Chapter Eight

POLICY IMPLICATIONS AND CONCLUSION

8.1 INTRODUCTION

The purpose of this chapter is to summarise the main findings of the study and identify areas in which policy efforts can be concentrated, so as to further develop the technological innovation and adaptation capability of the small-scale enterprises (SSEs) in the metalworking sector (MWS). The emphasis is on those final observations that are central to understanding the role in technological innovation that the small-scale MWS has played in the Kenyan economy. Most important, however, are those observations that relate to the impact of economic liberalisation on technological development activity, particularly in metalworking firms and technology development promotion institutions.

8.2 SUMMARY OF FINDINGS AND OBSERVATIONS

Economic Reforms and Manufacturing Sector Development

The introduction of Economic Reforms in the Kenyan economy has had a mixed impact on industrial development in the country. The initial effects of the reforms have been the slowing down of the pace of growth in the manufacturing sector. Economic reforms constrained the domestic manufacturing sector in many ways.

First, the de-regulation of interest rates made the cost of borrowing money for investment and other operations very high. Consequently, the rate of growth in industrial gross fixed capital formation (GFCF) decreased between 1989 and 1992. Second, the liberalisation of imports led to unfair competition from dumped cheap foreign goods. The most affected sub-sector in this case were transport machinery and equipment due to the dumping of new and second-hand reconditioned vehicles from Dubai and Japan. The competition unleashed was unfair because the dumped goods came from countries where the firms had developed significant economies of scale. Import liberalisation also had an impact on the importation of industrial
machinery and equipment. Although the expenditure on industrial machinery and equipment increased after the introduction of economic reforms in 1989 (Table 3.9) the increase was not commensurate with the growth in the volume, in terms of the units of machinery and equipment imported. The increase in expenditure was much higher than that of the volume. Due to devaluation of the local currency, relatively more local currency was being spent to import the same units of machinery and equipment during the post-liberalisation period than before. This not only adversely affected the levels of GFCF as observed, but also the technological capabilities of many manufacturing firms, particularly large- and medium-sized firms. Third, due to the uncertainties that surrounded the government’s willingness to implement the whole range of economic reforms, the country experienced a flight of foreign direct investment (FDI). The flight of FDI caused a reduction in the sources of investment capital in the industrial sector. As a result, the economy experienced a downturn in industrial growth during the late 1980s to the early 1990s.

The years between 1989 to 1993 therefore witnessed a process of deceleration in the manufacturing sector. This is exhibited by the stagnating share of the manufacturing sector in gross domestic product (GDP), the decrease in the number of manufacturing establishments, and in the growth of output and wage employment. The underlying cause for the poor performance of the sector has been the negative change in macro-economic parameters that was the result of the economic reforms.

However, as the economic reforms took root in the economy, it has been observed that although the performance of the manufacturing sector started to improve, the upturn was slow and intermittent. While in 1993 and 1994 the performance of the manufacturing sector slightly improved, another downturn was experienced in 1995 and 1996. The upturn of 1993/4 had been occasioned by two main factors. On the one hand, it was due to the injection of donor funds from the International Monetary Fund (IMF), World Bank and other donors that had been suspended in 1992. On the other hand, the stabilisation of the exchange rate of the local currency against the dollar and other convertible currencies, of interest rates and of other macro-economic
parameters led to a temporary economy stability that enticed investors to resume investing in the manufacturing sector. Thus, during the 1993/94 period, GFCF levels and importation of industrial machinery and equipment rose significantly while FDI started flowing in though at a lower rate. As a result, increases in output, wage employment and share of the manufacturing sector in GDP were experienced.

