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ASSESSMENT OF THE GLOBAL COMPETITIVENESS OF KENYA'S INDUSTRIES

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KENYA

Report

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Executive Summary

1. This Global Competitiveness Review provides an assessment of Kenya's industrial sector and competitiveness issues and proposes a medium-term development scenario based on industrial restructuring and upgrading. The main objective is to provide a consistent policy framework for government action, if the long-term industrialization goal is to be made achievable. Competition, incentives, regulatory reform and production/trade logistics are naturally the primary concerns; but these are only standard policy requirements. Since the global competitiveness approach is not just a matter of "market friendly" set of policies confined to support for human capital formation (education and health), openess to information flows (technology inflows from abroad), and export promotion, the report tries to integrate into a consistent framework inter-related elements affecting the development of industrial (technological) capabilities.

2. As a consequence of its past inward-looking policies and technical inefficiencies brought about by regulatory distortions and inconsistency in the incentive regime, Kenya's industry has come under heavy adjustment pressure. The adverse effects of an inward-looking trade regime on both industrial competitiveness and export performance have been comprehensively outlined in various official papers. The need for policy change was confirmed by the IVth Development Plan (1979-83) which acknowledged that "past industrial growth had been fostered by excessive protection, resulting in an industrial sector which was uncompetitive, overly capital intensive in relation to Kenyan factor endowements and a heavy net consumer of foreign exchange". Such industries have attracted resources from more productive sectors in the economy. Moreover, the inward-looking trade was inimical to export orientation as it created considerable opportunities for rent seeking rather than economic efficiency and competitiveness. Structural reforms were felt more pressing as a rapidly growing population put further strains on the economy.

3. A DRC analysis in 1986 revealed that Kenya's industrial sector in general displayed short-run efficiency, but long-run inefficiency, implying that current firms could not replace their existing assets under more competitive conditions. Wide variations in efficiency were observed across subsectors and between industries within a given sector. Nevertheless, large parts of Kenya's industry appeared capable of withstanding import competition given the underlying tariff structure. There are, however, a number of activities which are fundamentally inefficient from an economic standpoint, which suggests they may be subject to adjustment pressure in case of further trade liberalization. What appears to be the main constraints to their competitiveness could be put on the account of such factors as various input supply, equipment age, small scale of operations, skill and marketing deficiencies. Under such conditions, it is unlikely that the desired extent and form of restructuring would emerge simply as a result of lowering protective barriers on existing firms.

4. A comprehensive and far reaching adjustment programme for industry was launched in 1988. This was actually the first of a series of operations especially

designed to improve the efficiency and competitiveness of Kenya's industrial sector and to expand manufactured exports. The programme has been built on a six-year trade liberalization process. Other programmed reformed measures included: adjustment of price controls; removal of all import licenses and exchange controls; investment incentive reform; public industrial enterprise reform; and the improvement of the financial system.

5. While the policy changes since 1988 have improved the prospects for economically efficient activities, the restructuring process in Kenya - involving investments in new promising activities and changing the structure of inefficient existing firms - has been particularly slow. Frequent *ad hoc* changes in policy in the past (e.g. volte-face in the reform process in the course of 1993, which was itself reversed later on following donor pressure) may have delayed new investments in activities where the profit potential has been enhanced and retarded the exit of others where profitability has been eroded under the new policy regime. Lack of confidence and uncertainties delay the restructuring process. Some of the policies introduced have not been effectively implemented. In addition, a number of policy distortions still remain, blurring the clarity of market signals. Lastly, poor infrastructure and supporting business services, lack of information (especially within firms without active foreign participation) on emerging market opportunities, and available technologies and production options, as well as inadequate manpower and management structure, all in all pose also considerable constraints to successful restructuring. The creation of an enabling environment for successful restructuring requires the removal of those constraints, improving access to resources including foreign exchange and short/long term financing, as well as technical assistance, preferably through private channels and on an eventual cost recovery basis.

6. The determinants and constraints which affect the enterprise competitive environment are identified to be the following:

   (i) *Trade and competition policy*. Competition and industrial adjustment in Kenya have been stifled by numerous trade restrictions, fiscal privileges and regulatory constraints. Besides distorting the relative price structure, regulations are often used as entry barriers. The domestic market is still protected by pervasive tariff and non-tariff barriers, sometimes undercut by illegal and unfair trade practices. On the fiscal front, discretionary regimes and exceptions create competitive biaises between beneficiaries and non beneficiaries. Rigidities in the labour market, stemming from constraining firing and wage setting procedures, hinders firms' flexibility and ability to adjust labour costs and skills.

   The Government has recognized the need for a complete reform of competition policy based on freedom of pricing, effective internal and external competition through trade liberalization, tax reform and the removal of regulatory barriers to firm adjustment. At the same time, adequate safeguards against restrictive practices on the part of management and labour, abuse of market power and import predatory pricing would be provided.

It is fair to recognize that Kenya still has not had much experience in enforcing the law against restrictive trade practices. To this regard, it is recommended to seriously consider the creation of an independent *Competition Commission*, which would act as a watchdog on all matters related to internal and external competition. This Commission would advise the Government on measures to be taken to maintain fair business practices and investigate claims. Given the size of the country's economy, it would perhaps be better to extend its mandate to cover other policy-imposed constraints to firms' competitiveness adjustment and advise on all market distortions including trade and labour market regulations. The Commission's institutional arrangements would be inspired from those prevailing in other countries *(see World Bank, ISP no. 43, February 1991)*. Its members would represent the Government (executive and judiciary), the private sector, and consumer representatives. The balance between its investigatory, executive and advisory powers on unfair practices will naturally need to be carefully thought through in the Kenyan context to ensure it is sufficiently insulated from political pressures to keep its independence and serve a fair purpose.

(ii) *Export promotion*. The 1993 survey of exporting firms under the UNDP/World Bank Trade Expansion Programme shows that installed manufacturing facilities would require considerable strengthening and reorientation to enable firms to sell their products in more demanding markets of industrial countries. Missing in Kenya is access to consulting services in market research and exploration, product & packaging redesign, product inspection and improved quality control systems, cost reduction at all stages of supply, travel to export markets, preinvestment studies for export projects, distribution and selling operations in export markets, or the acquisition of design and process know-how.

Against this background, success in export development will depend, to a large extent, on government's willingness to implement a two-facet export strategy including, on one hand, the design and implementation of efficiently administered incentives and export procedures, and, on the other, the development of institutional support services. In this regard, the establishment of a presidential-level council based on the Korean model, which hears cases of dysfunctions in export policies and services (marketing, procedures, ...) as well as proposals to improve promotion, could provide a valuable starting point.

The export incentive schemes (DVR, MUB, EPZ) apparently need further revision, as they show important weaknesses in their implementation procedures. The MUB scheme is plagued by on overly bureaucratic application process that limits access to the programme and unnecessarily delays the investment process. Once operational, MUB firms are commonly confronted with multiple clearance requirements. Likewise, hard criticism has been directed at the DVR scheme for its complexity and its documentary requirements. Finally, the implementation of the EPZ programme remains problematic, due to factors such as failure to consolidate regulatory control of

the programme under the EPZA, and critical need for the adoption of formal and explicit application, designation, and operational procedure. Once these problems are resolved, the Government can turn to removing some of the distortions among different schemes. The most striking area of inconsistency lies in differences in treatment between the MUB and EPZ programmes.

On the institutional front, the KETA experience of central provision of services to exporters has not been successful in Kenya as in anywhere. It is based on the misconception that what is required is one single central supplier of services. In reality, only an active market of many specialised commercial service suppliers can ever hope to meet the various firm-level demands of export expansion. On the other hand, the Export Promotion Council (EPC), as a structure intended to be a useful formal channel operating at the highest level, has yet to prove its usefulness to the exporters. For the time being, it continues to face a great deal of cynicism and disillusion amongst the exporting community, as to whether the Government really would start listening to them in detail, and take action to keep improving the regulatory environment. Long years of heady high-level pronouncements, followed by continuing obstruction at the operating levels, had fostered this cynicism; and the EPC has so far done little to shift that cynicism. The general concern is that the EPC sees itself as filling the role that KETA had failed to fill. If so, this would be a counterproductive diversion from its real role, that of providing an effective dialogue channel for exporter feedback to the Government.

(iii) *Investment promotion*. Kenya has been going through a period of ambiguous transition, and is now in the middle course between an environment characterized by rigid regulations and state intervention, and a new environment that is only partially defined, with the rules of the game not always explicit for the private sector. In this context, investment promotion should particularly focus on restoring the country's image. Effective investment promotion would include undertaking image-restoring measures to counteract lingering negative image, as well as a clear articulation of what the Government wants from domestic and foreign investment and then targeting promotional efforts on relevant groups of potential investors.

Especially with regard to foreign investment, what matters is not the absolute level of incentives Kenya offer to potential foreign investors but the relative attractiveness of Kenya as a destination of an increasingly mobile international capital. The experience of other countries in attracting foreign investment would provide important lessons. Tax holidays and other fiscal incentives are usually not the decisive factors in attracting foreign investors and may, on the other hand, hurt the country by encouraging the possible exit of firms once the period of tax holidays is over. Increased automaticity and transparency of incentives and regulations could be more important to foreign investors than tax breaks.

Perhaps, the single biggest obstacle to Kenya's investment development is the general perception that Kenya is a difficult place to do business. To break free of this reputation, the country must make sure that the business environment is more receptive to the investors' needs, by simplifying approvals and authorizations affecting the business transaction. To this regard, what is required is to achieve a balance between, on the one hand, the government's legitimate interests in intervening in the business transaction, and, on the other, the intense international competitive pressures on the manufacturer, compelling him to minimize the costs, delays and uncertainties affecting the transaction.

Views have been expressed that recent reforms in Kenya's company income tax have made it very competitive among developing countries from the standpoint of business taxation; so rather than the *ad hoc* preferences which are costly to administer and add little to investment decisions, the Government would better create a more attractive climate for investment by further reducing the number of licences and registrations required (e.g. abolitions, not temporary waivers) and streamlining the administration of the remainder.

(iv) *Regulatory framework*. Rationalizing the regulatory framework stands out as one of the most important measures to restore Kenya's image. It is often cited that among the biggest impediments to the investment production and export performance of small & medium-size firms - over which they have no direct control - are various government regulations, bureaucratic procedures and official discretions. In addition to national trade licences, under the *Trade Licensing Act*, every local authority requires all a range of business licences. They vary greatly, depending mainly on the fiscal needs of the particular local authority. According to several government officials, there has been a rapid expansion since the 1980s in the diversity of licences and levels of fees at the local level. This has been driven largely by the increasing cost of local service provision, due mainly to population growth. Enterprises now face a multiplicity of licences that seriously impinge on their business decisions, especially for geographically diversified firms.

The major issue in the regulatory framework, however, is not the regulations as such but the manner in which they are implemented and administered. The very existence of numerous laws and regulations is an encouragement to corruption and uneven treatment. Clear and simple laws, effectively implemented are necessary for stable expectations which are essential for investors who have to commit themselves to long-term business decisions. Uncertainty about the rules of the game, including the capricious interpretation and actions of implementing officials, is often more important to foreign investors than tax exemptions on profits yet to be made.

(v) *Labour market policy*. Labour market policy constitutes another highly regulated area which affects firms' flexibility to adjust labour costs and skills. According to the World Bank *(WB/COD, 1993)*, two of the features of this

policy need to be revised and amended. These concern the restrictions on permanent layoffs and the wage guidelines. Although the motivation for both is to protect and increase employment, they may be counter-productive in the long term.

(vi) *Infrastructure and public sector efficiency*. Various survey reports have highlighted that public infrastructure inadequacy is a major constraint on enterprise efficiency and competitiveness. This reflects declining investment effort by the Government. The share of maintenance and new investments in roads, transportation, communications, electricity, gas, steam and water fell from 9.8% of total central government expenditures in FY1981-85 to 6.2% in FY1986-90, and to 3.6% in FY1990-93.

The causes of public infrastructural failures are of two kinds. The first is relatively well understood and relates to shortcomings of the technology which is used in the public sector, including problems in the day-to-day management and operations and maintenance (O&M) of the facilities. The second is more complex in nature and less well controlled: it is associated with general problems of administration, bureaucracy, planning, metering, billing for services delivered, revenue collection, personnel training in the public sector, and lack of appropriate incentives for management and personnel. This second set of factors has remained the key problem over the years because further investments in additional facilities are easily rendered ineffective if the institutional organization and logistical support systems are lacking.

The efficiency of the parastatal sector in infrastructure service provision in Kenya has been amply examined by the World Bank, which concluded that this sector has not been an effective vehicle for efficient investment and growth. The major findings on investment, efficiency and growth are highlighted here. During 1986-90, the public-enterprise sector accounted for 16% of gross fixed capital formation. However, whereas overall GDP grew at an average rate of 5% p.a., the average growth of the parastatal sector was 0.5% p.a.. The ICOR (a proxy for the efficiency of investment) during this period was 7.8 in majority-state-owned enterprises and 10.8 in minority-owned ones, while that for the rest of the economy was 3.7; this indicates that on the average, it took more than twice the amount of capital to produce a unit of GDP in the parastatal sector as compared to the rest of the economy. Whereas Total Factor Productivity (TFP) growth (a measure of efficiency in the utilization of both capital and labour) during 1986-90 averaged 5.4% a year for the economy as a whole, it was negative in the parastatal sector. In fact, according to the Bank, had productivity growth in the parastatal sector matched that in the private sector, overall GDP growth during this period would have been higher by two percentage points a year. There is clear evidence that the parastatal sector is a drag on Kenya's economic growth.

The Kenyan Authorities have recognized the need for a comprehensive reform (including privatization) of the sector, and are implementing a reform programme with the assistance of the Bank and other donors.

(vii) *Basic production factors*. A recent study undertaken under the KEDS project to examine the current export competitiveness of Kenya with respect to a selected group of African countries, has ranked Kenya highly competitive in terms of its basic economic factors. Land and facilities for most export operations are readility available at a reasonable cost, matched only by Mauritius and South Africa. Labour is a key advantage, with competitive wages and reasonable productivity. Basic infrastructure in Kenya is generally solid and competitively priced. The cost and reliability of utility services are favourable, compared to regional standards, although recent shortages in electricity and water supply have proven problematic in some areas of the country. There are, nevertheless, notable shortcomings in the areas of export financing and trade & transport logistics.

7. Turning now to the micro-level technical change in Kenya's industry, there is clear evidence of the lack of technological capabilities to proceed with technological upgrading. This reflects the Government's inadequate support to such issues as the technology import policy, skill development, technological infrastructure and the like. These issues provide a major agenda for government attention, if the country's industrialization goal is to be made achievable. They must be brought forward in the 1996 Orientation Paper for Industrialization and translated into concrete action plans in the next planning cycle. They concern the following:

(i) *Skill development*. The main component of human capital should be the level of skill accumulation acquired by experience (reference to the learning process), to which formal education is only a favourable or enabling condition. The skills which deserve immediate attention are the provision of better and more training in specific industrial skills for the most important industry clusters which would form the dynamic edge of industrial growth. This need not wait for longer-term investments in education and vocational training, which are of course also necessary.

(ii) *Industrial upgrading*. The rapid pace of technological change means that all industries have to be geared to coping with new products, processes, equipment and organizational systems. Surveys in Kenya's industry *(RPED, 1994/95)*, however, suggest that large parts of industry are not in a position to cope efficiently with the technologies that they already have (a large proportion of the equipment is found to be more than 20 years old). The level of productive efficiency and quality tends to be low, and most firms do not (or do not know how to) undertake the training and technical effort needed to approach "best practice" levels of efficiency. Market failures are rife here: information is lacking, costs and returns are risky and unpredictable, there are massive externalities and institutional support is weak.

(iii) *Technological capability strengthening*. According to the RPDE survey, technology import in Kenya relies, to a large extent, on direct investment and on imported plant equipment, foreign licensing plays a minor role. With regard to technological development, action at the firm level is only modest (so far,

most industries get their technology "embodied" in equipment). Technical progress comes in the form of new machines, while adaptations and further development are very rare. The general picture is that of an industry which lacks dynamism and adaptability, using the technology as delivered by the equipment suppliers, with hardly any independent attempts at technological development or even improvement. This is due to the fact that the skills required to develop technology are severely missing. While this can be blamed on the shortage of appropriate training, there appears to be a general lack of incentives for undertaking technological improvements.

(iv) *Total quality management*. Because of the lack of adequate attention to issues concerning technology acquisition, most of the technology imports have been realized without considering their cost effectiveness; often second-hand and obsolete technologies are used in industries. For the majority of firms, this poses an enormous problem for the introduction of total quality management systems. Such a move would require that quality concerns are early introduced, at the initial stage of technology acquisition, while negotiations on technology imports would take into account the factor that the country needs to compete at the international level on the basis of quality.

Without due considerations on such policy issues that constraint the local firm's capabilities to innovate and raise the quality of their products, it would not be surprising if the Kenya Bureau of Standards (KBS) on its own could not effectively manage to solve issues on quality standards of goods and services under the prevailing conditions of Kenya's manufacturing. The nature and magnitude of the problem go beyond the KBS's present mandate and capability to enforce the required standards, which supposes that the enforcement of standards would be voluntary (with in-house quality control) and KBS would only intervene where minimum standards are not being observed. It is worth noting that over 80% of Kenyan enterprises do not reportedly have in-house standards.

(v) *Technological policy and infrastructure*. In Kenya, much still has to be done for having a consistent S&T policy, in line with the industrialization requirements of the country. The issue of promoting and diffusing enabling technologies and their impact on competitiveness standards has not yet been properly addressed. Kenya has not yet a systematic and coordinated technology policy which can shape the country's future industrial development; it lacks a legal and institutional framework for handling technology-related issues *(Coughlin & Ikiara, 1991)*. Important questions are still pending, such as: (i) whether the present S&T system with its current institutions is the most suitable; (ii) whether there is adequate institutional infrastructure for effective transfer and utilization of technology; and (iii) whether the necessary training of engineers, scientists and technicians is being catered for. Several gaps exist in the process of technological development.

Official efforts have so far been concentrated on large public research institutes (KARI, KIRDI) that have proved to be divorced from production and contribute little, if any, to technological upgrading in industrial enterprises. At the other end, Kenya severely lacks capabilities to provide relevant advice and information to technology users, cannot evaluate and screen foreign technology, and is not able to formulate appropriate technology policies and plans. Most of these functions are left to private importers and technology suppliers. It is well known that Kenyan recipients of patented technologies have no easy access to information concerning alternatives. In some cases, ignorance of international patent law has led to the continuation of royalties payment long after the patent was expired and thus freely available *(REDP, 1994/95)*.

The key to strengthening Kenya's technological performance will be found in improved performance in the acquisition of foreign technologies. This in turn will first require increased skills at the level of enterprises, since the past record has many examples of technology transfer arrangements which have not added to the domestic technological capacity of Kenyan groups. The RPDE survey *(1994/95)* has virtually encountered no evidence of any group of specialists (either in the public or in the private sector) who are experienced in the field of the international transfer of technologies, and so those who enter the bargaining process appear to have had little expert assistance.

(vi) *Capital investment and efficiency*. This last issue is also of critical importance for successful industrialization. Physical capital endowments and the rate of investment are clearly important in explaining the share of industry in GDP and its growth rate over time. However, the relationship between physical capital and output are not uniform: it is the variations in the capital-output ratios that is of main interest. There is little evidence that physical capital is correlated with technological capacity (hence industrial competitiveness). It is only when technological capabilities are equal that different rates of investment show up directly as differences in industrial performance.

Increased efficiency in the use of capital will reduce the extra investment effort required to achieve the growth target. For instance, to maintain a 7% growth target, the investment-to-GDP ratio of about 43% would be required if the ICOR were 6.6, and would stay around 26% if the ICOR could be lowered to 4.0 (according to the World Bank calculations).

8. In Kenya's policy reform process, the approach to industrial competitiveness has been generally characterized by a move towards a more open and market-oriented regime, with greater reliance on private business and less direction of resource allocation. The legitimate functions of the Government are viewed as a set of "market friendly" policies confined to support for human capital formation (education and health), basic infrastructure provision, regulatory reform to allow more openess to information flows, and export and investment promotion. Industrial policy, if any, is geared to the promotion of foreign investment and export

activity through tax and fiscal incentives; selective interventions and incentives to overcome the technological learning process (which is prone to be slow, risky and largely unpredictable) are largely absent from the process. While it is important to note that export-orientation policy provides healthy incentives for industrial and competitiveness development, the ability to respond to these incentives still depends on the skills and technological endowements of the country concerned. This points to a real cause for concern over the adequacy of such reform approach.

9. As stated in many official papers, Kenya is looking forward to reaching the "NIC status" at horizon 2020. This means that the country has set its sights on reviving its industrial sector to form the dynamic edge of the economy's growth. This also means the adoption of a strategy/policy that will influence resource allocation in favour of "winning" industries to have an impact on competitiveness. There is for the moment no industrial strategy/policy as such.

10. Because the resources and skills in the Government and the economy at large are very limited, it is best for the Government to adopt a targetted approach to industrial development, where it can get the maximum "bang for the buck" in terms of policy response. The basic tenets of such a "targetted" strategy are discussed below, together with a consistent policy framework for conducting the industry restructuring process. Finally, selected back-up programmes are proposed to accompany the efforts of the Government and the private sector in reorienting the industrial sector on the path of efficient growth and competitive development.

    (i) *The strategy*. The important failures existing in many factor markets suppose that the reform process cannot consist simply of a general withdrawal of Government from markets and resource allocation. The best way to approach industrial strategy may be to gear it directly to enhancing industrial competitiveness, for instance, improving the ability of exporters and import-substituting industries to compete in world markets. This requires the following steps to be adopted:

    - *Trace the competitive evolution of each industrial subsectors;*
    - *Within each subsector, identify potential/existing industry "clusters" that can be promoted with the limited resources available;*
    - *Select new areas of competitiveness that need to be developed to diversify its position in world markets;*
    - *Devise appropriate policies to improve their competitiveness;*
    - *Strengthen the information, administrative and human resources needed to implement such policies, including organizational reforms to the government apparatus.*

    The strategy should be guided by a realistic assessment of the competitive potential of various activities, with a clear evaluation of which are viable in the medium term and which are better left to disappear in view of the time and

costs involved. The strategy should be developed after a close study of the industrial sector (with the collaboration of the private sector), and should be pre-announced so that enterprises have time to adjust. Once announced, the Government should stick to the programme to ensure its credibility.

The strategy involves close monitoring of the progress of liberalization, and requires that the Government is able to address the "supply-side" needs of industries along with allowing a phased process of liberalization. After the adjustment process is complete, the Government should retain the option to select and promote a few infant industries at a time to accelerate the process of upgrading the country's comparative advantage.

(ii) *A new policy framework*. The successful implementation of the industrial strategy described above will depend, to a large extent, on the overall economic environment in which it will be implemented, and on a number of specific problems related to industrial performance. These elements are listed below:

- *Macroeconomic stability;*
- *Consensus on unambiguous performance standards;*
- *Clearing the way for medium and long-term productivity gains;*
- *Defining a new approach to Science & Technology policy.*

(iii) *Selected back-up programmes*. The restructuring process will be backed up by three specific programmes. The first (Quality & Productivity Enhancement) is designed to address enterprises directly, removing their infrastructural and institutional bottlenecks to quality and productivity enhancement. The second (Technological Capability Development) is a technical assistance package to strengthen the national project execution and consulting capabilities. International technical assistance (such as UNIDO's) can be sought to set up these two programmes.

The last one is especially designed to assist in the continuing improvement of the competitive environment in which the industries operate. It consists in analyzing the impact of different regulatory systems, including taxation, trade regulations, labour regulations, business licensing, fiscal incentives, factor costs, etc..., and proposing corrective actions to further improve this environment. The programme includes the setting up of a *Competitiveness Committee* which will be responsible for formulating a strategy and reform programme, and acting as a watchdog on all matters related to the competitive environment.

