Linking Industrialisation with Human Development

2005

Foreword

Human development requires expanding people's capabilities for living decent lives and enhancing their opportunities for economic, social and political empowerment. There are many reasons why industrialisation is crucial for human development. First, industrialisation is the principal instrument for putting technical progress into use; hence, it permits improvements in the way different factors of production are applied in the production of goods and services. Industrial activities also offer unique scope for learning, improvement and transformation. Moreover, industrialisation entails empowering people to access productive resources by expanding human capabilities through education, skills development, and socio-cultural changes and in producing products that are vital for nutrition, health care, and other human needs to improve the quality of life.

The Fourth National Human Development Report for Kenya, Linking Industrialisation with Human Development, comes at an important time in the aftermath of Sessional Paper No. 2 of 1997 on Industrial Transformation to the Year 2020, the Eighth National Development Plan (1997-2001) on Industrial Transformation to the Year 2020. It is the first assessment of the links between industrialisation and human development in Kenya.

This report has made a special effort to assess the effectiveness of industrialisation by drawing out details of the past and current government's strategy and policies for better human development outcomes. It draws from a broad development literature to substantiate its analysis, findings and recommendations, and highlights key areas of intervention in order to make industrialisation supportive of human development.

The last two National Human Development Reports for Kenya have been the result of a collective effort by a dedicated core team at the Institute for Development Studies - University of Nairobi and a wide range of national expertise constituting the National Technical Advisory Team. This report is no exception. IDS was identified as the national centre of excellence for the preparation of these reports. Moreover, as with previous reports, this is an independent analysis seeking to advance the debate on human development in Kenya, and not a formal statement of UN or UNDP policy. Nevertheless, as an outline of the central developmental challenges facing Kenya, it is my hope that the report will help frame an ambitious agenda for Kenya in the months and years to come.

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List of Abbreviations

AGOA	-	African Growth and Opportunity
AIDS	-	Acquired Immuno Deficiency Syndrome
ALI	-	Adult Literacy Index
APPPI	-	Adjusted Real GDP per capita (PPP$) Index
ASAL	-	Arid and Semi-arid Lands
CBS	-	Central Bureau of Statistics
CDEI	-	Combined Gross Enrolment Index
CDIAC	-	Carbon Dioxide Information Analysis Centre
CGEI	-	Combined Gross Enrolment Index
CGER	-	Combined Gross Enrolment Ratio
COMESA	-	Common Markets for Eastern and Southern Africa
COTU	-	Central Organisation of Trade Unions
EPZ	-	Export Processing Zones
FKE	-	Federation of Kenya Employers
GDI	-	Gender Related Development Index
GDP	-	Gross Domestic Product
GEM	-	Gender Empowerment Measure
GHDR	-	Global Human Development Report
GOK	-	Government of Kenya
HDI	-	Human Development Index
HIV	-	Human Immuno Deficiency Virus
HPI	-	Human Poverty Index
ICDC	-	Industrial and Commercial Development Corporation
ILO	-	International Labour Congress
IPEC	-	International Programme on the Elimination of Child Labour
ISI	-	Import Substitution Industrialisation
KDHS	-	Kenya Demographic and Health Survey
KIE	-	Kenya Industrial Estates
KIPPRA	-	Kenya Institute of Public Policy, Research and Analysis
LEI	-	Life Expectancy Index
MDGs	-	Millennium Development Goals
MICS	-	Multiple Indicators Cluster Survey
MNCs	-	Multinational Corporations
MSE	-	Micro and Small Enterprises
MUB	-	Manufacturing Under Bond
NEMA	-	National Environment Management Authority
NHDR	-	National Human Development Report
NTAT	-	National Technical Advisory Team
R&D	-	Research and Development
SAP	-	Structural Adjustment Programme
TB	-	Tuberculosis
UN	-	United Nations
UNDP	-	United Nations Development Programme
UNIDO	-	United Nations Industrial development Organisation
US	-	United States
WFLC	-	Worst Forms of Child Labour
WHO	-	World Health Organisation
WMS	-	Welfare Monitoring Survey
WMSII	-	Welfare Monitoring Survey II

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Executive Summary

This report is about the human development outcomes of industrialisation. Its theme, Linking Industrialisation with Human Development in Kenya, was inspired by the recognition that industrialisation offers unique opportunities for development, and that Kenya's overall human development may well be shaped by the path of industrialisation that the country pursues. The report explores the state of industrialisation and its consequences on human development in Kenya. It examines the challenges of industrialisation and proposes ways to make industrialisation more supportive of human development.

The report builds on policy advocacy efforts of earlier National Human Development Reports, (NHDRs) addressing industrialisation as a key development strategy to deliver human development outcomes. To achieve the vision of delivering good human development, a number of important questions were posed:

- How can industry be made more responsive to human development needs in Kenya?
- How can the country industrialise in a way that promotes overall human development?
- What mechanisms should be put in place?
- How can positive human development consequences of industrialisation be strengthened and negative consequences ameliorated?
- What else needs to be done to make industrialisation a strong pillar for human development?
- What would be the roles of various actors in industrialisation?

Methodology

This report was prepared with the generous contributions of many individuals and organisations in collaboration with the Institute for Development Studies, the United Nations Development Programme and the National Technical Advisory Team. The Central Bureau of Statistics in the Ministry of Planning and National Development provided data. The report benefited greatly from intellectual advice and guidance provided by reading groups comprising members of the Kenya Association of Manufacturing (KAM), Public/Civil Service, University of Nairobi and the United Nations system.

The report has utilised data from sources of different quality. Data were mainly generated from three sources: administrative records, population and housing censuses, and sample surveys. Some of this information was in published form, but most was unpublished. While the published information was largely in its finalised form, most of the unpublished data were raw in the sense that they were undergoing further analysis in preparation for publication. Such raw data are likely to change, albeit slightly, after further validation and are therefore provisional.

Linking Industrialisation with Human Development

Human development entails expansion of people's capabilities for living decent lives and enhancing their opportunities for economic, social and political empowerment. The paradigm puts people at the centre of development, with all persons being involved in the process. Industrial activities offer unique scope for learning, improvement and transformation. The industrialisation process thus entails empowering people to access productive resources by addressing inequalities in the distribution of assets. It also requires expanding human capabilities through education, nutrition, health care, water and sanitation, all of which are important indicators of human development.

The Human Development Situation in Kenya

The report discusses human development in Kenya based on the three human development indices, Human Development Index (HDI), Human Poverty Index (HPI) and Gender-related Development Index (GDI). The HDI value for a country shows how far that country has succeeded in attaining the following: an average life expectancy of 85 years, access to education for all and a decent standard of life.

Using more recent information from the Central Bureau of Statistics, this report estimates the country's HDI at 0.520. In the third NHDR, HDI was 0.550, implying a downward trend in the last two years. Disaggregated HDI values at provincial and district levels highlight significant variations in human capabilities and welfare. The HDI for Nairobi is 0.748, the highest of Kenya's administrative regions. This is attributed to a significantly high-income component in Nairobi. The report estimates a GDI value for Kenya at 0.538. This is higher than the value of 0.521 in the Third Kenya NHDR. The HPI for Kenya is estimated at 36.7% in this report compared with 34.1 percent in the third report, implying a progressive increase in people who are human poor.

Kenya's Industrialisation Experience

Kenya inherited, and built upon, a base of import-substituting industrialisation. From 1945 onwards, the British metropolitan administration strongly encouraged investment in industry, and this position was reinforced by Kenya's post-independence policy documents, beginning with the landmark Sessional Paper no. 10 of 1965. Although import-substitution seemed a reasonable approach to development, it failed to deliver the jobs and economic growth that post-independence planners had envisioned. By the end of the 1970s, industrialisation had slowed considerably, and dissatisfaction with import-substitution paved the way for the structural adjustment programmes that were a watershed in the history of Kenya's industrial policy. The decade from the mid 1980s to the mid 1990s witnessed major changes in Kenyan industry as a result of an overall programme of structural adjustment mandated by the World Bank and International Monetary Fund. Policy documents in Kenya were already acknowledging the need for such adjustment.

Kenyan industrialisation has a number of achievements to its credit:

- Industry has been a major contributor to the country's GDP.
- Industry has been a source of employment for the economically active population.
- The country has been slowly moving away from simple, resource-based manufacturing towards products with higher technological content.
- Manufacturing activities now contribute the largest share of industrial output and form the core of industry.
- Activities are concentrated in urban areas, but are also evident in rural Kenya.
- The micro and small-scale sector is an integral part of Kenyan industry providing over half the total employment. It has expanded rapidly in the last four years.
- Micro and small-scale enterprises provide a point-of-entry for many Kenyan entrepreneurs into the manufacturing and services sector and serve as the testing ground for the development of low cost products.

In spite of the above achievements, industrialisation faces a number of constraints:

- Corruption is one of most significant barriers to investment in industry and is particularly severe for foreign firms. Some of the worst offenders include the taxation authority, the health inspectorate, municipal authorities and utility companies.
- Insecurity is a major impediment to investing in industry. The direct loss due to crime is large (i.e. 4% of annual sales revenue) in addition to the burdensome indirect cost of contracting security services, estimated at about 2.7% of sales. With increasing insecurity, most firms inevitably have to invest in private security services. Crime and insecurity also negatively affect the image of Kenya in the international investment community.
- Degraded infrastructure including roads, railways and ports, causes firms to incur significant costs in trucking, vehicle repair, product delays and returns, and bribery. Most firms report dissatisfaction with the transport infrastructure system.
- Domestic and international investment is hindered by power difficulties. Firms lose nearly 10% of sales due to power outages and two-thirds have lost capital equipment to surges. Firms experience an average of 33 outages in a year, and most firms own their own generators to cope with power losses.
- Kenya's fixed-line telephone and internet services are relatively costly and of poor quality due to the weak performance of Telkom Kenya. Mobile communications have dramatically improved access, but remain expensive.

Impact of Industrialisation on Human Development

A close relationship exists between industrialisation and human well-being in Kenya, in that industrialisation has had significant bearings on human development indicators. These indicators are related to wage employment, incomes, improved livelihoods, skill formation, entrepreneurship, gender parity, and links with agriculture and other sectors: The impact takes several forms:

- The rate of wage employment in Kenya has been rather low. Nevertheless, work in informal industrial activities, such as small and medium-scale enterprises, has been substantial, giving livelihood opportunities to many Kenyans.
- Many industrial firms in Kenya have gone through severe downsizing beginning in the recession of the late 1980s. The downsizing/restructuring process in Kenya has unfolded in different ways over the past two decades, mostly to the benefit of human development.
- Even though industrial manufacturing ranks low in terms of wage employment in Kenya, it is highly ranked in terms of wage income earnings. This is an indication that most of the industrial workers are well paid.
- The manufacture of food products has experienced phenomenal growth, followed by spirits, beer and tobacco, and textiles and apparel manufacture. These sectors have important backward linkages with the agricultural sector and the rural population.
- Industrialisation has unleashed benefits embodied in products that have improved the quality of life in recent years. The bicycle taxis in Western Kenya, the increasing use of solar energy, allowing many households to use radios and extending the working day, and the onset of mobile telephones, have transformed many households.
- Strong performance by the industrial sector also generated activities and employment in other sectors. For example, the dominant influence of the food processing industry in Kenya can be attributed to the growth of the agro-based industries such as the horticultural, coffee, tea, sisal, dairy and sugar cane sectors.
- Agro-processing industries located in rural areas have been an important source of infrastructure development, including road networks, primary schools and health facilities.

The Challenges of Industrialisation to Human Development

While the benefits of industrialisation are significant in Kenya, there have been a number of unintended negative outcomes over the years. Industry has not only created welfare improving opportunities in Kenya but has also created many problems. The challenges of industrialisation to human development are the negative side effects that include:

- Alienation - a breakdown of social networks and relationships.
- The increasing insertion of market criteria into daily life.
- Rapid urbanisation with attendant poverty.
- Over-specialisation and limited skills in industry.
- The working poor and poverty traps among industrial workers.
- Child labour in small industries.
- A crumbling infrastructure associated with industrial concentration (poor housing, poor health and low access to education).
- Uneven development – with development enhancing both industry and environmental pollution.

Some of the above problems are a result of the interplay between industrialisation and other factors, such as rapid population growth, the slow pace of agricultural development, and the structure of the education system in the economy. Nevertheless, questions arise as to whether these unintended outcomes of industrialisation in Kenya are within reason, or whether they are too big a price to pay.

Making industry supportive of human development

The Government of Kenya is committed to industrialisation, viewing it as an important vehicle for improving the welfare of Kenyans. Two sets of policy proposals emerge. One set targets ways of advancing industrial activities so that the country can harvest the positive human development outcomes of industrialisation, while the other proposes ways of reducing the negative human development consequences of industrialisation. Each set should be viewed as an addition to what the Government of Kenya is already doing.

Tackling Poverty Through Industrialisation In the past, a high population growth rate was taken as the main root of poverty. However, poverty has multiple dimensions: occasional industrial investment in rural areas has a greater degree of leakage and as a result the retention of those investments within rural areas is limited. On the other hand, rural industry has strong backward and forward linkages with other economic sectors and activities resulting in the generation of maximum levels of output, income and employment effects. This is the basic criterion for the selection of rural industry for poverty alleviation.

Improved Opportunities for Work The link between the agricultural and industrial sectors can be strengthened by creating incentives for more domestic processing and product finalisation activities. This in turn requires incentives for moving further up the value chains of different agricultural systems in order to optimise the employment and wealth potential of different value adding nodes. In that process, it is crucial to put mechanisms in place for the long term financing of agro-processing activities and other activities that make use of domestically available resources. The link between agriculture and industry further holds the key to addressing regional inequalities in Kenya. Many of the processing activities can be undertaken in the regions where primary production takes place, to provide employment and value addition activities to the local people. A case in point in the livestock sub-sector where, currently, long distant transportation to urban areas is carried out for meat processing.

Decent Work Neither the Poverty Reduction Strategy Paper (PRSP) nor the Millennium Development Goals (MDG) pays sufficient attention to employment as a key path to poverty reduction. Nevertheless, it is necessary to construct strategies that can make industry fully supportive of human development by improving the welfare of employees. The main discouragement would be to the kind of industries that, in the past, have earned good profits at the expense of the majority of the population, the loss of which can only benefit Kenya. Few industrial firms pay attention to their corporate social responsibilities, thus creating a need for incentives for industries to develop long-term relationships with their workers. In this regard, attention should be paid to investment incentives to encourage long-term employment contracts with the associated benefits for human development: better terms of service, improvements in the work environment, reductions in unemployment uncertainties and occupational hazards, and improvements in employee-employer relationships.

Gender Issues Gender disparities in industry often manifest themselves by differential access to income opportunities, working hours and employment. Women are particularly disadvantaged with their labour usually confined to long working hours, often underpaid. Women have continued responsibility for both domestic work and childcare suggesting the need for policies to support these responsibilities. Issues such as childcare, schooling, maternity leave and health insurance, are high on their list of priorities and are critical to achieving equal opportunities and ensuring the welfare of children. Sustained efforts should be made both to retain women within the educational sector and to promote their participation in technical subjects that equip them better for the marketplace. Vocational training too, can ensure continuous skills upgrading, reflect-

ing changing requirements on the labour market. There needs to be a more systematic extension of the training provided by governments and employers, and of technical training schemes supported by multilateral donors, with particular focus on enhancing opportunities for women.

Security Positive human development can be encouraged by improving security conditions in Kenya, thereby encouraging investment in processing activities and complementary services. This will open up many parts of the country to industry, with attendant welfare benefits. Reduction of uncertainty will also pave the way for long term investment, including implementation of industrial projects with long payback, but strong upstream and downstream linkages, that are crucial for general improvement in human welfare.

Quality Infrastructure There is impressive scope for expanding opportunities for entrepreneurship and the quality of employment in small-scale industries. The major constraints are the present restrictions on small industries, on the one hand, and the inadequacy of public services on the other. Most local authorities lack the basic infrastructure for industry and do not have suitable zones to serve as incubators for small industries and enterprises. Thus, industries lack visibility and cannot foster a sustainable linkage with medium and large-scale industries. The existing industrial development strategy tends to over-emphasise export sectors, while at the same time ignoring the development of a local industrial base to serve the needs of the local population.

Clean and Healthy Environment A revolution in corporate attitude and culture that would allow Kenyan industry to work using an environmentally friendly philosophy, is needed. Indeed, the limiting factor in most pollution prevention efforts to date, and the key constraint in accomplishing the transition to sustainable practices, is management practices. The enforcement of environmental standards in Kenya is still piecemeal, focusing on individual industries which act in isolation, and which may not achieve industrial sustainability due to a failure to exploit synergies.

Protection of Children The government is reviewing and updating national legislation on child labour and has adopted appropriate practical policies and programmes. The International Labour Organisation's Programme on the Elimination of Child Labour (IPEC) is now operational in Kenya. Employers' and workers' organisations have established specialised units with responsibility for addressing child labour issues and sensitising their members. The recent policy of free primary education will complement other efforts and reduce the incidence of child labour.

Education and Human Capability Without education and human capability, Kenya cannot establish a competitive niche even in low technology activities, but will remain at the bottom of the technology ladder. The interacting triad of incentives, factors and institutions, make up the system within which industrial firms learn and create technology. Creating an environment that encourages innovation requires political and macroeconomic stability that Kenya has been fortunate to have in the past. Telecommunications competitiveness is also vital for better access to information and communications technology. Sessional Paper No. 2 of 1997 versus the recommendations of this report

Overarching Issues

- Enhanced industrialisation is seen as achievable through the adoption of an integrated strategy in which market-driven development is combined with careful capacity building and strengthening of the institutional framework.
- More jobs can be created and sustained through the encouragement of efficient industries that are internationally competitive through the utilisation of the latest technology.
- Kenya must utilise the full potential of her resources to broaden the economy and to generate a vibrant industrial sector based on primary processing, manufacturing, commerce and services.
- The current inadequate state of Kenya's infrastructure acts as a major disincentive to potential investors and threatens the realisation of the goal of industrialisation.
- The availability of infrastructure and its efficient operation are major determinants to the cost of production, quality and timeliness of response to product and service demands.
- Corruption in the award and supervision of infrastructure contracts has been a major hindrance to quality infrastructure.

Introduction

Linking Industrialisation with Human Development

4th Kenya National Human Development Report

1 Introduction
Linking Industrialisation and Human Development

Background

Human development has long since occupied a central place in Kenya's development process. The first Sessional Paper no. 10 of 1965[1], prepared after independence identified poverty, ignorance and disease as the main development challenges facing Kenya. This position has been reinforced by subsequent policy documents. The Sessional Paper no.1 of 1986 on 'Economic Management for Renewed Growth' emphasised the lead role of agriculture and rural development, but at the same time made clear that industrialisation was a key objective. The Sessional Paper no. 1 of 1994 on 'Recovery and Sustainable Development to the Year 2010' provided a framework for restoring economic development, aimed at enabling the country to join the league of Newly Industrialised Countries (NICs). The Sessional Paper no. 1 of 1997 on 'Industrial Transformation by the year 2020' aimed to accelerate the country's economic development and generate a vibrant industrial sector based on primary production, manufacturing, commerce and services. As part of the effort towards poverty reduction and the promotion of economic growth, the government opted for a rapid process of industrialisation. This was envisioned as an instrument for income creation and poverty alleviation and subsequently to promote human development[2] through the key components of income (GDP), knowledge and increased life expectancy, as a prognosis for long and healthy lives.

In 2003, the government in its 'Economic Recovery Strategy for Wealth and Employment Creation' (ERS), also recognised the role of industry as a key factor in economic recovery and transformation, through public/private sector partnerships leading to enhanced efficiency and equity in the delivery of social services, and deepened efforts for poverty reduction. In its chapter on industry, it spelt out the critical linkages between industry, services and the social dynamics of development and the need for bonding public sector activities and facilitation by the public sector.

In order to achieve the objectives of industrialisation it will be critical for the government to create synergies between various sectors of the economy, namely: agriculture and industry, formal and informal, and public and private sectors, including key supportive services.

Since 1999 Kenya has produced three National Human Development Reports. The inaugural issue demonstrated variations in human development indicators. Early gains in per capita GDP have declined since 1972, due to poor policies, which had adverse effects on industrial development and competitiveness and a failure to position the country to unfolding global changes. Life expectancy nose-dived as a result of the emerging HIV/AIDS pandemic, which deepened poverty and resulted in poor service delivery. While gains in adult literacy were maintained with a narrowing gender gap, the primary education enrolment declined from 1979 to 1996, but has improved since. Secondary education enrolment declined between 1990 to date, but the gender gap has narrowed.

The first report noted that even though women constitute 53 % of the labour force, they remained poor and the most disadvantaged compared to their male counterparts. It made a case for changing the structure of production to make it more labour intensive and job-friendly in order to address poverty reduction and gender inequality when accessing assets and social services. The second report addressed economic disparities in Kenya and recommended a process of economic, social and political empowerment to draw-in segments of the Kenyan community hitherto excluded from the mainstream development agenda. Redistributing resources through pro-poor budgeting, promotion of participation by a greater mix of stakeholders in the development process, and adoption of a bottom-up, home grown development strategy were also recommended. The third report recommended participatory governance as an instrument of human development, and perceived lack of "effective, participatory and good governance" as a major impediment to development in Kenya. It argued that participatory governance improves probity in the management of public resources and delivery of services. It recommended the

Box 1.1 A Vision of Kenya's Industrial Role in Economy

Kenya's manufacturing sector is performing relatively better than its neighbours but still well below it potential. To expand its growth and employment generating capacity, the government will focus on removing the barriers to investment and lowering the cost of business in the sector. This will include measures to further liberalise trade, deepen the financial market, enhance infrastructure, improve security, facilitate use of technology licenses, review mechanisms for wage determination, and improve access to quality training.

Many of these activities will require close coordination with other sectors (trade, finance, infrastructure, justice and labour) to ensure that reforms in those sectors are consistent, and supportive of labour-intensive growth in manufacturing. Even more importantly, the government will ensure the existence of adequate mechanisms for private sector consultation to ensure that policies address the heart of private sector concerns. To this end, the government will be preparing, in consultation with its private sector partners, an industrial master plan to operationalise the Sessional Paper on Industrial Transformation. In addition, the government will undertake benchmarking exercises for key industries, including sugar and textiles, to measure Kenyan industries' competitiveness in the international market and identify constraints to improved productivity.

Source: Economic Recovery Strategy for Wealth and Employment Creation

In order to achieve the objectives of industrialisation it will be critical for the government to create synergies between various sectors of the economy, namely: agriculture and industry, formal and informal, and public and private sectors, including key supportive services

empowerment of communities through enhanced capacity building, information availability and regular engagement, as well as strengthening national institutions.

Critical conclusions from the NHDRs continue to influence policy action. Some of the policy conclusions from past NHDRs include:

(i) Improving productivity of people in small-scale agriculture and the informal sectors through increased investment, improved technologies, enhanced access to support services (including credit), and better physical infrastructure (e.g. rural roads and serviced plots and kiosks for *Jua Kali* enterprises).
(ii) Adjusting the production structure to be more labour absorbing and job intensive.
(iii) Paying greater attention to gender equity and poverty eradication.
(iv) Strengthening the enforcement of statutory laws prohibiting discrimination and violence against women and girls.
(v) Increasing representation of women in elected positions.

Many of these have been reflected in government policy blueprints, which *inter alia* include: the National Poverty Eradication Plan, the Poverty Reduction Strategy Paper, the Economic Recovery Strategy and the Strategy for Revitalisation of Agriculture. The number of women nominated to parliament has also been on the increase. Initiatives such as pro-poor budgeting, engendering development and participatory governance are all trickling into the regular business of the government.

This report, the theme of which is Linking Industrialisation with Human Development in Kenya, builds on earlier NHDRs by addressing industrialisation as a key development strategy for delivering human development outcomes. To achieve this, it is important to address the following questions:

- How can industry be made more responsive to human development needs in Kenya?
- How can the country industrialise in a way that is more sustainable and promotes overall human development?
- What mechanisms should be put in place?
- How can the positive human development consequences of industrialisation be deepened and the negative consequences ameliorated?
- What else needs to be done to make industrialisation a strong pillar for human development?
- What would be the roles of various actors in industrialisation?

Linking Industrialisation with Human Development

The promotion of human development and fulfillment of industrialisation visions share a common motivation and reflect a fundamental commitment to promoting the well-being and dignity of individuals in society. This underlines the need to view industry and human development as mutually supportive.

The challenge of industrialisation is to build synergy and strengthen linkages between industrialisation and human development so that the two are mutually reinforcing. More recently, the industrial development paradigm has yielded new methods on how to link industrialisation with sustainable human development. The key elements in attaining this objective address:

(i) Ecologically sustainable industrialisation.
(ii) Building trust and social capital.
(iii) Strategic positioning of the country in the context of globalisation.
(iv) Taking advantage of information and knowledge networks.
(v) Promoting people-centred development.

The realisation of sustainable industrialisation requires a synergy with basic human development capabilities, so as to take into account environmental factors including:

(i) The preservation and restoration of the eco-system.
(ii) Designs for recycling reuse and upgradability of products.
(iii) Business processes which involve integration of an environmental accounting system such as eco-auditing.
(iv) The participation of local communities and customers in decision making processes.

The attainment of these industrial and human development capabilities calls for a social consensus on the balance between the preservation, and exploitation of natural resources. Indeed the enhancement of social capital means the ability of people to work together for common purpose either in groups or in an organisation.[3] However, there must be trust in building effective partnerships and networks. Lack of trust breeds a high transaction cost and leads to monopoly groups or unscrupulous people controlling trade - thus inhibiting development and reinforcing poverty.

The importance of trust and social capital in terms of industrialisation focuses on policy and the way in which the state, culture and civil society interact. In this regard social

The challenge of industrialisation is to build synergy and strengthen linkages between industrialisation and human development so that the two are mutually reinforcing

[1] Kenya, Republic of 1965. "African Socialism and its Application in Planning in Kenya"

[2] Kenya, Sessional Paper No.2 of 1997. Industrial Transformation by 2020

[3] Coleman 1988

capital and trust suggest that successful forms of industrialisation are those that combine progress with the needs of the people. Globalisation on the other hand creates new challenges where only countries and communities that have built the requisite human capabilities and capacities will be able to reap benefits.

While industrialisation has been linked with economies of scale and mass production, more recently there has been a shift in favour of small-scale production, popularised by Schumacher's argument that "small is beautiful" and supported on the grounds of efficiency. Perhaps, as an alternative approach to large-scale industrialisation, Kenya could examine the Italian experience of flexible specialisation, based on the development of clusters of small firms, which provide economies of scale and scope (Kiely, 1998) in order to address the country's industrialisation reality. A clear strategy could be spelt out in the context of Sessional Paper no. 3 of 2003 on 'Development of Micro and Small Enterprises', which should aim to promote more equitable distribution of industrialisation across the various regions of the country.
The availability of knowledge and information - a critical human development aspect - provides endless opportunities for a country to create technological capacity in terms of production, investment and innovation. This will enable it to assimilate, adapt and re-engineer existing technologies through improved human capabilities, in order to move from imitation to innovation, as happened in South Korea (Linsu Kim 1997).[4] Industrialisation as people-centred development endeavours to restore and enhance basic human capabilities and freedoms by improving their organisational and managerial skills, and empowering them to take control of their lives, irrespective of their social standing. The building blocks for human development and the links between industrialisation and human development are captured in Box 1.2 and Figure 1.1.

The importance of industrialisation through technological development has been quantified in a recent World Bank study[5], which shows that technical progress accounted for 40-50% of mortality reductions between 1960 and 1990, making industrialisation/technology a significant source of human development gains. The improvements in health, and reductions in mortality, have been made possible through technological breakthroughs as a result of industrial development. Some of the gains from industrialisation include:

- **Survival and health:** Medical breakthroughs such as immunisation, have wiped out polio, and the production of new medical products such as antibiotics has resulted in faster treatment of diseases, while better sanitation in the nineteenth century has prevented the spread of controllable diseases. Human health and survival began to improve dramatically in many regions in the 1930s. By the 1970s, life expectancy at birth had climbed to more than 60 years, achieving in four decades an increase that took Europe a century and half in the 1800s.
- **Food production and nutrition:** Industrial progress has played a role in accelerating food productivity, storage, processing and food security. This has had a dynamic effect on human development in increased food production and reduced food prices, which have eliminated much under-nutrition and chronic famine. Since the poorest families spend half their incomes on food, it contributes to a huge decline in income poverty.

Industrialisation opens new opportunities, which enhance the capacity to reduce poverty by:

- Producing simple agricultural equipment and tools, processed foods, clothing, materials for shelter, water and sanitation equipment.

- Producing learning materials and equipment, which facilitate schooling and access to information through books, radio, newspapers - and increasingly, electronic networks - necessary to acquire language, literacy, numeracy and up-to-date information.

Human development is itself critical to the sustainability of the industrialisation process. Since higher levels of industrialisation are driven by technological differentiation, in a manner that produces constant innovation and improvement, it is imperative that the development of advanced factors of production, in terms of highly educated people, be supported. This would only be possible and sustainable if the country builds scientific and technical capabilities on a continuous basis. In addition, social and political freedom, and participation in, and access to material resources create conditions that encourage creativity and resourcefulness. Addressing these and other issues relating to the country's education system should constitute one of the major elements in the country's development strategies.