**SSE and MWS Development**

Small-scale Enterprise Development and Government Policies

It has been observed that Kenya is one among the few sub-Saharan Africa countries that has a comprehensive and elaborate policy for the development of SSEs. These policies have evolved over a long period, but with more seriousness after 1972. However, although the SSE development policies have led to a boom in the establishment of SSEs, the implementation and execution of the policies still remain largely unsatisfactory. For example, despite the policy that sought to, and did, establish several financial institutions and schemes to finance small-scale investors, not much in terms of actual disbursement of credit has been realised. The same was also observed with reference to policies on technology promotion, human resource training and infrastructure provision such as power and water. Since under liberalisation the government is more concerned with providing a conducive environment for as opposed to direct participation in SSE development programmes, the government has abrogated most of its earlier participatory policies. Thus, the development of the SSE sector in Kenya in the post-liberalisation period is broadly a result of entrepreneurs' individual efforts, rather than a direct consequence of government's promotional programmes. Due to an increasing rate of unemployment, people have been forced to establish SSEs as a means of self-employment. The only government policy that seemed to have worked in favour of SSEs is the provision of physical facilities in urban areas.
Role of Small-scale MWS Enterprises in Technology Innovation

Both from a literature review and findings from the study, it was established that small-scale enterprises and more so those in the MWS play a major role in an economy. It has been observed from the study that the small-scale MWS in Kenya has contributed immensely to employment creation, output and technology development.

Innovations by the small-scale MWS enterprises have been able to find a wide market acceptance in the country because they are serving a specific market, the low and middle income earners. The new and adapted products and processes introduced by the firms in the sample were found to be directed at this consumer market segment because they satisfied one main market at a low price. They were successful due to their relative low price compared to similar products that have been imported or produced locally using the ‘state of the art’ technology. Although some of the products compromised on quality for low price, they served the needs of this market. It was observed that these products provided the best alternative product in terms of affordability, given the targeted consumers’ income constraint and their desire to purchase the best in the market.

The most important issue that emerges from the study on the above observations is that the small-scale MWS firms did not benefit much from economic reforms. SSEs did not benefit particularly from the liberalisation measures because these measures did not take care of the needs of the SSEs given their peculiar characteristics. With SSEs continuing to face financial constraints and increased competition, a majority were forced to adapt ‘defensive’ as opposed to ‘offensive’ mechanisms to survive. That is, many SSEs shifted their production from manufacturing products to the provision of services such as repair and maintenance and trading in spareparts as opposed to investing in new machinery and shifting to high technology products.
Technology Development Policies

Technology Policies

The policies for technology development and acquisition have been found to have played a key role in the country's industrial development, though they are still lacking in several aspects. Policies that were designed to either enable the country to access foreign 'state of the art' technology or develop indigenous local capability have not achieved the expected results. The purpose of the government in formulating policies to encourage the acquisition of foreign technologies and develop infrastructure for technology development was to ensure the development of local technology capacity and capability. Presently, however, the intended objectives have only been partially achieved due to either shortcomings in the policies themselves, conflicts of interest or poor implementation and co-ordination.

It has been observed in the case of acquisition of foreign technologies through direct foreign investment, joint ventures and importation of machinery and equipment that they have not had any significant impact on the assimilation of the 'know-how' by the local production and management system. The imported technology has remained foreign in all aspects including the use of imported inputs especially among medium- and large scale firms. Though SSEs have, within their limited resources, tried to assimilate and adapt the foreign technology, their efforts have often been thwarted by the lack of a skilled work-force, lack of finance, inadequate machinery and other restrictive regulations such as patent laws.

Similarly, policies aimed at promoting indigenous technology development through the establishment of an R&D infrastructure have not borne many fruits either. The only successful aspect of this policy has probably been the development of a framework for R&D institutions. Results from the study show that two main reasons have led to the dismal performance in the generation of domestic technologies and creation of a sustainable indigenous technology capacity. First, until very recently, the public R&D institutions looked at themselves as institutions which had very little or no common business with industry. Research activities where therefore not geared to
satisfying the end users of the effort, but were more 'academic' in nature. Second, is the inconsistency with which the government has pursued the implementation of the policy. This is reflected in the levels of funding that the government has been allocating to R&D activities over the years. The observations made from these findings therefore are that though Kenya's technology development policies are good, they are not properly co-ordinated and lack consistent, proper follow up and political will in implementation. Also, there are instances when technological policies conflict with other economic development policies as they are not in keeping with the context of a liberalised economy.