Introduction

1. Kenya's economy is undergoing an important transitional period, the outcome of which will undoubtedly have a marked impact on its industrial development prospects throughout the next decade. The features of this transition relate mainly to: (i) further move towards a more open and market-oriented economic regime, with greater reliance on private business and less direction of resource allocation; (ii) the challenges of a changing world environment, involving growing international trade openess and the intensification of direct competition between countries for markets, capital and technologies (and for skilled personnel); and (iii) the challenges posed by rapid technological developments, altering fundamentally the methods and organization of the production of goods and services, and the skills, information, infrastructure and institutions needed to operate an economy efficiently. The implications of these developments on Kenya's industry[1] need to be carefully assessed in order to bring into sharper focus the country's industrialization needs and priorities.

2. So far, Kenya's industry in general has not been prepared to face such challenges. The Keynian economy is still handicapped by an inward-looking and low-performing industrial sector; the sector continues to be highly regulated, to be dependent not only on imported technologies but also on imported inputs, equipment, and perhaps expertise for their operation. It is clear that the long period of import-substitution industrialization, with the lead taken by public-sector enterprises, left a legacy of inefficiency and technological backwardness. There is a pressing need to upgrade and re-orientate the enterprises on a more competitive basis in order to prepare them to the requirements of new export market opportunities.

3. The development of a dynamic and competitive private-enterprise sector is not simply a matter of "opening up" the economy in a passive sense: it requires the creation of productive factors, skills and supplier systems. Thus, the development of indigenous industrial capabilities and productive systems is a *sine qua non* of industrial competitiveness and long-term industrialization.

4. This Global Competitiveness Review provides an assessment of industrial sector and competitiveness issues and proposes a medium-term development scenario based on industrial restructuring and upgrading. The main objective is to provide a consistent policy framework for government action, if the long-term industrialization goal is to be made achievable. Competition, incentives, regulatory reform and production/trade logistics are naturally the primary concerns; but these are only standard policy requirements. Since the global competitiveness approach is not just a matter of "market friendly" set of policies confined to support for human capital formation (education and health), openess to information flows (technology inflows from abroad), and export promotion, the report tries to integrate into a consistent framework inter-related elements affecting the development of industrial (technological) capabilities.

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[1] The term "industry" is generally used to refer to manufacturing industry in this report.

5. The report is divided into five chapters. Chapter 1 addresses the issue of policy adjustment for competitiveness and examines the need for restructuring the industrial base. Chapter 2 analyzes the structure and performance of the industrial sector and explores its potential as to efficiency and competitiveness. Determinants and constraints of the enterprise competitive environment are then examined in chapter 3. Chapter 4 tackles competitiveness analysis from the vantage point of technological capabilities. And the last chapter proposes a strategy of industrial restructuring and upgrading (geared directly to enhancing industrial competitiveness) and devises a policy framework and selected back-up programmes to support the effective development of the proposed strategy.

1 Competitiveness and Adjustment

6. We start with this policy review to gain more insight into the competitiveness pattern of Kenya's industry. Past Government policy used various trade diverting measures to encourage growth of the manufacturing sector. The national currency was overvalued, partly to keep the price of imported "essentials" and inputs low. The overvalued currency was supported by restrictive trade and capital controls, together with administrative rationing of foreign exchange. The main means of protecting local industry was to prevent competitive imports through quantitative restrictions and tariffs. This was combined with lower tariffs and/or priority allocation of foreign exchange for imports of capital goods, raw materials and intermediate inputs.

7. Excessive protection fostered the growth of industries which were "mostly uncompetitive, overly capital intensive in relation to Kenya's factor endowements and heavy consumers of foreign exchange". The industry adjustment programme started in 1988 is a step forward to improve the efficiency and competitiveness of Kenya's industrial sector, but it is clear that Kenya's potential for efficient industrial growth cannot be achieved without a major restructuring of the industrial base.

Import Substitution Policy and Unsustainable Trade Regime

8. Over the first 20 years or so since independence in 1963, the import substitution policy was the driving force behind Kenya's trade regime. The trade policy's orientation was also influenced by Kenya's membership of a customs union with Tanzania and Uganda which provided, *inter alia*, for joint customs administration. This meant a common external tariff and, with some exceptions, free-duty trade within the three countries. Broadly, average duties were about 30%, with a range of zero for industrial machinery up to 73% for luxury goods. The trade regime allowed for duty rebates and remissions on imported inputs used by exporters, but the procedures were slow and any incentive represented but a small part of the value of eligible exports. There was in fact little emphasis given to exports.

9. Because the joint administration of customs tariffs did not allow the country to unilaterally implement changes in tariffs as a means of providing industrial protection, the Government increasingly resorted to import licensing and administrative controls for protection. During the 1964-72 period, the scope of

import controls was determined by the Ministry of Commerce, and throughout the period there was a progressive increase in the number of items subject to specific import licenses. On the other hand, the domestic currency was overvalued, partly to keep the price of imported "essentials" and inputs low for industry. This overvalued exchange rate was supported by restrictive trade and capital controls, together with administrative rationing of foreign exchange.

10. Studies at that period of time *(Phelps & Wasow, 1978)* confirmed the considerable and varying degree of protection granted to the manufacturing sector. Moreover, the structure of protection was found to have resulted in undue investment in industries which were uncompetitive by world standards, and in a reduction in the productivity of capital investment. For example, Phelps and Wasow described how the system of protection favoured finishing touch industries, taxed the most viable sectors, but did not bias against employment.

11. Nevertheless, there was rapid growth in real GDP throughout the 1960s. The manufacturing sector's growth was largely due to expanding domestic demand supported by rising agricultural incomes, the encouragement of investment through high levels of protection, and an active government role in industrial promotion and investment. Although the country did experience, at times, current account deficits, the inflow of external capital were sufficient to cover the resource gaps. However, the picture changed after 1971, when a foreign exchange crisis - due to a sharp increase in oil prices which caused a large balance of payments gap - was no longer covered by autonomous external capital inflows. The Government found it difficult to defend an increasingly overvalued exchange rate (then a fixed regime), and import controls were furthermore resorted as a means of saving foreign exchange.New licensing regulations were introduced in 1972 which considerably tightened controls on imported items (it was reported that the number of import products under licence had jumped from 228 in 1972 to more than 2,700 by the mid-1980s).

12. During the 1970s, official thinking as to the development of the economy started to take a new direction. There was an increasing awareness of the negative experience of countries which pursued import substitution far too long. The very evidence in Kenya was that exports were not performing well and this was partly due to the relative unprofitability of manufactured exports vis-a-vis sales to the protected domestic market (anti-export bias). The problem was further compounded by the collapse in 1977 of the East African Community, the traditional market outlet for Kenya's industry.

13. Thus, the adverse effects of an inward-looking trade regime on both industrial competitiveness and export performance have been comprehensively outlined in various official papers. The need for policy change was confirmed by the IVth Development Plan (1979-83) which acknowledged that "past industrial growth had been fostered by excessive protection, resulting in an industrial sector which was uncompetitive, overly capital intensive in relation to Kenyan factor endowements and a heavy net consumer of foreign exchange". Such industries have attracted resources from more productive sectors in the economy. Moreover, the inward-

looking trade was inimical to export orientation as it created considerable opportunities for rent seeking rather than economic efficiency and competitiveness. Structural reforms were felt more pressing as a rapidly growing population put further strains on the economy.

Adjustment in the 1980s and early 1990s

14. The first adjustment package has been launched since 1980, supported by two structural adjustment loans: SAL-I (1980) and SAL-II (1982). SAL-I sought to phase out quantitative restrictions on imports and to replace them with tariffs, which would, in turn, be rationalized and gradually reduced over time. In addition, it tried to improve and increase export compensation payments in order to offset duties paid on imported inputs. SAL-II was intended to build upon (and extend) the adjustment process already initiated; it included some measures on the trade regime aimed at adjusting the exchange rate and shifting import items from more to less restrictive categories.

15. This earlier adjustment effort has not achieved sustainable results. The structure of industry in 1987 was very import-dependent and almost totally oriented towards the domestic market *(World Bank/PRE, 1991)*. On the other hand, the unimpressive response of the Kenyan economy to the stabilization and earlier adjustment measures reflects both the effect of external shocks and, perhaps more importantly, weak implementation performance. It has been suggested that perhaps the effects of the 1984 drought and political events have made it difficult for the authorities to concentrate on the longer term development issues. For one thing, the reforms have not enjoyed the broad-based support that similar reforms have been accorded in some other African countries (in Ghana for example). For another, the Government's own hesitant and selective commitment and support for the reform measures did not augur well for effective implementation.

16. Meanwhile, the publication of the *Sessional Paper No 1 of 1986 on Economic Management for Renewed Growth* provided a major watershed in development planning and policy orientation. While reiterating views expressed over the past decade in various development plans, the paper was much more ambitious in indicating that industry must be restructured to become far more productive and should have the objectives of greater export orientation, employment generation, developing high and rising productivity, attracting indigenous Kenyan entrepreneurs and managers, and supporting the development of agriculture. The approach was justified by the authors on the grounds that there was an urgent need to renew economic growth in the face of a rapidly rising population and, moreover, the time was considered opportune to implement further changes[2].

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[2] In 1986, the country has come through a crisis, and the balance of payments situation was healthy due to buoyant coffee prices (1986 coffee mini-boom) and a decline in oil prices.

17. This time, the Government felt ready for a second attempt: a comprehensive and far reaching adjustment programme for industry was launched in 1988. This was actually the first of a series of operations especially designed to improve the efficiency and competitiveness of Kenya's industrial sector and to expand manufactured exports. The programme has been built on a six-year trade liberalization process. Other programmed reformed measures included: adjustment of price controls; removal of all import licenses and exchange controls; investment incentive reform; public industrial enterprise reform; and the improvement of the financial system.

18. The reform process has been effective in terms of reducing protection and encouraging manufactured exports, but it was not until 1993 that the licensing system was completely dismantled and foreign exchange and commodity markets fully liberalized.

19. By 1994, the Government saw the need to reframe and bring to a further step the policies and initiatives established in the *Sessional Paper No 1 of 1986*. As a matter of fact, the Government and the principal donors see industrialization as a leading development challenge and, in their more forward-looking moments, anticipate the time when Kenya will join the ranks of the Newly Industrializing Countries (NICs).

20. This has prompted the publication of that the *Sessional Paper No 1 of 1994 on Recovery and Sustainable Development to the Year 2010*. The Paper stated that "there is increasing evidence of the type of policy framework needed for accelerated and sustainable development". Such policy framework required the Government to follow a strict macroeconomic management with tight control of budget deficits, the money supply and inflation; to establish an outward orientation which does not overvalue the domestic currency but allows ready access to foreign exchange; to establish trade policies which foster an export bias and stimulate private foreign investment; to develop the human resources through education and training; to liberalize the labour market in order to increase labour mobility; and finally to rely on the private sector to determine industrial expansion.

21. Trying to capitalize on the gains so far achieved, the Government has been launching a further reform package: the *Policy Framework Paper (PFP) 1996-98* announced in last February, represents a step further with its bold attempt to deal with the "remaining bottleneck to growth". The policy objectives are outlined as follows:

- *Maintain macroeconomic stability by strengthening monetary and public sector finance management, and by consolidating fiscal discipline;*
- *Improve the efficiency of the public sector by accelerating and streamlining reform in the civil service and public enterprises, and improving the delivery of infrastructural services;*

- *Enhance external and domestic competitiveness of the economy through further liberalization of markets;*
- *Address the social aspects of development, particularly through targeted poverty interventions and increased access of the poor to social services;*
- *And finally, eliminate corruption.*

22. The PFP re-stated the Government's intention to "move further away from direct participation in economic activity, and toward the provision of an enabling environment for private sector development with emphasis on policies which are environmentally friendly and which encourage labour-using growth". The Government also announced, *bona fida*, the formation of a high-powered *Presidential Economic Commission* (including some prominent private sector personalities) that will be charged with the implementation of programmes outlined in the PFP. Such a body, which has been recommended for years (especially by experts of the NICs), is supposed to ensure that the Central Government is fully briefed on the situation on the ground. It is also expected to suggest incentives to attract investors - both local and foreign - and to work out reward schemes for those who boost the economy.

Restructuring Industry for Competitiveness

Kenya's Potential for Efficient Industrial Growth

23. During the past few years, the Government has undertaken dramatic measures to improve the incentive structure for private investors, to enhance the scope for market efficiency (thus reducing the divergence between financial and economic benefits), and to rationalize the regulatory procedures; it is trying to get out of activities that the private sector could more efficiently perform. The country also has a number of underlying strengths for the development of a viable manufacturing sector. It has an abundant, relatively educated and competitively priced labour force. Basic infrastructure generally works and is competitively priced. There is a relatively vibrant private sector and a growing cadre of active entrepreneurs. The country has a diversity of raw materials that can provide a sound basis for manufacturing processes. It is also well placed to take advantage of export opportunities, especially in the COMESA region. In a few words, Kenya is in a position to respond to the opportunities created by the improved policy environment. If industrialization could succeed in any country in Sub-Saharan Africa, Kenya should be on the top list.

24. However, to achieve this potential, a major restructuring of the industrial base would be essential. To enable private entrepreneurs to take advantage of the opportunities created by the Government's already considerable policy measures, a number of major constraints that still limit private sector response would need to be addressed. These will be discussed in chapters 3 and 4 of the report. The nature of

the restructuring process that will be essential to put the sector on a more competitive basis is discussed below.

The Need for Industrial Restructuring

25. Restauration of long-term growth requires that the economy move from short-run stabilization measures (which most of the macro-policy changes implemented so far entail) to longer term structural adjustment. The latter, in turn, depends on the successful restructuring of the productive base, involving expanded investments in activities in which the country is internationally competitive and the phase-out of activities which could survive only because overvalued exchange rates cheapened imports and heavy protection insulated them from external competition.

26. The restructuring process supposes the industrial structure be prepared to adapt to actual or anticipated changes in its environment. Restructuring encompasses all aspects of changes in the structure of production, including: closures, expansion or scale-down of enterprises; changes in product mix, technology and ownership structure; and strengthening of technological, management and organizational capabilities. It focusses, not only on "hardware" aspects (e.g. plant, machinery, technology), but also on "software" (technical, managerial and organizational) issues.

27. From the economy's standpoint, it involves the movement of resources from sectors where competitiveness has been lost to areas of comparative advantage. Over time, it manifests itself through the decline of some industries and growth of others and through changes in the characteristics of any given industry (degree of concentration, technology, degree of vertical and horizontal integration, size structure of firms, etc...). At the enterprise level, restructuring could involve changes in the financial (e.g. debt-equity ratio, cash flow situation), technical (e.g. retooling machinery to use local rather than imported raw materials), or managerial structures.

28. Restructuring could also be *"defensive"* (in response to existing difficulties such as occurrence of unsustainable losses, long-term decline in the demand for a particular product, inability to compete with new entrants, or inability to cope with changed market conditions) or *"offensive"* (e.g. changes in anticipation of new market opportunities or technological advances). The latter has been particularly strong in East Asian economies (Japan, Korea, Taiwan) and involves a strong role for the governments in terms of directing private industry from potential "sunset" industries to "sunrise" ones. However, given the limited implementation capacity of public sector institutions in Kenya, an active Government role in "offensive" restructuring may not be feasible. Instead, the Government should increase the scope for competitive pressures (through further reforms in the trade policy and regulatory areas) and provide the framework for the flow of information on emerging opportunities and technologies. Nevertheless, some selective forms of policy interventions to build up industrial/technological capabilities are required if the long-term industrialization goal is to be made achievable. These will be discussed in chapter 4 of the report.

29. Since the early 1980s, a wide range of developed as well as developing countries (from China to Germany, from Japan to Ghana) have pursued industrial restructuring policies. The growing interest is mainly attributable to the rapidly changing international economic environment. As an economy opens up, firms will have to compete head-on with the most efficient producers worldwide. The pace of development in industry is evolving rapidly, requiring frequent adjustments to changing technologies, markets and consumer preferences.

30. While the policy changes since 1988 have improved the prospects for economically efficient activities, the restructuring process in Kenya - involving investments in new promising activities and changing the structure of inefficient existing firms - has been particularly slow. Frequent *ad hoc* changes in policy in the past (e.g. volte-face in the reform process in the course of 1993, which was itself reversed later on following donor pressure) may have delayed new investments in activities where the profit potential has been enhanced and retarded the exit of others where profitability has been eroded under the new policy regime. Lack of confidence and uncertainties delay the restructuring process. Some of the policies introduced have not been effectively implemented. In addition, a number of policy distortions still remain (e.g. import tariff evasion), blurring the clarity of market signals. Lastly, poor infrastructure and supporting business services, lack of information (especially within firms without active foreign participation) on emerging market opportunities, and available technologies and production options, as well as inadequate manpower and management structure, all in all pose also considerable constraints to successful restructuring. The creation of an enabling environment for successful restructuring requires the removal of those constraints, improving access to resources including foreign exchange and short/long term financing, as well as technical assistance, preferably through private channels and on an eventual cost recovery basis.

2 Efficiency and Competitiveness of Kenya's Industry

31. By Sub-Sahara African standards, Kenya possesses one of the most diversified industrial sectors. Apart from traditional domestic resource-based activities such as food processing, beverages, tobacco, footwear and textiles, other industries (cement, metal products, paper and various chemicals) also draw upon local raw materials or intermediates. There is also an active, if relatively underdeveloped, sector supplying local components and spares. In spite of this fact, the pace of technological development in Kenya's industry is very slow: after nearly three decades of existence, manufacturing still remains with some first-stage assembly and packing activities in the most complex and scale-intensive subsectors.

32. Kenya's industry is primarily oriented to the domestic market. After the collapse of the East African Community, it relied increasingly on a small domestic market and, to a lesser extent, on highly cyclical and protectionnist neighbouring markets which could not, by any means, provide the basis for a sustained export drive. Lack of access to developed country markets for Kenya's manufactured goods hampers its industrial development. Its future growth will increasingly depend on its ability to mount exports to world markets and to substitute efficiently for existing imports.

33. This chapter sets out to analyze the structure and performance of Kenya's industry, relating this to evidence on numerous distortions at the policy level. The efficiency and competitiveness of main subsectors are then reviewed to highlight their potential for efficient growth. Further analysis of Kenya's industry will be provided in chapter 4, where the sector's performance will be examined in relation with its industrial/technological capabilities.

Structure of Kenya's Industry

34. Kenya's industry is made up of a wide range of manufacturing activities ranging from enterprises in the informal sector using simple technology to heavy capital goods industries in the automotive and electrical equipment. Details of the manufacturing structure classified by sub-sector according to end-use, are given in table 2.1 for selected years. The *"consumer non-durables"* group of industries dominates the sector, sharing respectively 55% and 63% of manufacturing output and employment (1993). Food, beverages and tobacco are the leading subsectors in this group, followed by textiles and wearing apparel, other manufactures, leather

and footwear, wood and cork products, printing and publishing, and furniture. Except for agro-food processing, all other industries have exihibited a downward trend in manufacturing output since 1980.

Table 2.1 - Structure of output and employment in Kenya's industry

Subsectors grouped according to end-use	*Share in output (%)**				*Share in employment (%)*			
	1976	*1980*	*1990*	*1993*	*1976*	*1980*	*1990*	*1993*
Consumer non-durables	*59.5*	*52.7*	*53.6*	*54.9*	*60.5*	*60.5*	*62.5*	*62.8*
Food	39.1	32.4	41.1	42.6	21.0	24.2	27.5	28.7
Beverage & tobacco	5.5	5.4	4.7	4.6	5.1	3.6	4.1	4.2
Textiles	3.7	5.4	1.4	1.4	12.5	13.9	13.4	13.0
Wearing apparel	2.4	2.0	1.9	1.9	4.4	3.8	3.7	3.5
Leather & footwear	1.3	1.3	0.7	1.0	2.7	2.5	2.0	2.0
Wood & cork products	1.5	1.8	1.0	1.0	7.2	6.5	4.6	4.5
Furniture & fixtures	1.4	1.1	0.4	0.3	2.5	2.1	2.1	2.0
Printing & publishing	2.6	2.4	1.0	0.9	4.1	3.1	3.2	3.1
Other manufactures	2.0	0.9	1.2	1.2	1.3	0.8	1.9	1.8
Industrial intermediates	*27.8*	*28.8*	*32.8*	*31.5*	*15.0*	*15.5*	*17.2*	*17.8*
Paper	3.3	3.0	2.0	2.2	3.1	2.4	3.8	3.8
Industrial chemicals	2.5	3.0	2.0	2.0	1.7	2.0	1.9	1.9
Other chemicals	4.9	4.9	12.9	8.6	3.6	3.6	4.7	4.9
Petroleum refineries	11.9	11.4	10.5	12.4	0.3	0.3	0.1	0.1
Rubber products	1.1	2.4	1.8	1.9	1.2	1.4	1.1	1.2
Plastic products	0.8	1.2	1.1	2.2	1.2	1.5	1.8	2.1
Pottery & glass	0.3	0.4	0.1	0.1	0.7	0.8	0.9	0.9
Non-metallic minerals	3.0	2.5	2.4	2.1	3.2	3.5	2.9	2.9
Capital goods, incl. durables	*12.7*	*18.5*	*13.6*	*13.5*	*24.2*	*24.0*	*20.3*	*19.4*
Metal products	6.2	7.5	5.6	5.3	7.4	8.9	9.2	9.2
Non-electric machinery	1.1	0.6	0.1	0.1	1.2	1.2	0.8	0.8
Electric machinery	2.2	3.4	3.3	3.6	1.0	1.1	1.2	1.5
Transport equipment	3.2	7.0	4.6	4.5	14.6	12.8	9.1	7.9
Total manufacturing	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source : UNIDO data base
* Based on gross output data, at current prices

35. The share of the *"industrial intermediates"* group in manufacturing output has notably improved during the 1980s, rising from 28% in 1976 to nearly 32% in 1993. Its share in manufacturing employment has also increased from 15% to nearly 18% during the same period. The most important activity is petroleum refining (for domestic consumption as well as export to neighbouring countries), followed by chemical-based industries (fertilizers, pesticides, pharmaceuticals), basic chemical industries, paper, plastics, rubber products, cement, glass, and ceramics. The deregulation of petroleum prices and marketing in October 1994 has raised doubts

about the future of the Mombasa refinery (50% owned by the Government), as it is old (it was established 32 years ago) and needs a complete overhaul.

36. The *"capital goods"* group is still relatively less important, and its share in manufacturing ouput and employment has significantly dropped off since 1980. The machine tools industry has been under-developed, facing competition and a reduced market potential from neighbouring countries (Ethiopia, Tanzania). The assembly of motor vehicles and related parts is fairly well developed, but its long-term prospects are quite questionable in the face of increased trade liberalization. The outlook for ancillary spare parts enterprises is also not so bright: with the new ability of assemblers to import spare parts, these enterprises will face stiff competition and many may be forced out of business. Protected by tariffs, the assembly of electronic products (such as radios, TVs and stereos) flourished in its initial stages of development; but the development of this technology-fast moving industry cannot be sustained without a dynamic policy which will help the local Kenyan industry keep pace with global technological changes *(UNIDO, 1996)*.

37. Manufacturing production trends in the private sector have largely reflected the biases in the incentive structure (the exchange rate and the trade regime). While local resource-based industries (most agro-industries, textiles, leather and footwear, wood, furniture) have been among the worst performers, import-intensive industries (petroleum, rubber and plastic products) and light consumer durables contributing relatively little value added to manufacturing, have grown rapidly under high protection (table 2.2). For example, the share of agro-industries (food, beverages and tobacco) in manufacturing output fell from 45% to 38%, while the share of consumer durables (non-electrical & electrical machinery, and transport equipment) rose from 6 to 11% (corresponding to an annual 60.2% increase in output) during 1976-80 (see table 2.1). Within consumer durables, the share of transport equipment rose from 3 to 7% during the same period. Meanwhile, manufactures exports based on agro-processing, which accounted for around 20% of manufacturing output in 1975-77, dropped to around 8% during 1991-93. The net effect has been a substantial increase in the import dependency of the manufacturing sector.

