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Breaking the Entrepreneurial Bottleneck
in the Late-Developing Countries:
Is There A Useful Role for Government?

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BREAKING THE ENTREPRENEURIAL BOTTLENECK
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This paper begins from the premise that in many developing countries there is indeed a bottleneck with respect to the performance of indigenous entrepreneurship. Further, it is contended that this bottleneck, which begins to restrict at the level of medium and larger scale undertakings, has significant consequences for the diffusion of technical progress and long-run economic growth. Moreover, although it falls outside the economist's purview, we would assert that societies which possess a well-populated and well-developed entrepreneurial class are more likely to enjoy an open, stable polity.¹

The question before us is what kind of intervention -- policy or program or admixture thereof -- should be employed to break the bottleneck which holds back efficacious entrepreneurial exertion. The ultimate answer of course must be based on inferences from past experiments in the untidy empirical world a world of elegant project design, lack-lustre bureaucratic execution and a unique history in the encapsulating economy, of distorted macro-pricing policies, of shocks, windfalls and political imperatives. But before we turn to this daunting task, let us first establish some analytic perspectives.

I

A bottleneck constrains something. Hence a first question

might be, what are the critical activities that an entrepreneur must perform if he or she is to be successful? Once these are isolated they can then be individually assessed as to whether the motive force and skills which underlay the activity are susceptible to direct nourishment or indirect stimulation through government action.

How have the major theorists in the field described the constituent activities of the entrepreneurial role? Schumpeter sees the entrepreneur against a background of the "circular flow" in which firms operate in well explored markets, with businessmen employing management routines, finely honed and purified under competitive pressure, that assure cost-minimization given available technology and local resource and demand conditions. No opportunity is left unexploited.

It is within this context of the circular flow that the entrepreneur conceives an entirely new way of doing something, involving either his product or the cost of its final sale. If successfully implemented the entrepreneur's firm enjoys booming sales and large monopoly profits (albeit of a transitory nature). And of course, the initial innovation sets in motion a sequence of events whose end result is a change in the structure of the economy and a permanently higher level of national output.

To conceive his innovation ab initio the individual must be endowed with extraordinary intuitive powers to "grasp the essential fact" from among the infinite number there for all to

perceive and to "see things in a way which afterwards proves to be true." To carry out his "new combination" our subject, beyond a narrow focus on the immediate chance, must be able to draw upon a surplus force of the will to overcome fixed habits of thought and to consciously plan without any guidelines each step of the venture. And finally, because the actions of this upstart threaten established commercial interests, and perhaps socially acceptable ways of doing things, the entrepreneur must be possessed of a highly egotistical nature in order to withstand individual and collective opposition outside of the marketplace.

Certainly Schumpeter's characterization of the circular flow captures much of the structure of the informal sector and traditional small-scale industry. And just as Schumpeter's entrepreneur lacks the necessary capital resources and must persuade bankers to support his venture despite a lack of collateral, the contemporary LDC entrepreneur finds himself similarly placed vis-a-vis the government development agency. But, as has been widely observed, the characterization of the entrepreneurial function as one of innovation and activities attendant thereto simply does not fit late developing countries.

First, there exists an immense technology backlog of new products and unapplied production techniques both in the developed industrial economies and in the home economy, the latter in the form of multinational corporations and "alien minority" enterprises. Second, the entrepreneur does not have to create his own demand: imports and products of foreign

enterprise have already mapped out large markets. In this context perceiving truly new economic possibilities and the carrying out of pioneering technical and organizational innovations are largely irrelevant. On the other hand, the operational problems of matching advanced technology with qualitatively ill-fitting local factors of production are considerably greater than in the nineteenth century. To adapt techniques and organization, to maximize factor productivities and minimize unit costs, to secure working capital finance, to improve substitutes for nonavailable skills and materials -- these tasks on the production side will more often than not represent the critical entrepreneurial function in the modernizing economy of the late twentieth century.

Frank Knight's conceptualization of the entrepreneur's role comes closer to our problem. In contrast to Schumpeter's rejection of the direction of men and the management of the on-going firm as merely routine activities, Knight defines exactly these functions as lying at the center of the entrepreneur's task. In place of a division in behavior between the routine and the near-superhuman, he sees a continuum in the uncertainty facing firms, some part of which must be handled by all the actors in the system.

While Knight does not envisage the range of production risks that obtains in the underdeveloped economy, he nevertheless views what transpires in the industrial economies in a very different light than Schumpeter.² Ex ante technological risks arise from

variations in the quality of labor and raw material input, with resultant effects on product quality; moreover the volume of output is not certain from a given resource expenditure (Knight, pp. 238, 295). And there are price risks consequent upon changes in consumer taste and in the actions of competitors. Thus the entrepreneurial function -- taking decisions based on judgments about the future which are inherently liable to error, the exercise of responsible control -- is always present. And it follows that entrepreneurial profits are attendant not only on new combinations but arise continuously (whether a gain or a loss) as the entrepreneur guarantees the income of his workers and input suppliers while bearing the consequences of uncertain future outcomes.

Knight has a second advantage over Schumpeter for our problem. Both men see the same set of requisite personality attributes for intuiting what can be done and then doing the thing: above-average intellect, extraordinary powers of intuition, the capacity to plan and to act, self-confidence, a taste for risk. Knight, however, including as he does adaptative behavior within the realm of initiative, lays stress upon accurate perception as an important ingredient in inferential reasoning about future events (Knight, p. 202). The particular relevance of this activity -- the close observation of the present environment -- for successful entrepreneurship in less developed economies will be made apparent shortly. More dramatically, in opposition to Schumpeter's leader acting alone,

Knight identifies the key entrepreneurial decisions to be judgments about other men's capacity to handle uncertainty, that is in his selection of deputies, foremen and supervisors. It is failure in just this area -- inability to recruit trustworthy lieutenants willing to exercise responsible control -- that has revealed itself to be a major element in the bottleneck we are studying.

II

Knight's analysis of the entrepreneurial task is thus more general as theory than that of Schumpeter and in its focus on management more helpful in illuminating the nature of entrepreneurial activities in less developed countries. But it falls short in one aspect. Like all those theories developed within the neoclassical framework (and within the framework of advanced economies) the focus is upon present action directed toward future events that can not be fully foreseen. By contrast, economic actors are assumed to possess "perfect knowledge" about present conditions and possibilities. This may not be too unreasonable an abstraction where markets are fully developed, where factors of production possess some minimum degree of homogeneity and where there exists a measure of continuity between new and existing technology. The necessary result of these conditions is that producers, within the context set by relative factor prices, will be operating with a high degree of technical efficiency, they will be at or near their "production frontier."

However, where little homogeneity and continuity obtain, as in the case of many developing countries, the "perfect knowledge" postulate becomes untenable. With radically different endowments of technical and managerial knowledge among entrepreneurial units, coexisting by virtue of segmented product and labor markets, it may well be that "ignorance" about present conditions and possibilities represents the dominant constraint on indigenous entrepreneurial exertion.

There are two sets of evidence which provide strong support for this proposition. The first relates to manufacturing value-added shares. Despite almost a half century of industrialization, private indigenous entrepreneurs still account for a small fraction of manufacturing output.³ In Ghana the share is 8 percent; in Ivory Coast it is 11 percent. In Malaysia it is about 5 percent. African entrepreneurs account for 9 percent of recorded value added in Kenya. In the case of highly developed Brazil, private businessmen contribute 27 percent. In these and most LDCs the bulk of the entrepreneurial talent is supplied by multinational corporations (e.g. 40 percent in Kenya 50 percent in Brazil), state enterprise and resident minorities (e.g. 51 percent in Kenya). Various forms of joint enterprise aside, in state-owned and operated ventures key technical and managerial positions are frequently filled by foreign personnel. But regardless of the presence or absence of foreign personnel, state enterprise does not provide a way around: in virtually no country--whether it be Ghana or Korea--have state-managed

industrial concerns proved economically viable.

The second set of evidence pertains to the size distribution of firms. In those countries where our bottleneck binds, one observes that coexistent with the low value-added share there is a multitude of small firms operated by indigenous entrepreneurs that engage 1 to 20 employees, but very few in the 20 to 50 worker category and above. There seems to be a barrier beyond which these entrepreneurs can not expand. In Kenya, for instance, typical of many African countries, in 1985 there were 21,550 firms employing 19 workers or less and only 400 firms employing 20-49 workers. In a Taiwan or a a Korea or an India the pattern is very different.⁴

From these two pieces of evidence what can we infer about the nature of the entrepreneurial bottleneck in late-developing countries? Clearly such activities as the perception of market opportunity, the ability to make investment decisions, and the willingness to bear risk are available in abundant supply and do not constitute a bottleneck. It is otherwise with the day-to-day functions of managerial coordination and production control. In import-substituting, technology-borrowing countries Schumpeter's innovator-versus-"mere manager" priority must be reversed. It is precisely inefficiencies in the routinized managerial functions that prevent domestic entrepreneurs from continuously expanding their firms and from moving into more complex manufacturing activities.

