

THE UNITED REPUBLIC OF TANZANIA  
STUDY REPORT  
ON  
SMALL SCALE INDUSTRIAL DEVELOPMENT  
IN THE KILIMANJARO REGION

August 1976

UNEP INTERNATIONAL COOPERATION AGENCY

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## P R E F A C E

The Government of Japan, at the request of the Government of The United Republic of Tanzania, decided to undertake a study of Small Scale Industrial Development in the Kilimanjaro Region in Tanzania, and commissioned its task of implementation to Japan International Cooperation Agency in November, 1974.

Accordingly, the Agency organized a study team consisting of ten experts headed by Dr. Koichi Mera, Senior Economist of The International Development Center of Japan, and sent it to Tanzania on November 28, 1974.

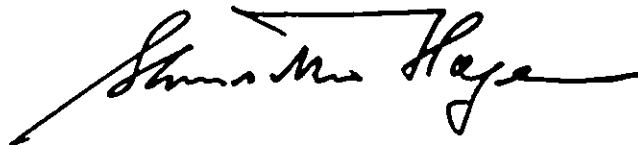
During the study work there for about one month, the team visited the Prime Minister's Office, Small Scale Industries Development Organization, the Kilimanjaro Regional Government and other organizations involved, and discussed with their officials over the project mentioned above. At the same time, it performed a field survey in the Kilimanjaro Region with the cooperation of the Kilimanjaro Regional Government.

Hereby presented is a report based upon the findings the team has attained in Tanzania as well as at home.

Nothing would be more gratifying to us than if this report could be of any help for the Small Scale Industrial Development in Kilimanjaro and could contribute to the promotion of friendship between the two nations.

Finally, I take this opportunity to express my hearty gratitude to the Government of The Republic of Tanzania and other authorities concerned for their kind cooperation and assistance extended to the team, without which the study work could not be carried out so successfully.

August, 1975



Shinsaku Hogen  
President  
Japan International Cooperation Agency  
Japan

## LETTER OF TRANSMITTAL

Mr. Shinsaku Hogen  
President  
Japan International Cooperation Agency  
Shinjuku Mitsui Bldg., Nishi-Shinjuku 2-1, Shinjuku-ku,  
Tokyo, Japan

Dear Mr. S. Hogen:

I am pleased to submit to you the final report entitled "Small Scale Industrial Development in the Kilimanjaro Region of the United Republic of Tanzania." This report represents the outcome of the study activities undertaken in accordance with the contract between Japan International Cooperation Agency (JICA) and the International Development Center of Japan (IDCJ).

The objective of the study is to prepare a development plan for small scale industrial development and related activities for the region of Kilimanjaro for use by the Government of Tanzania in preparation of the forthcoming Third Five Year Development Plan of the United Republic of Tanzania which will commence in 1975/76.

The International Development Center of Japan organized a mission for this study, which undertook field work in Tanzania from November 28 to December 25, 1974. The mission comprised the following persons:

- |     |                         |   |
|-----|-------------------------|---|
| 1.  | Dr. Koichi Mera         | Team Leader, Economist                                      |
| 2.  | Mr. Ichirou Inukai      | Deputy Team Leader, Labor and Industrial Economist          |
| 3.  | Mr. Jiro Yoshino        | Industrial Infrastructure Planner                           |
| 4.  | Mr. Junzo Shimizu       | Industrial Specialist (Woodworking; building materials)     |
| 5.  | Mr. Akinari Katakura    | Industry Specialist (Agricultural implements and machinery) |
| 6.  | Mr. Mitsuo Narita       | Industry Specialist (Textile and textile processing)        |
| 7.  | Mr. Mitsumori Matsumoto | Development Financing Economist                             |
| 8.  | Mr. Toshimasa Kawamura  | Industrial Economist  |
| 9.  | Mr. Koji Fujimoto       | Economist; Mission Secretary                                |
| 10. | Mr. Fumio Nishwaki      | Liaison officer, JICA                                       |

The mission collaborated with another mission from Japan, the Planning Team for Kilimanjaro Integrated Regional Planning led by Mr. M. Ohto, during the preparation stage, in the field as well as during the stage of drafting reports. Consequently, our mission concentrated heavily on the analysis of the present situation and formulating specific action programs, and, to avoid redundancy, has left for the Integrated Planning Team most of the work required for establishing frameworks for the development of the region.