**R&D Institutions-Industry Collaboration**

The study found that the linkage between R&D institutions and industry is very weak in Kenya particularly where SSEs are involved. Weak linkages and poor collaboration show that the industrial sector is not making use of R&D and academic institutions for the generation of innovations. This scenario is quite contrary to what goes on in advanced countries, where industry-R&D institutions' relations are mostly on a research and development basis.

There are a number of factors that have continued to separate R&D institutions and weaken their relations with industry. These range from a communication gap to the differences between industry and R&D institutions' culture as regards R&D activities. The most crucial of these problems as identified by the study however are the lack of understanding of the R&D needs of firms by the institutions, a mismatch of R&D institutions' research priorities with those of industry, lack of research facilities, lack of well qualified personnel and, most critical, inadequate funding.

The impact of the weak R&D institution-industry linkages has been more detrimental to the innovation efforts of the SSEs, including those in the MWS, than for medium- and large-scale firms. The introduction of economic reforms that resulted in a reduction in the government's budget allocation to R&D institutions was also found to have adversely affected the already weak R&D-industry linkage. The study observed
that the commercialisation of services offered by R&D institutions, in order to fill in the
gap in the budget caused by the reduction in the budget allocation from the
government, led to many SSEs being cut off from the benefits of their services.
Implicit in this observation is the premise that technological innovation and
adaptation success achieved by the surveyed small-scale MWS firms would have
been much higher if the linkages were strong and many SSEs could access and
afford the services of R&D institutes.

Education, Training and Human Resource Development
Despite the re-structuring of the education system, the expected benefits of the
current 8-4-4 curricula are yet to be felt in the manufacturing sector particularly in
terms of entrepreneurship and technological innovation. Due to an overall decline in
government expenditure on education per student, notwithstanding an increase in the
education budget, a decline in the quality of the graduates especially those in science
disciplines has been experienced. As a result, the study observed that even more
than a decade after the system was introduced, its graduates’ entry into
entrepreneurship and technology development activities is still insignificant.

Apart from increasing the education and training opportunities available to those who
can afford them, as a result of the expansion in the number of educational
institutions, an increase in the cost of education has prevented the majority of the
poor from benefiting from the system. Thus, the poor, especially in the urban centres,
who are supposed to benefit from the re-structuring of the education system by way
of acquiring skills necessary for setting up and managing SSEs have not benefited.
However, the emphasis that the government has given to education and training
through the expansion of educational institutions can be argued to be a positive
move. This lays a good foundation for future human resource development
necessary for industrialisation and technology capability build-up.

The other components of human resource development, viz., training, in-house
training and apprenticeship or on-the-job-training was also found to have been
adversely affected by the introduction of economic reforms. Instead of SSEs increasing their effort in the development of their technical staff, many firms reduced their in-house and on-the-job training activities due to increasing costs in training and declining performance of the firms.

**Determinants of Firms' Technology Innovation Capability**

**Firm Characteristics and Firm Performance under Liberalisation**

The study has revealed that the SSEs are truly indigenous enterprises in many aspects. It was found that on the entrepreneurial and management fronts, many of the surveyed firms are owned and managed by indigenous Kenyans. The SSEs studied were mainly managed by entrepreneurs who were relatively middle aged, with high formal education and technical skills levels. These observations are contrary to the popular belief that SSEs are dominated by persons with low levels of education and technical training and experience. During the post-liberalisation period, it was observed that the ownership and entrepreneurial characteristics of the firms changed though not significantly. During this period the predominance of the well educated, highly skilled and middle aged entrepreneurs increased.

A majority of the firms in the small-scale MWS according to the study fell within the conventional SSE size, i.e. those employing less than 50 persons. Analysed in terms of the amount of their investment in machinery and equipment, it was also found that the majority of the firms fell within the small-scale size category. Constraints faced in raising initial funds for investment was found to be the major reason that compelled SSEs in the MWS to start and remain at the level of micro-enterprises. Though the situation somewhat improved during the post-liberalisation period, lack of finance, is still a major drawback to the growth and expansion of SSEs (McConnick *et al.*, 1997).

