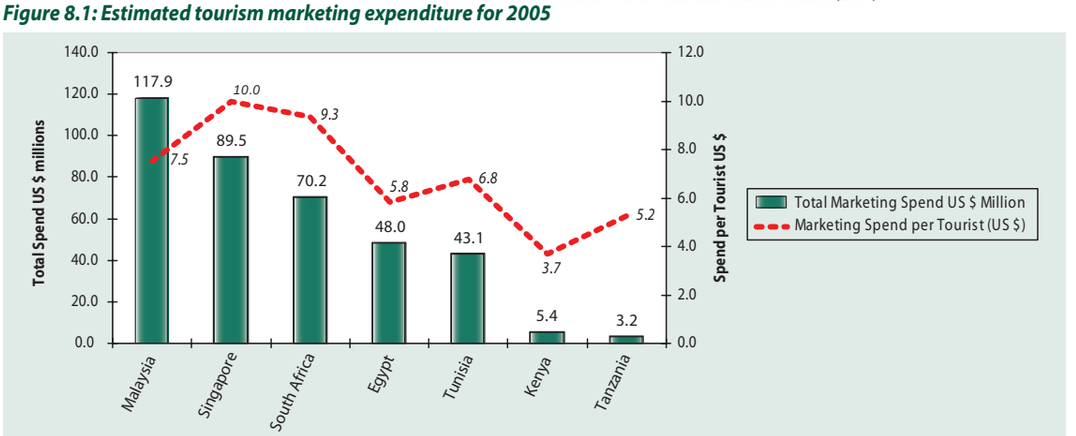
In terms of spending on marketing per tourist, Kenya ranks the lowest at US$ 3.7. Within the region, South Africa ranks highest with US$ 9.3 ahead of Tunisia (US$ 6.8), Egypt (US$ 5.8) and Tanzania (US$ 5.2). Singapore spends an average of US$ 10 per tourist in marketing. This shows that for Kenya to improve performance in tourism, the country must make more budgetary outlays for marketing activities. This should include active promotion of destinations for meetings, incentives, conventions and exhibitions. This is much pronounced in Singapore, Malaysia and South Africa. Leveraging events such as F1 Grand Prix, World Championships and cultural events tend to enhance the image of these countries as desirable holiday destinations.

Table 8.1: Contribution of tourism to national economy in 2007

Country	% of GDP	Travel and tourism exports (US$ million)	% of total exports	Travel and tourism employment	% of total employment
Malaysia	13.3	13,845.5	6.9	1,217,100	11.4
Singapore	10.7	7367.0	2.0	206,500	8.8
South Africa	8.3	9119.7	11.8	969,100	7.5
Egypt	16.3	8887.8	23.0	2,816,200	13.7
Tunisia	18.1	3399.6	20.1	523,900	17.0
Kenya	11.6	1,391.2	22.8	508,900	9.4
Tanzania	9.4	910.4	27.4	679,800	7.4

Source: World Trade and Tourism Council (2007)

Figure 8.1: Estimated tourism marketing expenditure for 2005



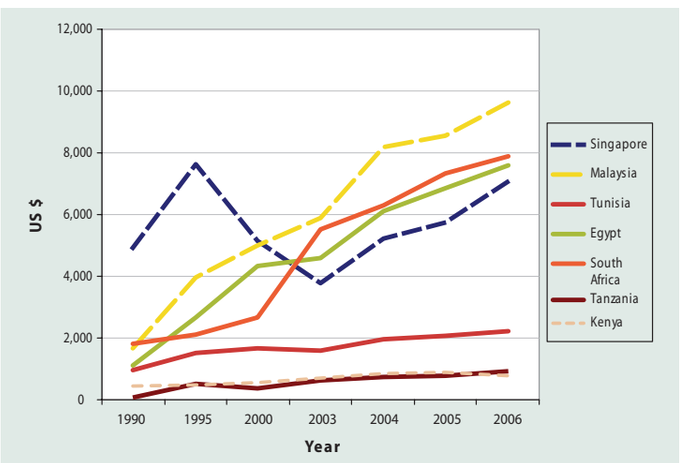
Sources: WTO (2006)

The rehabilitation of the Kenyatta International Conference Centre (KICC) is a positive step for the country. Similar facilities could be set up in other areas such as Mombasa, Kisumu and Eldoret.

8.3 Performance Indicators

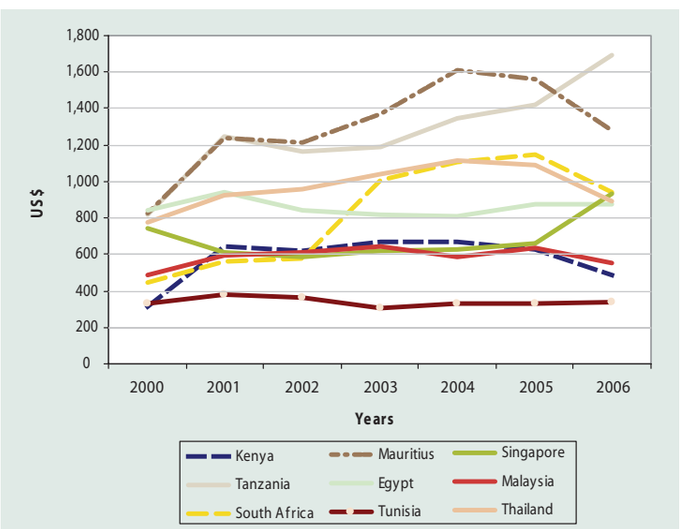
A number of selected countries have been used to compare certain indicators of tourism in Kenya over time. The indicators include tourism receipts, expenditure per tourist, and Travel and Tourism Competitiveness Index (TTCI), while the countries involved are major regional destinations such as Egypt, Tanzania, South Africa and Tunisia and some middle income economies of Malaysia and Singapore.

Figure 8.2: Tourist earnings for selected countries, 1990-2006 (US$ millions)



Source: WTO (2007)

Figure 8.3: Per capita tourist expenditure, 2000-2006



Source: WTO (2007)

8.3.1 Tourism earnings

Kenya's tourist earnings have exhibited marginal growth, with less than US$ 1,000 million per year (Figure 8.2). Comparator countries such as Malaysia, South Africa and Egypt have had a sharp increase in earnings between 1990 and 2006. Though tourist receipts for Singapore were comparatively high in the 1990s in relation to the countries under consideration, the country experienced a major dip in year 2000, which continued in 2003. This was followed by a recovery in 2004. Tunisia has been receiving over US$ 1,000 million in tourism earnings, with marginal growth over the years.

Kenya's performance may be linked to the overall allocation to the Kenya Tourism Board (KTB) for marketing purposes. Previously, stakeholders have suggested that the government should provide KTB with at least Ksh 2 billion for marketing purposes.

Per capita tourist expenditure in Kenya is low (Figure 8.3) with an average of US$ 578 in the 2000-2006 period. The same applies to Malaysia (US$ 587) and Tunisia (US$ 341). Tanzania (US$ 1,268), Mauritius (US$ 1,300) and Thailand (US$ 970) have high per capita tourist expenditures.

The high per capita expenditure for Tanzania offers crucial lessons for Kenya. The average length of stay for inbound tourists does not explain the difference. In fact, Kenya is doing well in this respect as the country had an average of 10.6 days of average length of stay between 2001 and 2005. The average length of stay rose from 8.4 days in 2001 to 14 days in 2005. This is by far much higher compared to the other countries. The average for Tanzania in the same period is 10.2 days, rising from 8.0 days in 2001 to 12 days in 2005. As for Mauritius, the average has been 10.5 days and has actually remained stagnant throughout the 2001-2005 period. Egypt and Thailand had

a much lower average length of stay days–8.5 days and 8.1 days, respectively.

Data on average room rates for first class branded hotel suggest that there has been an over-supply of accommodation in Kenya. The average room rates for the country in 2006 are low compared to Tanzania, Singapore and Mauritius (Figure 8.4). During this year, Kenya was charging an average US$ 84 per room, which is lower than in most of the comparator destinations such as Mauritius (US$ 131.6), Tanzania (US$111.9), South Africa (US$ 104.8), Singapore (US$ 118.9) and Thailand (US$ 100.5). However, the rates in Kenya were higher than Tunisia (US$ 70.8), Egypt (US$ 61.2) and Malaysia (US$ 58.8). Overall, Kenya is ranked number 15 out of 130 countries in terms of average room cost. This supports the notion that the country is a cheap destination.

Park entry fees in Kenya have also been low. A move to raise these charges by the Kenya Wildlife Service was temporarily suspended in 2008 in light of the post-election violence. The number of lodges in the Maasai Mara Game Reserve is higher than its counterpart Serengeti in Tanzania, yet they have the same ecosystem. This suggests that Kenya has largely been pursuing mass tourism over the years as opposed to Tanzania;[1] hence, a fall in per capita tourist expenditure (Ikiara, 2001a; 2001b). Recent studies have shown that many visitors come on tour packages that tend to capture budget (low spending) tourists. The country should consider focusing on high class tourists to increase incomes and also ensure environmental sustainability.

8.3.2 Overnight stays by inbound and domestic tourists

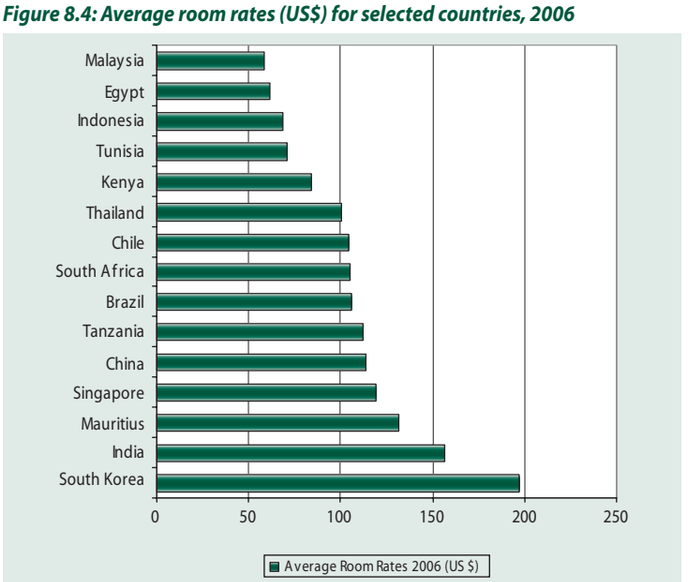
The number of overnight stays for Kenya has been increasing from 2.6 million in 2001 to 6.8 million (equivalent to about 20% of the population) in 2005. Tanzania has closely followed Kenya in this regard. Mauritius, Malaysia, Egypt and Thailand have been having higher overnight stays by inbound tourists. They had an average of 7 million, 16.7 million, 56.5 million and 85.5 million overnight stays, respectively. This corresponds to an equivalent of 580 per cent, 70 per cent, 80 per cent, and 130 per cent of their respective populations.

During the 2001-2005 period, Kenya had an average of 757,400 overnight stays (about 2% of the population) by domestic tourists. The number rose marginally from 740,000 in 2001 to 840,000 in 2005.

The number of overnight stays by domestic tourists is lower in Kenya compared to other countries. Tanzania, for instance, had an average of 3.92 million overnight stays (10% as a proportion of the population) rising from 2.92 million in 2001 to 4.5 million in 2005. The other countries had higher average overnight stays–Tunisia 2.7 million, Egypt 4.6 million and Malaysia 21.6 million. These are equivalent to a proportion of about 30 per cent, 10 per cent and 90 per cent of their respective populations in 2005. Even though there was scanty data, Thailand appears to have had over 100 million overnight stays (about 160% of its population) by domestic tourists in 2001.

Comparing the inbound and domestic overnight stays for selected countries for 2005 (Figure 8.5), Kenya has a very small proportion of domestic overnight stays compared to inbound tourists. The scenario is different for

Figure 8.4: Average room rates (US$) for selected countries, 2006

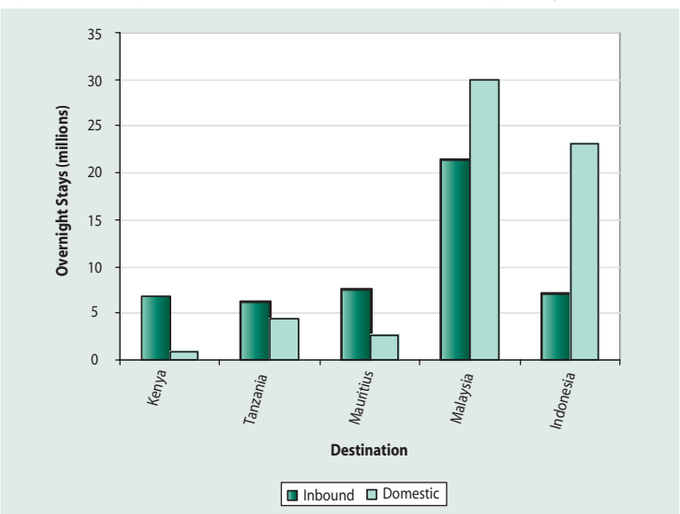


Source: World Economic Forum (2008)

Malaysia and Indonesia, which have relatively higher domestic overnight stays compared to inbound tourists. Tanzania reflects good performance with almost equal numbers between inbound and domestic overnight stays in 2005.

Perhaps this suggests that, while marketing efforts should still be undertaken in overseas source markets, it is imperative for Kenya to expend more efforts in targeting domestic tourists. Domestic tourists could greatly help reduce seasonal fluctuations of overnight stays, especially in periods of negative travel advisories. It is important to determine what products the domestic tourists prefer and ensure that they are supplied.

Figure 8.5: Comparison of inbound and domestic overnight stays, 2005



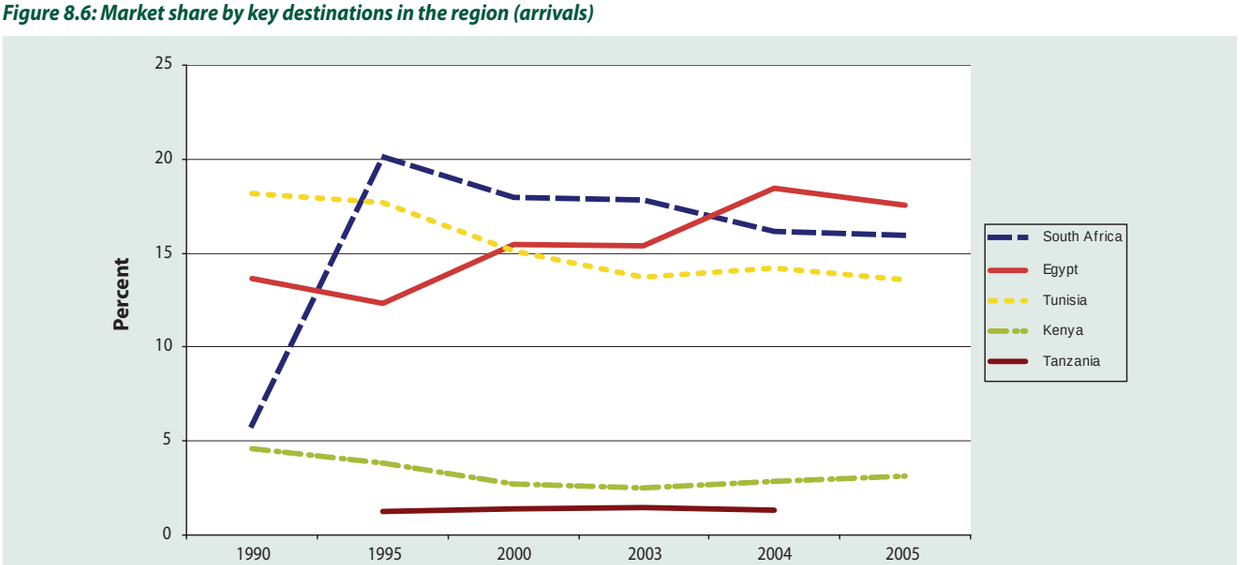
Source: World Trade and Tourism Council (2007)

8.3.3 Market share

Kenya's market share in the region was on the decline between 1990 and 2003. The share started increasing, although marginally, in 2004 as shown in Figure 8.6. South Africa registered a steep rise from 5.8 per cent to 20.1 per cent in 1995. This rise could be largely attributed to the global reaction brought about by the end of apartheid in South Africa, leading to an influx of visitors seeking to experience a new destination. However, a decline followed between 1995 and 2000 and, subsequently, the growth curve flattened between 2000 and 2003. While Tunisia's share was declining, Egypt was gaining steadily and in 2004 it overtook South Africa to become the leading destination in Africa.

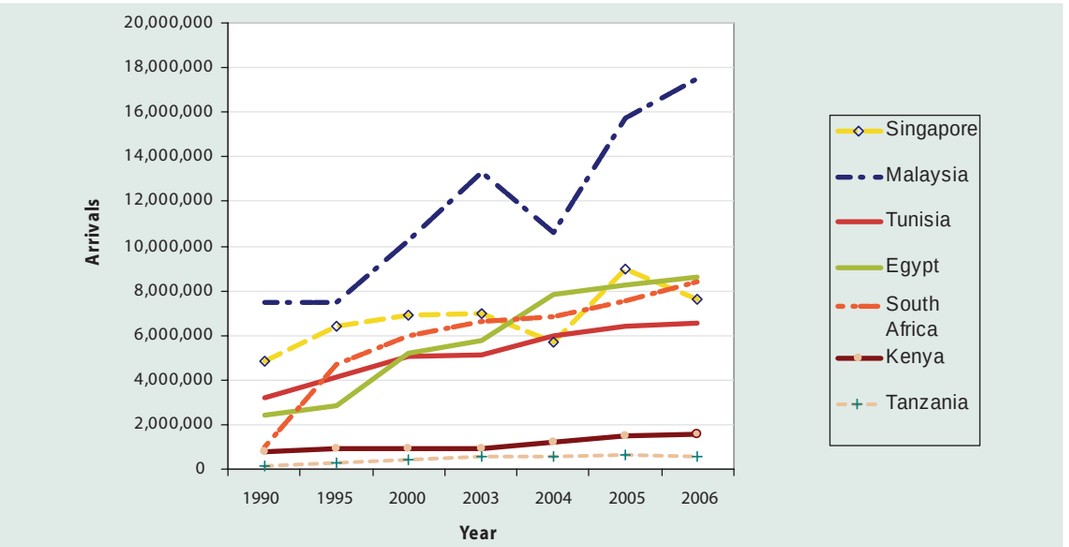
As the figure shows, there is a huge gap between the three best performing destinations (South Africa, Tunisia, Egypt) and Kenya. By leveraging its competitive advantages and dealing with the extant disadvantages, Kenya could close the gap. While Tunisia and Morocco are short haul destinations from the European tourist generating countries, South Africa is a long

Figure 8.6: Market share by key destinations in the region (arrivals)



Data Source: WTO (2007)

Figure 8.7: Comparison in tourist arrivals, 1990-2006



Source: WTO (2007)

haul destination, as is Kenya. Thus, South Africa stands out as the main competitor destination for Kenya. South Africa recognizes tourism as a key sector and commits considerable resources for its development and promotion.

Tourist arrivals in Kenya increased from 0.8 million in 1990 to about 1.6 million in 2006 (Figure 8.7), an increase of 100 per cent. Apparently, there is a huge difference in terms of absolute number of arrivals between Kenya, Malaysia and Singapore, which are recognized as countries of aspiration in Vision 2030. While the number of arrivals in Malaysia rose by over 100 per cent from about 7.5 million in 1990 to 17.5 million in 2006, that of Singapore grew by about 60 per cent from 4.8 million to 7.6 million over the same period.

Although the number of international visitors increased to a record 1.6 million in 2006, other top tourist destinations such as South Africa and Egypt attracted four to five times more visitors. Visitation figures for Tanzania are by comparison lower than Kenya's, although not by a big margin. Visitor arrivals rose to about 0.5 million in 2006 from about 0.2 million (an increase of over 100%) in 1990. It should be noted that Tanzania has a limited tourism product range, largely based on wildlife, which is not diversified.

8.3.4 Travel and tourism competitiveness index

The World Economic Forum (WEF), in collaboration with the International Air Transport Association (IATA), the United Nations World Tourism Organization (UNWTO) and the World Travel and Tourism Council (WTTC), among other tourism related bodies, have developed a Travel and Tourism Competitiveness Index (TTCI), which aims to measure the factors and policies that make it attractive to develop the travel and tourism sector in different countries. The TTCI is based on three broad categories of variables that facilitate or drive travel and tourism competitiveness. These are:

(i) Travel and tourism regulatory framework;

(ii) Travel and tourism business environment and the infrastructure; and

(iii) Travel and tourism human, natural and cultural elements.

The first sub-index captures those elements that are policy-related and generally under the purview of the government. The second sub-index captures elements of the business environment and the infrastructure of each economy. The third sub-index captures the human and cultural elements of each country's resource endowments. Each of these

sub-indexes is composed in turn by a number of pillars that add up to 14 in total (World Economic Forum, 2008).

Using the World Economic Forum TTCI index, Kenya is ranked number 101 out of 130 tourism destinations in 2008 (Appendix Table B8.1). This is a lower ranking compared to African destinations such as Tunisia (39), Egypt (66), Mauritius (41), South Africa (60), Botswana (87) and Tanzania (88).

Singapore, which is among the countries that Kenya aspires to emulate, is ranked 16. It is also ranked 1st and 15th on ground and air transport infrastructure, respectively. It has a well-educated human resource base, which is ranked 1st in the world; its policy environment is conducive, facilitating foreign ownership, foreign direct investment and with few visa restrictions (Appendix Table B8.1-B8.4). It is also considered among the safest in the world. Kenya scores poorly in safety and security (120th).

Malaysia, which is ranked 32nd has excellent ground transport. The country generally has a favourable tax regime and also low comparative fuel prices (Appendix Table B8.3). The policy environment of Malaysia is considered conducive to the development of tourism; the country has one of the highest Travel and Tourism Fair attendances in the world.

Closer to Kenya is Egypt, which is rich in cultural heritage, particularly with the pyramids. The country is ranked 66th overall and is price competitive (ranked 2nd) with low comparative prices, low fuel prices (Appendix Table B8.3) and a favourable taxable regime. The government supports the sector through relatively high marketing expenditure and favourable visa requirements.

Mauritius is the most competitive country in sub-Saharan Africa, ranked 41st overall. The local population has a positive attitude towards tourists, and the country has a well developed tourism infrastructure. However, it has restrictions on foreign ownership, flight charters, and there is no over-establishment of accommodation facilities.

South Africa, which is ranked 60th has a number of world heritage sites and well developed air and ground transport infrastructure (Appendix Table B8.3). The country has excellent protection of property rights and less stringent visa requirements. But the country has serious safety and security concerns and rigid foreign exchange rules. Tanzania ranks higher in the Competitiveness Index than Kenya in terms of nationally protected areas, rules governing foreign direct investment, foreign ownership restrictions, government prioritization of sustainable travel and tourism, and clarity and stability of environmental regulations.

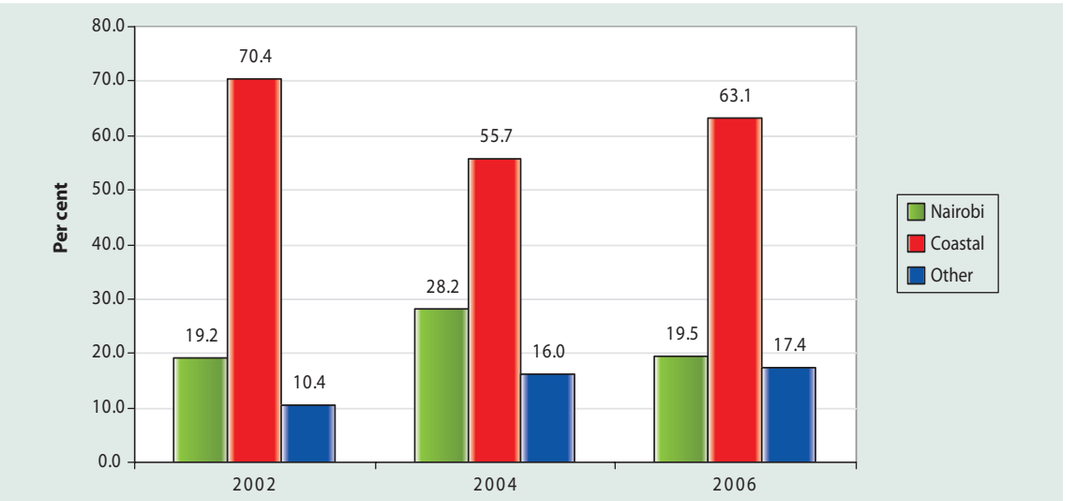
Relative performance in competitiveness between 2007 and 2008 reveals that Kenya lost competitiveness, falling from 98th position in 2007 (Appendix Table B8.5). Others that lost in the ranking include Tanzania from 80th, Singapore from 8th, Botswana from 70th, Egypt from 58th and Indonesia from 60th. India has maintained its position (65th) while others have improved (South Africa from 62nd, South Korea from 42nd, Thailand from 43rd, and Brazil from 58th).

8.3.5 Regional distribution and inequality

There are clear regional distribution aspects in the tourism sector in Kenya. The distribution of hotel bed nights by international tourists is uneven or skewed (Figure 8.8). The concentration is largely in Coast (63%) followed by Nairobi (20%) for 2006. Attempts aimed at promoting and opening up other circuits such as Western are starting to bear fruit, as evidenced by the increase in the share of bed nights from 10.4 per cent in 2002 to 17.4 per cent in 2006.

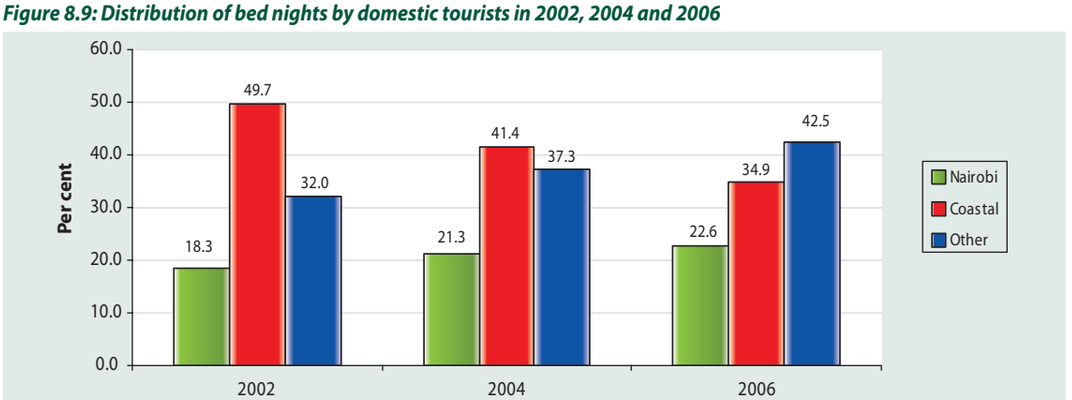
Bed nights by domestic tourists in the country are also concentrated in the Coast and in Nairobi (Figure 8.9). This pattern, which is also similar to that of inbound tourists, is a cause of concern. Studies have shown that in the Coast, beaches have seriously been degraded and polluted, coral reefs and mangrove forests substantially destroyed and marine species adversely affected due to over-concentration of tourism activities.

Figure 8.8: Percentage distribution of hotel bed nights in Kenya by region, 2002, 2004 and 2006



Data Sources: Government of Kenya, Statistical Abstract (various)

Figure 8.9: Distribution of bed nights by domestic tourists in 2002, 2004 and 2006



Data Sources: Government of Kenya, Statistical Abstract (various)

In game parks, which are the prime motivation for visiting tourists, vegetation has been degraded, wildlife disrupted, pollution increased and resources have generally been over-utilized. A recent trend where there is a gradual increase in the number of tourists to other areas is encouraging, perhaps as a result of efforts to promote other tourist circuits.

Studies have shown that 66 per cent of tourism expenditure takes place in the Coast Province, 14 per cent in Nairobi and 8 per cent in Rift Valley Province (TTI, 1998). This pattern of high concentration indicates that income and employment benefits are unevenly distributed throughout the country. Economic benefits accruing from wildlife are also unequally distributed, with community benefits typically accounting for only a small proportion of the total value of wildlife (Emerton, 1998). Studies have estimated community benefits from Maasai Mara Game Reserve to be less than 1 per cent of the total revenue (Douglas-Hamilton, 1989; Waithaka, 2004). In addition, the community around Amboseli National Park received only 1 per cent of the revenue from the park in 1990 (Norton-Griffiths *et al.*, 1995).

A wide perception that the tourism sector is foreign dominated has been dispelled by studies on the sector. According to Ikiara *et al.*, 2007, about 60 per cent of tourist hotels and 75 per cent of tour firms are locally owned. In addition, about 80 per cent of the total purchases of tourist hotels are obtained within the country.

Despite the high concentration of tourism at the Coast and in the Maasai Mara, these areas have high poverty rates. Poverty figures show that Coast Province has the second highest incidence of poverty after North Eastern (Kenya Integrated Household Budget Survey 2005/06). Kajiado and Narok districts are also relatively poor. Apparently, the immediate local communities have not benefited much from tourism. Other than benefiting from manual jobs as cleaners, watchmen and gardeners, most jobs are occupied by people from other localities.

Where the immediate local communities feel that they are not benefiting sufficiently or fairly from tourism, conflicts and violence could arise. Furthermore, these communities also bear the costs of tourism. In many places, they have lost access to land, forests, water or marine resources to tourism development.

Tourism provides an opportunity to address inequality aspects. Massive capacity building to improve business, entrepreneurial and labour skills and concessional credit are needed to get locals more involved in the sector. The government can provide tax incentives to encourage capacity building and affirmative action for locals in the training institutes. For example, hotels with employees that show the 'face of Kenya' could be given some tax breaks.

In spite of increased tourism earnings and average length of stay, per capita tourist expenditure in Kenya is low compared to other destinations, including Tanzania, Tunisia, Malaysia and Mauritius. Data on average room rates indicate that there is over-supply of accommodation especially for 1 to 3-star hotels, thus contributing to comparatively lower room rates. Park entry fee is also relatively low. In fact, Kenya is classified as a cheap destination and is ranked number 15 out of 130 countries.

8.4 Outstanding Challenges and Policy Issues

8.4.1 Outstanding challenges

Despite the growth of the tourism sector, a number of challenges are still evident, which include the following:

1. Tourism policy

The tourism sector lacks a coherent and compressive policy. Also, institutional and regulatory frameworks to handle increasing threats are insufficient and weak. Such threats include drug abuse and child prostitution.

Singapore provides the best case study from which Kenya can draw important lessons. Right from its independence, Singapore's tourism was recognized as an important sector for socio-economic growth. Accordingly, sound policies were formulated and implemented, such as "Tourism Product Development Plan", and "Strategic Plan for Growth", and "Tourism 21: Vision of Tourism Capital" of 1996. As a result of the plan, the country developed ethnic 'enclaves' such as China Town, Little India, and historically significant sites such as the Singapore River. South Africa's major policy papers for tourism were the "White Paper on the Development and Promotion of Tourism in South Africa" (DEAT, 1996), and the "Tourism in Growth, Employment and Redistribution of 1998" (DEAT, 1998).

The policy documents for tourism in South Africa call for location of tourism attractions in the rural areas. Other features include a collaborative approach within which tourism is led by government and driven by the private sector and in which tourism could be community-based. Subsequent policy developments include "Priority Areas for Tourism Infrastructure Investment", where areas are selected on the basis of available infrastructure that would act as a catalyst to unlock the inherent tourism development potential, and the "Global Competitiveness Programme for the Tourist Industry in South Africa (2005-2010)" (DEAT, 2005). The latter details a set of initiatives to address the core challenges facing tourism.

Malaysia, Egypt and Tanzania have also had tourism policies in place for a considerable period of time. These countries are also better performers in tourism, strongly suggesting sthe importance of a sound regulatory framework as a driver of performance.

The enactment of the Tourism Bill in Kenya should help in strengthening the institutional and regulatory framework. However, issuance of work permits in the tourism industry is still slow despite repeated commitment by the Ministry of Tourism to fast-track work permits. Also, the investment climate in Kenya is constrained by such factors as poor

road infrastructure, high cost of energy, high taxation regime and high air transport costs.

Generally, Kenya has poor road infrastructure. During the period 2000-2004, the country had only 14.1 per cent of its roads being paved, compared with Egypt (81%), Malaysia (81.3%), Thailand (98.5%) and Mauritius (100%). The roads density (km of road per 100 sqkm of land) in these countries is also high. In 2004, Kenya had a road density of 11, compared to South Africa (30), Mauritius (96), India (114) and Singapore (463).

With rail transport, Kenya had 1,917 km of rail line in the period 2000-2005. During this period, South Africa had 20,047 km, India 63,405 km and Brazil 29,314 km. However, Mauritius, Egypt and Malaysia had lower kilometres of rail in the same period. This suggests that rail transport has little to do with tourism performance. Even with rail transport in each country, the key elements are how active the rail system is–the traffic density and efficiency.

Table 8.2 shows the registered carrier departures worldwide (i.e. domestic takeoffs and takeoffs abroad of air carriers registered in a country) *vis-à-vis* the number of arrivals by air for different countries for 2005. China, Brazil, Indonesia, Republic of Korea, Malaysia, South Africa, Thailand, Chile, Singapore and Egypt are better performers than Kenya in terms of registered carrier departures.

The countries in the table also have a higher ranking than Kenya on the air transport pillar (Appendix Table B8.3) and the overall index (Appendix Table B8.1). Kenya is ranked 102nd in airport density. Apart from Chile, all the other countries recorded over 2 million arrivals by air compared to Kenya's 832,000 arrivals.

Table 8.2: Registered carrier departures and arrivals by air for selected countries, 2005

	Registered Carrier Departures Worldwide	Visitors by Air
Kenya	**28,000**	**832,000**
Tanzania	7,000	266,000
South Africa	148,000	2,127,000
Mauritius	15,000	748,000
Egypt	45,000	6,713,000
Tunisia	21,000	4,053,000
China	1,349,000	14,736,000
Singapore	77,000	6,267,000
Malaysia	176,000	2,846,000
Korea. R	221,000	4,347,000
Thailand	124,000	9,544,000
Indonesia	321,000	2,889,000
Brazil	515,000	3,938,000
Chile	93,000	855,000
Argentina	81,000	2,067,000

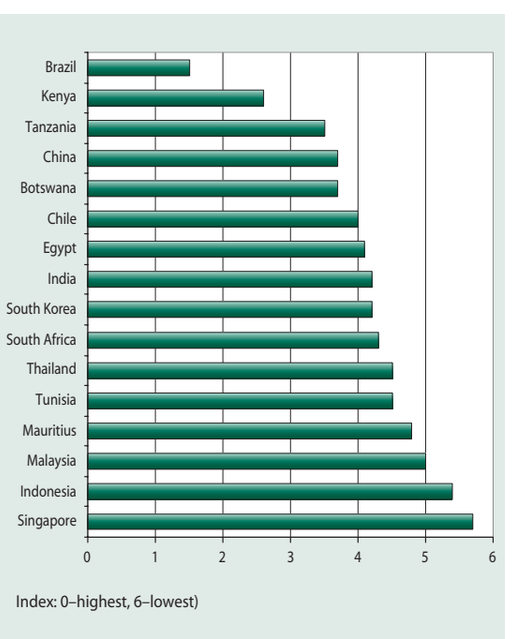
Data Source: WTO (2006)

2. *Level of taxation and prices*

The level of taxation in the tourism sector as shown in Figure 8.10 is generally high and this may inhibit working and investing in the sector. Kenya is poorly ranked (113th) in relation to the comparator destinations.

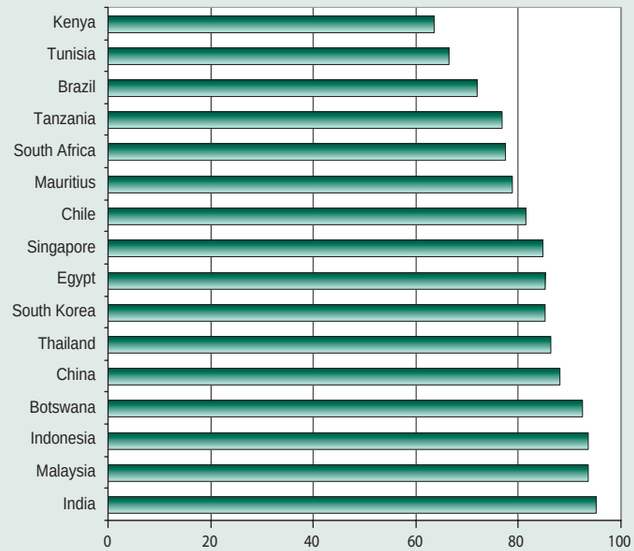
In addition, the cost of access to international air transport in terms of ticket taxes and airport charges is relatively high in Kenya as compared with other destinations as shown in

Figure 8.10: Taxation index for tourism in selected countries for 2007



Source: World Economic Forum (2007)

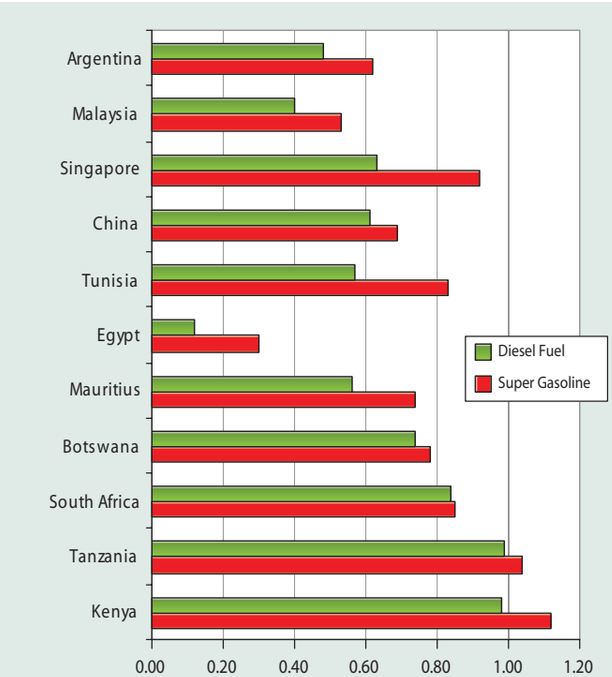
Figure 8.11: Ticket taxes and airport charges for selected countries



Index: 0–highest, 100–lowest

Source: World Economic Forum (2007)

Figure 8.12: Fuel prices in US$ per litre, 2006



	Kenya	Tanzania	South Africa	Botswana	Mauritius	Egypt	Tunisia	China	Singapore	Malaysia	Argentina
Diesel Fuel	0.98	0.99	0.84	0.74	0.56	0.12	0.57	0.61	0.63	0.40	0.48
Super Gasoline	1.12	1.04	0.85	0.78	0.74	0.30	0.83	0.69	0.92	0.53	0.62

Data Sources: World Economic Forum (2007)

Figure 8.11. Kenya is ranked number 114 and performs worse than all comparator countries in this regard.

Fuel prices also influence performance as they contribute to the total cost of travel to and within the destination. Figure 8.12 shows a comparison of prices in different destinations for both gasoline and diesel fuel in US$ per litre.

Fuel prices are substantially lower in Egypt, Argentina, Mauritius, Tunisia and Malaysia than in Kenya. Some of these countries provide subsidies and are, therefore, generally more price competitive. Egypt and Malaysia have been having a favourable taxable regime. Malaysia has generally low comparative prices and the Investment Incentives Act, revised in 1986, gives additional stimulus to tourism investment such as the Pioneer Status Investment Tax Allowance, Industrial Building Allowances and tax exemption for large foreign group tours.

3. Negative publicity

Kenya's tourism sector continues to suffer from negative publicity on insecurity, both real and perceived, to the extent that some tourist source countries have issued unfavourable travel advisories citing insecurity in the country. Insecurity has mainly been brought about by political instability in the region, which has led to proliferation of small arms. Other sources of insecurity include cattle rustling, income inequalities and unemployment. However, it must be acknowledged that some efforts have been made towards stemming insecurity, which include setting up of a specialized tourist police unit. Although this is a step in the right direction, numbers need to be increased both in the unit and in the overall police force.

4. Environmental degradation

Some tourism circuits experience environmental degradation and congestion. For instance, in the Maasai Mara Game Reserve, there has been a decline of wildlife population and congestion of visitors. Other over-crowded

areas are at the Coast and in the Amboseli National Park. It is crucial, therefore, to promote tourism activities in the less congested areas and also develop new tourism circuits to relieve pressure from the already congested ones.

5. Local community participation

Participation of local communities in the tourism sector and sharing of benefits remains a major challenge. The direct impact of lack of community participation in the sector includes negative perception and hostility by the concerned communities towards the tourism sector. Communities neighbouring the key tourism resources normally feel alienated and see tourism as a sector that benefits outsiders. Currently, this is exemplified by the long-standing problems of beach operators and human-wildlife conflict, which could be attributed to lack of adequate mechanisms of integrating local communities into the sector and creating viable linkages.

6. Tourism skills development

There are concerns about the capacity of Utalii Training College in providing training that meets the requirements of a rapidly changing industry. The tourism curriculum is also not regularly revised to keep pace with the current changes (Ikiara *et al.,* 2007). Singapore has developed a National Skills Recognition System that establishes work performance standards, identifies competency, and certifies skills in several tourism sub-sectors. A competency framework has been developed to build an integrated continuing education system to facilitate adult learning, improve access to improved skills and provide clear career pathways.

7. Intra-regional tourism

There are limited efforts at promoting intra-regional tourism. Singapore and Malaysia benefit greatly from intra-regional tourism, as these destinations have put in place strategies for capturing key markets from the region. Similarly, South Africa attracts a substantial number of tourists from neighbouring countries. An intra-regional market is important in that it minimizes the effects of seasonality associated with international markets. Besides, the region can be promoted as a single destination and, therefore, benefit from economies of scale. Although there are similar attractions in the region, intra-regional tourism could substantially enhance Kenya's tourism, provided teething problems are addressed. These problems include cumbersome Customs clearance, difficulty in cross-border movement of business people, and requirement of individual tourist visa for each country (Ikiara *et al.,* 2007).

8. Diversification of tourism products and branding

Diversity of tourism products and branding in Kenya is mainly limited to wildlife. Kenya should develop appropriate tourism products such as the MICE (meetings, incentives, conventions and exhibitions) segment to attract tourists from the region. As is evident from Singapore and South Africa, shopping can be a major tourist product for both domestic and international tourists. Other products include culture, sports, national heritage and medical products, among others. A national tourism conference should be held to brainstorm on new innovative products. There is need for the government to create incentives that would entice investors to develop shopping facilities within the existing and proposed tourist resorts and cities, develop historical sites such as where great politicians and leaders stayed in the country, and encourage public-private partnerships. The country can also increase its competitiveness by branding national parks and reserves on the basis of their various attributes. The Branding Kenya Initiative would need to be completed. In addition, Kenya should develop a cultural tourism plan.

Singapore and Malaysia have been in the forefront in brand image campaign in major overseas markets. Singapore aims to be the Services Centre of Asia, while Malaysia has developed new products such as health and medical tourism. Egypt aims at establishing new tourist camp sites in Sinai and Red Sea.

Tourism activities are largely concentrated in the coast region (63%) followed by Nairobi (20%). This pattern of high concentration indicates that income and employment benefits from tourism are unevenly distributed. Economic benefits accruing from wildlife are also unequally distributed, with community benefits typically accounting for only a small proportion of the total value of wildlife.

While Tanzania is endowed with abundant and diverse wildlife like Kenya, it takes pride in its unspoilt environment and beautiful scenery and low tourist density. As part of Singapore's commitment, a US$ 2 billion Tourist Development Fund was set up to support initiatives in infrastructure development, capability development, attracting major events and product development. Malaysia has also set up a special fund for tourism to stimulate its development, including small and medium-scale enterprises. The Malaysian government has been increasing public allocation for tourism development to expand the physical and social infrastructure to support the future growth of the sector.

8.4.2 Policy interventions

Various policy interventions are inevitable if Kenya is to improve its performance and be among the top ten long-haul tourist destinations globally.

(a) There is need to finalize and formalize the tourism policy along with the required legislation for effective implementation. This should go beyond general policy provisions by including pro-active policy interventions, designing an elaborate incentive package for tourism investments, and entrenching competition and technology transfer. These interventions should be coherent with the country's long-term development strategy, Vision 2030. The incentives should direct investments into new circuits (e.g. western Kenya), new tourism products for sustainable tourism development, and in favour of joint ventures with local communities.

(b) The business environment in the country should be improved. In line with this, there is need to improve infrastructure (with priority being roads, railways and energy), simplify and reduce licence requirements, lower and harmonize taxation, and relocate and organize beach operators, among other interventions. Regional integration also needs to be fast-tracked. This may entail marketing the East African region as a single destination, formulating a regional classification and standardization criteria, introducing a regional tourist visa, and reforming and harmonizing of regulations on movement of tourist vehicles across borders and within the regional context. Introduction of regional insurance products and addressing cross-country legal bottlenecks will be helpful.

(c) International tourism should be vigorously promoted through increased budgetary allocations. There is need to allocate more funds for tourism marketing to increase tourist arrivals to the aspired 3 million by 2012. Kenya must also improve her international marketing strategies and have excellent public relations personnel in all the key source markets.

(d) Domestic tourism should be promoted alongside international tourism through aggressive campaigns and price differentials, among other interventions. As earlier argued, a study is needed to understand the kind of tourism products that would be desirable to domestic tourists. For instance, holding periodic cultural events in different parts of the country can greatly improve domestic tourism.

(e) To ensure provision of quality tourism services, harmonization of the tourism training curricula should be done and implemented expeditiously. Besides, there is need to expand training opportunities and also introduce new courses to match the changing needs of the industry. An appropriate institution should be established to oversee implementation of the curricula and play a supervisory role of all the tourism training institutions. There is also need to expand funding of tourism training to cover all specialized tourism training institutions.

(f) Kenya should make sure that demand for accommodation facilities is always higher compared to supply. This can be done by boosting marketing while limiting supply. As the case of Tanzania, Kenya should

strive to promote low density-high value products in key tourist circuits such as the Maasai Mara and Amboseli. Further investment in tourist facilities should be discouraged while the existing ones should be upgraded and prices adjusted upwards to discourage high volumes while raising value. To enable controlled development, it is recommended that carrying capacity studies undertaken as a matter of urgency for the major tourist circuits and parks/reserves. It is imperative that clear tourism development areas be defined and prioritized. Corresponding development and management plans should be formulated and adopted. The plan of resort cities and home stays as contained in Vision 2030 are all good proposals, but they should aim to maintain demand ahead of supply.

(g) Security is a major issue of concern. Besides increasing the number of police officers, there is need to build capacity in the Tourist Police Unit in terms of customer service. In line with this, it is imperative that the government, in partnership with the private sector, continues to change the perception of Kenya as an unsafe destination. Tough measures will also need to be taken to mitigate sexual exploitation of children in tourism as well as drug abuse.

(h) Lastly, there is need for massive capacity building and provision of microfinance or concessional capital to stimulate local participation in tourism ventures. Tax incentives and affirmative action may be helpful.

8.5 Conclusion

Although the tourism sector was affected by post-election violence and the global financial crisis, the sector has demonstrated the capacity to recover quickly. The tourism sector received 1.8 million international visitors by end of 2007, and earnings totaled Ksh 65.4 billion. It is therefore expected that tourism will continue driving economic growth towards achievement of Vision 2030.

A number of selected countries are used along with Kenya to compare certain indicators over time. These indicators include tourism receipts, expenditure per tourist and TTCI. The countries selected include major destination countries in the region (Egypt, Tanzania, South Africa and Tunisia) and those that Kenya aspires to catch up with (Malaysia and Singapore).

Kenya does not perform as well as comparator countries with regard to tourism earnings, visitor arrivals and market share. Per capita tourist expenditure in Kenya is low, with an average of US$ 578 in the 2000-2006 period compared to, for example, Tanzania (US$ 1,268), Mauritius (US$ 1,300), Thailand (US$ 970), and Malaysia (US$ 587). The high per capita expenditure for Tanzania offers crucial lessons for Kenya. Data on average room rates for first class branded hotels suggest that there has been an over-supply of accommodation in Kenya. Data for 2005, for example, show that Kenya had a very small proportion of domestic overnight stays compared to inbound tourists. Malaysia and Indonesia have relatively higher domestic overnight stays compared to inbound tourists. Tanzania reflects good performance with almost equal numbers. Kenya was ranked No. 101 in 2008 down from 98 in 2007. Poor transport infrastructure, policy and legal weaknesses, negative publicity and limited marketing budget are the major underlying challenges in the tourism sector.

There are clear regional distribution aspects in the tourism sector in Kenya. The distribution of hotel bed nights by international tourists is uneven or skewed. The concentration is largely in Coast (63%) followed by Nairobi (19%) for 2007. Bed nights by domestic tourists in the country are also concentrated in Coast and in Nairobi. Despite the high concentration of tourism in Coast and the Maasai Mara, these areas have very high poverty rates.

The policy interventions for the tourism sector should include improving the policy and legal environment, increasing allocations on market promotions, improving the business

environment, development of new products, promoting domestic tourism and improving security. Finally, massive capacity building and provision of microfinance or concessional capital to stimulate local participation in tourism ventures is needed.

End notes

[1] Other explanations have been suggested, such as long distances between main tourist circuits.

Financial Services

9

9.1 Sector Significance

The financial sector plays a critical role in the development process through financial intermediation. Strong financial institutions are critical for increased investment, economic growth, employment and poverty alleviation.

Broadly, the financial system includes the banking sector, capital markets sector, informal financial services sector and other non-banking financial institutions such as the insurance sector and pension schemes. By end of December 2007, there were 45 financial institutions comprising 42 commercial banks, two mortgage finance companies and one non-bank financial institution.

9.2 Policy Setting

The last five years have seen tremendous development in the legal and regulatory framework of the financial sector. The banks and financial institutions in Kenya started to apply the *in duplum rule* in May 2007 following the Legal Notice No. 52 of 2007 by the Minister of Finance specifying the commencement date of the Banking (Amendment) Act 2006. The rule limits the amount of interest recoverable on non-performing loans by banks and financial institutions. Other developments include the enactment of the Cooperative Societies Amendment Act 2004, and the SACCO Society Act 2008 meant to strengthen the SACCO industry. To regulate the vibrant micro finance sector the Micro Finance Act 2006 was enacted to harmonize Micro Finance Institutions (MFIs) operational environment. The Insurance Amendment Act 2006 saw the establishment of the Insurance Regulatory Authority (IRA) as an independent regulator of the industry.