Box 1.2 Building Blocks for Human Development

Human Development is about people, about expanding their choices to live full, creative lives with freedom and dignity. Economic growth, increased trade and investment and technological advance are all very important. But they are means, not ends. Fundamental to expanding human choices is building human capabilities and the range of things that people can be. The most basic capabilities for human development are living a long and healthy life, being educated, having a decent standard of living and enjoying political and civil freedoms to participate in the life of one's community.

The first three of these are incorporated in this report's Human Development Index (HDI). Though the Millennium Development Goals contribute to these capabilities, they do not reflect all the key dimensions of human development, which is a broader concept.

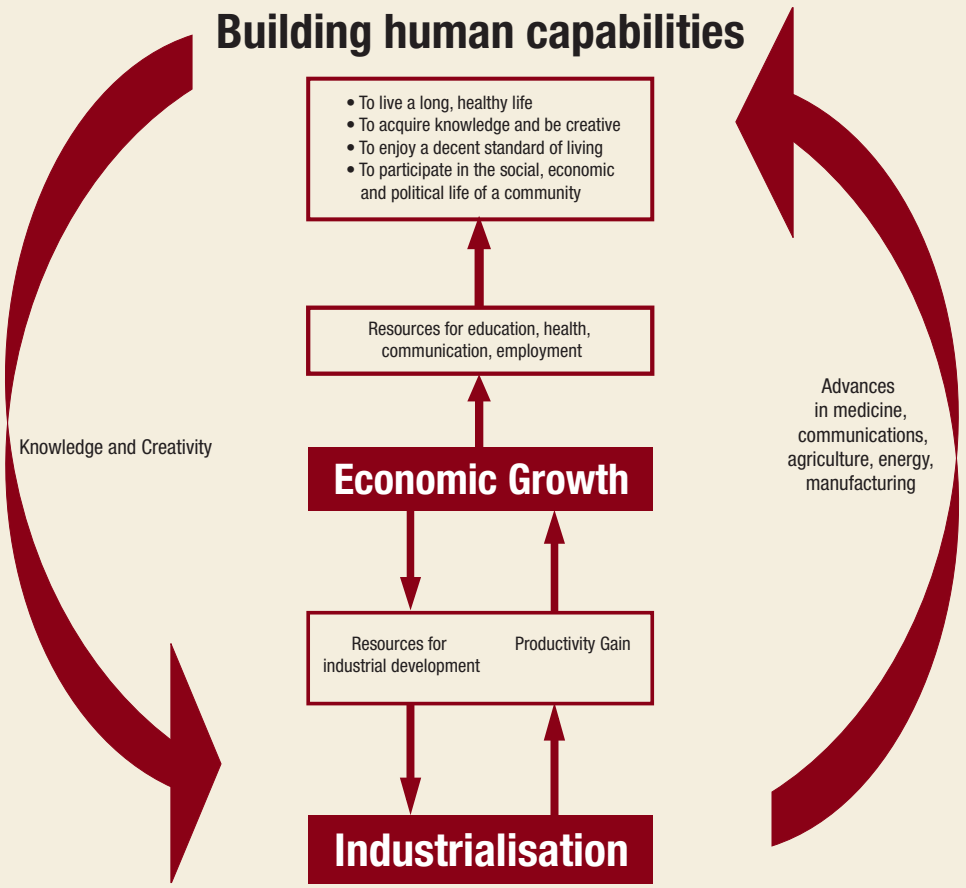
...and human rights

Human rights carry counterpart obligations on the part of others - not just to refrain from violating them, but also to protect and promote their realisation.

Source: UNDP 2003. Human Development Report

Human development is itself critical to the sustainability of the industrialisation process.

Figure 1.1 Links between Industrialisation and Human Development



Source: Adopted with modifications from Global Human Development Report 2001

[4] Limitation to Innovation: The Dynamics of Korea's Technological Learning, Harvard business sc 1997

[5] World Bank: World Development Indicators, 2001. Washington, DC.

2 Human Development in Kenya

Introduction

In an effort to recover the level of development achieved prior to 1990, the country seeks to reverse slippages in human development gains. The declining trends originate from:

(i) Poor economic performance, which eroded per capita income.
(ii) Declining life expectancy exacerbated by the HIV/AIDs pandemic and inadequate access to social services.

However, knowledge and information elements have performed relatively better through improved adult literacy and school enrolment rates. These are traditionally expressed through a number of measures namely: Human Development Index (HDI), Human Poverty Index (HPI) Gender-related Development Index (GDI) and Gender Empowerment Measure (GEM). The HDI value for a country shows how far that country has gone in attaining an average life expectancy of 85 years, access to education for all and a decent standard of life.[6] GDI and GEM trace developments in gender equity and female empowerment, while HPI monitors different aspects of deprivation in the quality of life, as related to vulnerability to an early death, exclusion from the world of knowledge, and deprivations in overall provisioning. The HDI and GDI values range from 0 to 1 where 1 indicates the highest attainment in human development. In the advent of strong monitoring and evaluation (M&E) requirements for informing policy and planning, these indices provide powerful lead monitoring instruments for re-directing policies and actions within the PRSP/MDG environments. These indices and their implications are discussed below.

Human Development Index (HDI)

The HDI is derived from a simple average of three components: longevity, educational attainment (or level of knowledge) and decent standard of living. Longevity is represented by life expectancy at birth, while knowledge is measured by adult literacy rates and combined enrolment rates. Decent standard of living is measured by per capita income (Appendix 2). The HDI facilitates the evaluation of progress in expanding human capabilities over time and across countries and regions to help determine priorities for policy intervention.

Although a country's HDI is helpful in assessing overall performance, it can conceal the fact that different regions within a country can have very different levels of human development. If data are available the HDI can be disaggregated to assess progress at regional and district levels, including different groups and classes in society. Disaggregated HDI values are arrived at using sub-national or class-specific data. Using such disaggregated HDIs can help highlight significant disparities and gaps.

The HDI value for a country shows how far that country has gone in attaining an average life expectancy of 85 years, access to education for all and a decent standard of life

Since the 1990s, Kenya's HDI has declined from 0.533 in 1990 to 0.520 in 2004. The decline has been associated with disappointing economic growth, compounded by an increased vulnerability of the population, reduced access to basic services, corruption, mismanagement, and failure to identify and support informal and indigenous institutions. The structural adjustment programmes introduced in the mid 1980s, and rising poverty levels in the 1990s, worsened the situation, by increasing the number of people excluded from accessing basic social services. Thus, for most of the period, the three indicators of human development - longevity, educational attainment and decent living standard, declined. The result has been a significant slippage in the country's human development situation.

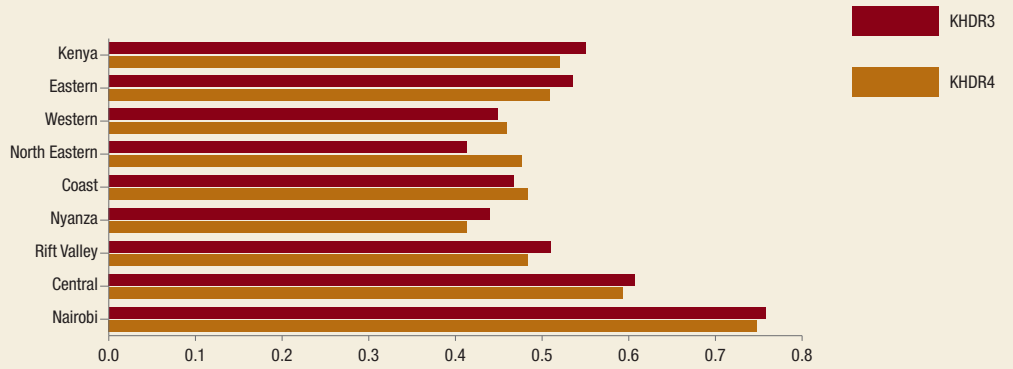
Sub-National Trends in Human Development

Disaggregated HDI values at provincial and district levels highlight significant variations in human capabilities and welfare. The HDI for Nairobi, which is 0.748, is the highest among Kenya's administrative regions. This is attributed to a more robust income component of the HDI, arising from clusters of industrial development activities compared to other provinces, and the relatively numerous services, resources and opportunities that Nairobi offers as a major urban centre and the country's capital. However, the fairly high HDI value for Nairobi conceals glaring intra and peri-urban inequalities. For example, it is estimated that over 60% of the city's residents live in makeshift houses in slums, in conditions of abject poverty, and where investments in basic social amenities are limited.

It is also notable that due to a falling life expectancy from 66 years in 2001 to 57 years currently, Nairobi's HDI declined from 0.783 in 2001 to 0.748 in 2004. The HDI values for Kenya's eight administrative regions are shown in Figure 2.1.

Provincial level comparisons demonstrate that Central Province has the second highest HDI of 0.593. This is followed by Eastern Province (0.510), Rift Valley Province (0.481), and Coast Province (0.483). Central and parts of Rift Valley Provinces fall within the country's high potential zones that are better able to provide food and income-earning opportunities for a majority of the people living there. In addition, policies, and allocation of public resources, have tended to favour these high potential areas. Western Province has an HDI value of 0.459, while Nyanza, with an HDI value of 0.413, has the least human development in the country. The low HDI value for Nyanza is due to the relatively low life expectancy attributed to the high incidence of diseases such as malaria and

Figure 2.1: Human Development Index by Province



Source: Kenya National Human Development Reports, past issues.

tuberculosis. An equally high incidence of HIV/AIDS has made the situation more precarious. The province's poor performance also reflects a lack of income-earning opportunities. Except for a few areas in the province that fall within the high potential zones, economic opportunities are limited. The production of major cash crops such as cotton and groundnuts has been abandoned as a result of government policy, while sugar cane has faced production and marketing problems and failed to generate sufficient income, adversely affecting development prospects in the region.

Districts also fare quite differently in terms of human development achievements. The top 10 and bottom 10 districts ranked by their human development performance are shown in Table 2.1. The urban districts of Nairobi and Mombasa have the highest HDI values of 0.748 and 0.651 respectively. Meru South district has also performed well in terms of human development, falling as it does within the richly endowed, high potential agricultural area. The three districts with the lowest HDIs are Marsabit (0.228), Turkana (0.280) and Samburu (0.293). A closer scrutiny of the top 10 and bottom 10 districts reveals a number of common features. The districts in the high HDI category tend to be either urban centres with industrial concentrations, or in the high income-potential areas. Conversely, the districts in the low HDI categories are mainly in the arid and semi-arid lands or in the low potential zones. Some of these regions are also prone to frequent disasters such as floods and drought.

Gender and Human Development

In 1995, the UNDP devoted its global NHDR to the analysis of gender relations and disparities. The report streamlined the GDI into human development calculations to capture gender differences. The GDI uses the three variables of the HDI to measure gender disparities. Simply put, GDI measures achievements in basic human development adjusted for gender inequality. A GDI value close to 1(one) signifies achievement of equality for men and women. Generally, a high ratio of GDI to HDI indicates deprivation of women in relation to men.

Table 2.1 HDI Ranking by Districts

Top ten Districts		Bottom ten Districts	
Nairobi	0.748	Siaya	0.365
Nithi (Meru South)	0.659	Kwale	0.351
Mombasa	0.651	Busia	0.332
Embu	0.637	Homa Bay	0.330
Nyeri	0.626	Migori	0.327
Tharaka Nithi	0.608	Suba	0.323
Maragua	0.605	West Pokot	0.322
Murang'a	0.599	Samburu	0.293
Bomet	0.591	Turkana	0.290
Thika	0.591	Marsabit	0.228

Source: IDS Calculations

> "The districts in the high HDI category tend to be either urban centres with industrial concentrations, or in the high income-potential areas"

[6] HDR standard methodology

Kenya's GDI is estimated at 0.538, higher than the estimates in the first, second and third NHDRs. The rising GDI signifies diminishing deprivation and improving opportunities for women over time. A comparison of the estimates in the reports is given in Table 2.2. Trends in the GDI mirror the trends in the HDI. The highest GDI in the country is 0.629 for Nairobi. This is followed closely by Central Province with a GDI of 0.622 and Rift Valley with 0.541. The lowest GDI value of 0.428 is in Nyanza Province. There is also a close association of HDI and GDI values for most regions in the country. Whereas most provinces performed relatively better in terms of GDI in 2003 than 2002, Nyanza Province stagnated. The variations are attributed to regional differences in life expectancies between men and women.

Gender Empowerment Measure

Another index that has been used to monitor human development from a gender perspective is the gender empowerment measure (GEM). The GEM examines to what extent men and women actively participate in economic and political life and take part in decision-making. Thus, while GDI focuses on capabilities, GEM shows how those capabilities are used to take advantage of opportunities in life.

The GEM indicates the participation of women in economic, political and professional spheres using the percentage share of men and women in administrative, managerial, professional and technical positions, to gauge economic participation and decision-making power. Women's political empowerment is gauged by the expanding space for their political engagement, participation and representation at local and national levels.

Currently, there is a serious male bias in positions of power and decision-making in Kenya. The percentage of females in policy positions is dismal as evidenced by 4.1% parliamentary representation, 6.1% ambassadorial positions, 13.3% permanent secretaries and 15.9% deputy secretaries. There is one provincial commissioner based in Eastern Province and a few senior women in provincial administration. There are four women cabinet ministers. Although the position has improved from a national GEM value of 0.375 in 1999 to 0.414 in 2001 and 0.421 in 2004, the overall position is that of low women's representation; yet they constitute over half the population.

Human Poverty

Human poverty or poverty of lives and opportunities is multidimensional in character and diverse, rather than uniform, in content. Over the years, the concept of poverty has been defined in different ways (Box 2.1).

Poverty in the human development approach draws on each of these perspectives, but particularly on the capability perspective. In the capability concept, the poverty of a life not only lies in the impoverished state in which the person actually lives, but also in the lack of real opportunity – due to social constraints as well as social circumstances – to lead valuable and valued lives.

Human poverty has traditionally been measured in Kenya in terms of inadequate consumption or income. It has been

> "Human poverty or poverty of lives and opportunities is multidimensional in character and diverse, rather than uniform, in content. Over the years, the concept of poverty has been defined in different ways: income perspective, basic needs perspective and capability perspective"

Box 2.1 Three perspectives on poverty

Income perspective: A person is poor if, and only if, her income level is below a defined poverty line. Many countries, including Kenya, have adopted income poverty lines to monitor progress in reducing poverty incidence. Often the cut-off poverty line is defined in terms of having enough income for a specified amount of food

Basic needs perspective: Poverty is deprivation of material requirements for a minimally acceptable fulfilment of human needs, including food. This concept of deprivation goes well beyond lack of private income: it includes the need for basic health, education and essential services that have to be provided by the community to prevent people from falling into the poverty trap. It also recognises the need for employment and participation.

Capability perspective: Poverty represents the absence of some basic capability to function – a person lacking the opportunity to achieve a minimally acceptable level of these functionings. The functionings relevant to this analysis can vary from physical ones such as being well nourished, adequately clothed and sheltered and avoiding preventable morbidity, to complex social achievements such as partaking in the life of the community. The capability approach reconciles the notions of absolute and relative poverty, since the relative deprivation in incomes and commodities can lead to an absolute deprivation in minimum capabilities.

Table 2.2: Gender-related Development Trends

Gender-related Development Index				
	1st Report	2nd Report	3rd Report	4th Report
Nairobi	0.728	0.652	0.626	0.629
Central Province	0.571	0.593	0.597	0.622
Coast Province	0.443	0.588	0.464	0.475
Nyanza Province	0.444	0.434	0.429	0.428
Eastern Province	0.517	0.515	0.512	0.522
Western Province	0.470	0.463	0.466	0.488
North Eastern	0.301	0.401	0.512	0.467
Rift Valley	0.491	0.502	0.526	0.541
Kenya	**0.501**	**0.509**	**0.521**	**0.538**

Source: Kenya's National Human Development Reports: Various issues.

Table 2.3: Human Poverty Trends

Human Poverty Index			
Province	**2nd Report**	**3rd Report**	**4th Report**
Nairobi	32.4	29.7	25.9
Central	30.7	31.6	29.9
Coast	37.5	37.3	42.7
Nyanza	44.3	42.8	40.9
Eastern	39.9	43.1	40.2
Western	41.1	38.5	40.2
North Eastern	44.8	41.9	43.7
Rift Valley	36.8	35.6	41
Kenya	**34.5**	**34.1**	**36.7**

Source: Kenya's National Human Development Reports: Various issues.

defined both in absolute and relative terms. Absolute poverty is a state where one cannot raise the income required to purchase basic requirements. Relative poverty is when one cannot purchase a bundle of basic needs available to the reference social group. Various reports in Kenya define poverty in an absolute sense. The Welfare Monitoring Survey (WMS) of 1997 estimated the national poverty incidence at 52% using household consumption data. This means that 52 % of the total Kenyan population lived below the poverty line in 1997, which was fixed at an equivalent of US$0.68 per day in rural areas and US$1.46 in urban areas, at the then exchange rate of Ksh.60.4 to the US dollar.

Since 1997, the level of poverty in Kenya has changed, but due to a lack of more recent surveys to generate relevant data, it has not been possible to calculate reliable estimates of current levels of income poverty, to compare with the results of 1994 and 1997 surveys. However, researchers at the Kenya Institute of Public Policy and Research and Analysis (KIPPRA) have devised a simple method for projecting income poverty based on previous poverty information.[7] Using this method of projection, income poverty level in the country increased from 52% in 1997 to 57% in 2004. The projections also demonstrate great regional variations in poverty levels with most regions experiencing increasing deprivation. Although widely used, income poverty measures have a number of weaknesses, perhaps the most obvious being that income or consumption ignores other important livelihood parameters such as access to education, health, and safe drinking water.

In the NHDR 1997, UNDP introduced a concept of human poverty looking beyond the narrow income/consumption yardstick in measuring poverty, introducing the HPI as its measure. In human development terms, a composite index (HPI) brings together different aspects of deprivation in the quality of life, to arrive at a judgment on the extent of poverty in a community. The concept of human poverty encompasses lack of capabilities, lack of freedom, inability to participate in decision making, lack of personal security and inability to participate in the life of the community. The HPI concentrates on three essential elements of human life:

(i) Survival – the vulnerability to death at a relatively early age - and is represented in the HPI by the percentage of people expected to die before age 40

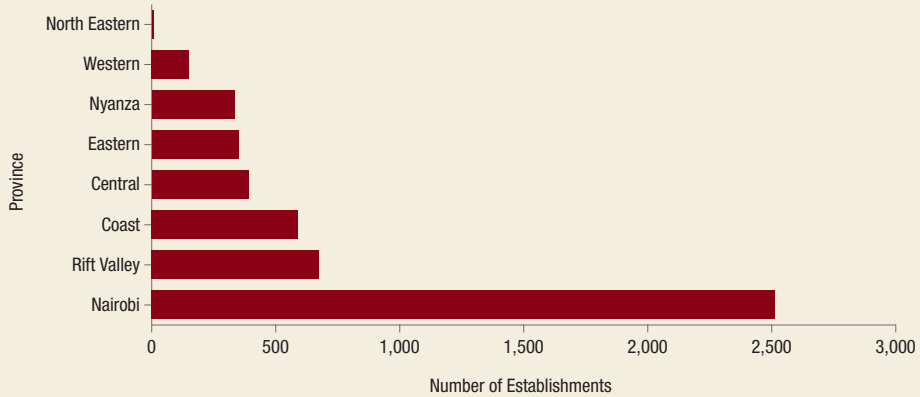
(ii) Knowledge – being excluded from the world of reading and communication - measured by the percentage of adults who are illiterate

(iii) Decent standard of living, in particular, overall economic provisioning. This is represented by a composite of three variables: the percentage of people with access to health services, and to safe water, and the percentage of malnourished children under five (see Technical Note 2).

> "The concept of human poverty encompasses lack of capabilities, lack of freedom, inability to participate in decision making, lack of personal security and inability to participate in the life of the community"

[7] Mwabu et al. 2002

Figure 2.2: Industrial Establishments by Province



Source: CBS, 2004

Overall, human poverty has increased in Kenya from 34 % in 2002 to 36.7% in 2004. Nairobi, at 25.9%, has the least human poverty, followed by Central Province where 29.9% of the total population is affected. The rest are Western Province 40.2%, Nyanza 40.9%, Rift Valley 41% and Coast 42.7%. North Eastern Province has the highest human poverty at 43.7%. Human poverty has declined in Nairobi, Central, Nyanza and Eastern provinces. In comparison human poverty has risen in the Coast, Rift Valley, Western, and North Eastern Provinces due to declining opportunities in the regions.

Industrial Establishments and Human Development Trends

Data from the Central Bureau of Statistics show that there are between 5000-6000 industrial establishments in Kenya. Figures 2.2 and 2.3 show the distribution of these industries by provinces and the 10 most industrialised districts respectively. Nairobi is the most industrialised province, followed by Rift Valley, Coast, Central, Eastern, Nyanza and Western, while North Eastern is the least industrialised.

The pattern of industrial dispersal tends to influence, or be influenced by levels of urbanisation. This distribution also tends to define the level of access to social and infrastructure services such as water, electricity, schools and health services. The distribution of industrial establishments in part explains human development trends in different regions. For example, the Kenya Demographic Health Survey (2003) indicates that urban children are less likely to be underweight (13%) than rural children (21%). At the provincial level, North Eastern Province, which has the lowest concentration of industrial establishments, has the highest proportion of moderate to severely underweight children (34%), while Nairobi Province, which is the most industrialised, has the lowest proportion (6%).

The Kenya Demographic Household Survey 2003 data also show that the proportion of women living in urban areas who are overweight or obese (39%) is higher than that for women in rural areas (18%). Provincial comparison shows that North Eastern Province has the lowest proportion of overweight or obese women (8%), while Nairobi Province has the highest proportion of overweight women. Better-educated women are more likely to be overweight or obese (34%) than those with no education (15%).

The report has noted that a reduction in the levels of absolute poverty is linked with the pattern of industrialisation. Thus, as a result of the concentration of industrial activities around Nairobi and Central Province, the levels of absolute poverty have either decreased or are low in these areas. It would therefore appear reasonable for the government to correct the regional anomalies by implementing a deliberate policy to provide incentives to investors in other provinces, using the resource base potential in these provinces, and establishing small and medium-scale industries to exploit the existing potential. This will have to be a deliberate policy in line with the decentralisation of resources and assets to the provinces and regions.

A policy implication of these observations is that industrialisation assures better provisioning to prevent child malnourishment and to guarantee the attainment of other human development goals. A credible conclusion would seem to be the encouragement of industrial decentralisation to other regions of the country, in line with the general trend the country is pursuing. The observation that higher concentrations of obese women follow the pattern of industrial concentration would call for efforts to educate women on nutrition and related issues.

Data from the Central Bureau of Statistics show that there are between 5000-6000 industrial establishments in Kenya.

The pattern of industrial dispersal tends to influence, or be influenced by levels of urbanisation.

3 Kenya's Industrialisation Experience

Background

It is becoming apparent that without a measure of industrialisation, the economic growth of any country will be stunted. The industrialisation strategy that a country pursues should take into account the macroeconomic framework within which industries have to operate. The orientation of macroeconomic policies determines the direction and even the type of industries that spring up and thrive. In addition, a country has to operate within the global environment, which will dictate the kind of trade, investment and industrialisation pattern that enables it to survive.

More than most countries in sub-Saharan Africa, perhaps, with the exception of South Africa, Kenya relentlessly pursued a deliberate programme of industrialisation within an environment that promoted private sector development. The underlying philosophy was to use industrialisation as a means of promoting economic growth, creating employment and eradicating poverty. In this regard, Kenya was unique and relatively advanced in sub-Saharan Africa.

In the immediate post colonial era, Kenya's industrial policy was driven by the desire to break free from the restrictions of underdevelopment towards an industrial trajectory that would enable the country to shake off the shackles of unequal colonial trading patterns. These had nurtured a dependence on volatile commodity exports and manufactured imports (UNIDO 2000). The thinking of the day was that industry, rather than agriculture, would be the means by which Kenya achieved rapid economic growth and an improvement in living standards. In the words of the Lagos Plan of Action (LPA 1980), industrialisation constitutes "a fundamental option in the total range of activities aimed at freeing Africa from underdevelopment and economic dependency". The pursuit of industrialisation without upgrading agricultural production and techniques, limited the impact of the industrialisation strategy. Indeed, the false sectoral dichotomy between agriculture and industry, private and public, and formal and informal sectors, has traditionally undermined the industrial development process in the country.

An overview of development efforts in Kenya shows that three major groups of development strategies have influenced national development initiatives. The first consists of strategies adopted and promoted by UN agencies. These include: the UN Industrial Development Decade for Africa (IDDA I&II, 1980 and 2000), UN System-Wide Special Initiative for Africa (UNSSIA), and the Alliance for Africa's Industrialisation initiated by UNIDO in 1996. The second group comprises regional initiatives promoted by the Economic Commission for Africa (ECA) and the African Union (AU) which include: the Lagos Plan of Action 1980, African Alternative Framework for Structural Adjustment Programmes (AAF-SAP) 1989 and the Treaty for African Economic Community, 1991. The third group has been the Bretton Woods Institutions' interventions in economic policy-making in most African countries including Kenya, which was the first to implement the Structural Adjustment Programmes (SAPs).

Despite the efforts at industrialisation, Kenya's economy has grown modestly from about US$ 2 billion at independence to about US$ 11 billion currently, with a very low per capita income of US$ 239 constant prices in 2002, putting the country in the league of the bottom 20 countries in human development world-wide. The growth of the economy has been accompanied by a four-fold population growth, from approximately 8.3 million at independence to the current population of 32 million. At the same time, out of Kenya's 593 million hectares of land, only 18% can support arable agriculture. The phenomenal growth in population has therefore put considerable pressure on land resources and has reached a limit beyond which there is no potential to support future livelihoods from agriculture. Further growth in the population will therefore compel the people to look for opportunities in the secondary and tertiary segments of the economy.

The informal economy accounts for a third of the country's national income. The manufacturing sector's share of monetary GDP has remained stagnant, at little more than 13% in the last two decades. The overall share of the industrial sector has been around 15-16% also indicating a growth from 7% of the GDP at independence. The contribution of manufacturing is second to that of agriculture, which accounts for a quarter of the modern sector's GDP. Currently, the manufacturing sector employs half a million Kenyans and in the last five years, the growth in manufacturing employment has outpaced employment in other private sector activities.[8]

Manufacturing activities contribute the largest share of industrial output and form the core of industry. Although these activities concentrate in urban areas, they are also evident in rural Kenya. The micro and small-scale sector, which has expanded rapidly in the last four years, is an integral part of Kenyan industry, providing over half the total employment. However, the importance of micro and small-scale enterprises is far greater than its employment creation, because it provides a point-of-entry for many Kenyan entrepreneurs into the manufacturing and services sector, and serves as the testing ground for the development of low cost products.

Early manufacturing activities were dominated by agro-processing that catered for the consumption needs of the

The pursuit of industrialisation without upgrading agricultural production and techniques, limited the impact of the industrialisation strategy

expatriate community. Two decades after independence, industrialisation was based on traditional import-substitution (ISI) that focused on producing light consumer goods for the domestic and regional markets. Initially, ISI was successful and the manufacturing sector grew, overtaking wholesale trade to become, by 1980, the second most important sector. At the time, it was contributing 13% to the country's GDP.[9] Stagnation at home and changes in the world economy, however, forced major changes beginning in the late 1980s.

Import Substitution Industrialisation

Kenya built upon a base of ISI inherited from the colonial period.[10] From 1945 onwards, the British metropolitan administration supported investment in industry to the extent to which it served their commercial interest. At independence, Kenya continued with the same strategy of ISI as articulated in the country's post-independence policy documents. During the initial phase of adopting ISI, the underlying assumption was that for an economy to develop it had to be based on agriculture and industry. However, the inherited industrial strategy de-linked industry from agriculture. The enclave nature of this approach meant that industrial production would make only minor contributions to wealth creation since the greater part of the profits derived from the process were repatriated abroad. In addition, lack of backward and forward linkages with either the mineral or the agriculture sector, and the failure of the strategy to upgrade agricultural production techniques and establish processing units at local levels, did not permit the strategy to create jobs in rural areas. As a result, it denied the rural poor the opportunity to exploit activities related to the creation of such industries in order to realise human development goals.

Much of Kenyan industry was concentrated in agro-processing - partly an outcome of the importance of processing agricultural products such as cotton, coffee, tea, maize, and milk for the local and export markets. Such products had strong backward linkages into agriculture. Yet Kenya also used imported technologies and intermediate goods to produce some items, such as Tetrapak milk cartons and Colgate toothpaste.

Investment in all but the smallest industrial activities requires substantial financial and physical capital. At that point in Kenya's history, very few Kenyans of African origin had the resources to establish industrial concerns. Those who could do this were multinational corporations (MNCs), the government, and members of the Kenyan Asian community. Multinationals had resources from outside the country that could be invested for production in Kenya; government could mobilise both its own tax revenues and funds from external sources; and many Kenyan Asians had begun to accumulate capital during the colonial era when they were artisans, small traders, and government employees. They developed complex networks of family businesses that, especially after the government's adoption of Africanisation policies, were increasingly focused on the manufacturing industry.[11] The few Africans who had considerable financial resources, tended to invest in large-scale agriculture, trade, tourism, real estate, and only much later, in manufacturing.

Throughout the ISI period, large industry was supported by high tariffs, foreign exchange controls, import licensing, and various regulations governing trade on the domestic market. These worked well in the period immediately following independence, but eventually reduced the competitiveness of Kenyan products[12] , because they were not based on increasing export-led growth in the manufacturing and services sectors.