Another characteristic of the firms is that most of them are relatively new in the market having been established after the mid-1980s. Two factors account for this finding. One, is that many entrepreneurs entered the industry during this period as a result of the favourable government policies and conducive business environment that was
created by economic reforms. Second, is the high exit rate of SSEs that were set-up during the time of protectionist trade policies. The removal of the measures protecting domestic industries in the mid-1980s exposed these firms to competition of a kind that made it difficult for them to survive.

With regard to the performance of the firms, it was found that only a few of them had registered a significant improvement in the 1990s, compared to the period before. Output and profits remained unchanged for a majority of the firms, while a sizeable number reported a significant decline. However, the firms experienced an expansion in employment levels and a change in their market niche. Although a few firms were able to ward-off the competition unleashed by liberalisation by adopting 'offensive' mechanisms such as acquisition of new technologies, many SSEs were unable to stand up to this threat. Thus, they either switched their production to the production of low technology demanding products, repair and maintenance services or trading activities to improve their performance or experienced a decline or stagnation in output and profits, with some even being forced to exit the market.

**Liberalisation and SSEs’ Innovation**

From the 80 firms in the study it was observed that the level of technology innovation significantly depends on the size of the firm in terms of the total number of persons it employs, the number of technical and skilled employees, and levels of investment in machinery and equipment, R&D, and the education levels and experience of the entrepreneur, etc. Apparently, except for a few, liberalisation has had no significant positive impact on all these firm specific factors which are critical in determining the firms’ capacity and capability to innovate and adapt technology. In the study it also emerged that during the post-liberalisation period, although some of the firms undertook some adjustment that led to the strengthening of these factors and/or the conversion of the threat posed by the lack of them into an opportunity, a majority of the SSEs in the sample were unable to adjust. This implies that the technology capability in firms did not remarkably improve as expected.
The outcome of the effect of liberalisation on SSEs innovation and technology adaptation is that although the number and types of innovations/adaptations increased after liberalisation, the complexity of the innovations did not improve much. The SSEs continued to carry out low technology innovations and adaptations, mainly based on imitations and copying of existing products and processes, as was the case before liberalisation.

8.3 POLICY IMPLICATIONS AND RECOMMENDATIONS

There are many factors and policy issues that affect technology innovation and adaptation in small-scale MWS enterprises and in all liberalised economies. At a national level these include fiscal and monetary polices, policies on indigenous technology capability building, particularly human resource development, and national R&D activities. At the firm level, though the individual firm policies are also critical, the main factors are those that relate to the characteristics of the firms themselves. It must however be appreciated that it is the government policies at the national level that directly influence the operations of the individual enterprises and hence their characteristics.

In this section, an attempt is made to bring out the major policy implications of the findings from the study as summarised above. Suggestions on some practical policy alternatives or additional policy measures to what already exist are recommended. These recommendations are aimed at providing a broad based framework within which the identified policy shortfalls can be remedified so that technology innovation and adaptation among SSEs can be enhanced and fostered. The policies suggested here are those that aim at the full exploitation of the existing technology infrastructure and supporting enterprises in radical efforts at technology innovation and adaptation.
Government Technology Policies and Support Programmes

In Kenya, the governments' technology innovation programmes as provided for in the various Development Plans had very little, if any, impact on the target firms. This is because formulating a policy is one thing and making it work is another. Policies that are formulated without providing for the necessary means and mechanisms for implementation can not suffice for the promotion of technology innovation. Technology support programmes have however been known to yield positive results in countries where they have been accompanied by an appropriate institutional mechanism for implementation. In South Africa for example, the innovative Support for Electronics (ISE) programme in which the government funded up to 50 per cent of R&D expenses in the electronics sector, was successful (Kaplan, 1995). The success was achieved because the ISE was an action oriented programme rather than just a blue print or policy statement. Due to the ISE's success the programme has been expanded to a Support Programme for Industrial Innovation (SPII) in which other sub-sectors of the manufacturing sector have been included. However, due to government's budget constraints under the structural adjustment programmes (SAPs), the government had to limit SPIIs coverage only to key sub-sectors.