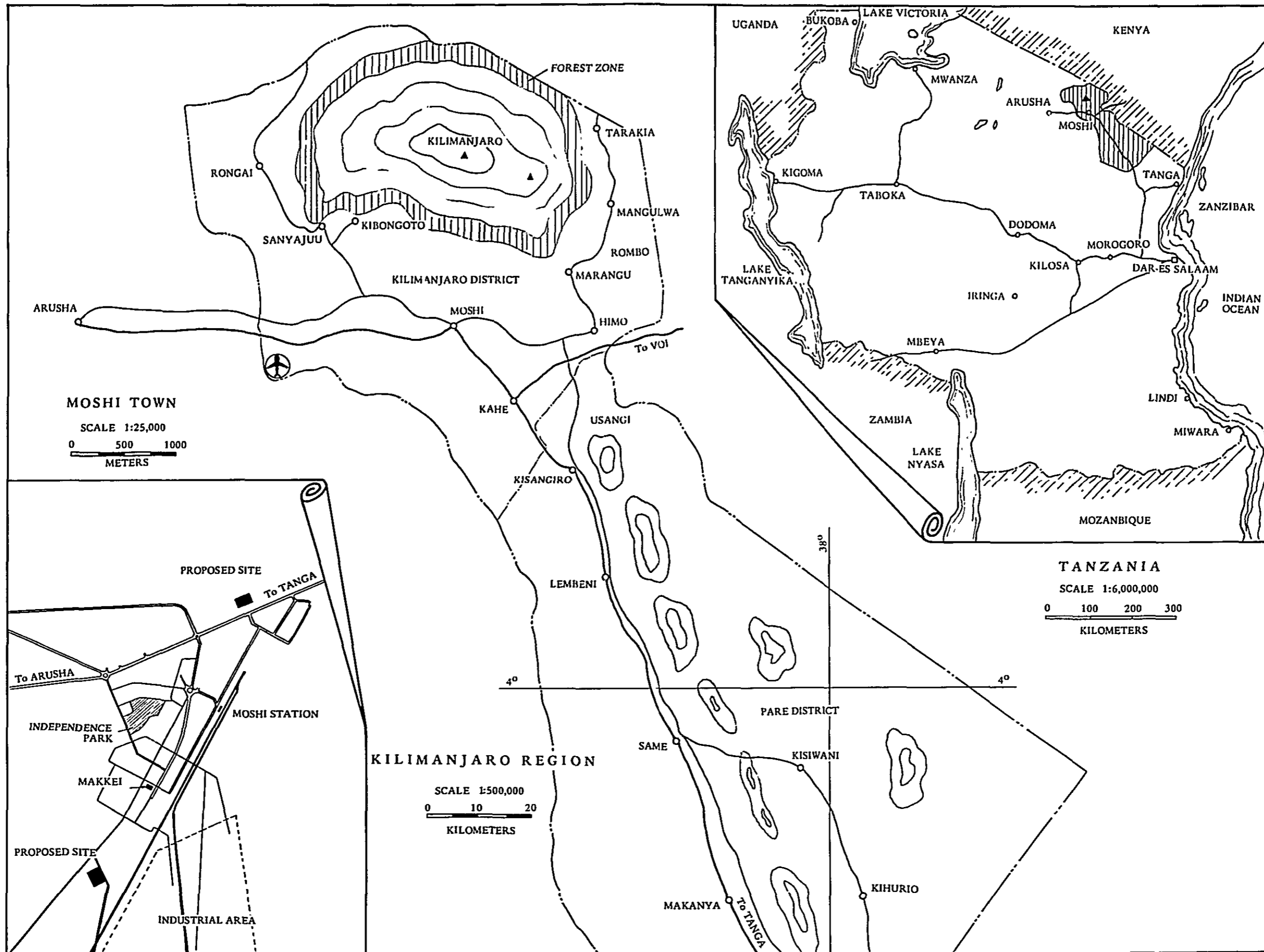
We are thankful to a number of individuals in Tanzania who assisted our mission in various ways. Particular thanks are due to Hon. P. A. Kisumo, Regional Commissioner, Mr. J. A. T. Muwdwo, Regional Development Director, Mr. M. Jabir Kigoda, Regional Planning Officer, and Mr. R. A. Mpinga, Regional Commercial and Industrial Development Officer of the Kilimanjaro Regional Government, all of whom did spend much of their time in guiding and discussing with us.