38. The capital-intensity of investments also have increased in both the public and private sectors. Public investment was concentrated in sectors that are highly capital-intensive by international standards (petroleum refinery, steel, fertilizer, cement). Private sector investments also became increasingly capital-intensive because the overvaluation of the national currency cheapened the cost of imported equipment, while increasingly costly industrial labour and supervisory personnel increased the cost of labour (between 1976 and 1980, the average wage cost increased by 60% in petroleum refineries, 66% in metal engineering industries, and 92% in electrical engineering industries). All this appears to be in stark contrast with Kenya's factor endowements. Meanwhile, the productivity of investments seemed to have declined (though precise figures are not available).

Table 2.1 - Subsectors' production growth and share of MVA in output

Subsectors grouped according to end-use	*Production growth (% p.a.)**				*Share of MVA in output (%)†*			
	76-80	*80-90*	*90-94*	*80-94*	*1976*	*1980*	*1990*	*1993*
Consumer non-durables	n.a	*n.a*	*n.a*	*n.a*	*21.2*	*21.6*	*12.6*	*10.3*
Food	2.6	4.6	-0.8	3.0	17.1	15.7	8.0	6.9
Beverage & tobacco	7.8	4.5	1.0	3.5	44.7	40.5	28.6	24.3
Textiles	15.0	2.7	-4.8	0.5	26.1	27.9	51.6	37.5
Wearing apparel	21.6	4.7	-14.7	-1.2	22.1	22.0	11.0	8.2
Leather & footwear	-1.4	0.5	-0.6	0.2	25.8	33.3	23.4	18.3
Wood & cork products	7.8	-6.3	2.0	-4.0	26.3	29.8	20.4	16.1
Furniture & fixtures	-14.2	3.1	-9.0	-0.5	21.8	24.0	34.2	45.2
Printing & publishing	24.5	5.3	1.4	4.2	29.5	27.0	36.1	29.0
Other manufactures	8.3	11.4	2.2	8.7	10.2	24.6	21.9	16.5
Industrial intermediates	*n.a*	*n.a*	*n.a*	*n.a*	*19.7*	*16.3*	*9.4*	*7.9*
Paper	17.2	0.8	-6.5	-1.4	28.7	31.4	26.7	18.4
Industrial chemicals	15.0	1.9	0.2	1.4	28.1	20.7	11.4	8.9
Petroleum & other chem.	12.7	11.0	-0.2	7.7	11.7	8.4	4.1	3.8
Rubber products	17.8	5.4	17.1	8.6	32.0	27.7	24.4	17.3
Plastic products	20.0	0.9	12.4	4.1	26.8	31.0	28.3	13.7
Pottery & glass	30.5	2.4	48.2	13.8	29.6	26.3	33.3	36.2
Non-metallic minerals	5.6	3.0	6.1	3.9	40.1	24.5	22.8	19.3
Capital goods, incl. durables	*n.a*	*n.a*	*n.a*	*n.a*	*28.1*	*27.8*	*14.7*	*11.8*
Metal products	6.7	3.2	3.7	3.3	22.9	20.3	15.4	12.1
Non-electric machinery	5.5	-1.7	-0.9	-1.5	23.4	28.6	50.0	32.0
Electric machinery	12.1	1.9	4.4	2.6	32.8	41.8	17.3	14.6
Transport equipment	60.2	0.2	-4.0	-1.0	36.4	28.9	11.1	8.5
Total manufacturing	**10.2**	**4.8**	**2.9**	**4.0**	**21.7**	**21.2**	**11.9**	**9.7**

Source : UNIDO data base + Kenya Statistical Abstracts

* Based on quantity index of manufacturing production

† Based on gross output data, at current prices

Recent Performance

Growth Performance

39. A historical review of overall industrial performance shows that the sector's share in GDP has remained virtually unchanged over nearly the last two decades (11.8% in 1975, 12.1% in 1991 and 10.5% in 1994). Over practically the same time period, the number of establishments increased from 2,352 in 1977 to 3,254 in 1993, and employment by 60%. However, since the early 1980s, the sector has experienced considerable difficulties, characterized by declining productivity, high input cost structure, and a lack of export competitiveness. The export share of manufacturing output has declined from an average 31% in 1976-78 to around 14% by the early 1990s.

Table 2.3 - Productivity of Kenya's industry

Labour productivity (as measured by value added per worker)	*1975-80*		*1980-97*		*1987-93*	
	Number of sectors	*Share in total MVA*	*Number of sectors*	*Share in total MVA*	*Number of sectors*	*Share in total MVA*
Increased productivity rates	22	93%	6	40%	0	0%
Decreased productivity rates	2	7%	18	60%	24	100%
Total manufacturing	24	100%	24	100%	24	100%

Source : UNIDO data base

40. While the level of wages in large-scale manufacturing is still in line with that in other countries that compete with Kenya for export markets, labour productivity (as measured by value added by worker) started to decline since the early 1980s, due in part to underutilization of capacity, infrastructural problems, and technical and managerial deficiencies. In 1975-80, productivity improved in 23 out of 28 three-digit ISIC activities (accounting for 93% of total MVA); in 1980-87, the number of activities with improved productivity shrank to 6 (representing 40% of total MVA); and in 1987-93, not a single activity could escape from deterioration in productivity rates (table 2.3).

Table 2.4 - Trade and growth performance of Kenya's industry

	1968-1978	*1980-1984*	*1985-1991*	*1991-1993*
GDP Growth (real , % p.a.)	11.1	3.3	4.5	0.3
Agriculture	8.3	2.8	3.4	-3.6
Industry	13.8	2.1	4.7	0.2
(of which Manufacturing)	(16.4)	(3.6)	(5.4)	(-3.4)
Service	12.1	4.1	5.1	1.5
External Trade				
Export Growth (real, % p.a.)	n.a.	-2.8	3.2	0.0
Mfg Export Growth (real, % p.a.)	n.a.	-5.8	12.9	10.5
Domestic Exports/GDP (%)	24.8*	16.6	13.4	13.2
Mfg Exports/Output (%)	31.1*	23.2	13.7	14.5
Manufacturing				
Production growth (real, % p.a.)	10.4	3.6	5.3	1.6
Real capital formation/GDP (% p.a.)	4.0*	2.9	2.7	2.4
Employment growth (% p.a)	9.2	3.6	2.9	2.7

Source : Kenya Statistical Abstracts
* 1976-78

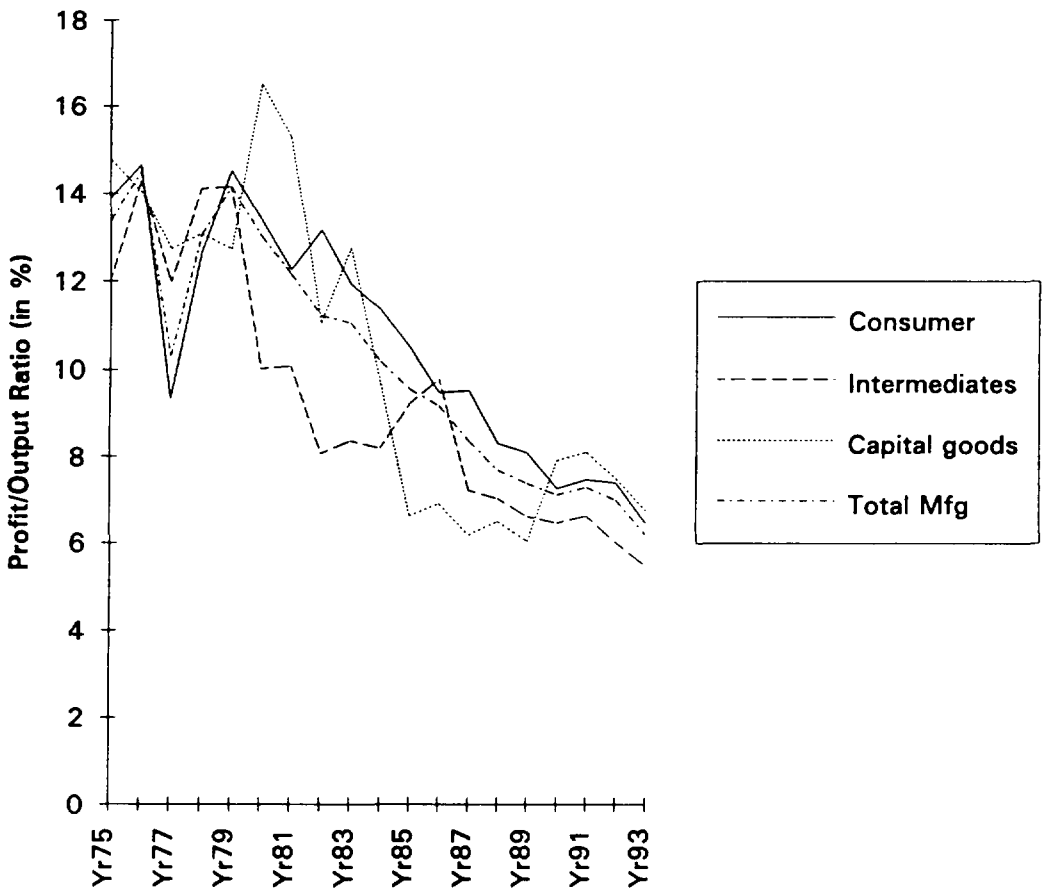
41. The lack of dynamism in Kenya's manufacturing reflects the cumulative effects of past policies. In fact, post-independence industrial growth was mainly attributable to import substitution within a highly protected, uncompetitive and oligopolistic industrial structure. The structure served the economy well for a period of time; and boosted by regional trading arrangements and the rise in rural incomes, the manufacturing sector grew at an extraordinary rate of around 16% p.a. between 1968 and 1978. But when regional trading arrangements broke down, and rural incomes growth faltered, the sector has proved itself incapable of continuing its further expansion. Industrial growth and capital formation in industry actually started to decline in the early 1980s (see table 2.4), and it was clear that the sector was facing major structural problems.

42. By the early 1980s, a clear picture of the structure of Kenya's manufacturing had emerged. The sector was characterized by low value-added, high production costs, high dependency on imported raw materials, and hardly any production for exports. This structure has not changed much in the early 1990s. A private sector firms survey in 1992 suggested that as much as 70% of the total value of inputs used in manufacturing are imported *(World Bank/PSD, 1992)*.

43. As already pointed out, manufacturing growth during the pre-1980 period occurred mainly through increased investment rather than improved productivity, and the substantial decline in investment since 1980 was a main factor in the sector's decline. Throughout the 1980s and early 1990s, the sector experienced a long-term erosion of its profitability (chart 2.1). Various types of evidence thus suggest that Kenya's earlier industrial promotion efforts yielded some results, but it did so at considerable (and eventually unsustainable) costs in terms of lost opportunities for improved efficiency and resource outlays.

16

Chart 2.1 - Profitability of Kenya's Industry



Export Performance

44. As noted, Kenya's industry is facing a severe problem of access to world markets. A recent study under the UNDP/World Bank Trade Expansion Programme *(World Bank/TPD 1993)* found that the country's overall export performance leaves much to be desired. Except for horticulture, all categories of exports have stagnated since the break-up of the East African Community in 1977. There has been little (if any) diversification in both export products and markets. Notwithstanding some recovery in recent years, current volume of manufactures exports is roughly at the same level as it was in 1976. Though low-income countries from Sub-Saharan Africa (Cameroun, Mauritius, Zimbabwe) and from Asia (Bangladesh, Sri Lanka) have made significant inroads into developed country markets in manufactures exports like textile and garments, Kenya has not succeeded in doing so. The destination of most of Kenya's manufactures exports still remains Africa and other developing countries, while other countries have diversified.

45. The structure of exports has also changed very little. Primary products account for about half of Kenya's total merchandise exports (85% if fuel re-exports are excluded), manufactures about 15% (the same levels as in 1975-79). More than 90% of manufactures exports are still in developing country markets, most of them in Africa.

Table 2.5 - Kenya's structure of merchandise exports, 1965-89
(% of total exports)

Year	*Primary*	*Manufactures*	*Fuel*	*Traditional*	*Non-traditional**
1965-69	48	5	47	45	8
1970-74	49	9	42	45	13
1975-79	53	16	32	46	22
1980-84	61	15	24	53	23
1985-89	66	15	19	55	26

Source : World Bank
* Non-traditional exports consist of manufactures and horticulture exports, so substracting manufactures from non-traditional exports yields the share of horticulture.

46. As explained in the study, the roots of Kenya's lacklustre export performance are in its domestic policies rather than in any constraints in external markets. Incentives have been strongly biased against exports - especially manufactures exports - since independence. Recent attempts to reduce the bias have not been very credible. While the macroeconomic environment has been relatively stable, significant weaknesses remain in the management of public sector resources, which tends to undermine domestic support for exports and the private sector. The pessimism about Kenya's prospects for meeting the demand for quality products in expanding Western markets is unwarranted, considering its own success in fresh horticulture exports to Europe and the relatively greater success of Cameroun, Mauritius and Zimbabwe in exporting textiles and garments to Europe and the USA.

Efficiency and Competitiveness of Production

47. The current competitiveness and efficiency pattern of the manufacturing sector reflects the cumulative effects of past policies. As already mentioned, there has been little restructuring of the productive base since the structural adjustment programmes (SAPs) were introduced, and most of the existing structure has been established in the pre-SAP era. The Government's economic policies during the 1970s and most of the 1980s tended to drive a wedge between financial profitability and economic efficiency of manufacturing activities. This resulted in the emergence of many economically inefficient activities that survived only because high protection allowed producers to charge higher than international prices and overvalued exchange rates artificially in turn bred further inefficiency.

48. The question then arises to know how fast and how well companies can adjust to a more competitive environment. While activities whose performance has improved since the SAPs were introduced tend to be domestic resource-based in which the country may have a potential comparative advantage, it is not certain whether well-performing subsectors are efficient. The level of efficiency of different activities are usually measured by their respective *Domestic Resource Cost* (DRC) ratio[1].

49. Many surveys of protection and competitiveness of Kenya's industry were realized more or less recently. One such survey was carried out in 1986 *(World Bank, 1987)*, highlighting the fact that the industrial sector generally displayed short-run efficiency, but long-run inefficiency. The latter implies that existing firms cannot replace their existing assets under more competitive conditions.

50. There are many different reasons for the high DRC ratios (indicating inefficiency): (i) excessive factors of production being allocated to activities that generate very low level of value added at world prices; (ii) inappropriate technological choice; and (iii) capacity under-utilization in cases of adequate resource allocation and techological choice.

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[1] The DRC measure is generally used to determine the level of economic efficiency of an activity. It is the ratio of domestic resources used in an activity (valued at their opportunity cost) to the value added in that activity at world prices. It is an indication of the net foreign exchange earnings (or savings) that domestic resources can generate in an activity. A ratio one or less is an indication that an activity is efficient: the cost of primary resources (valued at their opportunity cost) is less than the foreign exchange earnings (through exports) or savings (through import substitution) resulting from the use of those factors. Activities for which the DRC ratio is greater than one are simirlarly considered inefficient: the opportunity cost of domestic ressources used in their production is more than the benefit of saving (earning) a unit of foreign exchange.

The DRC ratio is also an indication of comparative advantage. A DRC ratio of less than unity indicates that a country may have a comparative advantage in the production of a particular kind of goods. This suggests a scope for the reallocation of primary resources from activities where the DRC is greater than one to those where it is equal to (or less than) one. The DRC ratio is used to determine either short-term efficiency (taking the existing capital stock as "sunk" and therefore with zero opportunity cost) or long-run efficiency (including the opportunity cost of both capital and labour). Relative efficiency can also be measured on the basis of either the actual or achievable capacity utilization.

table 2.6

FIRM SURVEY RESULTS

Industrial Subsectors	1 Share Value Added in Sample	2 Number of Activities in Sample	3 Sample Coverage of Ind.Sector	4 Import Cont.	5 Nominal Rate of Protection	6 Effective Rate of Protection	7 Actual Capacity Utilization	8 Actual Short Run DRC	9 Actual Long Run DRC	10 Attainable Long Run DRC	11 20% Overval. Long Run DRC	12 Financial Rate of Profit
I Food Processing Products	23.0%	16	32%	36%	24%	111%	89%	0.37	0.71	0.53	0.59	23%
II Beverages and Tobacco	55.0%	3	93%	33%	29%	38%	75%	0.37	0.88	0.64	0.74	48%
III Textiles and Clothing	5.1%	20	24%	62%	46%	126%	96%	0.99	2.13	1.98	1.78	19%
IV Leather and Footwear	0.1%	4	3%	44%	37%	80%	53%	2.03	2.90	1.76	2.42	-4%
V Paper and Wood Products	1.2%	6	2%	11%	22%	6%	93%	0.57	1.58	1.38	1.32	11%
VI Plastics and Pharmaceuticals	1.9%	13	42%	93%	48%	129%	72%	0.76	1.72	1.10	1.43	26%
VII Basic and Other Chemicals	7.2%	17	28%	81%	50%	211%	86%	0.86	1.46	1.15	1.22	21%
VIII Cement and Glass	4.0%	5	85%	59%	30%	248%	88%	1.99	6.29	4.48	5.24	11%
IX Iron and Steel Products	1.4%	9	22%	62%	38%	312%	56%	1.86	5.48	1.61	4.56	12%
X Electrical and Transport Equipment	1.1%	13	6%	83%	71%	312%	42%	1.76	3.49	1.68	2.90	8%
AVERAGE WEIGHTED BY VALUE ADDED IN SAMPLE	100.0%	106	39%	52%	34%	89%	79%	0.55	1.29	0.94	1.08	25%
AVERAGE WEIGHTED BY VALUE ADDED IN SECTOR	100.0%	106	39%	43%	33%	107%	81%	0.69	1.53	1.09	1.28	24%

Notes: (a) Official average exchange rate for 1985 of 1 US $ = 16.32 KSh was employed in computations.

Columns:

(1) Percentage share of value added at world prices in the sample.
(2) Number of activities in the sample.
(3) Percentage share of sample in sector's value added at world prices.
(4) Direct and indirect import content of recurrent inputs.
(5) Nominal Rate of Protection: Output value at domestic prices divided by output value at world prices, minus one.
(6) Effective Rate of Protection: Value added at domestic prices divided by value added at world prices, minus one.
(8) Actual Short-Run DRC: Labor cost divided by value added at world prices, at actual capacity utilization.
(9) Actual Long-Run DRC: Labor cost plus annual capital cost divided by value added at world prices, at actual capacity utilization.
(10) As in (9), at attainable capacity utilization, which was determined by taking into account the technical state of the equipment, availability of raw materials and demand.
(11) As in (9), at 20 percent overvaluation.
(12) Non-wage value added at domestic prices divided by fixed capital.

Source: *"Kenya: Industrial Sector Policies for Investment and Export Growth"*, June 1987, World Bank document

51. There were wide variations in efficiency across subsectors and industries within a subsector. Nevertheless, large parts of Kenya's industry appeared capable of withstanding import competition given the underlying tariff structure. However, there exist certain products which need protection in excess of the underlying tariff rates. These include motor vehicles, steel, cement, glass and some consumer products. In general these "problem" activities are fondamentally inefficient from an economic standpoint, which suggests they may be subject to adjustment pressure in case of further trade liberalization (see table 2.6). The most difficult adjustment to lower protection appears to be concentrated in these subsectors.

52. The above conclusions appear to be corroborated by another similar survey carried out in 1993: the efficiency measures were getting even worse in the "problem" sectors previously identified; in particular, the fabricated metal product and the motor vehicle assembly industries were found to have a negative value added at world prices, implying that they are net users of resources *(REPIM/WB, 1994)*. The 1986 survey went over the "problem" sectors, and what appeared to be the main constraints to their competitiveness could be put on the account of such factors as various input supply, equipment age, small scale of operations, skill and marketing deficiencies. The next section gives a brief review of the textiles, metal & metal engineering products, and transport equipment sectors to highlight these factors.

Surveyed Sectoral Issues

Textile Industry

53. Kenya's textile industry is the second biggest labour-intensive activity after food processing. There are now 52 textile mills, of which 8 firms owned by the Government and are in the process of privatization; the rest is owned by the Asian community. The sector is dominated by 14 integrated (spinning, weaving and finishing) mills, which account for 87% of total installed capacity in the industry (115 million m^2 of fabrics per year). In addition, there are 4 spinning factories and several factories with knitting as well as weaving facilities.

54. The industry has traditionally concentrated on cotton textile manufacture, mostly using local cotton fibre. With the demand shift to synthetic and blended fabrics, new filament extrusion plants were set up, based on imported feedstocks (synthetic yarns). Wool degreasing and processing facilities were also set up and expanded, based on local wool. All the dyes and chemicals used are imported, as are all the textile equipment and most of spare parts. Though most of the larger mills have substantial in-house mechanical workshops for maintenance, and can make simple spares and even some primitive equipment, the general weakness of the mechanical engineering sector in Kenya holds back further backward integration.

Efficiency and Competitiveness

55. The survey describes a general good impression of the levels of efficiency, technical competence and managerial capabilities in many firms. Private firms generally appear to be better managed than the parastatals, although some parastatals like Rivatex (with a German management team) are found also technically efficient. The product range is fairly restricted and entirely geared to local tastes; the finishes are relatively unsophisticated. The equipment in many firms is old, and other competitive disadvantages are also noticed (see below). Nevertheless, it seems that the industry has taken firm root and matured well, in contrast to its counterparts in other countries in the region. It has developed a disciplined and reasonably capable workforce. It has learnt the capabilities to set up, maintain and improve its industrial plants. With appropriate policy and some structural support changes, it should have the potential to enter world markets in a significant way.

56. Economies of scale and specialization. The largest spinning plant (Kicomi) is found to have only 18 thousand spindles, well below the minimum economic size required for such activity (between 25-30 thousand spindles). On the other hand, the plants produce small amounts of a large variety of products, and so lose on specialization economies, especially in weaving. This has been viewed as the main source of productivity shortfall.

57. Equipment. A large proportion of textile equipment is found to be old, this constitutes a drag on competitiveness. Textile technology has made considerable progress in improving the performance (speed, versatility, quality) of existing technologies as well as introducing radically new technologies (various shuttleless looms and open-end rotors). The kind and vintage of technology which are appropriate to a particular country naturally depend upon a combination of initial cost (shuttleless looms and open-end rotors are much more expensive than modern automatic looms and ring-spinning machinery), the product range desired, the raw materials to be used and the technical ability of the firm supposed to operate the equipment. According to the survey, if Kenya were to move into higher quality, special-finish, blended fabrics, it may be efficient to utilize radically new technologies. However, a successful strategy to this regard would require the provision of high-level technical skills, ample training for workers and a specialization in expensive products. Meanwhile, for most mills, equipment upgrading should concentrate on recent vintages of "conventional" technologies, with some injections of expensive state-of-the-art technology.

58. Over a wide range of fabrics, conventional technologies are just as good as radically new ones. The productivity of any equipment depends critically upon the engineering and labour skills deployed. In many developing countries, costly rehabilitation and modernization are often undertaken before correcting deficiencies in these capabilities, thus reducing the benefits of such measures. It is imperative to bring production engineering capabilities to acceptable standards before investing in new equipment. According to the survey, the capability to select, bargain for and deploy appropriate modern equipment seems to be present in the Kenyan private

sector, while in most parastatals, both this capability and that needed to utilize equipment effectively are deficient. Therefore, more careful preparation is needed before modernization is undertaken.

59. Technological capabilities. As noted by the survey, the incidence of technological competence is extremely uneven in Kenya. Firms which have introduced the right kind and amount of expatriate technicians, provided the necessary training to their workforce and built upon their experience, are found to be much more efficient than those in which these strategies are lacking. However, even the best firms have scope to upgrade their production engineering capabilities to extract better results from existing equipment. If they are to modernize their equipment, further technological inputs would be required, most probably in the form of expatriates.

60. The technological requirements of the textile industry are not particularly complex by modern industrial standards. So far, rigorous training and a relatively small number of qualified textile engineers have been able to meet the needs of most Kenyan manufacturers. However, if production becomes more sophisticated (in equipment, product design and quality), technical skill requirements will rise concomitantly. If, in addition, technical jobs are to be indigenized, it will be necessary to train African textile technicians and engineers. Almost every firm complained of a general shortage of skills, while those with advanced training programmes complained of rising turnover rates of trainees. There is therefore a long-term need to provide appropriate training facilities in the country. Moreover, labour productivity has to be raised considerably before it reaches the levels of East Asian NICs. This would require both better training as well as stronger incentive structures, tighter recruitment procedures, closer supervision and so on.