Although ISI seemed like a reasonable approach to development, it failed to deliver the jobs and economic growth that post-independence planners had envisioned. A number of factors contributed to Kenya's problems with ISI:

- The small size of the market: Kenya's domestic market failed to grow fast enough to absorb all the products that were offered, and the collapse of the East African Community in 1977 further reduced the market for Kenyan manufactured goods.
- The perverse effect of the measures designed to promote local industry: high tariffs protected local industry from competition but allowed it to become inefficient and unresponsive to customer needs.
- The regulations surrounding the importation of plant and equipment, which encouraged firms to build up excess capacity, further eroding their efficiency. The system of price controls discouraged price competition in key goods.

Instead of ISI stimulating greater utilisation of available domestic resources, it increased the country's dependence on imports in order to encourage manufacturing production. This deprived the country of the first learning steps in the industrialisation process and in building manufacturing capacity and capabilities to support human development. Also, protection from outside competition did not allow ISI to stimulate export-led growth and development as well as the development of technological capacity. The shift of the country's import structure towards

> "During the initial phase of adopting Import Substitution Industrialisation, the underlying assumption was that for an economy to develop it had to be based on agriculture and industry"

Throughout the ISI period, large industry was supported by high tariffs, foreign exchange controls, import licensing, and various regulations governing trade on the domestic market

[8] Kenya, 2004.

[9] Bigsten and Kimuyu, 2002

[10] Swainson, 1980; McCormick, 1996

[11] Himbara, 1994

[12] Bigsten, 2002

intermediate and capital goods, in which little ISI had taken place, offset the import-substitution achieved in consumer goods. ISI therefore became a net exporter of capital and worsened the balance of payments. Thus, industries worked below their full capacity. In addition, Kenya's ISI policies had failed to recognise the importance of gradually shifting from an almost exclusive focus on consumer goods to an industrial structure that also produced intermediate and capital goods.

The main focus of ISI production has been on light industries operating at a low level of industrial development. The manufacturing industry in Kenya produced consumer goods for the domestic market, the main products of which were: processed foods, beverages, tobacco, textiles and clothing, footwear, paper, soap, toothpaste, and other personal hygiene products. Some other types of industries were also important contributors to the industrial sector, such as the Magadi Soda Company, East African Power and Lighting, and East African Portland Cement. Within a few years of independence, foreign capital flowed in and major companies such as Firestone, Del Monte, Schweppes, and Lonrho started producing for the domestic and regional markets.

Throughout the ISI period, small-scale industry was also growing and policymakers began to take note of its existence.[13] Early efforts were aimed at developing what might be called 'modern' small industry, to be promoted through programmes such as Kenya Industrial Estates (KIE) and the Industrial and Commercial Development Corporation (ICDC).[14] The management of these key institutions by government appointed managers undermined their effectiveness, as they failed to play their strategic role in the industrialisation process. The institutions were instead turned into 'golden cows' to be milked by the political leadership and its allies. Much more common, and more difficult for government to deal with, was the 'informal sector' or *Jua Kali* enterprise, first identified through the International Labour Organisation's 1972 report on Kenya's employment situation.[15] For many years, government's main response to small producers bordered on, at best indifference, and at worst, negativity. Businesses were harassed, evicted, and generally subjected to ill treatment.

The failure of the government to exploit the informal sector is a result of a sectoral bias, which does not link formal and informal sector activities. The most prudent policy would have been for the government to capitalise on the activities of the informal sector and help it upgrade skills and product quality, since it is a sector that is labour intensive and offers more opportunities for employment. Although informal sector activities do not promote technological progress, they remain a strong reservoir of entrepreneurship. The policy should be one of promoting synergy between the formal and informal sectors, in view of their critical importance for sustainable industrial development.

Despite these difficulties, micro and small-scale enterprises were affected by import-substitution policies. Small producers made a wide range of consumer goods, including clothing, footwear, furniture, hardware, cooking utensils, and various types of household goods. A few artisans ventured into making equipment such as wheelbarrows and weighing scales. The protected market ensured that most products would be sold, often without regard to their quality.

By the end of the 1970s, industrialisation had slowed considerably, and dissatisfaction with ISI paved the way for the structural adjustment programmes that became a watershed in the history of Kenya's industrial policy.

Industrialisation under Structural Adjustment

The decade from the mid 1980s to the mid 1990s witnessed major changes in Kenyan industry as a result of an overall programme of structural adjustment mandated by the World Bank and International Monetary Fund. Policy documents in Kenya were already acknowledging the need for such adjustment.[16]

Structural adjustment programmes consisted of a set of policies designed to make economies more efficient and productive. They aimed to shift the economy from a highly protected ISI strategy to industrial policies that would lead to increased use of local resources, greater employment creation, and the encouragement of exports.[17] State participation was considered to be obstructive to efficient management and had to be removed.

The main ingredients of SAP were trade liberalisation and devaluation, deregulation of domestic markets, reduction of public sector employment, privatisation of parastatal enterprises, and support for private-sector development, including micro and small enterprise (MSE) development. The programmes were controversial, partly because of their origins as donor-mandated actions, and partly because their effects were widely felt as promoting retrenchment of public employees, while user fees were imposed on schools and health facilities and price controls were removed. With the changing environment, highly visible public companies were either privatised or became bankrupt. The short-term effects on Kenya's human development were therefore retrogressive.

Before the expected benefits of these reforms could be felt, Kenya was subject to political and economic uncertainty. In the early 1990s Kenya's donors were unhappy with the slow speed of economic reform, the prevalence of corruption, and the slow process of democratisation.[18] They withdrew their quick-disbursing aid. In response, the government unsuccessfully looked for other ways of attracting foreign exchange. In 1993, it abruptly liberalised the foreign exchange market, then later clamped down on these

The failure of the government to exploit the informal sector is a result of a sectoral bias, which does not link formal and informal sector activities. The most prudent policy would have been for the government to capitalise on the activities of the informal sector...

markets, causing considerable confusion. Other reforms, included new import procedures, VAT and income tax reforms, changes in the regulations for Manufacturing Under Bond enterprises, and a general lowering of tariff rates, which combined to make the industrial environment uncertain and turbulent throughout the first half of the 1990s. Investors, both local and foreign, adopted a wait-and-see stance, with the result that output in the medium-to-large-scale manufacturing sector grew at less than 2% per annum and employment stagnated.

From a sustainable industrialisation perspective, privatisation should be used as a mechanism for promoting social equity, enhancing dynamic links between public and private sectors and facilitating the development of the domestic sector. The opening up of the economy had not brought about economic recovery and SAP had not stemmed the country's economic decline. In the context of South East Asian countries, liberalisation was embarked upon only after the countries had implemented an ISI strategy and laid down a strong industrial base, which was internationally competitive. For Kenya, liberalisation has resulted in the de-industrialisation of the people, causing them misery and discomfort, as textile industries were replaced with second-hand clothing imports, and the motor industry had to scale down production due to imports of second hand reconditioned cars, particularly from Dubai. A multiple mode of privatisation that could broaden the basis of local participation should be pursued.

Market Liberalisation

Under the ISI regime, both financial markets and markets for goods and services were highly controlled. Although policy documents began to directly address market liberalisation from the mid 1980s, the actual shift from controlled to free markets occurred fairly abruptly between 1992 and 1994.

Controls on holding and trading in foreign exchange were removed, tariffs were reduced, and restrictions on the import of certain goods, notably on second-hand clothing, shoes, and vehicles, were eased. At the same time, the government encouraged private investment in key industries such as dairy and fish processing. Trading within the country was also made easier as the government lifted restrictions on the movement of agricultural products and other commodities.

The opening of Kenya's markets to products from other countries has had a major impact on Kenyan industry. Although many industries felt the pinch of heightened competition, some, such as textiles, footwear, and motor vehicle assembly, were especially hard hit.

Privatisation

Privatisation has been on the government's agenda since the 1980s, but progress in this direction has been extremely slow. Privatisation is a generic term often used to describe a range of policy initiatives designed to alter the mix of ownership or management away from government towards the private sector.[19] The aims of privatisation range from improved efficiency to the spread of popular capitalism through wider shareholding.

In a 1996 policy document, the government stated its desire to reduce its public sector participation in the economy by privatising certain public enterprises in order to encourage greater private-sector participation in the economy.[20] More recently, the Economic Recovery Strategy reiterated the government's commitment to moving away from commercial activities that can be more efficiently and effectively undertaken by the private sector.[21]

At the onset of parastatal reform and privatisation in Kenya, the government participated directly and indirectly through equity in 255 enterprises.[22] Most of these were manufacturing firms, but there were substantial holdings in distribution, finance, transport, communication and other services.

Many of the firms slated for privatisation were mismanaged, overstaffed, and in financial trouble. Under such circumstances, firms needed to be prepared for privatisation. The privatisation of Kenya Airways, which had been accumulating losses since its establishment in 1977, is a case in point. The airline's net worth was negative, and it had defaulted on debt to external lenders as well as to the government. During the implementation of the privatisation process in 1992, the government converted its own debt into equity, restructured the management, and directed the airline to focus on proper training and efficient service delivery. Between 1994 and 1996, the government was able to sell 26% of the airline's shares to KLM and another 51% to the public through the Nairobi Stock Exchange. In the first year of its privatisation, the airline was operating profitably.

Other public firms were in even worse shape than Kenya Airways. Some, like the Kisumu Molasses Plant, had never really taken off. Others, such as Uplands Bacon Factory, Mt. Kenya Textiles, and Nyayo Bus Services Corporation, were in receivership. The status of a number of others was unclear.

Privatisation is not without its problems. Those who have studied the process in Kenya and elsewhere have noted that greater efficiency, which is the main aim of privatisation, can easily mean a reduction in employment. Furthermore, the benefits accruing from popular capitalism can be difficult to achieve in a country like Kenya, where participation in capital markets is extremely limited. Moreover, the corruption and opportunistic implementation that so often accompanies privatisation, wastes public resources.

Nevertheless, the alternative to privatisation - retaining companies as public enterprises - may have equally bad consequences. Examples of such public enterprises that

Privatisation has been on the government's agenda since the 1980s, but progress in this direction has been extremely slow

[13] McCormick, 1996; Bigsten, Kimuyu and Lundvall 1999

[14] McCormick, 1996

[15] ILO, 1972

[16] See for example Sessional Paper Number 1 of 1986.

[17] Bigsten, 2002

[18] Bigsten, 2002

[19] Nyong'o et al, 2000

[20] Kenya, 1996

[21] Kenya, 2003

[22] Nyong'o et al, 2000

have been retained include the Kenya Power and Lighting Company and Telkom Kenya. These have continued to offer poor and over-priced services.

Privatisation should be understood as a strategy to restructure the role of the state in order to promote industrialisation, since parastatals had, by all account, been privatised through taxpayer's ownership. It is in this context that when Mauritius wanted to privatised the sugar industry, it enabled the workers to use their pension schemes to acquire the enterprise. This is a more acceptable method of empowering people to participate in the management of their own economy and promote sustainable industrial development. This will ensure that economic power is not concentrated in the hands of foreigners or the ruling class, but distributed more equally among the people.

Achievements, Structure, and Ownership of Industry in Kenya

Achievements

Kenyan industrialisation has a number of achievements to its credit. Industry has been a major contributor to the country's GDP and a source of employment for the economically active population. The country has also been slowly moving away from simple, resource-based manufacturing towards products with a higher technological content.[23]

The overall contribution of industry to GDP declined from 21.4% in 1973 to 17.3% in 1993, but by 2003 had risen again to 19.3% (Table 3.1). Manufacturing, the largest single industrial activity, followed a similar pattern, dropping from 14.3% of GDP in 1973 to 10.5% in 1993, and then rebounding to 13.6% by 2003. The contribution of manufacturing in the last 30 years has therefore been erratic. Construction and electricity/water, on the other hand, both rose between 1973 and 1983, but then declined steadily. Mining/quarrying declined from 1973 to 1983, rose slightly, and then declined again.

The same activities in the MSE sector also make an additional contribution to GDP. Unfortunately, statistics on this sector have only begun to be collected recently, so it is not possible to trace the changes over time. Estimates for the year 1999, show that small-scale manufacturing and construction contributed an additional 1.9% towards that year's GDP.

The numbers employed in industry remain fairly small, especially when considered relative to their contribution to GDP. In 1999, formal private and public sector industrial activities employed only 2.6% of the economically active population, while their MSE counterparts employed an additional 3.1%.[24] Nevertheless, however small in proportion to the total labour force, these percentages represent over 700,000 Kenyans employed in all types and sizes of industry.

Another achievement of Kenyan industry has been the slowly increasing technology content of its products, especially its exports. Between 1985 and 1998, the share of medium and high tech products making up Kenya's exports, approximately doubled from 3.2% to 7.6%. At the same time the proportion of low-tech products increased from 4.3% to 11.8%, and the resource-based export share declined from 28.1% in 1985 to 23.8% in 1998.[25] These figures suggest a gradual movement away from resource-based and low-tech manufactured exports towards a more technologically sophisticated range of products. Nevertheless, it is important to note that progress has been very slow, and overall, Kenya is still far from being a high-tech exporter. The country ranks number 62 out of 87 countries on the basis of its share of medium and high-tech products in its total manufactured exports.[26]

Structure of Industry in Kenya

Figure 3.1 compares the structure of employment and output for two periods, one in the midst of the ISI era, and the other following market liberalisation. In the 1975-1980 period, the most important sectors in terms of output were food and beverages (42%), chemicals, petroleum, and plastics (23%), and metal, machinery, and equipment (13%). Food processing and metal each claimed 25% of employment, textiles and clothing accounted for 17%, leather and wood 12%, and chemicals, petroleum and plastics only 8%. No other sector had more than 10% of either output or employment.

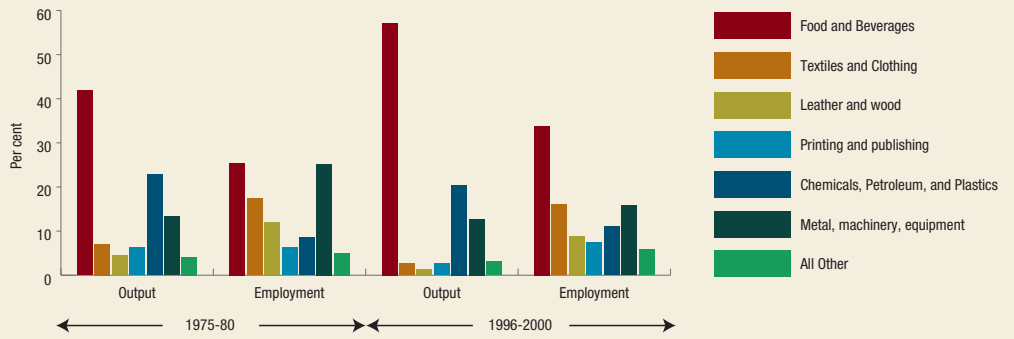
The picture shifted somewhat by the 1996-2000 period. Food processing became even more dominant, with food and beverage production rising to 57% of output and 34% of employment. In terms of output, the next most important sectors were chemicals, petroleum and plastics (20%) and metal, machinery, and equipment (13%). Textiles and clothing, though less significant in terms of output, claimed 16% of industrial employment. Metal, machinery, and equipment (16%) and chemicals, petroleum, and plastics (11%) were also important employers.

Table 3.1 Contribution of Industry to GDP, Selected Years (%)

Contribution of Industry to GDP, Selected Years (%)				
Sub-sector	**1973**	**1983**	**1993**	**2003**
Manufacturing	14.33	12.33	10.51	13.59
Construction	5.42	5.95	5.61	4.53
Electricity/Water	1.25	1.42	0.94	1.05
Mining/Quarrying	0.41	0.22	0.26	0.17
Total	**21.41**	**19.92**	**17.32**	**19.34**

Source: Economic Surveys, various years

Figure 3.1: Structure of Output and Employment, 1975-80 and 1996-2000



Source: Economic Survey, various issues

Industrial activities contribute differently to output and employment. Much of Kenya's food and beverage production is capital intensive, and therefore contributes more to output than to employment. Textiles and clothing, on the other hand, are labour intensive, and their share of employment is considerably higher than their share of output. Even within this sector, clothing production is more labour intensive than the manufacture of yarn and fabric. The near total collapse of spinning and weaving in Kenya and the recent rise in export clothing production have made this sector even more labour intensive than it was in the 1975-1980 period. This development had, therefore, positive human development implications.

Although there is scanty detailed data that would allow us to incorporate micro and small-scale enterprises into an analysis of the structure of industry, some of that which is available demonstrates that of the total MSE manufacturing employment, textiles and leather accounts for 28%, wood 26%, and food and beverages 23% each. The remaining quarter is divided among earthenware (7%), hardware (8%), paper and paper products (4%), and other (4%).

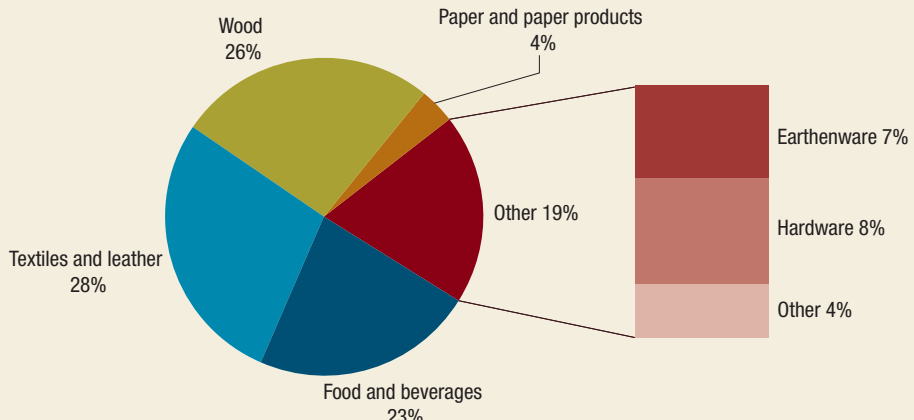
Ownership of Industry in Kenya

Ownership of industrial enterprises varies greatly with size. Gender, race and ethnicity, and the legal form of ownership all tend to differ for different sizes of enterprises. In general, the smaller the enterprise, the more likely it is to be female-owned, African-owned, and a sole proprietorship.[27]

Within the MSE sector, ownership is fairly equally divided between men and women. However, sub-sector analysis reveals that within this sector, men dominate in manufacturing and construction activities. Men own only slightly over half (52.3%) of all MSEs, but they own 65.7% of manufacturing businesses, and 92.2% of all construction businesses (Figure 3.3).[28] Even within small manufacturing enterprises, there are gender differences, with men more likely to own wood and metal enterprises, and women to own textile and clothing firms. Kenyan medium and large-scale manufacturers are predominantly male, though some firms count women among their partners or shareholders.

The majority of manufacturing enterprises are locally owned and the rest are either under joint local/foreign ownership, wholly foreign owned, or government owned. Most of the Kenyan Asian-owned enterprises are local, though some are owned jointly by local and foreign investors.[29] The few European firms are also local, though there is some foreign multinational presence in Kenya. New entrants into the Export Processing Zones tend to be foreign, but from South and East Asia rather than from Europe or North America.

Fig. 3.2: MSE Employment by Sector, 1999



Source: Economic Surveys, various issues.

[23] Cotton et al., 2003.

[24] Kenya 2003 (Economic Survey); CBS et al. 1999

[25] UNIDO 2002

[26] UNIDO 2002

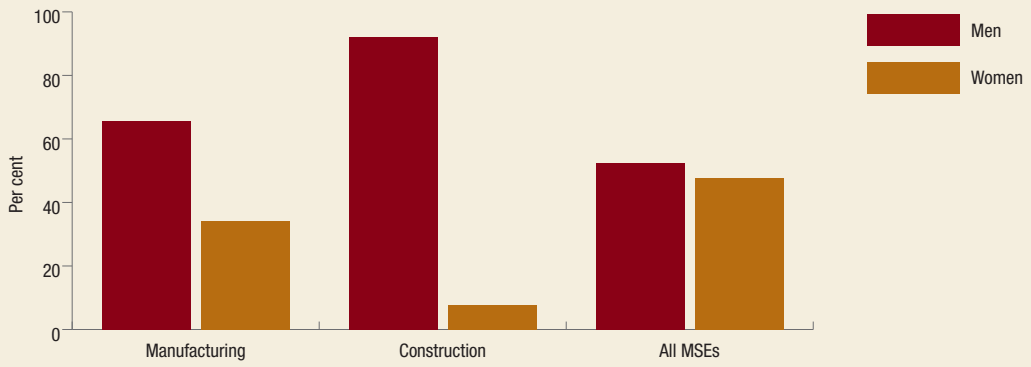
[27] Bigsten and Kimuyu, 2002; Mullei,2003; CBS et al 1999.

[28] CBS et al 1999

[29] Ikiara et al. 2002

[30] Himbara 1994

Fig 3.3: Ownership of MSEs by Gender



Source: Economic Survey, various issues

Most MSEs are sole proprietorships or partnerships of one or two persons. As one moves up the size scale, sole proprietorships become relatively fewer while partnerships and limited liability companies increase. Government ownership of industry, which was once substantial, has declined, especially in manufacturing.

Kenyan Asians own about three-quarters of the large-scale manufacturing firms.[30] Most Kenyan Asian enterprises – even those that are partnerships or limited liability companies – are family businesses that have survived to the second or third generation. Some of these Kenyan firms are multinationals in their own right, having established subsidiary plants in other parts of the world.

Kenyan entrepreneurs of African origin own nearly all of the MSEs, many of the medium-scale producers, and a few large producers. A number of factors account for the limited participation of Kenyans of African origin in large-scale manufacturing. Kenyan business persons of African origin are less able to meet the large requirements of such manufacturing. It also takes generations to build family businesses to large-scale levels and unfortunately, most African businesses are still in their first generation. There are also political economy explanations for this lack of African participation in large-scale manufacturing. Although there was initial commitment by the independent government to Africanise the economy, ambivalence about this policy stance crept in, fuelled by fears of losing state control. In the recent past, budding industrialists of African origin have been harassed by a state ostensibly frightened of the emergence of strong, independent voices .[31]

Recent Developments in Kenyan Industry

The processes of structural adjustment within Kenya, combined with overall changes in the world economy have brought about a number of developments in Kenyan industry, some of which are:

- Growth of the MSE sector
- Export promotion
- Growth of regional markets
- Human resource development

Growth of the MSE Sector

Micro and small-scale enterprises are everywhere in Kenya. Many of the 1.3 million MSEs recorded in 1999 were in trade and services, but a substantial minority fell into the manufacturing and construction sectors.[32] Approximately 173,000 enterprises engaged in manufacturing and 22,000 in construction. These employed a total of 385,000 workers. Just over one quarter of the manufacturing enterprises (27%) and 30% of the construction enterprises are in the urban centres, with the rest found in rural areas. Micro and small-scale enterprises, therefore, contribute significantly to rural employment. Rural enterprises tend to have strong links to agriculture, and many are home-based.

The typical MSE is operated by an owner, together with one or two others, including family members, hired workers, and/or apprentices. On average, manufacturing enterprises employ 2.07 workers, including the owner, and construction employs 1.95 workers per enterprise. Women make up 34.3% of the owners of manufacturing enterprises, but only 8.8% of the owners of construction businesses. The gender distribution of workers is similar to that of owners. The statistics indicate that only 4.7% of the MSE workforce consists of non-regular, i.e., part-time or casual, workers. This may, however, understate the reality because case study interviews suggest that employment arrangements differ widely within the MSE sector with the result that different workers, even within the same enterprise, may have widely different degrees of employment and job security.[33]

Although Kenya has fairly comprehensive industrial legislation governing health and safety of workers, general working conditions in factories, minimum wages, environmental concerns, etc., these are rarely applied to the MSE sector. As a result of slack enforcement, employment in small enterprises can be hazardous and poorly paid.

The government estimates that MSE employment is growing at a rate of approximately 11% per year, which is well above the rate of growth of the labour force.[34] At least one authoritative MSE survey, combined with informal observation, suggests that the sector is growing rapidly.

Export Drive

The government strengthened its commitment to export production through the initiation of the Manufacturing Under Bond (MUB) and Export Processing Zones (EPZ) schemes and the establishment in 1992 of the Export Promotion Council. By the end of 1994, 40 enterprises were approved to operate in six gazetted EPZs, and additional firms were already operating as MUBs.[35] More recently, the government prepared a blueprint that refined the strategic thrust for strengthening export promotion.[36]

Despite these efforts, Kenya's merchandise exports continued to stagnate or even decline. It took the opening of a new market opportunity to reverse the trend. In 2001 and 2002, Kenya's exports leaped up, recording increases of 12% and 8%.[37] This was largely an outcome of the African Growth and Opportunity Act (AGOA), an initiative of the United States government that allows duty-free import into the US by qualifying sub-Saharan African countries. Kenya was the first country to qualify under the Act, and has used the opportunity both to bolster its existing export-oriented clothing industry and to attract foreign investment.

The main benefit of AGOA has been job creation. As already mentioned, clothing production is labour intensive. Sources within the Ministry of Trade and Industry estimate that 36,000 jobs have been created in the three years that Kenya has been participating in AGOA.[38] Most AGOA-related employment consists of machine operators, helpers, and other low-skilled staff. The clothing industry worldwide is highly competitive. The low-priced market, which most of Kenya's contract producers target, competes on price. Since some of Kenya's production costs – notably electricity, transport, and taxes – are high, it is not surprising that labour is being squeezed. Workers in export factories work long hours for low pay, often as casual labourers with no job security or benefits beyond the daily wage. The strikes in the EPZs in early 2003 are a testimony to low levels of job satisfaction in many factories.

The government is trying to use AGOA to build a more integrated textile industry that includes cotton production, spinning, and weaving and knitting of fabric, as well as clothing manufacture. This has proved difficult for many reasons. Efforts to revive cotton growing have been met with scepticism on the part of farmers, many of whom fear returning to a crop that was notorious for its payment problems in the past. The revival of spinning and weaving faces different, but equally large hurdles. Most existing textile mills are outdated and too small to be efficient by today's standards. Attracting new investment for the textile sector has proved to be difficult, due to the significant investment requirements for textile manufacturing and poor and fluctuating supplies of electricity and water needed for production.

The AGOA facility continues until 2008. African governments are trying to lobby for an extension to gain more time to build a textile industry. It remains to be seen whether this will be granted. There is also heightened export promotion through the recently launched National Export Development Strategy that proposed new strategies for promoting Kenyan products to external markets.

Growth of Regional Markets

Kenya's trade with the rest of Africa now exceeds her trade with her traditional markets in Europe. In 2003, total exports to Africa stood at Kshs. 84,653 million, compared with Kshs 54,877 million to Europe.[39] Furthermore, African exports grew by 48% between 1999 and 2003, compared to 42% growth over the same period for exports to Europe. Exports to COMESA countries grew by 55% between 1999 and 2003, and in 2003 represented nearly three quarters (73.0%) of total exports to the Africa region.

Export statistics suggest that exports to Europe consist mainly of unprocessed or slightly processed goods, such as fish, fresh fruits and vegetables, coffee and tea. Exports to Africa, on the other hand, include vegetable oils, sugar, soap, plastic products, cement, paper, medicaments, and flat rolled iron products. Company interviews indicate that textiles and clothing are also being exported by Kenya to the neighbouring countries of Uganda, Tanzania, Rwanda, and Burundi.[40] Although most of these exports originate from large companies, small garment producers, especially in Nairobi, also engage in export trade.[41]

Although Kenya is more industrialised than most of her neighbours and should be able to produce competitively, the neighbouring countries have also liberalised their markets, thus not only exposing Kenyan exporters to wider effects of globalisation and increased competition with local manufacturers, but also with goods originating from other international sources such as South Africa, India, and China.

Challenges to Industrialisation

Other major development challenges remain. The national public debt is huge and increasing. It stood at about US$ 7.6 billion at the end of June 2002 and increased to US$ 8.56 billion by end June 2003. Forty five percent of this was sourced domestically and the rest from foreign sources.[42] Although there have been recent attempts to rely more on external sources of finance, domestic borrowing still stood at US$ 3.85 billion at the end of June 2003. This level of

Box 3.1 The corruption burden

During 2002, manufacturing firms in Kenya spent an average of 7.5% of their annual revenues on unofficial payments related to acquisition of licenses, connections to public utilities, tax assessments and accessing other public services. This, together with losses arising from arson, theft and vandalism is much more than firms spend on allowances and bonuses to industrial workers and interests on loans. Exposure to corruption makes firms less able to grow and participate in the export markets.

Source: Cotton et al (2004)

Kenyan entrepreneurs of African origin own nearly all of the MSEs, many of the medium-scale producers, and a few large producers

[31] Examples of budding industries that were shoved out of business include Madhu Paper and JK Industries.

[32] CBS et al. 1999

[33] McCormick and Muguku, 2003

[34] Kenya, 2003

[35] McCormick, 1996

[36] Ministry of Trade and Industry, 2003

[37] WTO 2003

[38] There were of course other additional jobs not directly associated with the AGOA.

[39] Kenya 2004 (economic survey)

[40] McCormick et al. 2001 WP 531

[41] McCormick et al. 2002

[42] Kenya, 2004

borrowing maintains an upward pressure on interest rates, and reduces the flow of financial resources to the productive sectors.