We are also indebted to a number of persons in the Embassy of Japan in Dar es Salaam, JICA, the Ministries of International Trade and Industry and of Foreign Affairs of the Government of Japan in carrying out our study.

August, 1975

A handwritten signature in cursive script that reads "J. Kano".

Jiro Kano  
Acting President and Managing Director  
International Development Center of Japan



## Abbreviations

<b>K I D E C O :</b>	<b>Kilimanjaro Development Corporation</b>
<b>K N C U :</b>	<b>Kilimanjaro Native Cooperative Union</b>
<b>T D F L :</b>	<b>Tanzania Development Finance Company Ltd.</b>
<b>I P S :</b>	<b>Industrial Promotion Services</b>
<b>N S I C :</b>	<b>National Small Industries Corporation</b>
<b>W D C :</b>	<b>Workers Development Corporation</b>
<b>K R T C :</b>	<b>Kilimanjaro Regional Trading Corporation</b>
<b>T I B :</b>	<b>Tanzania Investment Bank</b>
<b>T R D B :</b>	<b>Tanzania Regional Development Bank</b>
<b>N B C :</b>	<b>National Bank of Commerce</b>
<b>T H B :</b>	<b>Tanzania Housing Bank</b>



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## SUMMARY AND CONCLUSIONS

The once-prosperous and still well-off region of Kilimanjaro is now suffering from the pressure of her population and the consequential reduction in land holding per capital. Industrialization is certainly a way of opening up the development prospects of this predominantly agricultural region, and there are, indeed, good potentials for the development in the manufacturing sector.

Within the framework of national development policies based on decentralization and socialism, the development of small scale industries merits special attention, as it calls for wider popular participation and is conducive to the development of cooperatives. In addition, small scale industrial development is less capital intensive and can provide basic training for a large proportion of the population in the productive discipline required for modern society.

The present state of small scale industries in Kilimanjaro Region is, although developing, technically and managerially much less developed than their large scale counterparts. Nonetheless, there is a group of artisans and self-employed industrial workers, not organized but serving local demands well by providing repairing, processing and manufacturing services. We call this the "informal sector," in which we have found excellent potentiality for development, if proper training and guidance are given. However, the informal sector cannot fulfill all the demands of the region due to the lack of organization and training. One such problem is the underutilization of existing production capacities. In fact, a large part of the existing capacities are ordinarily idle.

Therefore, the first task of the development programs should be directed to increasing the use of the existing capacities. The next task should be the development of those industries which are non-existent at the present time but urgently needed. The mission considers that the following industries fall into this category: foundry, wood pattern shop and scrap metal sorting. In addition, there are good potentialities for development in the following industries: blacksmiths, carts/wheel-barrow manufacturing, tin and zinc smiths, knitting, tailoring, construction woodworks, furniture and fixtures, sandal making, cement products, and pottery making. In addition, there are two new areas for small scale industrial development: in ujamas villages and through subcontracting. Food processing, particularly vegetable and edible oil making, is considered to be promising among ujamas villages and leather industrial gloves, and curio and souvenir goods have the advantage of assured markets.

In order to realize the development potentialities of those priority industries, the mission recommends that the following programs be undertaken during the forthcoming Third Five Year Plan period: (1) planning, training and advisory services, (2) the development of industrial estates, (3) the provision of development incentives to industrial cooperatives, and (4) the strengthening of lending activities to small scale industries by development banks.