61. Other managerial weaknesses. The weaknesses of management in the public sector textile mills have been mentioned previously. Some attempts to remedy managerial deficiencies by establishing management contracts with foreign firms have not worked well, the reason essentially resides in little incentives given to improve efficiency and profitability. In the private sector, larger mills are found to belong to business groups with international connections, this gives them the added advantage of direct awareness of foreign markets and technological developments. However, the industry in general seems weak in marketing and product design because of its inward orientation.

62. It is clear that Kenya's textile industry will find its comparative advantage in the near future in standardized, unbranded and lower-price products, as more advanced competitors (Far Eastern NICs) move up-market into more differentiated, higher-quality products. This may reduce Kenya's disadvantage posed by weak marketing, but will not eliminate it. Even the export of "commodity" textiles requires intense market research, quick response to changing conditions, promotion, strict quality control and so on. These capabilities will have to be fostered if exports are to become significant.

63. Input costs. The main problems reported are the high costs of local cotton (60% above world market prices) and the quality of its ginning and packing. The supply of cotton is also unreliable. Other inputs (synthetics, chemicals and spares) are generally imported, and subject to duties. As mentioned by the survey, high transport costs for polyester chips constitute a competitive handicap for synthetic textile producers. Major synthetic producers in East Asia have access to cheap locally-made chips and manufacture on massive scales, and so can sell the finished synthetic textiles (or blends) at prices well below Kenyan levels. Thus Kenya can develop an export presence mainly by specializing in cotton-based textiles, if it can supply good quality cotton to its mills at world market prices.

64. Infrastructure. Firms outside Nairobi have experienced infrastructural constraints, in particular with water and power supplies. Parastatals like Rivatex and Mountex have been particularly affected.

65. Local linkages. Apart from local cotton and yarn, Kenyan textile firms have few backward linkages with the economy. Most firms have workshops to maintain equipment, and occasionally manufacture some simple spares or even complete machines. However, the diversity of equipment and spares in Kenya, combined with the relatively low level of the mechanical engineering sector, has held back the growth of local suppliers of spares and equipment. Such growth could reduce inventory and purchase costs for a variety of consumables used by textile manufacturers, but must wait upon the technical upgrading of metal-products firms. The absence of local technical consultants in the textile sector also imposes costs on textile firms: technical problems are solved by internal effort, or is left unattended, but the stock of information and experience built up is not utilized by other firms. In addition, highly specialized technical skills are not built up.

Conclusions and Recommendations

66. All in all, Kenya's textile industry is found to be fairly mature and internally competitive. No single firm dominates, and the level of concentration is very low. It has been primarily oriented to the domestic market, and has long been sheltered from foreign competition by quantitative restrictions on the imports of textiles and garments (although such protection has been periodically diluted by large-scale smuggling of second-hand clothing). Since the technology involved is largely embodied in equipment (which is readily obtainable in world markets), the sector has developed with little reliance on foreign direct investment. However, modern textile equipment requires considerable skills to operate efficiently, and the industry has drawn heavily on expatriate technicians. The reliance has diminished sharply over time, and a competent indigenous workforce has been built up. Though it is not as productive as labour in Far East Asian countries, with declining real wages its cost has come in line with major textile producers like India or Pakistan. Some upgrading of equipment, technical skills, and marketing capabilities is needed to enable the industry to compete in world markets.

Metal and Metal Engineering Industry

67. Kenya has built up a fairly substantial basic metal sector making a variety of downstream products from imported steel billets or rods. It has also developed a small capacity for steel resmelting based on scrap. A number of medium & small-size metal engineering firms have come into existence; while not very efficient, they can furnish the base for a broader engineering sector. However, the small size of the domestic market and an under-developed mechanical skill base are severe constraints to the growth of more advanced engineering activities.

(i) Basic Metal Industry

68. The basic metal industry in Kenya is fairly diversified although the country does not produce any primary iron. It includes resmelting, hot and cold steel rolling, galvanizing, pipe manufacture and various wire products. There are two dominant private sector groups of Asian origin and other smaller private firms with little foreign direct investment. While the larger operations are technically well-managed, the industry faces several problems.

Efficiency and Competitiveness

69. There is significant overcapacity in almost all activities, with high levels of effective protection; even the larger facilities may be uneconomical by world standards, while smaller ones are clearly inefficient. Price controls have eroded the profitability of some firms, while excess capacities in world markets have narrowed the value added margins at international prices.

70. As with other industries, the Kenyan steel industry suffers from the scarcity of local personnel for specialized technical jobs. Expatriates are expensive, but the local educational system does not produce steel technologists. Graduate engineers can be trained by the steel firms, but their turnover rate is high and trained personnel expects immediate white-collar jobs. This long-term scarcity holds back effective indigenization and raises costs.

Conclusions and Recommendations

71. The most pressing problems are the existence of excess capacity combined with uneconomical scales of production, the irrational structure of protection for some steel products, the high overall level of effective protection and poor operational efficiency in smaller producers. Most of these problems do not have easy or immediate solutions. The tariff structure could be rationalized and the levels reduced quickly, but the restructuring of industry in order to improve efficiency will be a long-run and difficult process. Minimum efficient scales may be such that only one plant per group of products could be economically retained in Kenya, and even this plant may need to export in order to be profitable. On the domestic front, therefore, smaller producers may need to be closed down (deliberately or by

exposure to more competition), and different stages of production allocated to single producers (but not necessarily to the same group). Given the risk of monopsonistic exploitation, downstream producers have to be guaranteed reasonable prices and quality, which is best ensured by moderate protection against imports. At the same time, remaining producers have to be upgraded in terms of technology and management to ensure optimal productivities.

72. It is unlikely that the desired extent and form of restructuring would emerge simply as a result of lowering protective barriers on existing firms. It may be more efficient to workout a detailed rationalization plan of the major sectors, and then implement it as part of a comprehensive scheme of technological upgrading, import liberalization and export promotion.

(ii) Metal Engineering Industry

73. By regional standards, Kenya possesses a broad-based metal engineering sector, with over a hundred independent engineering workshops, seven cutlery makers and around 20 foundries as well as machine shops attached to larger factories *(Coughlin, 1986)*. The most modern of Kenya's machine tool enterprises is the Numerical Machining Complex at the Kenya Railways which has the latest manufacturing and design hardware. There are also many small firms specializing in fairly simple machining, fabricating and foundry work, making cutlery, hand-tools, furniture, spares, vessels for industrial users and reconditioned motors. In general, the activities utilize low levels of technical skills, few expatriates and relatively unsophisticated equipment. The products are of variable quality and limited designs, and face small domestic market demand. Exports are minimal.

Efficiency and competitiveness

74. The Kenyan metal engineering industry appears to be efficient in producing items where strict quality control and scale economies are not very important. It is less efficient in complex engineering or mass-produced items, where the quality of equipment and skills and scale economies are more important. While small & medium-size manufacturers have learnt to use their relatively simple equipment effectively to manufacture products where fine tolerances and rigorous testing are not important, they show little evidence that they are developing the capabilities or acquiring the equipment required for more sophisticated engineering activities. Their small size prevents them from achieving the minimum critical mass required for low cost, good quality and modern design production.

Conclusions and Recommendations

75. The potential significance of metal engineering in industrialization and its competitiveness make it an important candidate for promotional policy measures. A more detailed technical analysis is recommended to identify its constraints and needs. The survey found that the small size of metal-working firms, the lack of

trained manpower and the high cost to firms of training workers, the structure of tariffs, the variety of models of equipment in use in the country, the scarcity of finance and the absence of national standards for some products, all these are responsible for holding back the further development of this subsector. These factors, in turn, reduce the demand by the major industrial firms for (potentially competitive) products such as spares and components.

76. In the short term, the Government can rationalize the structure of tariffs to offer a moderate positive degree of protection to metal working, while reducing the protection afforded to foundries. It can also ease financial constraints and launch national standards where needed. In the longer term, it can foster the establishment of more advanced engineering activities like precision foundries and forges and the manufacture of more sophisticated tools, dies and components. However, since this generally requires highly qualified technical and managerial manpower, the Government must ensure that technical preriquisites are fulfilled before launching into what could be expensive and inefficient investments.

Transport Equipment Industry

77. The transport equipment industry essentially consists in motor vehicle assembly. This activity was initially established to assemble commercial vehicles only. But, due to under-utilization of capacity, passenger car assembling has been included since 1985. There are currently three motor vehicle assemblers in Kenya: General Motors Kenya (GM), Kenya Vehicle Manufactures (KVM) and Associated Vehicle Assemblers (AVA). With the exception of GM which assembles its own vehicles, the last two are "contract assemblers". Contracts are awarded by franchise holders (such as Toyota Kenya) which have the franchise rights to import completely-knocked-down (CKD) kits which are then delivered to the assemblers for an agreed fee. The finished vehicles are then handed over to the franchise holders for distribution and marketing. Franchise holders also import completely-built-up (CBU) units. In addition, there are over 80 small & medium-size auto ancillary enterprises manufacturing and reconditioning motor vehicle spare parts.

78. The total capacities of the three motor vehicle assemblers is 22,300 units per annum on a one-shift basis (12,000 for AVA, 5,800 for KVA, and 4,500 for GM). With the trade liberalization, most auto-ancillary enterprises are running much below their full capacity levels since franchise holders can now import 100% CKD.

79. According to the registration of new vehicles, the total market for automotive vehicles in Kenya varies between 15,000 and 18,000 units per annum, of which 4,000 to 6,000 are passenger cars. The survey mentioned that local assembly encompasses around 94 different models of 18 different makes, each produced in very small lots. Installed capacity in automotive assembly greatly exceeds current production, with capacity running at between 9 to 30% for different assemblers. Local content in two of the surveyed firms was reported to be 11-12% in one and 5-24% in the other. The Government wants to increase local content, but cost, quality and reliability considerations are holding back future indigenization.

80. Kenya exports some automotive components, but the high costs of local assembly render exports of assembled vehicles non-competitive in normal circumstances (though a few vehicles are sold to neigbouring countries when urgent needs arise). Nor is there any likelihood in the foreseable future of the sector becoming a competitive exporter, because of the inherent disadvantages of assembling vehicles at very small scales in an industrial environment with under-developed engineering skills.

Efficiency and Competitiveness

81. According to the survey, the automotive assemblers seem to have developed a reasonably well-trained workforce. There are relatively few expatriates in technical positions. Quality control is rigorous. Several adaptations have been made to vehicles to strengthen them and provide better dust-proofing for use in African conditions. Assembly work is technically not very demanding, and training is mostly done on-the-job with the assistance of supplier engineers. However, Kenyan workers need very close supervision to ensure quality control, and it is difficult to get the right kind of supervisory talent locally. Labour productivity is not high by international standards. All this adds to the costs of local assembly, which are already high because of scale and local content considerations.

82. The automotive industry today is one of the most scale-intensive of manufacturing activities. Estimates of minimum economic scale for assembly operations vary: from 5,000-10,000 units/year for large commercial vehicles, up to 100,000-300,000 units/year for light commercial vehicles or passenger cars. Whichever estimate is used, the Kenyan market as a whole is too small to afford economical assembly of one model each of an acceptable minimum range of vehicles. When the variety of models and makes actually in production in Kenya is taken into account, the diseconomies of small-scale production are increasing many-fold. There are additional inefficiencies in the structure of Kenya's automotive assembly, which were reported to be the following:

- *The variety of models renders the local manufacture of components difficult and expensive;*
- *Deletion allowances granted by franchise holders for items procured locally are lower than the cost of production of the deleted items overseas, and much lower than the cost of procurement within Kenya (since scales of production are much smaller and the technological base is weak);*
- *Some local components are of good quality, but others are not and suffer high reject rates;*
- *Assemblers pay royalties, management fees and expatriate salaries in foreign exchange.*

83. All these factors, in addition to low labour productivity, contribute to high economic costs of the automotive industry in Kenya. Thus, the short-run DRC ratios for vehicle assembly range from 1.82 to 3.14, while the long-run DRC ratios range

from 2.85 to 5.70 (DRC ratios calculated in the 1991-93 period even show a negative value added). The effective rates of protection are correspondingly high, ranging from 186 to 773%. Thus, automotive assembly in Kenya is highly inefficient in its present form, and its further deepening (e.g. more local content) would only add to its current cost at small scales of production. The relatively low levels of skill generation in assembly do not seem to be worth the economic costs incurred. Some component manufacture may, however, be economical, but this requires further investigation.

Conclusions and Recommendations

84. The problems of the automotive assembly have been amply discussed in Kenya, and even the assemblers agree that the proliferation of models is costly and uneconomical. The economic inefficiency of automobile manufacture at small scales in developing countries is a widespread phenomenon, and less than a half-dozen NICs with advanced engineering industries and high levels of indigenous mechanical skills, have been able to achieve the scale economies and local content necessary to become efficient by world standards. Even a further reduction of the number of models and makes to a bare minimum would not be sufficient to render the Kenyan industry potentially competitive. It may at best reduce the present level of costs, and may stimulate a more rational components industry, but would still represent an uneconomic use of national resources. The experience of other developing countries also suggests that the costs of the industry would rise as local content was increased. In small economies with under-developed engineering skills, it is inadvisable to rely on the automotive industry to become a "lead sector" in industrial development.

85. It is recommended that the Government thoroughly examines the economic viability of the automotive industry, taking the assemblers and component manufacturers separately. If the survey's finding - that at feasible output size, much of the assembly operation is inefficient and likely to remain so, even after model rationalization - is confirmed, serious consideration should be given to closing existing assembly firms. However, it is possible that one assembler of less scale-intensive products (like heavy commercial vehicles) may prove economical at low local-content levels. If so, appropriate restructuring measures should be undertaken. As far as component manufacture is concerned, a reduction in the number of models - whether imported or locally assembled - would be a great benefit. However, the technical feasibility of extending efficient local production is not clear beyond the simple items, because of skill constraints. The entry of foreign component manufacturing firms could be of great significance here, if they could be attracted without offering high levels of effective protection.

3 Enterprise Competitive Environment: Determinants and Constraints

86. Notwithstanding what has been found in the previous sectoral review, the fact remains that a great deal of the sources of inefficiency are beyond the scope of management. No matter how much effort management may make towards technological upgrading and cost reduction, overall economic conditions, external diseconomies and regulatory distortions may nullify it. According to an unspecified source, factors under the direct control of management may account for around half of the variance in competitiveness; the other half relates to a whole host of market, infrastructure and policy-related factors. These factors are discussed below.

Trade and Competition Policy

87. Competitiveness depends, to a greater extent, on the responsiveness of firms to market signals. Inter-firm rivalry and competition can enhance competitiveness by motivating managers to improve efficiency, reduce costs, and keep abreast of market conditions. Given the small size of Kenya's economy, import competition and export rivalry should be the main sources of competition. However, policy-makers should ensure that fair trading practices prevail and entry remains open to contest profit of existing firms. Moreover, domestic producers should be able to operate in a neutral environment, both in the goods and factor markets.

88. Competition and industrial adjustment in Kenya have been stifled by numerous trade restrictions, fiscal privileges and regulatory constraints. Besides distorting the relative price structure, regulations are often used as entry barriers. The domestic market is still protected by pervasive tariff and non-tariff barriers, sometimes undercut by illegal or unfair trade practices. On the fiscal front, discretionary regimes and exemptions create competitive biases between beneficiaries and non beneficiaries, with different age, size and ownership. Rigidities in the labour market, stemming from constraining firing and wage setting procedures, hinders firms' flexibility and ability to adjust labour costs and skills. Many industries and distribution networks are highly concentrated, with often high monopoly/oligopoly rents and low efficiency.

89. The Kenyan Authorities have recognized the need for a complete reform of competition policy based on freedom of pricing, effective internal and external competition through trade liberalization, tax reform and the removal of regulatory barriers to firm adjustment. At the same time, adequate safeguards against

restrictive practices on the part of management and labour, abuse of market power and import predatory pricing, would be provided.

90. It is in this context that the *Restrictive Trade Practices, Monopolies & Price Control Act* was introduced in 1988 and became effective from February 1st, 1989. Competition law enforcement is carried out by the Commissioner for the Monopolies & Price Control department of the Treasury and/or the Office of the Vice-President and Minister of Finance, under the policy direction of the latter.

91. It is fair to recognize that Kenya still has not had much experience in enforcing the law against restrictive trade practices. To this regard, it is recommended to seriously consider the creation of an independent *Competition Commission*, which would act as a watchdog on all matters related to internal and external competition. This Commission would advise the Government on measures to be taken to maintain fair business practices and investigate claims. Given the size of the country's economy, it would perhaps be better to extend its mandate to cover other policy-imposed constraints to firms' competitiveness adjustment and advise on all market distortions including trade and labour market regulations. The Commission's institutional arrangements would be inspired from those prevailing in other countries *(see World Bank, ISP no. 43, February 1991)*. Its members would represent the Government (executive and judiciary), the private sector, and consumer representatives. The balance between its investigatory, executive and advisory powers on unfair practices will naturally need to be carefully thought through in the Kenyan context to ensure it is sufficiently insulated from political pressures to keep its independence and serve a fair purpose.

Export and Investment Promotion

Export Promotion

92. Recent surveys of exporting firms *(World Bank/TPD, 1993)* show that installed manufacturing facilities would require considerable strengthening and reorientation to enable firms to sell their products in more demanding markets of industrial countries. Missing in Kenya is access to consulting services in market research and exploration, product and packaging redesign, product inspection and improved quality control systems, cost reduction at all stages of supply, travel to export markets, preinvestment studies for export projects, distribution and selling operations in export markets, or the acquisition of design and process know-how.

93. Against this background, success in export development will depend, to a large extent, on government's willingness to implement a two-facet export strategy including, on the one hand, the design and implementation of efficiently administered incentives and export procedures, and, on the other, the development of institutional support services. In this regard, the establishment of a presidential-level council based on the Korean model, which hears cases of dysfunctions in export policies

and services (marketing, procedures, ...) as well as proposals to improve promotion, could provide a valuable starting point.

(i) Revision of Incentives

93. The substantial anti-export bias arising from import protection has not been offset by measures to support exports. Even as late as 1987, direct restrictions on exporters were greater than any direct support available to them. Cumbersome export-licensing procedures were a dominant fact of life for exporters, whose only direct support was the poorly functioning export compensation scheme initiated in the 1970s (this scheme was completely phased out in September 1993) and a manufacturing-under-bond (MUB) facility established in 1984. Both schemes had serious problems, and neither was effective in offsetting disincentives to export. In this setting, the trade reform programme of the late 1980s sought to eliminate the burdens on exporters and increase support for them. New incentive schemes were introduced in the early 1990s for relieving exporters from duty and/or tax burdens, including the Duty/VAT Remission (DVR) facility and the Export Processing Zone (EPZ) scheme.

Duty/VAT Remission (DVR) Scheme

94. Started in October 1990, the DVR scheme is aimed at achieving duty and tax-free status for firms exporting less than 100% of output. The scheme is operated by the Export Promotion Programmes Office (EPPO) within the Treasury, and has been steadily revised and expanded. There are reportedly some 110 firms regularly taking advantage of the scheme, and EPPO estimates that there are probably around 500 firms who could eventually benefit from such a scheme.

95. Two options are available: the single order arrangement and the six-month continuous arrangement. Around two-thirds of firms opt for the first option. This only applies to situations where an exporter imports items in advance, specifically to fulfil firm export orders already received. Two lengthy forms have to be completed for each individual application. Physical audits take place for each separate application. The second option requires applicants to give evidence of past export performance, and details of production and export plans for the coming six months. On that basis, they may import inputs duty-free for that approved requirement. A recent innovation is the extension of the scheme to indirect exporters. Around ten firms are already taking avantage of this, which allows suppliers to exporters to access their inputs duty-free.

96. There are complaints from exporters that this is a very restrictive scheme involving laborious paperwork and procedures. It is therefore understandable that EPPO is quickly becoming overloaded and is pressing for more staff. According to Singer *(1993)* who reviewed export assistance and export incentives on behalf of the World Bank, the solution lies in a different direction: the time has now come to develop this rudimentary scheme, taking advantage of experience elsewhere on how

to balance the risk of revenue loss against minimising the costs and delays to exporters of the process. Concepts such as systems audit, period entry, risk-based sampling and automated random selection for inspection could naturally improve and simplify the current scheme, and, over time, assist EPPO in achieving the above objectives. At the same time, the EPPO woarkload per exporter would be dramatically reduced using these innovations.

Manufacturing-under-bond (MBU) scheme

97. After five years of existence during which hardly any firms were licensed under this scheme, the scheme became properly operational since 1989. It is available only to 100% exporters, and has in practice been taken up primarily by local investors, foreigners opting instead for the EPZ scheme. It is understood that 30 to 40 firms are now operating under the scheme, all but two of them being garnment assemblers. These firms typically operate under CMP contracts ("cut, make and pack"), essentially for the US market. Under a CMP contract, the customer retains ownership of the cloth and fittings, and the factory obtains a CMP fee per garment assembled. The two exceptions are a canvas sewing factory and a cutter of Tanzanian semi-precious stones.

98. The system still operates on the traditional basis of having two locks on all storage areas, so that the Customs officer, who is posted full-time to an individual factory, can authorize, and physically supervise, all movements of stock, using his second lock.

99. According to Singer, arrangements for local sales appear discretionary. If the MUB firm can "give good reasons why he cannot export particular goods", he may sell a seemingly unlimited percentage of its output into the local market, on payment of 20% import duty (on garments), plus a surcharge of 2.5% in addition to compensate for all its other advantages over local competitors. This type of discretionary arrangement is much subject to corruption and unfair competition. Local sales should normally be limited to a fixed small percentage, adequate to cover genuine offcuts only. Normal duties should apply.

100. The approval process itself is also considered unsatisfactory. As with almost all situations in Kenya where a new business is to be started, the Investment Promotion Center (IPC) undertakes case-by-case screening of each individual application. For some reason, the applicant is required to have "evidence of market" such as a letter of intent from a buyer. He must be also screened as to whether IPC consider him able to export Ksh 10 million per year, and/or employ at least 50 employees. From Singer's viewpoint, this screening process should be dropped, ideally along with all other similar prior screening procedures affecting new business activities, in favour of clear contractual obligations on each new operator, and a procedure that in effect merely registers each new operator. Thus, anyone willing to undertake the contractual obligations would be automatically allowed to set up, as long as his details were registered.

Export Processing Zone (EPZ) Scheme

101. The EPZ Act was passed in 1991. The scheme provides an attractive investment opportunity for export-oriented business ventures within designated zones. Sameer Industrial Park was the first private zone in operation, but several other private zones are in various stages of preparation around Nairobi, Nakuru, and Mombasa. Athi River EPZ is the largest zone and is publicly owned. As per June 1995, 42 enterprises had been granted enterprise licences and 20 of them had started their operations. The remainder were in the process of obtaining business premisses within the zones.

102. The Export Processing Zones Authority (EPZA) was established to operate firstly as the authority regulating EPZ activities: all approvals and licences required under the *EPZ Act* are processed by EPZA. It would appear that the original intention for EPZA was not to extend it into becoming either a developer of zones, or an operator. In practice, EPZA appears to be taking on the role of zone developer (e.g. in the case of Athi River). As such, it competes directly with those zones it is charged with regulating. The role of EPZA should be clarified quickly.

103. There appears to be no provision in the EPZ Act for "single-factory zones". Yet EPZA has already authorized two. One will produce banknotes near Nairobi, and was apparently justified by EPZA on the grounds that it requires a more secure situation that can be provided within a multi-factory zone. The other will assemble garments at Mombassa, and was granted this special status apparently as a means of attracting 500 jobs into the country.

104. According to Singer, the situation regarding single-factory zones requires clarification, rather than being authorized on this discretionary case-by-case basis. Any single-factory status should be freely authorized, so long as the operator is willing to enter into contractual obligations, satisfactory to Customs, that protect revenue integrety and maintain fair competition with local industry. Effective single-factory EPZ legislation was a major factor in the success of Mauritius' export performance. It could perhaps work the same for Kenya.