For the technology support programme to have a positive impact in Kenya, there is need to adapt the South African approach. The government programmes on technology development should look for mechanisms of directly financing technology innovation activities of SSEs that have high forward and backward linkages in technology development. Since evidence abounds that it is the MWS that has the highest linkages, both backward and forward, in terms of technology development, then this sector should be the focus of the government's effort. It is therefore recommended that the government should translate its already existing 'white paper policies' into practical programmes. The programmes should as a matter of necessity encompass financial and technical assistance and support R&D and other related activities in the small-scale MWS that are likely to impact positively on technology advances in other industrial sectors.
Following the abandonment of the traditional instruments of intervention, such as quantitative import restriction and licences during the trade liberalisation period, there is a need to institute other measures that would ensure the continued development of technology and innovation. These policies should be more functional in nature and geared to assist those industries that are technology intensive and are a linchpin for technology development in other sectors. Based on the study findings, what is required in the MWS is an intensified public R&D programme that is closely linked with industry, R&D incentives e.g. tax rebates and other type of subsidies for those that undertake research, tax deductions for manpower development and preferential capital investment in new product technology.

Prevailing tax rates do not have any impact on the attitude of SSEs towards investing in R&D (refer Appendix 1). Certainly managers of many SSEs feel that the current tax threshold is too low and because of this, the rewards from successful innovation are not sufficient to justify taking the risks involved in innovation. Since during the period of liberalisation many small-scale firms are struggling to survive due to competition from imported goods, unless the R&D effort is well supported, a majority of the firms will opt for the soft option of acquiring imported technologies. As a result, the little progress that has been achieved in local technology development before liberalisation would be further whittled down.

R&D institutions-Industry Linkages and R&D Funding
The present situation where collaboration and linkage between the production sector and R&D institutions is very weak raises a number of policy questions. Fundamental among them is whether the government funding of R&D institutions is justified, both in the short- and long-run, on the rationale of developing indigenous technology capacity and capability-building. Presently, there is very little if any justification for the government to invest heavily in R&D that is only geared to creating a mass of scientific knowledge, by emphasising on basic research that does not percolate or translate into productive technology innovations.
However, since the government has already made substantial levels of investment in the development of the R&D infrastructure in the country, these should not be left unutilised or abandoned. Policy measures need to be put in place to strengthen the linkage between R&D institutions and the productive sector so that the technology capacity and resources that exist in R&D institutions are fully utilised. To achieve this, the current R&D institutions-industry linkage and collaboration has to be strengthened by:

- Encouraging and supporting the emerging trends where public R&D institutes are trying to raise funds for research projects from industry and other external sources, but with special programmes designed to assist SSEs. Instead of the government directly financing the institutes, the research funds should be disbursed to enterprises that want to undertake a particular innovation. The firms would then in turn use the funds to finance the institutes that are willing to collaborate with them. Focus on this programme should be on SSEs as they are in dire need of financial assistance for technology development. The importance of this policy approach would be threefold. First, it will motivate R&D institutes to take up projects that are of relevance to the enterprises that fund their R&D activities. Second, it will reduce government expenditure in conformity to the government’s economic reform programmes and thirdly, it would ensure that indigenous enterprises fully benefit from the government’s investment in technology development.

- Building the confidence of the end-users in the R&D results (entrepreneurs) so as they can start having faith in commercialising the technologies from R&D institutes and universities. To achieve this, the R&D institutions and universities should specialise and build world class excellence in their field of technology development.