9.3 Performance Indicators

In Kenya, the financial system has progressed in terms of increased profitability and enhanced financial deepening witnessed by the introduction of new financial products, especially in the banking sector.

The progressive performance was evident particularly in the last three years; for instance, the total deposit base in the banking sector increased by 18 per cent between December 2006 and December 2007. During the same period, banking sector pre-tax profits increased by 31.4 per cent from Ksh 27.1 billion in December 2006 to Ksh 35.6 billion (Central

Bank of Kenya, 2007). This improvement was due to increased interest incomes on loans and advances.

In the capital market, the stock market capitalization rose from Ksh 792 billion in 2006 to Ksh 851 billion in 2007. However, the daily NSE 20 Share Index lost 201 points between December 2006 and December 2007 to close the year at 5,445 points (Government of Kenya, 2008). The turnover, which is a measure of stock market liquidity, also reduced by 6.6 per cent in 2007 compared to the previous year.

9.3.1 Banking sector indicators

Market share

The banking sector portrays an oligopolistic market structure. The sector is still non-competitive as only a few large commercial banks dominate the sector while majority are small and weak. Table 9.1 shows the indicators of concentration levels of banks in Kenya. The five largest banks alone control over 50 per cent of net advances, customer's deposits and total net assets.[1] High bank concentration implies high market share and power. High market power results in lower supply of credit and high costs of credit.

Product diversification

The banking sector has widened its scope in retail bank servicing through the introduction of new financial products such as Islamic products and gender-specific products.[2] The Islamic products are *shariah*-compliant, and the products are expected to capture a huge market of Muslims whose requirements were not previously met by conventional commercial banks**.**

Gender-specific retail banking services include DIVA account products offered by Standard Chartered Bank. These products target women and include such privileges as provision of special cards that give discount rights to the holders in specific shops.[3] Although the products were introduced in 2007, they are capturing a fast growing market.

Equity Bank also launched a branch specifically for women in Small and Medium Enterprises (SMEs) sector in June 2007. The Equity line of credit targets legally constituted community groups with a good history. These groups, which are mainly composed of women, receive loans without security; group members act as guarantors for loans.

The card business has also grown within the banking sector. The high demand and high profits emanating from their use (i.e., plastic money) has stirred banks into the card business, majority of whom are now fighting to grow their share in this business segment.

Access to banking services

Figure 9.1 shows provincial coverage of financial institutions. Nairobi Province has an extensive coverage of banking services, with

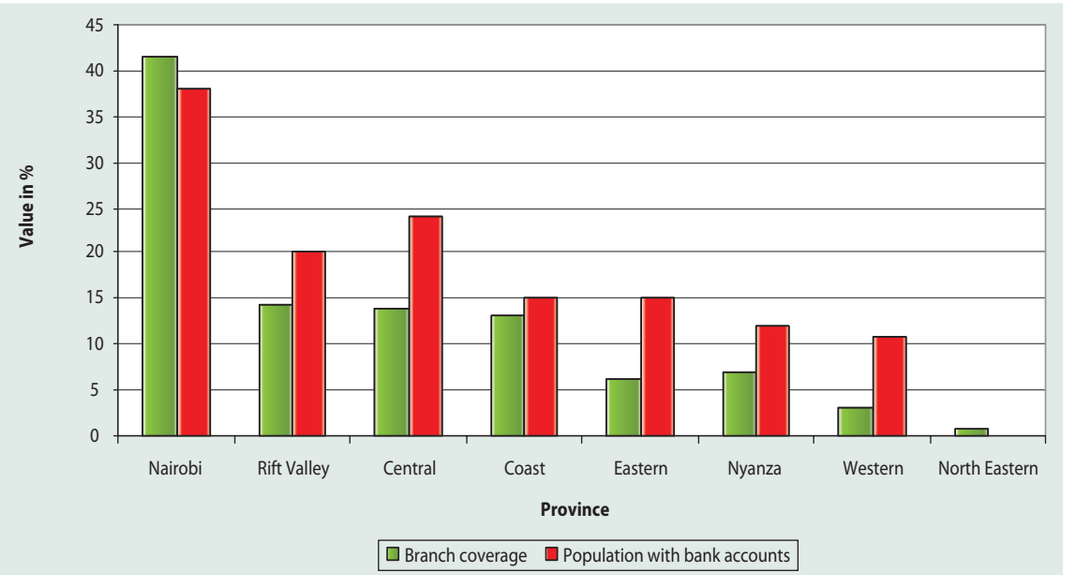
There is limited accessibility to financial services, with only 19% of bankable population utilizing formal financial services.

Table 9.1: Big banks market share in Kenya, 2004 - 2007

	2004			2005			2006			2007		
	Net advances	Customer deposits	Total net assets	Net advances	Customer deposits	Total net assets	Net advances	Customer deposits	Total net assets	Net advances	Customer deposits	Total net assets
Barclays	21.80	18.60	19.40	20.16	16.71	16.95	19.37	16.16	16.12	21.26	15.37	16.60
KCB	11.60	12.30	12.00	10.10	12.10	12.06	10.66	12.31	11.93	11.40	12.07	11.80
Standard	9.20	12.80	12.20	10.47	11.89	11.84	9.35	11.17	11.08	7.97	10.40	9.59
Co-op	9.30	8.90	8.40	8.94	8.74	8.41	7.35	8.30	7.88	7.76	7.72	6.91
NBK	7.70	5.70	5.50	7.44	5.37	5.29	6.94	4.93	4.93	1.58	4.89	4.35
Total	**59.6**	**58.3**	**57.5**	**57.11**	**54.81**	**54.55**	**53.67**	**52.87**	**51.94**	**49.97**	**50.45**	**49.25**

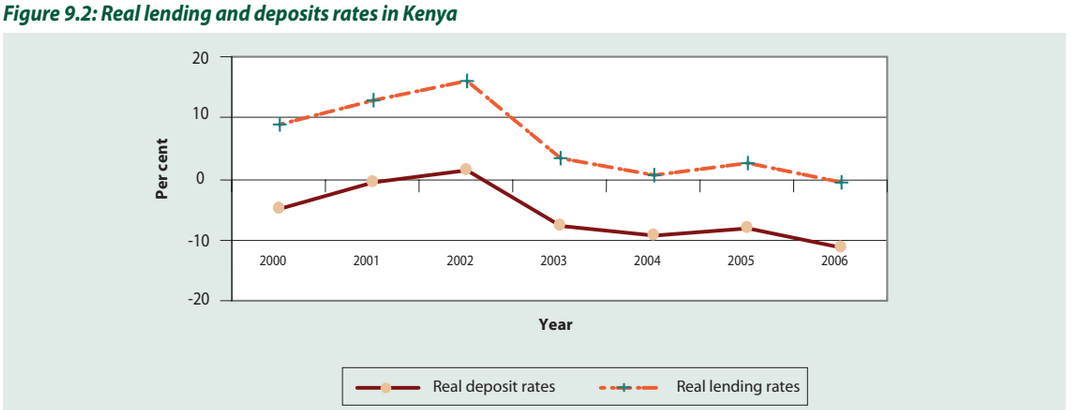
Data Source: Central Bank of Kenya (2007)

Figure 9.1: Branch network and proportion of population with bank accounts by region



Data Source: Central Bank of Kenya Supervision Annual Report (2006) and Financial Sector Deepening Kenya (2007)

Figure 9.2: Real lending and deposits rates in Kenya



Source: Central Bank of Kenya statistical bulletins

41 per cent of bank branches and 38 per cent of the population with bank accounts. The rest of the provinces in Kenya have less than 100 bank branches, with North Eastern Province having only four branches and an insignificant number of people holding bank accounts.

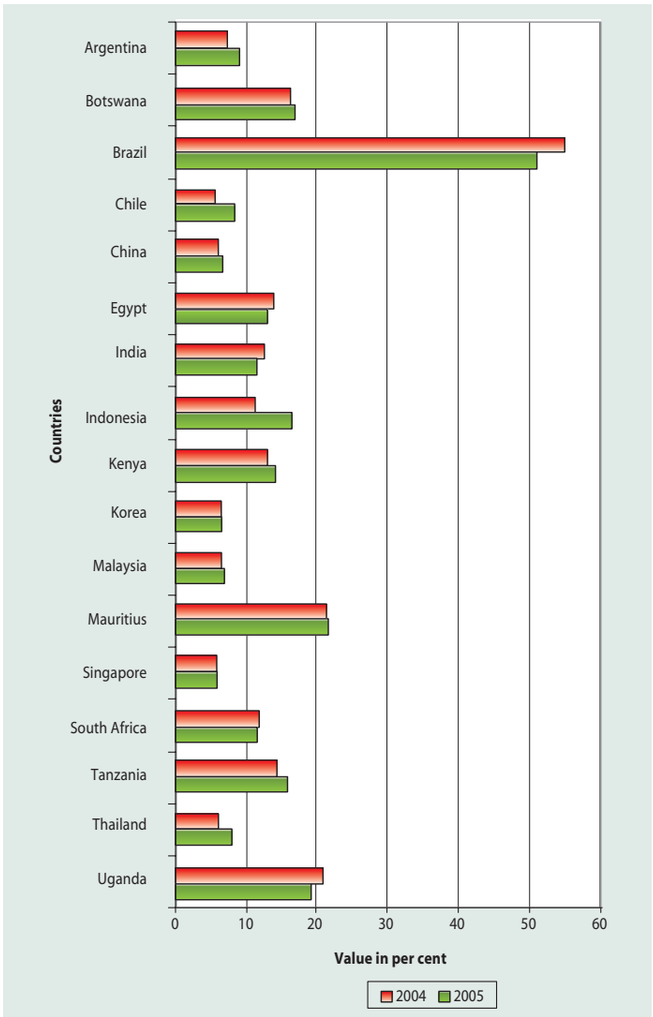
The limited accessibility to financial services is due to the relatively high fees and commissions charged by banks. The main reasons for high commissions include low transparency in bank costs, which discourages the basic principle of competitive price offering by the banks. Similarly, there has been laxity in enforcing Section 44 of the Banking Act, which requires that commercial banks seek approval from the Minister of Finance before imposing any charges on their customers.

Cost of credit

Although the lending rate representing the cost of credit has been declining in the recent past, it has not reached the levels necessary to attain the anticipated 10 per cent investment target as per Vision 2030. The real deposit rate is also largely negative, meaning that depositors are not able to get full compensation for their savings due to nominal deposit rates being lower than the inflation rate. This discourages saving and impedes investment growth as shown in Figure 9.2.

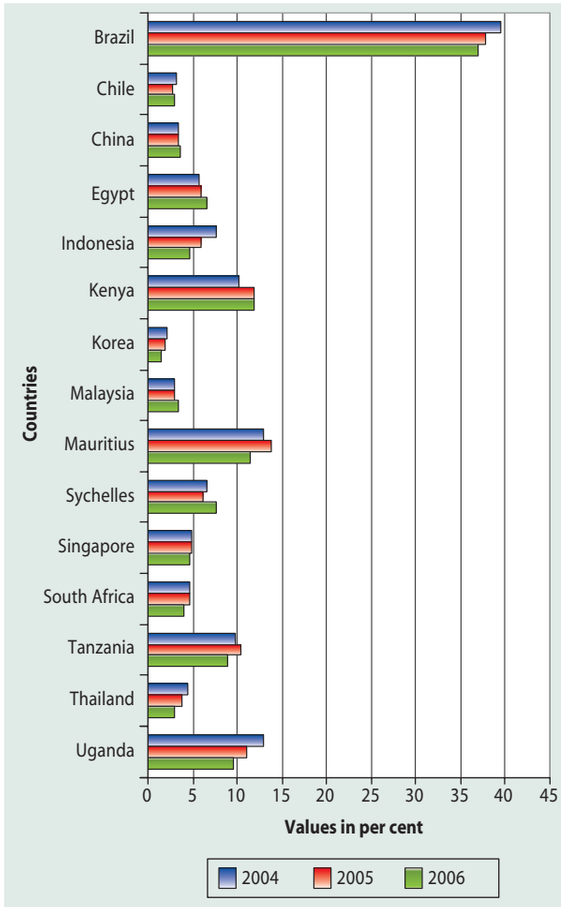
The limited accessibility to financial services is due to the relatively high fees and commissions charged by banks. The main reasons for high commissions include low transparency in bank costs, which discourages the basic principle of competitive price offering by the banks. Similarly, there has been laxity in enforcing Section 44 of the Banking Act, which requires that commercial banks seek approval from the Minister of Finance before imposing any charges on their customers.

Figure 9.3: Lending rates for selected countries



Source: World Bank (2007; 2008)

Figure: 9.4: Interest rate spread across selected countries



Source: World Bank (2007; 2008)

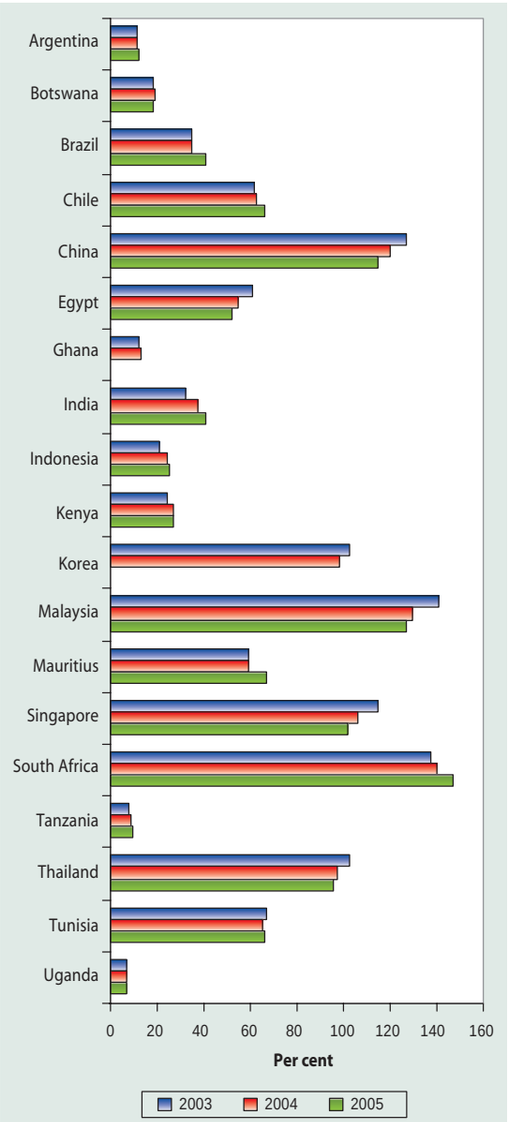
In regional terms, the lending rate in Kenya is still relatively high compared to most of the countries represented in Figure 9.3. In countries such as Argentina, Chile, China, Korea, Malaysia Singapore and Thailand, the lending rate is below 10 per cent compared to Kenya's average of 13 per cent during the period 2004-2006. This high cost of credit impedes investment growth.

Interest rate spread

Interest rate spreads reflect the differences between lending and deposit rates by banks and is an indicator of bank efficiency. In Kenya, the spreads averaged 12 per cent during the period 2000-2006 in spite of relatively declining lending rates during the period under review. The real deposit rates have also been, on average, negative in the last five years, which further explains the wide spreads. Even in regional terms, the spreads in Kenya compare unfavourably with other African countries such as South Africa and Egypt, whose spreads were below 6 per cent during the period under review.

The interest rate spreads for countries that have already attained middle-income status, such as Singapore, Malaysia, Korea and China, are below 5 per cent (Figure 9.4). Wide interest rate spreads imply that the lending rates are high and deposit rates are low; they are a symptom of inadequate competition within the financial system. Other factors explaining high interest spreads include scale diseconomies, high

Figure 9.5: Domestic credit to the private sector as a percentage of GDP across selected countries



Source: World Bank (2007; 2008)

intermediation costs and a weak judicial system, especially in the enforcement of contracts.

Credit to the private sector

Credit to the private sector is one of the indicators of ease of accessibility and availability of financial services to the business community. In Kenya, credit to the private sector has been stable, averaging around 26 per cent over the last 5 years. However, credit to the private sector in Kenya is low when compared to, for example, South Africa whose credit to the private sector as a share of GDP is in triple digits (Figure 9.5).

Credit to the private sector is mainly influenced by borrowing rates and resource mobilization base, which is affected by deposit rates. Countries such as Thailand, Korea and Malaysia may have managed to maintain high levels of credit to the private sector due to their favourable lending rates (Figure 9.3).

Non-performing loans

The financial sector realized improvements in the ratio of net non-performing loans (NPLs) to gross loans from 7.1 per cent in 2005 to 5.0 per cent in 2006. By December 2007, the ratio had declined further to 3.4 per cent. This improvement was due to enhanced corporate governance and risk management. Similary, compared to other countries, Kenya had a remarkable reduction in NPLs (Figure 9.6).

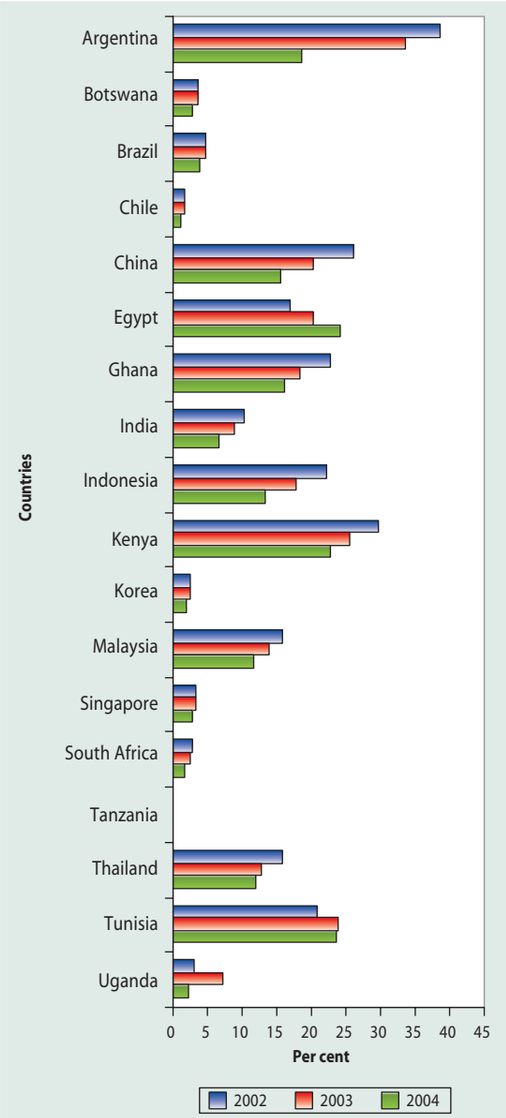
However, countries such as Korea, Singapore, South Africa, Chile, Botswana, Brazil and Uganda had a level of NPLs of less than 5.0 per cent in 2006, which is below Kenya's level of 5.2 per cent in the same period.

Most of the countries with impressive performance in NPLs have adopted the use of credit bureaus as one of the methods of risk management. Thus, through a functional credit information system, they are able to minimize allocation of loans to potential defaulters.

9.3.2 Challenges in the banking sector

The full potential of the banking sector in Kenya has not been exploited. The sector faces the following challenges. First, there is limited accessibility to financial services. Only 19 per cent of bankable population utilizes formal financial services, while 38 per cent of Kenyans are excluded in terms of financial services. Apparently, 8 per cent of financial services are provided by SACCOs, while 35 per cent obtain loans from the informal sector (Financial Sector Deepening Kenya, 2007).

Figure 9.6: Non-performing loans in selected countries



Source: World Bank (2007; 2008)

Only 19 per cent of bankable population utilizes formal financial services, while 38 per cent of Kenyans are excluded in terms of financial services. Apparently, 8 per cent of financial services are provided by SACCOs, while 35 per cent obtain loans from the informal sector.

Second, the large interest rate spread is a serious impediment to expansion and development of financial intermediation. It discourages potential savers due to low returns on financial savings, and potential investors as a result of high cost of capital.

Third, the presence of information asymmetry in the lending environment poses a real challenge in the form of credit risk assessment. Consumers in Kenya have largely been unaware of price differences in banking products, while lack of credit reference bureau undermines credit risk assessment by banks, leading to the problem of information asymmetry in the market. Such an environment thus constrains investment because deserving and credible borrowers may be denied credit due to lack of data on credit worthiness.

A related challenge threatening the stability of the sector is the recent wave of pyramid schemes. These schemes purport to offer attractive short-term returns on money deposited with the scheme relative to conventional investments. However, these schemes have eventually gone under with millions of depositors' money.

Fourth, legislation gap is still a major constraint to the financial sector in Kenya. For instance, the passing of the Crime and Money Laundering (Prevention) Bill 2007 has been delayed for a long time.

Lastly, the confidence of using cheque payment system is undermined due to problems of bouncing cheques, which in turn hinders the payments settlement process. In addition, drawees of bounced cheques pay additional fees and resultant charges to their banks, thereby increasing the cost and risk of doing business.

9.3.3 Capital market performance

The capital market comprises the stock market, and the bond market. The stock market is relatively more developed than the bond market because the latter is more difficult to develop than equity markets. For instance, bond market development requires pricing benchmarks, while an equity market can be created without such benchmarks. Bond markets also need quality issuers because investors will not buy bonds unless they are satisfied about the issuer's credit standing.

In Kenya, treasury bonds dominate the market, with only 14 corporate bonds issued so far.

Stock indices

The performance in the stock market has been consistently impressive in Kenya. The Nairobi Stock Exchange (NSE) index grew by 185 per

cent between December 2000 and December 2007 (Figure 9.7). The NSE 20 share index tracks the performance of the best 20 performing companies and does not, therefore, represent overall market trends. A new index, Nairobi All Share Index (NASI), tracking all the companies listed in the stock exchange, was recently launched and it is expected to provide a more enhanced picture of the stock market performance.

Market capitalization

The market capitalization as a share of GDP, which captures the size of the market, increased from 35.5 per cent in 2005 to 49.9 per cent in 2006 (Figure 9.8). However, even though the figures for Kenya exhibit an upward trend, they are insignificant compared to countries within the African region, particularly South Africa and the middle-income countries whose capitalization is more and in some cases over 100 per cent.

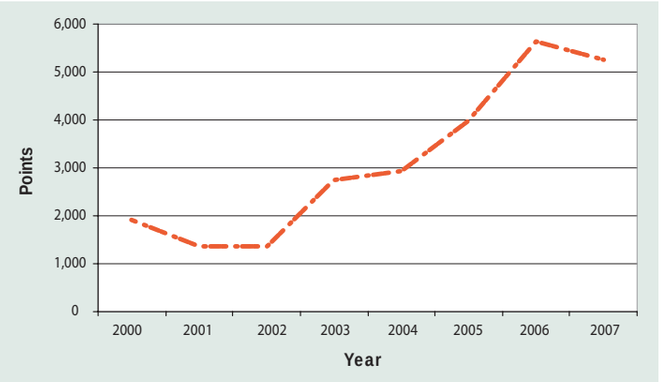
Market liquidity

The market liquidity also indicates upward trends in Kenya (Figure 9.9). However, the liquidity is still low compared to other countries in the region and globally. The market liquidity for South Africa, China, India and Korea was higher than 60 per cent in 2006 compared to Kenya's liquidity level of below 10 per cent in the same period.

Except for Egypt, the majority of stock markets across the African countries under comparison had an equity turnover ratio lower than 40 per cent in 2005, with Kenya's turnover registering below 10 per cent in the same period. The turnover ratio for China, India and Korea was higher than 80 per cent in the same period.

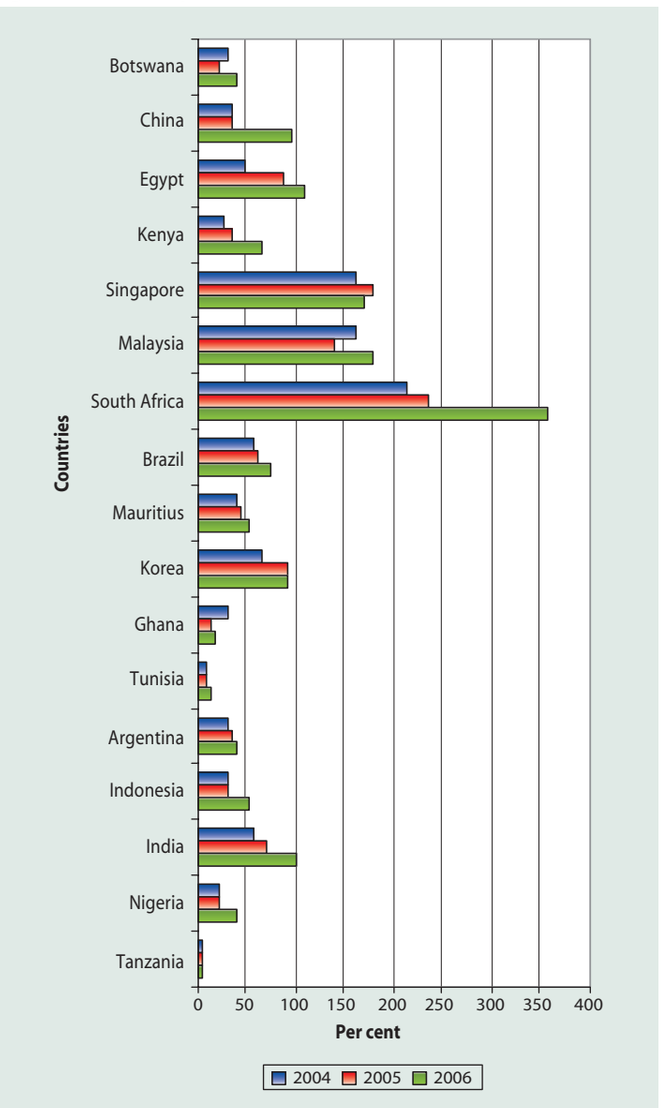
The positive trends in the stock market have been realized due to privatization of formerly state-owned enterprises through Initial Public Offerings (IPOs) and investors' demand for alternative forms of funding to the banking sector. Increased activity in the market was also realized due to share splits by some of the already listed companies such as East African Cables and Barclays Bank of Kenya.

Figure 9.7: Trends of the Nairobi Stock Exchange index



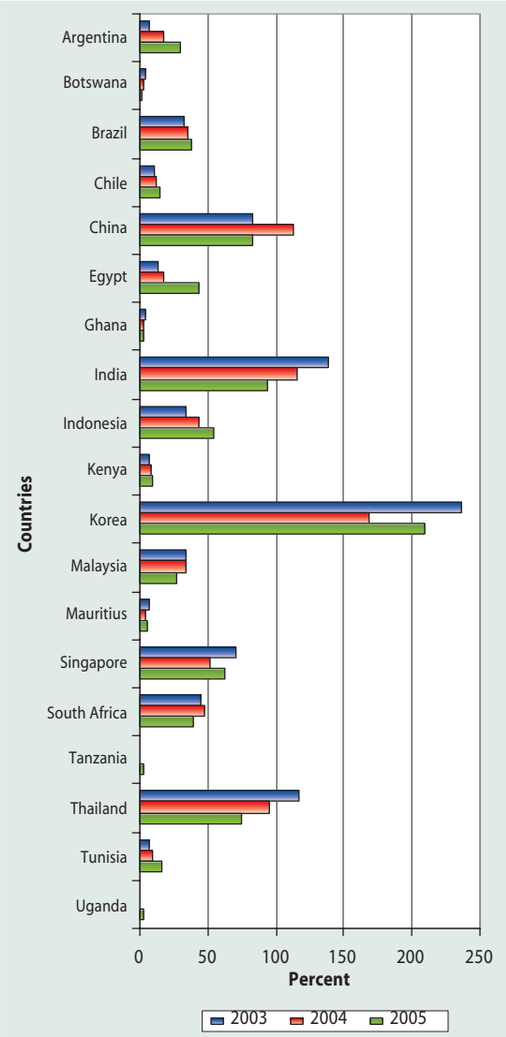
Source: Nairobi Stock Exchange (2007; 2008)

Figure 9.8: Market capitalization as a share of GDP for selected countries



Source: World Bank (2007 and 2008)

Figure 9.9: Market liquidity (% of GDP) for selected countries



Source: World Bank (2007 and 2008)

Modernization of the stock market, particularly the introduction of the Automated Trading System (ATS) in 2006, which increased trading efficiency and price discovery, also contributed to the improved performance.

The laxity in supervision by CMA is a major concern. This is evident in the delayed actions in enforcing corrective measures particularly in the brokerage industry.

Bonds market

The bonds market in Kenya is still under-developed. While government (treasury) bonds were introduced in early 1980s, corporate bonds were only introduced in the mid-1990s. However, the market is still characterized by a low number of issues and low liquidity. The value of bonds issued in 2005, 2006 and 2007 stood at Ksh 68.4 billion, Ksh 78 billion and Ksh 76 billion, respectively. This was below the Ksh 96 billion and Ksh 82.6 billion issued in 2003 and 2004, respectively, which has led to low liquidity levels within the market.

Similarly, only 14 issues have been made in the corporate bonds segment by about ten corporate bodies. This again indicates low liquidity, which has implications on the development of the corporate bonds market in Kenya.

9.3.4 Challenges in the capital market

The full exploitation of the capital market as a source of long-term capital has not been achieved. This is evident from the excess liquidity and over-subscriptions during IPOs in the market. Some challenges still impede full development of the market.

First, the market offers a limited menu of financial instruments, and products traded in the exchange are limited to equities and bonds. Although the equity market is far much developed, the bonds market has low issues and liquidity levels. The futures market is absent, which constrains investment and trade particularly during periods of high volatility in prices.

Second, the Capital Market Authority (CMA) charges high costs on market participants and it has also failed to cut down the entry barriers for new companies. This has locked out a major section of the population in Kenya that belongs to the informal sector and small and medium scale enterprises.

Third, the laxity in supervision of the CMA is a major concern. This is evident in the delayed actions in enforcing corrective measures particularly in the brokerage industry. Some of the brokers in the NSE engage in fraudulent activities, including trading with shareholders funds without consent. Recent examples include Francis Thuo and Partners, and Nyagah Stockbrokers, which were suspended and put under statutory management, respectively.

9.3.4 Other financial institutions

In Kenya, Savings and Credit Cooperative Organizations (SACCOs) and Micro Finance Institutions (MFIs) are the most popular forms of financial service providers. Others include Development Finance Institutions (DFIs), unit trust funds, insurance providers and retirement benefit schemes.

The SACCOs have experienced a steady growth in Kenya. As at December 2006, there were over 10,800 registered cooperative societies with a membership of about 6 million and fund mobilization to the tune of Ksh 113 billion, which is about 31 per cent of national savings.

Kenya is recognized as a pace setter in the growth of the micro finance sector in the region. MFIs have come in handy to fill the existing financial gap, especially regarding credit facilities to poor people. However, for a long time, MFIs have not been able to mobilize deposits to enhance their sustainability and expand their services. The introduction of the MFI Act 2006 is expected to strengthen a regulatory framework to promote the performance and sustainability of deposit-taking micro finance institutions, while at the same time protecting depositors' interests. The Act enables MFIs to provide complete financial services to the Micro and Small Enterprise (MSE) sector.

Like in other sub-Saharan African countries, the government established DFIs as a deliberate effort to alleviate perceived market failures in the provision of long-term capital for development. The DFIs were expected to spearhead the Kenyanization process by enhancing local participation in the economic development process. These institutions focused on developing specific activities by serving as vehicles for mobilizing long-term capital to finance prioritized activities. However, Kenya has not managed to reap significant benefits from the DFIs due to myriad problems facing them.

The insurance market in Kenya is still under-developed. By the end of 2007, there were 46 insurance companies, most of which recorded underwriting losses in 2006 (the overall underwriting loss for the industry was Ksh 1.23 billion). The penetration of insurance also remains relatively low. The slow growth of the sector is attributed to lack of innovation, low levels of public awareness and low confidence levels between insurers and customers as evidenced in the collapsed companies and unsettled claims.

The retirement benefits scheme provides long-term capital that could be utilized for development, particularly in infrastructure. As at 2006, the sub-sector had mobilized savings of about Ksh 160.4 billion compared to Ksh 100.1 billion in 2004. However, the potential is higher given that the coverage is still low.

Several constraints, however, hinder these financial institutions from contributing fully to economic development. First, the SACCOs are constrained by poor marketing strategies and a low capital base. Second, the insurance market is still under-developed, with its penetration still relatively low. The current insurance products are not serving the customers appropriately; the public perceives insurance companies as exploiters. Over the past years, some companies collapsed due to poor corporate management, misuse of premiums and non-payment of claims. Third, there is limited awareness of alternative financial products such as unit trusts.

9.4 Policy Options

In order to exploit the full potential of the financial sector, the following policy recommendations are proposed:

(a) There is need to foster bank competition to narrow the interest rate spreads. Thus, efforts to encourage small banks to merge to enable them to expand and compete effectively should continue. Also, there is need to enhance commercial banks' supervision and regulation through continued capacity building within the Central Bank of Kenya. Similarly, the initiative by the CBK to publish bank charges in the print media should be enhanced that incorporates most of the charges.

Other efforts include facilitation of issuance of various debt instruments, including deepening the bond market by, among other measures, encouraging establishment of a local credit rating agency through appropriate regulatory framework. For investors, a credit rating agency increases the range of investment alternatives and provides easy-to-use measures of relative credit risk. Credit rating would also promote corporate debt issuance and enhance competition and efficiency in the financial system. It is also crucial that commercial courts be strengthened to enhance the enforcement of contracts.

(b) The recently launched legislation governing the establishment of credit bureaus should be vigilantly implemented. This will enable credit bureaus to analyze and provide information to banks regarding the creditworthiness of borrowers, therefore mitigating risks and reducing information asymmetry. Thus, cases of non-performing loans will be minimized and allocation of resources enhanced.

(c) The government should consider confining its ownership in the banking services to those that are directly linked to national strategic goals. Continued partial state ownership of banks where no social benefits accrue can interfere with the full achievement of bank efficiency gains and corporate governance. In such cases, full privatization is a viable option.

(d) There is need to improve financial education on the diversity, availability and costs of various financial products beyond the usual advertisements and sale of such products. This education should particularly cover rural areas that are still poorly covered in terms of financial services. Some of the ways to achieve this include the use of local language media; identification of target markets and population segments to be educated and trained; and designing of appropriate education and training materials, door to door information dissemination and provision of brochures written in Kiswahili.

(e) There is need to review the policy for dealing with the problem of bouncing cheques. According to data from the Kenya Bankers Association (KBA), 148,211 cheques with an estimated value of Ksh 1.64 billion bounced between January and September 2007. Although issuance of bouncing cheques was criminalized through the Finance Act 2004, the law provides for out of court settlements. Most offenders escape unpunished as most bounced cheque victims prefer the out of court settlement. One way to handle the problem is through massive sensitization and public awareness campaigns emphasizing the importance of credible cheque payment system. Other methods such as requiring the banks to withdraw cheque books from repeat offenders may also instil discipline and deter potential offenders. Instant cheque clearing mechanisms can also be established. Finally, the government may consider providing incentives to banks to develop technology that can instantly verify the validity of cheques.

(f) A conducive legal and administrative framework should be put in place to promote development of the bonds market in Kenya.

(g) There is need for diversification of financial instruments in the market to provide investors with more risk diversification opportunities, foster competition and innovativeness and allow bigger financial investments. Forward contracts exist in Kenya albeit at a limited scale and are under-developed.[4] However, futures markets are absent due to lack of a regulatory environment.

The fact that Kenya is largely dependent on agriculture necessitates provision of a diversified menu of risk management instruments beyond what is currently available. The futures market follows standardized rules. Therefore, it does not require negotiations for contract

enforcements. In addition, there is no problem of inaccessibility by small buyers and producers in standardized markets compared to Over the Counter (OTC) such as forward transactions. It is, therefore, recommended that a regulatory framework be instituted for the establishment of futures markets. The commodity futures exchange, in particular, could be very appropriate to cushion investors against price volatility.[5] In addition, there is urgent need to provide an alternative market to cater for small, medium and growing companies, which otherwise do not meet the needed requirements by CMA to qualify for listing.

(h) In the Capital Markets Authority, the government should comprehensively review supervision strategies and impediments capacity to establish the reasons for the observed weaknesses and inefficiencies. This includes reviewing staff and institutional capacities. It is also important that the Nairobi Stock Exchange be demutualized to improve efficiency.

(i) Through incentives, the government needs to encourage SACCOs to list in the exchange to enhance their capital base and access cheap finance. The implementation of the SACCO Societies Act 2008 should be fast-tracked to enhance effective supervision of SACCOs, especially those providing front office services. The newly established Insurance Regulatory Authority (IRA) should take sufficient control and firmly deal with the issues facing the insurance industry, which should be encouraged to develop multiple and attractive products that cover all sectors and regions in the country.

(j) It is important that DFIs be restructured, as their role in the provision of long-term finance is still vital in the development process. The measures already initiated, including developing a strategy for these institutions, should be fast-tracked.

9.5 Conclusion

The financial sector in Kenya has achieved several milestones. The sector has developed from one constituting only of a few banks offering un-diversified traditional bank services, to one that is more or less diversified comprising numerous financial institutions. In the capital market, there have been tremendous developments in size and number of approved institutions by the Capital Market Authority. However, for the sector to achieve its full potential and contribute effectively to realization of Vision 2030 goals, the identified challenges need to be urgently addressed.

End notes

[1] By the end of 2007, Equity Bank had overtaken the National Bank of Kenya as the fifth largest bank in terms of market share.

[2] Retail banking is a banking service geared towards individual consumers. It focuses on consumer markets. Retail banking services provide a wide range of personal banking services, including offering savings and checking accounts, bill paying services, debit and credit cards, mortgage and personal loans. Examples of retail banks include Islamic banks, commercial banks, posts and savings banks.

[3] One such card is the DIVA Shell discount card that provides a discount on fuel. The card also entitles the holders to a 3 per cent discount on loans compared to normal account holders.

[4] A *forward contract* is an agreement between two parties in which the buyer agrees to buy from the seller an asset at a future date and at a pre-agreed price. This form of contract is not traded on an exchange. While the forward contract is more flexible because it is negotiable between two investors/parties, the contracts are more difficult to close in advance because it involves negotiation with the original counterpart who may not want to close the position. They are, therefore, less liquid. Follow-up of credit risk is also more difficult as they are not traded on an exchange. They are OTC contracts. A *futures contact* is similar to the forward contract. The only difference is that futures are standardized contracts only available in organized or regulated markets such as stock exchanges.

[5] Commodity futures are hedging instruments that allow firms to obtain insurance for the future value of their outputs or inputs.

10 Environment and Natural Resources

10.1 Sector Significance

Kenya is currently facing a myriad of environmental challenges. These challenges mainly include deforestation, soil erosion, desertification, loss of biodiversity, water scarcity and degraded water quality, poaching, and domestic and industrial pollution. The nexus between environment and natural resource degradation and climate change is an important public policy concern for several reasons. First, the consequences of environmental and natural resource degradation include lower quality of life, loss of productivity, higher energy costs, and high infrastructural and healthcare costs. In this regard, it is the poor, with limited alternative livelihoods, that are the major losers. Thus, the informal settlements in urban and peri-urban areas where the poor live amid scanty sanitation facilities is a genuine policy concern. For example, of the 174 local authorities in Kenya, only 32 have some form of sewage treatment and waste disposal facilities.

The consequences of environmental and natural resource degradation include lower quality of life, loss of productivity, higher energy costs, and high infrastructural and healthcare costs. In this regard, it is the poor, with limited alternative livelihoods, that are the major losers.

Secondly, the current economic and social challenges are exacerbated by risks associated with climate change, thereby increasing societal vulnerability. This is particularly true for those that are dependent on resources that are sensitive to climate change. Indeed, more than 40 per cent of GDP is produced in sectors that are largely natural resource-based, namely agriculture, tourism, fishing and mining. Moreover, the sectors have components that constitute the livelihood of rural populations. Therefore, a development strategy that aims at sustainable growth should take into account environmental concerns.

The Kenya government has recognized these concerns and has undertaken various measures to safeguard the environment. Until the enactment of the Environmental Management and Coordination Act (EMCA) in 1999, Kenya lacked a coordinated legal and regulatory framework for environment and natural resource management. The Act provides a framework for harmonizing the 77 sector-specific statutes relating to the management and conservation of the environment. Efforts are ongoing to develop a national environment policy.

Six ministries share the responsibility in the stewardship of the environment and natural resources in the Agriculture and Rural Development (ARD) Sector Group. Together, these ministries receive less than 10 per cent

of government budget. Of the portion that the Ministry of Environment and Natural Resources received in 2005/06, 47 per cent went to the Forest Department. The Kenya Forest Research Institute (KEFRI) and the National Environmental Management Authority (NEMA) received around 15 per cent.

10.2 Environmental Quality Indicators

Some of the indicators of environmental quality include land quality, water quality, access to improved water, access to sanitation, forest cover, wildlife area under protection, fishery production, biodiversity index and air quality. Ratification of international environmental agreements is also an indicator.

10.2.1 Land resources

Kenya's total area is 587,000 km^2. Of this area, 11,000 km^2 is covered by water bodies, while of the remaining 576,000 km^2, about 21 per cent is of high and medium agricultural potential. The remaining 74 per cent comprises arid and semi arid lands (ASALs).

As Figure 10.1 shows, there are significant regional variations in land quality. Rift Valley Province has the largest area (in absolute terms) with high and medium potential land for agricultural production, while Western, Nyanza and Central provinces have the least area (in absolute terms), but a big proportion of their total land is high potential. The three provinces are also the most densely populated in the country.

The proportion of rural poor households without land differs widely across the country, with the highest being in Central Province (15.8%) and the lowest being in Western Province (6.0%).

Within the context of growth in food and agriculture, productivity is given more emphasis primarily because expansion of arable land is limited due to lack of suitable land and/or because of environmental priorities. However, in Kenya, there is potential for increasing cultivatable land through irrigation. In addition, the difference between actual and technically feasible yields for most crops implies great potential for increasing food and agriculture production through improvements in productivity, even without further advances in technology.

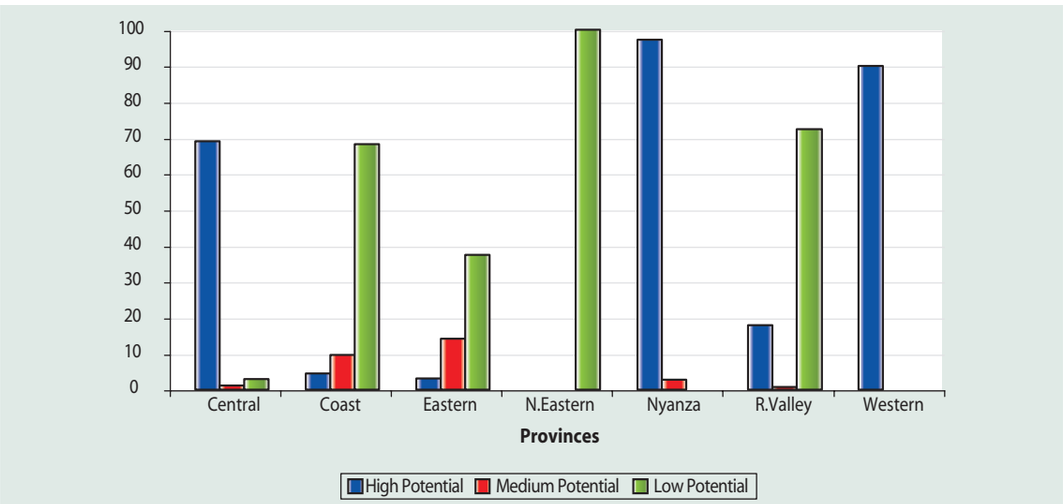
Land tenure in Kenya is classified into three broad categories, namely: communal land, government trust land, and privately owned land. The latter category denotes ownership by a single person, group of persons or a private company. The following pieces of legislation are some of those used to manage land:

- Survey Act (Cap 299)
- Land Adjudication Act (Cap 284)
- Land Acquisition Act (Cap 295)
- Registration of Titles Act (Cap 281)
- Land Titles Act (Cap 282)
- Registered Land Act (Cap 300)
- Land Control Act (Cap 302)
- Local Government Act (Cap 265)
- Chiefs Authority Act (Cap 128)
- Government Lands Act (Cap 280)
- Physical Planning Act (Cap 286)
- Land Planning Act (Cap 303)
- Trust Lands Act (Cap 288)
- Agriculture Act (Cap 318)

The myriad land laws are causing confusion and, therefore, uncertainty in the management of land. Besides, the process of transferring ownership rights is long, cumbersome and, therefore, uncertain. The use of land title deeds in urban centres as collateral to secure financial resources is increasingly becoming problematic. There are also serious challenges with regard to land management in Kenya.

First, there is high inequality in the ownership of arable land, where about 20 per cent of the population hold most of the land. Indeed,

Figure 10.1: Distribution of land quality in Kenya



Source: Government of Kenya (2008)

about 3,600 large landowners control 39 per cent of all arable land in Kenya while 3.5 million smallholders share less than 50 per cent of the arable land.

Gender inequality is also a main feature with respect to land ownership. Despite providing the bulk of labour in agriculture, women hold only 1 per cent of registered land titles in their names and about 5-6 per cent in joint names (Kenya Land Alliance–KLA and FIDA-Kenya, 2006). They lack adequate provisions to hold land rights independently of their husbands or male relatives. The existing statutory framework often does not provide for women's independent rights and, when such legislation exists, mechanisms to enforce it are in most cases absent.

The myriad land laws are causing confusion and, therefore, uncertainty in the management of land. Besides, the process of transferring ownership rights is long, cumbersome and, therefore, uncertain. The use of land title deeds in urban centres as collateral to secure financial resources is increasingly becoming problematic. There are also serious challenges with regard to land management in Kenya.

Secondly, the Registered Land Act, which is the dominant law governing land in Kenya, does not make fixed surveys mandatory, does not provide for objection of an aggrieved party and is not full proof; registration has previously been done outside the provisions of the Act, usually resulting in numerous boundary disputes. Generally, the regulatory framework on land has led to conflicts, lengthy litigation and exclusion of access by certain sections of the society.

Kenya does not yet have a national land policy unlike Tanzania, which has had one since 1995. Tanzania's land policy tries to protect the environment and natural resources by reserving village lands and some communal areas for conservation purposes (e.g. forests on village land). Lack of such a policy in Kenya has partly contributed to the rise of informal settlements, inadequate infrastructural services, congestion, unplanned urban centres, pressure on agricultural land, environmental degradation and conflicts. In fact, most of the land in the country is not registered, which hinders its efficient use as a tradable commodity.

Other challenges in the management of land include land degradation such as soil erosion, and lack of adequate property rights especially in the ASALs. Political economy is also a major challenge.

10.2.2 Water resources

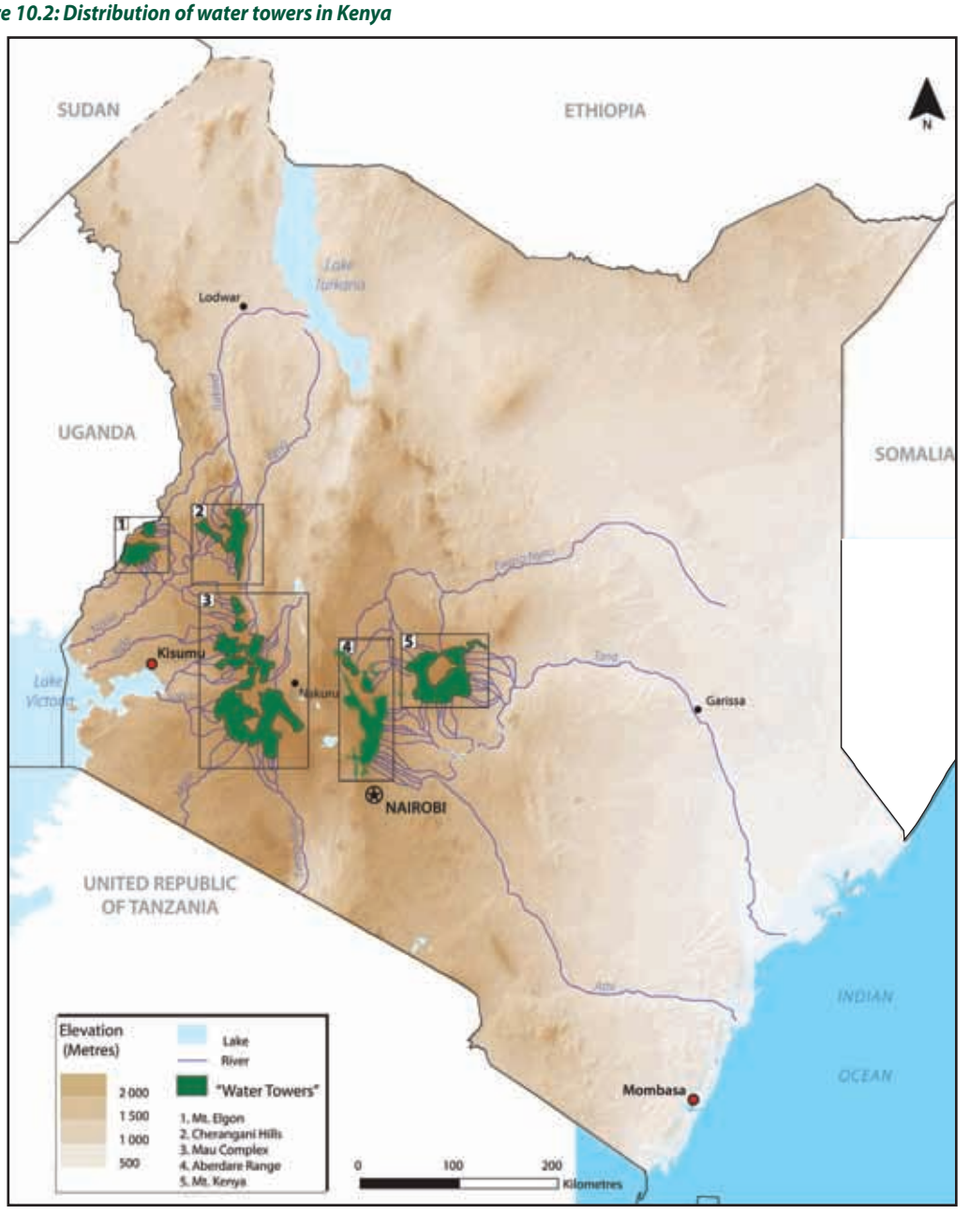
Water resources contribute enormously to economic productivity and the social well-being of the nation. Water supply contributed about 0.7 per cent of GDP at current prices in 2007. Water is, thus, critical to the survival and growth of economic sectors such as tourism, agriculture, manufacturing, health, wholesale and retail trade. With the country's population growth and socio-economic pursuits, including urbanization, industrialization, agricultural activity and others, the demand for water has increased rapidly.