The first group of functions is recommended to be undertaken by the establishment of a new organization, tentatively called the Industrial Development Center of Kilimanjaro or IDCK. This will be a core of small scale industrial development and will have five major functions: (1) industrial survey and planning, (2) technical and managerial training of and advisory services for existing and prospective industrial proprietors and workers, (3) marketing promotion, (4) advisory services for financial institutions, (5) common facility services for small scale industrial proprietors and (6) planning and management of industrial estates. During initial years, emphasis will be placed on training of

and advisory services for existing industrial workers, many of whom are in the informal sector. These services will be provided by industrial extension workers and mobile technical units coordinated by the central staff of IDCK.

We see two sources of difficulties in the conventional approach to industrial estate development. One is the lack of qualified proprietors who are willing to start business in an industrial estate and the other is the shortage of financial resources which can be made available to prospective industrialists. Therefore, we recommend the pilot plant approach for the development of industrial estates until a sufficient number of qualified industrialists have been trained through the services of IDCK. Those pilot plants will be transferred to the workers' cooperatives when they prove they are capable of managing the plant and repaying the debts they take when the ownership is transferred.

As to the third program, the Government should continue to provide grants for the development of industrial cooperatives, but the emphasis should be placed on improvements in the management within those cooperatives and the organization of cooperatives. We recommend those functions be undertaken by establishing cooperative unions at the district as well as the regional levels. In cooperation with IDCK, those cooperative unions should undertake management training as well as market promotion functions.

A greater part of investment funds for small scale industries should be provided from development banks such as TRDB instead of the Treasury as in the past. Frequently, the free provision of production facilities tends to damage the development mentality which is essential for further development. We recommend, however, that terms and conditions for small loans be softened and that the supply of financial resources for lending be substantially increased. The proposed industrial extension services of IDCK should be able to help potential borrowers in planning and application of loans for small scale industries.

The financial implications of the above described programs during the forthcoming Third Five Year Plan period would be as follows:

**Table S.1**  
**Small Scale Industrial Development Program in the Kilimanjaro Region**  
**During the Third Five Year Plan Period**

Units: Tshs 1,000			
Program	Through Development Budget	Through Banking Institutions	Total
1. IDCK	1,289	-	1,289
2. Industrial Estate	1,970	-	1,970
3. Grants to Cooperatives	2,100	-	2,100
4. Bank Loans	-	22,577	22,577
Total (Tshs 1000's)	5,359	22,577	27,936
Total (US\$1000's)	750	3,162	3,912

## I. INTRODUCTION

The Arusha Declaration of 1967, which has formed the foundation for the subsequent course of development of Tanzania, rejects past policies of (a) relying on financial resources as a major instrument of development, (b) emphasizing industry at the expense of agriculture at the initial stage of development, and (c) concentration of resources on urban development, and instead, has adopted three fundamental principles: socialism, self-reliance and rural development. These principles have been followed by the Government and TANU in subsequent years. The attention of the Government has shifted from urban areas to rural areas, and broader strata of population have started to participate in nation-building. The attention currently being given to small-scale industry should be understood in the context of the spirit of the Arusha Declaration.

Socialism in this context implies the absence of exploitation; ownership by the workers and peasants of the means of production and exchange, and the establishment of a genuine political democracy. This principle called for drastic structural changes in the large-scale industrial sector which previously had been heavily foreign-controlled. Hampering Africanization of enterprises, however, is the poor quality of the stock of skilled manpower among the population. This constitutes a critical constraint to development of the industrial sector of the economy. The principle of self-reliance, thus, includes and implies the creation of competent manpower to develop the industrial as well as other sectors of the country.

Rural development as a broader concept extends beyond mere agricultural development as it involves not only economic development but also social development. In addition, it involves wider strata of the population than does agricultural development. Rural development assigns importance to a number of factors which determine the standards of living of the rural population: provision of various social services, diversification of productive activities so that the basic needs of the rural population would be met more readily, and the creation among the rural population of a sense of pride in being rural inhabitants whose contribution to the national development is decisively important.