- Establishing science research parks where R&D institutions would display and demonstrate the efficacy of their technologies. These parks should provide facilities for setting up pilot plants for the technologies developed by the R&D institute. They should also act as shop windows for those investors who want to adapt the technologies developed by R&D institutes. The science research parks
thus should aim at removing the alleged fear of entrepreneurs who are usually sceptical about the adoption of new technologies that have not been proven to be commercially viable, at least even on a pilot scale.

- To sustain the university-industry linkage and to enable the academic sector to contribute to the enterprises technological development, the university system needs to be re-oriented. Such re-orientation can be achieved through: adaptation of curricula, particularly in the engineering and science fields to reflect the human resource requirements of industry; establishing closer links between research and teaching; and establishment of a mechanism for the contracting of studies and research in the form of collaborative university-industry ventures. In addition, R&D institutions, universities and even non-governmental organisations (NGOs) involved in industrial technology development and promotion need to expand their operations so as that they are within reasonable reach of the firms. As it was found that proximity of firms to R&D institutions determines R&D institutions-industry linkage, such new institutions should be established in those regions, such as the Coast Province, where there is currently a deficit. Having R&D and other technology development agencies close to areas of industrial concentration will ensure that the technology needs of the firms can easily be attended to.

Manpower Training

The correlation that exists between levels of technical skills and technology innovation provides an opportunity for Kenya to enhance its technological and industrial development through education and human resource development. Achieving this however requires that the majority of the Kenyan population acquire a minimum level of formal and vocational apprenticeship that would make them more attuned to and appreciative of the complexities of technology in the production system.

The policy implication here is that there is need for streamlining the present education and human resource development policies to those of industrialisation, particularly technology-led industrialisation. The education and training policies should therefore
be geared towards technology capability and capacity building through human resource development. For this to be achieved, further government policy intervention and programme are required in a number of areas.

The areas where further government policy intervention and programmes are required include:

- Increasing the number of vocational and middle level technical training institutions so that more opportunities are provided to the school leavers and unskilled workers in industry to be trained in practical industry related disciplines. Special attention needs to be paid to this because as the study findings have found, while the level of formal training is important in determining the success of an enterprise, it is technical skills that are crucial. For Kenya to be able to actualise its vision of being a newly industrialised economy (NIE) by the year 2020, it must put in place policies and programmes that would develop a pool of well-trained manpower at both low, middle and high levels. The creation of a large mass of locals with the necessary technical skills will not only encourage the anchorage of imported technology, but also lead to the generation of local ones, which are fundamental pre-requisites for the attainment of faster industrialisation.

- Financial constraints for training among SSEs, particularly the Juakalis has been identified as one of the major problems that confronts manpower skill development in the sector. The training-levy that the government levies on industrialists as a means of pooling resources for training purposes rarely benefits the SSEs. This has thus forced SSE’s technicians and artisans to entirely depend on in-house, on-the-job training as opposed to enrolling in established training institutions. Consequently, SSEs miss the opportunity that technical and vocational training institutions provide in up-dating the skills of such middle level skilled workers. The resultant outcome is the scenario that the capability of such employees in technology development activities is curtailed as their skills remain un-upgraded.90

90 Juma et al (1993:134) observe that “the training process within the Juakali [SSE sector] are not likely to create new technologies. Any new technologies will have to come from outside the training process obtaining in the informal sector”. Thus, the existing skills in the sector need to be upgraded and fused with those from formal technical training institutions so as to improve and enhance their technology innovation capabilities.
in a field where knowledge is changing very fast. Thus, there is a need for the
government to enhance management of and streamline the allocation of the
training levy so as it can benefit even those in the *Juakali* sub-sector.

- In addition, the government should adopt a deliberate policy for encouraging
  investment in the **SSE** sector, especially those in the MWS, focusing on
  manpower development. **SSEs** should be encouraged through tax rebates and
  other fiscal policies to the firms to plan and provide training opportunities to their
  technicians and artisans. This would in the long run lead to the employees being
  better abled to master the production process and technologies and hence lead to
  some ‘sophistication’ in the innovations made in the metalworking enterprises and
  the **SSEs** as a whole.