Conclusions

105. There is clear evidence of the weaknesses in the effective implementation of an otherwise competitive regime for exporters. The MUB scheme is plagued by an overly bureaucratic application process that limits access to the programme and unnecessarily delays the investment process. Once operational, MUB firms are commonly confronted with multiple clearance requirements. Likewise, hard criticism has been directed at the DVR scheme for its complexity and its documentary requirements. Finally, the implementation of the EPZ programme remains problematic, due to factors such as failure to consolidate regulatory control of the programme under the EPZA, and critical need for the adoption of formal and explicit application, designation, and operational procedure.

106. Once these problems are resolved, the Government can turn to removing some of the distortions among different schemes. The most striking area of inconsistency lies in differences in treatment between the MUB and EPZ programmes. Both schemes are designed for the same purpose: to encourage investors to set up 100% export operations, operating free of duty on capital equipment and inputs. In practice, EPZ operators have been foreign firms, able to bring in the foreign exchange with which they are required to pay for setting up their factory. Local operators either have genuinely not been able to accumulate foreign exchange, or they do not seem to trust the assurances made that they will not be questioned about the sources of foreign exchange brought in for this purpose. Thus local operators have opted for the MUB scheme.

107. The tax regime is more favourable under EPZ than MUB: operators are granted an initial 10-year tax holiday, after which they pay a reduced corporate tax of 25%. In contrast, MUB operators receive no tax holiday, but do receive a 100% investment allowance against tax.

108. EPZ operators work within a fenced enclave, where movements within the enclave are not checked physically. MUB operators work under the double lock system, where all movements of stock have to be authorized and supervised by their resident Customs officer.

109. The treatment of local sales is also different. For MUB operators, it involves a duty surcharge. For EPZ operators, local sales are, according to EPZA, negotiated on a "case-by-case" basis. EPZA says that the percentage negotiated so far has been in the range of 15-30%, which is very high by international standards and encourage unfair competition against established local manufacturers.

110. MUB operators understandably complain at these distortions. They have been lobbying to be granted the status of "single-factory EPZ", operating with the same benefits as their competitors in the zones. The view of most businessmen and experts is that the two schemes should be merged into one, with a reconsideration of existing incentives as to their appropriateness.

(ii) Institutional Support

111. The first institution established to provide export promotion assistance to Kenyan firms is the Kenya External Trade Authority (KETA). Once an independent body, KETA was absorbed into the then Ministry of Commerce, following the resignation of its private sector boards members in 1985-87. Despite extensive donor support, KETA's bureaucratic orientation and lack of accountability to the private sector make it unsuitable for providing the broad range of services required by exporters, especially small & medium-size firms.

112. The Export Promotion Council (EPC) was set up in August 1992, directly linked to the Office of the President. The idea behind the creation of this presidential-

level institution (based on the Korean model) is that during the reform process, what matters is that the reality facing exporters is constantly fed back to those in charge of formulating and implementing policies. Only through this continuing process of dialogue can high-level pronouncements be translated into helpful implementation-level improvements, that actually make a difference to the individual exporter. Unlike the KETA which was a government "trade promotion organisation", the EPC acts as a useful formal channel operating at the highest level.

113. The Council has fourteen members, five of them are senior officials from key ministries and the other nine are prominent individuals and association representatives from the private sector. The EPC has also set up nine specialist Panels, dealing with such aspects as banking, energy, tea & coffee, horticulture, and textiles.

114. Besides this formal channel, what operates in parallel in most countries is a host of lower-level and less formal channels, dealing with narrower fields of interest, but all serving to keep the Government fully aware of the impact on exporters of policies and legislation. As with so many developing countries, these channels are under-developed in Kenya. However, promising signs are emerging. The Kenya Association of Manufacturers (KAM) has recently set up an Export Development Committee, which regularly produces and disseminates submissions to government. This initiative is being supported by the USAID-funded Kenya Export Development Support (KEDS) project. There is as yet no association specifically representing the special interests of exporters, so KAM's initiative deserves every encouragement.

115. Another area of critical importance to export expansion is the development of private sector specialist support services for exporters. In the private sector, little or no service provision is as yet being attempted by the various associations. The national chamber of commerce would normally be expected to provide general support services to its members. However, we understand that the national chamber in Kenya has had major organizational problems and does not seem to be in a position to offer substantive and meaningful services at the present stage.

116. In early stage of liberalization, many of the services required have to be sourced from overseas, as local suppliers of such services have not yet time to respond to the new demand. Nevertheless, over time, local suppliers will develop, and should be encouraged. According to the KEDS project, this process has begun in Kenya, and local suppliers of export market research services, for instance, are emerging. The process will expand concomitantly with the expansion of the demand.

Conclusions

117. The KETA experience of central provision of services to exporters has not been successful in Kenya as in anywhere. It is based on the misconception that what is required is one single central supplier of services. In reality, only an active market of many specialised commercial service suppliers can ever hope to meet the various firm-level demands of export expansion *(Singer, 1993)*.

118. On the other hand, the EPC, as a structure intended to be a useful formal channel operating at the highest level, has yet to prove its usefulness to the exporters. For the time being, it continues to face a great deal of cynicism and disillusion amongst the exporting community, as to whether the Government really would start listening to them in detail, and take action to keep improving the regulatory environment. Long years of heady high-level pronouncements, followed by continuing obstruction at the operating levels, had fostered this cynicism; and the EPC has so far done little to shift that cynicism. The general concern is that the EPC sees itself as filling the role that KETA had failed to fill. If so, this would be a counterproductive diversion from its real role, that of providing an effective dialogue channel for exporter feedback to the Government.

Investment Promotion

Restoring Kenya's image

119. Kenya has been going through a period of ambiguous transition, and is now in the middle course between an environment characterized by rigid regulations and state intervention, and a new environment that is only partially defined, with the rules of the game not always explicit for the private sector. In this context, investment promotion should particularly focus on restoring the country's image. Effective promotion of investment would include undertaking image-restoring measures to counteract lingering negative image and a clear articulation of what the Government wants from domestic and foreign investment and then targeting promotional efforts on relevant groups of potential investors.

120. Especially with regard to foreign investment, what matters is not the absolute level of incentives Kenya offer to potential foreign investors but the relative attractiveness of Kenya as a destination of an increasingly mobile international capital. The experience of other countries in attracting foreign investment would provide important lessons. Tax holidays and other fiscal incentives are usually not the decisive factors in attracting foreign investors and may, on the other hand, hurt the country by encouraging the possible exit of firms once the period of tax holidays is over. Increased automaticity and transparency of incentives and regulations could be more important to foreign investors than tax breaks.

121. Perhaps, the single biggest obstacle to Kenya's investment development is the general perception that Kenya is a difficult place to do business. To break free of this reputation, the country must make sure that the business environment is more receptive to the investors' needs, by simplifying approvals and authorizations affecting the business transaction. To this regard, what is required is to achieve a balance between, on the one hand, the government's legitimate interests in intervening in the business transaction, and, on the other, the intense international competitive pressures on the manufacturer, compelling him to minimize the costs, delays and uncertainties affecting the transaction.

122. It is well recognized that investment approval procedures in Kenya, whether for a EZP firm, a MUB operation, or a business operation outside a formal export promotion scheme, suffer from the same constraint - they are complex, time-consuming, and ambiguous. As noted above (see §100), prior screening procedures adopted by IPC for investment approvals are outdated and counterproductive, as are the screening procedures applied to trade licensing. For the latter, the law stipulates that every individual wanting to set up in business needs to obtain a trade licence. The licensing is administered by the Ministry of Commerce & Industry. Applications are apparently checked individually on various counts. Health and safety aspects may be checked by the Ministry with the Health Inspector. The Ministry may check that the applicant has permission from the owner of the property on which he intends to carry on business. The licence is issued for a period of one year.

123. To the business community, this concept of screening applicants, in advance, to decide who may and who may not carry out normal business activities, is completely outdated and counterproductive for a country desperate to expand business activity, particularly in exporting. To repeat this process every year makes the whole procedure even worse. Instead, the Government had better decide in advance, and specify publicly, those few activities which it does not wish to take place in Kenya (e.g. arms manufacture). This will form the "negative list". With this list made known to each new prospective business, the onus will be transferred onto the business itself to stay within the known law. Thus, no distinction will be made between the legal obligations facing an existing business and those facing a new entrant. Under such conditions, the task for the authorities changes from one of screening in advance to one of registering business details for information purposes. Any applicant providing the required information will thus automatically be registered. It will be his responsability to inform the authorities of any changes in these details, rather than automatically repeat the process each year for every business.

124. The sooner these various problems can be overcome, the faster the industry will develop and the faster Kenya will benefit from the market opportunities generated by trade liberalization.

Tax Incentives and Investment

125. Tax reform over the past years has brought down the company income tax rate from 45 to 35%; taxation of dividends has also been reduced, with only a one-time 10% withholding tax at the time dividends are paid, and the capital gains tax has been removed. According to the World Bank *(WB/COD, 1993)*, these across-the-board measures make Kenya very competitive from the standpoint of business taxation among developing countries.

126. However, as noted by the World Bank, Kenya also has a number of targetted tax incentives that are costly, cumbersome to administer, and whose value in terms of incremental investments appear to be very doubtful. These concern the following:

- *Duty-free imports of capital equipment (not exceeding Ksh 5 million) for plants located outside Nairobi and Mombasa;*
- *Up-front expensing of capital equipment and buildings for manufacturing industries and hotels at the rate of 35% for Nairobi and Mombasa, and 85% elsewhere;*
- *Reduction of import duty to 10% for capital equipment in any foreign-financed venture when Treasury is satisfied that the venture will either generate or save foreign exchange on a net basis;*
- *For the EPZs, a 10-year income tax holiday and a maximum tax rate of 25% thereafter, optional 100% expensing of machinery and buildings in the first 20 years, and also duty-free imports of machinery;*
- *And for the MUB scheme, 100% expensing and duty-free imports of machinery.*

127. The Bank's view is that recent reforms in Kenya's company income tax have made it very competitive among developing countries from the standpoint of business taxation; so rather than the *ad hoc* preferences which are costly to administer and add little to investment decisions, the Government would better create a more attractive climate for investment by further reducing the number of licences and registrations required (e.g. abolitions, not temporary waivers) and streamlining the administration of the remainder.

Rationalizing the Regulatory and Legal Framework

128. Rationalizing the regulatory framework thus stands out as one of the most important measures to restore Kenya's image. It is often cited that among the biggest impediments to the investment production and export performance of small & medium-size firms - over which they have no direct control - are various government regulations, bureaucratic procedures and official discretions. In addition to national trade licences, under the *Trade Licensing Act*, every local authority requires all a range of business licences. They vary greatly, depending mainly on the fiscal needs of the particular local authority. According to several government officials, there has been a rapid expansion since the 1980s in the diversity of licences and levels of fees at the local level. This has been driven largely by the increasing cost of local service provision, due mainly to population growth. Enterprises now face a multiplicity of licences that seriously impinge on their business decisions, especially for geographically diversified firms.

129. According to the Bank's private-sector firms survey *(WB/PSD, 1992)*, to do business in Kenya, a firm reportedly requires an average of 15 licenses a year, the processing of which costs the firm an average 233 man-hours a year (the number amounts to 49 licenses/year for a large firm, which costs it 816 man-hours). Harassement by officials under the guise of enforcing the licensing and registration requirements is common, and it is also reported that bribes and other payments to facilitate the processing of licensing and registration constitute as much as 66% of

the direct (legal) processing costs. Moreover, excessive centralization of business registration in Nairobi means extra cost burden for those who do not reside in the capital city.

130. The *Investment Promotion Center (IPC) Act* was amended in 1992 to allow the IPC, if so requested by the investor, to procure all the licenses and registrations required by the Central Government. This service by the IPC would only be provided (due to logistical reasons) only to new investment above a minimum value (initially set at Ksh 5 million), and licences and registration so procured would be valid for 12 months; after that, the investor would be on his own to deal with the several bureaucracies.

131. On the other side, the number of laws controlling or restricting domestic business activity of private firms are too numerous to enumerate. They are characterized by their lack of clarity, their potential for excessive official discretion, and their uncertainty. According to the Bank *(WB/TPD, 1993)*, the extremely high level of Executive, Ministerial and lower-level official discretion in commercial matters found in the current legal system substitutes political influence for any level of commercial predictability. This increases the opportunity for corruption, and decreases the ability of businessmen (especially small firms) to predict profits. The extent of such discretionary power is too large to catalog.

132. As elsewhere, Kenya laws are often unclear. The codification of laws has proceeded at a slow pace, because of the common law basis on which much of the legal systems rests. The most serious ambiguities in legal enforcement arise from overlapping jurisdictions, inadequate case law and implementing regulations, not enough or irregular legal information, and the inability of the laws to keep up with economic developments (just refer to the former system of regulatory instruments implementing the *Exchange Control Act*, which was needlessly complex).

133. The major issue in the regulatory framework, however, is not the regulations as such but the manner in which they are implemented and administered. The very existence of numerous laws and regulations is an encouragement to corruption and uneven treatment. Clear and simple laws, effectively implemented are necessary for stable expectations which are essential for investors who have to commit themselves to long-term business decisions. Uncertainty about the rules of the game, including the capricious interpretation and actions of implementing officials, is often more important to foreign investors than tax exemptions on profits yet to be made.

Labour Market Deregulation

134. Labour market policy constitutes another highly regulated area which affects firms' flexibility to adjust labour costs and skills. According to the World Bank *(WB/COD, 1993)*, two of the features of this policy need to be revised and

amended. These concern the restrictions on permanent layoffs and the wage guidelines. Although the motivation for both is to protect and increase employment, they may be counter-productive in the long term.

Redundancy Regulations

135. The restrictive regulations on retrenchment certainly present difficulties to employers. Kenya's labour laws distinguish three types of termination: disciplinary or automatic termination, temporary layoff, and permanent layoff. The *Regulation of Wages & Conditions of Employment Act* (1989) specifies the conditions that warrant disciplinary termination, but allows workers to challenge. The *Trade Disputes Act* of 1965 stipulates the legal regulations in respect of redundancy (both temporary and permanent layoffs), and almost all collective bargaining agreements have redundancy provisions (including severance compensation provisions which usually exceed the legal minimum allowance).

136. Temporary redundancy does not require government approval, provided it has been agreed with the affected workers or negotiated with the union. Otherwise, they automatically go the Ministry of Labour, who can force a resolution or refer the dispute to the Industrial Court for final decision.

137. On the other hand, permanent layoffs, even when the affected workers or the union give their consent, have to be approved by the Minister of Labour. In case of any objection from the workers or the union, the dispute is filed with the Minister of Labour. The Minister then appoints an investigator to scrutinize the validity of the reasons given by the employer to justify redundancy. The process is known to be subject to the labour inspector's discretion as there are no standards to guide how he may choose investigation targets, conduct inspections, or determine violations. However, based on the investigator's findings, the Minister can try to broker an agreement, but he is not empowered to force a resolution. Such cases must be referred to the Industrial Court for final decision. The process normally takes three to six months to clear disputes after they reach the Industrial Court. The view of most government officials and private sector parties is that large permanent layoffs are politically sensitive and much more likely to be blocked or rescheduled.

138. The Federation of Kenya Employers (FKE) cites the restrictions on permanent redundancy as its main problem with the labour laws. As a way to circumvent government regulations on redundancy and to maintain some operational flexibility, employers often use casual workers instead of full-time and part-time workers. Although the law requires a casual worker to be converted to a regular worker after working for three months with the same employer, employers circumvent this by terminating a casual worker before the period ends up, and rehiring him after a break. Since casual workers also do not have rights to nonwage benefits and to severance pay on termination, these workers are worse off than in the situation where they would have been hired as regular employees if the restrictions on permanent layoffs did not exist.

139. While the redundancy provisions are too restrictive, the required minimum 10-day severance allowance per year of full-time equivalent service appears to be a bit low. In fact, in most collective bargaining agreements, a 15-day minimum is more common. From the Bank's viewpoint, a system that allows firms more autonomy in hiring and firing employees, combined with more generous severance allowance to discourage frivolous or punitive redundancy or with provision of an adequate safety net and training for workers made redundant, would represent a significant improvement over the existing one. There have been discussions among the Government, the FKE, and the Central Organization of Trade Unions (COTU) towards introduction of this type of reform, but no agreement has been reached yet. Meanwhile, to minimize the delays in processing redundancy cases, the Bank suggested to lay down a timetable binding all the parties, so that no one party can drag out the redundancy process by refusing to cooperate.

Wage Guidelines

140. The Government also intervenes in wage determination in the modern private sector by specifying the minimum and maximum limits for negotiated wage settlements. Introduced in 1973, the Wage Guidelines guide the Industrial Court in adjudicating a particular trade dispute or in considering the registration of a particular bargaining agreement. The Court cannot allow wage agreements that do not conform to the guidelines. Public sector wages are not affected by the guidelines; they are set by the Government through periodic reviews and schemes for various categories of civil service and public sector workers.

141. Wage guidelines have been revised several times since their inception to take into account changing economic circumstances. The latest guidelines issued in February 1987, include the following provisions:

- *Overall wage increases should not exceed three quarters of the rise in the cost of living (however, full amount of the cost of living increase could be allowed for the lowest paid groups);*
- *The Industrial Court should seek to limit increases in wages in one industry if these would force wages up in other industries which are less able to afford them;*
- *Special efforts should be made to ensure that higher wages do not lead to higher prices whether in export industries or industries producing primarily for the local market;*
- *Ultimately, awards received by one group of workers should not be significantly out of step with those given to workers with similar skills (for that reason, it has been specified in the guidelines that ability to pay higher wages should not be accepted as an adequate and conclusive reason for wage increase).*

142. In addition to limiting wage increases, the guidelines, combined with the related labour regulations, appear to have limited disruptive disputes between

workers and employers. However, the Bank views these guidelines as very much conducive to causing adverse impacts on economic efficiency. *Primo*, they may be inducing considerable distortions in the relationship between productivity and earnings. *Secundo*, by compressing wage differentials between more skilled and less skilled workers they may be reducing incentives for workers to obtain more skills. And *tertio*, by limiting the flexibility with which employers can reward workers they may be discouraging growth of the more efficient and dynamic firms. It should also be mentioned that wage indexation schemes in general reflect the basic disadvantage of freezing a key production cost. This means that in response to changing economic conditions, producers are forced to depend more on adjustments on quantities (employment) than on prices (wages).

143. From the Bank's viewpoint, the economy would be better off if the Government would use monetary and fiscal policy to control inflation, rather than the guidelines to restrict the ability of employees to maintain their real wages. It would be good, therefore, for the wage guidelines to be simply abandoned.

Infrastructure and Public Sector Efficiency

Infrastructure Constraints

144. As underlined in various survey reports *(WB/PSD, 1992; WB/RPED, 1994/95; USAID/KEDS, 1994)*, public infrastructure inadequacy is a major constraint on enterprise efficiency and competitiveness. The infrastructure problems are well known, and reflect declining investment effort by the Government. The share of maintenance and new investments in roads, transportation, communications, electricity, gas, steam and water fell from 9.8% of total central government expenditures in FY1981-85 to 6.2% in FY1986-90, and to 3.6% in FY1990-93.

145. The Keynian manufacturers suffer from frequently interruptions of publicly provided infrastructure services such as electricity, water, telecommunications, transport, and waste disposal, and the declining quality of these services when and where they are available. This has forced manufacturing firms to undertake extra investments in power generation, bore holes, waste disposal, security and other infrastructure facilities. Such extra investments raise industrial costs and make it difficult for local manufactured products to compete in price with their imported counterparts. By unduly enlarging the overhead and running costs, they lengthen the gestation period of industrial projects. On the other hand, they absorb resources that could be used more economically elsewhere.

146. The causes of public infrastructural failures are of two kinds. The first is relatively well understood and relates to shortcomings of the technology which is used in the public sector, including problems in the day-to-day management and operations and maintenance (O&M) of the facilities. The second is more complex in nature and less well controlled: it is associated with general problems of administration, bureaucracy, planning, metering, billing for services delivered, revenue collection, personnel training in the public sector, and lack of appropriate

incentives for management and personnel. This second set of factors has remained the key problem over the years because further investments in additional facilities are easily rendered ineffective if the institutional organization and logistical support systems are lacking.

147. According to the RPED survey round in 1994, firms reported further deterioration (compared to the survey round in 1993) in the majority of infrastructure services, especially in roads, ports, electricity, freight, transport and telephone services.

(i) Roads: Road rehabilitation has been reported as the most critical concern to the business community. The private sector has criticized the rising cost of road tolls imposed by the Government on commercial vehicles, while at the same time road conditions have deteriorated and maintenance has been inadequate on both major highways (notably the Nairobi-Mombasa highway) and secondary roads. The recent replacement (end 1993) of road tolls by a fuel-based levy is earmarked for raising sufficient funds (Ksh 1.5 billion) for road maintenance, but estimates suggest that poor roads are costing Kenya Ksh 10 billion each year in extra vehicle operating costs *(World Bank, 1995)*.

(ii) Ports: Kenya's ports are also reported as no longer able to cope with freight movements in either direction, the port of Mombasa being permanently clogged up. Transit users are reportedly exploring alternative routes, as local importers and exporters continue incurring heavy losses related to port delays and wastage. The situation in the airports is equally unsatisfactory. A cargo handling company at Kenyatta International Airport was forced to impose a five-day embargo on imports of general cargo to unplug the freight clearing system. The cargo terminals at the two main international airports are often congested, and navigational equipment in all airport is purportedly in poor state and subject to occasional failures *(The Economic Review, February 1995)*.

(iii) Electricity: The problems with electricity are partly due to a rising demand from private and commercial consumers which has exceeded the current capacity for electricity generation. There is also a poor administration and the poor cost-recovery record of the Kenya Power & Lighting Company (KPLC), a parastatal which has a virtual monopoly over the generation and transmission of hydroelectric power in the country. For a new manufacturer, an application to be connected could take a long time to process. At the same time, there are numerous stories of unbilled electricity consumption and illegal connections to the lines. Due to inefficiencies in the KPLC, the cost of electricity delivery is higher than it should be. During the frequent dry spells, power supply is rationed for all consumer categories. This has a deleterious effect on production equipment of firms. Some firms have had to invest large sums in standby power generation equipment.

(iv) Water: Chronic supply problems have kept industries away from certain urban centres in the country, Machakos town being a good example. The water supply problems are especially important in the food industries.

(v) Telecommunications:The Kenya Post & Telecommunications Corporation (KPTC) has a monopoly over all postal and communications services in the country. As in the case of KPLC, the lack of contestability of telephone bills has led to much inefficiency. There also have been complaints about the widespread, but illegal use of subscribers' numbers. The slow service delivery is often a deliberate attempt, for those in the system, to generate rents for themselves. Telephone services, not surprisingly, are reported to be very problematic by the surveyed bigger firms (this is naturally the most modern segment of the manufacturing sector, and telephone services are a must).

(vi) Waste disposal: Like water supply, waste disposal is mainly under the responsability of local Authorities. Many of the structures are quite old and unable to cope with the rapid growth of urban centers. Nairobi's waste disposal and drainage systems is under great strain. More than half of surveyed firms located in this area reported waste disposal as a major impediment to their manufacturing activities.

148. In the face of public sector's major shortcomings in the provision of infrastructure services, the private sector has expressed its willingness and ability to play a useful role in managing the infrastructural services (e.g. in road maintenance). Private participation may turn the market for infrastructure more "contestable", thus increasing the overall efficiency in service delivery and supply.

Public Sector Efficiency

149. According to the World Bank calculations *(WB/COD 1993)*, the trend real growth rate of fixed capital formation by public enterprises in the infrastructure services from 1981 to 1991 is statistically not different from zero. The very low growth of investment by public enterprises in infrastructure is mainly a reflection of their inefficiency, which makes them unable to generate investible surplus. The decreasing share of infrastructure in government expenditures (as quoted above) is symptomatic of increasing problems with the composition of government expenditures. In particular, the wage bill is so high that in some ministries, it constitutes over 70% of recurrent expenditures leaving little for operations and maintenance. Another item of expenditure, that has been increasingly diverting resources from investment, operations and maintenance, is interest payments. These payments, both on behalf of the central government and parastatals unable to service their loans, have been growing rapidly in recent years, taking on average almost 20% of total government expenditures during FY89-92 compared with an average of 13% during FY81-85.