Corruption is a major development challenge for Kenya and although the government has brought in key legislation to fight it (e.g. the Anti-Corruption and Economic Crimes Act), it has yet to be brought under control. Meanwhile, Kenya remains under the stranglehold of endemic corruption, which skews investment and skills towards sectors prone to the extraction of bribery, increasing the cost of doing business, thereby reducing competitiveness, and undermining the ability of firms to produce, export and grow.

Major problems in the land and other factor markets have made adequate provision for food a dream. Poor distribution of resources over the years together with ethnic animosities rendered tracts of arable land unproductive, reducing the country's ability to produce food. Ethnic tensions have also denied Kenya the opportunity to exploit the richness of its cultural diversity.

Kenya has a relatively young, potentially productive population, 45% of which is under 15 years old.[43] Unfortunately, rapid expansion of educational opportunities and low rates of investment have created a systemic mismatch between the demand for, and supply of labour, so that Kenya is inherently labour-surplus. Lack of opportunities for gainful employment has reduced private returns from education, generated a sense of hopelessness, and dispossessed poor households that liquidated assets to raise school fees for their children. Furthermore, the HIV/AIDS pandemic is eroding the country's human resource base, altering the structure of households by increasing dependency ratios and reducing life expectancy and productivity. For these reasons, Kenya has been unable to tap its demographic bonus in pursuing more appealing human development outcomes.

Although the cost-sharing strategy of structural adjustment reduced access to health and education, it helped Kenya's manufacturing firms increase participation in export markets, so that the proportion of firms that export and the share of industrial output exported by them, has been increasing.[44] The proportion of firms exporting has been increasing faster than the actual export share of industrial production. But exporters of manufactured goods straddle between the domestic and foreign markets as a strategy against risks associated with trade policy uncertainties. Exporting is important in increasing the scope of operations, which is crucial in situations characterised by small or/and shrinking domestic markets, such as in Kenya.

Lack of opportunities for gainful employment has reduced private returns from education, generated a sense of hopelessness, and dispossessed poor households that liquidated assets to raise school fees for their children.

exporters of manufactured goods straddle between the domestic and foreign markets as a strategy against risks associated with trade policy uncertainties.

[43] Kenya, 2004

[44] Cotton et al, 2004

4 Impact of Industrialisation on Human Development

Introduction

As argued earlier, a close relationship exists between industrialisation and human development. The impact of industrialisation on human development is either linear or circular in form. The direct impact is realised through wage employment, while the indirect impact is realised through industries' contribution to the GDP and other sectors of the economy. As illustrated in Figure 4.1, industrialisation has had significant bearings on human development indicators in Kenya. These indicators are related to wage employment, incomes, improved livelihoods, skill formation, entrepreneurship, gender parity, and links with agriculture and other sectors. These indicators are examined in the sections that follow.

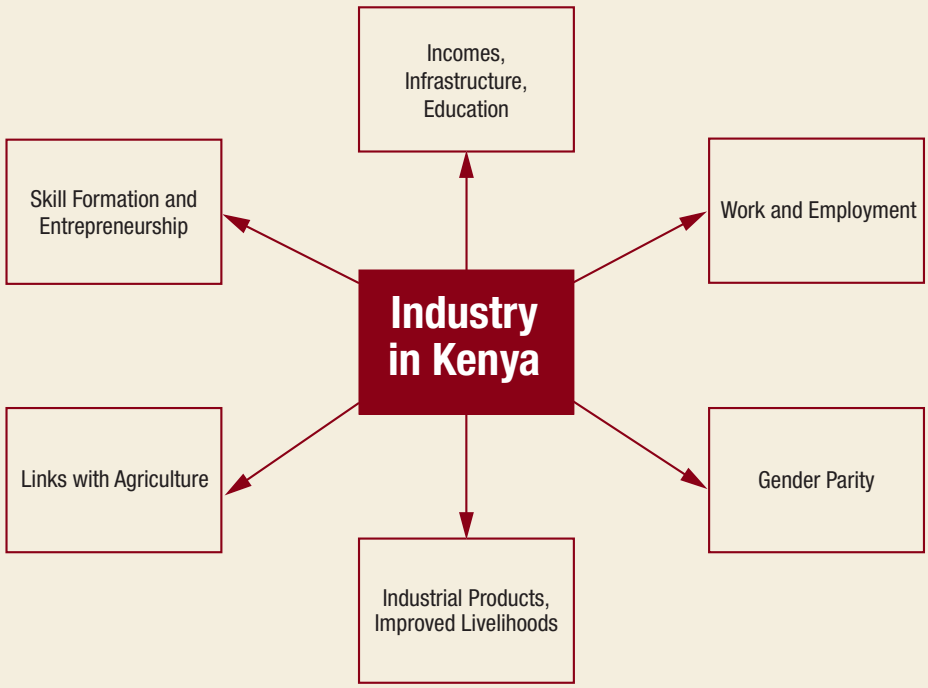
Work and Employment in Industry

The connection between industrial growth and expansion of employment is the most widely used argument for industrialisation, though in recent discussions it has been severely criticised.[45] The criticism arises primarily as a result of a more thorough scrutiny of experience. For all individual countries for which experience is available, the growth of manufacturing production has considerably outpaced the growth of manufacturing employment.

The Contribution of Industry to Work and Employment in Kenya

Work and employment are the primary avenues for deriving the direct benefits of industrialisation and the consequent benefits on human development. Work and employment improve people's life chances and enable them to have a regular income and a means of livelihood. In Kenya, the manufacturing sector is second to agriculture in the creation of work and employment opportunities. With respect to employment, the manufacturing sector's share has been approximately 13 % for the same period.

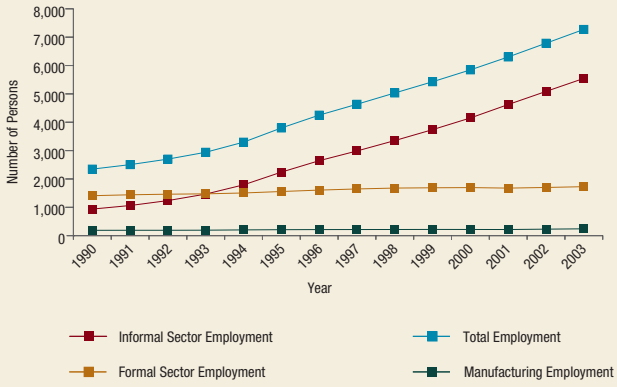
Figure 4.1: The Benefits of Industrialisation in Kenya



While the rate of wage employment in Kenya's large manufacturing sector has been low, work in informal industrial activities, such as MSEs, has been substantial, giving livelihood opportunities to many Kenyans

While the rate of wage employment in Kenya's large manufacturing sector has been low, work in informal industrial activities, such as MSEs, has been substantial, giving livelihood opportunities to many Kenyans (Fig 4.2).

Fig 4.2: Contribution of Industry to Work and Employment in Kenya, 1990-2003 ('000)



Source: Statistical Abstracts, Various

The Structure and Trends of Industrial Work and Employment

Within the industrial/manufacturing sector, there are significant variations in the shares of output and total wage employment. Figure 4.3 shows the structure of manufacturing employment by sector in Kenya between 1975 and 2003.

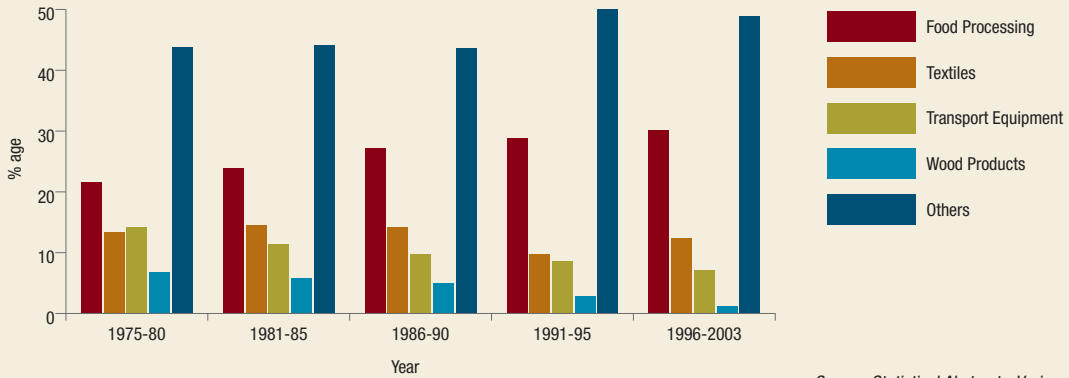
The dominant sub-sectors comprised food processing, textiles, and transport equipment. Food processing has played a leading role in Kenya's manufacturing wage employment, contributing over 20% of total industrial employment since 1975.

The growth in manufacturing wage employment in Kenya has been erratic and tended to stagnate (Figure 4.3). This is not to suggest a dismal performance of the industrial sector employment. Indeed many of the benefits of industrial sector employment could be explained by the phenomenal growth of the informal sector employment over time. The food industry experienced the largest percentage growth in employment. Between 1975 and 1981 employment in food production grew by 21.6% while between 1996 and 2003 employment in the food industry grew by 30.2%. The textile industry has also played a significant part in work and employment creation. Except for the period 1991-1995 when employment in the sector dropped to 9.7%, the share of the textile sector in manufacturing wage employment has been consistently over 10%.

The industry that witnessed the largest decline in employment shares in proportional terms was transport equipment. This industry contains the motor vehicles sub-industry, which was severely affected by changes in the trade policy regime, in particular the increasing importation of used cars, mostly from Japan. Interestingly, another sector that was also subject to rapid import liberalisation – the wearing apparel sector - did not witness any significant declines in employment shares. Overall, employment has increased at the rate of 3.3% per year over the period 1976-2000.

> "The industry that witnessed the largest decline in employment shares in proportional terms was transport equipment"

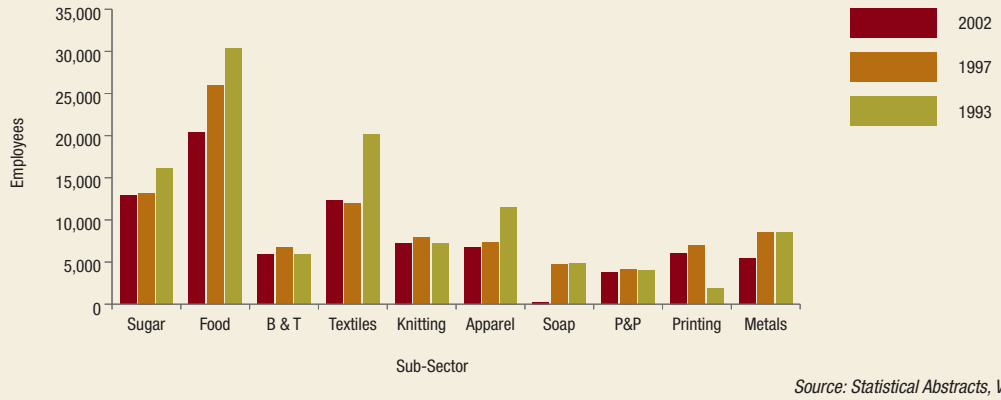
Fig 4.3: The Structure of Industrial Employment, Kenya, 1975-2003



Source: Statistical Abstracts, Various

[45] Sutcliffe, R.B. (1971), p88.

Fig 4.4: Industrial Employment in Kenya, 1993, 1997, & 2002



Source: Statistical Abstracts, Various

Structural and Welfare Enhancing Changes in Industrial Work and Employment

In the last two decades, the work and employment creation capacity of industry in Kenya can be viewed in the context of an increasingly liberalised and globalised economy. Given the present situation of highly elastic labour supplies in Kenya, wide prospects still exist to foster industrial competition in labour-intensive products. These products include such items as electronics parts and components, synthetic textiles, iron and steel. These are examples of industries that South Korea used in the early days of cheap labour-based industrialisation.

As Figure 4.3 indicates, industrial wage employment creation in Kenya cannot be perpetually concentrated in the large formal sector. This observation is compatible with the experience of countries such as India, Brazil and South Africa, where employment in larger industrial firms is contracting or stagnating as they adjust to new standards of industrial competitiveness. The large industrial firms need to raise productivity and quality rapidly, if they are to compete successfully in world markets. Consequently, Kenya's industrial employment creation strategy can only be based on the expanding informal and small and medium-scale industrial sector activities.

Furthermore, the quality of employment in these larger industrial enterprises is changing globally in two different ways. On the one hand, the pursuit of world standards of *quality, productivity* and *response* to customers continues to require investments in the core labour force. Labour force training needs within large industrial firms continue to rise, while off-the-job training has become more systematic and is being extended to a much broader proportion of the industrial labour force. On the other hand, emphasis on reducing costs and focusing on core competencies, has led to contracting-out of work and increasing reliance on inter-linkages with other firms. In some cases, this has meant core jobs being replaced by low-waged and unstable employment in large industrial sectors, providing small and medium-scale industries with increased opportunities to perform the new functions.

Many industrial firms in Kenya have gone through severe downsizing beginning during the recession of the late 1980s. The downsizing/restructuring process in Kenya has unfolded in different ways over the past two decades, albeit, to the benefit of human development. While the process has unleashed a pool of skilled industrial workers into the informal sector, capacity for flexible specialisation among industries in Kenya has been greatly enhanced. For example, job losses in more advanced industrial processes in Kenya's textile sector have been nearly, if not more than, offset by the growth of more labour-intensive and lower-wage clothing/garment activities under AGOA. On a different, positive scale, globalisation has led to new opportunities in terms of jobs for wageworkers in Kenya. In particular, EPZs have opened up previously unavailable wage employment opportunities on a large scale for women workers, who were formerly confined to informal industry activities.

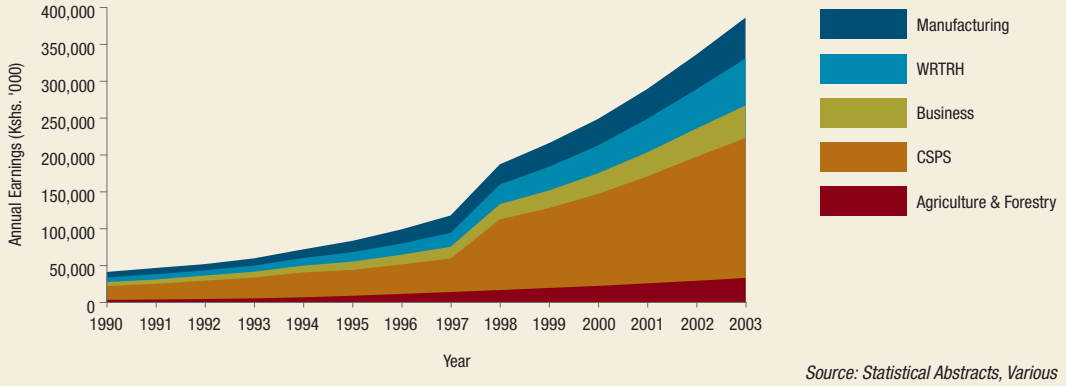
Industry, Incomes and Improved Livelihoods

Unlike other sectors, industrial growth relieves fluctuations and encourages stability of incomes, government tax receipts, and so on. Furthermore, no major country has yet become rich without having become industrialised, though the pace of industrialisation in relation to the rate of increase of per capita income per head has varied significantly between different countries. By itself this fact does not prove that Kenya must industrialise to become rich; it does, however, suggest an important connection.[46]

The Contribution of Industry to Wage Income Earnings

The manufacturing sector is also important in generating earnings for its workers. Even though industrial manufacturing ranks low in terms of wage employment in Kenya, it ranks high in terms of wage income earnings. This is an indication that most industrial workers are well paid, especially workers in the management cadre. As shown in Figure 4.5, the contribution of manufacturing to wage income earnings has been stable over the years. Between 1999 and 2003 the wage bill in manufacturing was considerably high. It held the third position after community, social and personal services, wholesale retail trade, and restaurants and hotels. The wage bill in manufacturing grew from Kshs 29,052.8 million to Kshs 49,263.3 million.[47] Earnings from industry make workers economically stable and release them from the poverty trap, compared to other sectors in Kenya. The growth in employment and earnings for a significant proportion of the

Fig 4.5: Contribution of Industry to Wage Income Earnings in Kenya 1990-2003



Source: Statistical Abstracts, Various

Kenyan labour force spurred wealth generation, which is crucial to human development. This implies that the expansion of manufacturing activity in the country would improve the human development condition of a large proportion of the labour force.

The Structure of Industrial Earnings

Figure 4.6 shows the ten most important sources of direct industrial earnings in Kenya. These are ranked below according to their ability to generate earnings in excess of one billion shillings per year:

- Manufacture of food products
- Spirits, beer and tobacco
- Spinning, weaving and finishing textiles
- Manufacture of wearing apparel except footwear
- Sugar factories and refineries
- Printing, publishing and allied industries
- Knitting
- Manufacture of pulp and paper
- Fabricated metal products
- Manufacture of soap

Over the last decade, the manufacture of food products has experienced phenomenal growth in earnings, followed by spirits, beer and tobacco, and textiles and apparel manufacture. These sectors have important backward linkages with the agricultural sector and the rural population. Illustration of annual trends in sector specific earnings is provided in Figure 4.7.

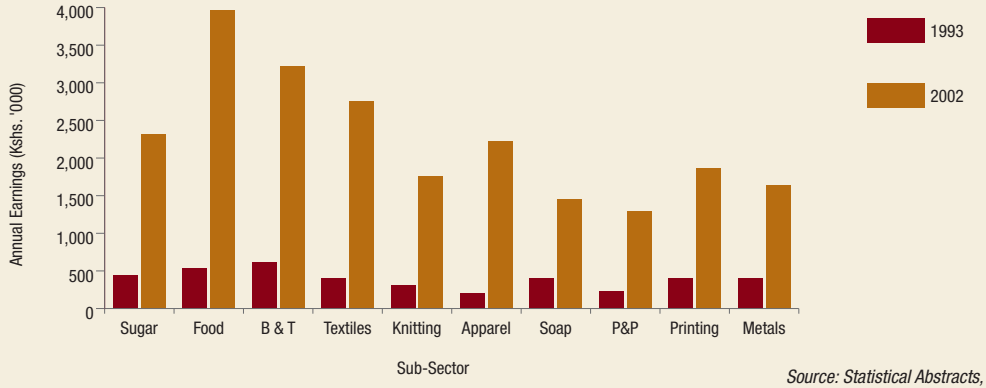
Industrial Products and Improved Quality of Life

Industry has produced the simple producer and consumer goods required by Kenyans, the majority of whom live in rural areas: hoes and simple ploughs, tractors, solar panels, and bicycles, besides expensive cars and equipment for luxury living. Local industries are producing clothing, food, furniture, simple household goods, electronic items and buses, all of which are supportive of good living. It is argued that if an economy contains a wide range of goods, then the people/consumers are less vulnerable to changes in tastes unless the industries can rapidly change what they can produce. The following are specific examples of the influence and impact of industrialisation on selected elements of human development.

Solar Electrification in Kenya Kenya's total electricity generation is largely hydro-based; thus fluctuations in volumes of water bodies where the generators are located, invariably affect the national generating capacity. Access to electricity by rural households, hence the agricultural sector, is still too low to make any meaningful or direct contribution to agricultural production and marketing. In areas where electricity has been supplied, there are still problems of frequent breakdowns due to surges in power demand. The frequent power failures affect industries and small enterprises.[48]

Kenya is a good showcase for an improved quality of life brought about by industrial products in recent years. A

Fig 4.6: Industrial Earnings in Kenya, 1993 & 2002



Source: Statistical Abstracts, Various

[46] Sutcliffe (1971: 69)

[47] Kenya, 2004

[48] Kenya, Republic of: District Development Plan, 1997-2001

[49] Gabler, 2004

case in point is the use of solar electrification. Over 180,000 Kenyan families have purchased solar electricity systems since the mid 1980s. Of the approximately four million rural households in Kenya, less than 5% have access to electricity lines. Another 5% make use of solar home systems. Sales range between 20,000 to 30,000 PV modules for household application per year. The market has tripled since 1995 to a total of 750 KW (PV nominal power) in 2002. Solar systems have a considerable impact, improving the economic and social lifestyle of owners.[49]

- Studies show that the majority of the families of solar electrified households go to bed later than they did before electrification, and that light adds productive hours to the day.
- The share of families owning radio/cassette players, TV sets and mobile telephones in rural areas has increased three-to four-fold.
- News, communication and other information dissemination are now possible in solar communities, and music and other forms of entertainment are made possible with solar power.

Today, PV systems have an important use in areas remote from an electricity grid, where they provide power for water pumping, lighting, vaccine refrigeration, electrified livestock fencing, and telecommunications and many other applications in Kenya. With the global demand to reduce carbon dioxide emissions, PV technology is also gaining popularity as a mainstream form of electricity.

Bicycle Taxis in Kenya Poor transport systems and limited mobility have major adverse social consequences in Kenya. People living in rural communities in particular, are disadvantaged by limited mobility, and have difficulty in accessing health facilities, schools, markets, and administrative centres. They are also not able to develop and maintain social contacts outside their community to the extent that they would wish. However, recent industrial development that has lowered the cost of a bicycle in Kenya has led to the rediscovery of the bicycle as a mode of transport.

> "In the 1990s, the high youth unemployment levels in Kisumu for example, meant that there were many people looking for an enterprise opportunity with low entry barriers"

Box 4.1 Sugar Industries - Driving the Economy of Western Kenya

The Kenya sugar industry provides direct employment to 35,000 workers. However, the industry is also a major income source to 100,000 small-scale farmers and supports over two million people in Western Kenya where most sugar cane farming takes place. Cane out-growers cover 88% of the total area under sugar cane in Kenya. The majority are small-scale growers whilst the remaining area is largely under sugar factories in the form of the nucleus estate. Furthermore, local sugar industries contribute immensely to infrastructure such as roads, water provision and education.

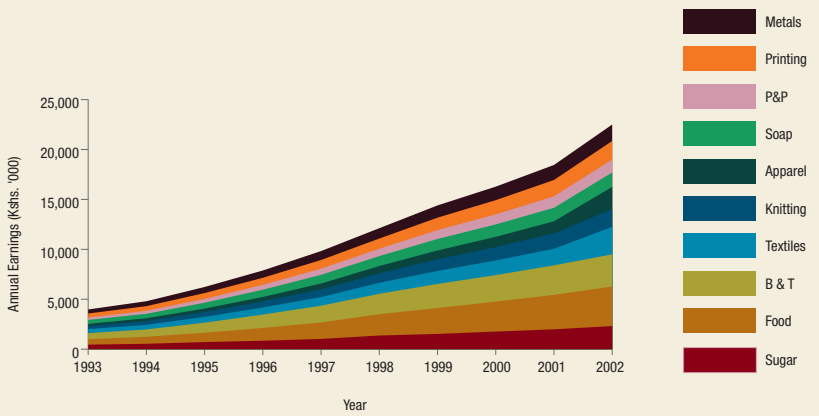
In the 1990s, the high youth unemployment levels in Kisumu for example, meant that there were many people looking for an enterprise opportunity with low entry barriers. Because of the large untapped demand for an alternative local transport service, the growth of bicycle taxis has been phenomenal in Western Kenya. By the year 2000 there were 5,000 bicycle taxis operating in Kisumu. Each of the taxis generates Kshs 250 per day (3 US$) for the operator. Each of the 5,000 taxis transports about 10 people per day.[50] This service has now become part of a mass transit method in many parts of rural Western Kenya. As a result, a high influx of passengers from rural areas are able to access health centres, schools, and other services. The bicycle taxi also makes the rural-urban linkage efficient as many passengers use them to access paved roads. In some towns where bicycles are not in use, low-income families have to spend substantial portions of their incomes and many hours of their time, on essential travel, using public transport that is often of poor quality and unsafe.

Important Linkages between Industry and Agriculture

In addition to its direct impact on wage employment, industrialisation generates output and employment in other sectors in Kenya. As UNIDO has stressed:

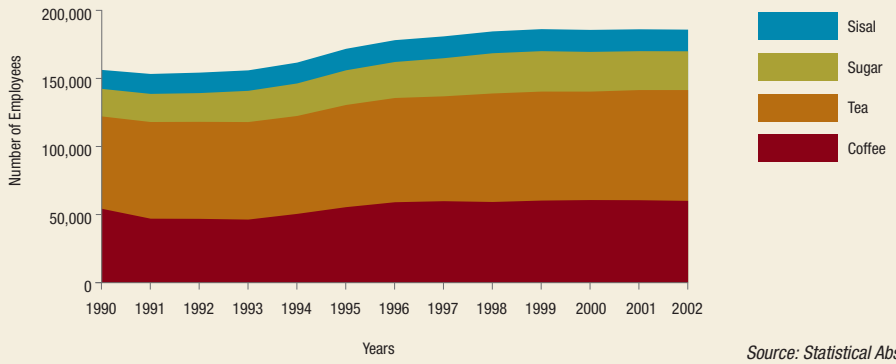
"Manufacturing sectors tend to generate considerably greater output multiplier effects on the economy than any other sector perhaps, except for construction …the reason for this is the comparatively high density of inter-industry transactions involving both forward and backward linkages within and around the manufacturing sector" [51]

Fig 4.7: Industrial Earnings in Kenya, 1993-2002



Source: Statistical Abstracts, Various

Fig 4.8: Wage Employment in Plantations, 1990-2002



Source: Statistical Abstracts, Various

Strong performance by the industrial sector also generates activity and employment in other sectors. This is achieved directly through demand for inputs into manufacturing activities – raw materials, energy, buildings, distributive services (transport and storage, wholesale and retail activities), producer services and communications, and indirectly through the income effects generated by all of these activities. This scenario is particularly true for Kenya where there are strong linkages between industrial manufacturing in food processing and plantations in the agricultural sector.

The dominant influence of the food processing industry in Kenya can be attributed to the growth of agro-based industries such as horticultural, coffee, tea, sisal, dairy and sugar cane sectors.[52] In the last 14 years, employment in these plantations has constituted between 56% and 60% of the total agricultural sector wage employment in Kenya.

Agro-processing industries located in rural areas have been an important source of infrastructure development, including road networks, primary schools and health facilities. Examples of these include the Mumias Complex (a complex of facilities and institutions including schools, hospitals and modern recreational facilities) and Muhoroni Primary schools.

As Figure 4.8 shows, wage employment in plantations has been fairly stable in Kenya, shielding many households from poverty. Around 60% of tea farm workers in Kenya are women, contributing to gender recognition in these agro-based industries.

In the last 14 years, wage earnings in these plantations have constituted 49-71% per cent of total agricultural sector wage earnings in Kenya. The upward trend is captured in Figure 4.9.

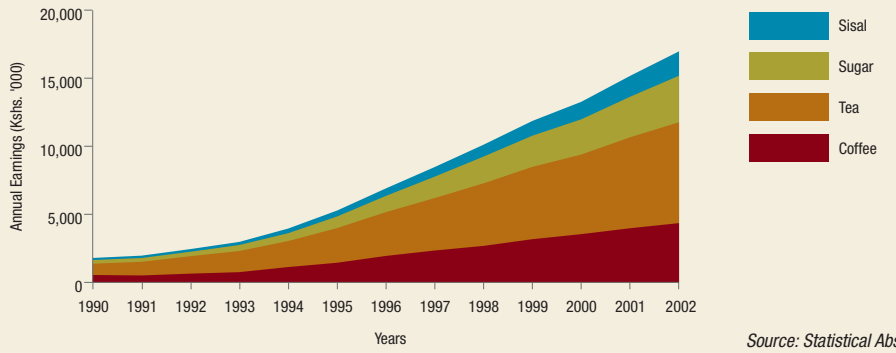
The link between manufacturing activity and agriculture must be underlined, because most Kenyans derive their livelihoods from agriculture. For example, tea is among the most labour-intensive of all plantation crops. It has both an agricultural and a manufacturing dimension. According to well-established precepts, 60% of the income from tea is agricultural, the balance being of an industrial nature. Examples of this link can be seen in Table 4.1 below.

The operation of the above industrial activities is also linked to many services such as banking, telephone, water and electricity, which expand the range of benefits derived from

Table 4.1: Agro Processing Industries in Kenya

Agricultural Activity	Industrial Component
Cotton, Sisal	Ginneries, Textiles
Skins, Hides and Leather	Tanneries
Horticultural produce	Fruit Processing
Fish	Fish Processing
Sugarcane	Sugar Industries
Coffee	Factories
Tea	Factories
Vegetable oils	Oil Refineries
Cereals	Flour milling, packaging

Fig 4.9: Kenya: Wage Earnings in the Plantations



Source: Statistical Abstracts, Various

[50] DFID, 2004

[51] UNIDO 1992:179

[52] Dolan 2001, McCulloh and Ota 2002

Box 4.2 The Dynamics of Agro-based Industries in Kenya

- Rural industries are local-resource intensive; they are labour intensive and use relatively simple and cheap technology; thus they maximise employment.
- The industries have strong backward and forward linkages with other sectors and activities of the economy; hence they generate a maximum level of output, income and employment effects.
- Empowers rural populations to reduce the incidence of poverty and enhances their capability to manage the vulnerability to various types of disorders in the economy.
- Implies retention of value addition, which is generated by the industry within rural areas.
- Necessary for reducing rural-urban migration and reducing the level of urban poverty and social distortions.

their operation. This suggests that further expansion of the manufacturing-agriculture link would have a major impact on people's livelihoods in Kenya. Again, manufacturing activity is linked to other sectors such as transport, education and health, which contribute to various dimensions of human development. Clearly, the link between industry and agricultural is vital to the entire economy. Land reform is a potentially powerful instrument for improving access to land for the poor and a sure base upon which the rural population can link with industry. Reforms can provide a set of favourable initial conditions for egalitarian growth. Where land reform leads to a shift from large-scale to smaller, but viable, family farms, its total effect could also be efficiency enhancing. Thus the dynamics of the link between the agro-processing industry and the agricultural sector can be heightened more directly via land.