What activities constitute managerial coordination and production control? How might we determine that they are being carried out inefficiently? Many of the activities are identified in the "Determinants" column of Table 1. The inefficiency of their execution can be glimpsed in several ways. Within the population of indigenous firms, one observes a larger than normal gap between the average and the best-performance rate of throughput. It is also manifested in the spectacular results achieved by productivity demonstration experiments. However, it is perhaps most readily seen when both indigenous and alien minority entrepreneurs are operating in the same industry and utilizing the same type of equipment. In visiting both types of firms one notices that when production is underway, the pace of work is noticeably slower in the native firm with a resulting lower rate of throughput. Productivity is further reduced in the latter because interruptions in production are more frequent and quality suffers from variability in product specifications. And costs are pushed up yet again as a result of substantial leakages via raw material wastage, pilferage and clerical embezzlement. These deficiencies can be traced to a low degree of coordination and planning, a disinclination to utilize written records intensively for purposes of control and the absence of conscientious supervision in the workplace. The consequence of these shortcomings is to penalize net earnings, to limit the competitive strength of the firm and to prevent the entrepreneur from moving into more demanding productive activities.

Table 1

The Measurement of Managerial Efficiency

$$Q = \alpha L^{\lambda_L} K^{\lambda_K} M^{\lambda_M}; \quad \alpha(D, E, T, W, Q)$$

Variable	Determinants
D. Designed capacity	Embodied in equipment.
E. Efficiency	Plant layout, work methods, materials handling, supervision.
T. Time: Intra-shift utilization	Maintenance, control of stock & spares, supervision.
Shifts per day	Planning, willingness of supervisory staff.
W. Wastage: Materials wastage	Work methods, supervision, inventory control.
Theft	Inventory control, monitoring accounts.
Q. Quality	Work methods, supervision.

A formal statement of the managerial determinants controlling the technical efficiency with which the factors of production are combined within the firm is presented in Table 1. The level of output, Q, is a function of the amount of labor, capital and raw material inputs, each weighted by its marginal product (the lambda's). The alpha is the managerial efficiency parameter, ranging from 0 to 1. Its value is determined by three factors: (i) the design capacity of the equipment in use relative to the capacity of "best practice" equipment per dollar of investment cost, (ii) the percent rate of throughput actually

achieved relative to capacity --variables E, T, W--and (iii) actual product quality relative to the maximum quality standard. A horseback estimate of relative orders of magnitude for average performance would put alpha at .70 to .85 for multinational corporations and resident minorities and about .40 to .60 for indigenous entrepreneurs in medium and larger scale units.

III

We begin our discussion of government programs aimed at breaking the entrepreneurial bottleneck with a bit of history. Until very recently entrepreneurship development has always been treated as a component of developing "modern small industry". This subject was first actively taken up in the early 1950s. Analysis for the most part focused upon Japan and India as the source of possible models to be applied elsewhere. Both of these countries possessed relatively large small industry sectors; unlike other developing economies, in these two instances the sector was well covered statistically and was the subject of self-conscious government policy, motivated primarily by employment concerns. As it happened the Indian model prevailed and has since provided the templet for small industry programs the world over.

In many ways the competitive performance of Japanese small enterprise was more impressive. Yet the unique survival of traditional Japanese consumer products in head-on competition with modern Western goods and extensive captive subcontracting

relationships with large-scale industry as part of the latter's post-World War II capital-saving reconstruction strategy seemed to suggest that the Japanese experience was idiosyncratic. At about the same time a talented group of men and the world's most influential PVD became advocates for the Indian model.

Following a 1953 invitation from the Indian government, a team of American and Indian economists lead by Eugene Staley and Joseph Stepanek Sr., with the active support of the Ford Foundation, began producing a stream of reports and monographs that dramatically reshaped and extended Indian small industry programs. In 1958 the Ford Foundation made a major five-year grant to the Stanford Research Institute, the new home of the Staley team, to undertake research and policy analysis in Latin American and Asian countries.⁵ Many of the recommendations in the SRI reports were carried out in U.S. AID programs, particularly in Latin America. Since the late 1960s the baton has been carried by the Indians themselves, usually former officials from the Indian Small-Scale Industries Organization, working as professionals with the World Bank or the United Nations. The main area for new programs on the Indian model has been Africa.

What is the Indian model? It is three things. First, it is comprehensive, being made up of programs covering every imaginable input required by small industry. Second, all of its programs supply their services on a concessional basis, whether it be physical premises at a below-market rent or government

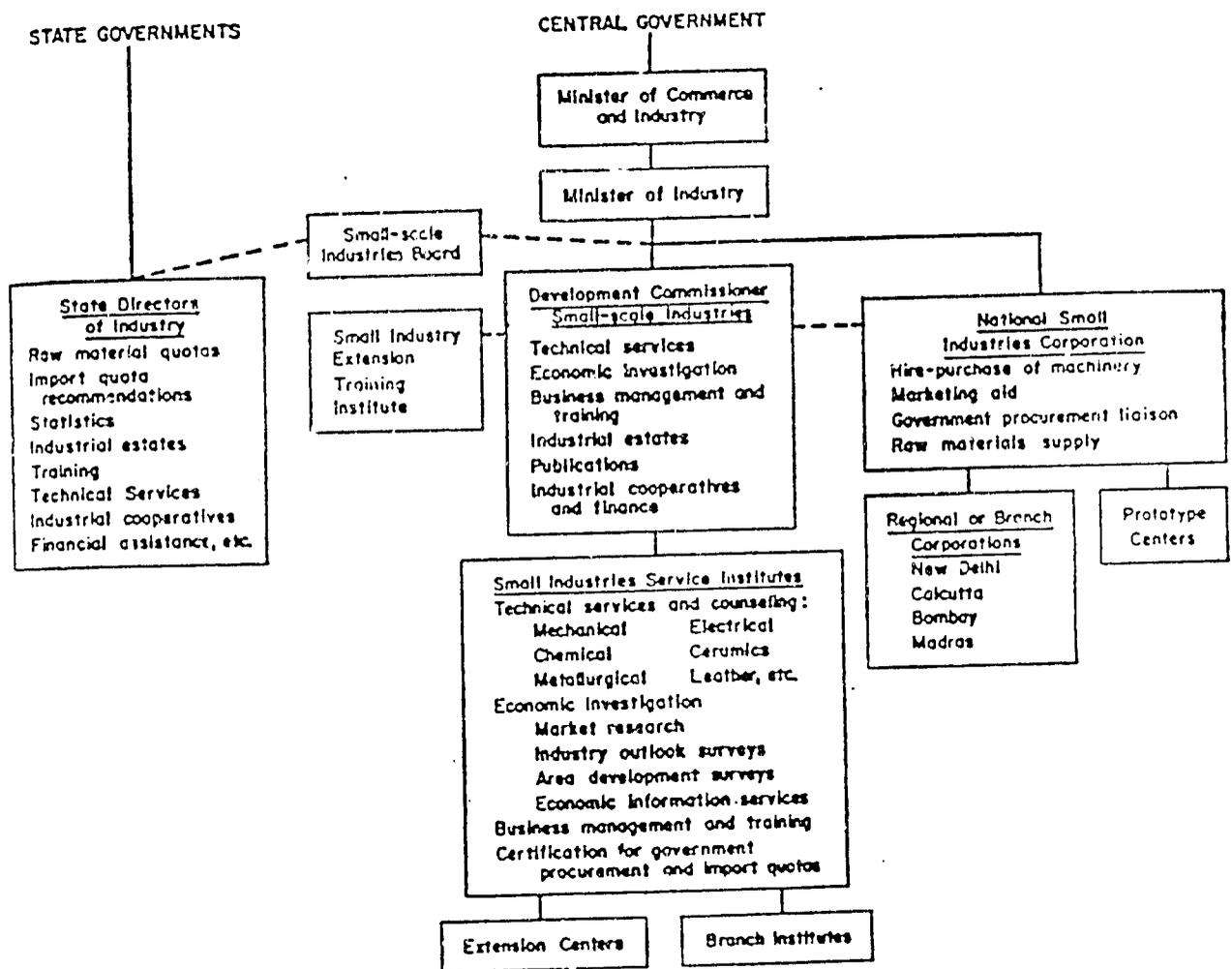


FIGURE 1. Small-scale industries organization, India, 1963.

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procurement of small industry output at above-market prices. Third, it is centrally administered by a public bureaucracy.