The Second Five Year Development Plan (1960/70 - 1973/74) called for 'structural change for sustained growth' in order to attain the aforementioned three objectives of national development. In doing so, it emphasized the importance of achieving concurrent growth of the agricultural and industrial sectors. It warns, 'to emphasize a dichotomy between rural and industrial development is misleading', <sup>(1)</sup> and the very inter-dependency of the two sectors was thought to provide a basis for identifying development programs. At the same time, President Nyerere stressed the importance of the small industry in the national development:

Although mass production is the best and cheapest way of meeting the needs of our people for certain types of goods, there are many others where the needs can be best met by labour intensive, small scale industries and craft workshops... It is vital that we should increase our efforts in this matter, for such activities have the further advantage that they require very little capital investment, and they can be carried on the villages and small towns of our country, thus improving the quality and variety of life in the rural areas. <sup>(2)</sup>

This is a statement of the Tanzanian Government's strategy, i.e., of proceeding with the national development through the simultaneous processes of rural industrialization and development of

other key sectors of the national economy. The Second Five Year Plan formulated the industrial location policy on the ground of attaining better balance in regional development, and emphasis was given to an increase in the number of, and expansion of varieties of productive activities in growth centers in rural areas. Further, it states, 'In the long run it is the building up of a number of significant market areas each with an agricultural and industrial production base which will provide the strongest dynamic for continued decentralised development.' (3)

The framework of development described above is taken to be the basis for our examination of small scale industrial development in the Kilimanjaro Region during the Third Five Year Plan and beyond. Thus, we have set our criteria for selecting policies not solely on short-run monetary returns, but more on long-run socio-economic development of the region as well as the country. Nonetheless, even social development cannot be enhanced without support from concurrent economic development. A prerequisite for economic development is to increase productive assets for participation by the people. In this sense, steady and long-lasting economic returns are an important criteria for shaping development programs for small scale industries.

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(1) *Tanzania Second Five Year Plan for Economic and Social Development, 1st July 1969 - 30th June 1974*, Vol. 1, Dar es Salaam, Government Printer, 1969, p. 59.

(2) *Ibid.* p. xiii.

(3) *Ibid.* p. 74.

## II. ROLES OF SMALL SCALE INDUSTRY IN NATIONAL DEVELOPMENT

The process of industrialization in the already-developed countries started with the emergence of a number of small industries, some of which during our time grew to large scale industrial enterprises, while a very large number of the small scale industrial enterprises failed and terminated in bankruptcy. The roles of small scale industrial enterprises in the presently-developing countries are more critical than they were in the developed countries because as they aim to achieve development in much a shorter span of time. What roles then can we expect small industry in developing countries will play in the process of national economic development? Specifically, what can, and should, small scale industry contribute to the national development of Tanzania? Below, we shall briefly review industrial development in some selected countries in preparation for answering this question.

Regardless of the ideological differences between Japan and China, the two countries share some common experiences in the contribution of the small scale industry to their respective economic development. First, the small scale industry in the two countries relied heavily on the traditional labor-intensive technologies, but at the same time continuous efforts to improve were made, by such means as the application of modern scientific and technological knowledge. Second, no matter how the prevailing ideologies are different between the two both countries made remarkable progress in organizing small scale industries into 'trade association' and 'cooperatives', which greatly facilitated the diffusion of modern technology and know-how, for improvement of the technological levels of the small scale industries as a whole. Third, they both have had a highly disciplined labor force. Finally, the levels of earnings in the small scale industrial wage employment were not substantially different from those in rural agricultural occupations in the two countries.

Although Tanzania has its own special conditions, including some inherited from the historical experience of being ruled by a colonial power, and also is constrained by characteristics of the severe contemporary international environment, as acutely shown by the oil crisis, Tanzania can and should give strategic roles to the small industry for the national development, as China and Japan did as they deliberately planned and achieved development to become modern economies.