Reflecting the importance of land policy in Kenya as an issue related to agriculture, industrial manufacturing, and to both equity and poverty, particularly in rural areas, the government established a Land Commission in November 1999 to develop a new land policy and revise land legislation. This step should have increased land ownership and facilitated the settlement of squatters, among other priorities. So far, little progress has been made towards addressing these issues.

Box 4.3 Micro and Small Enterprise Training and Technology in Kenya

Micro and Small Enterprise Training and Technology Project (MSETTP) was initiated to upgrade artisan and MSE production within the terms of the MSE and *Jua Kali* development policy of the Government of Kenya, as set out in the Government Sessional Paper on SME of 1992. Initially the project focused on upgrading skills, infrastructure, and the business environment, but after restructuring the development of a domestic market for training and business services in 1997, using vouchers became the central focus.

Of the 172,000 MSEs existing in 1999 in Kenya, only 2% were estimated to have received MSE support services, and there was seen to be a need for upgrading quality and production processes. To assist in this, the voucher scheme was designed to jumpstart the training. There was a serious oversight centering monitoring apparatus on the Project Coordination Office (PCO), the Kenya Industrial Research and Development Institute (KIRDI), and the responsible ministry, latterly the Ministry of Labour and Human Resources Development (MLHRD).

Since the restructuring in 1997 the project's output accelerated and about 36,000 individuals have received training. As a spin-off, a number of *Jua Kali* Associations (JKAs) have also formulated a process for strengthening their capacity.

Phillips D, World Bank, 2003.

The basic guiding philosophy for education in Kenya has remained that of producing a society that possesses the necessary knowledge, skills, attitudes and values to enable it to participate positively in nation building

Entrepreneurship and Skill Formation

The basic guiding philosophy for education in Kenya has remained that of producing a society that possesses the necessary knowledge, skills, attitudes and values to enable it to participate positively in nation building. Many institutions including the country's polytechnics are involved in imparting industrial skills to unskilled school leavers. The Kenya Industrial Institute (KITI) and a number of private institutions play a key role in industrial skills development. Human resources departments in factories undertake skills imparting to shop floor workers. Usually the training is done on the job by skilled supervisors. The workers are taught how to handle machines and work efficiently. This form of training subsequently improves competitiveness among the workers compared to those who have not been trained.

Furthermore, industrial employers in Kenya are moving away from their traditional role of industrial relations to address more fundamental labour issues, such as enterprise development and training programmes in support of industrialisation.

The skills acquired during stints of employment in the formal industrial sector become springboards for MSEs such as in garments, furniture, and metal working activities.

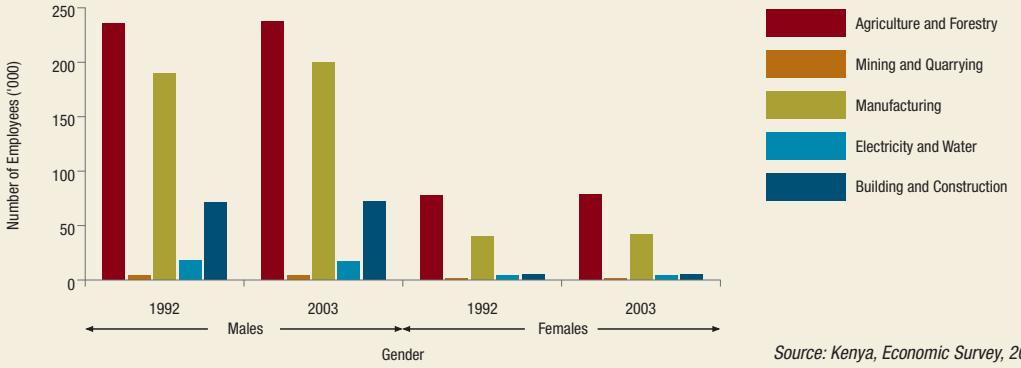
Micro and small-scale enterprises that focus on manufacturing usually attract persons who have left formal industrial jobs due to market changes, or former industrial workers seeking opportunities for economic independence. Some of these enterprises mount apprenticeship programmes that attract new urban immigrants willing to learn on the job.[53]

Box 4.4 Creating Textile Entrepreneurs in Kenya

Since 1991, the Ministry of Technical Training and Applied Technology and UNIDO launched a programme on building local capacity through training the trainers, who then replicated the project activities at another location in Kenya. The project focused on new product development, production techniques, business management and marketing and promotional skills. UNIDO's experience in Kenya led to the formation of a thematic programme entitled 'Women Entrepreneurs for Industrial Growth' which has replicated the Kenyan experience in other sub-sectors and countries, and allowed more women to move from being casual craftswomen to successful entrepreneurs.

UNIDO, 2004, Women, Industry, and Entrepreneurship

Fig 4.10: Wage Employment by Gender, 1992 and 2003



Source: Kenya, Economic Survey, 2004.

The above phenomenon emerged in the late 1980s when formal jobs for unskilled school leavers dwindled, and is now a common feature of Kenya's labour market. The system of apprenticeship in the small-scale enterprise sector is a conduit for the trickle-down of skills acquired from formal industrial establishments. Such establishments are therefore instrumental in developing Kenya's human resource.

Studies have shown that significant proportions of MSE entrepreneurs had worked in industry before starting their firms. This category of MSE entrepreneur performs more skillfully than those who had no on job training.[54] Manufacturing firms agglomerate in specific sites. These agglomerations attract pools of specialised skilled workers, which are beneficial to both workers and firms.[55]

Gender Related Issues in Industrialisation

Analysis of gender status in employment shows that the proportion of females in wage employment at the national level remains very low at 29.2%.[56] The low proportion in wage employment is reflected in both rural and urban areas and across the provinces. Female participation in wage employment still remains low as reflected by Figure 4.10 and the situation is worse in employment sectors where the culture expects males to do jobs like mining, quarrying and construction. Thus, female wage employment is significant in agriculture, forestry and manufacturing.

Industrial employment opportunities are lower for women than men in both rural and urban areas. Major factors contributing to this phenomenon include imbalances in training and access, retrogressive cultural practices which bar women from taking up positions in certain spheres of employment, and lack of a supportive legal framework.

Although manufacturing is a major wage employer, most of the jobs created are for male workers. In 2003, 199,600 male workers were employed in manufacturing compared to 42,100 jobs for women. The difference in the number of male and female employees in manufacturing is attributable to differences in levels of education and mobility factors between men and women. Other factors are an imbalance

Box 4.5 Feminisation of Industrial Employment in Kenya: the case of the flower industry and export processing zones (EPZs)

The cut flower industry in Kenya has witnessed an exponential expansion within the last two decades. With an estimated annual growth rate of 20% it has increased its export volume from 19,807 to 41,396 tons between 1992 and 2001, which was an increase of 108%. This industry, which is labour intensive with predominantly youthful female workers, employs approximately 40,000-50,000 employees. That the cut flower industry is among the fastest growing sectors of the Kenyan economy can be seen by its phenomenal expansion within the last two decades. With an annual growth rate of 20%, it is an important source of foreign exchange. And its employment potential continues to grow. About three quarters of its workforce is female, making it one of the sectors where the feminisation of labour is most manifested. More than half of the Kenyan population lives below the absolute poverty line. In this respect, the cut flower industry's role in poverty alleviation is pivotal, considering that the majority of the poor are women.

Opondo M. (2003). Trade Policy in the Cut Flower Industry in Kenya.

Fig 4.11 Distribution of Wage Employment by Income Groups, 2000

Source: Kenya, Economic Survey, 2004.

[53] This arrangement is most prevalent in garages where it is mutually beneficial, since apprentices are a source of free labour while the apprenticeship goes on.

[54] Kinyanjui, M.N. 1996

[55] McCormick, D. 1999

[56] CBS, Analytical Report on Labour Force, 2000

in access to technical training and gender specific factors which bar women from taking up positions in the public domain. The employment gap between males and females is wide for middle-income groups (Figure 4.11).

The impact of industrialisation on women has been much discussed and disputed in many circles. When this question was first examined in the 1970s the consensus was that *industrialisation marginalises women.* A second consensus on this question was that Third World industrialisation is based on the exploitation of women workers. A new consensus regarding the impact of industrialisation on women is now emerging in Kenya: that industrialisation is based on the employment of women. Since the 1980s, an increased emphasis on export-oriented industrialisation and production of manufactured goods for the export markets has substantially modified the structure and composition of the industrial labour force in Kenya. This has enhanced feminisation of the industrial workforce in two distinct aspects:

- Women workers make a more attractive workforce in that they have been historically less militant than the traditional male working class.
- Much of the extra industrial employment for women is now located outside the large factories, in small workshops, sweatshops, or home working, where women provide a more flexible and less protected workforce. But the flip side is that women are considered cheaper and less protected, and thus more vulnerable to rights abuse.

Thus the agricultural and industrial sectors including the MSEs have continued to provide the best employment opportunities for women in Kenya. Export processing, which is a relatively new form of industrial organisation in Kenya, is employing a considerable number of female workers. In the year 2003 a total of 34,139 workers were employed in export processing and of these 24,764 were women workers.[57]

Export processing, which is a relatively new form of industrial organisation in Kenya, is employing a considerable number of female workers

The basic guiding philosophy for education in Kenya has remained that of producing a society that possesses the necessary knowledge, skills, attitudes and values to enable it to participate positively in nation building

[57] Unpublished data from EPZA

5 Challenges of Industrialisation to Human Development

Introduction

While the benefits of industrialisation to human development are significant in Kenya, as reflected in its contribution to incomes, knowledge and healthy lives, there have been a number of unintended negative outcomes over the years. Industry has not only created welfare improving opportunities in Kenya but also many problems. The challenges of industrialisation to human development include consequences such as social alienation - a breakdown of social networks and relationships, the increasing insertion of market criteria into daily life and rapid urbanisation with attendant poverty (Figure 5.1). Other related negative consequences include over-specialisation and limited skills in industry, the working poor and poverty traps among industrial workers, child labour in small industries, and a crumbling infrastructure associated with industrial concentration (poor housing, vulnerability to poor health and low access to education, as well as environmental pollution).

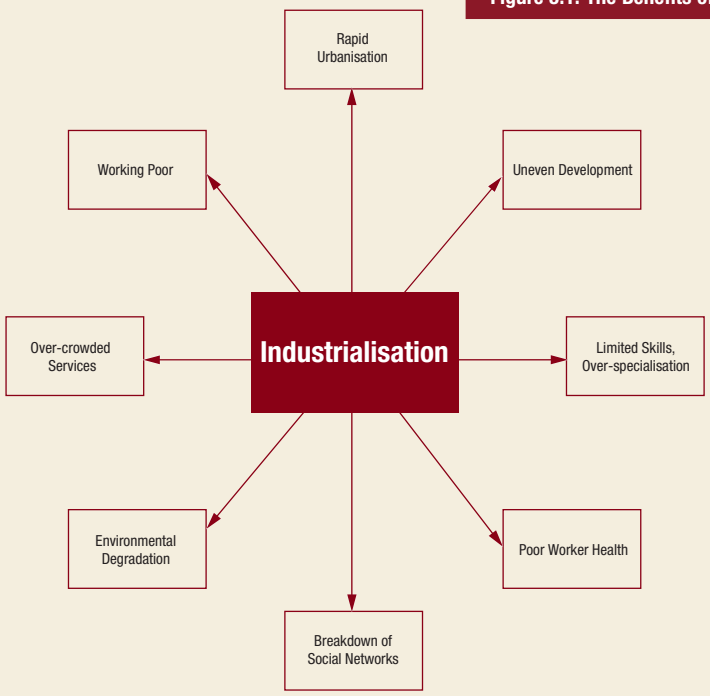
Some of the above problems are a result of the interplay between industrialisation and other factors such as rapid population growth, the slow pace of agricultural development, and the structure of the education system in the economy. Nevertheless, questions arise as to whether these unintended outcomes of industrialisation in Kenya are within reason, or whether they are too big a price to pay. This chapter examines some of these challenges in the Kenyan context.

Welfare of Industrial Workers

Decent Work Deficits in Industry

Work is an important feature of human existence - it is the means of sustaining life and of providing means for the attainment of human capabilities. But it is also the activity through which an individual affirms her identity, both to herself and to those around her. It is crucial to individual choice, to the welfare of families and to the stability of societies. Decent work entails the labour force operating in conditions of freedom, equity, safety and human dignity.[59] Decent work is also the productive toil in which rights are respected, and security and protection are provided, as well as the possibility to take part in all decisions that may affect workers.[60]

Figure 5.1: The Benefits of Industrialisation in Kenya



Work is an important feature of human existence - it is the means of sustaining life and of providing means for the attainment of human capabilities

Wide deficits between the reality and aspiration of decent work that persist in Kenya create compelling needs to bridge the two. Evidence from selected industries in Kenya suggests that the process of globalisation and technological change is increasingly excluding workers from decent

employment. This is in contravention of the ILO Declaration on the Fundamental Principles and Rights at Work adopted at the International Labour Congress of the ILO in Geneva in 1998 to which Kenya was a signatory. The aim of the declaration is to ensure that social progress goes hand in hand with economic progress and development. The declaration commits member states to respect and promote principles and rights in four categories, whether or not they have ratified the relevant conventions. These are: freedom of association and the effective recognition of the right to collective bargaining; the elimination of forced or compulsory labour; the abolition of child labour; and the elimination of discrimination in respect of employment and occupation.

A recent survey of manufacturing establishments in Kenya by KIPPRA revealed that the majority of firms no longer provide many of the workers' benefits that have usually accounted for decent work (transport, health cover, factory uniforms and assistance for their workers during bereavement[61]). Earlier surveys showed that these provisions were common practice.[62]

In many Kenyan industries, the intra-factory labour markets are absent so that progression from one grade to another in the same firm is uncommon. Instead, there is increasing use of casual labour, which means that many industrial workers do not consider themselves as stakeholders in factories where they work, and do not perceive their fortunes as being bound up with those of their employers or firms where they work. On this basis, Kenyan industrial establishments face a major incentive problem, while the workers feel alienated.

The co-existence of surplus labour and rigid labour laws encourages the use of casuals in industry that, in the Kenyan context, has led to the emergence of hordes of 'permanent casuals' especially in the manufacturing sector. In this state of affairs, many unskilled, semi-skilled and even skilled industrial workers are employed on terms that allow periodic truncations to obviate labour costs associated with permanent employment such as severance, pensions, medical cover, and other standard benefits written into permanent working terms.

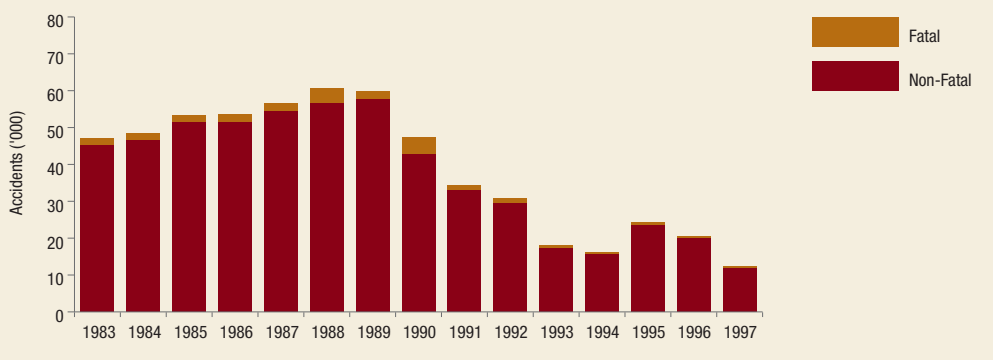
In an environment characterised by casual or short-term work contracts, commitment to the welfare of workers is often limited and industrial workers are more prone to, and suffer more from occupational hazards. There is also a greater likelihood for owners of industrial concerns to exploit information asymmetries and expose workers to risks such as those related to encounters with occupational hazards. Even where such exposure can be reduced through minor provisions, such as the use of uniforms and dust masks, preoccupation with cost minimisation leads to the exclusion of these basic provisions. Given the scenario, the social provisioning of industrial firms in this type of work environment is wanting. A number of non-governmental organisations including the Kenya Human Rights Commission have endeavoured to change these undesired consequences but success is far from being attained.

Occupational Hazards in Industries

While data on occupational diseases and acute poisoning from chemicals, dust, or fumes, remain scant in Kenya, globally, these are increasing problems. This justifies the need to develop policies relating to occupational hazards and safety in Kenya in line with international standards. Figure 5.2 shows the number of occupational accidents as illustrating that industrial accidents, both non-fatal and fatal, have been declining in Kenya since 1990. However, the declining trend may suggest shrinking industrial activity in the 1990s rather than an indication of improved safety practices in industries.

The government, together with the private sector, takes responsibility for promoting and sustaining the quality of working life, safety, and health and welfare of workers. To improve the health of workers, employers and the

Fig: 5.2: Occupational Accidents in Kenya, 1983-87



Source: Ministry of Labour, Occupational Health Department

> "In an environment characterised by casual or short-term work contracts, commitment to the welfare of workers is often limited and industrial workers are more prone to, and suffer more from occupational hazards"

[59] Sumavia, Juan, Decent Jobs for all in a Global Economy: An ILO Perspective, document submitted to the Third Meeting (30 Nov – 3 Dec 1999).

[60] ILO, Your Say in Labour. Global Report on the follow-up of the ILO Declaration of the Fundamental Labour Principles and Rights, Geneva, 2000. p.VII.

[61] Cotton et al, 2003

[62] Economics Departments, 1993

community at large, directorate of industry experts visit workplaces to identify factors that might cause diseases and other hazards to workers, thereby improving the productive capabilities of the worker and the community.

Industrialisation and Social Disruption

Industrialisation and the nuclearisation of families have weakened the social support system for families in Kenya. The role of the extended family in providing social support to its members has shrunk, because of diminishing and weaker linkages. For example, in the wake of an economic crisis, rural networks enable the population to absorb part of the shock, while industrial villages in urban areas experience crime waves and other social ills. On the other hand many industrial workers living as single persons in Kenya have left their families in rural areas, either because the incomes they earn cannot buy them decent accommodation or because they cannot keep the entire household in an urban area. This practice is also likely to have catapulted the spread of HIV/AIDS among industrial workers.

Economic Insecurity and Working Poverty Traps

Wage issues have been a major source of conflict in current industrial relations in Kenya. Almost all strikes that have taken place in the country, so far, are largely due to wage disputes (see Figure 5.3).

In spite of an explicit commitment to employment security in many societies, not even in highly industrialised countries has there ever been a period in which the majority of workers had strong employment security, including protection against dismissal or sudden loss of employment. The statutory minimum wage was regarded as the primary instrument for providing basic income-security in the labour market. In recent years, minimum wages have been eroded in Kenya, with declines in their real value and in the value relative to average incomes, and with diminishing coverage. It remains potentially useful to guarantee a basic income for the poor but there is a need to review the existing minimum wage determination system, with a view to realising its original objectives.

Child Labour in Small Industries

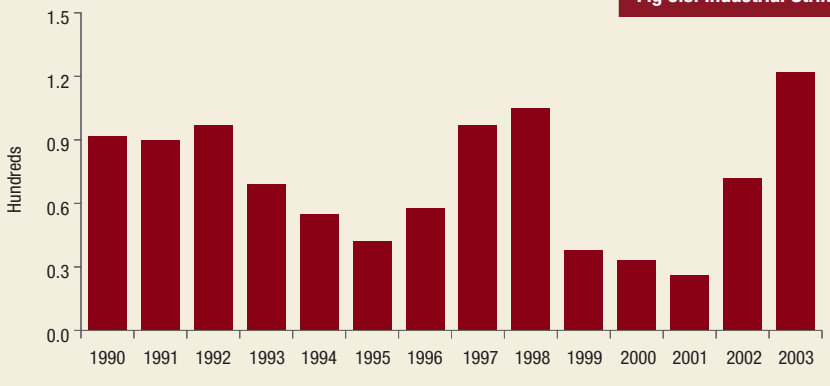
Human development concerns recognise the use of child labour in small-scale industries as a denial of rights. Child labour, defined as work that is hazardous, exploitative and prevents children from attending school, has been recognised by the government as one of the causes and results of poverty at family, community and national levels. Consequently concrete steps have been taken by the government to eliminate it. The government, for its part, has ratified key ILO Conventions dealing with the elimination of child labour. It ratified ILO Convention 138 on the minimum age and Convention 182 on the worst forms of child labour, in 1979 and 2001 respectively. Convention 138 establishes the minimum age at which children ought to be allowed to work.

In 1999, the ILO adopted the Worst Forms of Child Labour (WFCL) Convention, calling on all governments to take "immediate and effective measures to secure the prohibition and elimination of the worst forms of child labour as a matter of urgency". The worst forms of child labour identified by the convention include slavery, trafficking, prostitution and work likely to harm the health, safety or morals of the children. Upon ratification of Convention 138, the Government of Kenya set the minimum age of employment at 16. On ratifying Convention 182 in May 2001, the government has, in consultation with ILO tripartite partners, come up with a draft national plan of action to act as a road map to the elimination of the WFCL. Additionally and importantly, the Government of Kenya signed an MoU with the ILO in 1992 to progressively eliminate child labour. Since that time various activities aimed at the elimination of child labour in Kenya have taken place with the support of ILO/IPEC programmes as follows:

- Policy development and legislation: A national child labour policy has been drafted
- Institutional development and capacity building for social partners and implementing agencies on the child labour issue to enable them take action on it
- Direct support to children and parents/relatives
- Awareness raising on child labour through the development of materials and the use of audio and audio/ visual channels
- Research and statistics

Child workers are mainly in the agro-processing industries particularly in the tea and coffee sectors. In many cases,

Fig 5.3: Industrial Strikes in Kenya, 1990-2003



Source: Ministry of Labour, CBS, Various Records

Fig 5.4: Distribution of Working Children by Sex and Sector, Kenya, 1998/99

Data Source: Child Labour Module of the Integrated Labour Force Survey, 1998/1999.

child labour is practised in secret, in the form of forced labour, and involves exposure to hazards. The number of working children tends to increase in times of economic hardships. Figure 5.4 shows the distribution of working children by sex and sector. The leading employers of child workers in Kenya are in the agricultural sector i.e. the agro-industries such as tea and coffee. For example, about 30% of coffee workers are children.[63] In the non-agricultural sector, the main industrial activities employing child workers are the paper and metal industries, which employ children in waste paper and scrap metal collection respectively. The number of working girls is higher when unspecified activities are included (this covers services of a domestic nature within households).

The Federation of Kenya Employers (FKE) has set up a Child Labour Unit which carries out research on hazardous conditions for child workers on sugar, coffee and rice plantations and sensitises employers to improve working conditions and reduce reliance on child labour. The Central Organisation of Trade Unions (COTU) in Kenya has also set up a Child Labour section, which has conducted a survey on child labour practices and integrated child labour issues into COTU's regular educational programmes. COTU is expanding into fields such as the registration of child workers and the management of children's contractual arrangements and obligations, including terms and conditions of work, education and training needs. It is also expected that the recent introduction of free primary education will reduce the incidence of child labour.

Over-specialisation and Limited Skills in Industries

Some industries in Kenya have not created skilled jobs as expected. Poverty and lack of access to education force many young people into the labour market at an early age. They often get apprenticeships, but few can find employment when they finish. So they set up their own businesses in direct competition with their trainers. Hence, in clusters like Kamukunji, Ziwani, Lake Victoria, and Eastlands, there is a failure of industrialisation to advance since the clusters have a limited cycle of skill levels.[64]

Box 5.1 The Experience of Limited Skills in Industries

Inside some industries (typical example of garment factory) in Kenya, workers are placed in several categories. These comprise sewing machine operators who do the actual stitching of seams in clothing, helpers who sort through the clothing and remove loose threads, quality controllers, who inspect the end product for defects, and supervisors. The machine operators, helpers and quality controllers work while sitting or standing for between 8 and 12 hours daily. These examples show that there is hardly any skill formation among our industries.

Industrialisation Technology

Since independence, Kenya's industrial structure has been characterised by an emphasis on low technology products, where technological knowledge is largely embodied in simple equipment and limited skill requirements.

Acquisition of industrial technology has been an underlying factor in the diversification, export growth and economic growth in Kenya. This diversification experience has, however, not offered Kenya a lesson in adopting technological innovations to improve productivity and incomes. In recent years, modern information and communication based services have also attracted significant innovative activity globally. This has been possible because of technological advances in the hardware of information processing and telecommunications – an area in which Kenya has been very slow.

The question of efficient labour-intensive technologies as recommended by the Sessional Paper No.2 of 1997 tends to provoke extreme positions.[65] In principle, modern technologies, which are designed to use more labour relative to capital, can be developed. This would be quite different from arguing that labour-intensive technologies from industrial countries – perhaps obsolete - can be appropriate for Kenya. Emphasis should be placed on the dynamism between industry and other sectors and the technological choices that create greater links with the rest of the economy.

[63] World Bank, Child Labour in Africa: Issues and Challenges. Findings. Human development 194 November 2001.

[64] McCormick, D. 2003: The Courier, Industrialisation, January-February 2003

[65] Kenya, 1997: p.2

Environmental Pollution by Industries in Kenya

Industrial processes in Kenya are associated with the exploitation of natural resources and pollution of the environment. This often depletes resource bases at rates beyond the ability of nature to replenish them, destroying habitats, generating waste and discharging pollutants into the environment. The relatively small size of industrial activity and the apparent low levels of industrial pollution in Kenya mask the impact of industrial pollution on the environment, some of which is already evident in many parts of the country (see box 5.2).

Industrial Water Abstractions

Industry is a minor user of public water resources in Kenya, consuming only 4% of the public water supply. The relatively small industrial water use however, masks substantial differences in industrial water consumption and its impact on water resources. In urban areas the manufacturing industry consumes 14% of public water and in large urban centres the industrial consumption is much higher i.e. in Nairobi (38%), Nakuru (25%), Kisumu (18%), Thika (22%), and Eldoret (15%).[66] However even these figures underestimate the impact of industrial water use, first, because in addition to public water, many of the large industries consume large amounts of water from rivers and private boreholes. Secondly, many industries send polluted effluents into the rivers, thereby degrading water resources on which the population downstream is dependent. Industrial use of water is a critical aspect of the urban water strategy in all urban areas.

Box 5.2 Industrial Pollution – the Case of Urban Areas

Nearly every industrial enterprise built along Nairobi River adds to its pollution. This occurs indirectly via discharges to the sewer system, and directly by enterprises discharging all kinds of solid and liquid waste into the river. Independent of the increasing number of vehicles in Nairobi, industries also contribute to air pollution. The Nairobi Industrial Area had a concentration of 252 micrograms per cubic metre of suspended particulate matter in 1982. This is far above the mean annual and daily mean WHO guidelines for ambient air quality standards, i.e., 40-90 micrograms per cubic metre and 100-230 micrograms per cubic metre, respectively.

Several practices in the *Jua Kali* and industrial areas deserve attention. In the Gikomba area, heaps of sawdust from small-scale industries along the river almost block the flow of water in the river and consequently increase the biological oxygen demand to extreme levels. Leather tanneries, food processing industries, textile dyeing industries and print shops, electroplating industries and car-repair workshops are major sources of local pollution and stench in residential and commercial areas. Toxic waste streams containing cyanide (from electroplating), chromium (from leather tanneries) and oil (from car repair workers) accumulate in the soils and cause long term risks for current and future residents. In many cases, oil and industrial wastewater are disposed of without treatment. Many factories discharge wastewater to drains and watercourses, and dump residues at municipal dump sites and randomly throughout the industrial towns.

On the other hand, occupational hazards for industrial workers in Kenya range from noise to the inhalation of toxic chemicals and physical accidents. Physical hazards for workers include noise, heat and cold. In the *Jua Kali* industries, few artisans are aware of work place hazards, and those who are aware seldom practice any safety measures, viewing these as a luxury.

Otieno, 1991; Frijns et al, 1997; Onjala, 2003.

Water pollution and contamination

Water pollution and contamination affect people the world over, but by far the greatest impact on human well-being is in developing countries. Concerns about the effects of toxic chemicals and minerals, such as pesticides and lead, in drinking water in industrial countries are serious and well founded, but the effects seem small beside the widespread illness from contamination in developing countries.

Industrial Solid Waste

Industrial soil waste continues to increase in Kenya in both absolute and per capita terms. The composition of waste is changing from primarily biodegradable organic materials, to materials that take longer to decompose, it they do at all. In Kenyan towns, an estimated 50-70% of the solid waste generated remains uncollected, even with up to half of local government recurring spending going for waste collection. Poorly managed solid water seriously threatens health. In areas lacking sanitation, waste heaps become mixed with excreta, contributing to the spread of infectious diseases. Again, the poor suffer most since they live near waste disposal sites, and their children are the waste-pickers. Furthermore, uncollected waste is the most common cause of urban drainage channels, increasing the risk of flooding and water-borne diseases.