Kenya has five major 'water towers', namely: Mt Elgon, Cherangani Hills, Mau Complex, Aberdare Ranges, and Mt Kenya (Figure 10.2). These 'water towers' have given rise to five drainage basins. Of these basins, Tana River and the Lake Victoria are particularly critical to the country's socio-economic well-being.

Kenya is a water-scarce country with renewable fresh water per capita at 647m^3 against the United Nations recommended minimum of 1,000m^3.[1] This compares unfavourably with the neighbouring countries of Uganda and Tanzania, which have per capita levels of 2,940m^3 and 2,696m^3, respectively. The water abstraction rate (i.e. percentage of all available water taken) in Kenya stands at 5.5 per cent; of this, surface water constitutes 84.7 per cent.

There is an imbalance in water abstraction rates across the five drainages. Although Lake Victoria has the highest water endowment in the country, it is the least abstracted; only 2.2 per cent of its water is abstracted for use.

Figure 10.2: Distribution of water towers in Kenya



Source: UNEP (2007)

The water sub-sector is guided by *Sessional Paper No. 1 of 1999 on National Policy on Water Resources Management and Development*, while the legal framework for managing water resources is the Water Act of 2002. The Act was enacted to eliminate the inherent weaknesses in the previous Water Act (Cap 372), which included lack of standards, lack of recognition of communities in management, lack of centralized coordination of water uses among different sectors, and weak management of water resources.

Although data on water pollution is scanty, Appendix Table B10.1 shows that, among the selected countries, the levels of pollution are relatively high for Uganda, Kenya, Chile and Tanzania. Between 1990 and 2003, pollution in these countries increased, leading to increased risk to water borne diseases. Generally, water resources are under threat from agricultural chemicals and urban and industrial wastes, and from use for hydroelectric power. Shortage of water, and water quality problems, especially in the lakes, is expected to pose a major problem in the near future. For example, water hyacinth infestation in Lake Victoria has contributed to a substantial decline in fishing output and has endangered fish species.

There are considerable disparities in access to water across the country. Regionally, Nairobi, Coast, Rift Valley and Central provinces have the highest proportions of households with piped water in their dwellings (Table 10.1). The same provinces have a greater percentage of the people having a water source within a short distance. Although Western Province is home to some of the major water basins in the country, it has poor water accessibility.

Table 10.1: Access to water resources in Kenya

Province	% of households with piped water in dwelling	% of households with a water source less than 15 minutes away
North Eastern	0.1	70.5
Coast	8.5	78.7
Central	7.5	53.3
Nyanza	2.2	64.7
Eastern	3.5	54.8
Rift Valley	8.3	67.7
Western	1.1	65.4
Nairobi	27.8	97.6
Kenya	7.6	70.5

Source: Government of Kenya (2005a)

Overall, water access in Kenya is poor, with only 7.8 per cent of households having access to piped water in their dwellings. In the ASALs, the estimated average access to safe water is below 40 per cent compared to the national average of over 70 per cent.[2] In rural areas, the estimated sustainable access to safe water is about 40 per cent.

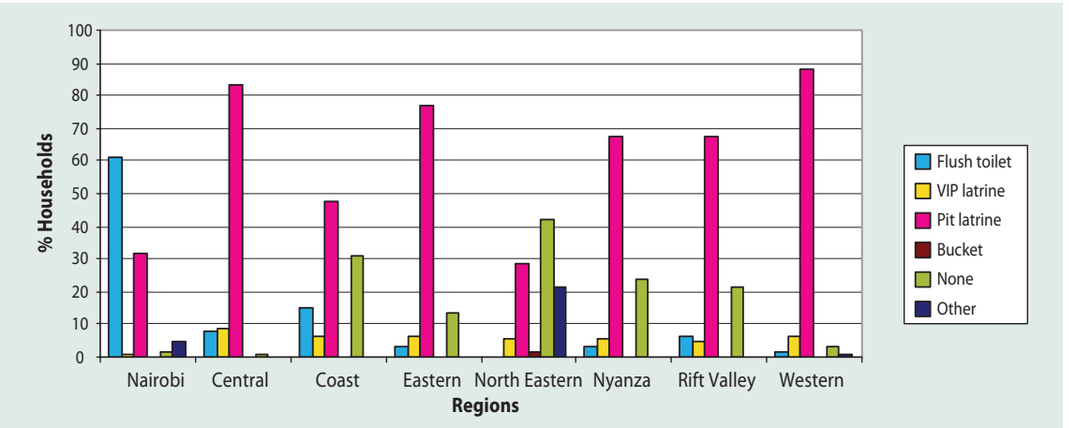
In most rural parts of the country, people obtain their drinking water from untreated surface water, ground water, or both. The dependence on surface water is most prevalent along permanent streams and other fresh water bodies. Households relying exclusively on surface water are the most vulnerable to flow interruptions and water contamination.

In comparison with other countries (Appendix, Table B10.2), Kenya performs very poorly on access to water, with 60 per cent access in urban areas and 40 per cent in rural areas in 2004. In the same year, Malaysia and South Korea had 100 per cent access rate, while Egypt had almost a 100 per cent. These countries have made large investments in upgrading and extending their water supply systems.

It is critical to note that Kenya's fresh water per capita has been declining. Current projections indicate that access will reach 235 m^3 by 2025. By 2015, access to safe water is expected to be 80 per cent,[3] with urban areas at 96 per cent and rural areas at 66 per cent. For this to be realized, the country needs huge investments to rehabilitate water supplies and build new ones.

Water productivity is also low at 8.4 compared with Malaysia 10.5 and Botswana 35.4.[4] The challenge still remains of reducing water wastage and channelling it to high value uses.

Figure 10.3: Distribution of households by type of main toilet facility



Source: KNBS, 2005/06

There are disparities in access to safe drinking water. The richer segment of the population has comparatively better access to safe drinking water than the poor segments. Over 93 per cent of the richest 20 per cent have access to clean drinking water compared to only 28 per cent of the poorest 20 per cent (SID, 2004). Women also suffer disproportionately from scarcity and degradation of water resources. The time spent in the search for water is enormous and is estimated to cost 15 per cent of women's time.

Although considerable policy and legal reforms have been undertaken in the water sector as contained in the *Sessional Paper of 1999* and the Water Act, there is need to improve performance. Full implementation of the Act is crucial. With targeted pro-poor strategies, it is possible to make water available and accessible to all.

10.2.3 Access to sanitation

Most urban centres have witnessed an increase in the generation of solid, liquid and gaseous wastes. However, most local authorities lack adequate disposal infrastructure. About 40 per cent of the wastes are collected and disposed of in designated sites, leaving out 60 per cent, which is dumped in undesignated areas.

A recent survey by the Kenya National Bureau of Statistics shows that most households use pit latrines (Figure 10.3). North Eastern, Coast, Nyanza and Rift Valley provinces have a high proportion of households with no toilet facilities.

Associated with inadequate access to improved water and sanitation are deaths and other illnesses. For instance, Kenya had 21,800 deaths and 23 DALY/1000 capita per year in 2002 from diarrhoea.[5] South Africa, Egypt, Indonesia, and Malaysia with better access to improved water and sanitation had 9, 6, 5 and 1 DALY/1000 capita per year, respectively (Appendix Table B10.3). It is estimated that 80 per cent of all communicable diseases are water-related, implying that increased investment in water and sanitation is likely to have a strong impact on health and, therefore, public expenditure policy.

Overall, Kenya expects to reach an improved access to sanitation of 96 per cent (96% urban and 89% rural) by 2015.[6] However, only 46 per cent and 41 per cent of urban and rural population had access to improved sanitation facilities (Appendix Table B10.4) in 2004. Some countries such as Malaysia, South Africa, Thailand and Singapore had at least over 79 per cent of their urban population with access to improved sanitation facilities. Malaysia has been able to improve sanitation coverage by engaging the private sector in the provision of sewerage services involving 84 local authorities.

10.2.4 Forestry

Forests provide significant cultural and subsistence resources for the people of Kenya. An estimated 2.9 million people (corresponding to 8% of Kenya's population) that live within a radius of 5 kilometres around indigenous closed forests derive direct benefits from these forests. Although the closed forests cover about 2 per cent of Kenya's land area, they contain 50 per cent of the nation's tree species, 40 per cent of the larger mammals and 30 per cent of the birds. In 2007, forestry and logging contributed 0.9 per cent of GDP at constant prices (Government of Kenya, 2008).

Forest cover

Most indigenous as well as exotic forests are found in the central highlands where rainfall is high, soils are fertile and human settlement is limited. In the ASALs, forests are found in isolated mountain ranges and narrow bands along rivers. In as much as there is some forest cover in each of the provinces in Kenya, it is the Rift Valley and Central provinces that have commercially important forest plantations.

Poor and inadequate policies are also partly responsible for deforestation. Low penalties for offences compared with the value of resources in question have led to destruction of forests with impunity. Lack of harmonized policies in the Eastern Africa region and corruption at borders has also allowed illegal trading of forest products. Inadequate property rights coupled with weak governance has exacerbated over-exploitation and degradation.

Kenya's forested area has been declining over the years; for example, it went down from 6.5 per cent in 1990 to 6.2 per cent in 2005 (Appendix Table B10.5).[7] This level of forest cover is below the international benchmark of above 10 per cent. Countries such as Botswana, Brazil, India and South Korea meet the international benchmark. China increased forest cover/area from 16.8 per cent in 1990 to 21.2 per cent in 2005 (World Bank, 2007).[8] In its Vision 2030, the Kenya government proposes to increase public forest cover from less than 3 per cent to 4 per cent. However, this fraction appears small and higher targets ought to be set.

The key challenges facing the forestry sub-sector include declining output due to resource degradation and over-exploitation, funding, and systematic and periodic excision of forests. Over-exploitation over the past three decades has reduced the country's timber resources by one-half. In 2008, only 2 per cent of the land remained forested (closed canopy forests that are public) down from 30 per cent in 1895. The estimated rate of deforestation is as high as 931 km^2 or 0.5 per cent of the forest area per year (World Bank, 2007). This is mainly through official excisions and illegal logging.

Illegal cultivation within indigenous forests has also reduced forest cover in the country, as has the *shamba* system, which involves non-residential cultivation. Though it is an innovative system, it has not been successful because of governance problems (Gachanja, 2003).

Poor and inadequate policies are also partly responsible for deforestation. Low penalties for offences compared with the value of resources in question have led to destruction of forests with impunity. Lack of harmonized policies in the Eastern Africa region and corruption at borders has also allowed illegal trading of forest products. Inadequate property rights coupled with weak governance has exacerbated over-exploitation and degradation. Loss of forest cover aggravates erosion, the silting of dams and flooding, and the loss of biodiversity. Among the endangered forests are Kakamega, Mau and Karura.

Two instruments guide the management of forestry in Kenya, namely *Sessional Paper No. 4 of 2006 on Forestry Policy* and the Forest Act of 2005. Once the Act is fully implemented, it is expected that management of forests will improve considerably. The capacity of the recently established Kenya Forest Service (KFS) needs to be strengthened through additional funding.

10.2.5 Wildlife resources

Kenya has diverse and abundant wildlife resources located not only in national parks, game reserves and other protected areas (Figure 10.4), but also in surrounding private and communal land. Protected areas cover close to 44,564 km^2 or 7.5 per cent of the country's total land area. The two Tsavo National Parks (East and West) form 48 per cent of the total protected wildlife conservation areas. In spite of the large size of land under protected areas, about 70 per cent of the wild animals live outside the protected areas and

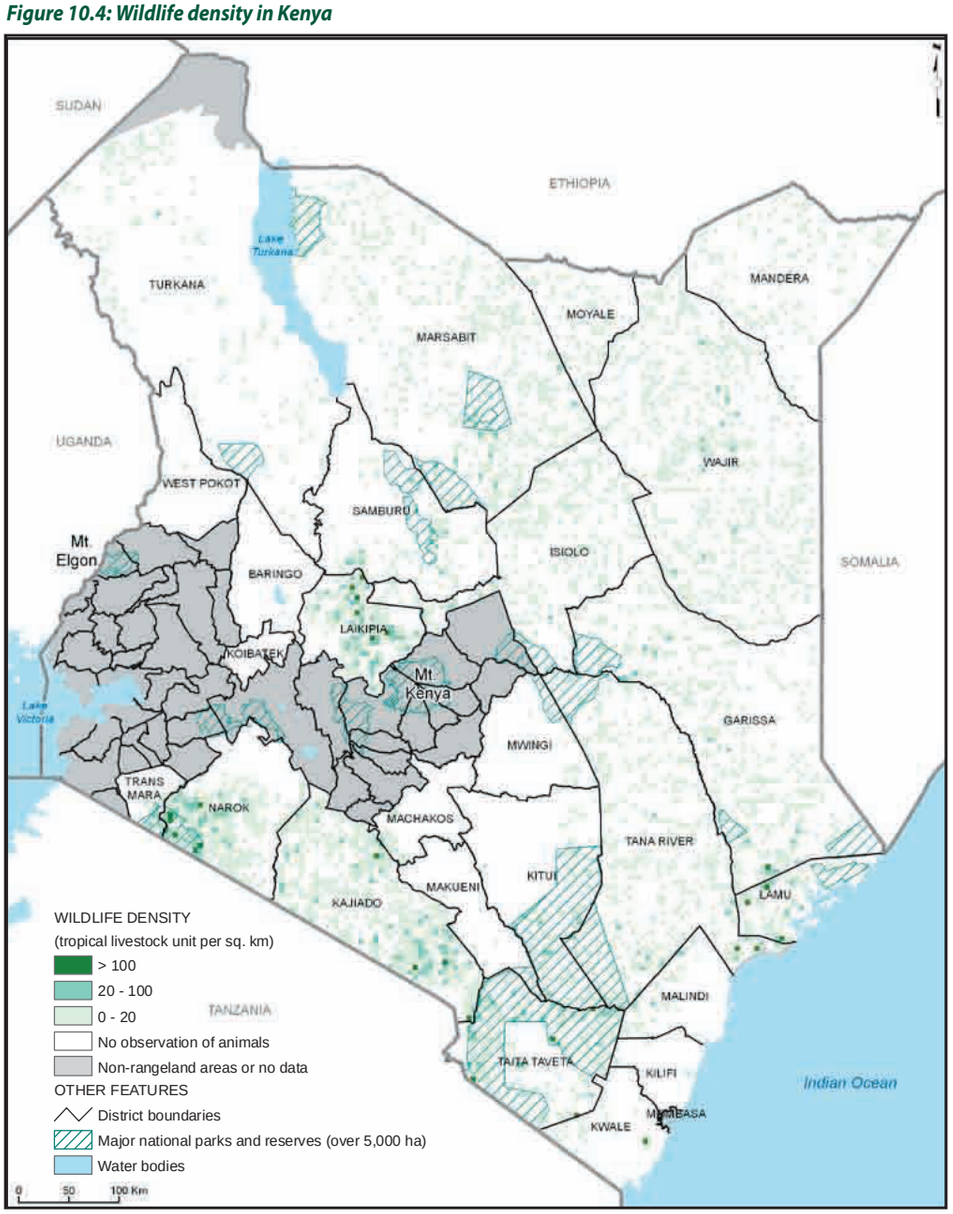
are the main source of serious human-wildlife conflict in the country.

Wildlife resources are important in Kenya because of the critical link with tourism; the tourism sector contributes about 11 per cent of GDP. In fact, the prime motivation for 70-80 per cent of all tourists visiting the country is wildlife (Ikiara and Oketch, 2002). The wildlife resources are managed under *Sessional Paper No. 5 of 1975*, while the operative law is Wildlife Conservation and Management Act (WCMA), Cap 376 of 1977 (Revised in 1985).

Wildlife protected area

Recent data shows that Kenya had about 12.6 per cent of its land under wildlife protection and with 0.5 per cent of marine protected areas in 2004.[9] This is substantial when compared with South Africa's (6.1%), Mauritius (3.3%), Egypt (5.6%), South Korea (3.6%), and India (5.3%). However, Kenya performs rather poorly when compared with Tanzania (42.4%), Uganda (32.6%), Botswana (30.9%), and Malaysia (30.7%)–Appendix Table B10.6.

Figure 10.4: Wildlife density in Kenya



Source: WRI *et al.* (2007)

With marine protected areas, Mauritius (4.4%), Egypt (7.7%), Malaysia (1.5%), South Korea (3.5%), Thailand (1.1%) and Chile (15.1%) have a large proportion of their countries under protection.[10] Given the coastline, Kenya still has the potential to bring more areas under protection.

About 70 per cent of the wild animals live outside the protected areas and are the main source of serious human-wildlife conflict. Poor and inadequate wildlife policies are responsible for these conflicts. Communities living close to wildlife suffer from injuries, deaths and crop damage. Moreover, compensation from injury and death is meagre besides the long delays for it to go through (Obunde *et al*., 2005). In a number of areas, local communities remain squatters after the people's eviction to create national parks and reserves. Most recent cases include those of residents of Barwessa, who are now squatters in Kamnarock National Reserve, and residents of Kyulu who are squatters living in Kibwezi with no alternative livelihoods or proper shelter.

The distribution of economic benefits accruing from wildlife remains unequal; hence discourages communities from participating in wildlife conservation. Communities living in the dispersal areas that support the bulk of the country's wildlife receive less than 5 per cent of the estimated Ksh 21 billions earned annually by wildlife-based tourism (ECOWEB, 2006). Part of the problem has been the use of *Sessional Paper No. 5 of 1975* to manage the wildlife sub-sector, which it has done for the last 31 years. The paper is outdated as it did not anticipate human-wildlife conflict and, therefore, it failed to make provisions for resource sharing. Thus, the legal framework needs review.

Other problems include conversion of wildlife corridors to other uses. A case in point is the Kitengela corridor where many residential and commercial buildings have been built. Besides human-wildlife conflicts and inequality in the distribution of benefits, inadequate incentives on private conservation is another problem, given that wildlife belongs to the State.

10.2.6 Fisheries

Most of Kenya's fisheries are located in the Coast and Nyanza provinces. Lake Victoria, which is located in Nyanza, accounts for about 98 per cent of all fish landings from inland fisheries and 93 per cent of total fish landings in the country. In 2007, fisheries contributed 0.4 per cent of GDP at constant prices. The legal framework in the sector is the Fisheries Act (Cap 379) and the Fish Quality Assurance Regulations of 2000.

Fishery production

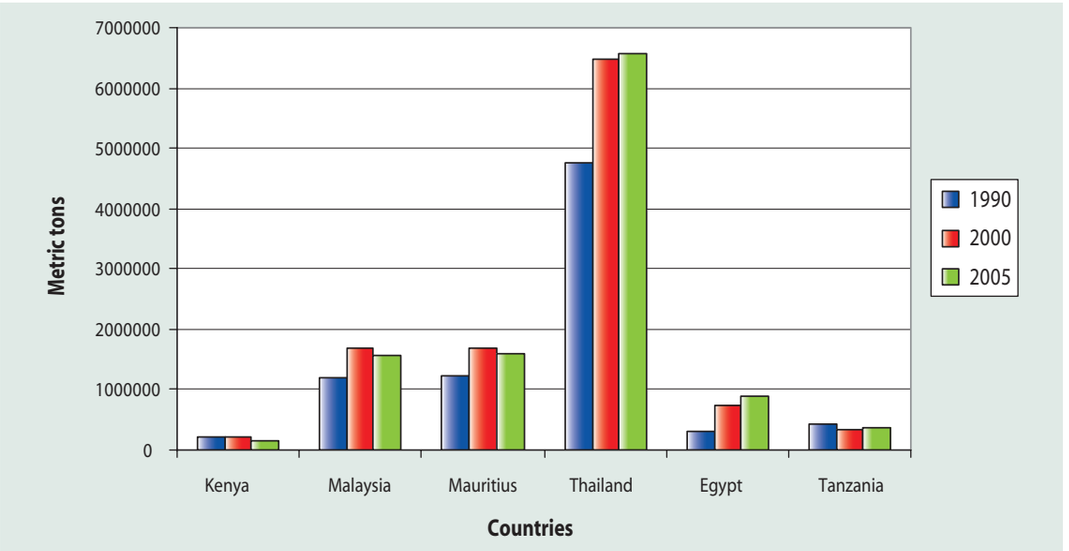
Kenya has been producing far less than 1 million metric tons of fish (Figure 10.5). Like Kenya, Egypt and Tanzania produce less than a million metric tons annually. Malaysia and Mauritius produce over a million tons, with Thailand exceeding 6 million tons.

Appendix Table B10.7 shows that Kenya's fish exports are lower (44,722 tons) compared with Mauritius (60,229 tons), South Africa (194,109 tons), Malaysia (221,744 tons) and Thailand (1,759,745 tons). The per capita consumption is equally low.

In recent years, the fishing industry has been dominated by large-scale processing and fishmeal industries and trading agents who are able to invest in expensive modern fishing technologies such as trawling and beach seining. Consequently, small-scale fishermen are continuously getting edged out.

Some of the factors affecting the performance of the sub-sector include Sanitary and Phyto-Sanitary Standards (SPSS) in international trade, weak governance and open access (i.e., inadequate set of property rights). Where laws exist to clarify ownership rights, there is weak enforcement coupled with corruption and poor governance. These factors have led to poor outcomes, including over-fishing. For example, in Lake Victoria, there is evidence of over-exploitation as there has been a general decline in fish catch since 2000. In addition to open access, other reasons for over-exploitation range from prices that do not reflect scarcity

Figure 10.5: Total production of fisheries in selected countries



Source: FAOSTAT (http://www.fao.org/fi/statist/statist.asp)

to poverty and lack of alternative sources of livelihood. However, marine fisheries are under-exploited.

10.2.7 Mineral resources

Kenya is endowed with a variety of mineral resources, including base metals (gold, silver, copper), dimension stones (granite, marble and limestone), industrial minerals (fluorspar, titanium and limestone), gemstones (ruby, sapphire, rhodolite) and chemical minerals (soda ash, carbon dioxide, salt and hydrocarbons). The mining sub-sector contributes 3 per cent of the country's total export earnings (Government of Kenya, 2008). In 2007, mining and quarrying contributed 0.7 per cent of GDP at constant prices and there were 6,300 people employed in the sub-sector.

Most of the minerals are found in the Rift Valley and Coast provinces, implying that natural endowment account for regional inequality in mineral riches. Appendix Table B10.8 presents the production of some selected minerals in the country. Soda ash and fluorspar are apparently the most important. The production of the former has been increasing while the latter has been declining.

Mining is largely an extractive industry. Besides the displacement of local communities, the methods of extraction can affect the surrounding ecosystems. The Mining Act Cap 306 regulates the sub- sector. However, the Act does not require an Environmental Impact Assessment (EIA) for one to carry out mining, which is a requirement of EMCA 1999. The Act is also silent on what should be done with abandoned mines, relocation/compensation to land owners, and loss of ancestral lands, among others. However, it is expected that the Department of Mines and Geology will realign its operations with EMCA (1999).

Some of the constraints facing the sub-sector include outdated and inadequate legal and regulatory framework, lack of a mining policy, weak governance systems, and lack of alternative sources of livelihoods. Owing to poor dissemination of geological information, only a limited number of major companies are involved in mining activities in the country (Government of Kenya, 2006). Oil exploration is ongoing despite there being no framework to guide exploration and exploitation of mineral resources. However, with the participation of stakeholders, the Department of Mining and Geology is now developing a new mining policy and reviewing the Act to guide the sector and promote private sector participation.

10.2.8 Biodiversity

Kenya has a varied biodiversity resource base that provides food, fuel, wood, medicines and income from tourism. The country has over 35,000 known species of plants, animals and micro-organisms, and many unknown and undiscovered species. Thus, the country has one of the largest gene pools. Of great concern, however, is the fact that some species are critically endangered, rare, threatened and vulnerable. Thus, biodiversity should be protected because of tourism and the prospects of biotechnology.

Kenya has a national biodiversity strategy and action plan–the Convention on Biological Diversity (CBD)–which came into force in 1993. The strategy requires the establishment of national legal regimes to regulate access to genetic resources and the requisite institutional arrangements to enforce it. In 2006, NEMA carried out an assessment of capacity building needs and country specific priorities in the conservation of biodiversity with the broad objective of preparing a capacity building action plan for Kenya.

Biodiversity index

Cross-country comparisons of biodiversity based on the Global Environmental Facility (GEF) benefits index (Appendix Table B10.9) shows that Brazil, China, and South Africa are relatively better performers than Kenya.

Given the high levels of resource use, degradation and destruction, the country is suffering from biodiversity loss. The main causes of biodiversity loss are habitat degradation (decline in habitat, land degradation, and habitat fragmentation); over-harvesting of the resources; lack of well-defined property rights; and introduction of invasive species, which include the *Prosopsis juliflora* (commonly known as *mathenge*),[11] eucalyptus tree species, predatory Nile perch, water hyacinth and the striga weed (witch weed). Loss of biodiversity means less availability of raw materials for medicinal, cosmetic and other biotechnology uses.

Over-exploitation of biodiversity resources includes illegal logging, over-fishing, poaching, over-grazing and over-stocking. These activities pose a significant threat to biodiversity.

Another challenge is the illegal exploitation without due regard to intellectual property rights of some organisms known as extremophiles. These have been secretly transported out of Kenya's hot springs, and successfully used to develop industrial enzymes such as the Tide Alternative Bleach Detergent, in the developed world. The enzymes are being used in the production of the in-fashion faded jeans.

Widespread poverty, especially in the rural areas, leads to over-use and destruction of natural resources in the pursuit of short-term needs at the expense of long-term environmental sustainability. Kenya needs to maintain and even increase biodiversity.[12]

10.2.9 Air quality

With the health risks posed to the human population in Kenya, air quality is an essential feature of the environment. The right to a clean environment is embodied in the Environmental Management and Coordination Act (EMCA). The National Environmental Management Authority (NEMA) has recently developed guidelines on air pollution, which if enforced will lead to better air quality.

Both indoor and outdoor air pollution presents serious health risks (Appendix Table B10.10). About 63.5 per cent of the population in Kenya uses solid fuel for cooking, which causes indoor pollution. In 2002, an estimated 13,000 deaths occurred from indoor pollution and 12 DALYS/1000 capita per year. In the same year, deaths from outdoor pollution were 600 and 0.2 DALYS/1000 per capita. Comparatively, countries such as Malaysia, South Africa and Singapore generally have lower deaths and Dalys from indoor air pollution but the health risks from outdoor air pollution are higher.

Air pollution arises mainly from use of energy. Emissions from the use of petroleum energy include carbon dioxide, nitrous oxides, dinitrogen oxide, sulphur dioxide,

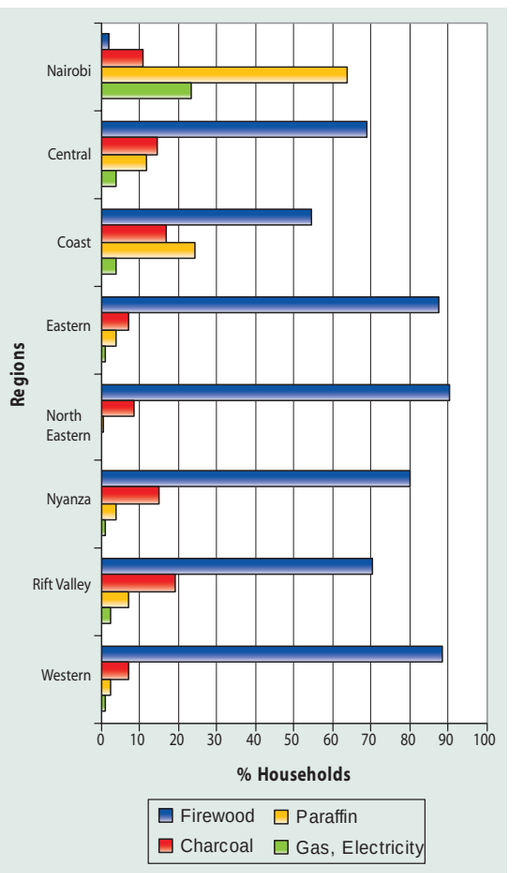
volatile organic compounds, lead and particulate matter. Generally, Kenya has low concentrations of particulate matter (PM10) perhaps due to her relatively small and less industrialized economy. The same applies to Uganda and Tanzania. Greenhouse gas emissions are also low for Kenya (Appendix Table B10.11).

Between 1990 and 2004, there has been a general reduction in PM10 across countries (Appendixes Table B10.12) all over the world. This shows that many countries are making efforts to reduce emissions of particulate matter. The emissions may only be a major concern if Kenya's consumption of energy increases rapidly in order to meet Vision 2030 goals.

Although information is scanty on air pollution on some particular cities (Appendix Table B10.13), it can be observed that Nairobi has far less air pollution when compared with Beijing in China, Cairo in Egypt, Jakarta in Indonesia and Delhi in India. Other cities such as Johannesburg in South Africa and Kuala Lumpur in Malaysia have less air pollution. Nonetheless, Nairobi's pollution levels are estimated to be 45µg/m^3, three times higher than the World Health Organization (WHO) recommended level of 15µg/m^3. It is prudent to take measures to manage air pollution within the internationally accepted levels.

Within the country, levels of indoor air pollution are prevalent in the rural areas. Although regional figures are lacking, the distribution of households by type of main cooking fuel (Figure 10.6) suggests that in all the regions except Nairobi, indoor air pollution is becoming a serious problem.

Figure 10.6: Percentage distribution of households by main source of cooking fuel



Source: KIHBS 2005/06

10.3 Climate Change

The effects of climate change are increasingly becoming evident in the recurring incidence of droughts and floods and the changing weather patterns arising from global warming. The Inter-governmental Panel on Climate Change (IPCC) predicts that "the effects of climate change are expected to be greatest in developing countries in terms of loss of life and relative effects on investment and economy." Specifically, Kenya is experiencing a decline of water levels in rivers, coral reef bleaching, loss of animal species and decrease in snow cover on Mt Kenya arising from global warming.

Perhaps the most profound influence on global climate is the El Niño phenomenon, when a large area of the central and eastern equatorial Pacific becomes warmer than normal. One of the biggest El Niño events caused massive floods in some parts of Kenya in 1997/98 where a number of people lost their lives and economic opportunities. Total damage was estimated at about US$ 200 million.[13] El Niño's counterpart, La Niña, which came immediately thereafter, caused a long drought to the country, which lasted from 1998 to 2000. This had a negative impact on the poor.

The effects of climate change are bound to have a negative impact on Kenya given that its economy is highly dependent on climate sensitive sectors and resources–agriculture, forestry, water and biodiversity resources. In fact, recent studies have shown that climate change affects agricultural productivity. Increased cold-season temperatures are associated with higher crop revenue, while increased warm-season temperatures have a negative impact. Vector borne diseases such as malaria, which are closely associated with the climatic variations, are also common. Moreover, infrastructure such as roads, bridges and electricity (which is predominantly hydropower), are also vulnerable to climate effects (Kabubo-Mariara and Karanja, 2006).

10.4 Ratification of International Environmental Agreements

Kenya has signed and ratified most of the international environmental agreements such as the ones on climate change and law of the sea. Generally, the country has done well compared with other countries. In most cases, the government ratified these agreements within a period of about two years after agreement. The challenge, however, has been in domestication and implementation of these agreements. It is critical for the country to undertake analysis of costs and benefits of complying with these international environmental agreements before ratification.

10.5 Policy Interventions

The above discussion raises some important issues that require urgent policy interventions:

Land resources

The immediate action on management of land is to finalize the national land policy. This should go hand in hand with appropriate legal changes to foster its implementation. For instance, the numerous land laws need to be updated, harmonized and consolidated. Although there is some effort towards this direction, the process has been slow. The current draft land policy contains bold proposals on land redistribution, ownership by women and maximum limit on land ownership, and it addresses historical injustices in land allocation. It is encouraging to note that one of the flagship projects planned for 2012 is the Land Cover and Land Use Mapping Initiative involving comprehensive coverage of all the land use patterns in Kenya.

Water and sanitation

The key challenges with regard to access to water and sanitation include: low levels of investment in the water sector; lack of a solid waste management policy; old and dilapidated infrastructure (Were *et al*., 2006); unsustainable water and land use policies; growing pollution; degradation of rivers, lakes, wetlands and catchments; and water use conflicts due to inadequate access.

Evidence from elsewhere reveals that reduced access to resources directly contributes to increased poverty levels (Olukoye, 2003), which in turn leads to further degradation. Although data is scanty, there is evidence that water pollution is becoming a serious problem in many rivers.

Local authorities lack the necessary infrastructure for collection and disposal of solid wastes, which is often attributed to inadequate financial and human capacity and weak enforcement of existing legislations. Absence of economic and fiscal incentives to promote good practices is also a factor. Besides inadequate coverage of the sewerage network, there is a big challenge in the management of the sewerage system itself.

In Vision 2030, the Kenya government proposes to reduce all the environment-related diseases by half, commission public-private partnerships in water and sanitation delivery, and improve pollution and waste management using economic incentives. It

also plans to rehabilitate all the five major water towers in the country under the Water Catchment Management Initiative by 2012.

Under the Solid Waste Management Initiative, some of the planned projects include tightening the regulations to limit production and use of environmentally detrimental plastic bags under the Plastic Bags Initiative, the relocation of the Dandora dumping site, and the general development of solid waste management systems in five municipalities. NEMA has now gazetted the Water Quality and Waste Management Regulations and, if implemented, the regulations will drastically deal with the problem of waste management.

Wildlife resources

To improve wildlife conservation, there is need to address property rights, sufficient user rights, provide incentives, and build capacity at the Kenya Wildlife Service. It is encouraging that, currently, the wildlife policy is undergoing review, which is expected to lead to better management of wildlife resources in Kenya. The government proposes to reclaim all wildlife corridors and migratory routes by 2012. Although this is a good intention, its achievement will be dependent on the mechanisms for adequate compensation, or incentives to those already occupying those areas.

Fisheries

The Department of Fisheries has launched an Ocean and Fisheries Policy and is still reviewing the Fisheries Act. Once these are finalized and implemented, sustainable use of fisheries resources is likely to be achieved. The Department is also putting in place adaptive mechanisms to promote commercially viable aquaculture for both domestic and export markets. In addition, beach management units are being trained on management and conservation of fishery resources in Lake Victoria. The creation of a full ministry of fisheries is also a step in the right direction. While undertaking the above reforms, it is equally important to support measures that enhance access to credit, provision of storage facilities and marketing support for those involved in small-scale fishing.

Biodiversity

The country can improve its current biodiversity position by making strong efforts to reduce exploitation of resources and protecting the areas that are rich in biodiversity. For proper management of biodiversity resources, the country needs to implement the national biodiversity strategy and action plan. The government should also strive to domesticate the international convention on biodiversity. Development and harmonization of policies in related sectors such as mining, wildlife, land, forestry and fisheries are also crucial.

Air quality

The problem of air pollution is caused by a perverse incentive structure, problems of property rights (public goods characteristics) and inadequate legal and regulatory framework, along with capacity constraints facing NEMA. These problems have persisted despite the enactment of EMCA in 1999. Therefore, strong enforcement mechanisms are required along-side strengthening capacity in NEMA through generous funding to attract qualified staff in special disciplines such as environmental chemistry, environmental technology, environmental law, biology and economics.

Climate change

It is crucial for Kenya to mainstream adaptation measures to climate change and other environmental issues into its development planning. The following measures are likely to be helpful:

- Provision of fiscal incentives to stimulate development and adoption of technologies that reduce greenhouse gas emissions;
- Increased funding to the Kenya Meteorological Department to improve its forecasting ability;
- Increased funding for research and data collection;

- Educational programmes for increased awareness of climate change problems; and
- Tax relief to individuals and firms that embrace climate adaptation measures.

Besides opportunities under the Clean Development Mechanism (CDM) facility, the government should explore other sources of funds to enhance the poor's capacity to adapt to climate change. [14]

The Ministry of Environment and Mineral Resources has established an environment coordination division charged with the responsibility of implementing recommendations from the twelfth meeting of the conference of parties to the United Nations Framework Convention on Climate Change (UNFCCC). However, there is need for the government to undertake very specific measures to improve capacity for adaptation to global climate change.

10.6 Conclusion

Until the Environmental Management and Coordination Act (EMCA) was enacted in 1999, Kenya lacked a coordinated legal and regulatory framework for environmental and natural resource management. The country had 77 sector-specific statutes relating to the management and conservation of the environment. Although the country does not have an environmental policy to date, one is currently being developed. The overall budget allocation to environment is rather small. Six ministries that share responsibility for the stewardship of the environment and natural resources sector together receive less than 10% of the government budget, even though natural resources contribute nearly 40 per cent to GDP.

There are large regional variations in land quality in Kenya. The Rift Valley Province has the largest area with high and medium potential land for agricultural production. Western, Nyanza and Central provinces have the least area but a big proportion of their total land is high potential. There are serious challenges with regard to land management in Kenya, which include inequality in land ownership, numerous land laws that are sometimes conflicting, lack of a land policy, and gender inequality in land ownership. Most of the land is held by about 20 per cent of the population.

Mt Kenya, Aberdare Ranges, Mau Complex, the Cherangani Hills and Mt Elgon are the country's five major 'water towers'. These have given rise to five drainage basins, with the Tana River and the Lake Victoria basins being the most significant in terms of water endowment. Although Lake Victoria has the highest water endowment in the country, it is the least abstracted, with 2.2 per cent of its water being taken for use. Kenya is a water-scarce country with renewable fresh water per capita at 647m^3 against the United Nations recommended minimum of 1,000m^3. The water sub-sector in Kenya is guided by the *Sessional Paper No. 1 of 1999 on National Policy on Water Resources Management and Development*. The legal framework for managing water resources is the Water Act (2002), which was enacted to eliminate the inherent weaknesses in the previous Water Act (Cap 372). There are also considerable disparities with respect to access to water in the country, with Nairobi, Coast, Rift Valley and Central provinces having the highest proportions of households with piped water in their dwellings. The same provinces have a greater percentage of the people having a water source within a short distance. Although Western Province is home to some of the major water basins in the country, it has poor water accessibility. Overall, however, water access is low in Kenya, with only 7.8 per cent of households having access to piped water in their dwelling. In the ASALs, the average access to safe water is estimated at below 40 per cent compared to the national average of over 70 per cent. With regard to sanitation, the estimated sanitation coverage was 55 per cent in rural areas in 2008. The proportion of urban population with access to improved sanitation facilities in Kenya declined marginally from 48 per cent in 1990 to 46 per cent in 2004. The major constraints in water, sanitation and waste management include property rights (open

access in some cases), weak institutions, prices that do not reflect scarcity, and insufficient incentives.

Currently, only about 2 per cent of the land remains forested (closed canopy forests that are public), down from 30 per cent in 1895. There has been a systematic and periodic excision of forests that has occurred during election years such as in 1992, 1997, 2002 and the 2005 referendum. Most of these have been driven by the need to buy political support in the country. Illegal cultivation within indigenous forests has also reduced the forest cover, as has the *shamba* system. Poor and inadequate policies are also partly responsible for deforestation. The management of the sub-sector is currently guided by *Sessional Paper No. 4 of 2006 on Forestry Policy* and the Forest Act of 2005.

Wildlife protected areas cover close to 44,564 km^2 or 7.5 per cent of the country's total land area. The two Tsavo National Parks form 48 per cent of the total protected wildlife conservation areas. In spite of the large size of land under protected areas, about 70 per cent of the wild animals live outside the protected areas and are the main source of serious human-wildlife conflict in the country. The wildlife sector has been managed for the last 31 years on *Sessional Paper No. 5* of 1975, which is outdated. The legal framework is also outdated and needs review. Other problems include conversion of wildlife corridors to other uses, inadequate incentives on private conservation as wildlife belongs to the State, human-wildlife conflicts, and inequality in the distribution of benefits.

Most of Kenya's fisheries are located in the Coast and Nyanza provinces. Lake Victoria, which is located in Nyanza Province, accounts for about 98 per cent of all fish landings from inland fisheries and 93 per cent of total fish landings. The legal framework in the sector is the Fisheries Act (Cap, 379) and the Fish Quality Assurance Regulations of 2000. In Lake Victoria, there is evidence of over-exploitation as there has been a general decline of fish catch since 2000. The reasons for over-exploitation range from open access, prices that do not reflect scarcity, poverty and lack of alternative livelihood sources. The case is different for marine fisheries, which are under-exploited.

Climate change effects are increasingly becoming evident in the country. The recurring droughts and floods, increasing intensity of droughts, and changing weather patterns are becoming frequent. One of the biggest El Niños caused massive floods in some parts of Kenya in 1997/98. In addition to the people who lost their lives and lost economic opportunities, the damage was about US$ 200 million. Provision of fiscal incentives to stimulate development and adoption of technologies that reduce greenhouse gas emissions, increased funding to the Kenya Meteorological Department to improve its forecasting ability, increased funding for research and data collection, educational programmes for increased awareness of climate change problems, and tax relief to individuals and firms that adopt climate adaptation measures are needed interventions in these sectors. Besides opportunities under the Clean Development Mechanism (CDM) facility and other sources of funds could be explored and the money used to enhance the poor's capacity to adapt to climate change.

Finally, it is important to note that various relevant policies for this sector are still being developed or have only been recently developed.

End notes

[1] The estimated combined surface and ground water potential is 20,619 million cubic metres a year. Due to the rise in population, water per capita decreased from 1,853 cubic metres in 1969 to 704 cubic metres in 2000 (IEA, 2007).

[2] Keynote address at the official launch of 2006 Global Human Development Report by Hon. John Mutua Katuku, Minister for Water and Irrigation, held on Thursday 23 November 2006 at the Kenya Institute of Education.

[3] Ibid.

[4] Water productivity is calculated as GDP in constant prices divided by annual total water withdrawal. It is an indication only of the efficiency by which each country uses its water resources.

[5] Disability adjusted life years (DALY). DALYs for a disease are the sum of the years of life lost due to premature mortality in the population and the years lost due to disability for incident cases of the health condition. The DALY is a health gap measure that extends the concept of potential years of life lost due to premature death to include equivalent years of 'healthy' life lost in states of less than full health, broadly termed disability. One DALY represents the loss of one year of equivalent full health.

[6] Keynote address, *op. cit.*

[7] This is land under natural or planted stands of trees, whether productive or not.

[8] Within two decades, over 35 billion trees were planted in China. By 1990, the total area afforested by aerial sowing had reached 8.68 million hectare. See www.china.org.cn/english/features/38276.htm

[9] The land includes public and private wildlife protected areas. It also includes total or partially protected areas of at least 1,000 hectares designed as scientific reserves with limited public access. It also includes national parks, natural monuments, nature reserves or wildlife sanctuaries, and protected landscapes. Marine areas, unclassified areas and littoral (intertidal) areas are not included. It does not also include sites protected under local or provincial law.

[10] These are areas of intertidal or sub-tidal terrain–and historical and cultural features–that have been reserved by law or other effective means to protect part or all of the enclosed environment.

[11] Some pastoralists have taken the government to court for the introduction of this plant in the country. The objective of introducing the plant was to prevent environmental degradation. However, the outcome has not been very good. The poisonous plant has spread rapidly

[12] Is a composite index of relative biodiversity potential for each country based on the species represented in each country, their threat status, and the diversity of habitat types in each country. The index is normalized so that values run between 0 (no biodiversity potential) to 100 (maximum biodiversity potential).

[13] Ministry of Environment and Natural Resources (2002), First National Communication of Kenya to the Conference of the Parties to the United Nations Framework Convention on Climate Change.

[14] Under CDM, rich countries can keep within their Kyoto emissions limits by funding cuts in poor countries, getting the so-called carbon credits in return. Poor countries like Kenya could then use this money to reduce differential effects of climate change.

PART III

Medium-term Prospects

This part of the report discusses Kenya's medium-term economic prospects for the period 2008 to 2011 under two different scenarios. It explores the medium-term prospects for key macroeconomic variables such as GDP, inflation and investment, and key sectors such as agriculture, manufacturing, tourism, infrastructure and the education sector. It also discusses the key challenges and priorities for the medium term.

11 Medium-term Prospects

11.1 Macroeconomic Prospects

Kenya's macroeconomic prospects for the medium term will depend on both domestic and external factors. On the domestic front, effective implementation of the Grand Coalition Government Policy Agenda and the weather conditions are critical. Already, unfavourable weather conditions have affected the agricultural sector, which is largely rain-fed and accounts for about one quarter of GDP. To make the matters worse, the sector has various linkages with other sectors. Severe weather conditions such as drought also affect the generation of hydroelectric power.

Effective implementation of the government's policy agenda, including maintaining macroeconomic and political stability and successful implementation of the planned socio-economic reforms, is important in restoring investor confidence and putting the economy back on the growth path. Furthermore, the country is a small open economy and, therefore, international factors affect the economy. The key factors that have immediate effect on the economy include the rising energy and food prices in 2008 and the extent and depth of the global financial crisis. The slow down in the global economy is expected to lead to lower than expected growth in Kenya's exports.

11.1.1 Prospects in 2008

The economic prospects for 2008 were largely determined by the domestic and international factors discussed and the aftermath of the economic and social disruptions arising from the political violence experienced in the first two months of that year. The sectors most affected were tourism and agriculture, while manufacturing and transport sectors had significant interruptions. The disruptions mainly affected the distribution networks and agricultural production. Production activities in micro and small enterprises were also affected through the burning and looting of businesses, mainly those located in low class and small urban centres, which were epicentres of violence. Large manufacturing firms mainly experienced disruption of labour and distribution networks. The major agricultural sub-sectors that were affected by the post-election violence include tea and maize production. The situation was further aggravated by the below average rains in

March/April 2008. Maize production, which stood at an estimated 32.5 million bags in 2007, was expected to decline to 30.4 million bags in 2008. Similarly, tea production was expected to decline by about 10 per cent in 2008.

Recovery of agriculture and tourism sectors is projected to be realized with a time lag, though the two sectors are faced with different circumstances. Rift Valley Province, the agricultural granary of the economy, experienced the highest number of displaced persons, resulting in major disruption of agricultural activities. Delayed resettlement of the displaced families together with security uncertainties also significantly affected production levels of crops. Consequently, the food shortage experienced in 2008, especially in cereals, was expected and the problem is projected to spill over into 2009. On the other hand, the performance of the tourism sector, which largely depends on political stability, is expected to improve from 2009 onwards but on condition that aggressive marketing is sustained to restore confidence, and global recovery is sustained. Consequently, the low performance is projected to translate into a negative growth in the hotel and restaurant sector.

On the demand side, private consumption and investment have been the two main drivers of economic growth since the beginning of the recovery in 2003. However, the two variables are expected to register a slower growth rate in 2008 due to post-election crisis and as high inflation impacts on household disposable income. Reduced aggregate demand will stifle investment growth and some investors may adopt a 'wait and see' attitude. In the medium term, 2009 and 2011, a rebound is expected with private investment growing faster to even record a high rate of 8.0 per cent by 2010.

Based on the above developments, the economy is projected to slowed down in 2008 to a growth of about 1.9 per cent, down from 7.6 per cent that was anticipated before the post-election crisis. Though the global prospects for 2008 indicated a slowdown in economic growth occasioned by high oil and food prices, Kenya's economic situation has been made worse by the aftermath of the post-election violence.

11.1.2 Medium-term prospects

In the medium term, the economy is projected to grow by 2.0 per cent and 2.5 per cent in 2009 and 2010, respectively. This growth will be largely affected by the global financial crisis, delayed implementation of the medium-term policy agenda and weather conditions. Key policy areas include political stability, macroeconomic stability, the fight against corruption, strong systems of public expenditure management to enhance efficiency and effectiveness, agricultural growth and land reforms, continued improvement in the business environment, improved security, and implementation of planned infrastructure development programmes. On the international scene, it is assumed that international oil prices will stabilize as new oil fields come on-stream and global growth slows. Table 11.1 summarizes the key macroeconomic variables for 2007 and 2008 and three-year forecasts.

In the medium term, overall inflation rate is expected to ease. International oil prices are expected to stabilize and, locally, effective implementation of the government reform agenda coupled with prudent fiscal and monetary policy should help ease inflation to about 16.0 per cent and 9.0 per cent in 2009 and 2010, respectively.

Improved food production is critical for any future overall price stability, as about three quarters of direct increases in overall inflation is due to food inflation. The government's expenditure framework for the medium-term reveals that government investment was high in 2008, recording a growth of 31 per cent. Government consumption in 2008 shows a relatively higher expansion due to unanticipated expenditures on resettlement of the internally displaced people back to their homes, increased level of security services in the affected areas and the introduction of free secondary education. Similarly, investment is expected to be high due to increased construction activities especially on infrastructure and as implementation of development programmes contained in the medium-term expenditure framework gain

The economy is projected to slow down to a growth of about 1.9 per cent, down from 7.6 per cent that was anticipated before the post-election crisis. Though the global prospects for 2008 also indicated a slowdown in economic growth occasioned by high oil and food prices, Kenya's economic situation has been made worse by the aftermath of the post-election violence.

Table 11.1: Economic projections for 2008-2011 (Optimistic Scenario)

Variable	2007	2008	2009	2010	2011
GDP growth	7.0	1.9	2.5	3.9	4.8
Inflation overall	9.8	26.0	16.0	9.0	5.0
Treasury bill interest rates	6.8	7.6	7.8	8.2	8.2
Private consumption growth	7.3	0.5	3.0	6.0	7.0
Private investment growth	12.8	6.0	6.0	8.0	6.0
Government consumption growth	7.2	2.0	9.0	9.0	8.0
Government investment growth	62.5	31.0	16.0	12.0	8.0
Exports of goods and services growth	6.0	7.0	4.0	5.0	5.0
Imports of goods and services growth	12.7	8.0	11.1	12.0	11.0
Current account balance as % of GDP	-5.0	-8.0	-4.9	-3.5	-2.4
Financial deficit as a% of GDP	-4.5	-4.0	-4.0	-4.0	-4.0
Public expenditure as a % of GDP	28.2	27.9	26.3	26.0	26.0

Source: KIPPRA Treasury Macro Model (KTMM)

momentum. In the years 2009 to 2011, both the consumption and investments are expected to stabilize, but at high levels so as to achieve the expected high economic growth rates.

Growth of exports of goods and services are expected to perform below average, recording a growth rate of 7.0 per cent in 2008 as the world economy also slows down. The most affected in this category is tourism, which accounts for about 12 per cent of exports of goods and services. The post-election violence had a strong negative impact on tourism with losses estimated at Ksh 30 billion in the first quarter of 2008. The tourism sector is expected to stabilize in the future and continue to grow at an average of 11 per cent. This growth is expected to be supported by vigorous marketing of Kenya as the best tourists' destination coupled with both political and economic stability at home.