The range of services and the administrative structure of the Indian program are shown in Figure 1. Based on "the principle of combination and interactions," the philosophical core of the Indian model is that only an integrated set of interventions --analogous to seeds, water, fertilizer-- can succeed (Staley and Morse, p. 352). In addition to the provision of physical premises, raw material supply, long-term finance, working capital and reserved markets, the nineteen Small Industry Service Institutes provide research and technical assistance on an extension basis with respect to engineering problems, market research and training in business management.

The new elements since the mid-1960s would include a large number of loan guarantee programs operated through the private banking system and, since 1978, an Entrepreneurship Development Program. The latter is a program wherein interested individuals are recruited through newspaper advertisements, and then selected on the basis of "their motivation to achieve, their capacity to take risks and resolve problems, extent of positive self-image and their interest in setting up a business as trying something new" (Bhatt, p. 48). Training is organized around the preparation of a feasibility and implementation study for a venture in their chosen industry, the document then becoming the basis for a bank loan application.

In analyzing the effect of these programs on entrepreneurial performance it is very useful to distinguish whether the intervention improves the individual's capacity to act or whether it improves the environment in which he operates. This dicotomy between talent and opportunity, between nourishment and stimulation, between motive strength and motive arousal, between differentiation and relative centrality is found in every discipline. In economics it is supply and demand.

Let us start with the demand for entrepreneurial services in the manufacturing area. The major elements here are the level of product demand (level of disposable income, export opportunities, competition from imports), wage rates, the cost of finance, company taxation and any other factor which raises or lowers the profitability of entrepreneurial endeavor. Thus the provision of such complementary inputs as industrial estates, long and short-term finance and advisory services are demand-side interventions; so too are programs aimed at increasing small industry sales-- tariff protection, domestic content requirements, export promotion. The supply of entrepreneurial services is determined by the proportion of the population that has access to entrepreneurial pursuits, rewards to alternative non-entrepreneurial careers and historical and sociological factors that generate the intensity and talent these individuals bring to bear. Management training and entrepreneurial screening are examples of supply-side programs.

Since the mid-1960s Africa has been the area where much of the new small industry promotion effort has been located. And it has almost all been fashioned after the Indian model. Although Nigeria's 1958 Yaba Industrial Estate was Africa's first small industry program that went beyond a simple lending scheme, it is Kenya's 1967 intervention that in its design, expert staffing, geographic coverage and continuous operation takes pride of place as the continent's outstanding small industry development effort.

Kenya's program is no less important for serving as the staging area for the spread of these programs after 1970 into Tanzania, Swaziland, Lesotho, Botswana and Burkina. Ingredients in the transfer usually included Indian advisers and Scandinavian funding under a UNIDO umbrella. In a sample of 14 countries Haggblade, Hazell and Brown (1987, p. 140) report that 71 percent have a lead agency charged with responsibility for over-all small industry development, 93 percent operate loan schemes, 50 percent possess one or more nursery industrial estates, 43 percent provide extension services of some kind and 36 percent have facilities for carrying out small industry investment feasibility studies.

Because the Kenyan program possesses all these elements and because it has benefitted from two decades of intellectual, financial and staffing support from bilateral and international agencies, it would seem to be ideally suited for our purposes. By subjecting its history and its achievements to a close scrutiny, we can go a considerable distance toward answering the

question, "Is there a useful role for government?"

Let us start by describing Kenya's current level of Kenyan-African entrepreneurial development. As of 1985 there were 1,556 registered manufacturing establishments engaging less than ten (average size 3.0 workers). To these may be added a further 19,680 unregistered establishments (average size 1.9 workers), for a total of some 21,000 units. Over the past dozen years, the number of these establishments has been growing at 9 percent per annum. By contrast, there are but 309 firms in the 10-19 employee category and 399 in the 20-49 category; moreover some portion of these establishments are headed by non-African citizens. There are only five to ten African-headed firms engaging over fifty workers. The growth rate for the 10-50 stratum is only 1.4 percent per annum. Thus in Kenya, as in most of sub-Saharan Africa, the entrepreneurial bottleneck appears at the level of 10 employees, rather than at the level of 20 employees, as obtains more generally in LDC economies. Hence, entrepreneurship development -- the promotion of modern small scale industry -- can be seen (from a measurement point of view) as an effort to increase the number of firms in the 10-50 employee stratum, along with their share in total employment and output.⁶

As to the type of manufacturing activity, most of our entrepreneurs in the 10-50 stratum are located in a relatively few "traditional" subsectors -- food processing, saw milling, furniture, printing and sheet metal.⁷ Industry overlap with the

microenterprise sector occurs mainly in grain milling, baking, garments, furniture and metal working. On the other hand, this subsector also boasts a wide range of "non-traditional" products; the extent of this industrial breadth can be gleaned from a sampling of Kenya Industrial Estates loan projects:

animal feed	canvas cloth	pencils	lanterns
paper cups & plates	leather	tufted carpets	cutlery
egg cartons	leather shoes	shirting	staples & pins
bandages	shoe laces	typewriter ribbon	steel sinks
plastic buttons	sandpaper	elastic webbing	spark plugs
baby bottle nipples	grinding discs	bicycles	window fixtures
hosiery	roofing tiles	paint	milk churns

Not unexpectedly, most of these non-traditional industries are technically simple and shallow in value added.

Before we turn to the demand-side factors that bear on potential sales volume and unit profit margins of modern small industry, we must begin with the sweeping interventions of the mid-1960s. These system-wide "shocks" shifted both the supply of, and the demand for indigenous entrepreneurial services.

The formal legal exclusion of African and Asian citizens from activities that were competitive with the white settler community were lifted in the early 1950s. But in the decade that followed African economic advance, unlike that of the Asians, remained very slow. A series of far-ranging assistance programs were launched for Kenyan-Africans, mostly under the umbrella of the Industrial and Commercial Development Corporation.⁸ In the manufacturing area, major programs included an expanded revolving

loan fund, ambitious nursery industrial estates and rural industrial development centers. These were all placed under the administration of Kenya Industrial Estates (KIE), an offshot of ICDC.

Exhortation of private employers to Africanize and these assistance programs having produced results that were seen as insufficient, Kenya's leaders took coercive political action in 1967. They did so by means of three legal enactments. The Land Control Act prohibits sale of land to non-citizens or to private companies which include non-citizens. The Immigration Act requires all resident non-citizens to obtain one or two-year working permits as a condition for continued residence; where Africans are available to fill a given job, the working permits are not renewed. The Trade Licensing Act excludes non-citizens from trading in the non-metropolitan areas of the country and from handling certain commodities.⁹

The cumulative impact of these measures was the emigration of some two thousand Europeans and some 110 thousand Asians over the period 1968-1976 and a matching advance of Africans as wage-earners and proprietors.¹⁰ In the entrepreneurial field, distress buy-outs were not limited to commerce and real estate. In manufacturing the Trade Licensing Act resulted in the transfer into African hands of all but the largest establishments in maize milling, sawmilling, baking, tailoring, printing and auto repair. In more recent years non-traditional industries have been reserved for Kenyan-Africans by means of administrative

procedures, especially through the withholding of foreign exchange licenses.¹¹ The 1984-88 Development Plan lists 43 such reserved industries; it also states that resort will again be made to quit notices "to hasten the Africanization program."

The above policy actions can be seen as actions shifting out the demand curve for indigenous entrepreneurs. In 1974 there was a major policy decision aimed at shifting the supply curve.

Sessional Paper No. 5, based on the recommendations of the 1970 Ndegwa Commission, abolished the prohibition on public servants owning and operating their own private businesses; further, civil servants and their families were thenceforth eligible for loans and other development assistance from such institutions as KIE. Given the relative paucity of entrepreneurs in the private sector with advanced education, administrative experience and substantial savings, the Ndegwa Commission contended, this step was justified in order to speed up the slow-going development of the Kenyan-African manufacturing sector.

We now turn to consider some of the more conventional demand-side policy variables that affect relative prices and profitability. The first factor is the strength of demand for the product being produced, i.e., the level of disposable consumer income. Unlike the microenterprise case, where growth has been more or less constant during good times and had --apparently sustained by income effects in the upswing and sustained by substitution effects (relative to substitute goods with higher import content) in the down swings-- non-traditional

small industry appears to respond in the normal way to periods of prosperity and recession. Owing to incomplete import substitution, production is not necessarily demand constrained, but these shallow value-added industries are very much affected by foreign exchange shortage as it relates to the importation of materials and spare parts. Hence policies that lead to a strong balance of payments are a critical permissive factor for the healthy development of many of the producers in the 10-49 worker stratum. As between these firms and the large-scale sector the playing field is level.