Box 5.3 Water Pollution and Contamination by Industries in Kenya

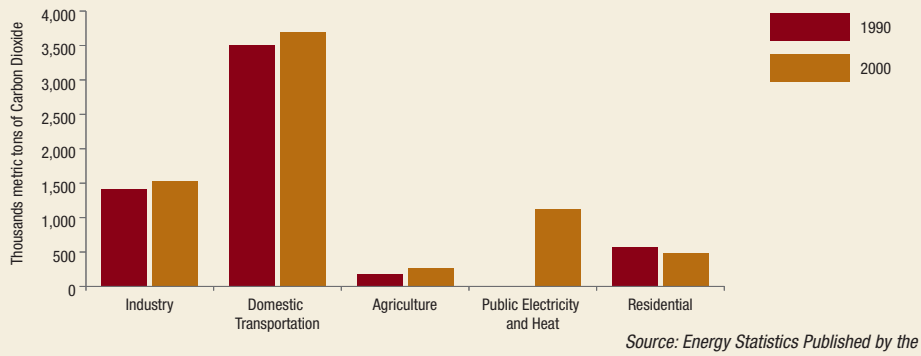
The quality of river water in Kenya is still considered to be generally good. However, it is constantly under threat due to local pollution, particularly where there are intensive industrial, agricultural and human settlement activities. The problem is that most development experts and institutions think that environmental pollution due to industrial activities in Kenya is insignificant. Although the total pollution load on the environment is relatively low due to the low industrialisation level, the social impact of water scarcity and industrial pollution is significant due to the direct dependency of Kenyans on open water resources. Furthermore, the proportion of the population without access to adequate water in Kenya is still very high, making it essential to conserve the available resources. River water is generally neutral to slightly alkaline, with some rivers having slightly acidic headwaters.

Emissions of organic pollutants from industrial activities are becoming a major cause of degradation of water quality in Kenya. Every year large volumes of water are extracted by industries and in return toxic effluents and hazardous waste are released into the riverine environment. A significant number of chemicals persist in the environment and cause widespread soil and water pollution. The downward migration of pollutants from the soil into the groundwater can be especially problematic in Kenya where groundwater is often directly used for drinking without any prior treatment.

Polluting substances include organic matter, metals, minerals, sediment, bacteria, and toxic chemicals. Data on emissions of organic water pollutants show that the load increased in Kenya from 26,834 kilograms per day in 1980 to 49,125 kilograms per day in 1998 (World Development Indicators, 2001). Industry shares of the emissions of organic water pollutants load in 1998 was distributed among several industrial sectors in Kenya as follows: primary metals (4.1%); paper and pulp (12.2%); chemicals (5.9%); food and beverages (68.4%); stone, ceramics, and glass (0.1%); textiles (8.8%); and wood (1.9%). As a result of their strategic location, the waste from industrial activity is concentrated where it has the most severe impact.

Source: World Development Indicators, 2001; Onjala (2003)

Fig 5.5: Carbon Dioxide Emissions in Kenya, 2000



Source: Energy Statistics Published by the United Nations, U.S. Bureau of Mines and Energy Information Administration. Carbon Dioxide Information Analysis Centre (CDIAC)

The State of Pollution by Specific Industries in Kenya

The Transport Sector Kenya has vast numbers of old and poorly maintained vehicles. Consequently, the transport sector, which is the largest consumer of petroleum products in Kenya, emits more than 65% of the carbon dioxide in the country. Use of leaded gasoline is the major mode of dispersing lead into the environment. Lead compounds are known to cause neurological disorders, brain injury, learning disability, damage to kidneys, liver, and the reproductive health system, and impair blood formation.

To meet environmental standards, a number of measures are being implemented including:

- Amendment of the Traffic Act.
- Pre-shipment inspection requirements.
- Review of road vehicles ignition system.

Figure 5.5 provides an illustration of the relative contribution of various sectors to carbon dioxide emissions in Kenya. Industry is the second major polluter, with the domestic transport sector being the leading offender in Kenya. Significant changes were recorded in the production of electricity and heat over the period 1990 and 2000 due to the effects of drought in the late 1990s, which led to reduced hydropower generation and increased use of fuel oil for generating electricity.

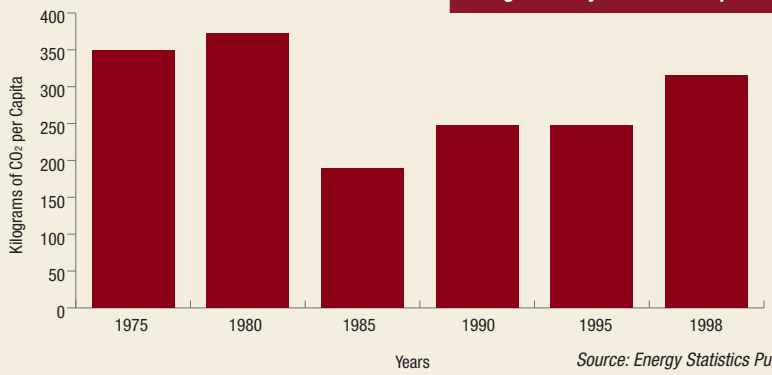
Cement Production Kenya has three cement factories and one clinker grinding plant with a combined production of about four million tons per annum. The cement industry is a heavy consumer of energy. Cement quarrying activities destroy eco-systems and habitats. Dust and noise pollution from both the quarries and the crushing activities pose great environmental hazards.

Box 5.4 Industrial Pollution

It is not uncommon to see rivers and streams treated as industrial sewers in urban areas of Kenya. In all the streams and rivers, dissolved oxygen levels are so low as to preclude aquatic life in receiving waters. For example, data for the pollution of Nairobi River shows pollution increases from the point the river enters the city. The pollution levels reach their peak as the river passes through industrial areas. This profile persists in spite of a) the flushing effects of the rains on the rivers, and b) the favourable nature of the tropical climate which allows for a significant amount of self-purification of the industrial wastewater in Kenya. The Biological Oxygen Demand (BOD) for the Nairobi rivers (tributaries of Athi River) has concentrations between 40 and 4400mg/1 (unpolluted waters have Oxygen Demand (BOD) values of 2mg/1 oxygen or less). The study also discovered high concentrations of sodium, calcium, potassium, magnesium, chlorine, and phosphorous. Toxic metals such as lead, chromium, zinc, and copper were also found in the Athi River. Some of the Kenyan Rivers are basically just "slow moving mass" industrial effluents. A stream of effluent collected in Nairobi and its environs snakes through the semi-arid Yatta Plateau and Tsavo wildlife ecosystem to pour into the vast Indian Ocean. En route, thousands of people, livestock and wildlife, and aquatic life live off it, oblivious of its perils.

Otieno (1991) and other sources

Fig 5.6: Kenya: Total Per Capita Carbon Dioxide Emissions



Source: Energy Statistics Published by the United Nations, U.S. Bureau of Mines and Energy Information Administration. Carbon Dioxide Information Analysis Centre (CDIAC)

> "Use of leaded gasoline is the major mode of dispersing lead into the environment. Lead compounds are known to cause neurological disorders, brain injury, learning disability, damage to kidneys, liver, and the reproductive health system, and impair blood formation"

[66] Onjala, 2003

Cement production in Kenya is the leading source of carbon dioxide pollution in the industrial sector. Total per capita carbon dioxide emissions in Kenya remain relatively low compared to other African countries. Trends for carbon dioxide pollution are provided in figure 5.6. The figure suggests fluctuating trends, with a gradual increase in pollution levels in recent years. Given rapid deforestation in Kenya, the capacity of forests to act as sinks for increased carbon dioxide discharges has declined. Furthermore, deforestation has also destroyed the water catchment areas, hence diminishing the flow of rivers that have flushed pollutants along the major rivers.

The Petroleum Industry Lead is gradually being outlawed in most markets in the world as a way of cleaning up the atmosphere, especially in cities with high traffic volumes. Countries were supposed to bring the average lead content from 0.8g/l to 0.4g/l by 2002 and to 0.2g/l by 2003. In June 2001, sub-Saharan governments resolved through the Dakar Declaration to phase out leaded gasoline, at the latest by 2005. However, the Mombasa refinery has yet to make investments in new processes and technologies that will enable Kenya to keep pace with the new environmental regulations.

Steel and Iron Products The iron and steel industry constitutes 13% of the manufacturing sector that in turn contributes 13% of the GDP. There are around 15 rolling units in the country, most of which have smelting facilities. Most of these still use old technologies like ingot casting techniques, while others have adopted the more recent development of continuous billet casting, electric arc and induction furnace facilities.

The Coffee Sector Coffee is one of the leading cash crops in Kenya with 65% being produced by smallholder farmers. Processing is predominantly by the 'wet method', which requires significant quantities of clean water. The locations of coffee factories tend to be widely dispersed throughout rural areas. Environmental impacts of this subsector include indiscriminate disposal of effluents into rivers causing oxygen depletion, affecting flora and fauna, and causing toxicity and diseases that affect human health.

The Tea Sector There are 45 smallholder tea factories in operation. Smallholder factories use fossil fuel, which produce carbon gases. Some factories use modified old train engines with low energy efficiency. Other tea factories use wood fuel, which causes deforestation and destruction of water catchment areas.

Tanning Sector There were 16 tanneries in operation in the early 1990s, which are all privately owned and scattered around the country. Currently, only eight are in operation. However, most of the tanneries process up to the wet blue stage. The majority of tanneries discharge their effluents into surface water bodies, thereby causing heavy pollution downstream.

Pulp and Paper Mills Kenya has one pulp and paper mill located in Webuye town in Bungoma District. From an initial production capacity of 45,000 tons per annum, capacity has now risen to 126,000 tons. The mill is situated in an environmentally sensitive area at the heart of Webuye town and on the bank of River Nzoia. The Webuye plant uses about 35,000m3 of water in processing, which includes steam power generation. About 90% of this water is returned as effluent after undergoing treatment. However, the wastewater is still characterised by high quantities of solid waste, and causes acid rain due to sulphur dioxide, thereby causing corrosion of buildings and water pollution downstream.

The Sugar Industry The Kenyan sugar industry is characterised by excessive water consumption. Despite treatment of wastewater, the effluents are characterised by a high organic loading that interferes with aquatic life in natural watercourses.

The Printing Industry There is an increasing demand for reading materials occasioned by the free primary education programme and the liberalisation of the education sector. Waste from printing consists of environmentally hazardous substances such as photographic and residual chemicals, metal hydroxide sludge, dyestuffs etc. There are also bulky wastes of paper.

The Textile Industry The Kenyan textile industry is currently facing a number of challenges, particularly with respect to environmental legislation. The impact of the industry on the environment includes discharges of effluents containing dyestuffs and solvents. Activities in the textile sector generate pollution of watercourses and other eco-systems.

Unequal Human Impacts of Environmental Damage

Environmental damage almost always hits those living in poverty the hardest. In the longer term the effects of the degradation are just as serious, for they further impoverish the people and undermine the very basis of development. The overwhelming majority of those who die each year from air and water pollution are poor people.[67] These same poor people are those most affected by desertification, floods, storms, and harvest failures caused by global warming. All over the world poor people generally live nearest to dirty factories, busy roads and waste dumps.

In all regions of Kenya, piped water, rivers and springs have been the main sources of water used by the majority of households. Thus, local environmental concerns - water pollution and contamination, and water disposal - have immediate and directly attributable effects on people. Dirty water causes disease; air pollution and inadequate waste disposal make people sick. They affect not only human health, but also people's livelihoods and survival. Contaminated water leads to cases of intestinal worms and schistosomiasis. If everyone had access to safe water and

The Kenyan sugar industry is characterised by excessive water consumption. Despite treatment of wastewater, the effluents are characterised by a high organic loading that interferes with aquatic life in natural watercourses

basic sanitation, many lives would be saved every year. Fisheries, one of the main sources of livelihood for poor people - and of protein for many more - are being damaged by sewage and other industrial effluents. Major declines in fish catches have been documented in Lake Victoria and rivers near industries such as the Nyando and Nzoia.

Box 5.5 Industrial Pollution affecting Wildlife and Tourism in Nakuru

Nakuru town has grown rapidly with considerable annual increase in domestic and industrial waste with insufficient investment in waste handling and treatment facilities. Only a few of the large number of industrial establishments and about 15% of households have been connected to the Sewer Treatment Pipes. Even the establishments that are connected do not always provide influent of the required standard. Consequently, storm-water contains high levels of untreated household and industrial waste, which is discharged directly into Lake Nakuru.

The old town landfill at Nakuru was sited on the shores of Lake Nakuru and was not properly sealed when it was abandoned. A number of heavy metals are leaching into the lake and waterbuck that graze the site have symptoms of lead poisoning. This example illustrates some of the difficulties with pollution management - in spite of these clear pollution problems, it is difficult to identify specific economic losses being suffered from this contamination because of the long-term nature of the problem and the lack of good monitoring data. This problem happens at a number of sites throughout Kenya where discharges or seepages from dump sites find their way to the surface or into groundwater. Some of these discharges may contain heavy metals such as fluoride, arsenic, lead, mercury, cadmium, etc. which could cause damage to the nervous system as well as cancer.

Toxic cynobacterial blooms have been observed in Lake Nakuru and there is evidence that toxins released by the cynobacteria have caused the deaths of flamingos. The origins of these blooms are unknown; they may have arisen, or been promoted by untreated storm water. The lake attracts about 165,000 tourists a year and generates revenue estimated at Kshs 264 million annually (US$ 3.3 million) through gate fees alone. The flamingos are the central attraction for most of these visitors.

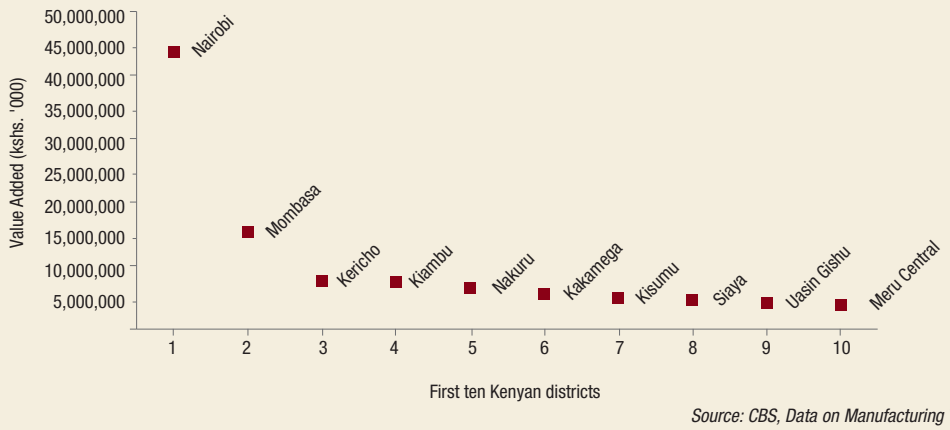
Source: Adapted from World Bank, 2003, Towards a Water-Secure Kenya: Water Resource Sector Memorandum.

Uneven Development

The process of industrialisation has accentuated the uneven process of development in Kenya. It is industries themselves that have tended to attract the best infrastructure facilities such as telephones, road network, water services, electricity etc. perhaps at the expense of the rest of the consumers. Industrial development often has a regional dimension. Kenya manifests regional disparities in resource endowments, incomes, and growth rates, and these are known to persist over time. Industrial location has been a crucial determinant of regional performance. Scarce resources, a history of neglect, lack of industrial investment, and a concentration of low-skilled people who may be ethnically distinct from the population, combine to explain the lagging industrial performance of certain areas in Kenya. Furthermore, relative and absolute regional poverty also manifest themselves along the patterns of industrial distribution in Kenya.

The uneven distribution of infrastructure is visible either by industries continuing to be located in districts (see Figure 5.7) well served by infrastructure network, or by the infrastructure support going to regions with higher densities of industry. This development strategy has resulted in the marginalisation of some parts of Kenya. Furthermore, locating industrial activities without considering their effects on different groups has been one of the basic reasons for unbalanced development in Kenya. For example, some agro-product (fruit and vegetable) collection centres and processing plants are located in urban areas, thereby denying the rural farmers a certain added value.

Fig 5.7: Manufacturing Value Added for the First Ten Districts



Source: CBS, Data on Manufacturing Value Added

Scarce resources, a history of neglect, lack of industrial investment, and a concentration of low-skilled people who may be ethnically distinct from the population, combine to explain the lagging industrial performance of certain areas in Kenya

[67] Onjala, 2003

6 Making Industry Supportive of Human Development

Introduction

The Government of Kenya is committed to getting the country to industrialise and sees industrialisation as an important vehicle for improving the welfare of Kenyans. Many government documents confirm this commitment, which has a long history. However, no systematic effort has been made to describe how the industrialisation path in Kenya ought to be modified so as to maximise human development. Two sets of policy proposals are presented below. One set targets ways of making industrial activities thrive, so that the country can harvest the positive human development outcomes of industrialisation, while the other proposes ways of reducing the negative human development consequences of industrialisation. Each set should be viewed as an addition to what the Government of Kenya is already doing to promote industry and control industrial pollution.

Tackling Poverty Through Industrialisation

In the past, a high population growth rate was taken as the main root of poverty. Poverty has multiple dimensions that are strongly linked with social, economic, political and environment conditions. Attacking poverty therefore, requires multiple programmes on all fronts. Occasional industrial investment in rural areas has a greater degree of leakage and, as a result, the retention of those investments within the rural areas is limited. Rural industry has strong backward and forward linkages with other economic sectors and activities, resulting in the generation of maximum levels of output, income and employment effects, itself, the basic criterion for selection of rural industry for poverty alleviation. Asset redistribution programmes (such as land reform) for equitable distribution of resources, can be critical in providing the poor-base from which to benefit from backward linkages with industry.

Improving Opportunities to Work

Kenya's present strength probably lies in its agricultural base. The link between the agricultural and industrial sectors can be strengthened by creating incentives for scaling up domestic processing and product finalisation activities. This in turn requires incentives for moving further downstream in the value chains of different agricultural systems, to optimise the employment and wealth potential of different value adding nodes. In that process, it is crucial to put in place mechanisms for the long term financing of agro-processing and other activities that make use of domestically available resources.

Asset redistribution programmes (such as land reform) for equitable distribution of resources, can be critical in providing the poor-base from which to benefit from backward linkages with industry

Decent Work

Since the Government of Kenya has chosen industrialisation as a key development strategy, it is necessary to construct strategies that can make industry fully supportive of human development. The main discouragement would be to the kind of industries that, in the past, have earned good profits at the expense of the majority of the population. The loss of these industrial investments could only be of benefit to Kenya.

Labour problems are not only about terms and conditions of employment negotiated between unions and employers. They also emanate from frustration associated with low productivity, absenteeism, high labour turnover, lack of job security, a poor physical work environment, repetitive jobs, lack of motivation, failure to recognise and reward excellent performance due to standardised wage systems, and lack of opportunities for self-improvement. Many of these problems are best detected and addressed at the enterprise level.

Few industrial firms pay attention to their corporate social responsibilities, so that there is a need to create incentives for industries to develop long-term relationships with their workers. In this regard, attention should be paid to labour laws to ensure that such laws do not discourage long-term employment contracts. This will lead to better terms of service, improve the work environment, reduce unemployment uncertainties and occupational hazards, and improve employee-employer relationships, all crucial in increasing productivity.

Minimum wages are safety nets for workers, including industrial workers, and have been popular features of Kenya's development policy and labour legislation. Wages above the minimum wage are determined by wage guidelines that spell out the modalities of wage fixing. Strong trade unions are therefore given a chance to propose increases in wages depending on inflation, the employment effect, and the ability of enterprises to pay higher wages. Where minimum wages are enforced, they invite reaction from employers as follows:

- Minimum wage levels are often fixed either on political grounds or on the basis of inadequate data.
- Minimum wages have an adverse effect on competitiveness in the global market and on employment creation, where minimum wages are above the market clearing wage rates.
- Increases in minimum wages do not bear any relationship to the productivity gains necessary for offsetting increased labour costs.

In a labour-surplus economy like Kenya, minimum wage legislation may be incompatible with other policies such as those related to employment expansion. Taking everything into account, other innovative ways of providing safety nets for industrial workers should be explored.

The way the labour market is governed is important in addressing poverty and undesirable work conditions. Such governance is not the responsibility of governments alone, but should be a joint effort between formal organisations, civil society and the government. A basic requirement of good governance is that there be mechanisms for allowing effective participation of different interest groups in the formulation and implementation of policies that affect work conditions.

Security

Human development results can be increased by improving security conditions in all parts of Kenya, to encourage investment in processing activities and complementary services. This will open up many parts of the country for industrial activities with attendant welfare benefits. Reduction of uncertainty will also pave the way for long term investment, including implementation of industrial projects with long payback, but strong upstream and downstream linkages, that are crucial for general improvement in human welfare. To reduce uncertainty and its undesirable consequences, policies, legislation and their implementation/application need to be made more credible and predictable.

Quality Infrastructure

It has been indicated that we do not look to the informal sector as the major growth point of the economy. But there is impressive scope, nevertheless, for expanding opportunities for entrepreneurship and the quality of employment in small-scale industries. The major constraints are the present restrictions on small industries, on the one hand, and the inadequacy of public services on the other. There is little point in pretending that the development of small-scale industries can be easy, and in some respects it will depend upon reform of the urban authorities' policies.

Most local authorities lack basic infrastructure for industries and do not have suitable zones that could enable them to serve as incubators for small industries and enterprises. Thus, the industries lack visibility and cannot foster a sustainable linkage with medium and large industries. The current inadequate state of Kenya's infrastructure acts as a major disincentive to potential investors and threatens the goal of industrialisation. The availability of infrastructure and its efficient operation are major determinants to the cost of production, quality and timeliness of response to product and service demands. Corruption, in the award and supervision of infrastructure contracts, has been a major hindrance to quality infrastructure.

The existing industrial development strategy tends to over-emphasise export sectors while at the same time ignoring the development of a local industrial base to serve the needs of the local population.

Clean and Healthy Environment

The provisions of the Environmental Management and Protection Act should be rigorously enforced by insisting on environmental impact assessment reports for both new and existing industrial projects. Such reports can be used to control, manage and monitor industrial pollution and mitigate its undesirable consequences. For this to happen, it is necessary to continue empowering the National Environmental Management Agency (NEMA) to play its role in addressing environmental excesses.

The goal of industrial environmental sustainability entails more than just a transformation of technology and its applications. It should involve, more fundamentally, a revolution in corporate attitude and culture so that Kenyan industries can work within a framework that supports environmentally friendly decisions. Indeed, the limiting factor in most pollution prevention efforts to date, and the key constraint in accomplishing the transition to sustainable practices, is not technology but management practices.

The enforcement of environmental standards in Kenya is still piecemeal, focusing on individual industries, which, acting in isolation, may not achieve industrial sustainability due to a failure to exploit synergies. Enforcement based on green design, and closed-loop materials, cycling on a system-wide basis, is required. Furthermore, resources can be conserved, when for example, one industry uses another's by-products as inputs.

Box 6.1 Institutions for Industrial Pollution Management in Kenya

Recent enactment of the Environmental Management and Co-ordination Act 2000 in Kenya has provided a new framework under which environmental issues (including industrial pollution) are being addressed in the country by the National Environmental Management Authority (NEMA). The new Act confers on citizens the rights of enforcement in the area of environmental liabilities. According to this Act, any person may bring a civil action if their right to a clean and healthy environment has been violated.

There are organisations that are traditionally responsible for industrial pollution regulation such as the Local Authorities and Ministry of Labour. The Ministry of Labour, Factories Inspectorate Department is charged with the task of ensuring a clean and safe working environment for factory workers. The work of the Factories Inspectorate takes three dimensions, namely, industrial health, safety and welfare. The health aspect covers cleanliness, overcrowding, ventilation, lighting, drainage of floods and sanitary conveniences.

The above institutional arrangements however lack the capacity to monitor and enforce environmental standards for the industries in Kenya.

Source: crafted for this report

"Success in making industry environmentally friendly also depends on realigning markets, so that major determinants of business behaviour and consumer choice can support a greening process"

Success in making industry environmentally friendly also depends on realigning markets, so that major determinants of business behaviour and consumer choice can support a greening process. This will require changing the philosophy of product pricing, so that such prices can reflect the full environmental cost of production. Current markets offer little incentive for environmentally responsible behaviour among consumers in Kenya.

There are many policy mechanisms for prompting industry to internalise environmental costs. Environmental taxes can be imposed on pollution emissions, energy consumption, and the use of virgin material or toxic substances.

A complementary strategy is to eliminate government subsidies that impede environmental goals. Subsidies, which range from tax incentives for extracting activities such as mining and logging, to artificially low charges for water, can often lead to over-use of resources and serious environmental degradation. All these instruments are still evolving in Kenya and will require time to implement. However, they need to be kept in focus.

Protection of Children

The government is reviewing and updating national legislation on child labour and has adopted appropriate practical policies and programmes. The ILO's International Programme on the Elimination of Child Labour (IPEC) is now operational in Kenya. Employers' and workers' organisations have established specialised units with the responsibility of addressing child labour issues and sensitising their members. The Federation of Kenya Employers (FKE) has set up a Child Labour Unit which carries out research on hazardous conditions for child workers on sugar, coffee and rice plantations and sensitises employers to improve working conditions and reduce reliance on child labour. The Central Organisation of Trade Unions (COTU) has also set up a Child Labour Section that has conducted a survey on child labour practices and integrated child labour issues into COTU's regular educational programmes. COTU is expanding into fields such as the registration of child workers and the management of children's contractual arrangements and obligations, including terms and conditions of work, education and training needs. These efforts need support and coordination. A framework for exchanging ideas on child labour issues is desirable. The recent policy of free primary education will complement other efforts and reduce the incidence of child labour.

Education and Human Capability

Mastering technology is not a once-and-for-all event but a process that involves continuous upgrading and strengthening of technologies, human capital and supporting networks. Without such an effort Kenya cannot establish a competitive niche even in low technology activities, but will remain at the bottom of the technology ladder. The interacting triad of incentives, factors and institutions make up the system within which industrial firms learn and create technology.

Creating an environment that encourages innovation requires political and macroeconomic stability that Kenya has been fortunate to have in the past. However, such stability is not enough. Proactive policies are also required to stimulate innovation. The government recognises the need to review the science and technology policy and put in place an industrial technology policy for the eventual development of a national technology innovation system. A technology policy that will help to create an understanding among key players, about the importance of technology to economic diversification, is desirable. Telecommunications competitiveness is also vital for giving people and organisations better access to information and communications technology. However, reforms in the telecommunications sector have been slow. The links between universities and industry, and the incentives for private firms to conduct research and development, are lacking.

The ILO is working with other social partners in Kenya to strengthen the institutional and human capabilities of the Ministry of Labour and social partners in implementing the principles of freedom of association and collective bargaining enshrined in ILO Conventions Nos. 87 and 98. This project will also build and strengthen the capabilities of the trade unions and employers' organisations in collective bargaining, human resource management, organisation skills and conflict resolution, as well as strengthening tripartite consultations in support of the implementation of the principles of freedom of association and collective bargaining. The project also addresses labour law reform, labour administration, labour courts and other dispute settlement mechanisms, as well as the improvement of relations between workers and employers. These efforts should be complemented by a labour market information system that would serve as a guide for employment planning and policies on human resources.

Intellectual property rights lie at the heart of a highly polarised debate on technology and development. Intellectual property rights – from trademarks and patents to copyrights and geographic indications – offer incentives for the research and development of technologies because they make it easier for innovators to reap returns on their investment. Kenya has only recently enacted a policy on intellectual property rights. This policy should be expeditiously implemented. In the past, the Kenya Industrial Property Office has experienced backlogs in granting and registering intellectual property rights due to inadequate infrastructure. Such infrastructure needs regular assessment and upgrading.

Addressing Gender Disparities

Gender disparities in industry often manifest themselves in the form of differential access to decent income

Mastering technology is not a once-and-for-all event but a process that involves continuous upgrading and strengthening of technologies, human capital and supporting networks

opportunities and employment. Women are particularly disadvantaged with their labour often confined to long working hours, while at the same time underpaid. Moreover, very few women have access to managerial and decision-making positions within Kenyan industry. Women have continued to take responsibility for domestic work and childcare suggesting that they need policies to support them in their dual responsibilities. Issues such as childcare facilities, accessible schooling, maternity leave and health insurance, feature higher on their list of priorities than those of men. These issues are critical to 'levelling the playing field', as well as ensuring the welfare of children. Sustained efforts have to be made, on the one hand, to retain women within the educational sector and, on the other, to promote their participation in more technical subjects that equip them better for the marketplace. In addition, vocational training can ensure the continuous upgrading of skills to reflect changing skill requirements on the labour market. There needs to be a more systematic extension of the training provided by governments and employers, and of technical training schemes supported by multilateral donors, with particular focus on enhancing opportunities for women.

Information and Awareness

HIV/AIDS awareness can be widened by exploiting networks between business organisations such as the Kenya Association of Manufacturers, the Kenya Private Sector Alliance, the Kenya National Chamber of Commerce and Industry, the Federation of Kenya Employers and the National AIDS Control Council. These organisations can help popularise voluntary counselling and testing services and be part of a strategy for intensifying the fight against HIV/AIDS. Fighting HIV/AIDS will remain an important human development goal since it will redress declines in life expectancy and permit exploitation of Kenya's demographic dividend.