In 2008, imports of goods and services are estimated to have expanded at about 8.0 per cent mainly to cater for the shortfalls of what is available in the domestic supply. In the medium term, a steady recovery is expected and this will support import growth at about 11.0 per cent in 2009 and 12.0 per cent in 2010. The import volume growth will be occasioned by the need to complement domestic production, purchase of intermediate and capital goods following a reduction in the capital stock, and destruction as a result of the post-election violence. The projections presented above depict a positive outlook with economic recovery expected to be realized within one year. However, the global downturn presents risks to a speedy recovery and the Vision 2030 projected path of economic expansion may be delayed up to two years.

An alternative scenario is presented in Table 11.2, showing an estimated GDP growth of about 1.9 per cent in 2008 and a moderate rate of expansion in 2010 and 2011. The forecasts are based on the assumptions that: high inflation rate continues in 2009 due to supply constraints; drought conditions persist in 2009, thus resulting in food shortages and subdued growth in agriculture; and, protracted slowdown continues in the global economy. Political uncertainties are also likely to deter potential investors from taking advantage of the investment opportunities that exist in the country. Slow uptake of the Public-Private Partnership (PPP) initiative may lead to a slower rate of economic expansion as envisaged in Vision 2030.

11.2 Sectoral Prospects

Medium-term sectoral growth prospects are presented in Table 11.3. In 2008, all sectors of the economy are expected to record slower growth due to the impact of the post-election violence, high energy prices recorded in 2008, effects of the global economic slowdown, and lack of sufficient rains.

During the first three quarters of 2008, industry (which includes manufacturing, mining and quarrying, building and construction, and water and electricity) recorded the highest growth largely supported by strong expansion in the building and construction industry. Agriculture, hotels and restaurants, and transport services significantly suffered from the post-election violence. In the high case scenario, the overall growth in 2009 is estimated at 2.5 per cent. The key sectors of the economy are projected to record improved performance in 2009 and 2010.

The performance of the agricultural sector is largely dependent on the amount of rainfall received. Effective implementation of the agriculture sector reforms should help address

Table 11.2: Economic projections for 2008-2011 (Alternative Scenario)

	2007	2008	2009	2010	2011
GDP growth	7.0	1.9	2.0	3.1	4.0
Inflation overall	9.8	26.0	18.0	12.0	8.0
Treasury bill interest rates	7.0	7.6	8.0	8.7	9.0
Private consumption	8.6	0.5	3.0	5.0	7.0
Private investment	12.8	6.0	6.0	9.0	8.0
Government consumption	8.4	2.0	10.0	9.0	8.0
Government investment	21.5	31.0	17.0	15.0	10.0
Exports of goods and services	8.2	7.0	3.0	4.0	5.0
Months of import cover	3.7	4.0	5.0	5.0	7.0
Current account balance	-6.1	-8.0	-5.0	-4.0	-3.0
Financial deficit	-2.8	-4.0	-4.0	-5.0	-5.0
Public expenditure	26.4	27.9	26.4	26.0	26.0

Source: KIPPRA Estimates; KIPPRA Treasury Macro Model (KTMM)

structural rigidities in the sector to unlock its potential. The medium-term prospects for industry, which includes manufacturing, mining and quarrying, building and construction, and water and electricity largely depends on the implementation of government's infrastructure development programmes, performance of agriculture and economic growth of trading partners. Industry is, thus, projected to expand by about 2.0 per cent in 2009 and further to 3.1 per cent in 2010 as implementation of the Vision 2030 gains momentum.

The sectoral low growth scenario (Table 11.4) reflects a general slowdown in all the categories. The assumptions for low case scenario include a protracted slowdown in the world economy, persistent drought conditions, political uncertainty and a slow momentum in the implementation of the Vision 2030 flagship projects.

11.2.1 Prospects for agricultural growth

In 2008, agricultural growth was adversely affected by the post-election violence, poorly distributed rainfall and high fertilizer and energy prices. Real output is estimated to grow by Ksh 2.2 billion in 2008, down from Kshs 7 billion in 2007 (Table 11.5). With stability and implementation of the activities under the medium-term plan, agricultural earnings will increase by about Ksh 6 billion, and Ksh 9.5 billion and Ksh12.8 billion in 2009, 2010, and 2011, respectively. It is assumed that key reforms such as fertiliser cost reduction measures, legal reforms in the sector and reforms targeting the cooperatives and other farmer organizations, together with effective spending on research and extension services, will be implemented. These changes would translate to agricultural growth rates of 1.9 per cent, 2.9 per cent and 3.8 per cent in 2009, 2010 and 2011, respectively.

The low case scenario associated with weak implementation of Medium-term Plan (MTP) strategies and poor rainfall would see these earnings drop by 19 per cent, on average, for the three years.

Table 11.3: Sectoral growth projections for 2008-2010 by broad category

	Jan-Sept 2008	2008	2009	2010	2011
Agriculture	-2.3	0.7	1.9	2.9	3.8
Industry	7.8	1.9	2.0	3.1	3.7
Services	0.7	2.2	2.6	4.0	4.8
GDP	1.5	1.9	2.5	3.9	4.8

Source: KIPPRA Staff Estimates, KIPPRA Treasury Macro Model (KTMM)

Table 11.4: Sectoral growth projection, 2008-2010 (Low Case Scenario)

	Jan-Sept 2008	2008	2009	2010	2011
Agriculture	-2.3	0.6	1.5	2.3	3.2
Industry	7.8	1.9	1.6	2.5	3.1
Services	0.7	2.2	2.1	3.1	4.0
GDP	1.5	1.9	2.0	3.1	4.0

Source: KIPPRA Staff Estimates, KIPPRA Treasury Macro Model (KTMM)

Table 11.5: Changes in projected agricultural earnings for 2008-2010

	2007	2008	2009	2010	2011
Optimistic growth rate					
Change in agricultural GDP (Kshs billion)	7.0	2.2	6.1	9.5	12.8
Alternative Growth rate					
Change in agricultural GDP (Kshs billion)	7.0	1.9	4.8	7.5	10.7

Source: KIPPRA Staff Estimates, KIPPRA Treasury Macro Model (KTMM)

Table 11.6: Policy simulations: Alternative growth paths for agriculture

	Invest in all agriculture	Invest in activities with highest multiplier in agriculture	Invest in agricultural processing
Agriculture	20.98	27.66	24.84
Rural household income	17.70	23.13	9.66
Rural labour remuneration	16.03	28.73	9.08
Urban household income	7.95	10.88	8.10
Urban labour remuneration	6.49	9.28	7.38
Non-agriculture	4.68	6.12	5.57
Rural capital	4.03	5.27	2.49
Urban informal capital	2.39	3.49	2.05
Urban formal capital	1.81	2.26	2.14

Note: The figures in the table indicate the percentage change in income arising from the financial injection in the activity indicated in each column.

Source: KIPPRA estimates

Possible growth options and implications

The Social Accounting Matrix (SAM) framework is used to assess investment options in the agriculture sector for reduction of poverty and inequality in the medium and long term. In the first scenario, policy simulations are undertaken with an investment of about Ksh 7 billion in agriculture to cover the broad agriculture sector, that is crop and livestock production, fisheries and forestry. The sub-sectoral allocation is done proportionally to the original sectoral contribution to growth. The effects of the investments are shown in Table 11.6. This financial injection to the broad agricultural sector is compared with impact of injections focusing only on those sub-sectors with high multipliers, i.e. poultry, goat, dairy, beef, root and tubers, maize, tea and coffee. According to Vision 2030, value addition in agriculture is critical. To capture this dimension, a third simulation is done focusing on agricultural processing, namely meat and dairy processing, milling, bakeries and confectionery.

The results of the simulation suggest that there is benefit in focusing investments on those sectors that have highest linkages for purposes of enhancing production, factor remuneration and household income. The first injection to the whole agriculture sector yields less production growth than that focused on the few activities with highest multipliers. The latter intervention induces a multiplier of 27.66 on agricultural production compared to 20.98 for the former. The targeted interventions have higher impacts on rural income and rural employment where the majority of people are to be found.

Regarding the injection on agricultural processing, although this yields less labour income, the impact is well distributed among the household types. The injection also induces a substantial growth effect (24.84%) on agriculture, which is greater than the untargeted investment.

The need to focus investment on certain sectors in agriculture has been noted by Thurlow *et al.* (2007), especially when the interest is to share the benefit of growth among households in different regions of the country. Table 11.7 shows evidence of regional differences in the impact of poverty in various growth scenarios. While lowlands benefit more from expansion of food crops, the impact of growth on poverty in the highlands is weakened by an expansion of food crops at the expense of industrial crops. By contrast, households in the highlands benefit more under cash crop and dairy at the expense of lowland growth and poverty. Therefore, it is important to consider the regional distributional changes of various growth scenarios. Table 11.7 also shows that, overall, agricultural-led growth has a higher

*Table 11.7: Poverty impacts under growth scenarios, 2006-2015**

		Industry-led	Agricultural-led	Food crops	Livestock	Industrial crops
		Poverty-growth effect				
National poverty		-0.51	-2.20	-2.13	-1.58	-1.90
Rural		-0.45	-2.66	-2.46	-1.90	-2.36
Urban		-0.78	-0.23	-0.66	-0.18	-0.15
Rural poverty gap		-0.57	-4.22	-3.72	-2.51	-4.32
Rural poverty severity		-0.57	-5.32	-4.53	-2.84	-5.66
Poverty 2003		**Poverty rate (%) in 2015**				
National poverty	51.3	46.0	38.7	39.3	41.6	39.9
Rural	51.9	45.8	36.7	37.4	40.1	37.9
Urban	47.6	46.8	48.6	47.9	48.8	49.8
Lowland	61.0	57.6	55.0	53.6	58.7	54.3
Midland	54.7	49.8	40.0	40.8	44.1	41.9
Highland	41.4	31.4	24.9	26.1	25.9	25.2

Source: Adopted from IFPRI/KIPPRA "Rural investment to accelerate growth and poverty reduction in Kenya", IFPRI Discussion Paper 00723.
*Simulations are based on the 2003 SAM.

impact on reducing headcount poverty than industrial-led growth, but the latter has a slightly greater impact on reduction of depth and severity of poverty (Thurlow *et al.*, 2007).

Apart from investment targeted at commodities, another option is broad-based support for agriculture through increased spending on infrastructure such as irrigation and rural roads, and research and extension besides other institutional reforms. Expanding the area under irrigation is identified in Vision 2030 as one avenue for increasing agricultural productivity, especially in the marginal areas.

Agricultural productivity is also to be supported by strengthening agricultural research and development. Good infrastructure is critical to development of commercial agriculture. The analysis considers the impact of increasing agricultural spending to 10 per cent of the budget as per the Maputo Declaration. It is assumed that the increased spending is invested in irrigation, research and extension, rural roads and initiatives to support market access.

Comparing impacts of different investments on growth and poverty

Table 11.8 shows the incremental effects of government spending on various investments for the period 2006-2015. A 1 per cent increase in irrigation spending causes a 0.06 per cent increase in agricultural GDP, whereas spending an additional 1 per cent on research and extension, and roads yields 0.13 and 0.08 per cent increase, respectively.

Although irrigation spending is less effective at raising growth, it has a larger effect on poverty reduction. A 1 per cent increase in irrigation-induced growth causes national poverty to decline by 3.9 per cent compared to 2.1 per cent for research and extension and 2.4 per cent for roads. Investment in irrigation is also more effective at reducing poverty among the poorest people in rural areas. The rural poverty gap and intensity of rural poverty declines by about 5.6 per cent and 7.6 per cent for 1 per cent increase in irrigation spending. Irrigation benefits are higher in marginal areas where poverty is widespread.

The poverty and growth effects of spending on rural roads would increase substantially if combined with market interventions. For instance, while national poverty declines by 2.4 per cent for 1 per cent increase in road spending, it would decline by a further 1.7 per cent if combined with spending in market development. This combined impact (4.2%) on poverty is larger than for irrigation (some of the issues in market development revolve around how to improve market integration,

strengthening of farmer organizations and overcoming barriers to entry into high-value markets). This higher growth is not a surprise given that the critical role of strong rural-urban linkages in poverty reduction and in transformation of the rural sector is embedded in this option (Tiffen, 2003; Ticole, 2008). This growth path exploits the complementary relationship between rural and urban development.

Cost-benefit analysis of different growth scenarios

The highest returns are on spending on research and extension. For every shilling spent during 2006-2015 period, GDP grows by Ksh 6.3. By contrast, the return on irrigation and roads is Ksh 2.6 and Ksh 3.0, respectively. Spending on research and extension also leads to higher returns on poverty reduction per shilling invested; for every shilling spent on research and extension, an additional 103 people are lifted above the poverty line in the period 2006-2015 as opposed to 29 and 21 people for irrigation and roads, respectively. This makes expenditure on research and extension both pro-poor and pro-growth. However, where the interest is poverty reduction, expenditure on irrigation should be prioritized, as irrigation-induced growth has a higher effect on poverty reduction.

11.2.2 Medium-term Manufacturing Prospects

Kenya's manufacturing sector is largely agro-based and, therefore, its growth prospects are partly linked to agricultural sector performance. About 10 per cent of growth in GDP over the period 2004-2007 is attributed to growth in the manufacturing sector.

The Vision 2030 targets a growth of 10 per cent per annum. The average growth for the sector over the period 2004-2007 was about 6 per cent. Medium-term prospects will depend on effective implementation of the planned reforms and performance of key trading partners. However, realisation of the Vision 2030 growth target is subject to overcoming critical challenges that relate to the structure of the country's manufacturing sector.

Due to post-election disruptions, growth in manufacturing sector is estimated to slow down from 6.2 per cent in 2007 to about 3 per cent in 2008. The economy is expected to recover by 2009 and continue on an upward trend as the reform process gathers momentum. Given an uptrend of economic growth from 2009, the manufacturing sector is expected to have a rebound in 2009 and 2010, recording an estimated growth rate of about 6 per cent and 7 per cent, respectively. However, if there is a prolonged global slowdown, then

Table 11.8: Impacts of different investments on growth and poverty and benefit-cost ratios

	Irrigation	Research and extension	Rural roads	Market interventions
Poverty to growth effect	Percentage change in poverty for 1% change in agricultural spending			
National head count	-3.88	-2.09	-2.44	-1.73
Rural head count	-4.60	-2.34	-2.91	-2.00
Rural poverty gap	-5.59	-3.38	-3.83	-2.65
Rural poverty severity	-7.57	-3.79	-4.17	-3.28
Urban head count	-0.22	-1.02	-0.10	-0.49
Spending to growth effect	Ksh increase in GDP per shilling spent			
Agriculture	0.06	0.13	0.08	
All sectors	0.01	0.03	0.02	
	Poor people lifted out of poverty per shilling spent			
GDP benefit-cost ratio	2.6	6.3	3.0	
Poverty benefit-cost ratio	29	103	21	

Source: IFPRI/KIPPRA

the performance of the manufacturing sector may go below 2 per cent and recovery may delay up to 2010 (Table 11.9).

11.2.3 Tourism sector prospects

Under the services sector, tourism is the single largest sub-sector. In this report, medium-term prospects in the tourism sector are discussed in relation to earnings, arrivals and the growth of source markets.

Recent events have a potential impact on the tourism sector prospects. These include the global financial meltdown, the Obama links with Kenya and the piracy along the Indian Ocean. Global fuel prices began coming down in late 2008. Although pirate activities off the coast of Somalia are a big concern, especially with cruise ship tourism, current efforts through the United Nations, NATO, US, Russia, UK, India and the Netherlands in patrolling the sea may limit the negative effects.

Tourist arrivals

Using arrivals for the 2003-2007 period, the percentage change from year to year was 18.7, 8.7, 4.2 and 12.5, giving an average of about 11 per cent increase each year. Assuming there was no post-election violence, it is expected that the percentage increase in arrivals for 2008, 2009, 2010 and 2011 would be 11 per cent, 11 per cent, 15 per cent, and 15 per cent, respectively (Table 11.10). The figure for 2010 has been adjusted slightly upwards due to expected benefits from comprehensive constitutional review, Brand Kenya initiative and other promotional activities. With post-election violence, the drop in arrivals of -10.6 per cent based on the aftermath of the 1997 Likoni clashes is used. The post-election violence in early 2008, though severe than others in the past,[1] did not affect the main tourist circuits such as the coast and the game parks. However, the real decline could even be much higher than the -10.6 per cent.

Using the tourist arrival estimates from January to September 2008 compared with 2007 over the same period, the decline is expected to be about -35.2 per cent in 2008. IATA projections show a likely decline in passenger traffic due to global financial meltdown. UNWTO, on its part, projects a slow down in the next 6-9 months although exact figures are not given. In 2009, there will be some slight recovery as the global financial crisis is yet to abate. A modest growth of 11 per cent in 2009. Thereafter the growth is expected to increase to about 15 per cent in 2010 and 2011.

Table 11.9: Projected growth for Kenya's manufacturing sector

Period	High GDP	growth Scenario manufacturing	Low GDP	growth scenario manufacturing
2007	7.0	6.2	7.0	6.2
2008	1.9	3.1	1.9	2.2
2009	4.0	5.8	4.0	4.1
2010	7.2	7.1	7.2	5.9

Source: KIPPRA estimates

Table 11.10: Projected tourist arrivals under various scenarios

	2007	2008	2009	2010	2011
Baseline	1,816,800	2,016,648	2,238,479	2,574,251	2,960,389
Expected status	1,816,800	1,177,286	1,306,786	1,502,805	1,728,226
WTTC forecasts	1,816,800	1,889,472	1,898,919	1,974,876	2,053,871

Source: KIPPRA estimates

The World Tourism and Travel Council (WTTC) gives forecasts on arrivals and earnings for countries. WTTC assumes an annualized 4 per cent growth rate for Kenya. However, due to the global financial crisis,[2] the expectation is that global growth will be about 0.5 per cent in 2009. The Medium Term Expenditure Framework 2008/09-2010/11 projects tourist earnings to reach Ksh 74.3 billion and international tourist arrivals to reach 1.92 million.

Earnings from tourism

Using past tourist earnings in the 2003-2007 period, the growth rates were 52.1 per cent, 22.2 per cent, 14.9 per cent and 16.0 per cent, giving an average of 26.3 per cent per year. Using this average and with no adjustment for post-election violence and global financial crisis (baseline) gives the prospects under row 1 (Table 11.11). For 2010 and 2011, a 30

Table 11.11: Projected total tourist earnings (Kshs billions) under various scenarios

	2007	2008	2009	2010	2011
Baseline	65.4	82.6	104.3	131.7	176.3
Expected status	65.4	45.8	57.7	72.7	92.1
WTTC forecasts	65.4	68.0	68.34	71.1	74.0

Source: KIPPRA Estimates

Table 11.12: Projected value added of hotels and restaurants (Ksh millions) under various scenarios

	2007	2008	2009	2010	2011
Baseline–Constant prices	20,814	23,894	27,430	31,490	36,151
Expected status–Constant prices	20,814	13,696	23,894	27,430	31,490
Baseline–Current prices	29,605	36,207	44,281	54,156	66,233
Expected status–Current Prices	29,605	20,427	36,207	44,281	54,156

Source: KIPPRA Estimates

per cent increase in earnings is assumed on the basis of promotional dividends for both inbound and domestic tourists. The drop in earnings is expected to be about 30 per cent in 2008 owing to the fuel price increase in the better part of the year, sea piracy and global financial crisis. Latest figures for the January to September 2008 period show a drop of Ksh 14.72 billion (about 30%) compared to the same period in 2007. Thereafter, earnings are expected to increase at about 26.3 per cent annually.

Prospects for hotels and restaurants

The prospects for hotels and restaurants are analyzed at constant prices. As for current prices and the disaggregated output at basic prices, intermediate consumption, gross value added at basic prices, compensation of employees and gross operating surplus/mixed income show little variation over the years and does not seem to reflect the impact of the Likoni clashes.

Changes in value added of hotels and restaurants at constant prices show three significant drops of -28.8 per cent in 1995, -34.2 per cent in 1998 and -20.3 per cent in 2003. As for the 1998, 2003 could be explained by the Likoni clashes, US Embassy bombing in Nairobi and the Kikambala Paradise Hotel attack. What appears surprising is the 1995 decline. Remarkable growth is observed in 1994, 1996 and 2004. Overall, there was a steady growth from 2004 to 2007.

Using the 2004-2007 average figures, for current prices, the increase in growth rates were 20 per cent, 25 per cent and 22 per cent for current prices, giving an average of 22.3 per cent. The growth rates were 13.3 per cent, 14.8 per cent and 16.3 per cent at constant prices, giving an average of about 14.8 per cent. Using the drop of -31.0 per cent for current prices and -34.2 per cent for constant prices as the worst case scenario that could develop, the prospects for hotels and restaurants are given (in Table 11.12).

Prospects for major source markets

According to the Kenya Tourism Board, there was a significant drop for key source markets in the first quarter of 2008: UK (39.7%), US (25.2%), Germany (47.0%), Canada (39.7%) and Switzerland (43.0%). The prospects for inbound tourists from the country's major source markets are derived using projected departures by country of residence. The average departures for each source market for the 2003-2006 period is used for projecting the 2008-2011 period. In the first projection, which serves as a baseline, post-election violence is not taken into account; neither is the crises of sea piracy, global financial meltdown and the fuel price increase as shown in Table 11.13.

As the table shows, the average growth rates of departures are very high for Canada (about 68%), India (about 61%) and USA (about 41%). With the USA, growth may even increase due to the election of Barack Obama, an African American with Kenyan roots, as the President of the United States. Canada, India and USA are likely to be the major source markets in the near future if the current trend continues.

Table 11.13: Projected departures by country of residence assuming no post-election violence and global financial crisis

	2006	Average % growth in last 3 years (2003-2006)	2007 (provisional)	2008	2009	2010	2011
UK	272,000	9.1	313,600	342,138	373,273	407,241	444,300
Germany	248,900	10.3	263,200	290,310	320,212	353,194	389,573
Italy	129,900	25.0	146,600	183,250	229,063	286,329	357,911
France	76,200	12.5	84,700	95,288	107,199	120,599	135,674
Switzerland	60,300	-10.4	60,500	54,208	48,570	43,519	38,908
USA	83,900	40.7	116,800	164,338	231,224	325,332	457,742
Canada	19,100	67.8	27,400	45,977	77,150	129,457	217,229
India	35,700	61.0	37,100	59,731	96,167	154,829	249,275
Japan	21,500	16.0	22,000	25,520	29,603	34,340	39,834
Tanzania	25,800	25.5	27,600	34,638	43,471	54,556	68,468
Uganda	19,800	17.9	20,900	24,641	29,052	34,252	40,383

Source: KIPPRA Estimates

Table 11.14: Projected departures by country of residence

	2006	Average % growth in last 3 years (2003-2006)	2007 (provisional)	2008	2009	2010	2011
UK	272,000	9.1	313,600	189,108	209,910	241,396	277,606
Germany	248,900	10.3	263,200	139,389	154,722	177,930	204,620
Italy	129,900	25.0	146,600	68,769	76,333	87,783	100,951
France	76,200	12.5	84,700	33,551	37,241	42,827	49,252
Switzerland	60,300	-10.4	60,500	34,392	38,176	43,902	50,487
USA	83,900	40.7	116,800	87,318	96,923	111,461	128,180
Canada	19,100	67.8	27,400	16,522	18,340	21,091	24,254
Tanzania	25,800	25.5	27,600	24,956	27,701	31,856	36,634
Uganda	19,800	17.9	20,900	20,387	22,629	26,024	29,928

Source: KIPPRA Estimates

Kenya, therefore, needs to give more attention to these three markets in terms of increased promotion. However, it should not neglect the traditional source markets. Concerted promotional campaigns are needed to stabilize the dwindling number of visitors from Switzerland.

The projected departures to source markets (Table 11.14) are derived using similar assumptions made regarding tourist arrivals, that is 11, 15 and 15 per cent growth in 2009, 2010 and 2011, respectively.

11.2.4 Education sector prospects

The main education targets include the following: increasing primary net enrolment and completion rates to 100 per cent by 2015; reducing regional disparities by increasing North Eastern Province net enrolment ratio; improving internal efficiency in education by reducing drop-out and repetition rates; and, increasing primary to secondary transition levels to about 90 per cent by 2012. Pre-primary, primary and secondary school age population are estimated at 2.9 million, 7.9

million and 3.3 million in 2008, respectively. By 2010, the respective school age population is projected at 3.0 million, 8.7 million and 3.4 million, respectively (Government of Kenya, 2006).

To achieve the set policy targets within optimal and sustainable financing framework, it is necessary to improve efficiency in resource utilization, including implementing cost-saving measures. This will not only increase adequate fiscal space within and between sectors, but it will also hold the government accountable in ensuring resource inputs are adequately linked to education outputs and outcomes. For instance, it will be necessary to implement cost-effective staffing norms to ensure that primary, secondary and technical education teachers are efficiently utilized. Further, the quality of education and training has to be observed to ensure that the programmes are well integrated to produce, nurture and sustain skilled manpower needed to achieve Vision 2030. Other measures should include deepening decentralization of education management while addressing regional inequalities.

Basic education projections, 2008-2010

Primary education enrolment has fairly stabilized, while total secondary enrolment is expected to rise sharply over the period 2008-2010. Primary enrolment is projected to increase from 7.5 million pupils (5% enrolled in private schools) in 2006 to about 9.4 million pupils (9% enrolled in private schools) by 2010 (Table 11.15). Secondary enrolment is currently projected to rise from 1.03 million students (8.5% in private schools) in 2006 to about 1.4 million (14% in private schools) in 2010. This can be attributed to free primary education and hence growth in number of pupils completing Standard 8 successfully subsidized secondary education, internal efficiency gains (both in primary and secondary school) and the policy target of an increased transition rate of 75 per cent by 2012.

It is expected that the next five years will experience a rise in enrolment rates in both primary and secondary schools because of free primary and subsidized secondary education.

The increase calls for substantial investment in secondary education both in terms of human resources and physical infrastructure. In

Table 11.15: Primary education enrolment projections

	2006	2007	2008	2009	2010
Age 6-13 population (million)	7.4	7.6	7.9	8.3	8.7
Public primary enrolment (million)	7.2	7.4	7.5	8.0	8.6
Private primary enrolment (million)	0.4	0.7	0.7	0.8	0.8
Total primary enrolment (million)	7.5	8.1	8.3	8.9	9.4
Public and private primary GER (%)	105.0	106.0	107.0	111.0	112.0
Public and private primary NER (%)	86.5	86.0	91.0	92.0	93.0

Source: Updated Education Simulation and Financial Projection Model, 2008

2007, additional teachers were deployed as a measure towards addressing teacher needs in severely understaffed schools. Overall, primary net enrolment ratio is projected to increase from 86.5 per cent in 2006 to 93.0 per cent in 2010.

Total secondary GER is projected to rise from 32 per cent in 2006 to about 44 per cent by 2010 (Table 11.16). Measures are already in place aimed at expanding access to secondary education, which include the envisaged introduction of free day and subsidized boarding secondary education, expansion of existing schools to at least three streams, and encouraging various stakeholders (private sector, communities and development partners) to support post-primary education expansion.

Policy initiatives could include the following:

(a) Improving teacher utilization by increasing average teaching load;

(b) Mobilizing more resources to secondary education, especially towards expanding physical infrastructure and day schools;

(c) Improving school management systems to ensure school fees revenues are efficiently utilized without overburdening households and parents;

(d) Enhancing bursary provision and targeting cash transfers to poor and vulnerable households with school going age children;

Table 11.16: Secondary education enrolment projections

	2006	2007	2008	2009	2010
Age 14-17 population (million)	3.2	3.1	3.3	3.31	3.4
Transition rate (%)	57	60	70	77	80
Public secondary enrolment (million)	0.858	1.024	1.4	1.69	2.1
Private secondary enrolment (million)	0.127	0.139	0.153	0.169	0.185
Total secondary enrolment (million)	1.03	1.17	1.45	1.87	2.3
Public and private secondary GER (%)	32	37	45	56	68
GER with 66% transition in 2007	32	37	44	54	62

Source: KIPPRA Estimates; Education Simulation and Financial Projection Model, (2008)

Table 11.17: High growth scenario: Projected percentage growth in infrastructure and economic services

Infrastructure sub-sector	2007	2008	2009	2010
National GDP	7.0	4.5	8.3	9.0
Electricity	9.5	6.0	10.8	11.5
Water supply	8.5	5.4	9.9	10.6
Water transport; harbours	14.4	8.7	25.4	33.4
Land transport; transport and via pipelines	7.1	4.5	8.4	9.1
Air transport	9.3	5.8	10.6	11.3
Auxilliary transport activities; travel agents	15.7	9.4	16.5	16.6
Posts and telecommunications	13.7	8.3	14.8	15.1
Construction	9.1	5.7	10.4	11.1
Real estate: dwellings, rented and owner occupied	7.8	5.0	9.2	9.9
Real estate: Renting and business services	10.1	6.3	11.4	12.0
Total infrastructure and economic services sector	17.6	-1.0	11.1	11.7

Source: KIPPRA estimates

(e) Strengthening public private sector partnerships; and

(f) Mobilizing external support to the sector within the Sector Wide Approaches for planning and financing education and training in Kenya.

Overall, there is need to improve quality of education and strengthen linkages between education programmes and the labour market.

11.2.5 Infrastructure prospects

The performance of the infrastructure and economic services sector is closely tied to GDP due to its strong backward and forward linkages. Infrastructure and trade logistics are central in accelerating the overall growth of the economy. Based on analysis of historical trends in value addition and shares of infrastructure in national GDP in Kenya and several comparator countries, the following infrastructure growth estimates are derived for the next three years: a high growth scenario and a low growth scenario.

High growth scenario

In a high growth scenario, infrastructure and economic service sector is projected to register growth of 11 per cent in both 2009 and 2010, leading to Kenya's macroeconomic growth of 8.3 per cent and 9.0 per cent in 2009 and 2010, respectively. Under the scenario, it is assumed that the 2007 post-election crisis is resolved within 6-9 months with minimal disruption of infrastructure sub-sectors (Table 11.17).

Low growth scenario

The second scenario presents infrastructure growth projections in a case where post-election crisis lingers on throughout 2008, leading to fragile political stability. The political crisis would then probably lead to destruction of the Kenya-Uganda railway network on the Kenyan side, slowing down transport operations along the Northern Corridor, and limiting new investment in electricity generation, air transport, ICT, construction and real estate sub-sectors. In this case, annual performance of infrastructure-related sectors would slow down from a high of 17 per cent in 2007 to a negative 4 per cent in 2008, before registering a weak recovery in subsequent years subject to improved socio-political and economic environment. This will, undoubtedly, be reflected in overall national economic prospects for the Kenyan economy (Table 11.18).

Table 11.18: Low growth scenario: Projected growth for Kenya infrastructure and economic services, 2008-2010

Infrastructure sub-sector	2007	2008	2009	2010
National GDP	7.0	2.0	5.5	7.4
Electricity	9.5	2.7	7.2	9.6
Water supply	8.5	2.4	6.6	8.8
Water transport; harbours	14.4	-28.4	14.7	25.2
Land transport; transport and via pipelines	7.1	2.0	5.5	7.5
Air transport	9.3	2.6	7.1	9.4
Auxilliary transport activities; travel agents	15.7	4.2	11.2	14.3
Posts and telecommunications	13.7	3.7	10.0	12.9
Construction	9.1	2.5	7.0	9.2
Real estate: dwellings, rented and owner occupied	7.8	2.2	6.1	8.2
Real estate: Renting and business services	10.1	2.8	7.6	10.1
Total infrastructure and economic services sector	17.6	-4.1	7.4	9.8

Source: KIPPRA estimates

11.3 Medium-term Propects, Challenges and Priorities

The medium-term prospects will be shaped by the way both internal and external challenges will be addressed. The following include the critical aspects in putting back the economy to the path of sustained growth and restoration of investor confidence.

(a) *Implementation of the Grand Coalition Agenda*. Effective implementation of the GrandCoalitionGovernmentPolicyAgenda is critical in ensuring political stability necessary for growth and restoration of investor confidence. Some of the reforms require high levels of political consensus and commitment. These include: review of the constitution, land reforms, fight against corruption and the reforms that require legal reforms, especially in public expenditure management and the financial and business sectors. Effective implementation of the Medium Term Plan is thus a key priority.

(b) *Commitment to low and stable prices*. A stable macroeconomic environment underpinned by prudent fiscal and monetary policy will be critical. It is evident thatthetraditionalinstrumentsofmonetary policy are not sufficient in ensuring overall price stability. In this regard, measures to enhance food production and overall agricultural productivity are critical. The recent growth has been driven largely by private consumption and investment. To ensure stability, it will be necessary that aggregate demand does not outpace the capacity of the economy to produce goods and services. Consequently, supply side constraints in the key sectors of the economy need immediate attention.

(c) *Improvement of the investment climate*. Although Kenya was ranked as one of the top reformers (in Doing Business 2008), there is no room for complacency. There is need for continuous improvement of the investment climate. In this regard, the planned infrastructure investment and improvements need to remain on track. However, security still remains a challenge.

(d) *Global economic factors*. While the policy reforms that Kenya undertakes are unlikely to affect the depth and length of the global crisis, they will affect the impact on the domestic economy. Many economies are faced with reduced capital inflows and export demand, tight credit conditions and overall financial stress arising from volatility in financial markets and asset deleveraging. The threat of a second round of effects looms large. Kenya is not immune to these global factors. Some of the key measures that are required include commitment to macroeconomic stability, efficient and effective public expenditure management, and implementation of reforms to enhance productivity of the Kenyan economy.

End notes

[1] According to Kenya Tourism Board, tourist arrivals dropped to 134,000 in the first quarter of 2008, from a projected figure of 315,000. See Francis Mureithi, "Tourism Earnings May Drop 23 p.c. This Year", *Daily Nation*, 19 April 2008, p.23.

[2] According to the Kenya Tourism Board (KTB), if recovery measures are undertaken and funds released quickly, the sector may recover in 2009. However, with the increasing fuel prices for the better part of the year, global financial meltdown and the ship piracy problem, this may not be possible until 2010.

PART IV

Competitiveness: Kenya and the Global Economy

This final part of the report explores the key challenges to developing a globally competitive economy. We examine the concept of competitiveness, its application as well as the key drivers for enhanced competitiveness. Kenya's key competitiveness challenges are discussed and ways and means of enhancing the country's competitiveness explored.

12 Making Kenya a Globally Competitive Economy

12.1 Introduction

In a rapidly globalizing world economy, one of the key imperatives for improving national welfare and leveraging on comparative advantages is to secure competitiveness. This could be at regional, national, sub-national or firm levels.

Although high productivity is key to competitiveness, at the national level it is not only about total factor productivity, unit labour costs or real effective exchange rate, but also about the social, political, environmental, technological, legal and regulatory correlates of economic growth.

The theme of competitiveness is a key target under Kenya Vision 2030. Based on this vision, Kenya aspires to become a globally competitive and prosperous nation by maintaining a sustained economic growth of 10 per cent over the next two decades. Increased productivity will be one of the key drivers of growth, where Total Factor Productivity (TFP) should grow at 2.5 per cent per annum. Based on cross-country growth experiences and Kenya's historical performance, this is a very ambitious target. Therefore, it is crucial to understand competitiveness and how it is linked to the achievement of a rapid, sustainable and shared economic growth.

12.2 Competitiveness and Sustainable Development

Competitiveness is not an end in itself, but a means for securing sustainable improvement in living standards and quality of life for people and nations. Kenya's Vision 2030 envisages sustainable development coupled with a high standard of living in "a just and cohesive society that enjoys equitable social development in a clean and secure environment". Here, competitiveness relates to the policies and institutions that enhance value creation or growth and productivity of enterprises without supplanting long-term public policy goals of rapid and shared growth, equity, poverty reduction and environmental sustainability.[1] Although high productivity is key to competitiveness, at the national level it is not only about total factor productivity, unit labour costs or real effective exchange rate, but also about the social, political, environmental, technological, legal and regulatory correlates of economic growth. Indeed, as noted in the

World Development Report 2006, growth in an environment of high income inequality is not sustainable. For example, the post-election violence and the attendant disruption following the disputed December 2007 elections clearly indicates that political stability and social cohesion are critical to any competitiveness strategy that the country may pursue. Consequently, competitiveness is not reducible to a single factor or 'recipe'. It is a multi-faceted concept.

In the above respect, competitiveness must positively influence national income, quality of life and facilitate environmental sustainability. Thus, it is important to understand how competitiveness influences Kenya's ability to grow rapidly, while improving the quality of life of its people.

12.2.1 National income

High and rising living standards are a key indicator of the success of national competitiveness. The Kenyan economy continued to enjoy remarkable growth, reaching a real GDP growth of about 7.0 per cent in 2007, the highest in the last two decades. However, prospects for 2008 dimmed due to the impact of post-election violence and a slowdown in world economy due to high international energy and food prices. In 2008, economic growth decelerated to between 1.5 and 1.9 per cent.

In the last two decades, Kenya's economic performance has been characterized by stagnation and erratic growth. Per capita income was estimated at about US$ 650 in 2006, which is substantially below the per capita incomes of those countries that Kenya aspires to catch up with, among them Malaysia and South Korea whose per capita income is about 9 and 28 times larger, respectively. Vision 2030 envisages a sustained average growth of 10 per cent per annum over the next two decades implying that the size of the economy should double every 7 years.

An analysis of sources of recent growth reveals that growth has largely been driven by private consumption and investment. To sustain such growth within a stable macroeconomic environment, aggregate expenditure should not outpace the production capacity of the economy. In this regard, it will be important to focus on removing supply-side constraints while maintaining a prudent monetary and fiscal policy. Improvements in productivity and competitiveness are critical in supporting this.

12.2.2 Quality of life

A key objective of competitiveness is to support a high quality of life, which is broader than material living standards. The United Nation's Human Development Index (HDI) offers an alternative to GDP per capita as a measure of wellbeing. This is a composite index that combines life expectancy at birth, standard of living measured by GDP adjusted for cost of living (purchasing power parity), and adult literacy together with combined enrolment rates (primary, secondary and tertiary). Kenya is among the countries with a medium Human Development Index (HDI) of 0.500-0.799. In 2005, the country had a relatively low HDI of 0.52 compared to South Africa (0.67), Mauritius (0.80) and Brazil (0.80). The United Kingdom had 0.95 (Appendix Table D12.1). The respective indices for Korea, Singapore and Japan are all above 0.90, which explains their capabilities and a high level of human development. Kenya's low HDI is attributed to the low access rate to basic education, high poverty incidence and unsatisfactory health outcomes. In 2005, for instance, the overall gross enrolment rate (primary, secondary and tertiary) for Kenya was 60 per cent compared to Korea (96%) and Japan (86%).

Overall, poverty levels are coming down in Kenya, but there are significant differences within and across provinces. The incidence of poverty is higher in rural areas at 49.1 per cent compared to 33.7 per cent in urban areas. Within the East Africa countries, poverty in Kenya is much higher at 46 per cent compared to 38 per cent and 36 per cent in Uganda and Tanzania, respectively. The situation is more serious compared to selected countries in Asia and Latin America. Although the national absolute poverty declined from 52.3 per cent in

Growth in an environment of high income inequality is not sustainable. For example, the post-election violence and the attendant disruption following the disputed December 2007 elections clearly indicates that political stability and social cohesion are critical to any competitiveness strategy that the country may pursue.

1997 to about 46.0 per cent in 2005, the country faces the risk of not meeting the Millennium Development Goal (MDG) on halving poverty by 2015.

Performance with respect to income inequality remains mixed. Preliminary findings from the Kenya Integrated Household Budget Survey (KIHBS) indicate that in comparison with 1997, income disparities in the rural areas have declined while those in urban areas have increased. In a cross-country perspective, Kenya's income inequality is among the highest in the world, but still the country is slightly better off than such Latin American countries as Chile, Brazil and Argentina.

In view of Kenya's low enrolment rate, the country will need to increase access to knowledge through improved enrolment and retention in all levels of education. Particular attention should be given to improved access to quality post-primary education and improved access to basic education in ASAL and urban informal settlements that are lagging behind. In addition, the country needs to improve health outcomes especially in the reduction of mortality rates and incidence of diseases such as malaria, HIV/AIDS and tuberculosis so that Kenyans can enjoy a healthy and long life.

Another important dimension of human development that requires attention is reduction of the disparities between men and women, measured by the Gender Development Index (GDI). This is a composite index that measures the average achievement in the three main components of human development, namely long and healthy life, knowledge, and a decent standard of living. The index, which is adjusted to capture gender disparities, shows that Kenya has made some improvements in the recent past.[2]

The country's GDI increased marginally from 0.486 in 2002 to 0.521 in 2005. Nevertheless, it is relatively low compared with countries such as Malaysia (0.802), Japan (0.942), South Africa (0.667) and Brazil (0.798) (Appendix Table D12.2). The GDI for developed economies is close to 1, implying low levels of inequalities among men and women in life expectancy, health status, access to and attainment of education/knowledge and income levels. Measures to address gender-related disparities include increasing access to education among women, especially at secondary and tertiary levels, reforming institutions that promote gender bias, addressing poverty challenges so that low income groups and the marginalized can attain better quality of life, and ensuring faster human development levels.

12.2.3 Environmental sustainability

The essence of environmental sustainability is a stable relationship between human activities and the natural world, one that does not diminish the prospects for future generations to enjoy a quality of life at least as good as the current generation's. The development process in Kenya faces various environmental challenges that include deforestation, soil erosion, desertification, loss of biodiversity, water scarcity and quality, and water and air pollution. Environmental and natural resource degradation undermines livelihoods, leading to lower quality of life and limited future opportunities. The poor, with limited alternative livelihood, depend on their natural resources to survive and are, therefore, worst hit by any environmental deterioration. The effects of climate change are apparently becoming evident with the recurring droughts and floods, and changing weather patterns.

Kenya's performance in relation to environmental sustainability remains mixed. As discussed in Chapter 10, production of food and other agricultural products will largely depend on productivity increases rather than expansion of acreage due to lack of suitable land. The country also faces serious challenges in land management due to lack of a coherent policy, which has resulted in high inequalities in land ownership, conflicts, lengthy litigation and cumbersome registration of property. These challenges have hampered the use of land title deeds as collateral to secure financial resources.

Water resources contribute enormously to economic productivity and the social well-

being of the nation. Available data indicates that between 1990 and 2003, water pollution increased and with it the potential of an increase in water borne diseases. Water-quality problems in lakes and water hyacinth infestation in Lake Victoria have contributed to a substantial decline in fishing output and has endangered fish species.

Kenya has a varied biodiversity resource base that provides food, fuel, wood, medicines and income from tourism. However, although there are sectoral policies and laws guiding such aspects as forestry, fisheries and wildlife, the country does not have an environmental and biodiversity policy. The Global Environmental Facility (GEF) benefits index for biodiversity in Kenya and some selected countries (Chapter 10) suggests a need to maintain and even increase biodiversity in the country. [3]

Biodiversity loss is mainly as a result of habitat degradation (decline in habitat, land degradation, habitat fragmentation), over-harvesting of resources, lack of well defined property rights, and introduction of invasive species such as the '*mathenge*' (*Prosopis Juliflora*), eucalyptus tree species, predatory Nile perch, water hyacinth and the *striga* weed (witch weed). Loss of biodiversity means less availability of raw materials for medicinal, cosmetic and other biotechnology uses. There is also evidence of illegal exploitation where extremophiles have secretly been transported out of the country and successfully used to develop industrial enzymes such as the Tide Alternative Bleach Detergent in the developed world. This implies that the country is losing out on the exploitation of its biodiversity for industrial commercial use.

12.3 Concept and Measurement of Competitiveness

The world economy has increasingly become more liberalized and integrated in terms of international trade flows, including foreign direct investment, portfolio investments and, to some extent, immigration. The current wave of globalization has been supported by trade liberalization in developing countries, increased regional integration and implementation of multilateral trade arrangements under the auspices of the World Trade Organization (WTO). With globalization, national borders continue to become less and less important for international production and flow of goods and services. This opens up opportunities to access international capital, technology and markets, but it also exposes the domestic economy to enhanced competitive pressures.

The term 'competitiveness' is understood to cover both price/cost and non-price dimensions. The price dimensions include unit labour costs of production and real effective exchange rate competitiveness. Those countries that have lower unit labour costs and a depreciated real effective exchange rate are considered more competitive. The non-price definitions emphasize such aspects as technology, design, quality, efficiency and overall productivity.

While the concept of competitiveness is easily understood at the firm level, it is increasingly being used at the national level. In a report prepared for the Reagan Administration in 1984, the President's Commission on Competitiveness argued that:

> "Competitiveness at the national level is based on superior productivity performance and defined it as the degree to which a nation can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously expanding the real incomes of its citizens."

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Similarly, the World Economic Forum in its *Global Competitiveness Report 2007-2008* defines the concept as "the set of institutions, policies, and factors that determine the level of productivity of a country". Productivity is critical because it is the major determinant of long-term growth and a country's production potential. Its indicators at the national level include labour productivity and total factor productivity.

The World Economic Forum uses composite indices on competitiveness, which take into account various factors, including macro-economic stability, business environment and company strategy. The competitiveness indices are produced annually and allow benchmarking and monitoring and are, therefore, continuously becoming popular.

At the national level, some economists use measures related to unit labour costs and real effective exchange rate to measure and compare competitiveness across countries. The major drawback has been lack of comprehensive and comparable data. In addition, under different assumptions, the values for these indicators may be different.

For policy purposes, economists inclined to the above line of thought may argue for continued reliance on devaluations or depreciation to keep a country competitive. Alternatively, they may argue for the adoption of an income policy that ensures that wages remain comparably low. Yet, there is a counterargument that these low wages cannot support high living standards and may be an indication of lack of competitiveness. Also, devaluation may hurt those industries that depend on imported capital, and a policy focus on keeping the exchange rate low may supplant economic fundamentals. Thus, the exchange rate needs to be competitive relative to the theoretical equilibrium exchange rate, which is usually not the case.

The United Nations Industrial Development Organization (UNIDO), in its *Industrial Development Report 2002/03*, introduced another global measure of competitiveness, the Competitive Industrial Performance Index (CIPI), which is a scorecard measure that captures the ability of a country to produce and export manufactured goods competitively. CIPI is constructed from four indicators, namely industrial upgrading, technological complexity, manufactured value added per capita, and shares of medium and high technology products in manufactured value added and exports.

As noted above, there are different dimensions to competitiveness, but the growing body of literature emphasizes productivity as the real engine of competitiveness. Productivity depends on the value of output of goods and services and the efficiency and the processes with which a country uses its assets, both tangible and intangible (including people, skills, technology, physical capital, natural resources, brand and image), in the production of goods and services. High productivity can support high incomes and even a strong currency. At the macroeconomic level, high productivity supports price stability and can allow for expansionary monetary and fiscal policy without seriously undermining macroeconomic stability.

Some scholars believe that countries or nations compete in offering a sound business environment, including infrastructure, incentives, legal and regulatory framework, and socio-political conditions. All these factors affect the costs, risks, opportunities and competition in doing business.

12.3.1 Kenya's competitiveness ratings

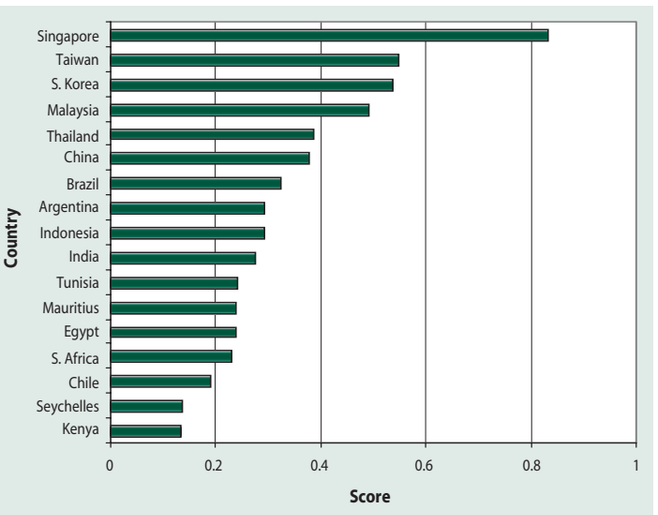
In reviewing Kenya's global competitiveness, the following indicators are used: Global Competitiveness Index; Competitive Industrial Performance Index; and, Total Factor Productivity. The Global Competitiveness Index as articulated in the Global Competitiveness Report 2007-2008 compares country performance based on 12 pillars namely: institutions, infrastructure, macroeconomic stability, health and primary education, higher education and training, goods market efficiency, labour market efficiency, financial market sophistication, technological readiness and market size. In the East African region, Kenya's competitiveness ranks better than that of Uganda and Tanzania, but compares unfavourably with that of countries that it aspires to catch up with (Figure 12.1).

Kenya's performance in respect of the specific pillars mentioned above is addressed in this section of the report. Most countries in East Asia are ranked as having superior business environment (including institutions, infrastructure, macroeconomic stability, market

Figure 12.1: Global Competitiveness Index 2007-08 rankings for selected countries

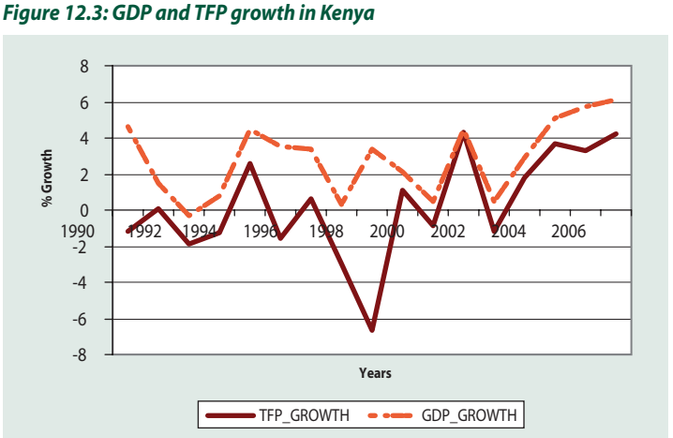
Source: World Economic Forum (2008)

Figure 12.2: Competitive Industrial Performance Index 2000



Source: UNIDO, Industrial Development Report (2004)

Figure 12.3: GDP and TFP growth in Kenya



Source: UNIDO, Industrial Development Report (2004)

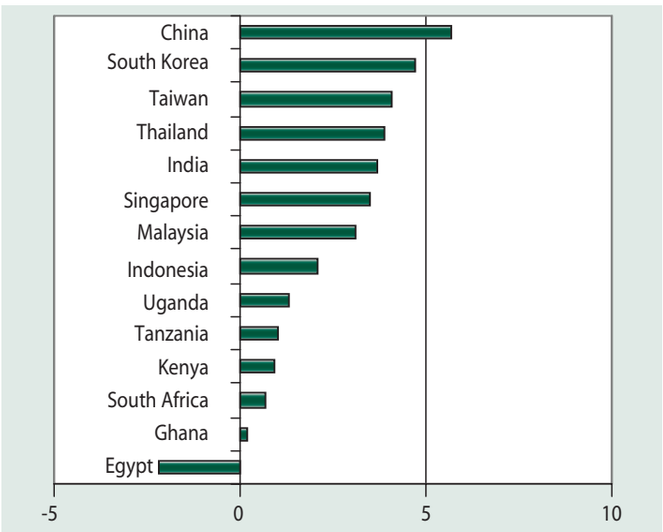
efficiency and innovation capabilities). In Africa, Kenya ranks 10th position behind Tunisia, South Africa, Mauritius, Egypt, Morocco, Libya, Algeria, Botswana, and Namibia in that order.