The second policy variable is tariffs and quotas: how much protection from imports have indigenous entrepreneurs received? Manufacturers of non-traditional products have enjoyed at least the same generous protective subsidy accorded to large scale manufacturing. Until the import regime reforms that began in 1981, KIE was often successful in obtaining a complete ban on imports that were competitive with its troubled projects. Currently none of the import-substitute projects assisted by KIE received less than 35 percent tariff protection and all are on the restrictive import schedule 2B. Four products -- nails, nuts & bolts, carbon paper, stationery items -- enjoy an ad valorem tariff of 80 percent. Because the great majority of these industries contribute only modest value added at world prices to the materials and components which they process, it is very likely that the average level of effective protection is higher for non-traditional small industry than it is for the large scale

sector.

Regarding the issue of price control, only a very small fraction of small industry products is subject to legal price ceilings. On the other hand, in respect of the 17 percent sales tax, most non-traditional products are subject to this impost, as is true of formal manufacturing at large. However, in both instances, small scale industry is at an advantage relative to larger producers because enforcement of these measures is typically less rigorous among the smaller, African-headed firms.

The preceding examination of the economic environment in which indigenous entrepreneurs have operated suggests that any bottleneck to entrepreneurial performance cannot be attributed to an unfavorable external incentive structure. In all the areas examined--protection from import competition, protection from larger scale domestic producers, price controls, sales tax, the cost of capital--Kenyan-African firms have enjoyed a most favored status. These conditions should have spurred short-term performance.

V

Beyond attending to the macroeconomic environment facing indigenous industrial entrepreneurs, the Government of Kenya has put in place an ambitious range of programs providing direct assistance for the development of their firms. We may interpret these as falling into one of two categories, those that create easy access to complementary inputs at concessional prices and

those that shift entrepreneurial functions from the shoulders of the responsible individual on to those of a public agency.

Two years prior to independence, in 1961, ICDC had begun development lending to small scale industry, with a revolving credit fund of 1.0 million shillings provided by U.S. AID. However, hampered by a lack of viable projects, only 51 loans for 1.7 million shillings had been issued by the close of 1966. Following the visit of an Indian Advisory team, Kenya Industrial Estates Ltd. was established as a wholly-owned ICDC subsidiary in 1967. Its primary objective was the development of African industrial entrepreneurship through the agency of nursery industrial estates. In 1971 of the newly formulated Rural Industrial Development Program was placed under administration. In 1977 KIE became an independent corporation.

KIE has grown into an institution with total assets of 528 million shillings (\$32 million), 28 regional centers, 397 factory sheds to rent to entrepreneurs, 18 Technical Service Centers with specialized wood and metal-working equipment and skilled technicians to serve its projects, 427 employees and a portfolio of 630 loans values at 358 million shillings or \$21.7 million.¹² Of the nine departments at headquarters (131 employees), three deal with lending (Appraisals, Implementation, Supervision & Entrepreneur Training), two deal with industrial estate and TSC activity, and four deal with administrative functions (personnel, finance, legal, audit). Data on operational facilities-- location, year opened, size, utilization, investment costs, staffing, loans in the area--are reported in Table 2.

The eight industrial estates are located in the larger

Table 2

KIE Programs as of April 1985

	<u>Year Completed</u>	<u>No. of Sheds</u>	<u>Occupancy Rate</u>	<u>Investment (Sh 000s)</u>	<u>KIE Staff</u>	<u>Loans in The Area</u>
<u>Estates</u>						
Nairobi	1971	56	96%	60,049	23	135
Embu ^a	1973	8	100%	3,875	17	49
Kakamega	1973	9	100%	12,097	20	32
Nakuru	1974	25	60%	1,891	26	44
Kisumu	1976	22	59%	2,629	16	37
Mombasa	1977	20	50%	2,735	23	41
Eldoret	1981	25	72%	19,853	18	62
Nyeri ^b	1981	24	33%	26,805	30	44
<u>RIDCs</u>						
Machakos	1973	13	100%	1,076	20	30
Kisii	1977	11	73%	2,845	14	40
Malindi	1979	8	50%	1,903	8	27
Voi	1981	10	70%	3,369	9	15
Kabernet	1981	10	40%	2,921	7	8
Meru	1981	11	64%	3,778	9	43
Homa Bay	1982	11	100%	5,318	9	7
Siaya	1982	10	60%	6,075	9	7
Kitui	1984	6	0%	NA	5	2
Busia	1985	7	0%	NA	2	3
<u>IPAs</u>						
Tala	1982	9	78%	2,440	5	6
Karatina	1982	20	100%	2,248	1	9
Bungoma	1982	5	80%	1,962	2	2
Sultan Hamud	1983	10	50%	1,516	4	6
Nungimi	1983	9	0%	1,890	4	2
Taveta	1983	6	33%	2,583	3	3
Kikima	1984	10	0%	3,503	2	3
Kibwezi	1984	10	0%	1,957	5	--
Kericho	1985	9	0%	1,821	4	24
Keroka	1985	6	0%	2,000	1	--
Total:	--	380	61%	178,184	296	692

^a Including an IPA at Garissa

^b Including an IPA at Murang'a

Source: IBRD Appraisal Mission, March 1985

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towns; they differ from Rural Industrial Development Centers only in scale and construction standards. In addition to factory sheds, each consists of administrative offices, classrooms and a TSC (specialized equipment and technicians in wood-working, sheet metal, mechanical). Staffing includes the manager, a mechanical engineer, shop technicians, a storekeeper, clerical staff, drivers and watchmen. The nine Industrial Promotion Areas, located in small market towns, consist only of simple factory sheds. Because many of these facilities were built without a feasibility study and because of equity concerns with respect to regional distribution, KIE has had occupancy problems; however by June 1986, as various reform measures took hold the occupancy ratio for 397 units had risen to 85 percent.

Not noted in Table 2 are various arrangements to assist with working capital needs. In the past (1972-1981) it operated a Raw Material Purchase Scheme in which KIE imported and held a material inventory for cash resale to their clients (solving both foreign exchange and finance problems); later the scheme was extended to cover bulk purchase of domestic raw materials as well. While this program was closed down owing to repayment problems, a modified bonded warehouse scheme is still being operated successfully: when an enterprise receives an order from government or a reputable company, KIE guarantees a bank overdraft to finance raw materials which are then held in KIE godowns; the proceeds of the final sale are channelled through KIE which pays back the bank and remits the balance to the

entrepreneur.

It is clear from the material presented so far the KIE has undertaken to supply a wide range of complementary inputs in order to lighten the load placed on nascent entrepreneurial capacities. However, it is in its "project approach" that the full extent of shifting of entrepreneurial functions from the borrower to KIE becomes evident. The defining functions of the entrepreneur normally include perceiving the opportunity for a profitable investment, committing the necessary risk capital, assembling all the needed administrative and material inputs to erect a factory, and once production is underway to provide on-going management and respond to competition. For a large part of its portfolio KIE, and not the entrepreneur, has fulfilled a significant number of these functions.

The paucity of viable applications for modern small industry loans in the mid-1960s played a key role in what has followed. From its inception in 1967 until the early 1980s, when the departure of expatriate advisers and the prospect of dramatic cutbacks in funding dictated a change in course, the bulk of KIE resources were channelled to private entrepreneurs by means of projects conceived of, assessed for economic viability and implemented by KIE. Indeed, until about 1980 the majority of loans were for "open projects" that had been approved prior to the appearance of a borrower; following advertisement in the press the project was allocated to one of two-to-six "candidates" who had responded to the ad. Open projects are now rare; now the

idea must come from a prospective borrower.

The lending process is currently as follows. A prospective borrower visits the manager of the local RIDC or industrial estate and after the interview fills in a nine-page application covering his personal history, current financial situation and a description of the proposed venture. If the local manager, perhaps in consultation with the Director of the Projects Department in Nairobi, decides to go ahead with the idea, it will be assigned to a staff member, in the field office if it is under 500,000 shillings, otherwise it goes to the Projects Department at headquarters. (The latter is manned by five -- twelve prior to 1982 -- professional economists and engineers.) The staff member in charge will make a point of conferring with the prospective borrower and may receive some assistance from him in collecting information. But the analysis and design of the project and its write-up remain wholly the responsibility of the staff member.

There are three project formats according to the size of the loan. For loan under 100,000 shillings the paper outline comprehends eleven elements:

- | | |
|-------------------------------|---|
| 1. Statement of Project | 7. Costings & profit analysis for three years |
| 2. Client qualifications | 8. Cash flow |
| 3. Market analysis | 9. Loan Repayment schedule |
| 4. Raw materials availability | 10. Manpower |
| 5. Location | 11. Security |
| 6. Investment requirements | |

Additional elements in the appraisal of larger loans include treatment of import policy both for the product and raw

materials, price structure and demand projects, breakout of foreign and domestic costs, financial ratios, internal rate of return, risk analysis and economic appraisal using shadow prices.