**Expansion and Growth of Locally Owned Industrial Enterprises**

The **SSE** sector is the only industrial sector that is preponderantly indigenous in its
ownership. Much hope for industrialisation that is home-based therefore lies in the
promotion of **SSEs**. Since ownership and management are key to industrial
development, conditions must be set where local capacities can develop and
increasingly take up these roles and responsibilities. Foreign ownership,
management and technical support should only perform a supportive and not a
dominating role. To enhance local control of the industrial sector and particularly
indigenous entrepreneurship, economic and technology policies that stimulate and
sustain this need to be emphasised.

Although several policies have been tried, the impact has not been strong enough.
Moreover some of these policies, such as the *Kenyanisation* policy, are no longer
relevant and applicable. What is required under the prevailing situation are decisive
programmes that would enable the **SSE** entrepreneurs and firms to graduate to large
scale. The current pace at which firms are growing is relatively slow. Also, due to the
small size of the firms, their ability to invest in technology development has been
limited. Thus, as it has been found, the technology innovation and adaptation
activities are still at very low levels. The implication of this is that since the **SSEs** are
the majority among the MWS firms, it will take a long time before the country can
break into the technology ranks of the first developing economies. For Kenya to ‘catch-up’, there is need to have policies that would ensure the growth and expansion of the SSEs to medium- and ultimately large-scale firms. The rapid growth and expansion of SSEs in the MWS can be achieved in several ways, but the most critical involves the institution of policies that would rationalise the unfair competition in the market and ensure easy availability of investment capital.

As much as industrial protection policies are currently out of tune due to liberalisation, some form of protection is still required. It would therefore be prudent if within the liberalised market environment unfair competition faced by SSEs is curtailed. To curtail competition, dumping of foreign goods in the Kenyan market should be regulated. Calibrated duties to control dumping need to be imposed so that foreign products do not provide unfair competition to local products especially those that are produced by SSEs.

Other measures that can be instituted to ensure the establishment, survival and graduation of SSEs to medium- and large-scale firms are: formulation of a discriminative taxation structure and easing the bank requirements on SSE loans. For SSEs to be able to survive and expand, a tax holiday for a few years, after a firm has moved to a higher value added tax (VAT) bracket that falls within the levels of the medium-scale, or large-scale firm is required. For these new entrants to the higher VAT bracket that has been caused by the growth of the firm, the old VAT rate should continue to be levied on them. This fiscal measure would enable SSEs to recoup the investment made to expand its production capacity and thus build a strong foundation for further growth. With this, undoubtedly, the indigenous entrepreneurs would be provided with an incentive to graduate to large-scale enterprises.

The requirement for collateral, guarantors and other restrictive regulations by banks and other creditors on SSEs need to be reviewed. Since the majority of the financial institutions are privately owned, it would be difficult for the government to control their operation and impose some lending restrictions on them. Hence, what is recommended is that the government should restructure its existing SSE
development financial institutions (DFIs) such as the Small Enterprise Development Company (SEFCO) and the Kenya Industrial Estates (KIE). These DFIs should be restructured into full banking institutions on the line of the Grameen Bank\(^{91}\) in Bangladesh.

With respect to the prevalence of competitive pressures on firms, competition in the domestic market is skewed in favour of foreign companies. Despite the economy and trade being liberalised, a majority of SSEs are still operating in an inward-oriented trade regime. Export is not essential to many of the firms. Unless additional purpose-oriented policies are formulated to make SSEs acknowledge and appreciate the importance of an export-oriented regime, the development of technological capacity and innovation will not be a necessity to them. Only when trade liberalisation and policies that are designed to promote competition are buttressed by a range of other measures designed specifically to encourage companies to invest directly in enhancing their technological capacities that innovation will take root in the sector.

However, the locally owned MWS firms can not enter and effectively compete in the export market even if the necessary trade and fiscal policy measures designed to assist them unless the quality of the products is improved. The position as it is now is that they are not so keen on quality aspects in the innovated products because the SSEs market is to a large extent limited to the low and middle income market segment. Improvement of product quality by incorporating it as part of the technology innovation and adaptation activity of the firms is therefore one sure way of guaranteeing that their products would get an export market and they would be competitive both in price and quality.