In terms of industrial performance, UNIDO's CIPI reveals that Kenya still lags behind in the ability to produce manufactured goods competitively (Figure 12.2). In 1985, the country ranked 64 out of 80 countries. It improved marginally in the 1998 rankings to position 62 out of 87 countries. However, by 2000, it had lost its position and ranked 97. Its competitiveness is hampered by its relative weaknesses in industrial skills, research and development, infrastructure and foreign direct investment.

Total Factor Productivity (TFP) is another important indicator of competitiveness. Productivity depends on the value, efficiency and technologies with which human and physical capital and natural resources are used in the production of goods and services. TFP estimates reveal that productivity growth in Kenya has improved in recent years compared to the 1990s when it averaged about -1.0 per cent (Figure 12.3). According to the *World Development Report 2005*, cross-country studies have established that 45-90 per cent of differences in economic growth could be attributed to TFP growth. The Global Competitiveness Report 2007/08 also reports on the critical importance of productivity in determining the competitiveness of an economy.

Compared with the high growth economies of East Asia, TFP growth in Kenya is low as illustrated in Figure 12.4. This implies that a worker in East Asia produces more output per

Figure 12.4: Total labour productivity growth for total economy (1980-2005)



Source: ILO Key Indicators of Labour Market 18 (ILO,1999)

hour relative to a Kenyan worker. Surprisingly, between 1980 and 2005, it was lower than Uganda and Tanzania. However, Kenya performed better compared with South Africa, Ghana and Egypt.

High unit labour costs are associated with relatively low labour productivity. Between 1990 and 2001, the unit labour cost for the manufacturing, and transport and communications sectors rose by 20 per cent and 45 per cent, respectively. The figures are 12 per cent and 33 per cent higher compared with similar labour costs in India and China.

The real effective exchange rate as a measure of competitiveness appreciated by about 32 per cent in 2004 and 2007. The appreciation was due to high domestic inflation, nominal appreciation of the Kenya shilling, strong inflows from tourism, remittances from Kenyans abroad and short-term capital inflows.

Overall, Kenya's Global Competitiveness is low; in fact, overall competitiveness is far below that of the comparator countries. The country needs to narrow the gap and catch up with the East Asian high performing economies. It needs to develop strategies and undertake measures that will continually increase its productivity levels, including innovation and learning to upgrade domestic production capacity.

12.4 Drivers of Competitiveness

The World Economic Forum Report 2007/2008 identifies the following as constituting social and political stability: an efficient and predictable legal system, sound macroeconomic policies, and an enabling microeconomic environment, especially improved infrastructure, efficient regulatory framework, skilled work force, efficient government services and processes, clusters and advanced research institutions. These are key factors that determine a nation's competitiveness. Kenya's future competitiveness will depend heavily on decisions made today in these key policy areas that affect the country's economic environment, together with taxation, public service delivery, regulation and finance, physical infrastructure, and education and training.

Corporate strategy is equally important as firms are at the centre of national wealth creation. Firms operating in the country have to upgrade their processes and practices in the production of goods and services. Such upgrades include tapping into global production value chains, process sophistication, branding and enhancing capacity to adapt foreign technologies or to innovate. It is important to note that non-economic policy issues also have an impact on the business environment and are thus equally important.

From the foregoing, improving competitiveness is a 'special' challenge since there is no single factor or 'recipe' due to the multi-facet of causes. It involves various stakeholders, including entrepreneurial networks, trade associations, research and educational institutions, and public sector technocrats. Nevertheless, four key drivers, namely education and training, business environment, technology and innovation, and physical infrastructure are critical in dealing with Kenya's competitiveness challenge. Although these factors are sometimes discussed as part of the investment climate, they are discussed separately in this chapter for purposes of exposition of the key concerns. Moreover, it will help in identifying areas of intervention.

12.4.1 Education and training

As the economy expands, demand for professionals and technicians in firms increases. An educated and trained labour force is able to adapt and utilize new techniques in the production of goods and services. Analytical, cognitive and behavioural skills enable skilled and semi-skilled workers to adapt to new and improved technologies with relative ease. Therefore, education and training increases the efficiency and productivity of individuals entering the labour market.

Unlike in the developing world, industrialized economies have deep industrial structures characteristic of excellent quality schooling, industrial and technical training, high levels of university-trained managers in various trades, engineers and scientists. In 2003, the proportion of technologists to technicians to artisans in Kenya was 1:3:12 compared to an optimal ratio of 1:5:30 (Government of Kenya, 2003). No data is available to show that this situation has changed. Such an imbalance of professionals in the labour force negatively affects efficiency, research and development, which are crucial elements of firm productivity and competitiveness.

Although there has been an improvement in education performance in recent years, Kenya still ranks poorly in basic and advanced human capital compared to the countries it aspires to emulate. It ranks better than South Africa on basic human capital but lags behind Korea, Malaysia, Mauritius and Indonesia (Appendix Table D12.3).

The quality of higher education and training is crucial for economies that aspire to move up the value chain beyond simple production processes and products. Kenya ranks poorly at position 88 in the advanced human capital index compared with the Asian Tigers (most below 30), but it performs fairly well compared to its peers in Africa such as Botswana (90), Uganda (115) and Tanzania (123).

A comparative analysis of human capital indexes across countries (UNDP, 2005; 2006) indicates that over the last two decades,

Table 12.1: Proportion (%) of public universities enrolment by course, 2002/3-2006/7

Course	2002/03	2003/04	2004/05	2005/06	2006/07
Agriculture	5	5	5	5	6
Medical disciplines	3	3	3	3	3
Engineering	5	5	5	5	5
Technology/Applied sciences	3	3	3	4	3
General sciences	12	12	13	13	13
Law	3	3	5	4	4
Commerce and business management	5	5	6	6	6
Economics	0.4	0.4	0.4	0.4	0.4
General humanities and other studies	12	12	14	13	13
Civil engineering, architecture, design, building	1	1	3	3	2
Education (Arts)	25	28	24	24	21
Education (Sciences)	3	3	2	2	3
Postgraduate	14	10	10	11	10
Diplomas & other courses	10	10	8	7	8
Total	100	100	100	100	100
Arts courses	57	58	57	57	54
Total enrolment (No.)	**56,574**	**57,946**	**81,464**	**80,815**	**90,615**

Source: Government of Kenya (various), Statistical Abstract; and authors' computations

Kenya has experienced considerable under-investment in human capital development, especially at the technical and other tertiary levels. This adversely affects the growth potential of productive sectors.

Other characteristics include low transition rates between school levels, low and declining tertiary education enrolments especially in technical subjects, and declining quality of industrial training. Another factor that explains the low level of human development is health, especially the incidence of such diseases as HIV/AIDS, malaria and tuberculosis. Kenya ranks 115 in this regard and is better off than its neighbours, Uganda (122) and Tanzania (125). It is also better than South Africa (129) and Botswana (126), but under-performs compared with the Asian Tigers, majority of whom rank below 70.

While human capital is also affected by health outcomes, the weak performance on

the basic human capital index is largely due to relatively low enrolment rates, indicating that a large proportion of those entering the labour market lack the necessary skills. There has been a considerable improvement in student enrolment in tertiary education and training institutions. However, most students enrol in education, humanities and general courses. These courses are weakly aligned to the specialized skills demanded by firms. For instance, enrolment in science, engineering, manufacturing and agriculture is more than 40 per cent in Malaysia and Korea compared to about 29 per cent in Kenya where the proportion of students enrolled in engineering courses in tertiary institutions constitutes only 2 per cent of total enrolment (Government of Kenya, various). Korea is first in the world in tertiary enrolment, fourth in Internet access in schools and fifth in the extent of staff training by companies. Malaysia, with its ambitious Vision 2020, has also managed to grow very fast because of having a well-educated and English-speaking labour force.

In addition to the relatively low enrolments in Kenya, there is limited coordination between the mainstream training institutions, firms, government ministries and departments. These factors contribute to the mismatch between firm skill needs and those in the labour market.

The legal framework for skills development in Kenya is beset with various challenges. The country lacks a coherent national training policy framework and specific legislation for technical education. Skills development is governed through various pieces of legislation, key among them the Education Act (Cap 211 of 1968, revised in 1970 and 1980) and the Industrial Training Act (Cap 237 of 1960, revised in 1983). The Education Act, for instance, emphasizes issues related to primary and secondary education and gives limited focus to skills training.

The above legal framework, coupled with fiscal constraints, undermines the need for development of clear norms on allocation of adequate resources to vocational education and technical training, leading to under-development of middle level training institutions. The existence of other legislations on technical education and involvement of various ministries and government departments results into considerable duplication of functions and activities in technical education and training. A taskforce on legal issues in education and training is expected to consider this issue.

Additionally, although the policy framework for education and training in Kenya is contained in *Sessional Paper No. 1 of 2005*, various additional interventions are required. Lack of cohesive skills training strategy has undermined skills development. It is critical that the National Training Strategy that is under preparation addresses skills needs for sustainable development, including effective implementation of Vision 2030. Lessons learnt from other countries, particularly the Asian countries, point to the need to enhance private sector participation in skills development in the formal institutions and technical and vocational education and training.

Policy options in education and training

There is need to refocus policy attention to solving the above challenges. The key policy recommendations include:

(a) Undertaking skills inventory for the country. It is critical that the country undertakes a skills inventory based on such standards as International Standard Classification of Occupations (ISCO) and Kenya National Occupations Standards (KNOCS) giving cognisance to implications of technological developments, globalization on labour markets and the needs of technical skills to attain the targets set in Vision 2030. Some of the skills that are available and those that are needed could be captured during the 2009 population census.

(b) Establishing a skills training policy and strategy. One of the reasons for mismatch between skills and needs relate to lack of a coherent policy framework on technical

education and skills development. Thus, the proposed National Training Strategy should, among other issues, incorporate best practices from fast-growing economies, including supporting private sector participation in TIVET provision and financing and establishing a TIVET system that produces skills relevant to the private sector and public sector. Professionals from the private sector should be effectively involved in developing a national skills strategy through institutionalized and sustainable public-private partnerships. The strategy should comprehensively address issues on TIVET provision, development of skills for sustainable growth and competitiveness, regulation of training quality through qualification standards, certification, financing and management. The ongoing task on developing public-private partnerships, legal framework and political will are requisite for effective implementation. Further, a massive concerted national campaign on skills development is required. There should be support for capacities and capabilities, morale and commitment of trainers in order to address any skills gaps.

(c) Reviewing the legislative and institutional framework of technical education and skills development. The legislative and institutional framework governing technical education and training needs to be reviewed with the aim of developing an efficient and effective system. A sound legal and institutional framework should address the issue of duplication through harmonization and a clear delineation of roles and responsibilities. It is advisable that this issue be addressed in the ongoing review of the legal framework for education and training.

(d) Addressing the issue of sufficient and qualified technical graduates in priority sectors. An assessment of skills needs and availability confirms that the country lacks technical skills in the respective sectors. In Information and Communication Technology (ICT) sector, for instance, there is need for broadcasting technical skills, and managerial and ICT skills. In the manufacturing sector, skills required but not available in the local market include engineering, modern manufacturing systems and enterprise resource planning and logistics. These skills needs are associated with technological change. Consequently, there is need for skills upgrading to cope with market requirements, challenges related to competitiveness and changing customer needs and business expansion. It is, therefore, critical that the issue of producing qualified technical graduates in the respective fields and sectors be addressed. This will require frequent interaction between industry and training institutions offering related education and training. Given that employers are looking for employees with multi-skills (professional, technical and relevant generic skills), future training strategy should endeavour to promote education and training programmes that enable the imparting of such skills. This may require that trainers/lecturers in tertiary institutions undergo regular on-the-job pedagogical training and develop exchange programmes or linkages with developed economies' institutions for benchmarking skills and quality of service delivery.

According to UNCTAD (2005), Kenya has not derived maximum benefits from the presence of foreign workers in terms of transfer of skills and knowledge. The report advocates that Kenya should consider adopting an Australian-type approach where a pre-determined list of skills shortages is drawn up and foreign employees are recruited upon verification of their credentials and character. It also proposes that investors should be encouraged to spend some minimum amount of their turnover on training Kenyan employees.

(e) Review of technical and vocational education and training system and

financing. There is need to enhance the effectiveness of technical and vocational education and training, including skills development through comprehensive review of the technical education sector with particular focus on addressing the mismatch between skills supply and skills demand in both formal and informal sectors. Institutionalization of high-level technical skills development and on-the-job training programmes in various firms that provide company-specific and general skills to employees would be helpful. Support for relevant and quality secondary and technical education and training courses such as engineering are important for the country's competitiveness.

The newly industrialized Asian countries have been able to prioritize skills development in their long-term development agenda. Apart from infrastructure development, stable socio-political conditions and overall macroeconomic efficiency, Singapore's increasing competitiveness has been associated with educated and skilled labour force (Linda, 1998). The country's employment and occupational structures are skewed to more professional skills development, and strong tripartite partnerships involving government, private sector and labour force. To address the problem of skills deficiencies, Kenya must have a deliberate policy through a foreign workers levy and quota system to restrain the importation of unskilled and low skilled labour, while encouraging return of highly skilled citizens working abroad.

(f) Promoting role of private sector in development of TIVET and skills development. Policies for promoting employment, education and skills development for sustainable economic development should be geared towards quality, skills and productivity rather than just the aggregate number of trainees. Reforms in the education system should focus on expansion and improvement of the quality of post-primary education, especially science, technical and engineering courses in technical training institutions, universities, polytechnics and schools. Other initiatives include development of science parks and increased resource mobilization in innovation programmes, research and development.

Various mechanisms for enhancing linkages between industry and training institutions include support for apprenticeship, attachment training, exchange programmes for specialized expatriates (with skills gaps) to train trainers in skills development in curriculum development, sponsorship and private sector/industry participation in training and skills development policy. For instance, in Germany, employers offer apprenticeship in all sectors with active involvement of Chambers of Industry and Commerce in registering apprenticeships and setting qualifications and standards. Employers cover half of the cost of training in public vocational schools, while apprentices contribute by taking lesser wages compared to market rates. Enterprise training, commonly practised in Japan, involves massive on-the-firm skills training to long-term employees. The state-driven skills formation system involves the government providing the fast-changing skills needed in both public and private sectors. Any training strategy that a country takes is a function of social, economic and institutional settings, and the rate at which a country is readily able to adjust to globalization and liberalization forces.

12.4.2 Business environment

Some nations compete in offering an enabling investment environment for businesses to invest and grow. The critical areas of the enabling environment include macroeconomic stability, a stable socio-political environment, investment incentives and a sound legal and regulatory framework. As already noted, this overall framework is necessary for competitiveness and it affects the costs, risks,

opportunities and competition that businesses face.

The Government of Kenya developed an Investment Climate Action Plan (ICAP) 2005-2007, coordinated by the then Ministry of Trade and Industry, to guide efforts towards addressing constraints on doing business. The ICAP contains agreed policy reforms in the following priority areas:

(i) Controlling rampant and escalating insecurity;

(ii) Addressing poor state of roads;

(iii) Fast tracking building approvals;

(iv) Removing inefficient and cumbersome registration;

(v) Improving land administration;

(vi) Improving power hook-ups;

(vii) Up-dating company law; and

(viii) Improving Customs and tax administration.

In addition, the government has developed a Private Sector Development Strategy (PSDS) to provide a roadmap for supporting private sector development. Although it has put in place measures to improve the business environment, an assessment of the macroeconomic environment, political and social conditions and the legal and regulatory environment reveals institutional weaknesses that require immediate attention. These weaknesses point to the need for upgrading the business environment through macroeconomic stability, regulation and competition, financial services, security, infrastructure, and social and political environment. A policy action in these areas is critical in defining Kenya's competitive advantage.

Macroeconomic stability

Macroeconomic stability refers to stability of aggregate prices including inflation, interest rates, exchange rate and sustainable fiscal balances. Macroeconomic stability erodes business confidence and the credibility of policy makers. In an environment of instability, it becomes difficult for business people to make long-term investment decisions. Therefore, macroeconomic stability is a necessary condition for competitiveness.

Although macroeconomic stability in Kenya has improved in recent years, the country is still ranked poorly mainly due to relatively high levels of inflation. Between 2004 and 2006, average inflation stood at about 12 per cent, while most comparator countries kept inflation at single digit (see Chapter 1). In 2007, Kenya's overall inflation rate was 9.8 per cent. However, inflation recorded double-digit levels in 2008.

High inflation rate is associated with high negative real interests. Available comparable data reveals that in 2007, Kenya had one of the highest levels of inflation; it was ranked 129 behind the East Asian economies of Malaysia (54), Singapore (3) and Korea (21). Even within the East African region, Uganda and Tanzania had a better ranking on price stability (Appendix Table D12.4). There is, thus, need for more focused efforts on enhancing price stability.

As discussed in Chapter 1, overall inflation is largely driven by food prices. Therefore, any attempts at realizing overall price stability should address food scarcity. In this case, reliance on the traditional instruments of monetary policy to manage inflation is insufficient.

When government consumption is considerably high, it constrains economic growth and development especially if this is coupled with significantly low development expenditure and debt burden. The private sector perceives high debt burden as a signal of uncertainty in fiscal policy. Kenya's ranking on the size of government is not significantly different from the East Asian high growing economies, but there is need to enhance expenditure allocation to public investment. In addition, Kenya's ranking on exchange rate stability risk rating based on International Country Risk Guide (ICRG) ranking is not significantly different from the comparators (Appendix Table D12.4).

Business regulation

The way governments regulate business shapes the investment climate in many ways. Unnecessary barriers may distort competition, prevent required change, increase compliance costs and open avenues for corruption. Therefore, for many countries, there is scope to make regulatory regimes simpler, less rigid and predictable in application.

The World Bank's Doing Business Indices and Investment Climate Assessment (ICA) surveys provide information across countries on the compliance cost for regulations. The indices include the number of procedures, time taken and cost. Procedures are recorded only where interaction is required with an external party. Cumbersome procedures are associated with more corruption, particularly in developing countries. Each procedure is a point of contact and creates an opportunity to extract a bribe. To have an effective and transparent institutional environment, the Kenyan government should ensure a level playing field and enhance business confidence, including an independent judiciary, a strong rule of law and an accountable public sector.

Starting a business–procedures and licences

In Doing Business 2008, the World Bank ranks Kenya 72 out of 178 economies. However, it ranked Kenya 8th among the top ten reformers, especially due to the achievements made in simplifying procedures for starting business, dealing with licences, registration of property and getting credit. The number of procedures to start a business was reduced from 13 in 2006 to 12 in 2007, while the duration it takes to register a business reduced from 54 days to 44 days. In 2006/07, the government reviewed over 1,347 licences, eliminated 110 and simplified 8. According to the Budget Speech for the fiscal year 2007/08, it also planned to eliminate another 205 licences and simplify 371 licences.

There is scope for Kenya to improve on procedures for starting and registering businesses. For instance, in South Africa, Mauritius and Botswana the number of procedures for starting business are 9, 6 and 11, respectively, close to most of the Asian Tigers of Singapore (6), Taiwan (8) and Malaysia (9). In the East African region, Kenya (13) is ahead of Uganda (17) but the same with Tanzania (13). Although in 2006 Kenya ranked better in terms of the number of days it takes to start a business (54) when compared to others, Brazil (152), Botswana (108) and Indonesia (97), it performs poorly compared to most of her peers and other Asian Tigers (Appendix Table D12.5).

Of the three EAC countries, Kenya is the least expensive to start a business; it costs US$ 46.3 to start a business, while Tanzania's and Uganda's were US$ 91.6 and US$ 114.0, respectively. However, when compared with other countries outside East Africa, the cost in Kenya is high. For example, the average cost to start a business is US$ 10.6 in Botswana and US$ 0.8 in Singapore.

Closing a business

One aspect of business dynamism that influences potential investment in a country is the ease of closing a business. The recovery rate on closing a business in Kenya is relatively low at US$ 14.6 cents/dollar compared to benchmark countries such as Singapore (91.3), Korea (81.8) and Malaysia (38.7) (Appendix Table D12.5). The low ranking reflects weaknesses in the bankruptcy laws as well as administrative processes.

When bankruptcy legal framework is weak, companies that are unviable may not be able to close quickly and relocate resources. Kenya is ranked poorly on time taken to close a business, and therefore the need to review the relevant legal and administrative processes.

Company operations and strategy

As noted above, company strategy and sophistication is critical for competitiveness. Kenya is ranked 52 of 122 countries that are relatively better off compared to Botswana (92), Tanzania (86) and Uganda (90), but worse off than South Africa, Mauritius and all the

Asian Tigers (Appendixes Table D12.5). There is scope for improving the country's performance relative to firms in benchmarking countries through improved cooperative arrangements between firms, foreign technology licensing, value chain presence, and extent of research and innovation.

Labour market

The efficiency and flexibility of labour markets are critical for ensuring that labour is allocated to its most efficient use in the economy and that labour as a factor of production is rewarded appropriately. Global Competitiveness Surveys results show that Kenyan work force is well educated but the level and quality of production and technical training is very low. The labour market in Kenya (ranked at 60) is less efficient compared to its neighbours, Uganda (23) and Tanzania (57), but better than most of the other African countries with Egypt being the second worst in the world at rank 130, Argentina (129), South Africa (78) and Tunisia (79) (Appendix Table D12.6). This low labour efficiency ranking may be explained by the structural problems traceable to the technical and vocational training system.

The 2007 Global Competitiveness Index (GCI) report notes that the current Kenyan training curricula are obsolete and there are major deficiencies in the public training facilities and instructional capacities. These problems lead to mismatch between the supply and quality of skills in the market and the actual demands of the growth sectors of the economy.

Investors are attracted more where labour input is available, efficient, productive and flexible. Because of rigidity of employment, Kenya with an index of 28 performs better than most of the comparators, but poorer when compared with Singapore (0), Uganda (7), Malaysia (10), Botswana (20) and China and Chile (both with an index of 24). This implies that the labour market is less flexible in Kenya.

Finance

An efficient financial sector is necessary to mobilize and allocate financial resources to the most productive uses. Kenya, with an index of 4.67 and ranked at 48 (Appendix Table D12.7), performs better compared with most comparator countries. It is, however, below South Africa (25), Mauritius (32), Botswana (42) and most of the South East Asian countries that were ranked among the top 50. This means that the financial sector in Kenya is less efficient in mobilizing and channelling savings into productive uses when compared with benchmarking countries.

Inability to access adequate financial services is a disincentive to investment. It is easier to access credit in Kenya than in peer competitor countries (except South Africa), but more difficult compared to the Asian Tigers (Appendix Table D12.7). On the ease of access to credit index, Kenya is ranked 49 ahead of Botswana (60), Uganda (87), Tanzania (90), and Egypt (95). Majority of the Tigers were ranked among the top 40.

Credit that goes to the private sector as a percentage of GDP is a good indicator of the level of financial depth. In addition, when private sector credit as a ratio of total credit is high, this indicates easy availability of financial resources for investment. Based on the credit that goes to the private sector as a ratio of total domestic credit, Kenya, at 70 per cent, performed unfavourably compared to 108 per cent, 94 per cent and 84 per cent for Tanzania, South Africa and Uganda, respectively. This may be explained by the inefficiency of the credit market and high cost of capital.

Kenya's credit information performance is better, at index 2, compared with her East African peers (Tanzania and Uganda, both with zero rating) and Mauritius (1). However, it is ranked poorly compared to Botswana (5) and South Africa (5) and majority of the Asian Tigers. This is attributed to lack of effective credit rating institutions in Kenya (Appendix Table D12.7).

The data also show that although Kenya has a substantially diversified financial sector, its banking sector is generally weak (ranked at 74) compared with South Africa (16) and Mauritius (37) and majority of the Asian Tigers. As

discussed in Chapter 9, Kenya's financial sector still faces key challenges that include limited access to financial services, especially for small enterprises, weak regulatory framework for micro finance institutions, non-performing loans, low credit information and high interest spreads reflecting limited competition.

Public institutions and investment climate

The institutional environment forms the framework in which private individuals, firms and governments interact to generate income and wealth in the economy. Kenya's performance on bureaucracy quality (with index 2) is not significantly different from her peers, but is far below Asian Tigers such as Singapore (4) and Taiwan (3) (Appendix Table D12.8). The low bureaucracy quality index implies that the country has less ability to minimize revisions of policy when government changes, hence policy instability. There is, thus, need to strengthen governance in the public sector to enhance predictability, accountability and performance.

In 2007, Kenya was among 14 countries that won the UN Public Service Award for successful performance contracting system. There is scope for improving the performance contracting system within the MTEF budget framework and also deepen public sector reforms to enhance public service delivery and reduce bureaucracy.

Relating to efficiency in public institutions, enforcing contracts and discipline in allocation of public resources, South East Asia has done well compared to Kenya and peer countries. Deepening MTEF and public finance reform programme should help enhance efficiency in public expenditure allocations. Kenya fairs poorly in fighting corruption, though its democratic governance measures well with South East Asia countries (Appendix Table D12.8). Although in the recent years the country has made progress in strengthening the legal framework for fighting corruption, there is little evidence that the war on corruption is being won (see Chapter 2). This, therefore, calls for a review of the anti-corruption strategy.

To enhance governance, the government should decentralize most of its services to be provided and partly funded by the municipalities and counties. The monitoring and evaluation of commercial courts should be strengthened and decentralized to hasten settling of commercial disputes and improve on performance, respectively. However, centrally developed management tools such as performance contracts and performance-related pay should be adapted to the decentralized agencies. Similarly, Kenya should ensure public trust of politicians, prudent government regulation, efficiency of government spending, and transparency of government policy making. The government should also move fast to complete civil service reforms to strengthen its operations and minimize opportunities for bad governance, strengthen governance institutions to effectively fight corruption, and simplify licensing and taxation by accomplishing the full establishment of one-stop-shop concept.

Security and enforcement of contracts

A country cannot create wealth and prosperity if the safety of the workers, customers, entrepreneurs and property is not guaranteed because of conflicts, terrorism and crime. According to an investment climate assessment survey conducted in 2004, crime was the third most common complaint by firms; the direct loss to crime was estimated at 4 per cent of annual sales revenue. Most firms also spent money on private security. The government included maintenance of law and order, and an efficient and motivated police force as its goals in the Economic Recovery Strategy (ERS) and is part of Governance, Justice, Law and Order Sector (GJLOS) reforms. Although crime statistics indicate that the situation improved, the post-election crisis led to a serious deterioration of security in early 2008.

In a comparative perspective, the security situation in Kenya is relatively bad, particularly on business cost of terrorism and business cost of crime and violence, both of which ranked at positions 124 and 125, respectively (Appendix Table D12.9). This is because Kenya has been a victim of terror attacks in the recent past.

Further, despite the enormous investments in public service and the GJLOS reforms programme, Kenya is ranked low on reliability of police services (96) and organized crime in public institutions (113) (Appendix Table D12.9). In the business cost of terrorism category, South Africa (126), Uganda (100) and Tanzania (88) are also poorly rated. On business cost of crime and violence, Uganda, Egypt and China were also almost at par with Kenya. The Asian Tigers, on the other hand, seemed to perform relatively well across all the security indicators. In particular, Singapore tops in reliability of police services (ranked 4), organized crime in public institutions (ranked 8) and business costs of terrorism (ranked 10).

Kenya also performs poorly in the judicial independence ranking (97) and law and order index (2.5). The other countries that perform poorly in judicial independence ranking are Argentina (123) and Indonesia (98), while for law and order were Argentina (2.8), Brazil (2.5), Ghana (2.4) and South Africa (2.5). Singapore performs fairly well in both ratings.

Kenya's judicial independence ratings can be interpreted as a reflection of impartiality of the judiciary. UNCTAD (2005) asserts that Kenya's judicial system still suffers from lack of resources to make rulings on a timely basis and root out corruption. Judges have a large number of cases to deal with, and lack sufficient paralegal staff support in a system that is in dire need of computerization. In order to restore confidence in the judiciary, there is need to litigate all the scandals and corruption cases pending in the courts to their logical conclusion.

Court efficiency in enforcing commercial contracts is also a key aspect of the investment environment. The number of days and procedures to enforce a contract is 360 days and 25 procedures, respectively (Appendix Table D12.10). Contract enforcement in Singapore, which is among the best-selected countries, took 120 days. This is in contrast to the 1,010 and 1,420 days it could take to enforce a contract in Egypt and India, respectively. The creation of commercial courts as separate entities in 2001 seems not to have had a significant impact in speeding up the judicial process. Estimates show that the country loses between 0.5 per cent and 1.5 per cent of GDP each year due to a weak commercial dispute resolution system.

Political stability is a necessary condition for productive investment. When there is political uncertainty, investors adopt 'a wait and see' attitude, as there is little or no guarantee that they will reap returns on their investment. Political instability may also lead to capital flight. The events following the disputed December 2007 elections attest to the importance of political stability. Because of political risk rating, Ireland (90%) had the best rating among the sample countries (Appendix Table D12.11). Korea (52.4%), Uganda (55.1%) and Kenya (57.2%), in that order, had the worst political risk rating. In addition, despite the fact that Kenya has only 42 tribes and Uganda about 30 tribes compared to 120 in Tanzania, ethnic tensions in Kenya (with index of 3.0) and Uganda (index of 3.0) are worse than in Tanzania (index of 4.0).[4] Apart from Indonesia (index of 2.0) all the other listed Asian Tigers performed better than Kenya. Argentina, Egypt, Korea and Singapore, which all had an index of 6, were perceived as having the least ethnic tensions. The rest of the comparator countries in Africa performed poorly in all the indices, while Singapore performed relatively well in all the ratings (Appendix Table D12.11).

As regards the ICRG religious tensions index, Kenya (4.0) is rated better than Tanzania (3.0) and Uganda (2.5), and is much better than Indonesia (1). In addition, the country's external conflict index (10.5) was more or less similar to the comparator Asian Tigers and performed better than Tanzania (10) and Uganda (8.3). It is also important to note that Uganda, with an index of 7.0 and Kenya (8.1), had the worst internal conflict index among the comparator countries.

To improve security of persons and property, the Kenya government should make sure that the ongoing police reforms are fast tracked. It should also establish a strong information and research infrastructure to harness information gathering and management for mapping of criminal activities. In particular, there is need to fast track and sustain implementation of the

community policing policy and to maintain political stability and social cohesion so as to reduce political risk of investment.

Law and order and enforcement of business contracts

If property rights are insecure or investors run a high risk of being defrauded of their legitimate profits, or there is poor enforcement of contracts, the investment drive is weakened. Therefore, property rights must be well defined and guaranteed.

Well-defined property rights that are legally protected are vital prerequisites for individual and business investment. Protected intellectual property rights induce business' innovativeness and shape the flow of innovative ideas and products that are developed, which in turn promotes creativity thus creating wealth.

The International Property Rights Index (IPRI) generally evaluates the protection of intellectual property and reviews a country's policies and their effectiveness regarding patents, copyrights and trademarks. It is, thus, designed to categorize countries according to their strength and effectiveness in the defence of private property rights, both physical and intellectual.

Property rights in Kenya are constitutionally protected, but the legal institutions to achieve this have been ineffective. Based on the IPRI, Kenya overall ranks 59 out of 70 nations (Appendix Table D12.12), both industrialized and developing, that represents 95 per cent of the world GDP. The country scores 2.3 on the legal and political environment, which is the lowest among its peers and benchmark countries. On the physical property rights index, it scores 4.5, which is slightly higher than Tanzania (3.4) and Egypt (3.3), but lower than benchmark Asian Tiger countries.

Lack of a legal framework in Kenya that would facilitate the use of movable property (like stock) as collateral impedes access to credit. It also raises the value of collateral to an average of 178 per cent of loan value compared to 87 per cent in China. Kenya has IPRI of 3.2, which is the lowest among its peer and benchmark countries. These low indices may be attributed to the presence of a high number of counterfeit products, generic drugs from Asian countries, and pirated foreign music and software in the local market. This points to the need to strengthen the legal framework for private property rights regime especially with regard to counterfeit goods, use of affordable assets as collateral and property registration.

There is an urgent need to improve the fundamental property rights systems in Kenya. Indeed, IPRI (2007) notes that any country with a rating below 6 should urgently improve on the fundamental property rights system; Kenya has a rating of 3.3. There is need to come up with rules and regulations to ensure that there is judicial independence, reduce significantly the level of corruption, promote registering of property and physical property rights protection, and protection of intellectual property rights including both copyright piracy and trademark protection. These rules and regulations should not only be formulated but also enforced as a matter of urgency.

12.4.3 Technology and innovation

Becoming globally competitive requires widespread technological effort, including learning and innovation. Technology enables an economy to produce quality products. It facilitates business operations, thus increasing value on production, which enhances growth. Kenya relies mostly on imported technology and, therefore, needs to engage in the process of learning and adapting these technologies to local conditions.

Adopting modern technology and innovation improves the firms' competitiveness. Domestic firms can upgrade their technological capacity by getting copyright license from foreign companies or through innovative aspects resulting from learning, research and development, foreign direct investment and latching onto global value chains.

The most commonly used indicators of domestic technological effort include the technology index (by the World Economic Forum),

usage of information and communications technology (ICT) and expenditure on research and development. The technology index and ranking, as a key component of global competitiveness, presented in Appendix Table D12.13 shows that Kenya (ranked 78 with an index of 3.11) is far behind the Asian Tigers. The situation seems to have worsened in 2007 when Kenya's ranking on technological readiness declined to 92 with an index of 2.76.[5] This means that in the Kenyan economy, there is little agility in adoption of the existing technology for enhancing productivity in the industries.

South Korea is second in technological readiness in the world with respect to broadband Internet subscribers, the number of Internet users, and in laws relating to ICT. Korea is also doing very well in the innovations with top-notch university industry collaboration buttressed by government focus on advanced technology in its procurement process. Taiwan, which ranked second in its innovation potential, draws much from its high level of patenting per capita.

Kenya's level of adopting foreign technology is low compared to peer countries such as Egypt, Uganda and Tanzania and to a majority of benchmarking countries. For local firms to use foreign technology, a networking framework (e.g. sub-contracting arrangement) should be put in place to act as a medium of technology transfer. Thus, the low percentage of firms using licensed technology from foreign firms suggests that cooperating arrangements between local and foreign firms are not in existence in Kenya and this development constrains Kenya's ability to benefit from technology advancement in other countries. Table 12.2 also illustrates that countries such as Malaysia and Korea have a high technology index when compared with Kenya. Incidentally, they are characterized by a high percentage of manufactured exports as a percentage of merchandise trade.

Table 12.2: Firms aspects relating to innovation and technology in selected countries

Country	% of firms with ISO Certificate	% of firms with annual financial statements reviewed by external auditor	% of firms using licensed technology from foreign companies	% of firms using web to communicate with clients/ suppliers	Technology Index 2006-07 based on survey responses ranging from 1-7
Egypt (2004)	11.95	82.50	8.83	18.20	3.32
Botswana (2005)	12.66	66.22	22.15	13.32	3.05
Kenya (2003)	-	97.23	8.29	32	3.11
Ghana (2007)	6.75	34.44	11.69	8.19	-
Mauritius (2005)	28.18	88.13	23.90	45.27	3.53
South Africa (2003)	42.40	96.97	22.55	70.81	3.62
Tanzania (2006)	14.69	51.45	14.73	16.30	2.96
Uganda (2006)	15.52	50.66	11.07	10.62	3.07
Brazil (2003)	19.14	19.08	7.50	73.14	3.62
Chile (2006)	21.97	46.53	12.25	61.18	4.02
Malaysia (2002)	31.43	91.97	-	28.57	4.31
Singapore	-	-	-	-	4.64
Thailand (2004)	44.63	97.98	-	34.44	-
South Korea (2005)	17.59	36.39	-	-	5.18
Indonesia (2003)	22.13	46.85	18.43	24.33	3.48
China (2003)	35.92	70.79	20.39	-	3.07
India (2006)	22.51	59.31	5.26	31.09	3.59

Source: World Bank (2007); World Economic Forum (2007)

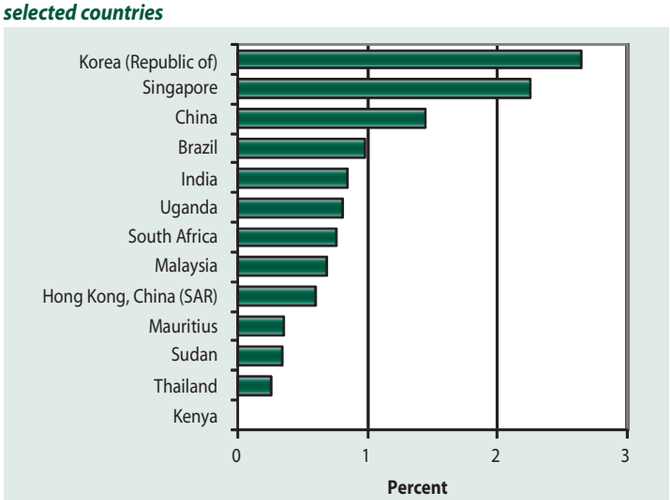
Information and communication technology

Improvements in information and communication technology (ICT) have transformed international commerce, social interactions, political relations and development issues. A review of three broad indicators (main telephone lines, Internet and broadband subscribers and mobile cellular subscribers) of ICT performance shows that Kenya's communications sub-sector is characterized by dynamism and improvement in existing facilities.

Kenya's expenditure on ICT is close to Africa's average. However, the country performs particularly poorly with respect to use of broadband relative to uptake levels in high performing Asian economies. While Kenya's enterprise broadband uptake was less than 1 per cent in 2007, the leading comparator countries have take-up rates of over 80 per cent.

The overall picture on ICT performance is mixed in terms of access but unfavourable in terms of the cost of local telephony and the quality of service (Appendix Table D12.14). Cellular/mobile telephony seems to act as a substitute for poor mainline density. Therefore, there is scope for improving the mainline density and introduce competition in the local provision of telephone services with attendant benefits of lower costs. The fault rate of calls is also very high, reflecting poor quality of service.

Figure 12.5: Research and development expenditure as % of GDP for selected countries



Source: UNDP (2007; 2008)

Research and development

Newly industrialized countries such as Korea, Taiwan and China used copying and reverse engineering to industrialize, but there is limited scope for such activities due to more strict intellectual property rights regimes today. Most of research and development (R&D) is conducted in the industrial countries. However, newly industrializing countries are increasing their shares considerably. Kenya is ranked 148 out of 154 in the Human Development Index on technology diffusion and creation, which is measured as expenditures on R&D as a percentage of GDP (Figure 12.5).

Public expenditure on R&D in key research institutions in Kenya indicates a declining trend. A KIPPRA study suggests that the expenditure has not been effective in improving growth in total factor productivity. The government does not provide significant funding for research and development in research institutions, including the universities and lacks a science, technology and innovation policy. Furthermore, there is lack of proper diffusion of R&D findings due to weak linkages with the private sector (Khainga, *et al*, forthcoming).

Going forward, the country will need to build data on R&D and use it to benchmark with comparator countries and those that Kenya aspires to catch up with; reform and strengthen R&D institutions, including improved linkages with the private sector; provide incentives to encourage enterprise R&D; and complete the national policy or strategy on science, technology and innovation. Kenya may also consider establishing technology parks or technology information centres as a way of supporting technology infusion, adoption and local adaptation by the private sector. The government could enhance productivity awareness through the involvement of worker organizations, Productivity Centre of Kenya and other relevant stakeholders.

12.4.4 Infrastructure development

Infrastructure bottlenecks constrain economic growth, competitiveness and poverty reduction.[6] The existence of high-quality infrastructure is critical in ensuring efficient functioning of the economy; it is an important factor in determining the location of economic activity and sectors that can develop in an economy. Private firms cannot operate efficiently in an economy where there is poor transport and communication infrastructure and insufficient power supply.

Kenya performs poorly in terms of physical infrastructure compared to the Asian Tigers (Appendix Table D12.15). It is ranked 93, with an index of 2.71, being only closer to Indonesia, which is ranked 91, but is very far from the rest–Singapore (3), Korea (16), Taiwan (20) and Malaysia (23). Nevertheless, it is marginally better off than its immediate neighbours, Tanzania (105) and Uganda (108). As with technology, this implies that Kenya has to address infrastructural constraints.

Kenya also compares unfavourably in terms of access to communication system (ranked 85), port and rail transport infrastructure (ranked 76), and electricity supply (ranked 100). However, as regards the quality of electricity supply, the country is better than Tanzania (118), Uganda (129) and India (106). Kenya has the least (ranked 8) telephone main lines per one thousand people among the selected countries. The only area where Kenya is doing relatively well is in air transport infrastructure where it is ranked 51 overall, although the Asian high performing economies are ahead. Singapore is the best globally.

The infrastructure sector is projected "to provide cost-effective world class...facilities and services in support of Vision 2030". The key indicators of performance of Kenya's infrastructure and public service delivery, and which illustrate the country's relative performance, are grouped under four headings, namely: (1) Growth and size, (2) Transport, (3) Energy infrastructure, and (4) Construction and housing.

Growth and Size

Reduction in public investment due to the difficult economic circumstances of the 1990s, coupled with economic stagnation and governance problems, saw a significant downward pressure on investment in Kenya's infrastructure. The country still ranks relatively poorly in terms of the level of infrastructure stock relative to national income.

However, the Economic Recovery Strategy (ERS) identified physical infrastructure as key in achieving rapid and sustainable development and reducing poverty. The infrastructure and economic services sector grew at the rate of 5.3 per cent in 2004 to 7.9 per cent in 2006 (Appendix Table D12.16). The growth is attributed to broad reforms by the government since 2003, which laid focus on increased power supply, improved infrastructure, favourable licensing and tax incentives, and public-private partnerships in financing.[7] The growth of infrastructure and economic services sector has been in tandem with overall growth of the Kenyan economy.

Transport infrastructure

Kenya as an anchor State in sub-Saharan Africa and in the East African region relies heavily on transport infrastructure and services for trade. A well-developed transport infrastructure reduces delivery times and cuts costs across the enterprise sector, promotes tourism and increases consumer choice. Similarly, reliable and competitively priced energy is critical for competitiveness.

The business community in the East African region ranks the country poorly in respect of transport (road, air and sea) and energy infrastructure. Urban centres such as Nairobi rank low in terms of quality of transport and average peak-hour speeds. Similarly, the business community views the operations at the Mombasa port as inefficient compared with international standards.

By 2005, Kenya had a road density (kilometres of road per 100 square kilometres of land) of 11, which is relatively better than Uganda (5),

Tanzania (9) and Botswana (4) as shown in Table 12.3). Better performing countries include South Africa (30), Malaysia (30), Mauritius (99), Korea (102), India (114) and Singapore (463). With regard to traffic density (motor vehicles per km of road), most countries have experienced an increase in congestion.

The rail traffic density in terms of passengers and freight per kilometre for Kenya in 2000 was 699 compared to that of Egypt (14,307), Ghana (1,778), South Africa (5,018), Tanzania (598), Tunisia (1,010) and Uganda (805). Asian countries have high densities–Thailand (3,341), China (30,263), India (11,725) and South Korea (12,456). Railway employee productivity in traffic units per employee for Kenya was 184 compared to Egypt (753), Ghana (376), South Africa (2,933) and Tunisia (341). Asia and Latin American countries have better performance–Brazil (3,970), Chile (2,162), Thailand (1,209), Argentina (660), China (1,155) and South Korea (1,323), (World Bank 2007, 2008).

Table 12.3: Road and motor vehicle traffic density for selected countries, 2004

Country	Road density		Traffic density (motor vehicle per km of road)		
	2004	2005	1990	2004	2005
Kenya	**11**	**11**	**5**	**10**	**10**
Tanzania	9	9	2	-	9
South Africa	30	30	26	24	16
Egypt	9	9	33	-	33
Tunisia	12	12	19	49	49
Ghana	21	25	4	-	9
Mauritius	99	99	35	79	79
Korea	102	104	60	145	151
Singapore	463	469	142	179	183
Indonesia	20	21	10	-	62
Malaysia	30	30	26	75	72
India	114	114	-	-	3
China	20	21	2	3	16
Chile	20	11	4	11	26
Brazil	21	21	8	18	18
Uganda	5	-	-	-	4
Argentina	15	8	27	37	-
Botswana	4	4	3	8	8
Thailand	-	-	11	36	11

Source: World Bank (2007, 2008)

Energy infrastructure

Per capita energy consumption

To transform Kenya's economy into a globally competitive nation with a high quality of life, as envisaged in Vision 2030, requires interventions to ensure a steady, predictable, quality and affordable supply of energy to all sectors. The importance of energy in an economy is gauged by energy consumption per capita, which measures not only accessibility, but also the level of economic activity in the country (Table 12.4).[8] The average value of the indicator for sub-Sahara Africa developing countries was estimated at 681 kilogrammes of oil equivalent (KOE) in 2005, far below the Asian countries. In the case of Kenya, the indicator dropped from 532 in 1990 to 484 KOE in 2005, suggesting sluggish economic performance, low levels of industrialization, and limited investments in new production facilities, and lack of energy diversification.

Kenya has three main sources of energy, namely wood fuel, petroleum and electricity. These sources account for 70 per cent, 21 per cent and 9 per cent, respectively, of total energy consumption. Renewable energy is also becoming important although it is insignificant in the overall energy mix; its component represents only 3.45 per cent, implying limited demand and/or production.

Wood fuel is the most important source of energy in Kenya. Over 80 per cent of households rely on biomass for their energy needs. In terms of consumption of solid biomass in tonnes of oil equivalent, Kenya has a very high intensity of biomass use of 12,219 tonnes of oil equivalent compared to other countries such as Singapore (0), Botswana (521) and Venezuela (541). Singapore is entirely a city-state and, therefore, its zero consumption of biomass is expected. Some of the countries with high consumption of biomass–in tonnes of oil equivalent–are China (217,695), Indonesia (45,785) and Brazil (44,011). However, these same countries have some of the highest forest covers in the world.

High biomass consumption can be detrimental to the environment if it is done in

Table 12.4: Per capita energy consumption across selected countries

Country	Per capita GNI(US$)				Per capita energy consumption (koe)			
	1971*	1990	2000*	2005	1971*	1990	2000*	2005
Kenya	127	510	350	523	116	532	90	484
Egypt	211	708	1,490	1370	213	578	726	841
South Africa	719	2,426	2,600	5,131	1,993	2,592	2,514	2,722
Zimbabwe	264	6,149	440	16,508	443	895	809	741
Malaysia	406	12567	3,380	25,172	435	1,288	2,126	2,389
Singapore	1,088	2,946	22,798	4,952	1,551	4,384	6,120	6,933
South Korea	298	808	9,010	171	507	2,178	4,119	4,426

* 1971 and 2000 are in Tonnes of Oil Equivalent (TOE)

Source: World Bank (2008)

an unsustainable manner. Presently, Kenya's average national forest cover is below 2 per cent and this is having a severe impact on the national water towers, which also form the basis of the country's hydropower generation. It further affects access to biomass for fuel and lighting purposes. It should be noted that Kenya has a low level of urban LPG utilization at 23 per cent compared to 90 per cent for Senegal, for example.

Petroleum energy, the main source of commercial liquid fuels, is used in the transport, commercial and industrial sectors. Kenya Petroleum Refineries, a government agency, is the main producer of liquid fuels by refining of imported crude oil. The country also makes direct imports of white refined products, which are then largely transported through a pipeline running from Mombasa to Kisumu and Eldoret. Private players, accounting for 99.4 per cent of market share, do the distribution of these products.

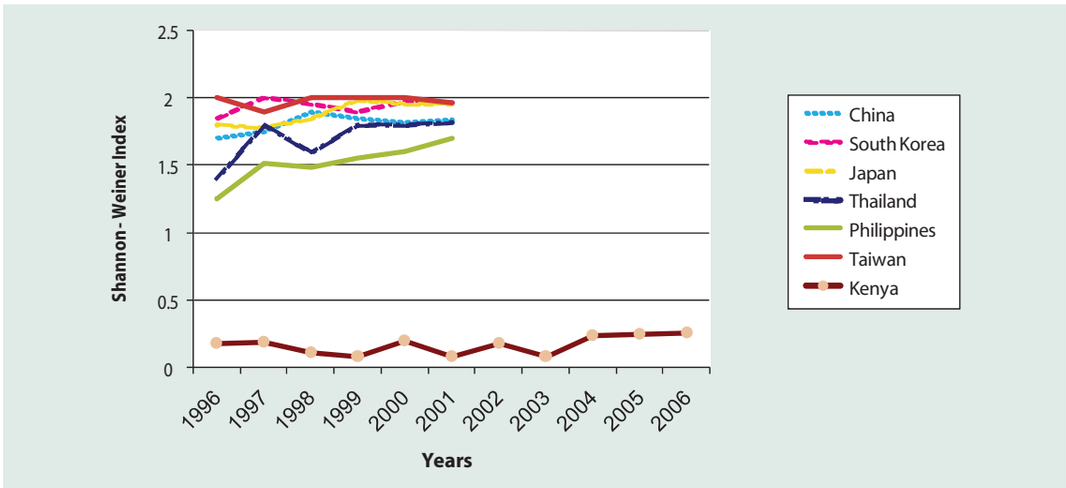
The major sources of electricity in Kenya are hydropower, geothermal and petro-thermal, with hydropower accounting for over 60 per cent of the generation mix. The key players in the power sector are Kenya Power and Lighting Company (KPLC), Kenya Electricity Generating Company (KenGen), Independent Power Producers (IPPs), Energy Regulatory Commission (ERC) and the Ministry of Energy. Currently, KenGen is spearheading efforts to increase electricity supply by encouraging micro hydros, cogeneration from industrial processes and through rehabilitation of hydro power dams. A Geothermal Development Company is soon to be established.