The time required to complete project papers has varied from two weeks to two years. Papers completed in under a month are usually small "traditional" projects that are frequent repeaters, e.g. cabinet making, bakeries, posho mills. Non-traditional pioneering ventures, based on equipment not currently being imported or not known personally by the project officer can take many months depending upon the initial number of overseas equipment manufacturers who respond to the catalogue request. Further queries concerning installation requirements, specifications compatibility, delivery time and financing arrangements ensue. Very occasionally projects are built around equipment the client has already identified. For the more ambitious projects the draft paper will be reviewed by a sub-committee (including an economist, engineer, financial analyst, lawyer), revised and then submitted to a plenary session of the Projects Department. If the latter decides to recommend the project, it will be put before KIE's Board (approval rate is about 90 percent).

The next step is the entrepreneur's investment. Once the loan has been approved, the borrower must open a joint banking account with KIE and make his first equity contribution. Until 1976 the loan was limited to fixed assets; the investor's equity was used to finance permanent working capital. When

entrepreneurs did not come up with the required amount (in the range of 50 to 90 percent of fixed assets), the project was immediately in difficulty. To deal with this problem, KIE increased its loan size to 90 percent of total project cost. This was cut back to 85 percent in 1979 and, again, to 70 percent in 1984.¹³ Loan maturity is 8 years following a 12-to-24 month grace period. The only security required with respect to fixed assets is a mortgage on the building and equipment being financed. Collateral is required for that portion of the loan pertaining to working capital.

As the implementation process goes ahead, KIE works with the entrepreneur at every step. The TSC prepares the factory shed, installs the equipment and initiates start-up. The full process is detailed in Table 3. Thirteen months is considered the maximum implementation period for projects involving imported equipment; if based on locally-available equipment, seven months. It is primarily the smaller projects that have managed to meet these generous schedules; most of the large projects have failed to do so (exceptions have usually occurred when the entrepreneur was associated with a co-promoter). The most frequent causes of delay are slowness of entrepreneurs in committing their equity, processing of legal documents, and late installation of equipment. Loan disbursement occurs at step 6, upon the issuing of the Letter of Credit.

Once production is under way, KIE continues its efforts to lighten the entrepreneurial burden for its clients. Until very

recently (circa 1982) an on-estate borrower could call upon the resident engineer, economist or specialist from the Nairobi Extension Department to help solve his production problems, marketing difficulties or other bottlenecks.¹⁴ KIE clients truly have experienced a "nursery" industrial estate. From 1968 to 1983 some 73 expatriate advisers from donor agencies -- German, Danish, Swedish, Norwegian, Finnish, Japanese, United Nations -- worked closely with their Kenyan counterparts to provide these services, along with their work in project development and implementation (a total of 216 adviser man-years). Germany's GTZ sponsored formal management training for over 250 KIE entrepreneurs between 1977 and 1983. This training, involving sophisticated participatory techniques, took place in workshops and seminars ranging from one to four weeks, in both Kenya and in Germany. Extensive one-on-one training was given, especially by German specialists, to the larger entrepreneurs with respect to the introduction of management information systems. Since 1983, with the shift to smaller off-estate projects and the withdrawal of virtually all bilateral aid advisers, both technical assistance and entrepreneurial training have been cut back.

Recently training efforts have been revived. All borrowers now must take a three-day course about starting a business prior to loan disbursement; six months after start-up they are invited to take a five-day basic management course covering marketing, accounting, costing and pricing. Industry-specific seminars for

on-going firms -- probably the most effective form of transferring technical and managerial skills -- were launched in 1986 for baking, tailoring and wood-working. A seminar on maintenance of posho mills, with expertise provided by the equipment suppliers, has been held in various regions of the country.

VI

How successful have the KIE programs been in widening the entrepreneurial bottleneck? A summary judgment is supplied by the numbers in Table 4. Against \$35 million, scores of large projects, 380 factory sheds and over 600 loans, in the eleven years between 1974 and 1985, the net addition to the 10-50 stratum is only 102 firms.¹⁵ This implies an annual rate of increase of 1.4 percent which contrasts with a growth rate of over 9 percent for the microenterprise sector which receives no assistance. Clearly, taken as a whole, the Government's intervention to break the entrepreneurial bottleneck has been a failure.

Table 4

Establishments Employing Ten to Fifty, by Industry, 1974-1985

	<u>1974</u>		<u>1979</u>		<u>1985</u>	
	<u>10-19</u>	<u>20-49</u>	<u>10-19</u>	<u>20-49</u>	<u>10-19</u>	<u>20-49</u>
Dairy Products	4	4	4	3	8	4
Graining Milling	9	4	6	7	5	3
Baking	14	16	14	11	18	13
Other Food products	25	34	21	39	9	27
Saw Milling	16	24	8	28	25	28
Wooden Furniture	26	19	26	24	22	34

Printing	38	37	24	36	45	39
Fabricated Metal	23	23	37	28	39	46
Machinery	43	59	39	78	23	24
Other	91	97	80	143	115	181
Total	289	317	259	397	309	399

Source: Annual Abstract of Statistics, various years.

To see why this Indian model-based program failed -- and perhaps to identify some components which did not fail -- a closer look at KIE's lending performance is required. The top panel in Table 5 reports for the years 1979-1986 the value of outstanding loans, the repayment arrears, the number of loans outstanding and those in arrears and, finally, the proportion of aggregate loans that is affected by unpaid arrears. While the arrears ratio for a parastatal lender is a very imperfect indicator of entrepreneurial performance, clearly KIE's record (arrears ranging from 19 to 42 percent) as a self-sustaining development bank is disappointing. Given the 18 month grace period on new loans, for an expanding portfolio such as KIE's a better measure of repayment is the collection ratio, the amount collected relative to the new amount due. This has been as follows:

1982	45%		1985	78%
1983	59	(1st half)	1986	81
1984	71			

Thus while there has been no progress in reducing past arrears the current collection ratio shows a hopeful trend.

Table 5

KIE Loan Repayment Performance 1979-1986

	<u>Portfolio</u> (K sh, millions)	<u>Arrears</u>	<u>Arrears</u> <u>Ratio</u> (%)	<u>No. of Loans</u> <u>Total</u>	<u>In Arrears</u>	<u>% Portfolio</u> <u>Affected</u> (%)
1979	86.6	27.7	32	235	-	70
1980	102.5	42.4	42	288	-	81

1983	231.4	53.0	23	614	423	60
1984	309.1	58.3	19	655	369	60
1985	343.9	76.4	22	630	354	68
1986	357.9	87.4	24	678	370	68

Notes: The 1979 and 1980 data are as of October 1st, for 1986 as of July 1st; otherwise at year's end. "Arrears" refers to arrears of three months or more. Portfolio refers to the value of outstanding loans.

	<u>Proportion of</u> <u>Loans</u>	<u>Proportion of</u> <u>Portfolio</u>	<u>Arrears</u> <u>Ratio</u>	<u>Portion of</u> <u>Portfolio Affected</u>
<u>Category A</u>				
Mar. '82	59%	62%	10%	-
Dec. '83	59	56	6	60%
Dec. '84	60	46	3	28
June '86	65	51	8	47
<u>Category B</u>				
Mar. '82	9	11	36	-
Dec. '83	6	15	28	89
Dec. '84	11	27	19	86
June '86	12	25	42	99
<u>Category C</u>				
Mar. '82	28	27	43	-
Dec. '83	35	29	55	86
Dec. '84	29	28	44	89
June '86	23	24	41	81

A somewhat more precise calibration of entrepreneurial success is shown in the lower panel of Table 5. As part of its effort to improve debt collection, in 1982 KIE classified its project loans into three categories: "A"- only minor problems, "B"- major problems, and "C"- failing or closed down. If allowance is made for inclusion of loans in the grace period in category "A" (18 percent of that category in February 1986), perhaps 55-60 percent of projects accounting for slightly less than half the portfolio are successful, and about a quarter of the projects are clear-cut failures.

It should be noted that part of the improvement in the collection ratio since 1982 -- with non-collection falling from 55 percent to 19 percent -- and the 50 percent success ratio shown in Table 5 is a result of KIE shifting to smaller projects of a less risky nature. Thus in 1979 and 1980 average loan size was 550,694 shilling in 1978 prices; by 1984 and 1985 it had declined by 70 percent to 161,972 shillings. In these latter two years 44 and 72 percent respectively of new loans went to a single activity of minimal entrepreneurial interest. Posho milling involves one person (a wife or daughter) tending a machine to provide milling-for-a-fee to individual consumers who bring their corn cobs and carry away maize meal. Because of the low operational and commercial risk, loans for these projects (about 100,000 shillings) are readily available at 19 percent interest from private finance companies. In effect, KIE has been padding its portfolio with these short-gestation, low-risk,

high-repayment service ventures, displacing alternative private financial institutions.