150. The efficiency of the parastatal sector in Kenya has been amply examined by the World Bank, which concluded that this sector has not been an effective vehicle for efficient investment and growth. The major findings on investment, efficiency and growth are highlighted here. During 1986-90, the public-enterprise sector accounted for 16% of gross fixed capital formation. However, whereas overall GDP grew at an average rate of 5% p.a., the average growth of the parastatal sector was 0.5% p.a.. The ICOR (a proxy for the efficiency of investment) during this period was 7.8 in majority-state-owned enterprises and 10.8 in minority-owned ones, while that for the rest of the economy was 3.7; this indicates that on the average, it took more than twice the amount of capital to produce a unit of GDP in the parastatal sector as compared to the rest of the economy. Whereas Total Factor Productivity (TFP) growth (a measure of efficiency in the utilization of both capital and labour) during 1986-90 averaged 5.4% a year for the economy as a whole, it was negative in the parastatal sector. In fact, according to the Bank, had productivity growth in the parastatal sector matched that in the private sector, overall GDP growth during this period would have been higher by two percentage points a year. There is clear evidence that the parastatal sector is a drag on Kenya's economic growth.

151. The Kenyan Authorities have recognized the need for a comprehensive reform (including privatization) of the sector, and are implementing a reform programme with the assistance of the Bank and other donors. To improve the efficiency of Kenya Ports Authority (KPA), the Government has requested Singapore Port Authority (SPA) to manage and operate the container terminal at the port of Mombasa. A programme for the restructuring of Kenya Railways is underway, and there are also plans of allowing private sector participation in power generation.

Basic Production Factors

Labour and Utility Costs

152. In 1993/94, the KEDS project (see §114) undertook a study to examine the current export competitiveness of Kenya with respect to a selected group of African countries[1] *(USAID/KEDS, 1994)*. Among other things, the study examine the basic economic factors important to export performance. As noted, Kenya ranks highly competitive in terms of its basic economic factors. Land and facilities for most export operations are readility available at a reasonable cost, matched only by Mauritius and South Africa. Labour is a key advantage, with competitive wages and reasonable productivity. Basic infrastructure in Kenya is generally solid and competitively priced. The cost and reliability of utility services are favourable, compared to regional standards, although recent shortages in electricity and water supply have proven problematic in some areas of the country. There are, nevertheless, notable shortcomings in the areas of export financing and trade & transport logistics.

[1] The sample includes nine countries: Kenya, Uganda, Tanzania, Zimbabwe, South Africa, Botswana, Mauritius, Ghana, and Tunisia.

Export Financing

153. As noted by the study, Kenya's export finance capacity is limited, in comparison with other countries. This poses a real constraint on export expansion, particularly to new markets. Since the suspension of export finance facility, few alternatives have emerged.

154. Other countries have established a number of programmes which provide instructive approaches for supporting export industries with pre- and post-shipment finance. These include the establishment of direct rediscount facilities via the Central Bank, the development of standard trade finance instruments, and the establishment of a credit guarantee facility. While the Government is reluctant to re-establish a financial facility through the Central Bank, the latter two should be immediately and aggressively pursued. Both will rely on private initiatives by commercial banks and other financial intermediaries.

Trade and Transport Logistics

155. Kenya offers relatively high-quality transport services compared to the surveyed countries. International transportation linkages are available at affordable cost, and distribution networks are more extensive than neigbouring locations. However, the transport utilities are all parastatals, and all suffer from a shortage of funds for rehabilitation and investment.

156. The Economist Intelligence Unit (EIU) in its 1994-95 Country Report on Kenya cited the absence of strategic thinking on the part of the Government, which was highlighted by the sudden announcement in December 1994 that a third international airport (to join Nairobi and Mombasa) is to be built at Eldoret in Rift Valley Province, and that a contract has been awarded for Ksh 3.7 bn to Canada's SNC-Lavalin. Supporters of the project point out that the airport would service the fast-growing horticulture industry and provide access to western and north-western Kenya. Its critics suggest that if the Government could afford the project, for which no provision was made in the 1994/95 budget, the funds would be better applied to the badly needed rehabilitation of the Nairobi-Mombasa highway, at an estimated cost of Ksh 4.5 bn, or to the modernisation of the primitive airport at Mombasa, which already handles tens of thousands of tourists per year.

4 Competitiveness and Industrialization: The Issues at Stake

157. This chapter approaches competitiveness analysis from a different vantage point, that of industrial/technological capabilities. The increasing interdependence and globalization of the world economy has altered the dynamics of competitive advantage. It has become clear that competitiveness based on low wages has now diminished in importance; others concepts of industrial competitiveness based on quality, technical know-how, research & development, and capacity for innovation are, on the other hand, increasingly gaining in importance. This means, in an era of dynamically changing technologies, the building of technological capabilities, which will eventually shape the patterns of competition, growth and trade among developing countries and the world at large.

158. The analysis below focuses on the process of industrial/technological capability development in Kenya, relating this to evidence on market failures that affect technological deepening within firms and identifying the most important support measures that need to be undertaken to overcome these deficiencies. Reference to the more dynamic and internationally competitive East Asian economies will provide useful benchmarks for devising an adequate set of policy measures to support the development of Kenya's industrial/technological capabilities.

Issues at Stake

Skill Development

159. Of all the constraints to industrial development (and hence industrial competitiveness), the most common and often the most important is the lack of human, especially technical and managerial, capital that industry has to work with. This is so well recognized that it need not be belaboured here - what is surprising is that the design of the liberalization programme in Kenya hardly takes into account the need to build human resources to cope with international competition. The pace of liberalization is generally much faster than any economy is able to provide the new skills and capabilities that industry needs, yet the opening up actually destroys many of the skills that have already been built up.

160. In Kenya's reform process, human capital is, somewhat regrettably, associated with initial education levels and health and living standards. As such, the

kind of policy design for human resource development is essentially "functional" (which means that it does not try to direct resources to particular activities, but only remedy generic market failures). The creation of skills at the school level, and in some tertiary education, is broadly non "selective".

161. In reality, there must be much more to it: the main component of human capital should be the level of skill accumulation acquired by experience (reference to the learning process), to which formal education is only a favourable or enabling condition. The skills which deserve immediate attention are the provision of better and more training in specific industrial skills for the most important industry clusters which would form the dynamic edge of industrial growth. This need not wait for longer-term investments in education and vocational training, which are of course also necessary.

162. Therefore, if the pattern of investment in skills is to be closely geared to specific industry niches (still to be identified), policy intervention here should be highly selective, influencing resource allocation in favour of "winners" picked by the Government. The East and Southeast Asian evidence suggests that many education and technology import policies are in fact extremely selective, with close government direction of the content of enrollments and curricula to ensure conformance with the thrust of industrial policy.

163. The stimulation of in-firm training is another key area of selective policy intervention which may be successful in the medium term. It requires the launching of concerted campaigns to inform firms, especially smaller ones, of the need for training to raise their competitive capabilities in the face of import competition. But informing and propaganda are not enough: firms have to be shown how to train, how much and in what areas; they need teachers and guides; and they need financial support. Often training has to go together with the provision of new equipment, better layout, improved process know-how and more modern product technology. All these may need specific policies addressing their informational, financial and other needs. *(Lall, 1995)*.

Industrial Upgrading

164. The other prong of industrial upgrading is naturally technology. The rapid pace of technological change means that all industries have to be geared to coping with new products, processes, equipment and organizational systems. Surveys in Kenya's industry *(RPED, 1994/95)*, however, suggest that large parts of industry are not in a position to cope efficiently with the technologies that they already have (a large proportion of the equipment is found to be more than 20 years old). The level of productive efficiency and quality tends to be low, and most firms do not (or do not know how to) undertake the training and technical effort needed to approach "best practice" levels of efficiency. Market failures are rife here: information is lacking, costs and returns are risky and unpredictable, there are massive externalities and institutional support is weak.

165. This is indeed the case for strong promotional and support efforts by the Government: this requires a package of skills, information, equipment, training and finance, provided along with a change in the incentive regime and with considerable persuasion from the Government. Individual firms often lack the ability to undertake such efforts on their own, and the tremendous amount of subsidies and effort invested by Asian NICs in raising firm productivity suggests that the market failures involved are indeed considerable.

Technological Capability Strengthening

166. The significance of technological development to industrial competitiveness and economic growth is now universally recognized. Mastery and efficient use of technology require the recipient firm to invest in new skills, technical information, organizational methods and external linkages. The process continues over time, and varies accordingly to the complexity of technology. It may be relatively short, cheap and predictable in "easy" technologies where the knowledge is largely embodied in simple equipment, the range of skills is limited, and the operation is relatively self-contained in an enterprise. In more complex technological processes and sophisticated equipment, the range of skills is, by nature, large, and mastery may be prolonged, costly and risky.

167. The process of learning may thus be distorted and curtailed if firms do not know how to go about learning, how long it will take, how much it will cost, and where to look for information ans skills. Given the cost, risk and information gaps within the firm in learning, firms in free markets will tend to underinvest in technologies that have costly, prolonged and risky learning periods. This will also affect the process of technological deepening: entering more complex technologies, increasing local content, or undertaking more demanding technological tasks (e.g. from simple final assembly technology to design & development activity). This is by far the dominant set of explanations of the slow technological development in Kenya's industry: after nearly three decades of existence, manufacturing still remains with some first-stage assembly and packing activities. Entry into more complex and demanding technologies may be limited by the absence of supportive interventions to overcome learning costs and risks. Such interventions cannot be "functional" - since technologies differ in their learning needs, they have to be "selective" *(Lall, 1995)*.

168. The protection of infant industries is often cited as one (and historically the most popular and effective) means of remedying the failures. However, protection is a double-edged sword. Apart from the cost to the consumer, it dilutes the incentive to invest in capability development, the very process it is meant to foster. In Kenya like in many other countries, the non-discriminating protection offered to import-substituting firms has tended to detract from costly and lengthy investments in competitive skills and knowledge. Many solutions do exist: offer limited protection; impose performance requirements; or enforce early entry into exports markets while maintening domestic protection (the latter has the avantage that it

exploits the externalities generated by the export activity, and was used by the larger NICs). But in the absence of an aggressive outward-looking policy, these measures were not duly considered while offering protection to domestic industries.

169. Another problem area is the promotion of formal R&D by industrial enterprises. As their industrial structure grows more complex, R&D becomes important, not to "innovate" at world frontiers but to adapt and assimilate new technologies and to create new products on the basis of existing technologies. All the NICs have strong promotional measures, including generous tax incentives for R&D[1]. In Kenya, this effort has been rather concentrated on public research institutes (e.g. KIRDI) that are reportedly disconnected from production and contribute little to technological upgrading in industrial enterprises. This is practically a universal problem, and the Government is moving towards reforms, by forcing such research institutes to establish closer links with industry and earn more of their keep from selling their services (so far, it appears that very few Kenyan firms have utilized technical services provided by these institutions). However, the real contribution of the public science & technology (S&T) infrastructure can only be realized when enterprises themselves engage in meaningful R&D activities, as evidenced in Asian NICs. According to a survey in 1993 *(Teitel, 1994)*, little or no R&D is carried out in most Kenyan industries, and very few scientists, engineers and technicians are employed in such activities. Moreover, the survey revealed only one case of a firm (out of the panel survey of 223 firms) which was really engaged in a continuous effort to improve plant productivity by assigning one full-time graduate employee to this task.

170. Technological development can be defined as the acquisition and deepening of technological capabilities. According to Lall *(1990)*, such capabilities can be grouped under three categories: investment, promotion and linkages. Of these, attention conventionally focuses on production-related capabilities, which comprise what is normally understood by technology: they range from basic skills like quality control, maintenance, inventory control and implementation of designs to equipment "stretching", improvement and innovation. Some capabilities may be developed, especially in simple technologies, with a minimum base of formal skills; however, even these are not adequately possessed in Kenya's industry (as evidenced in the

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[1] Lall *(1995)* describes how the technological effort in Korea was supported in several ways by the government. Private sector R&D was directly promoted by a number of incentives and other forms of assistance. These included tax exempt TDR (technology development reserve) funds, tax credits for R&D expenditures as well as for upgrading human capital related to research and setting up industry research institutes, accelerated depreciation for investments in R&D facilities and a tax exemption for 10% of cost of relevant equipment, reduced import duties for imported research equipment, and a reduced credit or special accelerated depreciation of the relevant investments. The import of technology was promoted by tax incentives: transfer costs of patent rights and technology import fees were tax deductible; income from technology consulting was not taxed; and foreign engineers were exempted from income tax.

In addition to tax incentives, the government also gave financial grants and long-term low interest loans to enterprises that participated in national projects. Tax privileges and official funds were given to private and government R&D institutes to carry out these projects. SMEs were helped with shop-floor advice and guidance to upgrade technical capabilities and productivity by KOPTEC (Korea Production Technology Corporation). KOPTECH complemented the help provided by the SMIPC (Small & Medium Industry Promotion Corporation), which also gave technical, training, and other services to SMEs.

previous sectoral review), and need considerable time and effort to acquire. Others may require fairly high levels of schooling and training, considerable search for information within the firm (by experimentation) or outside (from competitors, suppliers, buyers, research institutes, consulting firms), institutional effort, and coordination and further investments in equipment, consultants or the purchase of technology.

171. Investment and linkage capabilities are also of crucial importance to productive efficiency. Investment capabilities are the skills needed to set up a new facility or expand an existing one. These cover a wide range, from feasibility studies, process design and technology purchase to project implementation and commissioning of plant. Each of these skills is complex, and takes time, special training, experience and sometimes formal R&D, to develop. As for linkage capabilities, they refer to the specific skills needed by an enterprise to interact with its external environment. In technological terms, these skills involve the ability to locate efficient suppliers and strike up information-exchange linkages that characterize interindustry transactions. In certain areas, especially complex engineering products, these linkages are quite demanding - in developing countries they can require a firm to devote substantial resources to "bringing up" subcontractors and suppliers by adapting their technology and providing technical and managerial assistance (example of car industry in Japan).

172. The possession of investment capabilities is generally viewed as a prerequisite for rapid industrialization. Even a modicum of technology selection, negotiation, design and implementation skills can enable an enterprise to specify better the kind of technology and the elements of the technology it needs to buy. It can lower the capital costs of projects, not just because local engineering skills are usually far cheaper, but also because project execution is quicker (one of the reasons for high project costs in Africa, even in agriculture and infrastructure, is its poor base of investment capabilities).

173. Lall *(1990)*, who studies the process of building industrial competitiveness in developing countries, describes how Korea built up such capabilities in petrochemicals by a systematic process of participating in investment functions, and the benefits achieved in terms of cost and productivity. Across a broad range of industries, Korea has consistently achieved lower investment costs than international standards, and simultaneously built up its understanding of the technologies involved. This capability dates back to before its export-oriented industrialization strategy, and was partly instrumental in the strategy's success.

174. Given its present stage of industrial development and its industrialization ambitions at the horizon 2020, what appears to be most relevant for Kenya is to start now with the building of a solid human stock in investment capabilities. For most of its new investment projects, Kenya can no more afford to continuously rely on foreign contractors. Experience has shown that lack of local investment capabilities has resulted in that projects are often delayed and much more costly, compared to international norms. Moreover, heavy foreign dependence also means

that there is little understanding of the technologies transferred, leading to subsequent high costs of operation and a lack of upgrading.

Total Quality Management

175. Another topic of burning concern for Kenya's industry is the technology import strategy. Because of the lack of adequate attention to issues concerning technology acquisition, most of the technology imports have been realized without considering their cost effectiveness; often second-hand and obsolete technologies are used in industries. For the majority of firms, this poses an enormous problem for the introduction of total quality management systems. Such a move would require that quality concerns are early introduced, at the initial stage of technology acquisition, while negotiations on technology imports would take into account the factor that the country needs to compete at the international level on the basis of quality.

176. Without due considerations on such policy issues that constraint the local firm's capabilities to innovate and raise the quality of their products, it would not be surprising if the Kenya Bureau of Standards (KBS) on its own could not effectively manage to solve issues on quality standards of goods and services under the prevailing conditions of Kenya's manufacturing. The nature and magnitude of the problem go beyond the KBS's present mandate and capability to enforce the required standards, which supposes that the enforcement of standards would be voluntary (with in-house quality control) and KBS would only intervene where minimum standards are not being observed. It is worth noting that over 80% of Kenyan enterprises do not reportedly have in-house standards.

177. A very important development in the field of quality management for export markets is the increasing use of the new ISO 9000 standards. Many industrializing countries are investing large amounts of money and effort in introducing this complex and demanding system to the firms. The system provides an objective set of rules and qualifications that must be possessed by firms if they are to approach world best practice levels of quality management. Yet it is costly. The quality audit itself is expensive (it cost over £50 thousand per firm in the U.K.); this has to be followed by a series of changes to the production process, quality control equipment and procedures, and the training of personnel. Even large firms find the process daunting; SMEs generally regard it as beyond their reach. Yet its widespread introduction would greatly benefit the SME sector. *(Lall, 1995)*.

178. There is clearly a case for the Government to subsidize and promote the spread of such quality standards. This would call for a concerted campaign that combined finance, publicity, technical assistance, training and equipment provision. According to an information from the African Development Bank *(1995)*, the whole low-income Africa has less than ten ISO 9000 certificates, while Singapore alone possesses over 550. This clearly illustrates the competitive disadvantage that African industry labours under. Yet liberalization by itself cannot force firms to the level of quality they need to survive in world markets.

Technological Infrastructure ("Infratechnology")

179. Institutions (and more particularly "infratechnology" institutions) are vital support to the functioning of the industrial economy. They include industry associations, training centres, standard institutes, other technology-support bodies, technology import/diffusion organizations, the network of technical consultants and extension services, legal bodies and so on. The role these institutions play in building technological capabilities and industrial competitiveness is well recognized.

180. In our contacts with the institutions and organizations involved in industrial development, we have the sentiment that the institutional framework is far more developed in Kenya, compared to other Sub-Saharan African countries. But no handy way exists to measure this, especially as far as their efficacy (as opposed to the existence of a large number of institutions) goes. Rather than offer patchy, impressionistic comparisons at this stage, we believe it is better to leave it out of account in our present analysis.

Capital Investment Issue

181. Last but not least, Kenya's commitment to industrialization should be reflected in increased capital (both physical an non physical) investment. This needs some comments. The conventional wisdom is that high growth rates require high levels of investment sustained over a long period of time. The Asian NICs have certainly managed that with extraordinary high levels of savings and investment. But high investment levels do not forcibly mean high growth rates: the main strength of these countries essentially resides in their ability to use direct capital investment to leverage the potential productivity bonus (the residual "Total Factor Productivity" generated by human and social infrastructural capital accumulation). That indeed is the most important lesson to be learnt from the Asian NICs.

182. Physical capital endowements and the rate of investment are clearly important in explaining the share of industry in GDP and its growth rate over time. However, the relationship between physical capital and output are not uniform: it is the variations in the capital-output ratios that is of main interest here. There is little evidence that physical capital is correlated with technological capacity (hence industrial competitiveness). It is only when technological capabilities are equal that different rates of investment show up directly as differences in industrial performance.

183. According to the World Bank *(WB/COD, 1993)* calculations, the incremental capital-to-output ratio (ICOR) in Kenya rose from an average of 4.9 in 1986-90 to an average 6.6 in 1989-91. In other words, it took a third more capital to produce a GDP unit in 1989-91 than it did in 1986-90. In contrast, the average ICOR over 1971-90 in Mauritius and the Asian NICs ranged from 4.2 to 3.2.

184. Increased efficiency in the use of capital will reduce the extra investment effort required to achieve the growth target. For instance, to maintain a 7% growth target, the investment-to-GDP ratio of about 43% would be required if the ICOR were 6.6, and would stay around 26% if the ICOR could be lowered to 4.0.

"Capability" Approach to Competitiveness

185. Viewing industrial development as the growth of an expanding core of capabilities, which determines efficiency and competitiveness, gives a clear picture of what constitutes the ingredients of industrial success. A successful industrializing economy is one where a large proportion of enterprises have invested in developing healthy capabilities, with appropriate specialization among themselves and with respect to the rest of the world.

186. The capability-building process entails time, investment effort and risk. Higher levels of capability development and entry into more complex activities carry higher risk and cost, but they constitute areas of future growth as easy opportunities are used up. There is no predictable or automatic learning curve down which enterprises (or countries) travel, since it is the level and effectiveness of investments in capability acquisition that determine the outcome. Each country provides a unique outcome depending on the interplay of these factors, with government policy playing an important role, positive as well as negative *(Lall, 1994)*.

187. The "capability" approach thus provides a much deeper and more realistic insight into the determinants of industrial competitiveness than simple approaches that assume the efficiency of markets. It also suggests that the process of policy reform has to be carefully crafted and must preserve a larger role for the Government in guiding the shape and content of industrialization.

Evidence of Facts

188. This section reviews the determinants of technological capabilities of Kenya, compared to the five Asian fast-growing economies of Korea, Singapore (first-generation NICs), Malaysia, Thailand, and Indonesia (second-generation NICs). Reference to NICs is intentionally made to provide useful benchmarks for appreciating the development level of technological capabilities in Kenya.

Comparative Performance of Industry

189. We start first with the review of economic performance of the sampled countries. Table 4.1 highlights some very interesting facts. *Primo*, Singapore's economy (the smallest of the NICs), which had nearly the same size as Kenya's at

the start of the industrialization process in 1965, was 4½ time larger than the latter by 1990. If the experience of the OECD countries is any guide, absolute economic size is obviously not a constraint to NTC development. *Secundo*, the GDP growth rates clearly separate the high-flyers (South Korea, Singapore), with approximatively 9-10% p.a., from the medium performers (Thailand, Malaysia, Indonesia), and lagging Kenya. *Tertio*, since capability accumulation is largely a learning process based on investment and production, higher growth rates enable greater capabilities. Overall GDP growth rates are not necessarily a good guide to industrial capability development, but the two are usually closely linked (GDP growth in general may be assumed to lead to greater capability in infrastructure, education, communications, administration, etc..., all of which feeds into industrial learning).

190. Per capita income figures confirm to some extent the trends shown by total GDP figures: Korea and Singapore are now in the league of industrialized countries, with a very high technological capability base as well as "learning" potential[2]. Malaysia and Thailand, and to a lesser extent, Indonesia are among the lower middle-income countries, while Kenya is still a low-income economy.

Table 4.1 - Cross-country comparison of the economies (size and growth rate)

Country	*GDP*			*GNP per capita*	
	1965	*1990*	*% real growth rate 1965-90*	*1990 (current US$)*	*% real growth rate 1965-90*
	(current US$ millions)				
South Korea	3,000	236,400	9.8	5,400	7.1
Singapore	970	34,600	8.5	11,160	6.5
Malaysia	3,130	42,400	6.5	2,320	4.0
Thailand	4,390	80,170	7.4	1,420	4.4
Indonesia	5,980	107,290	6.4	570	4.5
Kenya	920	7,540	5.8	370	1.9

Source : World Bank data

191. If we turn now to industry, the difference between Kenya and the Asian NICs is even more striking (table 4.2). While Kenya's economy was as small as one fifth

[2] In the World Competitiveness Report 1995 (World Economic Forum, Lausane, Switzerland) covering 49 economies with a significant impact in the international markets, Singapore rank first for its *Government*, *Finance* and especially *People*, thus providing a blueprint for the development of competitiveness in the industrializing world. It rank second in its *Domestic Economic Strength* and *Internationalization* (both just behind the USA), thereby underlining a pattern found in most Asian countries, where a strong growth in the local economy is combined with a significant orientation towards the outside world. Korea rank sixth (after the USA, Singapore, Hong Kong, Japan and Malaysia) in its *Domestic Economic Strength*. The ranking is based on competitiveness evaluation from eight different perspectives, which describe not only the viability of an enterprise but also its competitive environment: *Domestic Economic Strength, Internationalization, Government, Finance, Infrastructure, Management, Science & Technology,* and *People*.

of Singapore's in 1990, its industry's size was even smaller by less than one tenth of the size of the Singaporian industry. In 1975, Kenya has a bigger share of industry in GDP (11.8%) than Indonesia (9.7%), but it was far outpaced by Indonesia in 1990.