Oil supply security and diversification

The degree of crude supply security and import diversification for Kenya is relatively weak. In Figure 12.6, a close comparison can be made between Kenya and Philippines, whose SW index was lower than one in 1992 but achieved almost near total diversification by the year 2001 through crude supply diversity. Likewise, the import diversity for all the countries under comparison shows substantial changes. However, Kenya's diversity index still registered a low index of 0.56 by the year 2006, a mark that most countries had achieved and surpassed by 1990. Such low index level indicates a system that is not diversified (highly concentrated) and dependent on few sources of supply. To an extent, this can clearly threaten supply security in event of any sustained interruption (Roba *et al.,* 2009).

A few suppliers increasingly dominate oil supply in Kenya and are concentrated in the Gulf region. The supply pattern is characterized by single supplier who commands a huge share. In the period 2004 to 2007, the petroleum supplier countries reduced to two–Saudi Arabia and United Arab Emirates. The latter commands a share of over 75 per cent of total supply, in contrast with the Asian comparator

Figure 12.6: Crude oil import diversity for Kenya and six selected Asian countries–A Shanno-Weiner Approach



Source: Ssu-Li Chang and Yen-Yin Chen, (2002) and Roba et al (2008)

countries. Over the years, these countries have diversified, with a good number of them sourcing their supply from African countries such as Nigeria, Angola, Equatorial Guinea and Asian Pacific as well as from the Middle East countries. Their diversity is boosted by modern technology refineries that facilitate refining of high sulphur crude from some African producers. However, Kenya's ability to refine high sulphur crude is constrained by lack of desulphurization facility at the Kenya Petroleum Refineries plant in Mombasa.

Electricity access and average end-user prices

Electricity energy generation and supply is dominated by KenGen and KPLC. While the transmission and distribution of power is controlled by KPLC, the production has private players (Independent Power Producers - IPPs) in it through power sector reforms implemented since 1994. KenGen accounts for 82.1 per cent of total installed capacity, while the IPPs, imports and rural electrification projects account for 15.2 per cent, 2.4 per cent and 1 per cent, respectively.

Access to electricity in Kenya is very low. The electricity consumption per capita in 2004 of 143 kWh is low compared with other countries that were at the same level of development at independence, such as Malaysia (3,166), South Korea (7,391), Egypt (1,215) and Thailand (1,865) during the same year. Other countries in South America such as Brazil (1,970), Argentina and Chile have also performed better than Kenya. In Africa, South Africa, Egypt and Botswana have high electricity per capita. Other countries that have performed better include the US (12,235), China (769) and India (411). Overall, therefore, the picture is very unfavourable for Kenya.

Kenya's performance in terms of access to electricity is among the worst in the world, even compared with its own income group of countries (low-income), the African region or COMESA countries. The national access rate of about 15 per cent is below the average of 32 per cent for developing countries. Current electricity access in Mauritius, Singapore and South Korea is 100 per cent. Even countries that have very high populations, such as China, have about 99 per cent. In Africa, Egypt (95%), Tunisia (82%), South Africa (66%), Ghana (45%) and Botswana (22%) have also performed better than Kenya.

One mitigating factor is that it is costly to supply power to Kenyan households due to the scattered nature of settlements. Most of the countries with highest access have their households concentrated in villages or designated areas.

On electricity affordability, Kenya again has some of the highest prices in the world. For

instance, the cost of power is four times that of South Africa, the country's main competitor in the region, and more than thrice the power tariffs in China.

Furthermore, the high cost of electricity is compounded by irregular supply. On average, Kenyan firms lost 9.5 per cent of total output because of power outages and fluctuations. This loss excludes the loss from damaged equipment as a result of power fluctuations which, for some firms, averaged Ksh 1 million in 2001 (World Bank/KIPPRA, CSAE, 2004).

The two indicators combined–access and affordability–suggest that electricity services in Kenya serve only a small, privileged segment of the population and the economy cannot afford the high service prices. A related problem with energy is security of supply arising from uncertainties (both price and availability) of regular and continued supply of petroleum from the Middle East, changing weather patterns that affect hydro power production (the major source of electricity), and looming terrorist threats. The scope for improvement in electrification, access to the poor, competition and affordability is, therefore, substantial.

The rural electrification programme is particularly important considering the MDGs target of halving the share of rural and urban population without access to MDG compatible energy for lighting and heating. The rate of rural electricity penetration has been slow, with only 91,069 consumers having benefited from the programme as at 2004. However, with recent energy reforms, including establishment of a Rural Electrification Authority, expectations for improved rural access to electricity are high.[9]

New and renewable energy

Renewable energy resources include solar energy, windmills, power alcohol and biogas. Kenya has great potential for use of solar energy throughout the year because of its strategic location near the equator. On average, the country receives 4-6 kW/M^2/day of solar energy (or 1.54 billion tonnes of oil equivalent). Despite this potential, the contribution of solar to national energy supply is minimal, with only 1.2 per cent of households using it for lighting, water heating and to a smaller extent cooking.

At household level, where the potential for water heating and lighting is very high, there is limited use of solar power. The constraints to the development of solar energy include low quality solar panels and inadequate technical capacity for installation and maintenance. It is estimated that up to 4 MW of photovoltaic power is currently installed in Kenya.

The wind energy potential in Kenya is also high, but only 550 KW situated at Ngong and in Marsabit is currently installed. So far, these systems have performed relatively well, generating an estimated 1.6 GWh annually. The systems are convenient for rural electrification purposes and can play an important role in meeting energy needs of rural population that is off-grid system.

Production of biogas from abundant biomass material such as forestry and agro-industrial residues (including bagasse from the sugar industry) in rural and peri-urban areas presents a new possibility of diversifying rural energy supply sources. However, this remains largely under-exploited. For example, the total generation of bagasse stands at 1.8 million tonnes and only 56 per cent is used for electricity generation. There is substantial investment opportunity to expand electricity generation from bagasse to 300 MW of electricity. Only Mumias Sugar Company is implementing cogeneration of electricity using bagasse, while the other six sugar companies dispose of it.

In sum, the contribution of renewable energy sources (other than biomass) to the overall energy supply is insignificant despite efforts by the civil society to promote renewable energy technologies. The contribution, however, could be significant in the years ahead if appropriate strategies are put in place. Suitable financial schemes and awareness are necessary to unlock the potential in the renewable energy market currently served through imports. Developing modern biomass industry to supply bio-fuels and biogas for transportation, industrial use and home heating are a potential

for substitution of energy sources to check the increasing demands for petro-products in transportation and industry.

Key challenges and policy options for infrastructure development

The foregoing comparative analysis of infrastructure indicators from various sources reveals several deficiencies. Infrastructure service delivery is well below the expectations. The infrastructure shortfalls are likely to adversely affect the welfare of the poor and the cost competitiveness and growth prospects of economic sectors that depend critically on a stable and competitive supply of basic infrastructure service. Within the COMESA region, Kenya's infrastructure shortfalls are likely to constrain its regional economic integration in several areas that are important for long-term economic prosperity.

The comparison of Kenya's infrastructure performance provides policy makers with a useful guide to the areas of infrastructure performance that require urgent attention. Such areas include financing infrastructure development, strengthening institutional capacities, improving routine maintenance, addressing regional disparities in infrastructure access and use and development of renewable energy.

A number of challenges affect the deployment of the requisite physical infrastructure and the attendant services in Kenya. These include the following:

(a) *Finance and investment*: The increasing demand for physical infrastructure and associated economic services linking all parts of the country to the outside world calls for more resources to develop the required assets to increase access, lower costs and minimize environmental damage.

(b) *Inadequate supply of energy relative to demand*: There is a huge unmet demand for electricity. In 2000, this demand was approximately 25 per cent. There is also a biomass energy deficit, which in 2004 was estimated at 60 per cent.

(c) *Rural electrification*: Provision of electricity to rural areas is expensive to the government due to high cost of network extension and low consumer densities. In addition, funds are inadequate to finance capital investments in energy generation and transmission facilities.

(d) *Counterpart funding*: Provision of counterpart funding, where programmes are financed through donor funding, is inadequate.

(e) *Handling of donor funding*: Procurement and disbursement procedures for donor financed programmes is slow. However, donor conditionalities also pause a challenge in utilization of funds.

(f) *Destruction of infrastructure*: Several roads and bridges were destroyed during the January-March 2008 post-election violence. Reconstruction of the affected sections will be a priority in allocation of funds.

The above challenges, together with the weak budget-based financing in Kenya, call for increased financing of infrastructure projects through innovative public-private partnerships. Creation of a public-private framework will encourage infrastructure investment through innovative financing mechanisms such as bonds.

Recently, several institutions have been established as part of infrastructure sector reforms. These include the Kenya National Roads Authority, Kenya Rural Roads Authority, and Kenya Urban Roads Authority, established under the Kenya Roads Act 2007 to manage the entire road network in the country. Another one is the Geothermal Development Company. However, there is also need to address human resource capacity needs. The human resource capacity, particularly in technical departments such as Air Accident Investigation, and Shipping and Maritime, are not adequate. Furthermore, there is weak

institutional coordination and autonomy within and between government departments and infrastructure State-owned enterprises. For instance, currently there are several government departments dealing with issues of road safety.

In terms of access to infrastructure, there are disparities whereby Nairobi has the highest density of roads with 3.2km of road per square kilometre as compared to 0.1km for North Eastern, 0.2km in Eastern and 0.3km in Coast provinces. The inequalities in the availability of opportunities and services should be reduced as they pose a threat to national stability.

The main challenge for developing renewable energy is how to develop the unexploited potential for environmentally benign technologies (energy sources) such as biofuels (biodiesel), solar technology, biogas production and wind turbines. Key barriers to the realization of the opportunities include high cost of renewable energy technologies, which prevent entry into the sector; limited R&D on renewable energy products; limited skills for maintaining renewable energy plants; lack of limited experience by banks and financial institutions in financing renewable energy projects; and lack of standards on renewable energy supply systems and equipment. Clearly then, there is need to develop and promote renewable energy industry as a new growth pole capable of competing with manufacturing and supplying affordable products. The supply could be done by providing incentive schemes and comprehensive information on opportunities available for investment.

The government could consider the following interventions for the energy sector:

(a) Increase the spread and pace of rural electrification by updating plans and prioritizing those schemes that are co-funded through the Constituency Development Funds

(b) Focus on energy efficiency interventions, which will include but not be limited to implementing a nationwide programme to replace all incandescent bulbs with energy saving lamps on a priority basis. This should be augmented with a ban on energy devices that are not classified as energy saving. Alternatively, tax measures on such devices could be considered

(c) Promote biofuel products through mandatory fuel blending ratios

(d) Encourage cogeneration schemes such as those implemented by sugar milling companies. Another potential area would be to implement solid waste to energy schemes to deal with the solid waste and energy challenges. A key concern is the need to develop appropriate levels of feed-in tariffs

(e) Increase the uptake of modern energy forms by reducing the level of taxation on upfront costs for acquisition of equipment with a key target of promoting the sustainable management of exploitation of Kenya's already diminished forest resources

Construction and housing

Construction

The construction industry is an important building block in efforts to achieve sustainable growth and development. Traditionally, focus on infrastructure investment has been on the construction of physical facilities. However, research clearly shows that construction of infrastructure does not necessarily yield anticipated benefits. Efficient and effective operation of constructed facilities is a prerequisite, but a number of issues fundamentally undermine the contribution of the construction industry in development.

The role of the construction industry in the economy of a country can be assessed in a number of ways, which include construction as a component of overall economic activity, its contribution to national output and fixed capital formation, and its contribution to employment. These indicators serve as a means of assessing the performance of the industry at a macro level. Currently, the industry is unable to address the infrastructure demand placed on it.

The key challenges that the construction industry is facing include high cost of inputs; the poor manner in which the industry extracts materials from the environment; poor quality outputs, including the question of safety of buildings; training of personnel with a special focus on ensuring succession within the industry; and the poor policing and enforcement practices within the sector. Of critical importance is the poor utilization of technology, including innovative processes within the sector.

Housing

Kenya's population has grown faster than had been projected. It is expected to hit the 62 million mark by the year 2030 when over 60 per cent of this population will be urbanized. Within the existing urban areas, there is a clear shortage of adequate, quality housing as evidenced by the proliferation of slums and the dehumanizing living conditions within these informal settlements. Conservative estimates indicate that the country needs to build up to 150,000 housing units annually. Only 23 per cent of this demand is being met.

The shortfall is more acute among low-income households whose present demand is about 48 per cent of total new houses required. Currently, more than 80 per cent of new houses are for high and upper middle-income earners. Because more than 60 per cent of the Kenyan population is younger than 25 years, it is clear that the demand for adequate housing will rise steadily as those aged 20 and below reach adulthood and start family life.

The major policy challenge in respect of housing is the need to raise the volume of housing that is being produced rapidly, while at the same time improving the quality of existing units. To do so, the major challenges revolve around:

- Increasing the volume of funding directed towards low and middle-income housing;
- Reducing the cost of housing construction;
- Increasing the speed of deploying housing projects; and
- Reviewing the regulatory framework to allow for new and innovative technologies for faster and cheaper housing construction.

In order to ensure that the construction industry delivers physical infrastructure and quality housing in a timely and cost-effective manner, the priority in the sector is to develop and implement a comprehensive construction industry development policy. This policy will leverage the construction industry as the premier agent for development and management of Kenya's infrastructure. The policy should, among other things:

- Clarify and delimit the outlines of the construction industry;
- Define construction industry professionals and rationalize training and certification across the industry, including facilitating a review of existing statutes;
- Integrate skills development within the industry and across all cadres;
- Facilitate integration of the construction industry, targeting at improved performance in terms of cost, time and quality; and
- Reengineering construction industry procedures and processes, including planning and approval procedures.

In the short run, it will be necessary to use the services of foreign construction companies. However, these must collaborate with local small and medium-scale domestic contractors. The specific goal will be to enhance building and civil engineering capacities that will be available to undertake larger work that will come onstream in the medium to longer term. Further, a comprehensive and upscaled skills development programme focusing on lower cadres needs to be prioritized.

12.5 Conclusion

While it is clear that competitiveness is an important ingredient for welfare improvement, the challenge of enhancing it is also enormous. It requires a multifaceted approach. In the Kenyan context, the key interventions necessary for improving competitiveness should focus on enhancing productivity of the various inputs and processes involved in the economic production processes. Based on the foregoing analysis, enhancement of total factor productivity will need interventions in respect of the microeconomic environment and the quality of infrastructure.

In respect of the business environment, the country faces the challenge of enhancing macroeconomic stability, especially with regard to lowering overall inflation. Further, despite Kenya being identified as one of the top 10 reformers that are making it easier to do business, more concerted effort is required to elevate it to a middle level economy.

Although the labour force is relatively well educated, skills upgrading and addressing of the mismatch between skills development and labour market demands is critical. It is also important to link wage increases to productivity performance. To ensure the larger proportion of un-banked population accesses affordable financial services, there is need to revamp other non-traditional financial service providers such as savings and credit cooperative societies, and micro finance institutions.

The post-election violence in early 2008 revealed that political stability and national cohesion are weak. This increases the political risk. Following the violence, Kenya's international sovereign rating was downgraded. In order to increase investors' access to loans, there is need to promote the venture capital concept. In addition, to address the credit information asymmetry between the lenders and borrowers, there is urgent need to establish a public credit information bureau to complement the work of the private credit bureau. The ultimate goal should be a situation where one can obtain a bank loan with only a good business plan and no collateral.

To enhance development cooperation between the government and other non-State actors, the government should fast track public-private partnerships to enhance their ability to mobilize capital for investment, for example in large infrastructure projects. There is also need to fast track the operationalization of public-private partnerships framework.

Kenya's infrastructure base needs to be modernized and increased. To do so, the volume of funding that is directed towards the sector needs to be enhanced primarily through two main mechanisms. First, through increased application of public-private partnerships and second, through enhanced efficiency in the infrastructure delivery processes. A key intervention in this regard is the development of comprehensive integrated strategic spatial plans. These plans are essential to ensure and optimize the deployment of infrastructure, both for social and economic purposes.

Kenya can learn from the East Asian countries, where rapid achievement of MDG targets has been done through effective reforms in several areas of the economy, including integration of land use and infrastructure planning. The focus on reducing the cost of constructing infrastructure in Kenya is important in maximizing the output from the funds available. In this regard, governance of the construction industry, application of innovative technologies, materials and regulatory frameworks will greatly facilitate meeting the infrastructural demand within the limited resources available. The country should consider using the cluster development strategy as an economic tool for enhancing competitiveness as is the case in many countries.

End notes

[1] Institutions refer to the formal rules, laws and regulations and the informal norms and values that define interactions in the production relationships in a society. It also includes organizations, both public and private, set-up to achieve certain objectives.

[2] The highest GDI is 1 implying no inequalities between men and women in human development.

[3] Is a composite index of relative biodiversity potential for each country based on the species represented in each country, their threat status, and the diversity of habitat types in each country. The Index is normalized so that values run between 0 (no biodiversity potential) to 100 (maximum biodiversity potential).

[4] In early 2008, the ethnic tension in Kenya was high due to disputes in the December 2007 General Elections results

[5] In 2007/8, the GCI technology index was renamed technological readiness.

[6] The level of infrastructure in a country affects competitiveness and performance in a number of ways. Well-developed infrastructure can reduce traffic congestion, increase productivity and reduce costs. This not only affects existing firms, but also affects a country's attractiveness as an investment location and general quality of life.

[7] Economic Recovery Strategy (ERS) 2003-2007.

[8] The UN Millennium Development Projects have established that there is need to improve access to energy services as essential input for meeting each MDG, and warns that without increased investment into the energy sector, the goals may not be achieved in developing countries. The World Bank estimates that about 2 billion people, living in developing countries, still rely on non-modern energy resources such as wood, dung, and agro residues for cooking, agro-processing and heating. Meeting energy needs of the population without access to energy should be prioritized through appropriate policies targeting energy segments that remain unexploited.

Enactment and implementation of an Energy Policy (Sessional Paper No. 4 of 2004) and Energy Act 2006, and establishment of the Energy Regulatory Commission (ERC), Rural Electrification Authority (REA) and an Energy Tribunal in 2007 have improved the legal, policy and regulatory framework for the energy sector in Kenya.

References

Chapter 1

Barnett, Steven and Ray Brooks (2006), What's Driving Investment in China? IMF Working Paper No. 06/265, available at *http://ssrn.com/abstract=956728*.

Government of Kenya (2003), Economic Recovery Strategy for Wealth and Employment Creation, Nairobi: Government Printer.

Government of Kenya (various), Economic Survey, Nairobi: Government Printer.

Government of Kenya (various), Statistical Abstract, Nairobi: Government Printer.

Ketkars and Ratha (2007), Development Finance via Diaspora Bonds: Track Record and Potential", available at *http://sitesources.worldbank.org/INTROSPECTS/RESOURCES*.

Ministry of Finance (2007), Quarterly Budget Review 2006/07, Nairobi: Ministry of Finance.

UNCTAD (2005), Investment Policy Review: Kenya.

UNCTAD (2007), World Investment Report: Transnational Corporations, Extractive Industries and Development, New York and Geneva: United Nations.

World Bank (2007), International Financial Statistics 2008, Washington DC: World Bank.

World Bank (2007), Challenges of African Growth: Opportunities Constraints and Strategic Directions, Washington DC: World Bank.

World Bank (2008), International Financial Statistics, Washington DC: World Bank.

Onjala (2002), Total Factor Productivity in Kenya: The Links with Trade Policy, AERC Paper 118.

Chapter 2

Government of Kenya (2008), Economic Survey, Nairobi: Government Printer.

IP-ERSWEC (2003), Investment Programme of the Economic Recovery Strategy for Wealth and Employment Creation 2003-2007, Nairobi: Ministry of Planning and National Development.

Kaufmann (2007), Governance Matters VI: Governance Indicators for 1996-2006.

Kobia, M. and Mohammed N. (2006), "The Kenyan Experience with Performance Contracting". A Paper Presented at the African Association for Public Administration and Management, 28th AAPAM Annual Roundtable Conference, Arusha, Tanzania 4-8 December 2006.

World Bank (2007), World Development Indicators 2007, Washington DC: World Bank.

Chapter 3

Brain Drain in Africa (undated), Facts and Figures, available at: *http: www//web.ncf.ca/cp129/factsandfigures.pdf* accessed 15052008.

Central Bureau of Statistics–CBS (2003), Kenya Demographic and Health Survey (KDHS), Nairobi, Kenya.

Government of Kenya (2001), Health Management Information Systems: Report for the 1996 to 1999 period, Nairobi: Ministry of Health. Nairobi.

Government of Kenya (2007a), Economic Survey 2007, Nairobi: Government Printer.

Government of Kenya (2007b), Kenya Integrated Household Budget Survey (KHIBS): Basic Report 2005/06, Nairobi: Kenya National Bureau of Statistics.

Government of Kenya (2007c), Kenya National Literacy Survey (unpublished).

Government of Kenya (2007d), Statistical Abstract, Nairobi: Government Printer.

Government of Kenya (undated), Education Statistical Booklet 1999-2004, Nairobi: Ministry of Education.

Government of Kenya (various), Appropriation Accounts, Nairobi: Government Printer.

International Labour Organization - ILO (2008), Global Employment Trends, Geneva: ILO.

Ministry of Education (2007), Education Sector Report: Achieving Targeted Results through Efficient Public Spending, Nairobi: Ministry of Education.

Ministry of Health (2007), Facts and Figures at a Glance: Health and Health Related Indicators 2006, Nairobi: Division of Policy and Planning, Ministry of Health.

National AIDS Control Council (NACC) and National AIDS and STD Control Programme - (NASCOP)(2007), National HIV Prevalence in Kenya, Nairobi, Kenya June 2007.

National Aids Control Council- NACC (2007), HIV and AIDS Situation in Kenya Based on Facts and Figures for 2006, available at *http://www.nacc.or.ke/2007/images/downloads/national_prevalence _2006*.

SaaVedra J. (2002), Education Financing in Developing Countries: Levels and Sources of Funds. Prepared for the World Bank Institute Core Courses on Strategic Choices for Education Reform.

UNDP (2006), Kenya National Human Development Report: Human Security and Human Development: A Deliberate Choice. UNDP, Kenya.

UNDP (2007), Human Development Report (2007), Fighting Climate Change: Human Solidarity in a Divided World, New York: United Nations Development Programme.

UNDP (2007), Kenya Human Development Report, UNDP, Kenya.

UNDP) (2004), Human Development Report. Culture, Liberty in Today's Diverse World, New York: United Nations Development Programme.

UNDP) (2005), Human Development Report. International Cooperation at a Crossroads: Aid, Trade and Security in an Equal World, New York: United Nations Development Programme.

UNDP) (2006), Human Development Report. Beyond Scarcity: Power, Poverty and the Global Water Crisis, New York: United Nations Development Programme.

UNICEF (2005), The State of the World's Children 2005: Childhood Under Threat, UNICEF.

World Bank (2001), World Bank Health-Nutrition-Population. Available at *www.worldbank.org/hnp*.

World Bank (2004), World Development Indicators 2004, Washington DC: World Bank.

World Bank (2006), World Development Report, Washington DC: World Bank.

World Bank (2007), World Development Indicators 2007. Washington DC: World Bank.

Chapter 4

Government of Kenya (1994), Welfare Monitoring Survey I, Nairobi, Kenya.

Government of Kenya (1997), Welfare Monitoring Survey II, Nairobi, Kenya.

Government of Kenya (2005), Kenya Integrated Household Budget Survey (KIHBS), Nairobi: Ministry of Planning and National Development.

Government of Kenya (various), Statistical Abstract, Nairobi: Government Printer.

IFPRI (2006), "*The Challenge of Hunger", in Global Hunger Index: Facts, Determinants and Trends*. Washington DC: International Food Policy Research Institute.

KIPPRA Agricultural Data Compendium, Nairobi: Kenya Institute for Public Policy Research and Analysis

Ministry of Finance (various), Budget Estimates, Nairobi: Ministry of Finance

Odhiambo, W., Nyangito H. O and Nzuma J. (2004), *Sources and Determinants of Agricultural Productivity in Kenya: A Review of Approaches*. KIPPRA Discussion Paper No. 34, Nairobi: Kenya Institute for Public Policy Research and Analysis.

Chapter 5

Government of Kenya (2007a), Statistical Abstract, Nairobi: Government Printer.

Government of Kenya (2007b), Economic Survey, Nairobi: Government Printer.

Kenya Association of Manufacturers-KAM (2006), Survey of the Manufacturing Sector in Kenya, Nairobi: Kenya Association of Manufacturers.

World Bank/KIPPRA, CSAE (2004), Regional Programme on Enterprise Development (RPED). Investment Climate Assessment: Assessing the Competitiveness of Kenya's Manufacturing Sector: The Role of the Investment Climate.

World Bank (2005), World Development Indicators 2005, Washington DC: World Bank.

World Bank (2006), World Development Indicators 2006, Washington DC: World Bank.

Chapter 6

Central Bureau of Standards (CBS), International Centre for Economic Growth (ICEG) and K-REP (1999), National MSEs Baseline Survey, Nairobi: Government Printer.

Government of Kenya (2005), Sessional Paper No. 2 of 2005 on Development of Micro and Small Enterprises for Wealth and Employment Creation for poverty Reduction. Nairobi: Government Printer.

Government of Kenya (2006), Economic Survey, Nairobi: Government Printer.

Government of Kenya (2007a), Economic Survey, Nairobi: Government Printer.

Government of Kenya (2007b), Statistical Abstract, Nairobi: Government Printer.

Kenya Association of Manufacturers-KAM (2006), Survey of the Manufacturing Sector in Kenya, Nairobi: Kenya Association of Manufacturers.

World Bank/KIPPRA, CSAE (2004), Regional Programme on Enterprise Development (RPED). Investment Climate Assessment: Assessing the Competitiveness of Kenya's Manufacturing Sector: The Role of the Investment Climate, Washington DC: World Bank.

Chapter 7

Daniela Marconi and Valeria (2008), Comparative Advantage Patterns and Domestic Determinants in Emerging countries.

Government of Kenya (2005), Statistical Abstract, Nairobi: Government Printer.

Government of Kenya (2006), Statistical Abstract, Nairobi: Government Printer.

Government of Kenya (2007), Economic Survey, Nairobi: Government Printer.

Government of Kenya (2008), Economic Survey, Nairobi: Government Printer.

Government of Kenya (2008), Kenya Vision 2030: A Globally Competitive and Prosperous Kenya, Nairobi: Ministry of Planning, National Development and Vision 2030.

Government of Kenya (2008), Statistical Abstract, Nairobi: Government Printer.

Government of Kenya/International Trade Centre-ITC (2007), Trade Map 2007

Joreen Hinloopen and Charles Van Marrrewijk (2000), On the Empirical Distribution of Balassa Index.

World Trade Organization (2008), World Trade Organization Database.

WTO (2007), World Trade Organization Statistics.

WTO (2008), World Government Indicators.

Chapter 8

Department of Environmental Affairs and Tourism (DEAT), Department of Trade and Industry and Southern African Tourism (2005), Global Competitiveness Programme for the Tourism Industry in South Africa 2005-2010.

Douglas-Hamilton I, (1989), Identification Study for the Conservation and Sustainable Use of the Kenyan Portion of the Mara-Serengeti Ecosystem. A Report to the European Development Fund of the European Economic Community, Nairobi, Kenya.

Emerton, L. (1998), Using Economics for Biodiversity Strategies and Action Plans in Eastern Africa. IUCN.

Government of Kenya (2005), Kenya Integrated Household Budget Survey (KIHBS), Nairobi: Ministry of Planning and National Development.

Ikiara, M.M. (2001a), *Vision and Long Term Development Strategy for Kenya's Tourism Industry*. KIPPRA Discussion Paper No. 7, Nairobi: Kenya Institute for Public Policy Research and Analysis.

Ikiara, M.M. (2001b), *Policy Framework of Kenya's Tourism Sector since Independence and Emerging Policy Concerns*. KIPPRA Discussion Paper No. 2, Nairobi: Kenya Institute for Public Policy Research and Analysis.

Ikiara, M. and Oketch, C. (2002), *Impact of Tourism on Environment in Kenya: Status and Policy*. KIPPRA Discussion Paper No. 19, Nairobi: Kenya Institute for Public Policy Research and Analysis.

Ikiara, M. M., S. M. Mwakubo, R. Gichira and P. Njiraini (2007), Development Impact of Foreign Direct Investment in Tourism. A Research Report Submitted to UNCTAD.

Norton-Griffiths, M. and Southley C. (1995), "The Opportunity Costs of Biodiversity Conservation in Kenya", In: *Ecological Economics* 12(2), 1995 p 125-139, University of Kent, UK.

Tourism and Transport Consult International - TTI (1998), Impact of Tourism on the Economy of Kenya 1996. Final Report.

Waithaka J. (2004), "Maasai Mara: An Ecosystem Under Siege". An African Case Study on the Societal Dimension of Rangeland Conservation. *African Journal of Range and Forage Science*, 21(2) 2004, 79-88.

World Economic Forum (2007), The Travel and Tourism Competitiveness Report: Furthering the Process of Economic Development, Geneva: World Economic Forum.

World Economic Forum (2008), The Travel and Tourism Competitiveness Report: Balancing Economic Development and Environmental Sustainability, Geneva: World Economic Forum.

World Tourism Organization (2007), Structures and Budgets of National Tourism Organizations, Madrid.

World Tourism Organization (2006), Structures and Budgets of National Tourism Organizations, Madrid.

World Trade and Tourism Council (2007), Tourism Satellite Account (2007).

Chapter 9

Capital Markets Authority (2006), Annual Report, Nairobi: Capital Markets Authority.

Capital Markets Authority (2007), Annual Report, Nairobi: Capital Markets Authority.

Central Bank of Kenya (2006), Supervision Annual Report, Nairobi: Central Bank of Kenya

Central Bank of Kenya (2007), Supervision Annual Report, Nairobi: Central Bank of Kenya

Central Bank of Kenya (various), Statistical Bulletins, Nairobi: Central Bank of Kenya.

Financial Sector Deepening Kenya (2007)

Government of Kenya (2008), Economic Survey, Nairobi: Government Printer.

NSE (2007), Nairobi Stock Kenya.

World Bank (2007), World Development Indicators.

World Bank (2008), World Development Indicators.

Chapter 10

ECOWEB (2006). *http://www.propoortourism-kenya.org/ecoweb.htm*

Gachanja, Michael (2003), Forest Law Enforcement and Governance: The Case of Kenya. Prepared for the Regional Workshop on the African Forest Law Enforcement and Governance (AFLEG) process, 24-25 February 2003, Nairobi, Kenya.

Government of Kenya (2004). Statistical Abstract, Nairobi: Government Printer.

Government of Kenya (2005a), Kenya Integrated Household Budget Survey (KIHBS), Nairobi: Ministry of Planning and National Development.

Government of Kenya (2005b). Statistical Abstract, Nairobi: Government Printer.

Government of Kenya (2006), Strategic Plan of the Ministry of Environment and Natural Resources, Nairobi: Ministry of Environment and Natural Resources.

Government of Kenya (2008) , Economic Survey, Nairobi: Government Printer.

Government of Kenya (2005b). Statistical Abstract, Nairobi: Government Printer.

Government of Kenya (2008). Statistical Abstract, Nairobi: Government Printer.

Government of Kenya/Ministry of Environment and Natural Resources (2002). First National Communication of Kenya to the Conference of the Parties to the United Nations Framework Convention on Climate Change. Nairobi: Ministry of Environment and Natural Resources.

Ikiara, M. M. and C. Oketch (2002), Impact of Tourism on Environment: Status and Policy. KIPPRA Discussion No. 19, Nairobi: Kenya Institute for Public Policy Research and Research.

Institute of Economic Affairs - IEA (2007), A Rapid Assessment of Kenya's Water, Sanitation and Sewerage Framework. Nairobi: Institute of Economic Affairs.

Kabubo-Mariara, J. & F. K. Karanja (2006). The Economic Impact of Climate Change on Kenyan Crop Agriculture: A Ricardian Approach. SEEPA Discussion Paper No. 12.

Kenya Land Alliance (KLA) and Federation of Women Lawyers (FIDA)-Kenya (2006), Women, Land and Property Rights and the Land Reforms in Kenya, Nairobi: Kenya Land Alliance.

Obunde Paul O., Omiti John M. and Anne N. Sirengo (2005), Policy Dimensions in Human-Wildlife Conflicts in Kenya: Evidence from Laikipia and Nyandarua Districts. Discussion Paper No. 065, Nairobi: Institute of Policy Analysis and Research (IPAR).

Olukoye, G. A. (2003), "Natural Resource-use Conflicts and Management among the Gabra of North Horr Division, Northern Kenya". *Egerton Journal*, 4 (2&3): 99-109.

Society for International Development-SID (2004), Pulling Apart: Facts and Figures on Inequality in Kenya, Nairobi: Society for International Development.

UNEP (2007), Kenya: Atlas of Our Changing Environment. Division of Early Warning and Assessment (DEWA), Nairobi: United Nations Environment Programme.

Were, E., B. Swallow and J. Roy (2006). Water, Women, and Local Social Organization in the Western Kenya Highlands. CAPRI Working Paper, No. 51, July.

World Bank (2007), World Development Indicators, Washington DC: World Bank.

World Resources Institute; Department of Resource Surveys and Remote Sensing; Ministry of Environment and Natural Resources, Kenya; Central Bureau of Statistics, Ministry of Planning and National Development, Kenya; and International Livestock Research Institute (2007), Nature's

Benefits in Kenya: An Atlas of Ecosystems and Human Well-Being. Washington DC and Nairobi: World Resources Institute.

Chapter 11

Government of Kenya (2005), Kenya Integrated Household Budget Survey (KIHBS), Nairobi: Ministry of Planning and National Development.

Government of Kenya (2006), Analytical Report on Revised Population Projections for Kenya.

Government of Kenya (2008), Economic Survey, Nairobi: Government Printer.

IFPRI/KIPPRA (year), Rural Investment to Accelerate Growth and Poverty Reduction in Kenya. IFPRI Discussion Paper 00723.

Joseph Bonyo (2008), Tourism Marketers Betting Big on TV Ads: Kenya Tourism Board to Soon Launch Major Campaign for the Country on CNN and other International Television Stations, *Daily Nation*, Tuesday 6 May 2008, Smart Company 5.

Mureithi Francis (2008), Tourism Earnings May Drop 23 Per cent this Year, *Daily Nation* 19 April 2008, p23.

Thurlow, Kiringai and Gautam (2007), "Rural Investment to Accelerate Growth and Poverty Reduction in Kenya", IFPRI Discussion Paper 00723.

Ticole, C. (2008), "Links between Rural and Urban Development in Africa and Asia". Background Paper for the United Nations Expert Group Meeting on Population Distribution, Urbanization, Internal Migration and Development. New York: Population Division, Department of Economic and Social Affairs, United Nations Secretariat, 21-23 January 2008.

Tiffen, M. (2003), "Transition in sub-Saharan Africa: Agriculture, Urbanization and Income Growth", *World Development* Vol. 31, No. 8: pp.1343-1366.

Chapter 12

Government of Kenya (2003), Report of the Sector Review and Development, Nairobi: Ministry of Education, Science and Technology.

Government of Kenya (undated), Education Statistical Booklets, 1994-2004, Nairobi: Ministry of Education.

Government of Kenya (various), Economic Survey, Nairobi: Government Printer.

ILO (1999), ILO Key Indicators of Labour Market-KILM 18.

Khainga, D. (forthcoming)

Linda (1998), Jobs, Technology and Skills Requirements in a Globalized Economy: Country Study on Singapore, Geneva: Education and Training Development, ILO.

Oduor, J. and Khainga, D. (forthcoming) Total Factor Productivity and Economic Policy in Kenya, Nairobi: Kenya Institute for Public Policy Research and Analysis.

Roba G. M (2008), Assessing Kenya's Oil Vulnerability, KIPPRA Discussion Paper No. 92, Nairobi: Kenya Institute for Public Policy Research and Analysis.

UNIDO (2004), Industrial Development Report

UNDP (2005), Human Development Report 2005, New York: United Nations Development Programme.

UNDP (2006), Human Development Report 2005, New York: United Nations Development Programme.

UNCTAD (2005), World Investment Report, UNDP.

World Bank (2007), Investment Climate Assessment Report.

World Bank/KIPPRA, CSAE (2004), Regional Programme on Enterprise Development (RPED). Investment Climate Assessment: Assessing the Competitiveness of Kenya's Manufacturing Sector: The Role of the Investment Climate.

World Economic Forum (2007)

World Economic Forum (2008)

APPENDIX

Table A2.1: Cross country fiscal indicators

Country	Revenue % GDP		Expenditure % GDP		Fiscal deficit cash	
	1995	2005	1995	2005	1995	2005
AFRICA						
Kenya	**21.6**	**19.9**	**25.9**	**20.7**	**- 5.1**	**- 1.5**
Uganda	10.6	12.1	-	22.8	-	- 3.8
Egypt	25.9	19.5	23.8	22.6	- 1.1	- 5.7
Ghana	7.0	23.8	-	20.9	-	- 2.9
South Africa	-	30.2	-	29.6	-	0.2
Botswana	40.5	-	30.4	-	4.9	-
Mauritius	21.6	21.1	19.9	20.9	- 1.3	- 2.1
Tunisia	30.0	29.7	28.4	29.5	- 2.5	- 3.0
ASIA						
Thailand	-	21.0	-	16.3	-	2.5
Malaysia	24.4	23.7	17.2	20.1	2.4	- 4.3
India	12.3	12.5	14.5	15.8	- 2.2	- 3.6
China	5.4	9.5	-	11.1	-	- 2.1
Indonesia	17.7	18.5	9.7	17.0	3.0	- 1.1
Korea	17.8	23.4	14.3	21.4	2.4	0.8
Singapore	26.7	20.1	12.4	15.4	19.8	4.1
LATIN AMERICA						
Chile	-	24.4	-	18.7	-	- 2.1
Brazil	26.9	-	32.9	-	- 2.7	-
Argentina	-	18.1	-	18.3	-	- 1.0

Source: World Bank (2007), World Development Indicators

Table A3.1: Population dynamics

	Total population, millions, 2005	Average annual population growth rate (%), 1990-2005	Population age composition, %, 2005			Dependency ratio (dependants as proportion of working-age population), 2005	
AFRICA			**Ages 0-14**	**Ages 15-64**	**Ages 65+**	**Young**	**Old**
Botswana	1.8	1.4	37.6	59.0	3.3	0.6	0.1
Egypt	74.0	1.9	33.6	61.7	4.8	0.5	0.1
Ghana	22.1	2.4	39.0	57.3	3.7	0.2	0.3
Kenya	**34.3**	**2.9**	**42.8**	**54.4**	**2.8**	**0.8**	**0.1**
Mauritius	1.2	1.1	24.6	68.8	6.6	0.4	0.1
S. Africa	46.9	1.9	32.6	63.1	4.2	0.5	0.1
Tanzania	38.3	2.5	42.6	54.2	3.2	0.8	0.1
Tunisia	10.0	1.4	25.9	67.8	6.3	0.4	0.1
Uganda	28.8	3.2	50.5	47.1	2.1	1.1	0.1
EAST ASIA							
China	1,304.5	0.9	21.4	71.0	7.6	0.3	0.1
India	1,094.6	1.7	32.1	62.7	5.3	0.5	0.1
Indonesia	220.6	1.4	28.3	66.2	5.5	0.4	0.1
Korea, Dem. Rep.	22.5	0.9	25.0	68.2	6.8	0.4	0.1
Korea, Rep.	48.3	0.8	18.6	72.0	9.4	0.3	0.1
Malaysia	25.3	2.3	32.4	63.0	4.6	0.5	0.1
Singapore	4.3	2.4	19.5	72.0	8.5	0.3	0.1
Thailand	64.2	1.1	23.8	69.1	7.1	0.3	0.1
LATIN AMERICA							
Argentina	38.7	1.2	26.4	63.4	10.2	0.4	0.2
Brazil	186.4	1.5	27.9	66.0	6.1	0.4	0.1
Chile	16.3	1.4	24.9	67.0	8.1	0.4	0.1

Source: World Bank (2007), World Development Indicators

Table A3.2: Labour force structure

Region	Labour force participation rate, 2005		Labour force			
	% ages 15-64		Millions, 2005	Ages 15 and older av. annual % growth	Female % of labour force	
	Male	**Female**	**2005**	**1990-2005**	**1990**	**2005**
AFRICA						
Botswana	68.2	46.7	0.6	1.2	45.2	41.8
Egypt	76.9	21.6	22.9	2.1	26.3	21.7
Ghana	75.7	71.8	9.8	2.5	48.9	48.0
Kenya	**89.6**	**71.3**	**15.5**	**3.0**	**46.0**	**43.8**
Mauritius	84.1	46.9	0.6	1.4	33.9	35.7
South Africa	81.9	49.3	19.6	2.1	41.6	38.2
Tanzania	90.7	88.2	19.3	2.7	50.2	49.4
Tunisia	78.4	31.1	3.8	3.0	21.5	27.6
Uganda	87.3	81.2	11.9	2.8	47.5	48.3
EAST ASIA						
China	87.8	75.8	776	1.2	44.8	44.5
India	84.3	36.0	435	1.7	29.9	28.4

Indonesia	87.1	53.0	107.2	2.4	38.4	37.9
Korea, Dem. Rep.	80.4	49.9	10.7	0.6	39.3	38.7
Korea, Rep.	77.3	54.2	24.4	1.6	39.3	40.8
Malaysia	83.7	48.1	11.0	2.9	34.8	35.8
Singapore	82.8	56.7	2.2	2.4	38.8	39.9
Thailand	84.5	71.0	35.7	1.1	46.6	46.2
LATIN AMERICA						
Argentina	82.4	61.1	18.4	2.3	34.4	42.9
Brazil	83.6	61.0	91.3	2.5	35.0	42.9
Chile	76.0	40.9	6.5	1.8	30.5	35.1

Source: World Bank (2007), World Development Indicators

Table A3.3: Selected labour market indicators

Employment (millions)	2002	2003	2004	2005	2006
Labour force					14.6
Unemployment rate (KIHBS 2005/6)		n.a	n.a	n.a	12.7
Employment growth	1.3	1.6	2.1	2.5	2.8
Growth rates (%)					
Formal sector employment	1.3	1.6	2.2	2.5	2.8
Informal sector employment	9.4	8.6	8.0	6.7	6.5
Real wage rate (private)	1.9	1.6	11.4	5.5	4.4
Real wage rate (public)	7.6	-3.9	7.8	-4.2	0.6
Working poor rate (< US$ 1)			32.6	33	
Labour productivity	-1.4	1.3	2.4	2.0	1.9

Source: Kenya National Bureau of Statistics, and ILO (2007), Africa Employment Report

Table A3.4: Employment by sectors, 2000-2005

Region	Agriculture		Industry		Services	
	Male	Female	Male	Female	Male	Female
	% of male employment	% of female employment	% of male employment	% of female employment	% of male employment	% of female employment
AFRICA						
Botswana	26	19	29	13	43	58
Egypt	28	39	23	6	49	55
Ghana	60	50	14	15	27	36
Kenya	**19***	**20***	**23***	**9***	**58***	**71***
Mauritius	11	9	34	29	55	62
S. Africa	13	7	33	14	54	79
Tanzania	80	84	4	1	16	15
Uganda	60	77	11	5	28	17
EAST ASIA						
Indonesia	43	45	20	15	37	40
Korea, Rep.	7	9	34	17	59	74
Malaysia	16	11	35	27	49	62
Singapore	0	0	36	21	63	79
Thailand	44	41	22	19	34	41

LATIN AMERICA						
Argentina	2	1	33	11	66	88
Brazil	25	16	27	13	48	71
Chile	17	6	29	12	54	83

*Note: * indicates the data is for 1990-92.*

Source: World Bank (2007), World Development Indicators

Table A3.5: Distribution of schools by province, 2005-2006

Province	Primary schools per 5 sq km		Secondary schools per 10 sq km		Primary population school ratio*		Secondary population school ratio*		Current primary school size**		Current secondary school size**	
	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006
Coast	0.074	0.076	0.022	0.023	450	437	1,429	1,442	480	475	262	311
Central	0.819	0.818	0.566	0.583	372	369	355	352	417	408	243	265
Eastern	0.141	0.144	0.056	0.058	239	249	648	640	319	312	202	207
Nairobi	0.848	1.372	1.365	1.365	4,022	1,730	1,557	1,589	2,016	1,229	300	313
Rift Valley	0.142	0.145	0.055	0.055	291	332	824	833	376	378	207	241
Western	1.229	1.203	0.569	0.543	744	586	899	960	563	565	251	268
Nyanza	0.767	0.782	0.323	0.330	256	277	728	728	349	345	213	224
N. Eastern	0.008	0.010	0.003	0.003	1,099	1,503	3,252	3,087	356	321	152	181
National	0.161	0.164	0.071	0.072	372	368	761	765	399	393	223	242

*Primary/secondary population school ratio is total primary/secondary school age population divided by number of primary/secondary schools in province
**Primary/secondary school size is total primary/secondary school enrolment divided by number of primary/secondary schools in province

Table A3.6: Health facilities density per 100,000 population

Province	2002	2003	2004	2005	2006
Nairobi	14.27	13.88	13.91	13.81	13.99
Central	20.06	19.87	20.33	20.51	21.13
Coast	18.54	18.22	18.53	18.55	18.99
Eastern	15.16	14.99	15.28	15.37	15.80
N Eastern	11.10	10.78	11.11	11.08	11.35
Nyanza	9.61	9.51	9.72	9.79	10.08
Rift Valley	13.61	13.32	13.44	13.41	13.66
Western	9.34	9.18	9.29	9.32	9.50
Total	13.96	13.74	13.95	13.98	14.31

Data source: Government of Kenya (2007), Statistical Abstract

Table A3.7: Source of antenatal care

Source of ANC	Residence		Province								Total
	Urban	Rural	Nairobi	Central	Coast	Eastern	Nyanza	R. Valley	Western	N. Eastern	
Home	1.4	3.4	0.5	0.0	1.8	0.8	6.1	0.9	10.2	21.6	3.0
Public Sector	70.9	71.1	64.8	81.7	81.9	72.5	65.8	65.4	73.5	77.7	71.1
Govt Hospital	32.9	20.4	12.7	33.1	24.0	26.0	18.9	22.0	20.8	55.2	23.1
Govt Health Centre	30.3	26.7	41.9	27.0	29.3	18.1	29.6	24.9	33.5	12.8	27.5
Govt. Dispensary	7.2	24.5	9.0	22.0	29.6	27.8	18.6	18.8	19.4	9.7	20.7
Other Public	0.7	0.5	1.4	1.0	0.2	0.7	0.3	0.3	0.1	0.0	0.5
Private medical sector	28.4	27.8	34.6	18.6	19.2	27.4	30.5	34.6	24.1	0.7	27.9
Mission Hosp/clinic	8.0	16.8	6.8	8.0	5.2	18.4	18.6	19.7	14.9	0.0	14.9
Private Hosp/clinic	19.4	10.6	26.8	9.8	13.4	8.2	10.9	14.7	9.3	0.7	12.5
Nursing/maternity home	1.0	0.3	0.9	1.0	0.6	0.2	0.7	0.1	0.2	0.0	0.4
Other private	0.6	0.3	0.5	0.0	0.0	0.8	0.6	0.2	0.0	0.0	0.3
Other	0.3	0.3	0.5	0.0	0.2	0.2	0.2	0.1	1.2	0.0	0.3

Source: Kenya Demographic and Health Survey (2003)

Table A3.8: Full immunization coverage rate of under one year old children by province, 2002-2006

	2002		2003		2004		2005		2006	
Provinces	No.	%	No.	%	No.	%	No.	%	No.	%
Nairobi	50,883	60	77,859	90	67,192	70	74,570	75	77,178	75
Central	74,070	60	99,933	78	100,181	83	112,931	93	106,226	88
Coast	55,392	52	72,232	66	61,716	55	68,727	61	86,471	75
Eastern	100,744	56	115,520	62	121,537	83	127,155	67	144,671	75
N/Eastern	12,525	45	19,077	66	18,051	55	16,228	48	25,556	73
Nyanza	58,022	30	94,808	47	96,249	48	107,842	53	132,739	65
Rift Valley	129,745	42	156,041	49	160,199	49	189,860	57	226,604	66
Western	73,115	45	95,690	57	96,200	53	103,006	57	107,917	58
National coverage	554,446	47	731,160	60	721,325	59	800,319	63	907,362	70

Source: Kenya Demographic and Health Survey (2003)

Table A3.9: HIV/AIDS prevalence rate from surveillance sites

Province	Number HIV+	Prevalence %			
		Total	Male	Female	Male/Female ratio
Nairobi	197,000	10.1	8.0	12.3	1.5
Central	96,000	4.1	1.7	6.5	3.8
Coast	93,000	5.9	5.0	6.9	1.4
Eastern	72,000	2.8	1.1	4.4	4.0
North Eastern	9,000	1.4	0.9	1.8	2.0
Nyanza	183,000	7.8	6.1	9.6	1.6
Rift Valley	171,000	3.8	2.6	4.9	1.9
Western	112,000	5.3	4.2	6.4	1.5
Total	**934,000**	**5.1**	**3.5**	**6.7**	**1.9**

Source: Kenya National AIDS Control Council (2007)

Table A3.10: Education index, 2002-2005

Period	2002	2003	2004	2005
Kenya	**0.74**	**0.66**	**0.69**	**0.693**
South Africa	0.83	0.81	0.80	0.806
Egypt	0.62	0.62	0.73	0.732
Mauritius	0.79	0.80	0.81	0.813
Uganda	0.70	0.71	0.67	0.655
Tanzania	0.62	0.06	0.62	0.631
Mozambique	0.45	0.45	0.64	0.435
Korea	0.97	0.97	0.98	0.980
Singapore	0.91	0.91	0.91	0.908
Malaysia	0.83	0.83	0.84	0.839
Thailand	0.86	0.86	0.86	0.855
India	0.59	0.61	0.61	0.620
China	0.83	0.84	0.84	0.837
Chile	0.90	0.91	0.91	0.914
Brazil	0.88	0.89	0.88	0.883
Argentina	0.96	0.96	0.95	0.947
United States	0.97	0.97	0.97	0.971
Japan	0.94	0.94	0.94	0.946
United Kingdom	0.99	0.99	0.97	0.970