Some interesting evidence on the relationship between success and size and entrepreneurial background is available. From a nonrandom sample of 232 projects in December 1984 (selected for data availability, as a group above-average success rate), success and failure correlated with size of loan as follows:

<u>Loan Size</u> (shg)	<u>"A"</u>	<u>"C"</u>
Over 3 million	60%	7%
1 to 3 million	46	23
0.5 to 1 million	62	23
Under 0.5 million	82	12

We see that loans under half a million shillings have a markedly higher success than all larger loans. (The superiority of small over large loans is also to be confirmed by the fully-repaid versus written-off bad debt experience not reflected in Table 5.) Second, the over-3 million shilling loans, surprisingly, do better than the 1-to-3 million shilling loans and no worse than the half-to-one million shilling loans.

For a subsample of 109 IDA projects, success and failure is cross-tabulated with the borrower's background and whether or not he is an absentee entrepreneur.

	<u>Industry-related</u> Background		<u>Owner</u> Managed	
	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>
Category "A" (no. of projects)	48	11	44	19
Category "C" (no. of projects)	4	4	4	16

Industry-related backgrounds refer to those entrepreneurs who

were previously engaged in the industry or trade and had specific skills relevant to the industry. The other category includes civil servants, teachers and other occupations unrelated to industry.

While the largest number of KIE loans go to smaller projects (e.g. 82 percent of loans are under one million shillings, 71 percent under half a million), most of KIE's loan money goes to the larger projects (e.g. 70 percent of funds have gone to projects over one million shillings). And it is among larger loans that project performance has been most disappointing. The sample of 43 large loans reported in Table 6 (aggregate loans of 95 million shillings, equivalent to 24 percent of the 1973-1986 portfolio) covers all the loans above one million shillings in the three major areas of Nairobi, Mombasa and Nakuru from 1973 to the early 1980s. (Owing to inflation a 1973 loan of one million shillings is the equivalent of two million shillings in 1982). It should be noted that these larger projects represent the non-traditional small industries. Of these 43 ventures seven are entirely defunct, an additional five were defunct but have been revived under new owners. Of the 36 operational projects five are failing, fifteen have major problems and sixteen are operating without serious problem.

Compelled by circumstance -- high failure rates among Kenyan-African entrepreneurs in larger loans, pressure from donors to upgrade the portfolio -- KIE has informally encouraged

Table 6

Performance of Forty-Three Loans Exceeding One Million Shillings

--Nairobi--	<u>Year</u>	<u>Work -ers</u>	<u>Loan</u> (shillings, 000s)	<u>Arrears</u>	<u>Rat- ing</u>	<u>Partners/ Manag'mt</u>
Pigeon Slide Zippers (zipper fastners)	1967 1980	40	192 2,872	[repaid '79] 148	A	1/owner
Dawning Africano* (staples & pins)	1968 1980	30	146 1,236	[repaid '80] 52	A	1/hired African
Chui Enterprises (plastic buttons)	1969 1982	10	1,321 800	written off 32	D A	1/owner Asian
Kiatu Allied* (shoe laces)	1969 1982	45	302 2,904	[repaid '82] 1,884	B	5/hired African
Crescent Invtmts (carbon paper & ribbon)	1971	44	2,034	82	A	21/hired Asian
Mbwingwa Industries (sand paper)	1972	9	3,713	5,170	B	7/owner Asian
Paperware Ltd (paper cups & plates)	1972	18	1,412	2,126	C	1/son
Ray Industries (el.-plated bolts)	1972	11	4,246	517	B	1/owner
Haraka Hoisery (elastic webbing)	1973	28	1,674	1,298	C	1/owner Asian

Off-estate

Rating: As of February 1986; D = defunct.

Year: Time of disbursement (sometimes time of approval) of the initial loan. A second year is shown in the case of very large loans, or a loan to a new owner (when a line appears under "Partners").

Workers: Number of employees circa 1980-81 or in last year of operation.

Loan: Value of initial and subsequent loans; most projects have had multiple loans. Represents value of principal as of February 1986.

Arrears: Overdue principal and interest as of February 1986.

Partners: If husband & wife and/or children, treated as One partner. A solid line indicates a change in management.

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Table 6 (continued)

--Nairobi-- (cont.)	<u>Year</u>	<u>Work -ers</u>	<u>Loan</u> (shillings, 000s)	<u>Arrears</u>	<u>Rat- ing</u>	<u>Partners/ Manag'mt</u>
Canvas Mfgs (canvas cloth)	1973	80	3,448	[repaid]	A	One/self
New Hardwheels (grinding wheels)	1974	8	483	[written-off]	D	<u>2/owner</u>
	1978		2,516	35	A	Asian
Plastic Products (plug caps)	1974	25	4,507	1,726	B	5/joint w. Asian
Busy Beaver Mfg (brass window fix)	1974	8	2,198	[written-off]	D	<u>3/owner</u>
	1982		2,162	381	B	1/owner
Egg Containers (egg trays)	1975	5	1,148	[written-off]	D	1/hired African
Prime Industries* (spark plugs)	1976	14	2,161	1,832	B	3/ jt with Italian Co
Kurugu Consolidated (wheat-flour noodles)	1976	30	1,753	1,178	D	1/owner
Kulforte* (baby btl nipples)	1977	35	1,094	973	B	14/n.a.
Computer Stationery*	1978	14	1,791	20	A	1/owner
Sound Communications* (radio assembly)	1979	18	1,978	1,382	B	1/owner
Associated Steel* (stainless st. sinks)	1979	35	3,196	1,112	A	<u>1/hired Af.</u> Asian
D. L. Paints* (paint)	1979	31	1,711	334	A	2/joint w European
Metaline Industries* (auto lamps)	1980	42	3,970	2,366	C	2/joint w Asian
Fur & Wool Ltd* (tanning)	1980	59	5,000	2,609	B	n.a.

Table 6 (continued)

	<u>Year</u>	<u>Work -ers</u>	<u>Loan</u> (shillings, 000s)	<u>Arrears</u>	<u>Rat- ing</u>	<u>Partners/ Manag'mt</u>
--Mombasa--						
Haramayn Industries (handkerchiefs)	1977 1981	60	3,313	2,771	D E	<u>1/owner</u> Arab
Mwakirembo Chemicals (PVC footwear)	1977	n.a.	1,007	[written -off]	D	1/owner
Gellams Ltd (footwear)	1977	15	2,018	1,361	B	1/owner
Bavarain Food Prods (specialty bread)	1977 1984		831 400	831 301	D A	<u>2/owner</u> 1/Asian
Mwambia Plastic Ind (flashlights)	1977	n.a.	981	1,457	D	1/owner
Sanvent Ltd (medicine bottles)	1978	6	1,697	255	D	n.a.
Paper Mouldings (egg trays)	1978	15	1,682	1,933	B	4/Asian
Mombasa Carton (corr. cartons)	1978 1981	na	1,161	815		<u>n.a.</u> Asian
Msambweni Oil Mills (coconut oil)	1983	6	1,012	24	A	2/joint w Asian
Lamu Marine & Allied* (ice blocks)	1983	6	1,679	34	A	1/owner
--Nakuru--						
Nakuru Alum. Works (milk churns)	1973	11	1,465	20	A	<u>7/n.a.</u> European
Cartubox Ind. (paper yarn cones)	1974	8	2,389	855	B	<u>1/hired Af</u> owner
Kenya Rivets (rivets)	1974	11	1,362	1,362	C	<u>8/n.a.</u> Asian
Thompson Tapes (bandages)	1975	8	1,505	[written -off]	D	3/European
Poly Packers (polythene bags)	1976	n.a.	1,981	[written -off]	D	1/owner

Table 6 (continued)

	<u>Year</u>	<u>Work -ers</u>	<u>Loan</u> (shillings, 000s)	<u>Arrears</u>	<u>Rat- ing</u>	<u>Partners/ Manag'mt</u>
Equator Shoes (leather shoes)	1982	52	1,443	1,638	B	1/owner
Quality Paper Bags (paper bags)	1982	n.a.	1,197	0	B	n.a.
Trimborn Engineering (tractor repair)	1984	4	3,751	226	A	1/European
Kenya Tin Mfg	1984	n.a.	1,071	0	A	n.a.
Kenya Interlinings (brake linings)	1983	n.a.	1,357	217	A	2/joint w Asian

the active involvement of Kenyan-Asians, Kenyan-Arabs and Europeans in its troubled ventures. Thus of the 32 of the 36 operational projects for which we have information, non-Africans are involved in 19 (59 percent); of the 16 projects in category "A" the figure is 11 or 73 percent. In the 12 instances where there has been a change in management, in 10 cases (83 percent) the change was from African to non-African. And it is likely that the superior performance of the over-3 million shillings loans, noted earlier, derives from the greater presence of non-African management.