We recognize the fact that in Tanzania as well as in other developing countries, a distinctive economic sector has emerged, and is growing very rapidly. Called the 'informal' sector as it is not enumerated or recorded in official statistics, it is not generally organized as such. This sector includes self-employed tailors, carpenters, blacksmiths and tinsmiths, bicycle repairers, and repairers of watches and radios, open door garages, hawkers and street vendors--both in urban and rural areas. They are busily engaged in industrial and commercial activities which supply cheap and often low quality goods and services to most of the small scale business establishments and low income earners and their dependents.

Empirical studies on the informal sector in African countries revealed the following characteristics. <sup>(1)</sup> Entry to this sector is free; it may be noted that free entry is conducive to dynamic development of industrial activities. The ownership policy of the Government, concerning industrial enterprises, has taken into account the growth potential of those industrial activities, by defining them as 'open industries'. <sup>(2)</sup> This policy allows the development of industrial activities in the informal sector on the basis of the initiative of the people.

Entry to the informal sector is presently facilitated by informal training which is taking

place in the country. Most of the participants in the sector have taken informal opportunities for promoting skill and acquiring technical knowledge. They did not incur any cost at all to the Government for this purpose. Private savings are invariably the source of capital formation in this sector. The magnitude of informal sector capital formation is not known, but it should be quite significant in the light of the present scale of the sector. Indigenous innovativeness is best demonstrated in this sector as there are many instances of efficient re-use of input materials, such as observed in the products of tinsmiths. The use of locally available resources is predominant in some industries like basket-making and pottery. Finally, it is this sector which serves to fulfill local demands for cheap goods and services.

All these characteristics of the informal sector imply that the informal sector is a model sector for development, indeed, that it solves most of the headaches which beset development planners. Yet, many planners tend to regard the informal sector as the backward and underdeveloped part of the national economy, and often they even consider to oppress the sector by introducing and enforcing rigid regulations and ordinances which for the most part originated in the colonial tradition. To the contrary, the informal sector contributes to the development of the national economy to a significant extent.

Tanzania can ill afford to look lightly upon the roles of the informal sector not only from the point of view of the advantages mentioned above, but more importantly from the point of view that Tanzania is still essentially a peasant society in which the accumulation of skilled manpower in industry and commerce and the development of indigenous industrial techniques was permitted to do nothing but stagnate in her history of being colonized. Independence meant to the people of Tanzania the freedom to challenge the colonial misconception of the African born to remain undeveloped. We are convinced that the growth of the informal sector in Tanzania is the people's expression of their ingenuity in meeting the demands for building up the industrial base of the country's economy. From this, it can be inferred that the informal sector must not be kept as informal but be pushed forward as a prime source of development. If the levels of technical and managerial skills in the sector can be upgraded with the help of modern technical know-how, the contribution of the informal sector to the national development will greatly increase. Modern small-scale industry must be created out of the informal sector by deliberate implementation of carefully designed promotional measures.

The government realizes this fact as is evident when it stated that "The full potential for growth and employment through small and medium-scale industry is not yet being fully realized because of gaps in institutional support." <sup>(3)</sup> Since then, several promotional measures have been adopted, including the establishment of the Small Industries Development Organization (SIDO) and the Tanzanian Rural Development Bank (TRDB). They are actively providing the small industries with institutional supports like training programs and loans, but at the present time they have barely started to deal with this enormous task.

The role of small industry in the national development can be thought of in relation to how a small industry is defined in the context of the country's economic and social development. It is for this reason that we are concerned with the definition of small scale industry in Tanzania. The Second Five Year Plan defines small scale industry to mean "those projects involving employment of 10 to 70 jobs. <sup>(4)</sup>". The National Small Industries Corporation, a subsidiary of the National Development Corporation, defined the small industry as that having an upper limit of 100 employees and/or Tshs 2.5 million of initial capital investment. <sup>(5)</sup> If either definition is adopted for use in connection with provision of institutional supports for the small scale industry, it is quite clear that many un-



enumerated, and thus unrecorded, industrial units would be excluded from the governmental support activities. The unavoidable conclusion is that a new definition of the small industry is needed. The TANU Directive of 1973 on small scale industries development defined the small industry as follows: 'A small scale unit is any unit whose control is within the capability of our people individually or collectively in terms of capital required and know-how.'<sup>(6)</sup> This definition of small scale industry seems to support the importance of the informal sector in Tanzania.