192. The picture is different if the degree of industrialization is measured by MVA as a proportion of GDP or by per capita MVA. By the former measure, South Korea is by far the most industrialized, not only in its group, but in the world as a whole. By the latter measure, Singapore emerges as the most industrialized, almost twice as high as Korea. Malaysia, Thailand and Indonesia have a fairly high MVA/GDP ratio (19-27%), while this ratio stands around 12% for Kenya. It is interesting to note that Indonesia is a late comer in the industrialization process: its MVA/GDP ratio was lower than Kenya's in 1975, but outpaced Kenya's in 1990. The sustained pace of industrial progress in Indonesia over a long period of time can only be matched by Korea.

Table 4.2 - Cross-country comparison of the industrial sector

Country	*Mfg as % GDP (current prices)*			*MVA (US$ millions)*	*Mfg empl. (000s)*	*MVA per employee (US$)*	*Growth in MVA (1980 cst prices)*		*Per capita MVA (US$)*
	1965	*1975*	*1990*	*1990*	*1990*	*1990*	*75-85*	*85-92*	*1990*
South Korea	10.5	26.2	30.3	100,210	2,958	33,185	11.2	10.4	2,339
Singapore	17.7	23.3	27.1	11,923	350	33,885	6.9	10.8	4,375
Malaysia	14.0	18.6	27.0	9,068	831	10,878	8.4	14.0	506
Thailand	14.2	18.7	25.9	22,670	2,520	9,990	7.0	14.8	406
Indonesia	6.5	9.7	19.2	12,268	2,378	4,461	14.5	10.6	66
Kenya		11.8	11.8	912	188	4,860	6.9	5.1	38

Source : UNIDO data base

193. The average MVA per employee in manufacturing shows the joint impact of several factors: the composition of industry, the technology in use, the efficiency of production, the prevalence of excess capacity, pressures to carry spare labour, etc.. It can nevertheless be used as a crude indicator of the complexity, capital intensity and productivity of industry. The most advanced and capital-intensive industrial economies by this measure are naturally Singapore and South Korea. This is to be expected as these two countries have succeeded in developing a competive edge, especially in "hightech" ventures. Thailand and Malaysia have distinctly lighter, more labour-intensive activities. Indonesia and Kenya bring up the rear, with apparently a lot of "light" activities, or perhaps (as in Kenya's case) substantial excess capacity and a very dualistic industrial structure.

Evolving Structure of Industry

194. Table 4.3 shows the distribution of MVA across selected groups of activities over time, to illustrate both the current stage of development as well as success in transforming the structure over time away from traditional, low value-added activities. Most developing countries start industrialization with the simplest consumer goods industries: food, beverages, tobacco, textiles and clothing (these traditional activities are illustrated in the first two columns for 1975-77 and 1991). Kenya as expected, has the highest weight, and has increased the share of these industries over the past 15 years, to the contrary of other Asian countries. Singapore has diversified the most away from these industries.

Table 4.3 - Evolving structure of industrial activity according to technological complexity (% MVA share)

Country	*Traditional* [1]		*Capital goods* [2]		*Low skill* [3]		*High skill* [4]	
	75-77	*1991*	*75-77*	*1991*	*75-77*	*1991*	*75-77*	*1991*
South Korea	38.4	24.3*	25.6	42.4*	44.6	29.6*	16.9	26.7*
Singapore	12.4	6.4	46.3	61.3	17.5	8.0	40.1	40.6
Malaysia	34.2	17.6	22.6	47.5	46.5	23.8	16.5	37.3
Thailand	44.8†	39.6	16.2†	22.6	50.7†	44.8	4.2†	5.6
Indonesia	51.9	37.1	16.0	19.4	57.2	55.9	12.9	16.7
Kenya	46.4	47.9	17.8	17.1	53.8	56.0	7.2	7.6

Source : UNIDO data base
* 1988-90
† 1980
1. "Traditional" industries include food, beverage, tobacco, textiles, and clothing.
2. "Capital Goods" industries include iron & steel, non-ferrous metals, metal products, non-electrical machinery, electrical machinery, and transport equipment.
3. "Low Skill" industries include traditional industries + wood + paper + other manufactures.
4. "High Skill" industries include industrial chemicals, non-electrical machinery, electrical machinery, and professional/scientific equipment.

The distinction is based on UNIDO classification by end-use and by factor intensity.

195. The share of capital goods in MVA normally rises with the level of industrial development: it is both a consequence and a cause of greater technological capacity in mechanical and electrical engineering. Mechanical engineering skills are regarded as the foundation of all industrial capabilities. Electrical and electronic engineering skills come at a later stage, but the current technological revolution is making it of equally fundamental importance to operating practically all modern industry. *(Lall, 1990)*.

196. Of all the selected countries, Singapore appears the most advanced in capital goods production, with more than half its MVA (1991) in machinery and equipment. While this does conform to the fact that Singapore is a major producer of electronic products, it is slightly misleading in that it is not a broad-based machinery producer

in the normal sense, and is highly specialised in making components for foreign manufactures. Nevertheless, the processes of manufacture involved are themselves highly skilled and engineering intensive, and a reliance on foreign design and basic technology does not contradict Singapore's own contribution in terms of capabilities *(Lall, 1990)*.

197. In contrast, Korea is a genuine, broad-based equipment (including automotive) manufacturer with considerable indigenous design capabilities. Korea made a "big push" in the late 1970s into heavy engineering, shipbuilding, electronics and transport equipment spearheaded by its conglomerates *(Chaebol)* behind heavy protection, but with rapid export growth.

198. Malaysia, Thailand and Indonesia are still at the assembly stage in equipment production (though Malaysia is trying to emulate Korea's success with export-oriented automobile production). Much of their industry is accounted for by offshore electronics assembly. Kenya is at an even more rudimentary stage (its automotive industry mostly consists of a simple assembly operation based on imported CKD kits), with an underdeveloped mechanical engineering base that hampers industrial development and diversification.

199. The high and low skill division is based on UNIDO classification based on factor intensity, high-skill industries being referred to the technology-intensive industries (there is also a medium-skill category which is not shown). All countries except for Kenya show a reduction in the share of low skill activities over the 1975-91 period. Singapore predictably has the smallest share of low-skill activities, while Kenya the highest. These data suggest the type and extent of structural transformation that has occurred over time. They suggest that Korea and Malaysia have achieved fairly deep transformation rapidly, while Singapore achieved it earlier and has stayed constant since. Thailand and Indonesia are progressing, but are still at an early stage, while Kenya is even further behind and showing signs of stagnation.

Value added content

200. Table 4.4 shows the share of MVA in gross output. This indicator gives the importance of the proprietary (local) factor content in the transformation process. The value-added content of an industrial operation is generally associated with the technological development process. Low value-added activity over long periods points to shallow industrialization and the lack of mastery of the various components of technological activity.

201. Kenya, as expected, has the lowest value-added content in its manufacturing activities (less than 10% compared to around 30% for Indonesia and Singapore, and more than 40% for Korea), and this share has been noticeably declining since 1975. To the contrary of other countries, the lowest value-added content features in Kenya's most advanced and high-skill industries: chemicals (9%), petroleum products (1%), basic metals (2%), and transport equipment (9%).

Table 4.4 - Share of value added in output (in %) by industrial branches

Branch (ISIC)	*Kenya*		*South Korea*		*Singapore*		*Indonesia*	
	1985	*1993*	*1985*	*1991*	*1985*	*1992*	*1985*	*1989*
Food (311/2)	11.5	6.9	27.8	37.9	17.1	30.5	25.7	23.5
Beverages/tobacco (313/4)	32.4	24.3	63.7	63.4	48.3	47.1	25.7	30.3
Textiles (321)	23.4	37.5	37.8	43.2	41.5	42.7	32.0	29.6
Wearing apparel (322)	21.7	8.2	41.2	47.9	33.4	30.3	33.7	33.9
Leather (323)	12.5	11.6	25.1	30.7	30.6	35.5	31.9	17.6
Footwear, excl. rubber (324)	20.8	22.5	39.7	44.7	35.3	31.3	45.9	47.5
Wood products (331)	25.6	16.1	27.3	41.9	28.1	26.3	35.4	33.3
Furniture & fixtures (332)	28.6	45.2	41.1	52.5	36.9	34.8	39.2	38.5
Paper & paper products (341)	20.2	18.4	30.5	39.0	46.4	43.6	29.5	24.3
Printing & publishing (342)	29.1	29.0	54.2	59.6	57.0	56.9	38.3	33.1
Industrial chemicals (351)	14.1	8.9	26.5	37.3	20.2	31.6	34.6	31.1
Other chemical products (352)	20.3	8.4	47.7	52.7	55.0	65.0	32.9	28.6
Petroleum refinery (353)	1.2	0.6	14.1	26.6	7.9	17.0	n.a	n.a
Rubber products (355)	34.4	17.3	36.8	46.8	18.3	36.4	27.6	28.1
Plastic products (356)	25.6	13.7	34.4	40.2	37.7	39.7	39.0	16.6
Pottery, china & earthenw (361)	100.0	24.6	62.8	65.5	36.7	52.3	39.7	39.3
Glass & glass products (362)	42.8	38.8	47.3	59.5	n.a	n.a	49.8	25.5
Other non-metallic mineral (369)	26.0	19.3	38.4	48.3	34.4	32.7	33.3	28.1
Basic metal industries (371)	2.1	2.6	30.8	38.7	31.5	38.0	45.2	38.0
Fabricated metal prod. (381)	12.8	15.6	40.1	41.9	37.4	37.7	29.5	35.9
Non-elec. machinery (382)	15.0	32.0	41.3	41.6	45.1	38.5	35.7	32.1
Electrical machinery (383)	24.2	14.6	37.5	41.9	32.3	28.7	29.5	22.2
Transport equipment (384)	12.0	8.6	35.4	39.8	57.8	45.2	33.4	32.4
Prof. & scient. equipment (385)			40.4	44.2	60.1	49.5	31.4	20.2
Total manufacturing	**15.3**	**9.7**	**34.7**	**41.9**	**27.7**	**32.2**	**31.3**	**29.7**

Source : UNIDO data base

Efficiency in industry

202. It is already a very difficult task to measure the efficiency across industries or firms within a country. The task is even made more hazardous when we come to assessing cross-country industries. Nevertheless, some rough comparisons are obviously needed if we are to go beyond growth and output data, which tells us little about how well resources have been used. There exist several indicators: productivity gains, static efficiency measures of domestic resource cost (DRC), effective rate of protection (ERP), or export performance. Export performance and DRC measures were already examined in Chapter Two; here we concentrate more particularly on TFP and ERP. Table 4.5 below gives some indications on productivity gains.

Table 4.5 - Growth of Total Factor Productivity (TFP)

Country/Region	*Period*	*VA growth rate (% p.a.)*	*TFP growth rate (% p.a.)*	*Contribution in value added growth (%)*	
				Investm.	*TFP*
Africa	1960-73	4.0	0.7	59.0	17.0
	1973-87	2.6	-0.7	92.0	-27.0
	1960-87	3.3	0.0	73.0	0.0
East Asia	1960-73	7.5	2.6	50.0	35.0
	1973-87	6.5	1.3	62.0	20.0
	1960-87	6.8	1.9	57.0	28.0
France	1960-85		1.7	27.0	78.0
Germany	1960-85		1.4	23.0	87.0
U.K.	1960-85		1.2	27.0	78.0
U.S.A.	1960-85		0.5	23.0	50.0
South Korea	1960-89		3.2		47.0
Singapore	1960-89		1.3		20.0
Malaysia	1960-89		1.1		27.5
Thailand	1960-89		2.5		53.4
Indonesia	1960-89		1.3		40.6
Kenya	1981-90	4.3	0.2	74.0	6.1

Source : World Bank Report 1992. World Bank, *"The East Asian Miracle: Economic Growth and Pubic Policy"*, 1993. World Bank, *"Kenya Re-Investing in Stabilization and Growth Through Public Sector Adjustment"*, 1992.

203. TFP growth figures are supposed to show gains in efficiency in the use of factor inputs (capital and labour) over time, as opposed to achieving gains in output by putting in more inputs. As shown in table 4.4, the consistently strong growth of the Asian NICs has been achieved, not just by investing large proportions of national

income but also by raising the efficiency with which they utilised productive ressources, by improving management, organization, technology and so on. By contrast, most of the growth in Kenya is attributable to the use of additional resources (capital investment contributed to some 74% of value added growth versus a mere 6% for TFP) rather than productivity gains.

204. Turning now to studies of effective rate of protection (ERP), Korea's average ERP seems to have picked in the 1970s and has started to decline in the 1980s. Recent moves to liberalize imports have reduce ERPs to below the levels shown in table 4.6. Malaysia is exceptional for an early industrializer in the low overall degree of protection it offers. Thailand has a more protectionist strategy, while Kenya has the highest overall levels of ERP, around 100%. Even in the midst of its trade liberalization programme, Kenya's industry is very well protected: a recent survey *(REPIM, 1994)* shows that in 1993, nine sectors have ERPs of over 100%, three between 50 and 100%, and only three below 50%. When the individual companies are examined, the scope of protection is expanded considerably.

Table 4.6 - Effective rate of protection (ERP) of manufacturing

Country	*Period*	*Sector*	*ERP (%)*
South Korea	1968	All manufacturing	-1
	1978	All manufacturing	32
	1982	All manufacturing	28
	1968	Machinery	44
	1978	Machinery	44
	1982	Machinery	31
	1968	Transport equipment	163
	1978	Transport equipment	327
	1982	Transport equipment	124
Malaysia	1982	All manufacturing	23
	1982	Textiles	54
	1982	Machinery	37
	1982	Transport equipment	74
Thailand	1985	All manufacturing	52
	1985	Textiles	118
	1985	Machinery	18-37
	1985	Transport equipment	60-90
Kenya	1986	All manufacturing	107
	1986	Food	111
	1986	Textiles	126
	1986	Plastics and pharmaceuticals	129
	1986	Chemicals	211
	1986	Cement and glass	248
	1986	Iron and steel products	312
	1986	Electrical and transport equipment	312

Source : Various World Bank publications

Trade, Industrial and Macroeconomic Policies

205. As already seen, the trade strategy pursued by Kenya stood at stark contrast with the strategies pursued by the Asian NICs. Korea, Singapore, Malaysia, Thailand, and Indonesia, all have pursued consistently and strongly export-oriented policies since the early 1960s, but Korea has maintained selective, often high, protection for particular industries it wishes to promote. Malaysia, Thailand are regarded as "moderately outward-oriented" during 1963-87, as is Indonesia; while Kenya is considered "moderately "inward-looking" *(World Bank/WDR, 1987)*. As for Singapore, it has practised a liberal trade regime but with strong state "guidance" of the direction of investment, its sophistication and its skill content *(Krauss, 1988)*. Labour training and a wage policy directed to technology upgrading were the most important features of Singapore's industrial policy.

206. All the NICs in the sample have to various degrees intervened to guide the shape and content of industrialization. Korea's industrial policy of widespread intervention is now well known. It took, apart from selective protection by quantitative and tariff trade restrictions, other forms of credit allocation, public procurement, interest rate subsidies, export targetting, controls over technology imports and foreign direct investment, promotion of local enterprises, direct intervention in the organization and ownership of enterprises and the development of strategic heavy industries. One of its most important manifestations was the promotion of giant conglomerate chaebol to spearhead the drive into sophisticated activities, a measure that proved very effective in world competition but has left a lopsided, concentrated industrial structure. The government also intervened in several ways in the technology import and development process. *(Lall, 1990)*.

207. Malaysia, Thailand and Indonesia still have shallow industrial bases with a high degree of dependence on foreign investment. Their industrial policies are relatively liberal, except for Malaysia's well known "racial balance" strategy to promote Malays. Kenya's small industrial sector is dominated by foreign companies and local Asians, with public enterprises playing some role in industry (though small by African standards). This structure is prone to political tensions that have held back investment and diversification in recent years. The Government offers high levels of protection but competition within the economy is fairly unrestrained.

208. From the standpoint of macroeconomic policy, the Asian NICs have enjoyed healthy macroeconomic management with the exception of Korea in the late 1970s and early 1980s when a combination of external circumstances and an ambitious heavy industry programme (financed by heavy external borrowing) led to problems. These problems were immediately corrected by a structural adjustment plan, and the economy was back on a high growth path by the mid-1980s. Kenya has suffered bouts of mismanagement which the series of adjustment programmes launched in the early 1980s have failed to correct. Real improvement of its macroeconomic conditions started only to be visible since 1994.

Human Capital

209. Obviously, all kinds of education are conducive to industrial progress. However, while basic education and formal training are suitable for early stages of industrialization, a greater emphasis on science and engineering training at advanced levels, as well as widespread vocational training, is necessary for coping with more complex, fast moving technologies. In addition, firm-level training becomes more important as technologies grow more demanding.

210. Table 4.7 shows the educational enrollement in secondary and tertiary levels, average learning years of adults (25 years and more) and the stock of scientists and technicians per thousand population. Table 4.8 completes the educational data by showing the enrollment of university-level students in science and engineering subjects as a percentage of the population; the figures are indicative of the actual stock of graduate scientists and engineers produced by the various countries in a more or less recent year. They are broken down into three levels: general science and engineering (including medical, architectural and agricultural studies); natural science, mathematics and computer science; and engineering only. Note that we can only draw on quantitative data for our analysis, but it is obvious that the quality of the respective education systems does vary considerably across the sample.

Table 4.7 - Educational attainement and number of scientists and technicians

Country	*Percentage of aged group enrolled in education*				*Average learning years (25+)*	*Nb of scientists & technicians per 1000 pop.*
	Secondary		*Tertiary*			
	1970	*1991*	*1970*	*1991*	*1980*	*1980-88*
Japan	86	97	31	31	10.4	317.0
U.K.	73	86	20	28	10.8	-
U.S.A.	-	90	56	76	12.2	55.0
South Korea	42	88	16	40	6.6	46.0
Singapore	46	70	8	-	3.5	24.0
Malaysia	34	58	4	7	4.0	-
Thailand	17	33	13	16	3.5	1.2
Indonesia	16	45	4	10	3.1	11.7
Kenya	9	29	1	2	2.0	2.5

Source : World Bank, World Development Report 1994. UNDP, Human Development World Report 1991

211. These human capital indicators appear to be correlated with "revealed technological capability performance". Korea and Singapore are the best performers among the NICs, though the former has forged ahead in terms of general human capital creation while Singapore seems to have kept up by a greater concentration on engineering skills (see table 4.6). The interesting question for these two countries is whether new technologies are better suited to Korea's strategy than to Singapore's.

Table 4.8 - Tertiary level students in technical fields

Country	Year	General science and engineering		Natural science, math, computers		Engineering only	
		Number ('000s)	% of popul.	Number ('000s)	% of popul.	Number ('000s)	% of popul.
South Korea	1987	585.4	1.46	320.6	0.76	227.6	0.54
Singapore	1983	21.1	0.84	16.2	0.73	15.4	0.68
Malaysia	1985	30.5	0.20	20.3	0.13	11.8	0.08
Thailand	1985	360.0	0.70	n.a	n.a	n.a	n.a
Kenya	1985	12.2	0.06	4.8	0.02	3.3	0.02

Source : UNESCO data

212. In the second-generation NIC group, Thailand seems to be forging ahead of Malaysia and Indonesia. This may be the explanation for the recent surge in Thailand's exports and industrial performance: not just a "flash in the pan" based on a temporary influx of foreign capital, but a long term development of industrial capabilities *(Lall, 1990)*. Kenya's position needs few comments, though it is one of the most advanced industrial economies in Sub-Saharan Africa. Much still has to be done for Kenya to cover the ground.

Technology Imports and Technological Effort

213. With regard to strengthening the indigenous technological base, a special attention should be given to the technology import strategy. Strategy towards both the degree of reliance on technology imports and the form such imports take is of great importance for indigenous technological capability development. Technology imports in certain forms are a critical input into the development process, but over-dependence on foreign technology, particularly in forms that do not call for local learning of basic technologies, can be damaging to technological capability accumulation in the long term *(Lall, 1990)*. In general, technology imports under the highly packaged form (for example, direct investment) are convenient for smaller and less-developed countries. But as size and capabilities increase, the development of technological capabilities may call for greater local efforts relative to technology imports, and for more technology imports in the form of licensing and capital goods than foreign direct investment.

214. The experience of Asian NICs suggests that there are clearly different revealed preferences by the various actors as regards the extent and form of foreign technology imports they seek to draw upon to support their technological/industrial capability development efforts. Korea have pursued a Japanese-style strategy of reducing dependence on foreign direct investment, while drawing in modern technology by capital goods and, to some extent, by licensing. On the other extreme, Singapore has sought foreign technology to the maximum extent, but with

a deliberate policy of cajoling it to transfer "know why" as well as "know how", and gradually shifting innovative activities to the island *(Lall, 1990)*. Malaysia, Thailand and Indonesia have also relied on foreign direct investment. Practically, all the countries have set up some institutions to promote and directly participate in local technology development. In addition, there are various institutions that regulate the import and diffusion of technology. All countries have tried to push the pace of technological capability development by intervening massively, if not always wisely (naturally learning experience proceeds by trial and error, but with an ability of quick adjustment, as illustrated by the Korean case).

215. As for Kenya, it has been mentioned that it does not have a clear cut policy for the acquisition and transfer of technology. According to the RPDE survey *(1994/95)*, technology import in Kenya relies, to a large extent, on direct investment and on imported plant equipment, foreign licensing plays a minor role. With regard to technological development, action at the firm level is only modest (so far, most industries get their technology "embodied" in equipment). Technical progress comes in the form of new machines, while adaptations and further development are very rare. The general picture is that of an industry which lacks dynamism and adaptability, using the technology as delivered by the equipment suppliers, with hardly any independent attempts at technological development or even improvement. This is due to the fact that the skills required to develop technology are severely missing. While this can be blamed on the shortage of appropriate training, there appears to be a general lack of incentives for undertaking technological improvements.

Conclusions

216. We have reviewed a variety of information to appreciate the relative technological capabilities of Kenya (versus some Asian NICs) and to explain it with reference to certain policies, human capital and technological effort. Much still has to be done for Kenya to cover the road to "NIC status", not only in the effort to establish a competitive environment for enterprises to develop and prosper, but also and especially in the development of industrial/technological capabilities.

217. In Kenya's policy reform process, the approach to industrial competitiveness has been generally characterized by a move towards a more open and market-oriented regime, with greater reliance on private business and less direction of resource allocation. The legitimate functions of the Government are viewed as a set of "market friendly" policies confined to support for human capital formation (education and health), basic infrastructure provision, regulatory reform to allow more openess to information flows, and export and investment promotion. Industrial policy, if any, is geared to the promotion of foreign investment and export activity through tax and fiscal incentives; selective interventions and incentives to overcome the technological learning process (which is prone to be slow, risky and largely unpredictable) are largely absent from the process. While it is important to note that

export-orientation policy provides healthy incentives for industrial and competitiveness development, the ability to respond to these incentives still depends on the skills and technological endowements of the country concerned. This points to a real cause for concern over the adequacy of such reform approach.

218. In reviewing the industrial performance of Kenya versus other Asian NICs, our endeavour is to draw the Government's attention on a certain number of issues that are, to our thinking, the most critical elements of industrial success. To this regard, what are the important lessons which can be learnt from the Asian NICs? Let's try to bring in some elements of the answer:

(i) *Export-orientated policy* is indeed a powerful force for technological capability development and industrial competitiveness. The incentives and signals it provides are a clear stimulus to healthy and rapid technological learning. But export orientation by itself is not enough to promote technological deepening or rapid growth. An expanding supply of trained manpower, protection for activities involving difficult learning (while enforcing, for instance, early entry into export markets), selective interventions to promote technological effort and set up institutions to overcome market failures, all these are critically required if the Asian models are to be emulated. Export orientation is a better strategy *per se* than protected inward-orientation, but without the other ingredients it could lead to narrow and shallow industrialization.