Albeit unadvertised, cooperation with Kenyan-Asian entrepreneurs has been a significant factor in KIE's recent successful reforms. As of June 1986 forty-eight KIE-projects have involved non-African participation.¹⁶ Furthermore, operational losses in the industrial estate program (a peak of 7.8 million shillings in 1983-84) have been sharply trimmed by the taking in of non-KIE, non-African ventures as tenants and by the leasing out of the under-utilized, money-losing TSCs to Kenyan-Asian entrepreneurs.^{17, 18}

VII

To summarize up to this point. In response to a comparative absence of native Kenyan entrepreneurs in small and medium-sized modern industry, KIE has channeled some \$35 million over a period of two decades to overcome this deficiency. (Another \$15 million has been lent by a variety of other

development banks.) By means of the project approach and nursery industrial estates, it has attempted to transform the operational capabilities of its clients. These efforts at improving industrial performance can be conceptualized as involving three elements: (i) shifting a significant number of entrepreneurial functions from the businessman to KIE, (ii) providing a comprehensive set of complementary inputs (finance, hand-tailored physical premises, engineering services) at concessional prices, and (iii) augmenting the natural learning-by-doing growth in entrepreneurial capacity with a variety of technical assistance and training initiatives.

The evidence of the previous section clearly indicates that for the larger non-traditional ventures -- until very recently the prime target -- KIE's efforts have been remarkably unsuccessful. The sources of this non-success can be partitioned into those relating to the efficiency with which KIE executed its task and those which are inherent to a strategy based on the Indian model.

How effectively has KIE performed the entrepreneurial functions which it has appropriated to itself? The perception of the investment opportunity and the design for its exploitation is what is embodied in the project paper. The great majority of these have ranged from poor to mediocre. Evaluation of the prospective investor -- his training, job history, entrepreneurial capabilities, likely shortcomings -- seldom exceeds one paragraph and is uniformly uncritical. For some

large projects the market analysis has been good, but in most cases it is elemental, lacking any discussion of the details of the distribution system, product quality issues, probable market share and reactions from competitors. The production section is almost always the best section in terms of its attention to detail in equipment selection and anticipation of operational problems. And yet entrepreneur interviews and project histories reveal that improperly selected equipment is a serious handicap that affects a quarter to a third of the larger non-traditional projects: once an engineer moves beyond the two or three industries in which he had had prolonged personal experience, mistakes are inherent in the process. Financial analysis follows the World Bank format; the issue here is the quality of the figures used. While one can observe progress over the earlier years regarding the anticipation of equipment inflation and related contingencies, assumptions about raw material prices, the time required to reach capacity output, obtainable ex-factory prices given product quality, and working capital requirements are naively optimistic.¹⁹ The result is an underestimation of financial needs and inflated sales and profit projections.

There can be no doubt that these faults in project preparation have played a significant role in the large number of loans falling in the "B" and "C" categories. Project implementation has generally been of good quality, but it has been slow and this has added to the entrepreneur's interest costs. Projects with European or Asian co-promoters or

successful entrepreneurs undertaking a major expansion have been implemented in about half of the normal time. There is simply a world of difference in the precision of project preparation and speed in execution between, on the one hand, 40-hour-a-week public servants whose job security and income are wholly unaffected by project success or failure, and on the other hand, the entrepreneur whose entire past savings and future livelihood will be fundamentally altered for better or ill by the outcome of the project.

A final contributor to the poor project performance is entrepreneur selection. Failure to screen out loan applicants who possess no important skills related to their prospective industry and/or who have little to lose if the project fails constitute the deepest flaw in the KIE strategy execution. While retired teachers and civil servants frequently suffer from shortage of pertinent skills, both defects are dramatically present in the absentee entrepreneur. The latter accounts for a major proportion of failing projects in the larger loan categories. Absentee entrepreneurs are typically wealthy businessmen, politicians, lawyers and civil servants (either in groups or singly - see Table 6) with many other investment interests. They meet none of KIE's stated objectives: the use of hired managers precludes the development of entrepreneurial capacity and they are not potential entrepreneurs who lack the needed finance. The very generous terms from KIE which attract them, enhanced by the lax enforcement of repayment for

influential borrowers means that their stake at risk in the event of failure is insignificant relative to their total assets.

It is now clear that the 1974 implementation of the Ndegwa Commission recommendation to allow civil servants to operate private businesses was a critical mistake. That decision has contributed to creating an environment -- unhealthy for politics and unhealthy for the Kenya's economic progress -- where the key to business success is perceived by young graduates as obtaining an elected public office.²⁰ Beyond the straight-forward corruption which public opinion has focused upon, the policy has had more subtle effects. The 1974 decision rendered a KIE prohibition on absentee entrepreneurs simply out of the question. The policy has contributed to financing more of the larger projects, which have had a very high failure rate in part attributable to the weaker incentives motivating hired managers. It has meant that unwarranted protection (e.g. an import ban) has often been accorded these projects. And, given their influence with respect to fellow public servants in the development agencies, these borrowers have not been subject to the normal compulsion to repay their loans or their shed rents.

This discussion of entrepreneurial motivation provides a bridge to the second source of poor loan performance. Even if KIE could overcome all the shortcomings we have detailed, inherent limitations in the project/nursery estate strategy would remain. If a perfect turnkey project were handed over to the borrower, its successful day-to-day operation and its growth and

expansion over the years would still require the same human inputs of intense motivation, undistracted concentration and continuous exertion. Whether it be interruption of imported materials and spare parts, unpaid customer credit, the emergence of new competitors, or the unending concerns of maintaining product quality, minimizing materials wastage, dealing with the labor problems, detecting pilferage and embezzlement, keeping complex equipment in good repair, the entrepreneur must be ready to deal quickly with any or all of these problems. It is such open-ended responsibility that goes hand in hand with the quintessential "residual risk-taking" that defines the entrepreneur.

The project/nursery estate strategy of the Indian model tends to undermine the performance of these very activities. Motivation for such exertion is weakened by the small stake of equity and collateral that the entrepreneur stands to lose. He is not driven by the prospect of financial ruin which is a key ingredient during the early years for so many successful ventures. KIE develops the project and promises to provide help if needed: the entrepreneur is precluded from critical learning experiences and sees KIE as sharing the ultimate residual responsibility. Coddled by permissive KIE policies from within and by macroeconomic protection from without, the searing learning process that creates true entrepreneurial capacity tends to be truncated from the outset.

VIII

Let us summarize our analysis of the entrepreneurial bottleneck and the prototypical government programs aimed at overcoming it.

First, we have argued with reference to various types of evidence that there is indeed a bottleneck with respect to indigenous entrepreneurial performance in a large number of developing countries. Further, we have argued that this bottleneck begins to appear as firms grow beyond ten-to-twenty employees, and that it is rooted primarily on the supply side. Thus, the abiding difficulty is not to be found in the external economic environment but in the domain of certain entrepreneurial capacities. However, the capacities in question are not those economists have tended to focus upon as central to the entrepreneurial function. The deficiencies have not been related to the ability to perceive investment opportunity, to mobilize capital, to take and bear risk. Rather they appear to lay in the area of "mere management" -- coordination and control.

Why these particular activities should constitute the bottleneck is a deep question. It is my own speculation that it has to do with the antecedent traditions relating to production in agrarian societies. As John Brewster noted four decades ago agriculture and craft production differ fundamentally from manufacturing in that the division of labor in the former is sequential while in the latter it is simultaneous. In agriculture such "managerial judgments" as are required are made by each worker: there is very limited need for external supervision, coordination and control which are of paramount importance in sustaining the

synchronized production of Adam Smith's pin factory. Social structure tends to follow technology, making change-overs to radically new organization in the means of production more than a matter of formal training.

Be that as it may, the development of these skills is going to come out of a learning process that involves changing social attitudes, formal education, practical training, experience in previous jobs, working as employees in alien minority firms, and then as an established entrepreneur yet further learning through interaction with partners, competitors, primary contractors, and so on. The development from these experiences of the capacity to coordinate and control requires full-time commitment to the businessman's role, attention to detail and intensity of concentration. These inputs are motivated and sustained by the hope of profit, the fear of financial ruin and the knowledge that the individual is the only one ultimately responsible for making things work. Government programs--such as those derivative from the Indian model--that weakens the force of these motives are going to impede the learning process.