Building on the Sessional Paper No. 2 of 1997

Enhanced industrialisation in Kenya is achievable through the adoption of a new integrated strategy in which market-driven development is combined with careful capacity building and strengthening of the institutional framework. More jobs can be created and sustained through the encouragement of internationally competitive industries that use the latest technology. However, Kenya must utilise the full potential of her resources to broaden the economy and to generate a vibrant industrial sector based on primary processing, manufacturing, commerce and services. While this report builds on the recommendations of the Sessional Paper No. 2, 1997, there are a number of important deviations that we need to point out..

Table 5.1: Shifts in Policy Recommendations between Current Report and Sessional paper 2, 1997

Sessional Paper No. 2 of 1997	Current Report, 4th KHDR
The need to almost double employment growth rates calls for renewed determination to implement labour intensive development strategy.	Factor intensity strategy not preferred. Emphasise dynamism between industry and other sectors and let market forces dominate.
With arable land and constraints limiting the capacity of the agricultural sector to absorb existing and future employment demand, it is essential that non-farm sectors of the economy provide alternative opportunities for employment and wealth creation.	Help small farmers increase productivity and break out of subsistence farming and chronic hunger. Land reforms critical for linkages and poverty alleviation.
Kenya aimed to adopt a two-phase approach to promote a sustainable industrial base that was to be implemented over the time span of the sessional paper.[68]	Emphasis on selective or simultaneous implementation of the two phases in order to trigger forward and backward linkages.
Developing industrial development policies that bolster non-traditional private sector activities, with special attention to small and medium-size enterprises.	Emphasis on agro-processing and value addition locally.
Quantity of employment products.	Emphasis on human welfare derived from decent employment and industrial
No emphasis of gender dimensions	Provide flexible and acceptable working conditions to women.
Industrial development strategy tends to over-emphasise export sectors.	Develop a local industrial base to serve the needs of the local population.

Kenya must utilise the full potential of her resources to broaden the economy and to generate a vibrant industrial sector based on primary processing, manufacturing, commerce and services

[68] Phase One: promotion of micro, small and medium scale industries, utilising and adding value to local raw material, and requiring relatively modest capital investment. Including in this phase are agro-processing, building and construction materials, and the tourism industries was to be implemented in the first ten years. Phase Two: promotion of capital intensive manufacturing industries that will require high capital investment, support infrastructure, well developed technologies and human skills. Included in this Phase will be metallurgical, petro-chemical, pharmaceutical, machinery and capital goods, and telecommunications and information processing industries was to be implemented in the last ten years (Kenya, 1997:38).

Kenya-Human Development Index (HDI), 2004

APPENDIX 1

Province/ District	Life Expect MICs	Life Expect Index	Adult Literacy Rate	Adult Literacy Index	Prim. Sch. Enrol 2003	Sec. Sch. Enrol 2000	Tert. Enrol. Rate 2003	Over. Enrol. Rate	Over. Enrol. Index	Educ. Attain. Index	Annual Per capita Income	GDP Per PPP	GDP Index Capita	HDI 2004
Kenya	**56.6**	**0.527**	**68.67**	**0.687**	**87.806**	**11.98**	**3.764**	**62.88**	**0.629**	**0.667**	**24835.8**	**978.1**	**0.362**	**0.520**
Nairobi	**57.0**	**0.533**	**82.2**	**0.822**	**62.0**	**8.5**	**5.1**	**64.6**	**0.646**	**0.763**	**72,446**	**2989**	**0.948**	**0.748**
Central	**64.2**	**0.653**	**82.79**	**0.828**	**107.54**	**21.8**	**5.1**	**85.5**	**0.855**	**0.837**	**17845.7**	**736.4**	**0.336**	**0.593**
Kiambu	56.3	0.522	85.4	0.854	96.00	30.2	4.4	70.4	0.704	0.804	20,390	841.0	0.397	0.574
Kirinyaga	62.8	0.630	79.1	0.791	107.3	15.2	3.5	73.3	0.733	0.772	15,449	638.0	0.277	0.559
Muranga	63.1	0.635	82.6	0.826	115.7	22.6	5.9	94.3	0.943	0.865	16,238	670.0	0.298	0.599
Nyandarua	63.7	0.645	82.6	0.826	113.5	20.9	5.2	93.9	0.939	0.864	15,395	635.0	0.275	0.595
Nyeri	63.9	0.648	84.4	0.844	107.3	26.1	5.1	86.7	0.867	0.852	19,455	803.0	0.377	0.626
Maragua	63.7	0.645	82.1	0.821	121.1	20.6	5.4	88.3	0.883	0.842	17,342	716.0	0.327	0.605
Thika	55.6	0.510	83.3	0.833	91.90	17.0	5.8	91.7	0.917	0.861	20,652	852.0	0.403	0.591
Coast	**55.1**	**0.502**	**60.6**	**0.606**	**82.00**	**7.703**	**2.9**	**56.8**	**0.568**	**0.593**	**21548.8**	**889.2**	**0.365**	**0.483**
Kilifi	53.6	0.477	50.3	0.503	83.70	6.70	2.9	58.3	0.583	0.530	13,538	559.0	0.219	0.409
Kwale	53.0	0.467	38.9	0.389	88.60	5.90	2.5	59.4	0.594	0.457	10,962	452.0	0.128	0.351
Lamu	56.0	0.517	73.2	0.732	99.90	6.10	2.6	66.0	0.660	0.708	15,818	653.0	0.287	0.504
Mombasa	53.3	0.472	88.9	0.889	62.80	6.90	3.7	43.1	0.431	0.736	45,500	1878	0.746	0.651
T.Taveta	57.9	0.548	80.8	0.808	108.9	17.9	4.8	88.2	0.882	0.833	13,018	537.0	0.202	0.528
Tana R.	53.8	0.480	42.9	0.429	51.90	7.00	2.1	38.3	0.383	0.414	18,684	771.0	0.359	0.418
Malindi	54.3	0.488	48.9	0.489	78.40	3.40	2.0	44.1	0.441	0.473	33,321	1375	0.610	0.524
Eastern	**61.5**	**0.608**	**62.0**	**0.620**	**104.0**	**11.2**	**3.8**	**63.4**	**0.634**	**0.625**	**19078.6**	**787.3**	**0.321**	**0.510**
Embu	66.3	0.688	80.6	0.806	109.2	20.5	4.1	74.2	0.742	0.785	19,552	807.0	0.438	0.637
Mbeere	63.0	0.633	64.2	0.642	113.1	10.5	3.1	66.4	0.664	0.649	22,420	925.0	0.438	0.574
Meru N	60.8	0.597	60.3	0.603	109.0	5.60	3.5	67.8	0.678	0.628	10,827	447.0	0.122	0.449
Moyale	56.3	0.522	54.9	0.549	79.20	0.80	2.5	53.1	0.531	0.543	16,501	681.0	0.305	0.457
Mwingi	60.7	0.595	61.6	0.616	123.1	5.70	3.1	49.5	0.495	0.576	16,501	681.0	0.305	0.492
Isiolo	57.6	0.543	79.6	0.796	68.50	4.70	4.0	47.0	0.470	0.687	22,420	925.0	0.438	0.556
Kitui	57.1	0.535	69.9	0.699	124.1	14.4	5.3	81.8	0.818	0.739	10,827	447.0	0.122	0.465
Machakos	59.0	0.567	63.9	0.639	125.3	17.3	5.1	75.3	0.753	0.677	16,501	681.0	0.305	0.516
Marsabit	60.7	0.595	17.4	0.174	55.00	5.40	2.6	29.3	0.293	0.214	6,113	252.0	-0.126	0.228
Meru C.	64.7	0.662	70.0	0.700	103.4	15.3	3.5	69.1	0.691	0.697	16,998	701.0	0.318	0.559
Makueni	57.2	0.537	51.8	0.518	122.9	17.7	4.4	76.0	0.760	0.599	11,637	480.0	0.154	0.430
T. Nithi	52.6	0.460	66.5	0.665	109.0	6.90	4.4	68.7	0.687	0.672	40,263	1661	0.693	0.608
Nithi	64.6	0.660	65.4	0.654	110.2	21.2	4.2	65.7	0.657	0.655	37,462	1546	0.661	0.659
N/Eastern	**61.9**	**0.615**	**62.1**	**0.621**	**14.0**	**2.6**	**1.3**	**21.2**	**0.212**	**0.480**	**27774.3**	**772.5**	**0.347**	**0.476**
Garissa	59.4	0.573	62.5	0.625	8.80	2.2	1.2	14.3	0.143	0.464	35,999	861.0	0.407	0.482
Mandera	61.0	0.600	67.2	0.672	24.4	3.0	1.6	29.1	0.291	0.545	27,960	669.0	0.297	0.481
Wajir	61.8	0.613	59.4	0.594	14.0	3.0	1.1	14.6	0.146	0.445	22,174	530.0	0.197	0.418
Ijara	61.2	0.603	59.1	0.591	8.80	2.4	1.1	26.9	0.269	0.484	24,965	1030	0.485	0.524

Kenya-Human Development Index (HDI), 2004 (cont.)

Province/ District	Life Expect MICs	Life Expect Index	Adult Literacy Rate	Adult Literacy Index	Prim. Sch. Enrol 2003	Sec. Sch. Enrol 2000	Tert. Enrol. Rate 2003	Over. Enrol. Rate	Over. Enrol. Index	Educ. Attain. Index	Annual Per capita Income	GDP Per PPP	GDP Index Capita	HDI 2004
Nyanza	**44.8**	**0.330**	**71.1**	**0.711**	**115.9**	**16.8**	**3.6**	**73.9**	**0.739**	**0.720**	**12616.2**	**520.6**	**0.173**	**0.413**
Bondo	41.1	0.268	76.7	0.767	125.2	12.1	3.9	81.0	0.810	0.781	9,243	381	0.054	0.368
Suba	39.3	0.238	68.3	0.683	120.3	6.40	2.8	68.3	0.683	0.683	9,141	377	0.049	0.323
Nyando	40.3	0.255	82.2	0.822	125.9	14.4	5.1	77.9	0.779	0.808	17,222	711	0.324	0.462
Rachyo	41.9	0.282	72.5	0.725	148.0	12.3	3.6	85.6	0.856	0.769	10,512	434	0.109	0.387
Kuria	52.6	0.460	61.4	0.614	124.6	9.70	1.7	57.0	0.570	0.599	12,612	520	0.189	0.416
Gucha	56.8	0.530	66.8	0.668	107.3	23.2	4.1	66.5	0.665	0.667	15,922	657	0.290	0.496
Kisii C	55.2	0.503	67.7	0.677	102.1	25.1	4.6	77.0	0.770	0.708	14,103	582	0.237	0.483
Kisumu	40.5	0.258	83.8	0.838	45.90	13.4	5.5	87.2	0.872	0.849	20,767	857	0.405	0.504
Siaya	40.0	0.250	69.7	0.697	122.8	31.4	5.0	76.6	0.766	0.720	10,874	449	0.124	0.365
Homa Bay	38.3	0.222	69.4	0.694	133.4	11.6	2.6	72.3	0.723	0.704	9,457	390	0.064	0.330
Migori	40.3	0.255	70.8	0.708	130.1	10.5	0.0	60.7	0.607	0.674	9,202	380	0.052	0.327
Nyamira	63.2	0.637	64.1	0.641	105.4	31.9	4.9	76.8	0.768	0.683	12,340	509	0.179	0.500
R/Valley	**62.7**	**0.628**	**60.7**	**0.607**	**101.1**	**12.1**	**3.6**	**61.0**	**0.610**	**0.608**	**14448.8**	**596.2**	**0.223**	**0.481**
Kajiado	66.2	0.687	48.6	0.486	140.3	5.90	2.4	44.0	0.440	0.471	18,161	749	0.347	0.501
Kericho	58.6	0.560	77.6	0.776	113.7	15.3	4.7	72.5	0.725	0.759	16,494	681	0.305	0.541
Laikipia	64.9	0.665	83.7	0.837	93.90	13.3	4.6	75.0	0.750	0.808	13,121	541	0.206	0.560
Nakuru	55.6	0.510	82.2	0.822	83.10	13.4	3.9	73.7	0.737	0.794	22,383	924	0.438	0.580
Nandi	60.2	0.587	80.8	0.808	116.8	12.1	4.8	84.1	0.841	0.819	12,548	518	0.186	0.531
Narok	63.5	0.642	48.7	0.487	80.80	6.20	3.3	54.2	0.542	0.505	17,209	710	0.324	0.490
T. Mara	58.9	0.565	53.9	0.539	89.00	5.20	3.1	54.2	0.542	0.540	18,663	770	0.359	0.488
Keiyo	66.2	0.687	51.0	0.510	140.3	29.4	3.1	51.2	0.512	0.511	18,379	758	0.352	0.516
Koibatek	66.0	0.683	59.5	0.595	127.9	17.2	3.5	68.3	0.683	0.624	11,885	490	0.163	0.490
Bomet	66.1	0.685	71.1	0.711	106.8	12.8	4.1	77.0	0.770	0.731	18,663	770	0.359	0.591
Baringo	61.6	0.610	80.2	0.802	101.4	12.4	4.8	47.8	0.478	0.694	18,379	758	0.352	0.552
Marakwet	65.6	0.677	56.8	0.568	129.8	18.3	4.0	51.0	0.510	0.549	11,885	490	0.163	0.463
Samburu	60.7	0.595	21.9	0.219	67.50	5.40	2.2	53.0	0.530	0.323	7,451	307	-0.040	0.293
T-Nzoia	60.2	0.587	68.4	0.684	107.2	9.60	4.4	72.6	0.726	0.698	9,281	383	0.055	0.447
Turkana	56.9	0.532	28.4	0.284	33.50	2.80	1.5	47.8	0.478	0.349	7,459	308	-0.040	0.280
U-Gishu	60.6	0.593	82.5	0.825	74.60	10.6	3.5	72.4	0.724	0.791	19,173	791	0.370	0.585
W- Pokot	58.3	0.555	42.3	0.423	97.80	7.10	3.7	47.8	0.478	0.441	7,624	315	-0.030	0.322
Buret	60.6	0.593	55.4	0.554	116.2	19.9	4.2	51.9	0.519	0.542	11,320	467	0.142	0.426
Western	**52.8**	**0.463**	**67.94**	**0.679**	**115.8**	**15.1**	**4.6**	**76.6**	**0.766**	**0.710**	**12928.5**	**533.5**	**0.187**	**0.459**
Bungoma	57.9	0.548	75.7	0.757	129.7	18.4	5.2	79.3	0.793	0.769	10,134	418	0.094	0.470
Busia	43.8	0.313	64.3	0.643	114.0	9.90	4.4	68.5	0.685	0.657	8,649	357	0.025	0.332
Mt. Elgon	61.0	0.600	63.1	0.631	135.2	10.4	3.9	72.3	0.723	0.662	12,956	535	0.200	0.487
Lugari	60.7	0.595	64.8	0.648	125.6	23.7	4.6	83.0	0.830	0.709	14,712	607	0.255	0.520
Teso	50.4	0.423	61.5	0.615	115.9	12.5	4.8	72.8	0.728	0.653	10,244	423	0.098	0.391
Vihiga	55.9	0.515	68.7	0.687	122.4	25.0	5.2	75.7	0.757	0.710	14,011	578	0.234	0.487
B/Mumias	48.5	0.392	69.1	0.691	88.60	8.10	4.2	78.9	0.789	0.724	18,832	777	0.363	0.493
Kakamega	53.3	0.472	76.3	0.763	95.10	12.8	4.5	82.6	0.826	0.784	13,891	573	0.230	0.495

Kenya: Gender-Related Development Index (GDI), 2004

APPENDIX 2

Province	L. Expect. M	L. Expect. F	L.E. Index M	L.E. Index F	Adult Ed. M	Adult Ed. F	Ad. Lit. Ind. M	Ad. Lit. Ind. F	Ov'l Enrol. M	Ov'l Enrol. F	En. Index M	En. Index F	Ed. Index M	Ed. Index F	EDEAI	EDLEI	EDEAI	GDI 2004
Nairobi	**54.1**	**59.8**	**0.527**	**0.538**	**84.0**	**81.2**	**0.84**	**0.812**	**70.8**	**58.4**	**0.708**	**0.584**	**0.796**	**0.736**	**0.670**	**0.532**	**0.765**	**0.629**
Central	60.4	68.0	0.632	0.675	86.5	81.9	0.865	0.819	92.4	78.6	0.924	0.786	0.885	0.808	0.648	0.654	0.843	0.622
Kiambu	53.4	59.2	0.515	0.528	88.2	84.2	0.882	0.842	74.8	66.0	0.748	0.660	0.837	0.781	0.671	0.522	0.807	0.564
Kirinyaga	58.3	67.3	0.597	0.663	83.6	74.9	0.836	0.749	83.5	63.1	0.835	0.631	0.836	0.710	0.728	0.629	0.765	0.567
Muranga	59.1	67.1	0.610	0.660	85.5	82.1	0.855	0.821	96.9	91.7	0.969	0.917	0.893	0.853	0.634	0.636	0.871	0.606
Nyandarua	59.5	67.9	0.617	0.673	89.4	87.7	0.894	0.877	95.6	92.2	0.956	0.922	0.915	0.892	0.587	0.645	0.903	0.617
Nyeri	60.2	67.7	0.628	0.670	85.7	84.4	0.857	0.844	91.3	82.1	0.913	0.821	0.876	0.836	0.627	0.649	0.855	0.616
Maragua	53.0	58.1	0.508	0.510	84.8	78.5	0.848	0.785	93.5	83.1	0.935	0.831	0.877	0.800	0.642	0.509	0.836	0.563
Thika	60.2	67.3	0.628	0.663	85.7	81.3	0.857	0.813	96.1	87.3	0.961	0.873	0.892	0.833	0.635	0.646	0.860	0.622
Coast	**52.0**	**58.3**	**0.492**	**0.513**	**72.1**	**55.7**	**0.721**	**0.557**	**61.1**	**52.4**	**0.611**	**0.524**	**0.684**	**0.546**	**0.934**	**0.502**	**0.606**	**0.475**
Kilifi	50.7	56.5	0.470	0.483	67.0	38.1	0.670	0.381	64.0	52.6	0.640	0.526	0.660	0.429	1.249	0.477	0.512	0.424
Kwale	51.7	54.2	0.487	0.445	46.5	39.7	0.465	0.397	62.0	56.8	0.620	0.568	0.517	0.454	1.162	0.464	0.482	0.322
Lamu	54.9	57.0	0.540	0.492	76.2	70.5	0.762	0.705	69.1	62.9	0.691	0.629	0.738	0.680	0.729	0.515	0.708	0.511
Mombasa	52.7	53.9	0.503	0.440	95.4	83.8	0.954	0.838	45.8	40.4	0.458	0.404	0.789	0.693	0.684	0.471	0.740	0.571
T.Taveta	54.4	61.3	0.532	0.563	88.7	83.8	0.887	0.838	94.5	81.9	0.945	0.819	0.906	0.832	0.611	0.547	0.867	0.564
Tana R	52.6	55.0	0.502	0.458	46.1	40.1	0.461	0.401	42.6	34.0	0.426	0.340	0.449	0.381	1.348	0.478	0.411	0.389
Malindi	52.2	56.4	0.495	0.482	51.2	46.8	0.512	0.468	45.8	42.4	0.458	0.424	0.494	0.453	1.141	0.488	0.472	0.442
Eastern	**57.6**	**65.5**	**0.585**	**0.633**	**68.8**	**64.7**	**0.688**	**0.647**	**69.0**	**57.8**	**0.69**	**0.578**	**0.689**	**0.624**	**0.844**	**0.610**	**0.653**	**0.522**
Embu	60.7	71.9	0.637	0.740	81.1	80.1	0.811	0.801	79.8	68.6	0.798	0.686	0.807	0.763	0.683	0.687	0.783	0.605
Mbeere	59.2	66.8	0.612	0.655	66.2	61.9	0.662	0.619	70.5	62.3	0.705	0.623	0.676	0.620	0.861	0.634	0.645	0.534
Meru N.	58.4	63.3	0.598	0.597	62.0	58.7	0.620	0.587	72.2	63.4	0.722	0.634	0.654	0.603	0.873	0.597	0.626	0.530
Moyale	55.7	56.9	0.553	0.490	58.9	55.3	0.589	0.553	55.9	50.3	0.559	0.503	0.579	0.536	0.972	0.518	0.556	0.437
Mwingi	55.7	65.7	0.553	0.637	63.5	60.6	0.635	0.606	53.2	45.8	0.532	0.458	0.601	0.557	0.983	0.596	0.576	0.475
Isiolo	54.3	60.9	0.530	0.557	95.5	68.8	0.955	0.688	49.4	44.6	0.494	0.446	0.801	0.607	0.834	0.543	0.690	0.534
Kitui	53.0	61.1	0.508	0.560	74.6	66.4	0.746	0.664	84.1	79.5	0.841	0.795	0.778	0.708	0.763	0.535	0.738	0.506
Machakos	55.1	62.8	0.543	0.588	61.5	65.9	0.615	0.659	80.4	70.2	0.804	0.702	0.678	0.673	0.777	0.566	0.676	0.520
Marsabit	57.4	64.0	0.582	0.608	23.4	12.7	0.234	0.127	32.9	25.7	0.329	0.257	0.266	0.170	2.997	0.595	0.207	0.318
Meru C.	61.8	67.6	0.655	0.668	71.8	68.4	0.718	0.684	73.9	64.3	0.739	0.643	0.725	0.670	0.769	0.662	0.696	0.560
Makueni	53.9	60.4	0.523	0.548	71.7	68.3	0.717	0.683	78.8	73.2	0.788	0.732	0.741	0.699	0.753	0.536	0.718	0.504
Tharaka	48.9	56.2	0.440	0.478	69.4	66.2	0.694	0.662	72.0	65.4	0.720	0.654	0.703	0.659	0.813	0.460	0.679	0.490
Nithi	61.7	67.5	0.653	0.667	68.1	65.3	0.681	0.653	68.2	63.2	0.682	0.632	0.681	0.646	0.815	0.660	0.662	0.550
N/Eastern	**62.2**	**61.5**	**0.662**	**0.567**	**76.9**	**51.3**	**0.769**	**0.513**	**25.9**	**16.6**	**0.259**	**0.166**	**0.599**	**0.397**	**1.187**	**0.613**	**0.483**	**0.467**
Garissa	60.0	58.7	0.625	0.520	76.3	43.9	0.763	0.439	17.3	11.3	0.173	0.113	0.566	0.330	1.474	0.569	0.420	0.421
Mandera	61.4	60.5	0.648	0.550	79.3	57.9	0.793	0.579	36.6	21.6	0.366	0.216	0.651	0.458	1.064	0.596	0.540	0.484
Wajir	61.3	62.3	0.647	0.580	69.2	50.7	0.692	0.507	18.8	10.4	0.188	0.104	0.524	0.373	1.256	0.614	0.440	0.444
Ijara	59.2	63.1	0.612	0.593	63.9	58.8	0.639	0.588	33.3	20.5	0.333	0.205	0.537	0.460	1.053	0.603	0.497	0.457
Nyanza	**41.7**	**48**	**0.32**	**0.342**	**76.2**	**66.4**	**0.762**	**0.664**	**79.6**	**68.2**	**0.796**	**0.682**	**0.773**	**0.67**	**0.796**	**0.331**	**0.715**	**0.428**
Bondo	38.3	43.9	0.263	0.273	78.9	74.1	0.789	0.741	84.5	77.5	0.845	0.775	0.808	0.752	0.713	0.269	0.777	0.430
Suba	36.5	42.0	0.233	0.242	72.7	67.3	0.727	0.673	72.9	63.7	0.729	0.637	0.728	0.661	0.800	0.238	0.691	0.386
Nyando	37.7	42.9	0.253	0.257	85.5	78.8	0.855	0.788	84.1	71.7	0.841	0.717	0.850	0.764	0.681	0.255	0.803	0.464

Kenya: Gender-Related Development Index (GDI) (cont.)

Province	L. Expect. M	L. Expect. F	L.E. Index M	L.E. Index F	Adult Ed. M	Adult Ed. F	Ad. Lit. Ind. M	Ad. Lit. Ind. F	Ov'l Enrol. M	Ov'l Enrol. F	En. Index M	En. Index F	Ed. Index M	Ed. Index F	EDEAI	EDLEI	EDEAI	GDI 2004
Rachyo	39.4	44.4	0.282	0.282	75.1	71.5	0.751	0.715	89.1	82.1	0.891	0.821	0.798	0.750	0.716	0.282	0.772	0.433
Kuria	49.8	55.4	0.455	0.465	63.3	58.9	0.633	0.589	60.8	53.2	0.608	0.532	0.625	0.570	0.922	0.460	0.595	0.444
Gucha	52.4	61.3	0.498	0.563	69.4	62.7	0.694	0.627	69.6	63.4	0.696	0.634	0.695	0.629	0.848	0.531	0.658	0.489
Kisii C.	50.5	60.0	0.467	0.542	73.6	62.7	0.736	0.627	81.5	72.5	0.815	0.725	0.762	0.660	0.815	0.504	0.703	0.498
Kisumu	37.8	43.2	0.255	0.262	67.3	60.9	0.673	0.609	90.2	84.2	0.902	0.842	0.749	0.687	0.763	0.258	0.715	0.463
Siaya	36.9	43.0	0.240	0.258	88.7	79.3	0.887	0.793	80.4	72.8	0.804	0.728	0.859	0.771	0.713	0.250	0.809	0.433
H. Bay	35.9	40.7	0.223	0.220	75.3	65.6	0.753	0.656	76.1	68.5	0.761	0.685	0.756	0.666	0.808	0.222	0.704	0.380
Migori	37.8	42.8	0.255	0.255	72.7	68.9	0.727	0.689	66.1	55.3	0.661	0.553	0.705	0.644	0.827	0.255	0.671	0.385
Nyamira	59.2	67.2	0.612	0.662	66.7	61.8	0.667	0.618	82.0	71.6	0.820	0.716	0.718	0.651	0.817	0.637	0.681	0.516
R/Valley	**59.1**	**66.4**	**0.610**	**0.648**	**76.6**	**69.1**	**0.766**	**0.691**	**64.7**	**57.4**	**0.647**	**0.574**	**0.726**	**0.652**	**0.762**	**0.628**	**0.687**	**0.541**
Kajiado	60.3	67.1	0.630	0.660	52.6	45.1	0.526	0.451	47.4	40.6	0.474	0.406	0.509	0.436	1.149	0.645	0.469	0.483
Kericho	54.8	62.5	0.538	0.583	82.6	72.2	0.826	0.722	77.9	67.1	0.779	0.671	0.810	0.705	0.709	0.560	0.754	0.531
Laikipia	61.6	68.1	0.652	0.677	76.4	66.4	0.764	0.664	81.2	68.8	0.812	0.688	0.780	0.672	0.496	0.660	0.740	0.555
Nakuru	52.9	58.2	0.507	0.512	88.5	78.3	0.885	0.783	77.6	69.8	0.776	0.698	0.849	0.755	0.666	0.509	0.799	0.555
Nandi	56.6	63.7	0.568	0.603	84.2	80.5	0.842	0.805	87.8	80.4	0.878	0.804	0.854	0.805	0.627	0.585	0.828	0.562
Narok	59.5	67.6	0.617	0.668	82.8	78.9	0.828	0.789	57.0	51.4	0.570	0.514	0.742	0.697	0.717	0.641	0.719	0.558
Trans M	59.7	58.2	0.620	0.512	55.8	50.2	0.558	0.502	57.9	50.5	0.579	0.505	0.565	0.503	1.020	0.559	0.531	0.483
Keiyo	62.8	69.6	0.672	0.702	53.0	49.1	0.530	0.491	55.5	46.9	0.555	0.469	0.538	0.484	1.058	0.687	0.509	0.490
Koibatek	63.0	69.0	0.675	0.692	62.7	57.9	0.627	0.579	70.5	66.1	0.705	0.661	0.653	0.606	0.830	0.683	0.629	0.521
Bomet	62.2	70.1	0.662	0.710	74.2	67.7	0.742	0.677	80.8	73.2	0.808	0.732	0.764	0.695	0.747	0.686	0.727	0.587
Baringo	58.3	64.9	0.597	0.623	82.9	77.4	0.829	0.774	53.2	42.4	0.532	0.424	0.730	0.657	0.782	0.610	0.691	0.562
Marakwet	63.2	68.0	0.678	0.675	58.8	52.8	0.588	0.528	53.9	48.1	0.539	0.481	0.572	0.512	0.999	0.677	0.540	0.515
Samburu	58.0	63.4	0.592	0.598	28.3	15.3	0.283	0.153	54.8	51.2	0.548	0.512	0.371	0.273	1.923	0.595	0.312	0.408
T.Nzoia	57.1	63.3	0.577	0.597	74.5	62.9	0.745	0.629	76.6	68.6	0.766	0.686	0.752	0.648	0.783	0.587	0.695	0.479
Turkana	54.8	59.1	0.538	0.527	41.5	47.7	0.415	0.477	51.9	43.7	0.519	0.437	0.450	0.464	1.072	0.532	0.457	0.404
U.Gishu	57.6	63.6	0.585	0.602	85.9	81.3	0.859	0.813	78.9	65.9	0.789	0.659	0.836	0.762	0.656	0.593	0.797	0.578
W. Pokot	55.4	61.3	0.548	0.563	49.7	35.5	0.497	0.355	51.8	43.8	0.518	0.438	0.504	0.383	1.350	0.556	0.433	0.392
Buret	57.8	63.3	0.588	0.597	58.4	53.8	0.584	0.538	55.1	48.7	0.551	0.487	0.573	0.521	0.952	0.592	0.546	0.444
Western	**49.8**	**55.8**	**0.455**	**0.472**	**80.2**	**69.7**	**0.802**	**0.697**	**81.5**	**71.8**	**0.815**	**0.718**	**0.806**	**0.704**	**0.756**	**0.464**	**0.748**	**0.488**
Bungoma	54.3	61.5	0.530	0.567	78.9	72.6	0.789	0.726	85.3	73.3	0.853	0.733	0.810	0.728	0.723	0.549	0.765	0.516
Busia	41.0	46.6	0.308	0.318	69.9	59.3	0.699	0.593	74.1	62.9	0.741	0.629	0.713	0.605	0.889	0.314	0.651	0.391
Mt. Elgon	56.5	65.4	0.567	0.632	66.5	62.1	0.665	0.621	76.3	68.3	0.763	0.683	0.698	0.642	0.805	0.598	0.668	0.506
Lugari	57.4	64.0	0.582	0.608	68.2	64.3	0.682	0.643	88.4	77.6	0.884	0.776	0.749	0.687	0.768	0.595	0.715	0.526
Teso	48.8	52.0	0.438	0.408	63.2	69.4	0.632	0.694	77.1	68.5	0.771	0.685	0.678	0.691	0.760	0.422	0.685	0.438
Vihiga	53.2	58.7	0.512	0.520	86.6	73.9	0.866	0.739	82.7	68.7	0.827	0.687	0.853	0.722	0.753	0.516	0.776	0.531
Butere	45.3	51.6	0.380	0.402	72.8	68.4	0.728	0.684	81.9	75.9	0.819	0.759	0.758	0.709	0.755	0.391	0.731	0.494
Kakamega	50.1	56.6	0.460	0.485	83.8	70.3	0.838	0.703	87.9	77.3	0.879	0.773	0.852	0.726	0.732	0.473	0.780	0.519
Kenya	**52.8**	**60.4**	**0.505**	**0.548**	**77.7**	**70.2**	**0.777**	**0.702**	**66.9**	**58.7**	**0.669**	**0.587**	**0.741**	**0.664**	**0.775**	**0.526**	**0.699**	**0.538**