(ii) *Human capital (especially specific skills) development* is another critical element, the importance of which grows as the technologies used become more advanced. However, even "easy" industries need skills to operate efficiently in world competition. Deeper industrial structures require a larger complement of highly-trained people in a variety of disciplines. A large part of the training occurs during employment itself - thus firm-level training and opportunities to learn while operating complex technologies are indispensable parts of human capital development. There are well-known dangers of market failure here because firms may underinvest while the benefits of training are difficult to appropriate. Adequate incentives to stimulate such training may then be called for. There is a clear evidence of the relationships between educational effort and technological performance.

(iii) *Technology (import) strategy* takes a greater and expanding role as industrial technologies develop. In the initial, easy stages of industrialization where technology requirements are relatively simple, a combination of trade incentives and skilled manpower (naturally with the entrepreneurship to catalyse them) are perhaps sufficient to use imported technology and promote the learning needed. With industrial upgrading and the introduction of more elaborated technologies, specific policies and institutions are required to ensure, *inter alia*: that imported technologies (increasingly disembodied) are used to their best practices; that technical skill provision follows the pace of technological promotion; that technology diffuses through the industrial structure via linkages; that "infratechnology" to support private effort is

adequate (standards, testing, basic research, etc.); and that specialised agents for creating and dissiminating technology come into existence (e.g. consultants, designers, extension services).

Experience elsewhere has shown that those countries which have most success in promoting their own technological performance have mastered the technique of acquiring, understanding and then building upon technologies which have often been developed elsewhere. This approach is already seen as a necessary one in the industrial countries and has led to the creation of a global market in technology to parallel the open market in scientific knowledge which has flourished for centuries; it is even more essential for the developing countries, whose capacities to invest in science & technology (S&T) are so severely limited, to base their efforts in S&T on a similar strategy.

219. All these should form the basic ingredients of industrial policy reform. The reform must be in the direction of conformance to market forces, but the many market failures suggest that reform cannot consist simply of a general withdrawal of the Government from markets and resource allocation. It requires the Government's judicious interventions to guide the shape and content of industrialization.

5 Policy Implications for Restructuring Industry

220. As stated in many official papers, Kenya is looking forward to reaching the "NIC status" at horizon 2020. This means that the country has set its sights on reviving its industrial sector to form the dynamic edge of the economy's growth. This also means the adoption of a strategy/policy that will straightforwardly coordinate the actions of the Government and the private sector.

221. Because the resources and skills in the Government and the economy at large are very limited, it is best for the Government to adopt a targetted approach to industrial development, where it can get the maximum "bang for the buck" in terms of policy response. The basic tenets of such a "targetted" strategy are discussed below, together with a consistent policy framework for conducting the industry restructuring process. Finally, selected back-up programmes are proposed to accompany the efforts of the Government and the private sector in reorienting the industrial sector on the path of efficient growth and competitive development.

Basic Tenets of the Strategy

222. The best way to approach industrial strategy may be to gear it directly to enhancing industrial competitiveness, for instance, improving the ability of exporters and import-substituting industries to compete in world markets. This requires the following steps to be adopted:

- *Trace the competitive evolution of each industrial subsectors;*
- *Within each subsector, identify potential/existing industry "clusters" that can be promoted with the limited resources available;*
- *Select new areas of competitiveness that need to be developed to diversify its position in world markets;*
- *Devise appropriate policies to improve their competitiveness;*
- *Strengthen the information, administrative and human resources needed to implement such policies, including organizational reforms to the government apparatus.*

Policy Reorientation

223. From our previous analysis, it does not appear that a rapid and sweeping liberalization of imports (so that within a period of three to five years the industrial

sector will be exposed to import competition with moderate and uniform tariffs of around 15%, leaving at the end no room for further protection to encourage industrial diversification), could be applied to the Kenya's industry. On the contrary, the pattern of structural adjustment observed in most successful Asian NICs (where liberalization was gradual, geared to the differing needs of different industries, and in the position to retain the scope for promoting new infant industries at the end of the adjustment period) seems to be more adaptable to the Kenyan case.

224. The adoption of the Asian adjustment approach is justified on the grounds that the restructuring needs of Kenya's industry require a gradualist and pro-active approach to liberalization rather than the sweeping and non-discriminatory exposure to international market forces. This is because not all industries that are presently uncompetitive are basically uncompetitive in the longer term if they are given the time and resources to develop new skills and master new technologies. There are certainly some inherently uneconomic activities that deserve to be closed down immediately, and some, at the other extreme, that can be exposed immediately to international competition. In between lies the bulk of manufacturing activities, which has to undergo a process (varying in duration and intensity by activity) of "relearning" and new capacity acquisition, after which it can cope with import competition and establish a position in export markets. These activities have already invested a great deal in them, and may have accumulated a substantial base of technical and non-technical skills. If exposed suddenly to import competition without having the time and support to cope with, they can die and their physical and human investments dissipate.

225. Therefore, the liberalization process should be a gradual and controlled process of opening up, accompanied by a strategy of industrial restructuring and upgrading (as suggested in chapter One). The strategy should be guided by a realistic assessment of the competitiveness potential of various components of the industrial sector, with a clear evaluation of which are viable in the medium term and which are better left to disappear in view of the time and costs involved. The strategy should be developed after a detailed study of the industrial sector, with the necessary collaboration of the private sector (FKE, KAM for example). It should be pre-announced so that enterprises have time to adjust. Once announced, the Government should stick to the programme to ensure its credibility. It must not allow backsliding that keeps inefficient performers to survive indefinitely.

226. In the whole process of opening up, the Government should retain powers to influence resource allocation, but strictly in a clear and transparent way. Unlike its earlier strategy of import-substitution where it offered protection with little (if no) discrimination and with no requirements of international competitiveness, this proposed model of adjustment places strong pressures on industries to invest in building up new capabilities to face the import and export competition within a limited period. This adjustment model is designed to overcome market failures, not to ignore them. It involves close monitoring of the progress of liberalization, and it requires that the Government is able to address the supply-side needs of industries along with allowing a phased process of liberalization. After the adjustment process is complete, the Government should retain the option to select and promote a few

infant industries at a time to accelerate the process of upgrading the country's comparative advantage.

227. We draw again the Government's attention that a more gradual strategy of liberalization does not mean a slowdown of the adjustment process. What in fact is needed is not to delay the adjustment, but to actively prepare for it in the grace period provided. An important factor to be taken into consideration is that the Government may not at this time have the capabilities to mount effective selective interventions in support to industrialization. The levels of intervention must therefore be tailored to its relatively limited capacities to monitor and implement selective industrial restructuring policies. At the same time, government capabilities can themselves be improved with training, better incentives and greater insulation from the political process. As already noted, the development of such capabilities must in fact be one of the intrinsic components of the structural adjustment policy.

228. The liberalization process is important to remove artifical restraints to domestic competition and to remove common biases against the growth of SMEs. Other specific measures are needed to promote linkages between large and small enterprises, which have been slow to take root in Kenya. One of the best ways to include the *jua kali* sector in the mainstream of industrial development is to promote subcontracting and other supply linkages with larger firms; these measures have been actively promoted in East Asia and, over time, have yielded considerable benefits. This important issue must be further explored, with the possible support of multilateral assistance organizations.

Supply-Side Incentive Measures

229. They were already discussed (see Chapter 4, § 159-165). Just to mention again a few:

(i) The lack of specific (especially technical and managerial) skills that industry has to work with. The pace of liberalization is generally much faster than any economy is able to provide the new skills and capabilities that industry needs. The skills that deserve immediate attention are the provision of better and more training in specific industrial skills for the most important industry clusters that would form the dynamic edge of industrial growth. This need not wait for longer-term investments in education and vocational training, and should be dealt directly and forthrightly (to this regard, private-sector initiative such as the Wanabe Institute's should be further explored and supported[1]).

(ii) The stimulation of in-firm training is another key area where the Government can readily intervene. It requires the launching of concerted campaigns to inform firms, especially smaller ones, of the need for training to raise their

[1] For further details, please contact Engineer M. Nzomo, Deputy Director of Industries, Department of Industries, Ministry of Commerce & Industry.

competitive capabilities in the face of import competition. But informing and propaganda are not enough: firms have to be shown how to train, how much and in what areas; they need teachers and guides; and they need financial support. Often training has to go together with the provision of new equipment, better layout, improved process know-how and more modern product technology. All these may need specific policies addressing their informational, financial and other needs.

(iii) Industrial upgrading requires technological improvements. The rapid pace of technological change means that all industries have to be geared to coping with new products, processes, equipment and organizational systems. Individual firms often lack the ability to undertake such efforts on their own, and the tremendous amount of subsidies and effort invested by Asian NICs in raising firm productivity suggests that the market failures involved are indeed enormous (information is lacking, costs and returns are risky and unpredictable, there are massive externalities and institutional support is weak). This is indeed the case for strong promotional and support efforts by the Government: this requires a package of skills, information, equipment, training and finance, provided along with a change in the incentive regime (e.g. tax credits for R&D expenditures, technology development funds) with considerable persuasion from the Government.

(iv) The Government can also intervene in subsidizing and promoting the spread of quality standards. This would call for a concerted campaign that combined finance, publicity, technical assistance, training and equipment provision.

(v) The creation of a "technology culture" in the industrial sector is far from easy, and few industrializing countries have succeeded in doing so. The East Asian experience suggests that its mainsprings lie in a combination of infant industry promotion, exposure to world markets, provision of skills, a supportive financial system, and clear direction from the government (including the targetting of technologies) rather than in simple liberalization and a passive reliance on foreign direct investment inflows. Again, it is the careful blend of selective interventions of different types that is essential. *(Lall, 1995)*.

230. It is not our concern to go into the details of all the measures that the Government can take to support industrial competitiveness. The main point has been that there is an active and important role for the government, and that this role will often be selective: the resources available for effective intervention are simply too scarce to spread over the entire industrial sector. The Government has therefore to "pick up winners" in order to have an impact on competitiveness.

Policy Framework for Industrial Restructuring

231. As a consequence of its past inward-looking policies and technical inefficiencies brought about by regulatory distortions and inconsistency in the incentive system, Kenya's industry has come under heavy adjustment pressure. The policies introduced under the industry structural adjustment programme in 1988 have gone a long way to creating an enabling environment for the development of a viable and sustainable industrial structure. The response to the policy changes has so far been positive in terms of a more efficient utilization of existing assets but less so in terms generating industrial/technological capabilities to compete in the world markets.

232. Policy and other constraints related to the enterprise competitive environment were discussed in chapter 3. While the removal of these constraints would create opportunities for the evolution of a more efficient and sustainable industrial sector, the results would be neither immediate nor automatic. Successful policy reform requires that it is accompanied by a straightforward industrial restructuring and upgrading. The policy framework is sketched below to assist the implementation of the restructuring and upgrading process.

Macroeconomic Stability

233. It cannot be too strongly emphasized that long-term macroeconomic stability is a *sine qua non* condition for the success of any industrial programme. Significant distortions in the macroeconomic policy environment encourage speculation and capital flights and discourage investments in productivity gains and technological updating. It is well known that high capital costs coupled with low-cost labour and an overvalued exchange rate have a deterrent effect on investment in technology and modernization.

234. The main macroeconomic issues affecting industry are thus the real effective exchange rate and fiscal and credit policies. Maintaining macroeconomic stability requires that the fiscal deficit be kept low, that credit creation be contained, and that the exchange rate and interest rates be market-determined. These are necessary preconditions for industrial growth and investor confidence.

Consensus on Unambiguous Performance Standards

235. Defining unambiguous criteria for performance to be attained by economic operators (public and private) within specified periods is a major challenge. It needs clear guidelines for monitoring progress towards international best business practices. Performance criteria are essential to guarantee the effective working of the new incentive system. Selective support measures from the Government are from now on granted on a *quid pro quo* basis, requiring the recipient firms performance standard achievement. Such standards must be the eligibility criterion for finance and other forms of selective support.

Clearing the Way for Medium/Long-Term Productivity Gains

236. The cost effectiveness of investment in productivity enhancement depends on correctly identifying the sources of increased efficiency. But allocating resources to this end does not necessarily make any economic sense for private entrepreneurs. No matter how much effort management may (or intends to) make towards technological upgrading and cost reduction, overall economic conditions, external diseconomies and regulatory distortions may nullify it. It is, therefore, of utmost importance that the Government starts to adequately address such factors under its direct control (infrastructure, regulatory distortions and inconsistency in the incentive system) to clear the way for private-sector investment in medium and long-term productivity gains. These factors were amply discussed previously. Just to mention them again:

- *Simplify the procedures for setting up in business (movement towards a registration system for new investment to replace the evaluation now conducted, is a realistic and important objective);*
- *Rationalize roles of investment and export support offices, including those of IPC, MCI and within the MOF;*
- *Centralize decision-making authority, especially for the regulation and administration of export promotion programmes, which are intended to facilitate, but at times obstruct, new investment;*
- *Revise and amend the labour market regulations, as regards the redundancy regulations and the wage guidelines;*
- *Address the problems of infrastructure deficiencies (the most urgent concerns the reparation of the Nairobi-Mombasa highway; the restructuring of the power sector; and the operations handling at Mombasa port);*
- *Speed up the parastatal privatization process;*
- *Carry on the civil service reform;*
- *Remove all policy-induced entry and exit barriers that deter capital mobility and technological investment.*

Defining a New Approach to Science & Technology Policy

237. In Kenya, much still has to be done for having a consistent S&T policy, in line with the industrialization requirements of the country. The issue of promoting and diffusing enabling technologies and their impact on competitiveness standards has not yet been properly addressed. Kenya has not yet a systematic and coordinated technology policy which can shape the country's future industrial development; it lacks a legal and institutional framework for handling technology-related issues *(Coughlin & Ikiara, 1991)*. Important questions are still pending, such as: (i) whether the present S&T system with its current institutions is the most suitable; (ii) whether there is adequate institutional infrastructure for effective transfer and utilization of technology; and (iii) whether the necessary training of engineers, scientists and technicians is being catered for. Several gaps exist in the process of technological development.

238. Official efforts have so far been concentrated on large public research institutes (KARI, KIRDI) that have proved to be divorced from production and contribute little, if any, to technological upgrading in industrial enterprises. At the other end, Kenya severely lacks capabilities to provide relevant advice and information to technology users, cannot evaluate and screen foreign technology, and is not able to formulate appropriate technology policies and plans. Most of these functions are left to private importers and technology suppliers. It is well known that Kenyan recipients of patented technologies have no easy access to information concerning alternatives. In some cases, ignorance of international patent law has led to the continuation of royalties payment long after the patent was expired and thus freely available *(REDP, 1994/95)*.

239. The key to strengthening Kenya's technological performance will be found in improved performance in the acquisition of foreign technologies. This in turn will first require increased skills at the level of enterprises, since the past record has many examples of technology transfer arrangements which have not added to the domestic technological capacity of Kenyan groups. The RPDE survey *(1994/95)* has virtually encountered no evidence of any group of specialists (either in the public or in the private sector) who are experienced in the field of the international transfer of technologies, and so those who enter the bargaining process appear to have had little expert assistance.

240. Each technology user, whether an enterprise or a public institution, needs to have access to a certain capacity to analyze the performance characteristics of alternative technologies and to evaluate the terms and conditions under which such technologies might be acquired. This capacity can be developed within an institution when it has a sufficiently large and sophisticated technical staff of its own; or it can be acquired through consultancies involving local scientists and engineers located throughout the national S&T system (e.g. in private or public engineering consulting houses, in universities or in government research institutes). Such capacities are naturally under-developed in Kenya.

241. What has just been discussed above is some of the principal components of a functioning S&T system. How a country like Kenya can act to generate a viable, national "technological capability" is the subject of a voluminous literature, much of it coming from the United Nations system, and authored by experts from the South. A very useful summary of international thinking about the concept of "technological capability" is to be found in the proceedings of an ESCWA Meeting on *"Specialized Financial Institutions and Development of Endogenous Technological Capabilities" (1989)* held in Cairo in 13-16 December 1989. That report talks transfer of technology processes from the vantage point of "development of endogenous technological capabilities by including significant training components; participation of local capabilities in the design and engineering work with the supplier of the technology; acquiring substantial local inputs and involving local research and development in the production process; and other components which will enable the country to carry out future expansion and adaptation using more endogenous capabilities...".

242. Any development of a future policy for the transfer of technology in Kenya should seek to ensure that as many of the characteristics described which could be implemented by the country are in fact included in the contractual arrangement.

Selected Back-Up Programmes

Quality & Productivity Enhancement Programme

243. This programme is aimed at reducing the high percentage of GNP that is lost because of process and product quality deficiencies and helping enhance industrial competitiveness. It is designed to address enterprises directly, removing infrastructural and institutional bottlenecks. Its main components are as follows:

- *Awareness and motivation building;*
- *Development and diffusion of modern quality and productivity-related management methods;*
- *Specific skill development;*
- *Provision of technical services;*
- *And institutional support.*

244. The programme is not designed to allocate resources directly. It relies basically on the resources of the firms themselves. But it does supply guidelines to financial and promotional agencies which support the different industries. Quality upgrading and productivity enhancement is stimulated by tax exemptions on the purchase of equipment items, and changes in the accelerated depreciation regime.

245. Sequentially, it is advisable to start this programme immediately after a realistic assessment of the competitiveness potential of various activities will be completed (see above), so that efforts are targetted only on firms with a fair chance to be viable in the medium term.

246. The FKE is currently launching a similar programme by offering training, consultancy and counselling services in productivity improvement to the small, medium and large enterprises. In a first phase, a number of training sessions on productivity was incorporated into the annual calendar of the Management Training Programme. At a second stage, FKE tries to use the programme to spearhead the tripartite productivity movement in the country through the establishment, in the future, of a National Productivity & Quality Centre of which FKE would act as the Secretariat. An interim Council of the proposed Centre is already in place and is composed of the representatives from the ML&MD, MC&I, MP&ND, MRTT&T, COTU, FKE, and KES.

247. Periodically, FKE conducts sectoral productivity surveys, the data of which are used to promote productivity awareness at the national level through workshops and management training sessions. At the enterprise level, FKE has already started productivity improvement projects in 12 firms, with the assistance of ILO.

248. This private-sector initiative reflects the current awareness of the industrial sector as to productivity and quality issues, but its scope is rather limited (covering some 12 firms). This initiative needs further support from the Government. It is therefore recommended to capitalize on FKE's current action to develop a more comprehensive and far-reaching operation. Naturally, UNIDO/UNPD could help to set up such a programme.

The Technological Capability Development Programme

249. For many reasons already discussed, it is of critical importance that Kenya consolidate its present base of investment capabilities. To start with, a small number of high-profile professionals will be selected from different departments such as feasibility studies, architectural and civil engineering, product and process development and design, within public enterprises engaged in the construction and engineering industries. This core of professionals will be "externalized" (withdrawn from the enterprises) to form an independent engineering and management consultancy business group. Such an operation is readily feasible as the movement towards more privatization and "de-verticalization" is progressively taking place in Kenya's industry.

250. The bulk of engineering design activities is normally filled up by draftsmen, technicians, technical designers for basic and detailed engineering in civil, mechanical, electrical, and instrument disciplines. This personnel is normally available in the country, and can be trained fairly quickly. The more complex part of the expertise concerns project management (planning, cost and quality control), process engineering, testing and montage, start-up and commissioning capabilities, which may not exist in the country. In this case, international assistance (such as UNIDO's) can be sought to compensate such deficiencies in locally available expertise.

251. A systematic process of committing this core of engineering consultants in all investment projects should be established with the strong support and determination of the Government. At the beginning, local participation in project implementation might be low (for example, 10% of investment), but on a rapidly increasing trend. At the end, local participation must form the major component in any project implementation, and the part of foreign expertise could be substantially reduced.

252. This programme is aimed at strengthening Kenya's domestic project execution and consulting capabilities. Technical assistance can be sought from UNIDO to cover further subjects such as the definition and implementation of a national policy for S&T (which is lacking for the time being), product design and quality control development, total quality management, and strengthening of engineering consultancy firms.

253. For information, UNIDO is preparing a comprehensive medium-term programme of technical assistance to develop national project execution and consulting capabilites for the Maghreb countries (including Egypt) within the framework of the IDDA-2[2]. The programme involves the active participation of ministries of industry, national federations of consultants/engineers, the Federation of African Consultants (FEAC), the African branch of the Federation of Consultants of Islamic Countries (FEAC), the International Federation of Consulting Engineers (FIDIC), and the (international and national) banking system.

254. The programme sets out to address the following issues:

(i) Establishment of a national policy for S&T, supported by an adequate level of public resources. The experience of the NICs such as South Korea or Brazil, which even created a bank dedicated to financing technological development (FINEP), shows that with adequate policies, the private sector ends up sharing a sizeable part of R&D and national technological development.

(ii) Establishment of an institutional framework and a coordination system to articulate activities of key institutions and actors (to be identified) to implement the policy. Key actors in the process are meant to be the "producers" of S&T inputs (e.g. scientific and technological infrastructure including research institutes, universities, etc.), the "end-users" of S&T inputs (enterprises, chamber of commerce & industry, etc.), the engineering consultancy firms (which act as a bridge between producers and end-users), and the financial institutions (particularly development financing banks).

(iii) The programme being developed deals also with production process and covers subjects related to product design & quality control development. Special consideration is given to ISO 9000 assessment for certification, implementation of total quality management, low-cost automation and strategic (long-term) management.

(iv) Other components of the programme are aimed at providing specific assistance to strengthen domestic R&D and engineering consultancy firms.

255. This multi-country programme is naturally open to other African countries with a rather developed industrial structure. We can see Kenya ideally fits to the requirements of such a programme and therefore, recommend that the Kenyan Authorities make a formal request to UNIDO for joining this highly interesting programme.

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[2] For further details, see *"Industry-Related Services: Key to Competitiveness"*, prepared by UNIDO for the Global Forum on Industry, Perspectives for 2000 and Beyond, New Delhi, India, 16-18 October 1995.

Improving the Enterprise Competitive Environment

256. As already noted, factors under the direct control of management may account for around half of the variance in competitiveness; the other half relates to a whole host of market, infrastructure and policy-related factors. In this specific programme, we intentionally leave out of account all factors pertaining to the direct control of firms, as they are treated in the first two programmes. Instead, we focus more particularly on the development of other policy-related determinants of competitiveness.

257. Notwithstanding progress made so far in the implemention of the reform process, further analytical work (especially regarding reforms in the regulatory framework and in the fields of trade liberalization, tariffs and taxation, transportation services, export incentives, and the judicial system) is required to enable the firms to constantly operate in the best possible competitive environment.

258. To proceed, it is recommended to set up a *Competitiveness Committee* that will be responsible for formulating a strategy and reform programme to enhance competitiveness and regulatory reforms. It will include representatives from the major economic ministries, the private sector and the labour unions, and will be assisted by a small secretariat to be located, say, in the Ministry of Commerce & Industry. It would alert the Government to any dysfunctioning in the regulatory and competitive environment. Such Committee could be merged into the one proposed for monitoring all matters related to internal and external competition (see Chapter 3, § 91).

259. The Committee's departure point will be the present report and other analytical work produced, notably by the World Bank, UNIDO, the FKE, etc.. Working in a participatory and consensus-building manner, the Committee will prepare a detailed reform programme with the following principal components:

- *Improvement in export incentives, international trade logistics and procedures;*
- *Promotion of internal and external competition;*
- *Rationalization of the tariff and tax system;*
- *Deregulation of the labour market;*
- *Simplification of procedures for company creation and business licensing;*
- *Rationalization of various investment regimes (MUB, EPZs, etc.);*
- *Reform of the legal framework and improvement in the functioning of the judicial system relating to business transactions.*

260. Attention has to be paid to identifying and quickly removing internal policy rigidities, especially regarding price control and employment. It is expected that this action will enable firms to respond quickly to changing relative prices and better withstand the rigors of international competition at home and abroad. On the export side, attention has to be given primarily to improving the implementation of the

export promotion regimes (DVR, MUB, EPZ). On the regulatory front, appropriate regulation calls for a legal and regulatory framework adapted to the exigencies of modern day business and compatible with overall economic welfare.

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