Footnotes

1. While this proposition can be substantiated empirically for the older modern states, it is only now coming to pass for those rapidly developing city-states and countries in Asia which--perhaps owing to the Chinese-Confucian factor--have been undisputably richly supplied with indigenous entrepreneurial talent.
2. Schumpeter holds that those who direct men and handle on-going management are required "to take decisions and make resolutions" that are not different in kind from those required of "a cobbler's apprentice."

The "how" has been learned from experience prior to arriving at his position. "And the 'what' is prescribed for him by demand. He sets no particular goal, but given circumstances force him to act in a definite way. Certainly the given data may change, and then it will depend upon his ability how quickly and how successfully he reacts to it. But so it is in the carrying out of any work. He acts, not on the basis of the prevailing condition of things, but much more according to certain symptoms of which he has learned to take heed, especially of the tendencies immediately showing in the demand of his customers. And to these tendencies he yields step by step, so that only elements of minor significance can ordinarily be unknown to him. [In short] in so far as individuals in their economic conduct simply draw conclusions from known circumstances, it is of no significance whether they are directing or directed." (Schumpeter, p. 21).

3. The following data were assembled from individual country sources. They pertain to enumerated establishments and are best interpreted as describing output shares for the part of manufacturing value-added produced by firms employing ten or more.
4. Given vast differences in statistical coverage of very small firms from one country to another, a more tractable approach to measuring the relative strength of indigenous entrepreneurship is to look at the employment provided by firms engaging 10 to 49 as a share of total employment in all firms engaging 10 or more. As against an employment share of 30 to 35 percent for India (1971), Korea (1963) or Taiwan (1961) in African and parts of Southeast Asia and Central America the share ranges from 5 to 20 percent.
5. Much of this history can be gleaned from the capstone volume in the SRI project, Eugene Staley and Richard Morse, Modern Small Industry for Developing Countries (1965). This excellent work along with a critical appraisal by

Richard and Doris Taub, Small Industries, Social Change and Economic Development in India (1986) provides much of the material for the discussion of the Indian model which follows.

6. The share of manufacturing value added (the enumerated sector) contributed by establishments employing less than 50 workers was 17 percent in 1972, 12 percent in 1977, and 7 percent in 1980.
7. By "traditional" we mean industries that are based on management competence, technical knowledge, labor skills and material inputs that already exist and are widely available; because a completed set of inputs exist, firms will be numerous, profits moderate and the risk of failure slight. In contrast, "non-traditional" industries are based on inputs that do not already exist in the needed form; firms will be few, profits potentially high and the risk of failure great. Over time, as an aspect of economic development and learning, industries "migrate" from the non-traditional to the traditional category.
8. During 1965 and 1966 major lending schemes were put in hand for African traders, for African contractors and for acquiring by Africans of commercial property. The ICDC Investment and ICDC Property companies were formed to acquire downtown properties to be made available at low rents so that the non-African monopoly of these choice commercial locations could be broken. The Kenya National Trading Corporation, also established in 1965, was designed to furnish African traders through its 27 depots with the same economies of scale in purchasing and credit as enjoyed by the dominant Asian and European commercial establishments. Private banks were persuaded to increase their lending to small African-Kenyan business. Preference on all government tendering for small contracts was established.
9. In implementing the Trade Licensing, quit notices have been served to citizens and non-citizens alike, and in metropolitan business areas as well as the prescribed areas. The racial discrimination by Englishmen that was so abhorrent to the Kenyan-African is now visited by them on their Kenyan-Asian brothers.
10. The 1971 Statistical Abstract, p. 13, shows an estimate of 192 thousand Asians and 42 thousand Europeans in 1967. By the 1979 census Asians numbered 79 thousand and Europeans 40 thousand. Emigration tapered off after 1976. Data for 1982 and 1983, the time of the coup and killing of Asians, has not yet been published. The Arab population on the coast, at 39 thousand in 1979, has been more or less stable.

Large European farmers were displaced a few years earlier, but owing to British aid, buy-outs occurred at relatively favorable prices. Indeed sell-outs were not mandatory; in 1975 there were still some 400 white farms. European emigration between 1962 and 1967 was 14 thousand. Thus over the period 1962-1979 seven times as many Asians as Europeans emigrated.

11. These are typically industries not yet being undertaken. However where a Kenyan-Asian firm is already established, it retains its right to import equipment, materials and spares. The agency for these "industry-reserving initiatives" is KIE.
12. These figures include the outstanding portfolio plus loans repaid and loans written off. Since some projects have received expansion or rehabilitation loans, the number of borrowers is less than the number of loans. Owing to inflation, the loans made before 1980 and 1986 were made in more valuable shillings than those in the year reported; that is, the portfolio values are understated.

In recent years other development banks have begun lending to manufacturing firms in the 10-49 worker category. Since 1976 Kenya Commercial Finance Company, a subsidiary of the Kenya Commercial Bank, which has branch offices throughout the country, has lent some 300 million shillings to medium and small firms. Its maximum loan size (8.3 million) is double that of KIE and it requires 160 percent collateral on all loans. SEFCO services a clientele closer to that of KIE. The Small Enterprise Finance Company, established as a subsidiary of Development Finance Company of Kenya in 1981, has made 74 loans for a total of 37 million shillings. SEFCO's maximum loan size is 1.5 million shillings; it is willing to accept loan-financed fixed assets as partial collateral. Its professional staff of six compares to 114 for KIE.

13. The 1984 tightening up, however, was accompanied by a generous exemption: a soft equity loan (one percent interest, 5 years grace) would be granted under "exceptional cases" equal to 15 percent (projects under one million), ten percent (projects under two million), or five percent of total project cost. This is additional to the loan for 70 percent of project costs.

In the other direction, for the first time in 1984 non-owner managed projects ("absentee entrepreneurs") were subject to a 60 percent loan ceiling. Maximum loan size is five million shillings.

Getting entrepreneurs to make their agreed-upon equity contribution was often a serious problem in the past. In 1980, for instance, of the sizable number of projects which

were delayed in implementation, in over four-fifths of the cases the investor has failed to come forth with his own contribution. Until 1981 KIE permitted, under duress, the equity contribution to take the form of an overdraft authorization from the borrower's banker.

14. For a detailed description of technical and managerial assistance that individual firms have actually received, see Kilby (1982).
15. A high degree of volatility in the industry sub-categories suggest a high rate of entry and exit, birth and death. Thus between 1984 and 1985 there was a fall of 8 firms in the total, a rise of 38 in "other" and a fall of 71 in "machinery". Over the entire period metal fabricating, printing, furniture, sawmilling and "other" rise while machinery and most food products fall.
16. Twenty-one of these were set up by Africans in partnership with Kenyan-Asians (14) and Europeans (7). Another eight are managed by Kenyan-Asians. Nineteen ventures (mostly former defunct projects) are wholly owned by Kenyan-Asians, Kenyan-Arabs and a European.
17. Of the 17 non-KIE ventures to take up tenancy, three represent African partnerships with Kenyan-Asians and a Korean. With respect to the TSCs, nine of the eighteen had been rented out as of June 1986.
18. The employment figures in Table 6 provide an opportunity to make a point about the concept of capital cost per job created. The capital cost per worker employed is about \$210 in the informal sector and about \$22,000 in the formal manufacturing sector. For KIE ventures it ranges from \$1,700 for projects under half a million shillings to \$9,200 for the largest projects, with an overall average of \$5,600 per job created. This measure is sometimes used to argue that scarce financial resources should be directed to small-scale industry if employment creation is the principal goal. Within the small industry sector, the difference between \$210 and \$5,600 can be thought of as the cost of creating Kenyan-African entrepreneurial capacity with respect to non-traditional, modern industry.

Although a useful concept for looking at what has happened in the past, it is likely that capital cost per job will by itself prove an unreliable policy guide. If, at the margin, there are more funds from willing lenders such as KCFC, SEFCO and KIE to finance non-traditional small industry than there are borrowers capable of operating such industries at a profit, then the investment cost per additional job in such a project is irrelevant. Where the cost-per-job criterion does become relevant is when the performance of lending programs to large-scale industry,

non-traditional small industry and traditional small industry are very similar and sufficient to insure sustain-ability. However, in the Kenyan context donor-supplied capital resources do not appear to be scarce relative to existing absorptive capacity; rather the focus needs to be on deepening entrepreneurial and technical skills so that the effective demand for capital can be shifted out.

19. Optimistic estimates of working capital requirements are in part realism in recognizing the "equity constraint". With respect to possible bias against borrowers who are out of political favor, an analysis of applications that were rejected provides no evidence that good entrepreneurs or good projects are being passed over.
20. See, for instance, Edward Girardet's article in the Christian Science Monitor, March 24th 1986.