Source: UNDP (various), Human Develoment Reports

Table A3.11: Adult literacy and combined GER, 2002-2005

	Adult literacy rate			Combined GER (primary, secondary, university)				Tertiary students in science, engineering, manufacturing, construction			
Period	2002	2003	2004	2002	2003	2004	2005	2002	2003	2004	2005
Kenya	**84.3**	**73.6**	**73.6**	**53.0**	**52.0**	**60.0**	**60.6**	**29.0**	**29.0**	**29.0**	**29.0**
South Africa	86.0	82.4	82.4	77.0	78.0	77.0	77.0	17.0	17.0	19.0	17.0
Egypt	55.6	55.6	71.4	76.0	74.0	76.0	76.9	-	-	-	-
Mauritius	84.3	84.3	84.4	69.0	71.0	74.0	75.3	25.0	25.0	26.0	25.0
Uganda	68.9	68.9	66.8	71.0	74.0	66.0	63.0	8.0	8.0	-	8.0
Tanzania	77.1	69.4	69.4	31.0	41.0	48.0	50.4	22.0	22.0	-	22.0
Mozambique	46.5	46.5	64.1	41.0	43.0	49.0	52.9	-	-	33.0	-
Korea	97.9	97.9	98.0	92.0	93.0	95.0	96.0	41.0	42.0	41.0	40.0
Singapore	92.5	92.5	92.5	87.0	87.0	87.0	87.3	-	-	-	-
Malaysia	88.7	88.7	88.7	70.0	71.0	73.0	74.3	40.0	41.0	40.0	40.0
Thailand	92.6	92.6	92.6	73.0	73.0	74.0	71.2	-	-	-	-
India	61.3	61.0	61.0	55.0	60.0	62.0	63.8	20.0	21.0	22.0	22.0
China	90.9	90.9	90.9	68.0	69.0	70.0	69.1	-	-	-	-
Chile	95.7	95.7	95.7	79.0	81.0	81.0	95.7	31.0	32.0	29.0	17.0
Brazil	86.4	88.4	88.6	92.0	91.0	86.0	87.5	-	-	16.0	16.0
Argentina	97.0	97.2	97.2	94.0	95.0	89.0	97.2	-	-	19.0	19.0
United States	-	-	-	92.0	93.0	93.0	93.3	-	-	-	16.0
Japan	-	-	-	84.0	84.0	85.0	85.9	20.0	20.0	20.0	19.0
United Kingdom	-	-	-	113.0	123.0	93.0	93.0	21.0	21.0	-	22.0

Source: UNDP (various), Human Develoment Reports (*- data missing)

Table A3.12: Primary and secondary NER, 2002-2005

	Primary NER				Secondary NER			
Period	**2002**	**2003**	**2004**	**2005**	**2002**	**2003**	**2004**	**2005**
Kenya*	**76**	**80**	**82**	**83**	**18**	**19**	**19.4**	**20**
South Africa	89	89	89	87	66	66	62	62
Egypt	91	91	95	94	81	81	79	82
Mauritius	97	97	95	65	74	74	80	82
Uganda	-	-	-	-	17	17	15	15
Tanzania	82	82	86	91	-	-	-	-
Mozambique	55	55	95	77	12	12	25	7
Korea	100	100	100	99	88	88	88	90
Singapore	96	96	-	-	-	-	-	-
Malaysia	93	93	93	65	70	70	76	76
Thailand	85	85	-	88	-	-	-	64
India	87	87	90	89	-	-	-	
China	-	-	-	-			-	-
Chile	85	85	-	90	81	81	-	-
Brazil	97	97	93	65	75	75	76	78
Argentina	85	85	99	99	-	-	79	79
United States	92	92	92	92	88	88	90	89
Japan	100	100	100	100	101	101	100	100
United Kingdom	100	100	99	99	95	95	95	95

Source: UNDP (various), Human Development Report; * Kenya data obtained from Education Statistical Booklet (1999-2004), Ministry of Education Statistics Section

Table A3.13: Key education indicators, 2002-2006

Education Indicators (%)	2002	2003	2004	2005	2006	2007
Pre-primary NER	**	31	32.9	32.9	33.6	
Pre-primary GER	51.8	56.8	57.6	57.9	58.7	
Primary NER	76.4	80.4	82.1	83.2	86.5	91.6
Primary GER	88.2	102.8	104.8	107.2	107.4	107
Primary Gender Parity Index	1.02	0.99	1	0.99	1.00	0.94
Primary completion rate	56.9	62.7	76.2	77.6	76.8	75.3
Primary pupil teacher ratio	34.1	39.1	40.3	43	50	41
Primary to secondary transition rate	41.7	42.6	50.6	52.1	59.7	60
Secondary NER	17.8	18.6	19.4	19.8	23.2	24.2
Secondary GER	25.7	28.6	29.8	30.2	32.2	36.8
Secondary Gender Parity Index	0.92	1.04	0.97	0.89	0.89	0.83
Secondary completion rate	92.1	89.5	89.6	89.8	89.6	
Secondary pupil teacher ratio	17.9	19.6	21.3	20.7	21.0	
Pre-primary age population (3-5 years) (million)	2.82	2.83	2.835	2.838	2.874	2.9
Primary population aged 6-13 years (million)	6.645	6.641	6.851	7.063	7.356	7.9
Secondary population aged 14-17 years (million)	3.2	3.35	3.30	3.24	3.18	3.8

Source: Government of Kenya (2007), Economic Survey; Government of Kenya (2007), Statistical Abstract; Government of Kenya (2002), Analytical Report on Population Projections; Government of Kenya, Education Statistical Booklet (1999-2004), Ministry of Education Statistics Section; Revised KNBS population projections

** Data not available

Table A3.14: Primary schools net enrolment rate by gender and province, 2002-2007

Province	2002			2003			2004			2005			2006			2007		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Coast	58.2	53.2	55.7	66.9	60.1	63.5	72.8	67.7	70.3	75.1	73.3	74.2	72.3	71.2	71.8	84.6	77.0	80.8
Central	83.5	87.8	85.6	83.6	84.2	83.9	81.4	81.8	81.6	87.9	87.0	87.4	83.0	83.0	83.0	84.4	80.7	82.5
Eastern	87.7	91.6	89.6	90.4	90.3	90.4	91.4	91.5	91.5	94.9	93.8	94.3	96.9	95.8	95.3	98.7	97.8	98.3
Nairobi	25.4	29.5	27.3	35.5	40.3	37.7	35.9	41.1	38.3	39.2	40.9	40.1	31.2	34.7	32.9	28.6	29.3	29.0
Rift Valley	81.1	81.5	81.3	84.1	82.0	83.1	87.8	85.4	86.6	87.9	85.3	86.6	91.8	89.8	90.8	98.3	94.0	97.8
Western	95.4	91.7	93.7	97.5	93.2	95.3	99.3	97.2	98.2	99.1	94.6	96.8	99.1	94.6	96.8	99.1	98.9	99.0
Nyanza	88.9	89.6	89.4	96.2	95.4	95.8	96.9	96.2	96.6	98.4	97.2	97.8	98.4	97.2	97.8	98.4	98.2	98.3
North Eastern	19.6	14.1	17.0	26.1	16.2	21.6	23.6	14.9	19.6	26.6	18.8	23.0	27.6	20.3	24.3	33.1	20.8	27.5
National	76.5	78.0	77.3	80.8	80.0	80.4	82.2	82.0	82.1	83.8	82.6	83.2	86.5	86.5	86.5	94.1	89.0	91.6

Source: Government of Kenya Education Statistics Booklet, 1999-2004, Ministry of Education Statistics Section

Table A3.15: Secondary education NER by gender and province, 2002-2007

Province	2002			2003			2004			2005			2007		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Coast	9.6	9.4	9.5	12.2	11.4	11.8	14.3	12.2	13.25	15.2	13.5	14.35	14.3	13.1	13.7
Central	27.4	30.7	29.05	25.6	30.3	27.95	27	29.5	28.25	27.5	29.7	28.6	32.6	34.0	33.3
Eastern	17.8	17.9	17.85	19.9	21.8	20.85	20.9	21.4	21.15	21	21.6	21.3	26.0	24.5	25.3
Nairobi	13.6	8.3	10.95	11.6	6.4	9	22.1	16.2	19.15	23.1	17.2	20.15	26.7	24.8	25.7
Rift Valley	15.4	13.8	14.6	17	17.1	17.05	17.7	17.3	17.5	18.3	17.5	17.9	23.7	22.0	22.9
Western	20.4	20	20.2	16.9	20.7	18.8	19.2	20.3	19.75	19.4	20.4	19.9	24.5	23.3	23.9
Nyanza	25.4	19.2	22.3	23.3	21.4	22.35	22.3	17.6	19.95	22.5	17.7	20.1	30.5	23.5	27.0
North Eastern	3.7	2.1	2.9	2.9	2	2.45	3.1	1.8	2.45	4.2	2.2	3.2	5.6	2.7	4.3
Total	18.5	17.1	17.8	18.2	18.9	18.55	19.7	19.1	19.4	20.1	19.4	19.75	25.2	23.2	24.2

Source: Ministry of Education (EMIS) Eection

Table A3.16: Primary and secondary pupil class and teacher ratios, 2002-2007

Province	Primary Pupil Class Ratio						Primary Pupil Teacher Ratio						Secondary Student class ratio			Secondary Pupil Teacher Ratio		
	2002	2003	2004	2005	2006	2007	2002	2003	2004	2005	2006	2007	2005	2006	2007	2005	2006	2007
Coast	33	37	38	38	38	40	35	44	49	51	43	68.2	34	35	34	22	21	23.6
Central	34	35	36	36	36	36	33	36	37	38	41	34.5	36	35	33	21	20	21.0
Eastern	20	31	32	32	32	32	32	35	48	46	38	40.3	35	35	33	19	21	19.1
Nairobi	38	48	47	45	44	41	35	48	48	46	46	56.2	38	38	34	15	16	17.0
Rift Valley	31	34	34	34	34	36	33	37	38	39	41	40.5	36	36	34	22	23	23.1
Western	35	38	38	38	38	40	40	46	48	49	43	71.6	35	34	33	24	22	24.6
Nyanza	30	33	33	33	33	33	34	42	40	42	43	47.4	32	32	30	24	26	23.4
North Eastern	33	37	37	40	41	45	38	50	46	55	56	64.4	38	32	33	19	18	23.6
National	32	34	35	35	35	36	34	39	40	41	43	46.3	35	34	33	21	22	22.0

Source: Government of Kenya (undated), Ministry of Education Statistics Section

Table A3.17: Education expenditure (%) by sub-sector, 2002/03-2007/08

Sub-vote (Total)	2002/3	2003/4	2004/5	2005/6	2006/7	2007/8*
General administration and planning	15.6	6.2	6.5	9.0	9.3	5.0
Primary education	46.2	57.4	56.1	53.6	51.0	51.7
Teacher education	0.2	0.5	0.4	0.6	0.2	0.2
Special education	0.2	0.2	0.3	0.2	0.3	0.3
Early childhood education	0.3	0.2	0.4	0.04	0.1	0.04
Secondary education	24.4	22.5	22.4	21.8	22.6	27.7
Technical education	1.4	1.6	2.1	2.0	3.2	1.7
University education	11.3	11.0	11.8	12.8	13.5	13.4
Total expenditure	100.0	100.0	100.0	100.0	100.0	100.0
Total recurrent expenditure (%)	96.0	94.4	96.4	93.0	90.9	96.5
Total development expenditure (%)	4.0	5.6	3.6	7.0	9.1	3.5
Total salaries as % of total education expenditure	82.7	81.7	83.7	79.8	78.0	85.0
Total non-salaries as % of total education expenditure	17.28	18.3	16.4	20.0	22.0	15.0
Primary school non-salary expenditure (%)	3.8	18.9	18.6	20.0	25.0	16.0
Secondary school non-salary expenditure (%)	4.6	6.7	6.6	9.0	5.0	12.0
Total Ministry of Education as % of GDP	6.2	6.4	6.2	6.6	6.4	6.5
Total Ministry of Education as % of government total expenditure	29.6	27.4	27.1	25.8	23.7	29.6
Total Ministry of Education recurrent as % of government total recurrent	33.4	27.4	35.6	32.2	33.1	33.4

*Source: Appropriation Accounts, Education Sector Report, 2007; Education Sector Report and Ministerial Public Expenditure Review (various); * Provisional*

Table A3.18: Primary and secondary education gender parity index, 2002-2006

Province	Primary					Secondary				
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
Coast	0.91	0.90	0.85	0.87	0.89	0.98	0.93	0.85	0.93	0.84
Central	1.05	1.01	0.97	0.96	0.97	1.12	1.20	1.09	1.03	1.01
Eastern	1.04	1.00	0.96	0.96	0.97	1.01	1.10	1.02	0.98	0.96
Nairobi	1.16	1.14	0.99	1.00	1.01	0.61	0.55	0.73	0.79	0.76
Rift Valley	1.00	0.98	0.93	0.94	0.95	0.90	1.01	0.98	0.86	0.84
Western	0.96	0.96	0.96	0.99	1.00	0.98	1.22	1.06	0.88	0.95
Nyanza	1.01	0.99	0.93	0.94	0.97	0.76	0.92	0.79	0.75	0.78
North Eastern	0.72	0.62	0.47	0.50	0.51	0.57	0.69	0.58	0.42	0.35
National	1.02	0.99	0.94	0.94	0.96	0.92	1.04	0.97	0.89	0.89

Source: Government of Kenya, Ministry of Education Statistics

Table B4.1: Household's income generation

	Cereals	Other crops	Industrial crops	Oil crops	Horticulture	Roots & tubers	other crops	beef & goats	Dairy	Poultry	other livestock	Forestry	Fisheries	agric Processing	Utilities	Services	Other Industry
Rural quintiles																	
1st	0.192	0.077	0.264	0.093	0.090	0.082	0.077	0.140	0.067	0.076	0.075	0.023	0.033	0.082	0.020	0.027	0.014
2nd	0.317	0.136	0.430	0.151	0.151	0.146	0.136	0.261	0.123	0.139	0.136	0.043	0.061	0.146	0.037	0.049	0.026
3rd	0.419	0.188	0.564	0.196	0.203	0.203	0.188	0.362	0.172	0.198	0.181	0.065	0.087	0.203	0.056	0.072	0.037
4th	0.518	0.238	0.696	0.240	0.254	0.258	0.238	0.441	0.212	0.258	0.220	0.093	0.107	0.256	0.081	0.096	0.047
5th	0.657	0.304	0.871	0.297	0.320	0.333	0.304	0.546	0.265	0.329	0.267	0.122	0.142	0.328	0.110	0.127	0.061
Total rural	2.103	0.944	2.826	0.977	1.019	1.022	0.944	1.750	0.839	0.999	0.878	0.345	0.431	1.014	0.305	0.371	0.185
Urban																	
1st	0.001	0.000	0.002	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.000	0.000	0.001	0.000	0.001	0.000
2nd	0.009	0.003	0.013	0.004	0.004	0.003	0.003	0.007	0.004	0.004	0.004	0.005	0.004	0.007	0.005	0.004	0.002
3rd	0.028	0.010	0.042	0.012	0.012	0.012	0.010	0.027	0.013	0.014	0.015	0.015	0.012	0.027	0.014	0.016	0.007
4th	0.168	0.060	0.253	0.073	0.072	0.072	0.060	0.166	0.084	0.091	0.094	0.107	0.086	0.169	0.104	0.102	0.045
5th	1.035	0.388	1.529	0.457	0.452	0.469	0.388	1.039	0.522	0.555	0.573	0.692	0.526	1.112	0.680	0.702	0.297
Total urban	1.24	0.46	1.84	0.55	0.54	0.56	0.46	1.24	0.62	0.67	0.69	0.82	0.63	1.32	0.80	0.83	0.35
total	3.34	1.41	4.66	1.52	1.56	1.58	1.41	2.99	1.46	1.66	1.57	1.16	1.06	2.33	1.11	1.20	0.54
4-5th quintile%	0.71	0.70	0.72	0.70	0.70	0.72	0.70	0.73	0.74	0.74	0.74	0.87	0.81	0.80	0.88	0.86	0.84

Source: Government of Kenya Ministry of Education Statistics

Table B4.2: Policy simulations with SAM multipliers, Kenya, 2003

	2003 value	invest all agriculture	Change Value	%	Invest only on high multiplier agric. activities	change Value	%	invest agric proc	Change value	%
Crops	292,280.73	12,144.,14	17,606.94	6.02	12,971.38	20,829.13	7.13		7,566.97	2.59
Livestock	88,110.79	2,511.44	5,307.78	6.02	5,316.,12	9,072.44	10.30		2,813.11	3.19
Fisheries	5,588.31	187.41	195.52	3.50		200.62	3.59		111.64	2.00
Forestry	10,032.08	303.41	350.99	3.50		400.06	3.99		179.03	1.78
Agricultural processing	160,120.56		3,093.18	1.93		4,252.98	2.66	19,903.51	24,467.37	15.28
Other industry	932,002.37		11,327.85	1.22		15,384.11	1.65		14,675.44	1.57
Utilities	36,846.62		702.34	1.91		991.73	2.69		773.66	2.10
Services	1,125,982.16		17,503.84	1.55		20,054.24	1.78		21,318.12	1.89
Rural informal high skilled	42,734.90		1,821.67	4.26		5,966.44	13.96		971.32	2.27
Rural informal unskilled	64,066.55		3,286.27	5.13		4,460.70	6.96		1,673.60	2.61
Rural formal high skilled	10,805.04		398.16	3.68		458.99	4.25		250.09	2.31
Rural formal unskilled	71,247.14		2,105.57	2.96		2,536.06	3.56		1,339.88	1.88
Urban informal high skilled	29,282.47		610.93	2.09		986.22	3.37		510.36	1.74
Urban informal unskilled	22,142.71		325.47	1.47		433.30	1.96		438.34	1.98
Urban formal high skilled	19,576.36		283.47	1.45		383.25	1.96		362.61	1.85
Urban formal unskilled	172,972.14		2,578.18	1.49		3,456.96	2.00		3,119.12	1.80
Rural capital	149,538.27		6,021.93	4.03		7,886.64	5.27		3,729.44	2.49
Urban informal capital	75,708.12		1,808.15	2.39		2,644.83	3.49		1,552.62	2.05
Urban formal capital	323,892.76		5,856.62	1.81		7,333.41	2.26		6,934.08	2.14
Land	28,433.85		1,712.85	6.02		2,142.27	7.53		533.17	1.88
Rural firms	149,538.27		6,021.93	4.03		7,886.64	5.27		3,729.44	2.49
Urban informal firms	75,708.12		1,808.15	2.39		2,644.83	3.49		1,552.62	2.05
Urban formal firms	365,818.96		5,779.24	1.58		7,236.52	1.98		6,842.47	1.87

Table B4.2: Policy simulations with SAM multipliers, Kenya, 2003 (continued)

	2003 value	invest all agriculture	Change Value	%	Invest only on high multiplier agric. activities	change Value	%	invest agric proc	Change value	%
Household quintiles										
Rural										
1st	33,887.17		1,149.81	3.39		1,505.20	4.44		581.69	1.72
2nd	52,688.01		1,945.50	3.69		2,556.48	4.85		1,041.29	1.98
3rd	72,307.46		2,610.96	3.61		3,424.65	4.74		1,448.34	2.00
4th	91,857.90		3,247.79	3.54		4,225.83	4.60		1,823.21	1.98
5th	117,778.59		4,083.87	3.47		5,302.45	4.50		2,333.35	1.98
Urban										
1st	400.00		6.63	1.66		9.64	2.41		6.50	1.63
2nd	2,917.84		53.98	1.85		71.81	2.46		50.35	1.73
3rd	11,813.93		176.84	1.50		241.10	2.04		181.17	1.53
4th	76,296.16		1,083.50	1.42		1,465.77	1.92		1,148.98	1.51
5th	439,122.20		6,715.98	1.53		9,004.39	2.05		7,514.62	1.71
Agricultural	556,132.47	14,859.06	26,554.40	20.98			27.66			24.84
Non-agricultural	2,094,831.15		29,534.04	4.68			6.12			5.57
Rural income	188,853.63		7,611.67	16.03			28.73			9.08
Urban income	243,973.68		3,798.05	6.49			9.28			7.38
Rural household	368,519.13		13,037.93	17.70			23.13			9.66
Urban household	530,550.15		8,036.93	7.95			10.88			8.10

Table B5.1: Average annual growth rates of GDP and manufacturing sector

Country	GDP		Manufacturing sector	
	1990-2000	2000-2004	1990-2000	2000-2004
Egypt	4.7	3.4	6.4	2.9
Kenya	**2.2**	**2.7**	**1.3**	**2.5**
Mauritius	5.2	4.4	5.3	2.0
South Africa	2.1	3.2	1.6	1.7
Tanzania	2.9	6.8	2.7	7.6
Uganda	7.1	5.8	14.1	5.0
Argentina	4.3	-0.1	2.7	1.7
Brazil	2.9	2.0	1.5	3.1
Chile	6.6	3.7	6.7	2.8
Malaysia	7.0	4.4	9.5	4.4
Singapore	7.7	2.9	7.9	3.2
Thailand	4.2	5.4	6.9	7.2
South Korea	5.8	4.7	7.3	6.6
India	6.0	6.2	7	6.5

Sources: Compiled from World Bank (2007), World Development Indicators

Table B5.2: Performance of manufacturing sector in a few selected countries

	Valued Added as % of GDP								
	Agriculture			Manufacturing			Services		
	2003	2005	2006	2003	2005	2006	2003	2005	2006
Argentina	11	9.4	9.0	35	35.6	35.4	54	55.0	55.6
Botswana	2	2.0	2.0	48	53.5	53.5	50	44.5	44.5
Brazil	6	5.6	5.1	21	30.3	30.9	73	64.0	64.0
China	15	12.5	11.9	53	47.3	47.0	32	40.1	41.1
Egypt	16	14.9	-	34	36.0	-	50	49.0	-
Ghana	35	35.7	37.7	25	23.2	21.2	40	39.4	41.1
India	23	18.3	17.5	26	27.3	27.7	53	54.4	54.7
Indonesia	17	13.1	11.9	44	44.9	41.7	40	42.0	46.3
Kenya	**17**	**27.7**	**27.9**	**19**	**18.5**	**17.4**	**64**	**54.4**	**54.8**
Korea	3	3.4	3.2	35	40.3	39.6	62	56.3	57.3
Malaysia	9	8.7	8.3	49	51.8	51.6	42	39.6	40.1
Singapore	0	0.1	0.1	35	33.8	34.7	65	66.1	65.2
South Africa	4	2.2	2.5	31	30.3	30.5	65	67.1	67.0
Thailand	9	10.0	9.8	41	44.2	45.8	50	45.9	44.4
Tanzania	43	46.1	45.3	17	16.9	17.4	40	37.0	37.3
Uganda	33	32.7	31.7	22	24.8	24.6	45	42.5	43.7

Source: World Bank (2005), World Development Report; World Bank (2007), World Development Indicators

Table B5.3: Industry's share (%) of total manufacturing in selected countries

Country	Food, beverages and tobacco		Textiles and clothing		Machinery, transport and Equipment		Chemicals manufacturing		Other	
	1990	**2002**	**1990**	**2002**	**1990**	**2002**	**1990**	**2002**	**1990**	**2002**
Botswana	51	19	12	4	-	-	-	-	36	77
Ghana	-	38	-	11	-	4	-	8	-	39
Egypt	16	-	16	-	9	-	14	-	43	-
Kenya	**39**	**37**	**10**	**19**	**10**	**7**	**9**	**10**	**33**	**28**
Mauritius	30	-	46	-	2	-	4	-	17	-
South Africa	15	16	8	13	18	15	9	9	50	48
Tanzania	51	42	3	27	7	3	11	3	29	26
Uganda	61	19	14	1	3	2	6	1	16	79
Tunisia	19	35	20	11	5	5	4	20	52	30
Argentina	20	-	10	-	13	-	12	-	46	-
Brazil	14	-	12	-	27	-	-	-	48	-
Chile	25	25	8	18	5	12	10	8	52	37
Malaysia	13	9	7	4	31	41	11	8	39	38
Singapore	4	2	3	1	53	52	10	22	29	23
Thailand	24	23	30	14	19	4	2	25	26	34
Indonesia	28	23	15	17	12	22	9	10	37	38
China	15	15	15	12	24	32	13	12	34	28
India	12	2	26	17	14	5	34	49		

Source: Compiled from World Development Indicators (2007)

Table B5.4: Profile of export processing zones of selected countries

Country	No. of EPZs	Other type of zone	Total employ (2005/6)	Investment US $ million	Main investment countries	No. of firms	Main sector	Zone exports US$ million	Main markets	Zone exports as a % o total exports
Ghana	4		9828	738.5	Malaysia, US, Lebanon, China, UAE, UK, Germany, Italy, France, S. Africa	144	ICT, textile, ceramics, tools fabrication, Pharmaceuticals Jewellery, agro-food, light industry/ assembling	627.4	Togo, Netherlands, US, UK, Germany, France, Italy, Belgium, Nigeria	70.0
Egypt	10 (FZ)	42 (IZ) 1 (SEZ)	209042	3062.5	US, Japan, Italy, France, China, Sweden, Germany, Switzerland, Belgium, Cyprus, Spain, Netherlands	558	Oil&gas, Services, electrical, fertilizer, ceramics, marble, construction, metallurgical, textile, petrochemicals	1325 bn	Spain, US, Ital UAE, France, China, Canada, Morocco, Tunisia, Saudia Arabia	-
Kenya	43 (EPZ)	11 industrial parks	38851	-	US, UK, Hong Kong, India, Sri Lanka	68	Apparel/Garments, Tea processing, pharmaceutical	277	UK, UAE, US, Japan, S. Africa, Uganda, TZ, Pakistan	86.9
Mauritius	Entire Island		65512		S. Africa, Singapore, India, France, Malaysia, Hong Kong	463	Food, leather, wood,& paper, electronics, toys, optical goods, flowers jewellery	737	US, Japan, SE Asia	42.0
S. Africa	6	-	535195	-	-	-	-	1583	-	-
Argentina		5 industrial parks	-	-	France, Switzerland, Spain, Norway, Germany,	3202	Citrus fruits, forestry, metals, textile, chemicals, electronics	-	Switzerland, Finland Germany Norway Spain	90.5
Brazil	1 (ZF)		101862		US, Brazil, Portugal	450	Electronics, optical products, thermal-plastics, motor cycle, shoes and leather	-	US, France, Portugal, Spain, Canada	96.5
Chile	2(ZF)		34000	-	-	3000	Electronics, lubricants, Machinery, equipments, textile & garments, toys	1336	Panama, Peru, US, Bolivia Argentina . Ecuador	-
Malaysia	13 (FIZ)	200 industrial parks	369488	5.512bn	Japan, UK, US, Germany, Korea, Italy, Netherlands, Switzerland , China, Finland	3000	High tech Electronics, IT, pharmaceutical, Food, Services	12.6bn	Japan US, UK, Switzerland, Korea	83.0

Table B5.4: Profile of export processing zones of selected countries (continued)

Country	No. of EPZs	Other type of zone	Total employ (2005/6)	Investment US $ million	Main investment countries	No. of firms	Main sector	Zone exports US$ million	Main markets	Zone exports as a % o total exports
Singapore	7 (EPZ)	35 industrial parks	-	6400	Japan, US, Korea, Canada, New Zealand, Chile, Mexico	7000	Energy, chemicals, electronic parts, automobile industries, timber, metals	165.9bn	US, ASEAN, EU, Gulf states	-
Thailand	10	22 GIZ & EPZ	10442 BN		EU,US, Taiwan, Japan, Singapore, Hong Kong	1357	Agric. Products, metals, electronics, ceramics, plastics	8242	Korea, UK, Germany Netherlands, Australia, China, Malaysia US	-
S. Korea		3 free economic zones	39000	11.56	-	-	-	30.61	-	-
Indonesia		Bonded Zone	6 million	11.31 bn	-	1141	Communication, chemicals, pharmaceutical, textile, electronic components, food, construction	18.46bn	-	-
China	15	99	4000000	17.03bn	US, Hong Kong, Russia, Germany, Taiwan, Switzerland	43360	Electronics, machinery, equipments, pharmaceutical	14506	US, EU, ASEAN, Australia Singapore	-
Taiwan	5	1(IPZ)		67646	-	354		343	-	-
India		8SEZ	100650	7.96		811	-	4.9bn	-	
Hong Kong		Industrial estates cyberport science park	336000	29.6bn	EU, US, Japan, Switzerland, Russia, S. Arabia, Korea, Thailand, Korea, Canada	3845	Jewellery, pharmaceutical, textile, leather, food, gem Investment holdings, banks, financial institutions, tourism, communication,	101.5 bn	UK, US, Netherlands, Singapore, Bermuda, British Virgin Islands	-

Source: ILO, Sectoral Activities Programme, Database on Export Processing Zones (2007)
*Free Zone (FZ), Industrial Zone (IZ), Free Trade Zone (FTZ), Special Economic Zone (SPZ), Industrial Processing Zones (IPZ) are terms used by different countries to refer to industrial settings similar to Export Processing Zones.

Table B5.5: Structure of manufacturing employment

Sub-sector	Employment 2002	% employment in sector 2002	Employment 2006	% employment in sector 2006
Food, Beverages and Tobacco	82,488	35.9	86,569	34.1
Textile and garments	46,472	20.2	60,886	24.0
Metal and allied	20,858	9.1	21,187	8.3
Leather products and Footwear	3,351	1.5	1,830	0.7
Paper and Paperboard	8,296	3.6	8,440	3.3
Timber, wood products and furniture	14,098	6.1	14,147	5.6
Chemical, drugs and medicine	15,408	6.7	15,544	6.1
Pottery, Glass, Cement and non-metallic mineral	7,862	3.4	8,611	3.4
Plastic and rubber	8,422	3.7	11,385	4.5
Professional and Scientific equipment	359	0.2	391	0.2
Motor assembly and components	3,252	1.4	3,086	1.2
Electrical and electronics	3,123	1.4	3,026	1.2
Other manufactured products	3,905	1.7	6,363	2.5
Printing, publishing and allied	7,884	3.4	8,825	3.5
Shipbuilding, railroad and air craft repair	4,068	1.8	3,461	1.4
Total	**229,846**		**253,751**	

Source: Compiled from Government of Kenya (2007), Statistical Abstract

Table B7.1: Country comparison of selected indicators on trade performance (COMESA region), 2006

	Real growth in exports of goods and services (%)	Real growth in imports of goods and services (%)	Trade (g+s) share in GDP (%)	Export (g+s) share in GDP (%)	Import (g+s) share in GDP (%)
Rwanda	16.1	13.2	45.9	13.2	32.7
Egypt, Arab Re.	15.0	20.4	74.0	38.2	35.7
Seychelles	8.7	5.4	308.0	147.2	160.7
Burundi	7.3	8.7	42.3	9.5	32.8
Malawi	5.8	5.3	60.9	17.8	43.1
Uganda	4.6	8.4	40.2	12.8	27.4
Mauritius	4.4	7.1	131.5	62.1	69.5
Kenya	**0.7**	**18.1**	**61.3**	**25.5**	**35.9**

	Market share growth in total trade (%)	Market share growth in exports (%)	Market share growth in imports (%)
Egypt, Arab Republic	18.5	18.6	18.4
Rwanda	11.7	25.9	6.9
Burundi	5.8	9.9	4.7
Kenya	**1.1**	**-5.7**	**6.6**
Seychelles	0.2	0.1	0.2
Mauritius	-5.9	-7.9	-4.0
Uganda	-6.9	-8.9	-5.9
Malawi	-13.4	-14.3	-12.9

Source: World Bank (2007), World Development Indicators
Note: g-goods; s-services

Table B7.2: Kenya's main import countries per region

Imports	2002	2003	2004	2005	2006	2007
EUROPE						
United Kingdom	2.1	7.0	2.0	5.7	5.2	5.4
Netherlands	2.1	7.0	3.6	2.2	1.7	1.7
Germany	5.0	3.9	3.4	3.6	3.6	4.1
France	3.8	3.2	2.7	3.1	2.0	3.0
Belgium	2.7	2.4	1.3	1.8	1.3	1.1
Others	7.4	6.4	6.7	1.2	4.1	5.0
AMERICA	**7.4**	**6.4**	**6.7**	**11.7**	**6.2**	**10.1**
AFRICA						
South Africa	6.9	8.3	9.5	9.6	6.5	6.5
Tanzania	0.3	3.7	0.6	0.7	0.9	1.2
Others	3.7	13.2	14.3	14.2	12.2	5.5
MIDDLE AND FAR EAST						
Saudi Arabia	5.2	8.6	12.4	6.3	5.1	3.2
United Arab Emirates	11.3	11.3	2.1	14.2	14.9	16.4
India	5.1	4.4	3.5	2.2	2.6	10.4
China	2.3	2.8	2.1	5.2	5.7	10.4
Indonesia	5.1	4.4	6.6	2.2	2.6	3.4
Japan	6.7	6.6	1.2	5.2	5.6	7.5
Singapore	1.6	0.8	2.1	1.7	4.9	1.7
Others	2.1	2.6	2.1	3.6	3.2	3.5

Source: Government of Kenya (various), Economic Survey

Table B7.3: Overall trade restrictiveness

	MFN AV applied tariff (simple avg, %)	Overall Trade Restrictiveness Index (tariff + NTM), all goods	Overall Trade Restrictiveness Index (tariff + NTM), manufacture	Overall Trade Restrictiveness Index (tariff + NTM), agriculture	Import duties as % of total revenues (in %)
SELECTED COUNTRIES					
India	18.31	19.68	16.51	98.99	..
Seychelles	18.11	..	..	..	19.21
Uganda	12.66	10.50	8.42	18.55	..
Tanzania	12.65	39.97	38.40	49.55	..
Thailand	11.92	8.49	6.30	44.25	8.82
China	9.81	11.24	10.84	18.89	..
Indonesia	6.95	5.61	4.44	15.64	..
Chile	6.00	9.24	7.46	28.56	2.62
Mauritius	3.07	13.85	9.63	32.75	23.41
Egypt, Arab Republic	19.58	32.08	29.76	38.79	..
	18.74	23.84	24.82	19.94	..
Kenya	**12.66**	**8.51**	**5.40**	**29.18**	**..**
Brazil	12.35	22.29	21.26	35.13	..
Argentina	11.21	16.41	16.33	18.72	..
Botswana	7.69	7.46	7.17	12.13	..
South Africa	7.69	7.46	7.17	12.13	4.03
Malaysia	7.32	21.59	19.65	47.07	..
REGIONAL TRADING BLOCKS					
ASEAN Average	13.65	12.50	198.3	97.08	101.2
South Asia Average	8.94	11.26	49.07	19.70	29.37
Sub-Saharan Africa Average	8.66	8.27	85.65	37.99	47.66
EU15 Average	7.88	7.90	106.8	54.51	52.32
COMESA Average	7.40	9.15	83.03	34.48	48.55
MERCOSUR Average	7.23	13.72	56.48	29.20	27.28
SADC Average	7.17	8.63	91.32	42.29	49.03
EAC Average	7.02	11.75	47.66	16.00	31.66
ECOWAS Average	6.94	7.16	80.22	33.13	47.09
NAFTA Average	6.76	7.68	56.05	27.16	28.89

Source: World Bank (2007), World Development Indicators

Table B7.4: Trade restrictiveness of regional integration

Average	MFN average applied tariff (simple average %)	Overall trade restrictiveness index (tariff + NTM), all goods	Overall trade restrictiveness index (tariff + NTM), manufacture	Overall trade restrictiveness index (tariff + NTM), agriculture	Import duties as % of total revenues (%)
South Asia	16.50	17.88	16.12	48.30	41.91
COMESA	14.11	17.58	16.38	24.95	21.31
EAC	13.89	20.71	19.26	29.31	..
Sub-Saharan Africa	12.90	17.04	15.15	27.45	20.05
ECOWAS	11.98	22.54	17.55	45.31	23.42
MERCOSUR	11.25	17.16	15.35	37.94	10.83
SADC	9.15	12.23	11.26	20.34	13.72
ASEAN	7.47	12.12	10.26	37.95	18.68
NAFTA	7.25	14.39	12.33	41.02	1.80
EU15	4.18	8.67	4.87	55.52	0.03

Source: World Bank (2007), World Development Indicators

Table B7.5: Trade restrictiveness of regional integration (by products)

	Number of Countries reporting	Ranking in net exports	Ranking in per capita exports	Ranking in share in world market:	Ranking in value of exports	Ranking in export growth	Ranking in share in national export	Ranking in share in national import:	Ranking in relative trade balance	Ranking in relative change in world market share
Fresh food	182	30	109	55	55	150	30	75	32	150
Processed food	159	78	126	88	88	111	46	72	73	111
Wood products	140	70	118	94	94	114	71	95	81	114
Textiles	129	45	108	83	83	58	59	84	61	58
Chemicals	144	79	114	93	93	120	82	27	98	120
Leather products	114	31	100	76	76	36	36	101	18	36
Basic manufactures	143	80	115	88	88	103	65	60	87	103
Non-electronic machinery	137	58	117	94	94	28	89	103	93	28
IT & Consumer electronics	103	43	99	92	92	35	84	73	92	35
Electronic components	115	47	103	99	99	29	94	113	94	29
Transport equipment	121	63	105	92	92	9	84	28	100	9
Clothing	128	76	122	113	113	57	105	119	83	57
Miscellaneous manufacturing	141	71	110	79	79	54	63	75	70	54
Minerals	156	99	132	100	100	6	67	31	81	6

Table B7.5: Trade restrictiveness of regional integration (continued)

	RANKING IN COMPETITIVENESS						
	Ranking in product diversification:	**Ranking in product concentration**	**Ranking in market diversification**	**Ranking in market concentration**	**Ranking in competitiveness effect**	**Ranking in adaptation effect**	**Ranking in matching with dynamics of world demand**
Fresh food	107	55	47	19	124	136	18
Processed food	66	54	11	27	70	145	53
Wood products	19	31	89	60	65	119	10
Textiles	72	67	66	57	32	116	44
Chemicals	25	37	103	74	60	132	9
Leather products	85	66	40	35	3	113	4
Basic manufactures	56	51	79	55	41	130	14
Non-electronic machinery	26	49	92	68	6	133	32
IT & Consumer electronics	19	39	46	58	30	93	2
Electronic components	48	65	80	77	17	106	47
Transport equipment	22	43	54	52	10	72	55
Clothing	71	82	26	55	12	120	32
Miscellaneous manufacturing	99	73	58	59	28	109	15
Minerals	117	71	76	38	17	5	14

Source: Kenya Trade Map (2007)

Table B8.1: Travel and tourism competitiveness index, 2008

	Overall Index		Regulatory framework		Business environment and infrastructure		Human, cultural and natural resources	
Destination	**Rank**	**Score**	**Rank**	**Score**	**Rank**	**Score**	**Rank**	**Score**
Singapore	16	5.06	7	5.67	13	5.13	37	4.39
South Korea	31	4.68	38	5.02	34	4.52	29	4.49
Malaysia	32	4.63	37	5.04	39	4.31	23	4.55
Tunisia	39	4.41	25	5.28	49	3.86	57	4.08
Mauritius	41	4.38	29	5.23	44	4.14	76	3.78
Thailand	42	4.37	63	4.46	42	4.17	30	4.49
Brazil	49	4.29	84	4.11	67	3.55	6	5.21
Chile	51	4.27	45	4.86	54	3.82	54	4.14
South Africa	60	4.11	70	4.31	51	3.85	52	4.18
China	62	4.06	103	3.91	70	3.45	13	4.81
India	65	3.99	107	3.78	59	3.70	26	4.50
Egypt	66	3.96	58	4.54	69	3.47	70	3.86
Indonesia	80	3.70	108	3.78	86	3.16	53	4.17
Botswana	87	3.65	82	4.20	76	3.31	103	3.45
Tanzania	88	3.65	89	4.07	117	2.65	48	4.23
Kenya	**101**	**3.53**	**100**	**4.00**	**102**	**2.82**	**77**	**3.76**

Source: World Economic Forum (2008)

Table B8.2: Regulatory framework, 2008

	Regulatory framework		Policy rules and regulations		Environmental sustainability		Safety and security		Health and hygiene		Prioritization of travel and tourism	
Destination	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Singapore	7	5.67	1	6.19	27	4.98	8	6.23	53	5.05	5	5.87
Malaysia	37	5.04	12	5.34	44	4.79	42	5.51	70	4.43	42	5.12
Tunisia	25	5.28	25	5.10	13	5.41	25	5.80	75	4.32	8	5.78
Mauritius	29	5.23	28	5.03	46	4.73	33	5.66	57	4.85	4	5.91
South Korea	38	5.02	33	4.87	50	4.69	67	4.99	38	5.67	34	4.90
Thailand	63	4.46	52	4.50	78	4.27	115	3.95	66	4.49	25	5.07
Chile	45	4.86	18	5.25	62	4.53	36	5.60	63	4.53	58	4.39
Egypt	58	4.54	70	4.18	81	4.25	84	4.66	86	3.94	12	5.66
Brazil	84	4.11	95	3.81	37	4.90	128	3.15	69	4.46	68	4.24
Indonesia	108	3.78	121	3.07	126	3.48	108	4.06	111	2.53	11	5.75
South Africa	70	4.31	36	4.80	35	4.92	123	3.55	84	3.96	63	4.32
India	107	3.78	102	3.71	71	4.39	117	3.86	110	2.56	59	4.38
Botswana	82	4.20	74	4.13	68	4.42	50	5.26	97	3.24	82	3.95
China	103	3.91	89	3.96	110	3.92	121	3.60	99	3.21	36	4.86
Tanzania	89	4.07	79	4.07	29	4.97	105	4.31	119	2.07	33	4.92
Kenya	**100**	**4.00**	**101**	**3.72**	**19**	**5.25**	**120**	**3.69**	**118**	**2.08**	**20**	**5.29**

Source: World Economic Forum (2008)

Table B8.3: Business environment and infrastructure, 2008

Destination	Business environment and infrastructure		Air transport infrastructure		Ground transport infrastructure		Tourism infrastructure		ICT infrastructure		Price competitiveness	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Singapore	13	5.13	15	4.93	1	6.61	43	4.28	23	4.67	25	5.18
Malaysia	39	4.31	32	4.18	28	4.95	71	3.19	46	3.37	3	5.89
Tunisia	49	3.86	68	2.93	47	4.38	48	4.02	69	2.59	13	5.39
Mauritius	44	4.14	48	3.48	30	4.90	42	4.29	61	2.73	19	5.27
South Korea	34	4.52	39	3.92	15	5.57	70	3.23	6	5.72	106	4.15
Thailand	42	4.17	27	4.32	51	4.15	39	4.36	67	2.61	11	5.42
Chile	54	3.82	50	3.44	53	4.13	64	3.37	47	3.28	45	4.87
Egypt	69	3.47	62	3.06	75	3.43	79	2.79	87	2.15	2	5.89
Brazil	67	3.55	45	3.59	95	2.89	47	4.17	58	2.82	92	4.31
Indonesia	86	3.16	61	3.07	98	2.87	109	1.87	94	2.04	1	5.96
South Africa	51	3.85	40	3.79	59	3.89	51	3.94	73	2.53	29	5.08
India	59	3.70	35	4.00	39	4.51	80	2.78	97	1.98	20	5.23
Botswana	76	3.31	77	2.72	72	3.50	78	2.80	92	2.05	6	5.49
China	70	3.45	36	3.98	61	3.80	119	1.53	66	2.62	17	5.30
Tanzania	117	2.65	107	2.28	93	2.94	115	1.67	115	1.61	56	4.77
Kenya	**102**	**2.82**	**73**	**2.83**	**107**	**2.73**	**98**	**2.27**	**108**	**1.80**	**75**	**4.50**

Source: World Economic Forum (2008)

Table B8.4: Human, cultural and natural resources, 2008

Destination	Human, cultural and natural resources		Human resources		Affinity for travel and tourism		National tourism perception		Natural and cultural resources	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Singapore	37	4.39	1	6.19	13	5.76	98	2.63	47	2.99
Malaysia	23	4.55	22	5.53	22	5.47	18	4.70	59	2.50
Tunisia	57	4.08	28	5.45	30	5.28	94	2.69	49	2.91
Mauritius	76	3.78	56	5.03	3	6.47	126	2.01	103	1.59
South Korea	29	4.49	9	5.83	112	4.31	80	2.90	22	4.94
Thailand	30	4.49	65	4.98	20	5.51	20	4.63	51	2.83
Chile	54	4.14	36	5.29	96	4.46	52	3.49	39	3.30
Egypt	70	3.86	82	4.83	31	5.28	86	2.83	58	2.52
Brazil	6	5.21	66	4.98	94	4.48	3	5.81	12	5.58
Indonesia	53	4.17	34	5.31	56	4.88	26	4.42	80	2.08
South Africa	52	4.18	118	3.81	45	5.02	21	4.06	40	3.30
India	26	4.50	93	4.75	88	4.57	13	4.94	31	3.73
Botswana	103	3.45	124	3.36	58	4.85	31	4.20	113	1.37
China	13	4.81	48	5.07	126	3.92	8	5.25	19	5.01
Tanzania	48	4.23	119	3.75	28	5.33	1	6.14	97	1.71
Kenya	**77**	**3.76**	**105**	**4.33**	**60**	**4.84**	**24**	**4.52**	**116**	**1.36**

Source: World Economic Forum (2008)

Table B8.5: Travel and tourism competitiveness Index, 2007

Destination	Overall Index		Regulatory framework		Business environment and infrastructure		Human, cultural and natural resources	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Singapore	8	5.31	1	5.81	11	5.01	42	5.11
Malaysia	31	4.80	27	5.12	27	4.44	57	4.84
Tunisia	34	4.76	12	5.34	47	3.77	37	5.15
Mauritius	39	4.63	35	4.96	46	3.77	39	5.15
South Korea	42	4.58	46	4.61	24	4.46	73	4.67
Thailand	43	4.58	41	4.78	35	4.14	59	4.82
Chile	45	4.58	38	4.83	42	3.87	47	5.03
Egypt	58	4.24	50	4.52	60	3.51	68	4.70
Brazil	59	4.20	67	4.14	48	3.76	67	4.70
Indonesia	60	4.20	54	4.45	68	3.30	56	4.85
South Africa	62	4.18	59	4.35	44	3.81	96	4.37
India	65	4.14	62	4.24	55	3.64	81	4.55
Botswana	70	3.99	64	4.21	69	3.30	85	4.47
China	71	3.97	78	4.00	61	3.51	93	4.39
Tanzania	80	3.86	72	4.07	89	2.89	75	4.64
Kenya	**98**	**3.62**	**91**	**3.76**	**86**	**2.94**	**107**	**4.15**

Source: World Economic Forum (2007)

Table B10.1: Water pollution

Country	Emissions of organic water pollutants (Kilograms per day per worker)	
	1990	**2003**
Botswana	0.14	
Brazil	0.19	
Chile	0.22	0.24
China	0.14	0.14
Egypt	0.20	0.20
Ghana	0.20	
India	0.20	0.20
Indonesia	0.19	0.19
Kenya	**0.23**	**0.24**
Malaysia	0.13	0.12
Singapore	0.09	0.10
South Africa	0.17	0.18
Tanzania	0.24	0.25
Thailand	0.17	
Uganda	0.30	

Source: World Bank (2007)

Table B10.2: Access to improved water sources and other important elements

	Total (%)	Access to an improved water source		Renewable internal freshwater resources per capita cubic meter	Annual freshwater withdrawals billion cubic meter	Water productivity
		% of urban population	% of rural population			GDP/water use 2000 US$ per cubic meter
		2004	**2004**	**2005**	**2002**	
Botswana	95	100	90	1,360	0.2	35.4
Brazil		96	57	29,066	59.3	10.5
Chile		100	58	54,249	12.6	6.3
China		93	67	2,156	630.3	2.2
Egypt	98	99	97	24	68.3	1.6
Ghana	75	88	64	1,370	1.0	5.5
India		95	83	1,152	645.8	0.8
Indonesia		87	69	12,867	82.8	2.2
Kenya	**61**	**60**	**40**	**604**	**1.6**	**8.4**
Malaysia		100	96	22,882	9.0	10.5
Mauritius	100	100	100	2,252	0.6	7.9
Singapore		100		138		
South Africa	88	99	73	955	12.5	11.3
South Korea	100	100	2,979	9.0		
Tanzania	62	85	49	2,192	5.2	2.0
Thailand		98	100	3,269	87.1	1.5
Uganda	60	87	56	1,353	0.3	22.0

Source: World Bank (2007); Government of Kenya (2008), Vision 2030

Table B10.3: Estimated deaths and dalys attributable to selected environmental risk factors, by WHO member state, 2002

	Water, sanitation and hygiene			
	Improved water (%)	Improved sanitation (%)	Diarrhoea deaths per year	Diarrhoea Dalys/1000 capita per year
Botswana	95	42	300	6.6
Brazil	90	75	15000	3.6
Chile	95	91	200	1.0
China	77	44	95600	3.0
Egypt	98	70	11400	6.0
Ghana	75	18	8600	14.0
India	86	33	402200	13.0
Indonesia	77	55	31200	5.0
Kenya	**61**	**43**	**21800**	**23.0**
Malaysia	99	94	300	1.0
Mauritius	100	94	-	1.0
Singapore	100	100	-	0.4
South Africa	88	65	11900	9.0
Tanzania	62	47	28200	26.0
Thailand	99	99	2800	2.0
Uganda	60	43	26800	35.0

Source: WHO (2007)

Table B10.4: Access to improved sanitation facilities

	% of urban		% of rural population	
	1990	2004	1990	2004
Botswana	61	57	21	25
Brazil	82	83	37	37
Chile	91	95	52	62
China	64	69	7	28
Egypt	70	86	42	58
Ghana	23	27	10	11
India	45	59	3	22
Indonesia	65	73	37	40
Kenya	**48**	**46**	**37**	**41**
Malaysia	95	100		93
Mauritius	95	95		94
Singapore	100	100		
South Africa	85	79	53	46
South Korea	58		60	
Tanzania	52	53	45	43
Thailand	95	98	74	99
Uganda	54	54	41	41

Source: World Bank (2007)

Table B10.5: Comparison of forested area and annual deforestation in selected countries

	Forestry area (% of land area)	
	1990	2005
Botswana	24.2	21.1
Brazil	61.5	56.5
Chile	20.4	21.5
China	16.8	21.2
Egypt	0.0	0.1
Ghana	32.7	24.2
India	21.5	22.8
Indonesia	64.3	48.8
Kenya	**6.5**	**6.2**
Malaysia	68.1	63.6
Mauritius	19.2	18.2
Singapore	3.0	2.9
South Africa	7.6	7.6
South Korea	68.1	51.4
Tanzania	46.9	39.9
Thailand	31.2	28.4
Uganda	25.0	18.4

Source: World Bank (2007)