Kenya - Human Poverty Index (HPI), 2004

APPENDIX 3

District/ Province	Underweight children Below 5 years (%)	Adult Illiteracy (%)	Without access to Safe drinking water	% Not expected To survive beyond 40	% With poor access To qualified doctor	HPI 2004
Nairobi	**12.4**	**17.6**	**6.10**	**32.0**	**54.0**	**25.9**
Central	13.9	16.4	48.0	30.0	45.6	29.9
Kiambu	13.1	14.6	29.2	29.0	34.1	24.4
Kirinyaga	8.40	20.9	65.5	31.0	31.4	30.1
Muranga	21.1	17.4	75.8	30.0	40.6	35.0
Nyandarua	19.7	11.5	54.6	28.0	47.9	31.2
Nyeri	12.3	15.6	36.8	27.0	62.5	29.2
Maragua	11.9	17.9	36.0	33.0	52.0	29.7
Thika	10.6	16.7	38.0	34.0	51.0	29.9
Coast	**23.0**	**39.4**	**36.9**	**38.4**	**60.7**	**42.7**
Kilifi	28.9	49.7	35.1	48.0	64.8	47.1
Kwale	26.2	61.1	33.9	31.0	45.1	46.4
Lamu	21.1	26.8	37.6	36.0	73.0	36.9
Mombasa	10.4	11.1	16.2	49.0	49.0	35.7
Taita Taveta	15.7	19.2	44.2	36.0	77.4	36.8
Tana River	31.7	57.1	56.4	18.0	76.6	49.2
Malindi	27.0	51.1	35.0	51.0	39.0	46.6
Eastern	**22.2**	**33.7**	**55.3**	**33.1**	**61.8**	**40.2**
Embu	23.6	19.4	53.2	32.0	45.0	32.9
Mbeere	34.8	27.1	55.0	35.0	74.0	42.2
Meru North	18.9	39.7	42.0	30.0	54.0	36.5
Moyale	21.1	45.4	45.0	32.0	69.0	41.7
Mwingi	24.5	39.9	49.0	33.0	64.0	40.3
Isiolo	19.1	20.4	55.0	39.0	85.0	41.7
Kitui	33.6	30.1	86.2	23.0	66.0	45.2
Machakos	24.0	36.1	62.1	63.0	60.0	51.6
Marsabit	24.9	33.5	83.9	12.0	75.1	44.8
Meru Central	13.6	30.0	42.0	32.0	51.6	32.8
Makueni	16.9	48.2	58.0	34.0	55.0	42.6
Tharaka Nithi	15.4	33.5	48.0	33.0	51.0	35.0
Nithi (Meru South)	17.9	34.6	45.0	31.0	54.0	35.2
N/Eastern	**16.4**	**37.95**	**63.0**	**29.6**	**86.3**	**43.7**
Garissa	19.3	37.5	33.0	30.0	87.0	39.1
Mandera	16.2	32.8	49.0	29.0	87.0	39.9
Wajir	17.7	40.6	86.0	30.0	85.0	48.5
Ijara	12.2	40.9	84.0	30.0	86.0	47.4
Nyanza	**21.6**	**28.9**	**40.4**	**46.0**	**65.9**	**40.9**
Bondo	25.8	23.3	47.0	50.0	73.0	43.8
Suba	23.9	31.7	36.0	47.0	75.0	42.3
Nyando	22.8	17.8	38.0	49.0	61.0	39.9
Rachuonyo	24.5	27.5	40.0	49.0	64.0	41.7
Kuria	14.3	38.6	42.0	40.0	70.0	40.3
Gucha (S. Kisii)	12.3	33.2	39.0	43.0	53.0	37.5

Kenya - Human Poverty Index (HPI), 2004 (cont.)

District/ Province	Underweight children Below 5 years (%)	Adult Illiteracy (%)	Without access to Safe drinking water	% Not expected To survive beyond 40	% With poor access To qualified doctor	HPI 2004
Kisii Central	19.4	32.3	42.9	42.0	52.0	37.9
Kisumu	20.9	16.2	54.6	52.0	65.3	43.6
Siaya	22.3	30.3	36.9	48.0	64.0	41.1
Homa Bay	28.1	30.6	37.0	46.0	76.0	42.5
Migori	26.8	29.2	38.0	47.0	72.0	42.1
Nyamira	17.9	35.9	33.0	39.0	66.0	38.0
R/Valley	**23.1**	**37.5**	**51.1**	**30.9**	**67.8**	**41.0**
Baringo	22.1	19.8	62.0	31.0	55.0	35.8
Kajiado	21.3	51.4	32.9	31.0	68.8	42.8
Kericho	13.9	22.4	49.0	30.0	45.1	30.5
Laikipia	20.8	28.9	52.7	31.0	84.0	40.5
Nakuru	21.7	17.2	45.9	32.0	52.0	32.3
Nandi	26.1	17.9	40.1	29.0	60.8	32.8
Narok	22.5	51.3	52.5	30.0	71.0	45.2
Samburu	26.8	72.4	32.58	33.0	75.0	55.2
Trans Nzoia	21.0	31.6	41.4	31.0	54.1	34.2
Turkana	27.5	55.3	59.0	32.0	75.0	49.2
Uasin Gishu	18.3	16.4	26.3	29.0	72.7	30.9
West Pokot	27.9	57.7	81.0	30.0	86.4	54.8
Bomet	22.4	28.9	38.0	30.0	65.0	34.6
Buret	23.6	44.6	38.0	30.0	67.0	40.2
Keiyo	26.3	49.0	68.0	31.0	74.0	47.6
Koibatek	26.2	40.5	69.0	35.0	71.0	45.3
Marakwet	27.3	23.2	78.0	30.0	75.0	44.1
Trans Mara	19.4	46.1	53.0	32.0	68.0	42.7
Western	**21.3**	**32.1**	**39.4**	**43.8**	**65.7**	**40.2**
Bungoma	21.1	24.5	51.9	44.0	55.9	39.1
Busia	15.7	35.7	45.6	48.0	61.1	42.1
Kakamega	29.6	23.7	38.2	45.0	71.9	40.9
Lugari/Malava	14.3	35.2	32.0	40.0	68.0	37.9
Mt Elgon	24.6	36.9	38.0	39.0	72.0	40.5
Teso	25.0	38.5	35.0	47.0	77.0	44.0
Vihiga	17.9	31.3	34.0	43.0	61.0	37.9
Butere/Mumias	21.8	30.9	41.0	44.0	59.0	39.3
Kenya	**18.9**	**29.4**	**39.9**	**35.8**	**59.2**	**36.7**

Technical Note 1: Human Development Index

The human development index (HDI) was calculated as an average of four indices:

- Life Expectancy Index (LEI)
- Adult Literacy Index (ALI)
- Combined Gross Enrolment Index (CGEI)
- Adjusted real GDP per capita (PPP$) index (APPI)

a) Life Expectancy Index (LEI)

Life expectancy index was calculated using life expectancy at birth and the minimum and maximum values set. The UNDP formula provided in the GHDR was used.

LEI = (Life expectancy at birth – minimum value) / (Maximum value – minimum value).

The set maximum and minimum values are 85 years and 25 years, respectively.

For Kenya:
LEI = (56.6 -25)/(85-25) = 0.527

b) Adult Literacy Index (ALI)

The adult literacy index was calculated using adult literacy rate and the set minimum and maximum values specified with the following formula:

ALI = (Adult literacy rate – minimum value) / (Maximum value – minimum value).

The set maximum value is 100 and the minimum value is 0.

For Kenya:
ALI = (70.9-0)/100-0 = 0.709

c) Combined Gross Enrolment Index (CGEI)

The combined gross enrolment index was calculated from enrolment ratios for primary, secondary and tertiary education. Enrolment ratios were obtained by dividing the number of people enrolled in each education category by the number of people within the required age group. The required age group for primary education is 6-12 years, for secondary 13-17 years and for tertiary 18-22 years.

The combined gross enrolment ratio (CGER) was calculated as a ratio of overall enrolment in primary, secondary and tertiary education.

The CGEI = (CGER – Minimum value) / (Maximum value – minimum value).

Where the maximum value is 100 and the minimum value is 0.

For Kenya:
CGER = Total enrolment/total population = 6,659,329/13,140,044 = 50.7
CGEI = (50.7-0)100-0 = 0.507

d) Adjusted Real GDP per capita (PPP$) Index (APPPI)

This was calculated by using the following UNDP formula:

APPPI [(Log (discounted maximum value) – (minimum value)]

Where: Minimum value is $100 and maximum value is $40,000.

Discounted maximum = US$ 6,154 (PPP)
Real GDP = GDP in 1982 prices
Real GDP per capita = Real GDP/population
GDP = Gross Domestic Product

For Kenya: APPPI = [Log (1,022) – Log (100)]/[Log (6,154) – Log (100)] = 0.482
HDI was thus calculated as an average of LEI, Educational Attainment Index and APPPI.
HDI = (LEI + EAI +APPPI)/3
Where: EAI = [(2*ALI) + CGEI]/3

For Kenya:
HDI = (0.527 + 0.642 + 0.482)/3 = 0.550
Where: EAI = (2*0.709 + 0.507)/3 = 0.642

APPENDIX 5: DATA SOURCES

Data Sources

This report has utilised data from sources of different quality. It is thus important to explain how the information was collected, its quality and the underlying concepts used in collecting the data. Such a review helps the user and reader to better understand and interpret the data.

Data for the HDR were mainly generated from three sources: administrative records, population and housing censuses, and sample surveys. Some of this information was in published form while most was unpublished. While the published information was largely in its finalised form, most of the unpublished data were raw, in the sense that they were undergoing further analysis in preparation for publication. Such raw data are likely to change, albeit slightly, after further validation, and are therefore provisional.

These data sources are reviewed below with a view to judging quality and limitation of usage, especially in making spatial and temporal comparisons.

Administrative Records

Administrative records mainly generated school enrolment data from the Ministry of Education for the HDR. The main weakness is incompleteness in primary and secondary school data, where only enrolment data on public schools is complete. The enrolment data for private schools is either incomplete or totally missing. The shifting of data collection responsibility from the ministry to the Teachers Service Commission is the main cause of this weakness; the latter has failed to effectively collect data from private schools. Aggregated data on tertiary training were available from the Ministry of Education. Data from household surveys were also used.

Sample Surveys

Most of the HDR data are derived from sample surveys conducted by the Central Bureau of Statistics. The main surveys generating the data are the 1994 Welfare Monitoring Survey (WMS) II, the 1997 WMSIII, the 1998 Kenya Demographic and Health Survey (KDHS), the 1998/99 Integrated Labour Force Survey and the 2000 Multiple Indicators Cluster Survey (MICS).

The main limitation in the data is the aggregation level. The survey results are reasonable at national and provincial levels of aggregation. However, the precision of the estimates declines when we attempt to disaggregate the results to district level. This is mainly because the sample size is reduced as we move from province to district as the domain of study. This becomes more acute where there are high non-responses.

The other limitation is omission of the rural areas of North Eastern Province and three other ASAL districts of Marsabit, Turkana, Samburu and Isiolo. The surveys cover only the urban clusters in these districts. Of the above, rural components of such areas were listed by use of special sampling methods for such 'floating populations'. Therefore, results from these districts should be indicated as representing the urban, i.e. North Eastern (urban). The urban results become more unreliable as we go down to districts and individual towns. For example, only one cluster was covered in Isiolo town during the 2000 MICS. All seven responding households had tapped water. So generalising this observation to the district or the whole town is very misleading. To overcome this problem, figures from these regions were adjusted by a computed ratio of urban to rural for the respective provinces.

Population and Housing Censuses

Data from the censuses are more reliable since they emanate from complete coverage. In particular, they are the only sources of benchmark data for estimating and projecting demographic indicators such as life expectancy at birth, mortality and fertility.

Annual Publications

Use was made of published data contained in the two annual publications of Statistical Abstract and Economic Survey. The figures are reliable but limited to national aggregates. The other caution is that the current year figures are always provisional and hence subject to change in the subsequent editions.

Comparability and Trends

Constructing a trend using data from different surveys can be problematic, especially when there are differences in survey methodology in terms of coverage, data collection methods and questionnaire content. Also, spatial comparability of the results is limited if data were from different sources.

Definitions of Concepts and Statistical terms

This section attempts to explain the main concepts and unfamiliar terms in-built in the data contained in the HDR.

GDP (gross domestic product) The total output of goods and services for final use produced by an economy, by both residents and non-residents, regardless of the allocation to domestic and foreign claims. It does not include deductions for depreciation of physical resources or depletion and degradation of natural resources.

GDP index One of the three indices on which the human development index is built. It is based on GDP per capita (PPP US$). For details on how the index is calculated see technical note 1.

Gender-related Development Index (GDI) A composite index measuring average achievement in the three basic dimensions captured in the human development index – a long and healthy life, knowledge and a decent standard of living of living – adjusted to account for inequalities between men and women. For details on how the index is calculated see technical note 1.

Human Development Index (HDI) A composite index measuring average achievement in three basic dimensions of human development – a long and healthy life, knowledge and a decent standard of living. For details on how the index is calculated see technical note 1.

Household House is the unit of enumeration that is used in all household-based sample surveys and population censuses. It is defined as a person or a group of persons residing in the same compound, answerable to the same head and pooling and sharing resources for common provisions such as food and house rent.

Household Income Household income covers all receipts that accrued to the household or its individual members. It is the sum of primary income (consisting of income from paid and self employment), property income (consisting of imputed rents of owner-occupied dwellings, interest received and paid, dividends received, and net rents and royalties received for the use of buildings, land, copyrights and patents), current transfers (consisting of social security benefits, pensions and life insurance annuity benefits, alimony etc.) and other benefits received by all the members of the household.

Household Expenditure Household expenditure may be split into consumption and non-consumption expenditure. The household expenditure data contained in the HDR report refer to consumption expenditure that includes only goods and services that are acquired or purchased for household use. Consumption expenditures are further split to cash purchases and imputed expenditures. The latter include the value of goods and services produced and consumed by the household during the reference period, such as consumption from own business stocks or from own agricultural production, imputed rent value of owner-occupied housing and gross rental value of free employer-provided housing occupied by the household. The former covers actual expenses met by the household in paying for consumption goods and services.

Industry Industry comprises mining, manufacturing, construction, electricity, water and gas.

Industrialisation This includes understanding how industry spreads and what social modifications are involved. It therefore involves wider social and economic conditions within which particular industrial production processes develop, and the extent to which such processes have become so widespread as to create what would be called a fully industrialised society.

Institutions: 'Institutions' are used here in the narrow sense to refer to bodies that support industrial technology, such as education and training, standards, metrology, technical extension, R&D, long-term credit, technology and export information and so on. They may be government run, started by the government but run autonomously, or started and managed by industry associations or private interests. Many are set up on non-market terms, at least initially, in response to perceived gaps in the market provision of inputs. The catalytic role of government in launching many institutions is acknowledged, as is the fact that such interventions are often highly selective and geared to the objectives of industrial policy.

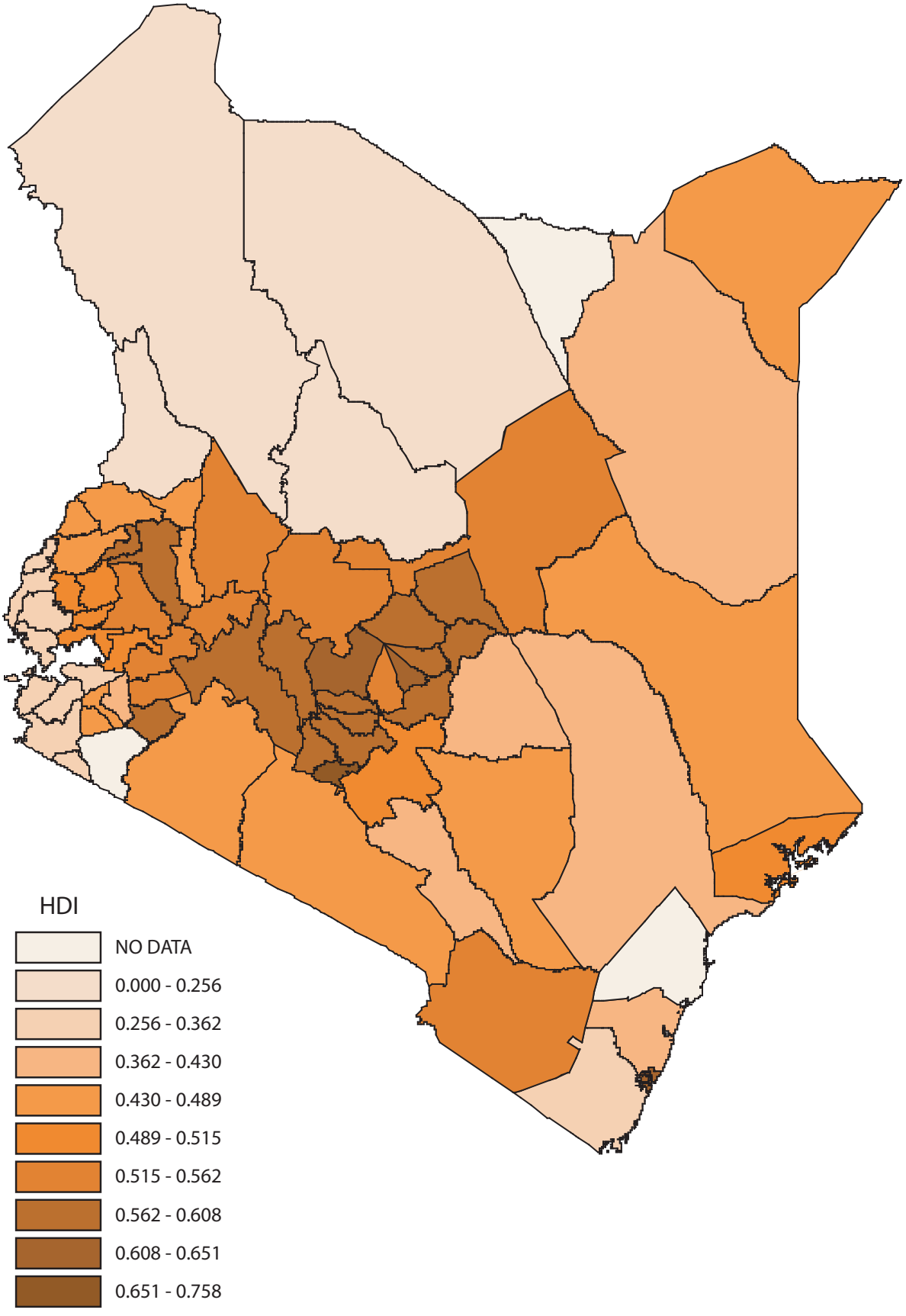
Life Expectancy Index One of the three indices on which the human development index is built. For details on how the index is calculated see technical note 1.

PPP (Purchasing Power Parity) A rate of exchange that accounts for price differences across countries, allowing international comparisons of real output and incomes. At the PPP US$ rate (as used in this Report), PPP US$ 1 has the same purchasing power in the domestic economy as $1 has in the United States.

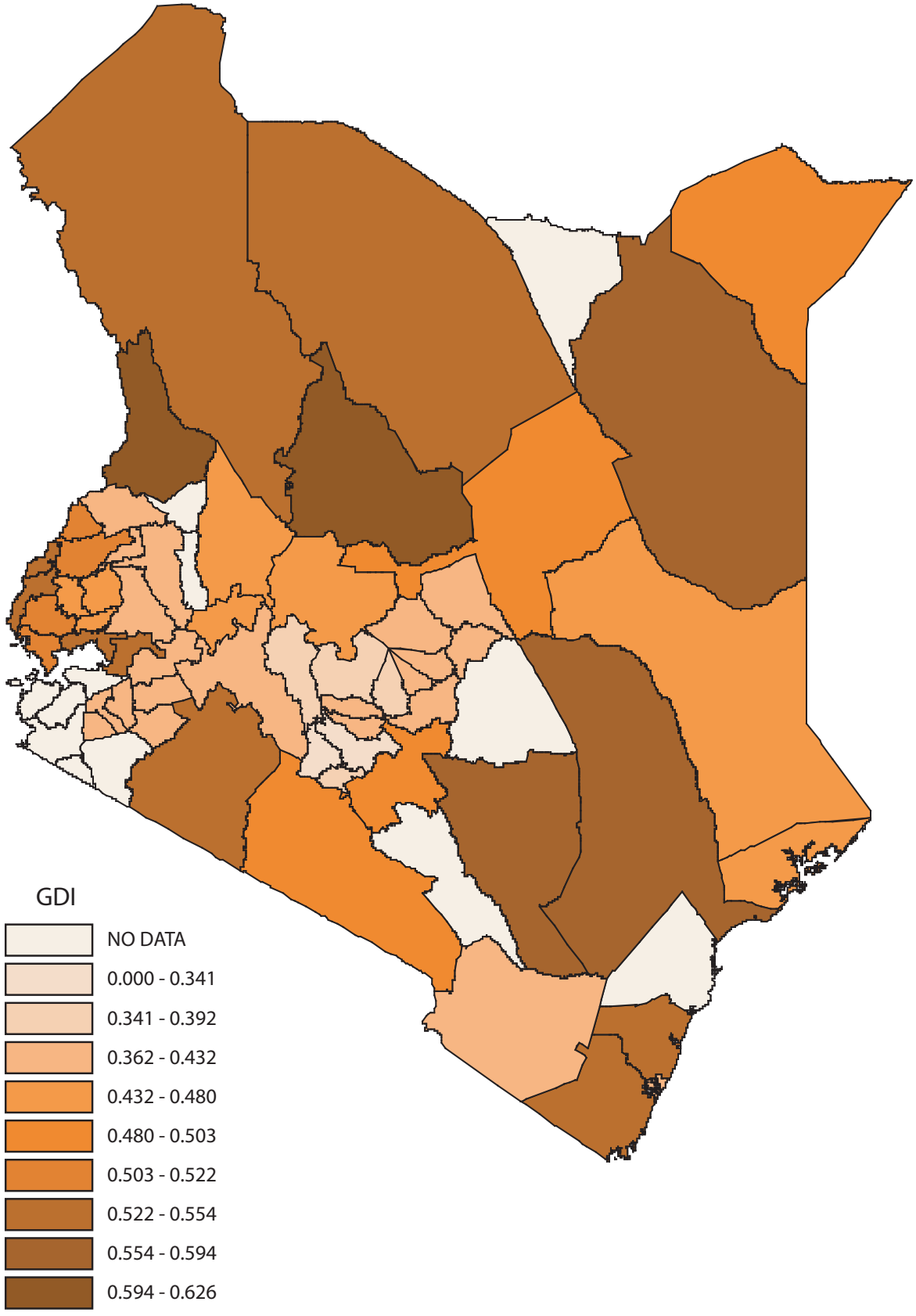
Unemployment and Unemployment rate Unemployed persons generally include those who reported during the reference survey period that they were without work, and were both available for work and seeking work. The unemployment rate is the percentage of unemployed to the total labour force, where labour force is the sum of employed and unemployed.

Work and Employment The concept of work covers all persons undertaking economic activities for pay, profit or family gain. The term employment refers to performance of work. Employed persons include paid employees, self-employed (working employers and own account workers), unpaid family workers and apprentices. Employed persons so defined may work in any of the non-overlapping sectors of the economy, i.e., modern sector, informal sector or small-scale agriculture and pastoralist sectors.

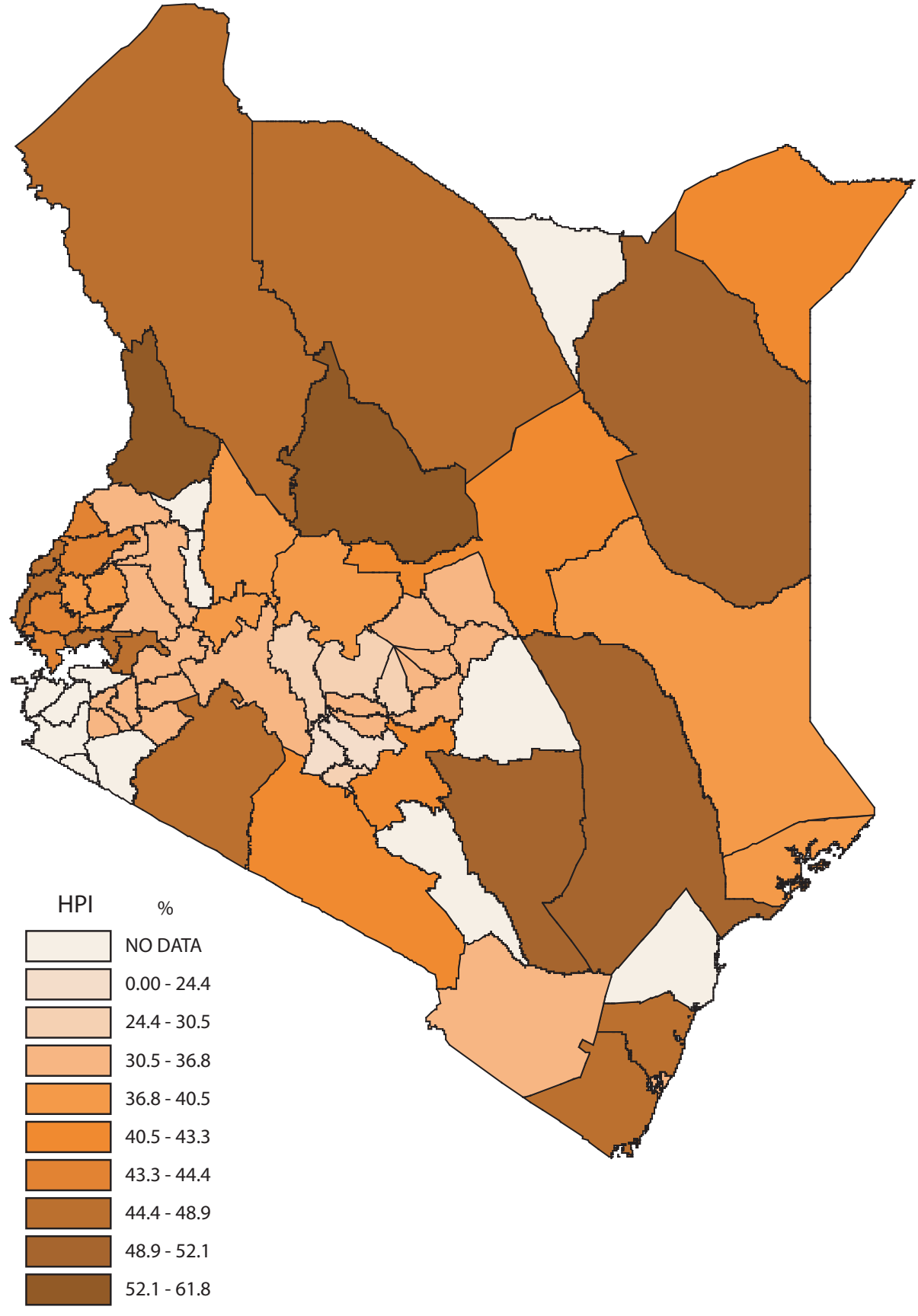
Kenya-Human Development Index (HDI), 2004



Kenya: Gender-Related Development Index (GDI), 2004



Kenya - Human Poverty Index (HPI), 2004



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