\(^{91}\) The Grameen Bank is a public sector bank that was established in 1976 in Bangladesh. Forty per cent of its shares are owned by the government, 40 per cent by the public who are beneficiaries and 20 per cent by 2 private banks. The Grameen Bank provides credit facilities to SSEs mainly in the agricultural sector, without the requirement of collateral. However, loan/credit is given only to persons who are members of a Group (comprising normally of five members) whereby the other members of the group stand as surety for a loan disbursed to any of the group members. If a member of a group defaults in loan repayment, the rest are barred from obtaining subsequent loans until the repayment is made. The Grameen Bank has been very successful in solving the SSE's lack of credit from the conventional banking sector, as the interest rates are low and default rates are almost negligible.


8.4 CONCLUSION

The small-scale MWS is a very important sector to the Kenyan economy because it immensely contributes to income, employment and technology generation. Dependence on imported technology is however a major set-back to the development of the productive sectors of the economy especially in a developing country. Lessons from Japan, Korea, Brazil and other NIEs, (Jacobsson and Alam, 1994; Wogart et al., 1993; and Katz, 1987) have shown that the development of a local technological capability is necessary. Nonetheless, it must be noted that it might not be possible for Kenyan small-scale MWS enterprises to 're-invent the wheel' in an effort to develop local technological capabilities. The most plausible way to ‘catch up’ in the technology race is through minor and incremental innovation and adaptation that would ultimately lead to radical technological changes. Indeed, this should not only form the basis for further technology development but also be within the resource constraint frontier.

Even under liberalisation, given the central position technology takes in economic development, there is a dire need for a policy that would boost indigenous technology. The economic position that Kenya is at today, is much lower than the level that had been attained by Indonesia, Malaysia and Thailand in the 1970's (Republic of Kenya, 1996b). Most disturbing in this comparison is that while Kenya in the late 1990s is incomparable economically and technologically to the situation that existed in the NIEs in the 1960s, up to now there are no sound policies for protecting its technology production sector against undue competition as was the case in the NIEs then. It is such a policy where the MWS was heavily protected that enabled the NIEs to achieve levels of industrial take-off in the late 1960s up to the 1970s. The MWS sector and particularly those in the small-scale category need a protective policy to be able to mature and fill in the gap of the missing middle in the industrialisation process.

Advocating for protective policies against undue competition does not however mean that the pre-liberalisation measures should be re-introduced. As much as unfair
competition may be detrimental to the growth and performance of SSEs, fair competition is certainly necessary (Lall et al., 1994). As the study has found, this is one among the reasons that some firms have adduced in explaining their low levels of innovation. However, if the competition is fair, then there can be an efficient allocation of resources and capacity utilisation that would even lead to improvement of technological capabilities. Since it was found that liberalisation measures that opened up protected firms to competition lead to some firms to undertake ‘offensive’ adjustment that resulted in technology innovation and adaptation activities, it is therefore logical to argue that some level of competition is essential as it induces firms to devise new methods for survival. However, there is need to safeguard the local firms against undue competition, particularly from imports.

In order to ensure that SSEs would reap maximum benefits from liberalisation, there is a need to assist firms in the processes of upgrading and enhancing those factors that are critical to their survival, particularly in technology capacity and capability building. A conducive environment therefore needs to be created whereby the firms are able to employ more skilled workers, secure loans and other forms of financial assistance for investment in machinery and equipment, and access technological assistance from R&D institutes. The enhancement of these firm specific factors, coupled with other fiscal and regulatory policy measures are the most important and critical issues that need to be addressed.

Thus, the general conclusion that one can make from the study is that although only a few SSEs in the MWS have positively benefited from the liberalisation measures, and liberalisation overall had more negative than positive effects on firms’ innovation, these trends can be reversed if the shortfalls in the existing policies are rectified.