Table B10.6: Protected areas among selected countries, 2004

Country	National protected areas		Marine protected areas	
	sq km	% of total land area	sq km	% of total land area
Kenya	**71,900**	**12.6**	**3,100**	**0.5**
Tanzania	374,300	42.4	2,300	0.2
Uganda	64,300	32.6	-	-
South Africa	74,000	6.1	3,400	0.3
Botswana	174,900	30.9	-	-
Mauritius	100	3.3	100	4.4
Egypt	56,000	5.6	76,700	7.7
Tunisia	2,300	1.5	200	0.1
Ghana	36,900	16.2	-	-
China	1,100,700	11.8	16,000	0.2
Singapore	-	4.2	-	0.1
Malaysia	100,800	30.7	5,000	1.5
South Korea	3,500	3.6	3,500	3.5
Thailand	80,300	15.7	5,800	1.1
Indonesia	269,900	14.3	130,100	6.8
India	156,300	5.3	16,100	0.5
Brazil	1,532,600	18.1	47,400	0.6
Chile	26,900	3.6	114,500	15.1

Source: World Bank (2007)

Table B10.7: Production, imports, exports and consumption of fish and fish products in selected countries (tonnes in liveweight 2001-2003 average)

	Production	Imports	Exports	Consumption	Per capita consumption (kg/year)
Kenya	**143,668**	**13,409**	**44,722**	**112,134**	**3.6**
Mauritius	10,992	78,183	60,229	23,503	19.4
Uganda	231,777	432	40,827	191,385	7.7
Tanzania	336,200	453	73,771	253,893	7.0
Egypt	816,324	222,780	3123	1,034,979	14.7
South Africa	759,522	48,903	194,109	333,316	7.5
Malaysia	1,429,270	523,391	221,744	1,452,469	60.6
Thailand	3,534,119	995,796	1,759,745	1,976,055	31.8
Brazil	1,072,921	269,459	133,724	1,132,986	6.4

Source: http://www.fao.org

Table B10.8: Production of selected minerals in Kenya

	1990	1994	1995	2000	2001	2002	2003
Soda ash (MT)	231,900	224,200	218,450	238,190	297,780	304,110	352,560
Salt	70,318	75,757	71,400	16,359	5,664	18,848	21,199
Lime and limestone	35,733	30,469	31,383	32,000	32,000	32,000	32,000
Fluorspar (MT)	80,529	89,155	74,230	93,602	118,850	85,015	80,201
Gold (kg)	-	10	151	1,243	1,545	1,477	1,543

Source: Government of Kenya (various), Statistical Abstracts

Table B10.9: GEF benefits index for biodiversity in selected countries

	Land Area ('000 sq km)	% of total land area under protection	GEF benefits index for biodiversity
	2005	**2004**	**2005**
Brazil	8,459.4	18.1	100.0
China	9,598.1	11.8	64.8
Egypt	995.5	5.6	3.2
Indonesia	1,811.6	14.3	90.0
Kenya	**569.1**	**12.6**	**9.9**
Malaysia	328.6	30.7	14.8
Mauritius	2.0	3.3	4.2
Singapore	0.7	4.2	0.1
South Africa	1,214.5	6.1	23.5
Tanzania	883.6	42.4	15.1
Thailand	510.9	15.7	8.0
Uganda	197.1	32.6	3.3

Source: World Bank (2007)

Table B10.10: Estimated deaths and dalys attributable to selected environmental risk factors, by WHO member state, 2002

	Indoor air pollution				Outdoor air pollution		
	Population using solid fuel (%)	Deaths per year	Dalys/1000 capita per year	Annual PM10 (ug/m3)	Population using solid fuel (%)	Deaths per year	Dalys/1000 capita per year
Brazil	13	4,100	0.6	35	45	12,900	0.6
China	80	380,700	2.5	80	37	27,5600	1.4
Egypt	<5	700	0.2	136	32	15,000	2
Ghana	87	5,600	7.5	42	20	600	0.3
Indonesia	72	15,300	1.5	114	22	28,800	1.2
Kenya	**63**	**13,000**	**12**	**38**	**16**	**600**	**0.2**
Malaysia	<5	<100	0.0	28	28	500	0.2
Mauritius	<5	-	-	47	12	<100	0.4
Singapore	<5	-	-	48	79	1,000	1.5
South Africa	18	1,000	0.5	24	43	1,000	0.2
South Korea	<5	-	-	43	74	6,800	0.9
Tanzania	>95	27,500	24	38	21	1,000	0.4
Thailand	72	4,600	1.5	77	16	2,800	0.4
Uganda	>95	19,900	26	33	5	100	0.1

Source: WHO (2007)

Table B10.11: Greenhouse gas emissions

	Carbon dioxide emissions				Methane emissions	Nitrous oxide emissions
	Total (million metric tones)		Per capita metric tones		Millions of metric tons of carbon dioxide equivalent	Millions of metric tons of carbon dioxide equivalent
	1990	**2004**	**1990**	**2004**	**2000**	**2000**
Brazil	209.5	331.6	1.4	1.8	297.2	207.7
China	2,398.9	5,007.1	2.1	3.8	802.9	644.7
Egypt	75.4	158.1	1.5	2.3	34.3	16
Ghana	3.8	7.2	0.3	0.3	7.1	7.4
Indonesia	213.8	378.0	1.2	1.7	169.2	38.7
Kenya	**5.8**	**10.6**	**0.3**	**0.3**	**21.5**	**22.6**
Malaysia	55.3	177.5	3.0	7.5	30.4	13.3
Mauritius	1.5	3.2	1.4	2.6	0.3	0.9
Singapore	45.1	52.2	14.9	12.3		
South Africa	331.8	436.8	9.1	9.8	37.4	25.8
South Korea	241.2	465.4	5.6	9.7	33.5	6.5
Tanzania	2.3	4.3	0.1	0.1	31.7	27.1
Thailand	95.7	267.9	1.7	4.2	75.9	13.1
Uganda	0.8	1.8	0.0	0.1	12.4	12.9

Source: World Bank (2007), Human Development Report

Table B10.12: Particulate matter concentrations

	Particulate matter concentrations Urban-population weighted PM10 micrograms per cubic meter	
	1990	**2004**
Brazil	40	28
China	113	72
Egypt	221	135
Ghana	39	35
Indonesia	139	102
Kenya	**66**	**39**
Malaysia	37	29
Mauritius	146	103
Singapore	106	44
South Africa	34	26
South Korea	184	79
Tanzania	57	28
Thailand	88	73
Uganda	27	17

Source: World Bank (2007)

Table B10.13: Air pollution for selected cities in the world

	City	Particulate matter Micrograms per cubic meter	Sulphur dioxide Micrograms per cubic meter	Nitrogen dioxide Micrograms per cubic meter
		2004	1995-2001	1995-2001
Brazil	Rio de Janeiro	35	129	
China	Beijing	89	90	122
Egypt	Cairo	169	69	
Indonesia	Jakarta	104		
Kenya	**Nairobi**	**43**		
Malaysia	Kuala Lumpur	29	24	
Mauritius				
Singapore	Singapore	44	20	30
South Africa	Johannesburg	33	19	31
South Korea	Seoul	41	44	60
Tanzania				

Source: World Bank (2007)

Table D12.1: Human Development Index, 2002-2005

	2002	2003	2004	2005
Kenya	**0.49**	**0.47**	**0.49**	**0.52**
South Africa	0.67	0.66	0.65	0.67
Egypt	0.65	0.66	0.70	0.71
Mauritius	0.79	0.79	0.80	0.80
Uganda	0.49	0.51	0.50	0.51
Tanzania	0.41	0.42	0.43	0.47
Mozambique	0.35	0.38	0.40	0.38
Korea	0.89	0.90	0.91	0.92
Singapore	0.90	0.91	0.92	0.92
Malaysia	0.79	0.80	0.81	0.81
Thailand	0.77	0.78	0.78	0.78
India	0.60	0.60	0.61	0.62
China	0.75	0.76	0.77	0.78
Chile	0.84	0.85	0.86	0.87
Brazil	0.78	0.79	0.79	0.80
Argentina	0.85	0.86	0.86	0.87
United States	0.94	0.94	0.95	0.95
Japan	0.94	0.94	0.95	0.95
United Kingdom	0.94	0.94	0.94	0.95

Source: World Bank (2007)

Table D12.2: Gender-related development index, 2002-2005

	2002	2003	2004	2005
Kenya	**0.486**	**0.472**	**0.487**	**0.521**
South Africa	0.661	0.652	0.646	0.667
Egypt	0.634	na	na	na
Mauritius	0.775	0.781	0.792	0.796
Uganda	0.487	0.502	0.498	0.501
Tanzania	0.401	0.414	0.426	0.464
Mozambique	0.339	0.365	0.387	0.373
Korea	0.882	0.896	0.905	0.910
Singapore	0.884	na	na	na
Malaysia	0.786	0.791	0.795	0.802
Thailand	0.766	0.774	0.781	0.779
India	0.572	0.586	0.591	0.600
China	0.741	0.754	0.765	0.776
Chile	0.830	0.846	0.850	0.859
Brazil	0.768	0.786	0.859	0.798
Argentina	0.841	0.854	0.859	0.865
United States	0.936	0.942	0.946	0.937
Japan	0.932	0.937	0.942	0.942
United Kingdom	0.934	0.937	0.938	0.944

Source: World Bank (various), Human Development Report
na- data not available.

Appendix D12.3: Human capital development

	HDI	Education index	GER (primary, secondary and tertiary)	Adult literacy	Life expectancy		Standard of living		Basic human capital		Advanced human capital		Impact of HIV/AIDS on business
Year	**2005**	**2005**	**2005**	**2005**	**2005**	**2005**	**2005**	**2005**	**2007**	**2007**	**2007**	**2007**	**2007**
Measure	**Index/10**	**Index/10**	**%**	**%**	**Index/10**	**Yrs**	**Index/10**	**PPP (US$)**	**Index/7**	**Rank/131**	**Index/7**	**Rank/131**	**Rank/131**
Argentina	0.869	0.947	89.7	97.2	0.83	74.8	0.828	14,280	5.61	54	4.22	51	54
Botswana	0.654	0.773	69.5	81.2	0.39	48.1	0.804	12,387	3.8	119	3.49	90	126
Brazil	0.8	0.883	87.5	88.6	0.78	71.7	0.74	8,402	5.23	84	4.01	64	61
Chile	0.867	0.914	82.9	95.7	0.89	78.3	0.799	12,027	5.42	70	4.41	42	43
China	0.777	0.837	69.1	90.9	0.79	72.5	0.703	6,757	5.49	61	3.77	78	56
Egypt	0.708	0.732	76.9	71.4	0.76	70.7	0.629	4,377	5.23	83	3.68	80	41
Ghana	0.553	0.555	50.7	57.9	0.57	59.1	0.536	2,480	-	-	-	-	-
India	0.619	0.62	63.8	61	0.65	63.7	0.591	3,452	4.92	101	4.13	55	100
Indonesia	0.728	0.83	68.2	90.4	0.75	69.7	0.609	3,843	5.31	78	4	65	28
Ireland	0.959	0.993	99.9	-	0.89	78.4	0.994	38,505	6.28	16	5.26	21	33
Kenya	**0.521**	**0.693**	**60.6**	**73.6**	**0.45**	**52.1**	**0.42**	**1,240**	**4.26**	**110**	**3.56**	**88**	**115**
Korea	0.921	0.98	96	-	0.88	77.9	0.9	22,029	6.08	27	5.65	6	70
Malaysia	0.811	0.839	74.3	88.7	0.81	73.7	0.783	10,882	6.08	26	4.86	27	60
Mauritius	0.804	0.813	75.3	84.3	0.79	72.4	0.809	12,715	5.69	49	3.94	68	63
Seychelles	0.843	0.886	82.2	91.8	0.8	72.7	0.848	16,106	-	-	-	-	-
Singapore	0.922	0.908	87.3	92.5	0.91	79.4	0.95	29,663	6.24	19	5.42	16	35
South Africa	0.674	0.806	77	82.4	0.43	50.8	0.786	11,110	3.96	117	4.12	56	129
Taiwan	-	-	-	-	-	-	-	-	6.43	6	5.73	4	55
Tanzania	0.467	0.631	50.4	69.4	0.43	51	0.335	744	4.18	112	2.55	123	125
Tunisia	0.766	0.75	76.3	74.3	0.81	73.5	0.739	8,371	6.13	24	4.78	30	7
Uganda	0.505	0.655	63	66.8	0.41	49.7	0.447	1,454	3.06	130	2.84	115	122

The Human Development Index (HDI) is the normalized measure of life expectancy, literacy, education, standard of living, and GDP per capita. It is a standard means of measuring well-being, especially child welfare. It represents the average of the following three general indices: Life expectancy index, Education index (Gross enrolment and adult literacy index) and GDP index (*Source*: UNDP).

Basic Human Capital Index consists of investment in the provision of health services and the quantity and quality of basic education received by the population. Basic education increases the efficiency of each individual worker, making the economy more productive (*Source*: World Economic Forum).

Advanced Human Capital Index measures secondary and tertiary enrolment rates and the quality of education as assessed by the business community. Vocational and continuous on-the-job training is also taken into consideration (*Source*: World Economic Forum).

Table D12.4: Macroeconomic environment

	Macroeconomic stability				Inflation	Deposit interest rate		Lending interest rate		ICRG risk exchange rate stability	Government size
Year	2007		2006		2007	2006	2005	2006	2005	2005	2005
Measure	Index/7	Rank/131	Index/7	Rank/125	Rank/131	Nominal (%)	Real (%)	Nominal (%)	Real (%)	Index/10	Index/10
Argentina	4.91	64	3.65	78	118	6.42	-5.36	8.63	-3.17	10.0	6.1
Botswana	4.75	76	4.58	40	119	8.87	0.56	16.46	6.53	10.0	5.0
Brazil	3.66	126	3.36	94	61	13.93	10.05	50.81	45.38	9.6	6.4
Chile	5.86	12	5.22	15	50	5.11	0.85	8.00	3.52	9.9	6.3
China	6.03	7	4.79	32	7	2.52	0.42	6.12	3.69	10.0	5.1
Egypt	3.74	124	3.65	79	61	6.02	2.25	12.6	7.89	10.0	7.1
India	4.21	108	4.32	51	81	-	-	11.19	6.24	10.0	7.7
Indonesia	4.59	89	4.45	45	126	11.41	-2.15	15.98	3.26	9.1	6.9
Ireland	5.69	21	5.25	14	34	-	-	-	-	10.0	6.1
Kenya	**3.77**	**122**	**3.14**	**108**	**129**	**5.14**	**-4.74**	**13.64**	**2.33**	**9.8**	**7.1**
Korea	6	8	4.73	34	21	4.5	0.97	5.99	2.79	3.3	6.4
Malaysia	5.18	45	5.03	20	54	3.15	-0.06	6.49	2.80	10.0	5.4
Mauritius	4.18	109	3.89	66	73	9.55	2.23	21.08	15.37	-	7.4
Seychelles	-	-	-	-	-	2.46	3.72	10.05	9.98	-	-
Singapore	5.68	24	5.88	1	3	0.57	-0.03	5.31	4.81	10.0	8.1
South Africa	5.08	50	4.73	35	70	7.14	2.56	11.17	6.99	9.5	5.5
Taiwan	5.62	26	5.00	22	2	-	-	-	-	10.0	5.7
Tanzania	4.03	114	3.61	80	79	6.57	-3.62	15.41	5.97	10.0	4.9
Tunisia	4.8	72	4.84	29	67	-	-	-	-	10.0	5.2
Uganda	4.31	104	3.24	105	89	9.09	0.59	18.7	10.77	9.6	5.9

The GCI macroeconomic stability index is a measure that combines both Executive Opinion Survey and Macroeconomic Stability 'hard' data. The Executive Opinion Survey seeks to know the likelihood of a country's economy being in a recession in the following year and the easiness of obtaining credit over the past year. The 'hard' data incorporates a country's issues of government surplus/deficit, savings rate, inflation, real exchange rate, and nominal interest rate spread (*Source*: World Economic Forum).

Nominal deposit and lending interest rates are the rates quoted in loan and deposit agreements. These nominal rates have not been adjusted for the decrease in the real value (i.e. purchasing power) of the borrowed or deposited funds over the duration of the loan or deposit. Real deposit and lending interest rates are the nominal ones adjusted for inflation(*Source*: International Finance Statistics-IFS).

Inflation: Generally, the Consumer Price Index was used as the measure of inflation for this component. When these data were unavailable, the GDP deflator inflation rate was used. The zero-to-10 rating was used (*Source*: World Economic Forum).

Government size index is a simple average on general government consumption spending as a percentage of total consumption, transfers and subsidies as a percentage of GDP, government enterprises and investment and top marginal tax rate (*Source*: Economic freedom of the World Report).

Exchange rate stability: The appreciation or depreciation of a currency against the US dollar (against the German Mark in the case of the USA) over a calender year or the most recent 12-month period is calculated as a percentage change. The risk points range from 0-10 scale (*Source:* ICRG – Inter-country Risk Guide).

Table D12.5: Business environment regulations, 2006

	BCI	Company operations and strategy	Starting a business			Closing a business			Dealing with licenses			
		Rank/122	Procedures	Number of days	Cost ($)	Time (years)	Cost (% of estate)	Recovery rate (cents on the dollar)	Ease of doing business	Number of procedures	Time (days)	Cost (% of income per capita)
Measure	**rank/122**		**Number**	**Number**	**US$**	**Days**	**%**	**Cents on the dollar**	**Rank**	**Number**	**Days**	**%**
Argentina	90	68	15	32	12.1	2.8	12.0	36.2	101	23	288	46.3
Botswana	75	92	11	108	10.6	1.3	14.5	64.7	48	24	169	457.7
Brazil	59	42	17	152	9.9	4	12.0	12.1	121	19	460	179.9
Chile	29	28	9	27	9.8	5.6	14.5	20.0	28	12	171	114.2
China	57	54	13	35	69.3	2.4	22.0	31.5	93	29	367	84.0
Egypt	70	69	10	19	68.8	4.2	22.0	16.6	165	30	263	10,002.0
Ghana			12	81	49.6	1.9	22.0	24.7	94	16	127	1,314.1
India	31	27	11	35	73.7	10.0	9.0	13.0	134	20	270	606.0
Indonesia	36	23	12	97	86.7	5.5	18.0	11.8	135	19	224	311.0
Ireland	24	22	4	19	0.3	0.4	9.0	87.9	10	10	181	22.2
Kenya	**62**	**52**	**13**	**54**	**46.3**	**4.5**	**22.0**	**14.6**	**83**	**11**	**170**	**37.6**
Korea	19	10	13	35	2.2	1.5	3.5	81.8	23	14	52	175.9
Malaysia	21	20	9	30	19.7	2.3	14.5	38.7	25	25	281	78.2
Mauritius	55	50	6	46	8.0	1.7	14.5	34.3	32	21	145	13.7
Seychelles			9	38	9.1			0.0	84	22	147	51.3
Singapore	9	14	6	6	0.8	0.8	1.0	91.3	1	11	129	24.0
South Africa	34	26	9	35	6.9	2.0	18.0	34.4	29	17	174	33.5
Taiwan	23	18	8	48	4.6	0.8	3.5	89.5	47	32	206	231.9
Tanzania	80	86	13	30	91.6	3.0	22.0	21.9	142	26	313	3,796.6
Tunisia	25	33	10	11	9.3	1.3	7.0	51.2	80	24	79	1031.9
Uganda	96	90	17	30	114.0	2.2	29.5	40.4	107	19	156	832.8

Business competitiveness index: It evaluates the underlying microeconomic conditions defining the current sustainable level of productivity, the underlying concept being that while macroeconomic and institutional factors are critical for national competitiveness, these are necessary but not sufficient factors for creating wealth (Source: World Economic Forum).

Company operations strategy: This is composed of production process sophistication, nature of competitive advantage (i.e., competing on unique products and processes rather than low input cost), and prevalence of foreign technology licensing (*Source*: World Economic Forum).

Business environment indicators: This includes measures related to the state of cluster development. Local supplier quality indicates the presence of specialized suppliers and services providers, a key feature of vibrant clusters (*Source*: World Economic Forum).

Starting a business: Zero-to-10 ratings are constructed for three different variables: (1) time (days) necessary to comply with regulations; (2) money costs of the fees paid to regulatory authorities (as a share of per-capita income); and (3) minimum capital requirements, i.e., funds that must be deposited into company bank account (as a share of per capita income) (*Source*: World bank Doing Business Report).

Closing a business: Data are derived from survey responses by local insolvency practitioners and verified through a study of laws and regulations and public information on bankruptcy systems. It has 3 components: Time (days) taken to close a business, sequence of procedures and on whether procedures can be carried out simultaneously, and the cost of the proceedings (as a percentage of the estate's value) (*Source*: World Bank Doing Business Report).

Registering a property: This entails procedures (any interaction of the buyer or the seller, their agents or the property with external parties, including government agencies, inspectors, notaries and lawyers aimed at legally transferring title on real property. Pre-registration (checking for liens, notarizing, and sales agreement), time (days) it takes but not including time spent gathering information, and costs (as a percentage of the property value, assumed to be equivalent to 50 times per capita). Costs include official costs only, no bribes. It also excludes value added or capital gains taxes) (*Source*: World Bank Doing Business Report).

Table D12.6: Labour efficiency

	Labour market efficiency		Rigidity of employment	Difficulty of hiring index	Rigidity of hours index	Difficulty of firing index	Firing costs (week of wages)
Year	**2007**	**2007**	**2006**	**2006**	**2006**	**2006**	**2006**
Measure	**Index/7**	**Rank/131**	**Index/100**	**Index/100**	**Index/100**	**Index/100**	**weeks of wages**
Argentina	3.49	129	41	44	60	20	138.7
Botswana	4.41	54	20	0	20	40	90.0
Brazil	3.96	104	42	67	60	0	36.8
Chile	4.96	14	24	33	20	20	52.0
China	4.4	55	24	11	20	40	91
Egypt	3.21	130	53	0	60	100	186.3
Ghana			34	11	40	50	12.5
India	4.07	96	41	33	20	70	55.9
Indonesia	4.74	31	44	61	20	50	108.3
Ireland	4.87	19	33	28	40	30	49.0
Kenya	**4.34**	**60**	**28**	**33**	**20**	**30**	**47.3**
Korea	4.79	24	34	11	60	30	91.0
Malaysia	4.95	16	10	0	20	10	88.0
Mauritius	4.15	82	30	0	40	50	34.7
Seychelles			34	33	20	50	38.6
Singapore	5.67	2	0	0	0	0	4.0
South Africa	4.16	78	41	44	40	40	24.0
Taiwan	4.83	22	56	78	60	30	91.0
Tanzania	4.38	57	67	100	40	60	32.0
Tunisia	4.16	79	46	17	40	80	17.3
Uganda	4.79	23	7	0	20	0	13.0

Labour market efficiency: Labour markets must have the flexibility to shift workers from one economic activity to another quickly, and to allow for wage fluctuations without much social disruption. Efficient labour markets must also ensure a clear relationship between worker incentives and their efforts, and the best use of available talent, which includes equity in the business environment between women and men (*Source*: World Economic Forum).

Rigidity of employment Index: This is the average of 3 sub-indices: a difficulty of hiring, a rigidity of hours and a difficulty of firing. *Difficulty of hiring* index measures whether fixed term contracts are prohibited for permanent tasks, the maximum cumulative duration of fixed-term contracts, and the ratio of the minimum wage for a trainee or first time employee to the average value added per worker. *Rigidity of hours* measures whether night work is unrestricted, weekend work is unrestricted, whether the work week can consist of 5.5 days, whether the workweek can extend to 50 hours or more (including overtime) for 2 months a year to respond to a seasonal increase in production; and whether paid annual vacation is 21 days or fewer. *Difficulty of firing* measures whether redundancy is disallowed as a basis for terminating workers, the employer needs to notify a third party (such as government agency) to terminate 1 worker; the company needs to notify a third party to terminate a group of 25 redundant workers; the law requires the employer to consider reassignment or retraining options before redundancy termination priority rules apply for redundancies and for reemployment (*Source*: World Bank, Doing Business Report).

Firing cost measures the cost of advance notice requirements, severe payments and penalties due when terminating a redundant worker, expressed in weekly wages. If the firing costs add up to 8 or fewer weeks of salary, a score of 0 is assigned for the purpose of calculating the aggregate ease of doing business ranking. If the cost adds up to more than 8 weeks of salary, the score is the number of weeks. One month is recorded as 4 and 1/3 weeks (*Source*: World Bank, Doing Business Report).

Appendix D12.7: Indicators of financial sector performance

	Financial market efficiency		Private sector Credit/GDP	Private sector credit/total	Ease of access to credit	Credit information	Ownership of banks	Soundness of banks
Year	**2007**	**2007**	**2005**	**2006**	**2007**	**2006**	**2005**	**2007**
Measure	**Index/7**	**Rank/131**	**%**	**%**	**Rank/131**	**Index/**	**Index/10**	**Rank/131**
Argentina	3.49	114	11.7	42	114	6	5	131
Botswana	4.77	42	18.3	-137	60	5	8	35
Brazil	4.14	73	41.0	41	89	5	5	36
Chile	5.17	26	65.7	102	33	6	8	21
China	3.35	118	114.9	83	100	4	2	128
Egypt	3.5	113	52.4	53	95	2	2	106
India	4.93	37	41.1	71	38	3	2	46
Indonesia	4.65	50	24.8	59	42	2	5	118
Ireland	5.91	5	27.0		12	5	8	5
Kenya	**4.67**	**48**	**8.6**	**70**	**49**	**2**	**8**	**74**
Korea	5.15	27	127.3	95	28	5	8	69
Malaysia	5.49	19	67.2	90	20	6	10	43
Mauritius	5.05	32	40.6	70	40	1	10	37
Seychelles			101.7	27		0		
Singapore	6.02	3	146.8	138	15	4	10	20
South Africa	5.19	25		94	44	5	10	16
Taiwan	4.45	58	10.4		39	5	2	114
Tanzania	4.03	79	96.0	108	90	0	8	75
Tunisia	4.32	66	65.7	89	25	3	5	76
Uganda	3.76	96	6.8	84	87	0	10	95

Financial market efficiency is the ability of the financial sector to allocate the resources saved to its most productive uses (*Source*: World Economic Forum)

Private sector credit is the percentage of domestic credit consumed by the private sector. For this component, higher values are indicative of greater economic freedom (*Source*: International Financial Statistics-IFS).

Credit information index measures the rules affecting the scope, accessibility and quality of credit information available through either public or private credit registries. The index ranges from 0 to 6, with higher values indicating the availability of more credit information (*Source*: Economic Freedom of the World Report).

Ownership of banks: When privately held deposits total between 95% and 100%, countries are given a rating of 10. When they constitute 75% and 95% of the total, a rating of 8 is assigned, between 40% and 75%, a rating of 5, between 10% and 40%, a rating of 2 and 10% and below a rating of zero is given. The higher values of private sector deposits are indicative of greater economic freedom (*Source*: Economic Freedom of the World Report).

Soundness of banks: The rating tests whether banks are: 1=insolvent and may require government bailout, 7=generally healthy with sound balance sheets (*Source*: World Economic Forum).

Ease of access to credit: The index is derived from a survey that accesses the ease with which one can obtain a bank loan with only a good business plan and no collateral. The ratings range from 1 (impossible) to 7 (easy) (*Source*: World Economic Forum).

Table D12.8: Institutional environment indicators

	Public institution		Contracts and law		Corruption		TI corruption	Diversion of public funds	Democratic Accountability	Bureaucracy Quality	Government Stability
Year	**2007**	**2007**	**2007**	**2007**	**2007**	**2007**	**2007**	**2007**	**2006**	**2006**	**2006**
Measure	**Rank/131**	**index/7**	**Rank/131**	**index/7**	**Rank/131**	**Index/7**	**index/10**	**Rank/131**	**index/6**	**index/4**	**index/12**
Argentina	97	3.71	118	2.81	70	4.61	2.9	117	4.5	3.0	9.3
Botswana	42	5.08	38	4.75	49	5.41	5.4	36	4.0	2.0	11.0
Brazil	66	4.27	95	3.35	56	5.19	3.5	124	5.0	2.0	7.2
Chile	23	5.66	32	4.88	15	6.44	7.0	37	5.0	3.0	8.7
China	71	4.04	81	3.54	73	4.54	3.5	83	1.0	2.0	11.0
Egypt	52	4.70	40	4.64	64	4.76	2.9	58	2.3	2.0	10.0
Ghana							3.7		5.0	2.1	9.5
India	43	5.07	27	5.14	61	5.01	3.5	64	6.0	3.0	7.5
Indonesia	110	3.45	62	3.92	123	2.98	2.3	77	5.0	2.0	7.3
Ireland	17	5.94	16	5.51	18	6.38	7.5	17	6.0	4.0	8.6
Kenya	**105**	**3.56**	**97**	**3.23**	**105**	**3.89**	**2.1**	**108**	**5.1**	**2.0**	**5.9**
Korea	48	4.83	45	4.47	55	5.20	5.1	26	0.0	0.0	8.5
Malaysia	28	5.42	24	5.22	43	5.62	5.1	29			
Mauritius	44	5.01	37	4.76	52	5.26	4.7	43			
Seychelles							4.5		4.5	3.0	10.5
Singapore	7	6.32	9	5.81	3	6.83	9.3	5	2.0	4.0	11.0
South Africa	39	5.18	42	4.58	36	5.78	5.1	49	5.0	2.0	9.7
Taiwan	30	5.33	41	4.59	26	6.08	5.7	39	5.0	3.0	6.9
Tanzania	77	3.99	58	4.13	106	3.86	3.2	74	4.0	1.0	9.8
Tunisia	35	5.20	26	5.18	53	5.22	4.2	23	2.0	2.0	11.0
Uganda	108	3.50	94	3.35	112	3.65	2.8	117	2.5	2.0	9.3

Democratic accountability: This is a measure of how responsive government is to its people, on the basis that the less responsive it is, the more likely it is that the government will fall peacefully in a democratic society, but possibly violently in a non-democratic one (*Source*: ICRG index).

Government stability: It is a measure of government's ability to carry out its declared programmes and its ability to stay in office. It has three equal (in weights) sub-components of government utility, legislative strength and popular support (*Source*: ICRG index).

Corruption index measures the insidious level of actual or potential corruption, which are likely to culminate into major scandals within the political system in the form of excessive patronage, nepotism, job reservations, favour-for-favours, secret party funding and suspiciously close ties between politics and business (*Source*: World Economic Forum).

Bureaucracy quality: This is institutional strength and bureaucratic quality index and measures the degree of shock absorber in government that tends to minimize revisions of policy when government changes (*Source*: ICRG index).

Diversion of public funds: The data is derived from a survey on the perception of respondent on the level of diversion of public funds to companies, individuals, or groups due to corruption (1=common, 7= never occurs) (*Source*: World Economic Forum).

Table D12.9: Security indicators

	Reliability of police services	Organized crime in public institutions	Business costs of terrorism	Business cost of crime and violence
Year	**2007**	**2007**	**2007**	**2007**
Measure	**Rank/131**	**Rank/131**	**Rank/131**	**Rank/131**
Argentina	125	90	106	12
Botswana	65	55	87	33
Brazil	120	125	121	10
Chile	26	28	65	28
China	59	99	73	109
Egypt	57	32	49	106
Ghana				
India	60	68	45	93
Indonesia	93	37	24	30
Ireland	25	29	43	35
Kenya	**96**	**113**	**124**	**125**
Korea	27	50	40	78
Malaysia	31	42	46	59
Mauritius	64	21	48	6
Seychelles				
Singapore	4	8	10	85
South Africa	104	112	126	43
Taiwan	38	51	28	63
Tanzania	83	63	88	71
Tunisia	23	46	25	39
Uganda	90	100	100	126

Reliability of police services: The rating is done on police services (1=cannot be relied upon to protect businesses from criminals, 7=can be relied upon to protect businesses from criminals) (*Source*: World Economic Forum).

Business cost of crime and violence: This rates the country on incidences of common crime and violence, for example street muggings, firms looted (1= imposes significant costs on businesses, 7 =does not impose significant costs on businesses) (*Source*: World Economic Forum).

Business costs of terrorism is derived from a survey on the threat of terrorism in a country (1=imposes significant costs on business, 7=does not impose significant costs on business) (*Source*: World Economic Forum).

Organized crime: The level of organized crime, e.g. mafia-oriented racketeering, extortion in a country (1=imposes significant costs on businesses, 7=does not impose significant costs on businesses) (*Source*: World Economic Forum).

Table D12.10: Law and order, and enforcement of contracts

	Judicial independence-rank		Law and order		Enforcing contracts
Year	**2007**	**2006**	**2006**	**2006**	**2006**
Measure	**Rank/131**	**ICRG Index /6**	**No. of procedures**	**Time (days)**	**Cost (% of debt)**
Argentina	123	2.8	33	520	15.0
Botswana	29	4.0	26	501	24.8
Brazil	89	2.5	42	616	15.5
Chile	54	5.0	33	480	16.3
China	82	4.5	31	292	26.8
Egypt	41	4.0	55	1010	18.4
Ghana	-	2.4	29	552	13.0
India	26	4.0	56	1420	35.7

Year	2007	2006	2006	2006	2006
Measure	**Rank/131**	**ICRG Index /6**	**No. of procedures**	**Time (days)**	**Cost (% of debt)**
Indonesia	98	3.0	34	570	126.5
Ireland	15	6.0	18	217	21.1
Kenya	**97**	**2.5**	**25**	**360**	**41.3**
Korea	35	5.0	29	230	5.5
Malaysia	30	4.0	31	450	21.3
Mauritius	45		37	630	15.7
Seychelles			29	720	13.0
Singapore	19	5.0	29	120	14.6
South Africa	23	2.5	26	600	11.5
Taiwan	53	5.0	28	510	16.6
Tanzania	59	5.0	21	393	51.5
Tunisia	32	5.0	21	481	17.3
Uganda	83	4.0	19	484	35.2

Judicial independence: This is from the Global Competitiveness Report's question: "Is the judiciary in your country independent from political influences of members of government, citizens, or firms? No—heavily influenced (= 1) or Yes—entirely independent (= 7)" (*Source*: World Economic Forum).

Law and order–6 points are assessed separately, with each sub-component comprising zero to three points. The Law sub-component is an assessment of the strength and impartiality of the legal system, while the Order sub-component is an assessment of popular observance of the law. Thus, a country can enjoy a high rating–3–in terms of its judicial system, but a low rating – 1– if it suffers from a very high crime rate or if the law is routinely ignored without effective sanction (for example, widespread illegal strikes) (*Source*: ICRG index).

Enforcing contracts measures the efficiency of the judicial system in resolving a commercial dispute. Its components include: Procedures (any interaction between the parties, or between them and the judge or court officer. This includes steps to file the case, steps for trial and judgment and steps necessary to enforce the judgment), Time(days) from the moment the plaintiff files the lawsuit in court until payment), and Cost (as a percentage of the claim, assumed to be equivalent to 200% of income per capita) (*Source*: World Bank Doing Business Report).

Table D12.11: Political environment, 2006

	Political risk rating	Ethnic tensions	Military in politics	ICRG religious tensions	Internal conflict	External conflict
Measure	**%**	**Index/6**	**Index/6**	**Index/6**	**Index/12**	**Index/12**
Argentina	70.5	6.0	4.5	6.0	10.0	10.0
Botswana	78.1	4.5	6.0	5.0	10.5	11.0
Brazil	65.5	3.0	4.0	6.0	10.5	11.0
Chile	82.4	5.0	4.4	6.0	11.5	10.3
China	69.4	4.6	3.0	5.0	10.1	9.8
Egypt	62.8	6.0	3.0	3.0	8.5	10.5
Ghana	67.9	3.4	2.9	6.0	9.4	11.5
India	64.3	2.5	4.0	2.5	8.2	9.6
Indonesia	57.5	2.0	2.5	1.0	8.8	10.5
Ireland	90.0	5.5	6.0	5.0	11.5	11.0
Kenya	**57.2**	**3.0**	**4.0**	**4.0**	**8.1**	**10.5**
Korea	52.4	6.0	1.0	6.0	10.0	7.9
Malaysia	76.7	4.0	5.0	4.0	10.5	10.1
Mauritius						
Seychelles						
Singapore	83.7	6.0	5.0	4.5	10.5	10.5
South Africa	70.0	4.0	5.0	5.0	9.0	10.5
Taiwan	78.6	5.0	4.0	6.0	11.0	8.3
Tanzania	62.3	4.0	4.0	3.0	8.6	10.0
Tunisia	72.8	5.0	4.0	5.5	10.5	11.3
Uganda	55.1	3.0	2.0	2.5	7.0	8.3

Political risk rating: The aim of the political risk rating is to provide a means of assessing the political stability of the countries covered by ICRG on a comparable basis (*Source*: ICRG index).

Military in politics: Military involvement in politics, even at a peripheral level, is a diminution of democratic accountability. Lower risk ratings indicate a greater degree of military participation in politics and a higher level of political risk (*Source*: ICRG index).

Religious tensions: Stems from the domination of society and/or governance by a single religious group that seeks to replace civil law by religious law and to exclude other religions from the political and/or social process; the desire of a single religious group to dominate governance; the suppression of religious freedom; the desire of a religious group to express its own identity, separate from the country as a whole (*Source*: ICRG index).

Internal conflict: An assessment of political violence in the country and its actual or potential impact on governance. The highest rating is given to those countries where there is no armed opposition to the government and the government does not indulge in arbitrary violence, direct or indirect, against its own people. The lowest rating is given to a country embroiled in an on-going civil war (*Source*: ICRG index).

Ethnic tensions: An assessment of the degree of tension within a country attributable to racial, nationality, or language divisions. Lower ratings are given to countries where racial and nationality tensions are high because opposing groups are intolerant and unwilling to compromise. Higher ratings are given to countries where tensions are minimal, even though such differences may still exist (*Source*: ICRG index).

Table D12.12: Property rights

	IPRI		Legal and political environment (LP)	Physical property rights (PPR)	Intellectual property rights (IPR)
Year	**2007**	**2007**	**2007**	**2007**	**2007**
Measure	**Index/10**	**Rank/70**	**Index/10**	**Index/10**	**Index/10**
Argentina	3.8	51	3.1	4.1	4.4
Botswana					
Brazil	4.5	42	3.6	4.8	4.9
Chile	6.0	23	6.3	6.6	5.3
China	4.4	45	4.7	5.1	3.5
Egypt	3.8	51	4.3	3.3	3.7
Ghana					
India	5.2	33	4.8	6.5	4.4
Indonesia	4.2	47	2.5	6.0	4.0
Ireland	7.4	14	7.0	7.6	7.6
Kenya	**3.3**	**59**	**2.3**	**4.5**	**3.2**
Korea	5.8	25	4.9	5.8	6.8
Malaysia	5.8	25	6.2	5.6	5.6
Mauritius	5.5	30	5.7	4.6	6.1
Seychelles					
Singapore	7.8	12	7.9	8.0	7.6
South Africa	6.4	21	5.8	6.6	6.8
Taiwan					
Tanzania	3.8	51	3.1	3.4	4.8
Tunisia	5.7	27	5.6	6.2	5.3
Uganda					

International Property Rights Index (IPRI): The IPRI category generally evaluates the protection of intellectual property, and reviews a country's policies and their effectiveness regarding patents, copyrights, and trademarks. The grading scale ranges from 0 to 10, with 10 representing the strongest level and 0 representing non-existence of intellectual property rights (*Source*: International Property Rights Index Report).

Legal and Political Environment Index is used to determine the soundness of a country's legal and political systems and its viewpoints toward the importance and protection of property rights. The grading scale ranges from 0 to 10, with 10 representing the strongest level and 0 representing non-existence of legal and political environment property rights (*Source*: International Property Rights Index Report).

Physical Property Rights covers experts' opinions on the definition and protection of property rights, a business' difficulty in registering property and ease of access to banking loans. The grading scale ranges from 0 to 10, with 10 representing the strongest level and 0 representing non-existence of physical property rights (*Source*: International Property Rights Index Report).

Intellectual Property Rights Index considers five aspects of intellectual property: protection of intellectual property rights, patent strength, copyright piracy and trademark protection. The protection of intellectual property rights measures a nation's legal protection of intellectual property based on opinion survey. The patent strength is based on the coverage, membership in international treaties, restrictions on patent rights, enforcement and the duration of protection. The copyright piracy contains information of the level of selected industries. The trademark protection reflects the experts' opinion pertaining to trademark protection.

Table D12.13: Technological performance

	Technology		Innovations		ICT		Technology Transfer		Technological Readiness	
Year	**2006**	**2006**	**2006**	**2006**	**2006**	**2006**	**2006**	**2006**	**2007**	**2007**
Measure	**Index/7**	**Rank/125**	**Index/7**	**Rank/125**	**Index/7**	**Rank/125**	**Index/7**	**Rank/125**	**Index/7**	**Rank/131**
Argentina	3.46	62	3.14	36	2.62	61	4.67	70	2.96	78
Botswana	3.05	85	1.74	98	2.24	82	4.58	76	3.06	71
Brazil	3.62	49	2.27	71	2.83	51	5.12	39	3.35	55
Chile	4.02	34	2.91	39	3.38	42	5.25	27	3.89	42
China	3.07	84	2.24	75	2.47	65	4.13	98	3	73
Egypt	3.32	67	2.43	59	2.31	76	4.97	49	2.84	87
India	3.59	53	2.21	77	2.4	69	5.62	5	3.17	62
Indonesia	3.48	59	2.16	79	2.03	93	5.86	2	2.99	75
Ireland	4	35	3.81	21	4.19	25	5.78	4	4.65	25
Kenya	**3.11**	**78**	**1.77**	**96**	**1.92**	**104**	**5.16**	**36**	**2.76**	**92**
Korea	5.18	6	5.19	6	5.17	14	4.67	69	5.46	7
Malaysia	4.31	24	2.83	43	3.58	35	5.78	3	4.28	30
Mauritius	3.53	56	2.09	82	2.93	48	4.81	59	3.39	54
Seychelles										
Singapore	4.64	16	4.1	16	5.17	13	6.08	1	5.36	12
South Africa	3.62	50	2.31	69	2.56	62	5.46	12	3.57	46
Taiwan	5.78	2	6.32	2	5.24	10	5.55	6	5.27	15
Tanzania	2.96	87	1.71	101	1.98	99	4.69	67	2.6	99
Tunisia	3.64	47	2.57	50	2.76	54	5.18	33	3.43	52
Uganda	3.07	80	1.65	106	1.86	107	5.16	35	2.69	94

Innovation: Sufficient investment in research and development especially by private, high-quality scientific research institutions, collaboration in research between universities and industry, and protection of intellectual property (*Source*: World Economic Forum).

ICT sub-index: It is derived from 1/3 information and communication technology survey data and 2/3 information and communication technology hard data. Its components are: Internet access in schools (survey data), quality of competition in the internet service providers sector (survey data), government prioritization of ICT (survey data), government success in ICT promotion (survey data), laws relating to ICT (survey data), cellular telephones (hard data), internet users (hard data), internet hosts (hard data), Telephone lines (hard data) and personal computers (hard data). The rating ranged from 1 for poorly developed and inefficient to 7 for among the best in the world (*Source*: World Economic Forum).

Technology transfer sub-index: It is derived from unweighted average of two technology transfer survey questions on the following: FDI and technology transfer, and prevalence of foreign technology licensing. The rating ranged from 1 for poorly developed and inefficient to 7 for among the best in the world (*Source*: World Economic Forum).

Technological readiness: This measures the agility with which an economy adopts existing technologies to enhance the productivity of its industries (*Source*: World Economic Forum).

Table D12.14: Comparative statistics on telephony and internet usage

	Telephone subscribers and main lines			Internet users (per 100 inhabitants	Broadband subscribers (per 100 inhabitants)	Mobile cellular subscribers		
	Subscribers (000s), 2006	Lines CAGR (%) 2001-06	Lines per 100 inhabitants CAGR (%) 2001-06			CAGR (%) 2001-2006	Subscribers (per 100 inhabitants	% digital
Kenya	**6,778.2**	**-1.1**	**-3.3**	**7.89**	**-**	**61.0**	**18.47**	**71.1**
Uganda	2,117.0	14.0	10.1	2.51	-	47.9	6.73	100.0
Tanzania	5,923.9	-2.4	-4.3	1.00	-	83.7	14.78	108.2
South Africa	38,689.0	-1.0	-1.7	10.75	0.35	29.7	83.33	85.6
Egypt	28,808.8	10.1	6.7	7.95	0.27	45.2	23.86	100.0
Tunisia	8,607.5	3.7	2.6	12.68	0.17	79.9	71.88	100.0
Ghana	5,563.6	7.8	5.4	2.70	0.06	84.5	23.09	54.6
Mauritius	1,129.7	3.1	2.2	24.10	1.74	23.2	61.50	85.0
Botswana	1,116.7	-1.6	-2.5	3.40	0.09	24.1	55.68	100.0
Seychelles	91.0	-0.5	-1.4	35.67	1.63	13.9	86.52	100.0
Korea	76,063.0	0.8	0.6	71.11	29.27	6.7	83.77	95.4
Taiwan	37,746.4	2.4	2.1	63.68	19.76	-	-	-
Singapore	6,642.1	-1.0	-2.1	39.21	18.19	-	-	-
Indonesia	7,623.7	15.5	13.8	7.18	0.05	-	-	-
Malaysia	23,805.8	-1.6	-3.1	43.77	3.48	-	-	-
Thailand	47,888.9	3.2	2.3	13.07	0.16	-	-	-
India	206,820.0	1.1	-0.4	5.44	0.21	91.0	14.83	80.3
China	828,844.0	15.3	14.6	10.35	3.85	26.1	34.83	55.6
Chile	15,777.2	-0.9	-2.2	25.24	5.94	-	-	-
Brazil	126,063.0	0.7	-0.6	22.55	3.14	-	-	-
Argentina	40,970.2	3.1	2.0	20.91	4.01	-	-	-

Source: International Telecommunications Union (ITU), 2007; Kenya National Bureau of Statistics (KNBS)

Note: *The compound annual growth rate (CAGR) is computed by the formula [(Pv/P0)(1/n)]-1 where Pv = present value, P0=beginning value, n=number of periods. The result is multiplied by 100 to obtain a percentage.

Table D12.15: Infrastructure development

	Physical infrastructure		Port infrastructure quality	Railroad infrastructure	Air transport infrastructure quality	Quality of electricity supply	Electricity production	Telephone main line
Year	**2007**	**2007**	**2007**	**2007**	**2007**	**2007**	**2005**	**2005**
Measure	**index/7**	**Rank/131**	**Rank/131**	**Rank/131**	**Rank/131**	**Rank/131**	**Kwh (millions)**	**(per 1000 people**
Argentina	3.03	81	94	78	113	95	905	180
Botswana	3.85	57	57	43	94	54	1,261	75
Brazil	3.07	78	116	91	87	61	387,452	230
Chile	4.56	31	34	66	31	39	51,983	211
China	3.97	52	66	33	86	78	2,199,601	269
Egypt	3.54	62	79	57	59	55	101,299	140
Ghana							6,039	15
India	3.45	67	80	23	61	106	667,782	45
Indonesia	2.74	91	113	62	85	85	120,160	58
Ireland	4.03	49	64	55	45	29	25,215	489
Kenya	2.71	93	85	76	51	100	5,568	8
Korea	5.55	16	20	12	26	19	366,614	492
Malaysia	5.29	23	13	17	15	30	82,899	172
Mauritius	4.12	46	41	101	39	45		289
Seychelles								253
Singapore	6.36	3	1	9	1	12	36,810	425
South Africa	4.22	43	48	41	22	83	242,186	101
Taiwan	5.38	20	19	13	30	31	218,384	599
Tanzania	2.53	105	92	70	103	118	2,478	
Tunisia	4.54	32	36	21	43	35	13,067	
Uganda	2.42	108	65	104	112	129		

Physical Infrastructure Index: This measures the overall infrastructure quality and has the following components: Railroad infrastructure development, Port infrastructure quality, Air transport infrastructure quality, Quality of electricity supply and Telephone/fax infrastructure quality. The status of the infrastructure rating ranged from 1 for poorly developed and inefficient to 7 for among the best in the world (*Source*: World Economic Forum)

Table D12.16: Change in value of infrastructure output and GDP growth

Indicators		2002	2003	2004	2005	2006	% share of GDP
Electricity	GVA	17,257.2	20,453.6	20,954.3	20,461.6	19,869.1	
	Annual % growth	29.0	18.5	2.4	-2.4	-2.9	1.7
Water supply	GVA	6,492.1	6,620.4	6,922.9	7,436.3	7,765.6	
	Annual % growth	3.1	2.0	4.6	7.4	4.4	0.6
Water transport; harbours	GVA	7,337.0	8,001.2	8,367.8	8,545.9	9,203.7	
	Annual % growth	-0.1	9.1	4.6	2.1	7.7	1.2
Land transport; transport and via pipelines	GVA	46,513.0	47,636.1	50,278.8	52,854.1	56,427.7	
	Annual % growth	0.9	2.4	5.5	5.1	6.8	3.5
Air transport	GVA	11,161.8	11,621.1	12,545.1	13,410.8	14,344.8	
	Annual % growth	6.9	4.1	8.0	6.9	7.0	1.2
Auxiliary transport activities; travel agents	GVA	6,154.8	6,436.5	7,171.0	7,588.4	8,432.0	
	Annual % growth	-0.7	4.6	11.4	5.8	11.1	1.2
Posts and telecommunications	GVA	30,169.1	31,219.7	33,888.8	39,843.7	47,057.4	
	Annual % growth	32.0	3.5	8.5	17.6	18.1	3.7

Indicators		2002	2003	2004	2005	2006	% share of GDP
Construction	GVA	31,214.0	31,529.8	32,931.6	35,445.8	37,665.1	
	Annual % growth	-1.9	1.0	4.4	7.6	6.3	3.0
Real estate: dwellings, rented & owner occupied	GVA	33,853.7	34,911.2	36,215.0	37,530.9	38,933.0	
	Annual % growth	3.3	3.1	3.7	3.6	3.7	2.7
Real estate: Renting and business services	GVA	26,598.2	26,952.8	27,525.0	28,351.3	29,468.8	
	Annual % growth	2.7	1.3	2.1	3.0	3.9	2.6
Total IES sector	GVA	201,495.7	206,931.6	217,850.0	233,012.2	251,304.0	
	Annual % growth	5.1	2.7	5.3	7.0	7.9	18.0
GDP annual% growth		0.5	2.9	5.1	5.7	6.1	

Source: Government of Kenya (2007), Statistical Abstract; KNBS–leading Indicators

Notes: GVA is gross value addition (in Ksh million).

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Bishops Garden Towers, Bishops Road
PO Box 56445 - 00200, Nairobi, Kenya
Tel: +254 20 2719933/4; Fax: +254 20 2719951
Cell: +254 724 256078, 736 712724
email: admin@kippra.or.ke; website: http://www.kippra.org