In fact, small scale industry so defined would stress the nature of the people's participation. It is not our contention that it is desirable to maintain the informal sector in the present level. Instead, we envisage that from the present informal sector progressive parts will emerge, grow and develop, and come to constitute one of the most dynamic productive sectors. This sector will provide training functions for prospective new entrants in non-agricultural occupations, thus creating a group of potential proprietors and entrepreneurs in the country. The growth of such a group will facilitate the process of occupational differentiation and specialization making non-agricultural activities more economically and technically viable. In the present context of the industrialization in Tanzania, rural industrialization may well imply an accelerated development of the informal sector in general, and rapid growth of the progressive sub-sector in it.

To sum up, a large number of widely varying industrial activities constitute the informal sector, which is functioning as a training ground of *emerging industrial manpower*, which is urgently needed both for technical and managerial work for the strengthening the industrial base of the national economy. A rapid expansion of the small scale industry in the country will depend greatly on the overall improvement in the activities of the informal sector. It is certainly true that the role of small scale industry can be advocated from a point of view of the creation of employment and income in the country. On top of these, however, we consider that the mobilization of dynamic growth potential of small scale industrial units as defined by the TANU directive would bring about a revolutionary advancement in attainment of the goals of the national development.

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- (1) J.F. Rweymanu, *Rural Industrialization in the United Republic of Tanzania, A Case Study*, DSA/SD/AC/5/17, United Nations, 1973. I. Inukai, *Rural Industrialization in Kenya A Case Study*, ESA/SD/AC/5/6, 1973, United Nations: I.L.O. *Employment, Incomes and Equality: A Strategy for Increasing Productive Employment in Kenya*, ILO, Geneva, 1972, p. 5-7. J. K. Hart, 'Informal Income Opportunities and Urban Employment in Ghana,' *The Journal of Modern African Studies*, 11, 1973.
  - (2) *Tanzania Second Five Year Plan*, p. 76.
  - (3) *The Economic Survey and Annual Plan, 1970-71*, Dar es Salaam, Government Printer, 1970, p. 61.
  - (4) *Tanzania Second Five Year Plan*, p. 76.
  - (5) Quoted from Report of the Indian Government Delegation on *Programme for Development of Small-Scale Industries in Tanzania (Mainland)*, 1973, p. 10.
  - (6) Role of Small Industry, *Daily News*, 23 December 1974.

### III. THE CURRENT ENVIRONMENT FOR SMALL SCALE INDUSTRIAL DEVELOPMENT IN KILIMANJARO REGION

#### 1. The Current Situation of Small Scale Industries

Professor J. Rweyemamu's study on rural industries in Tanzania provides the factual information regarding the present situation of small industries in Kilimanjaro Region. <sup>(1)</sup> The following discussion will heavily rely on his work. First, it is necessary to consider three groups which constitute the existing small scale industries in the region. Those are handicrafts, village industry and modern small scale industry. The problems are different among them, and the development scopes and strategies must be geared to the needs of the each group according to their constraints and perspectives.

Handicrafts in the region typically are economically subsidiary as sources of income and practiced by farmers and their family members in the region, and consequently, are part-time productive activities. According to the 1967 Population Census, there were more than 650,000 persons in the region. The extent of the urbanization in the region is represented by Moshi town whose population is about 30,000 persons in 1970, a mere 4%. Therefore, it would appear that handicrafts carried out by the rural population should not be ignored. It is estimated that there are at least three wood-based craftsmen in each division, who are manufacturing wooden plates, spoons, trays, combs, bowls and walking sticks. Manufacture of barrels, mortars and pestles, and wooden wheel-barrows are carried out by at least two persons in each division, and at least one person in each division is engaged in hand-operated coffee pulperies, hand-operated flour milling machines and grinding stones. Except the rather small quantity of coffee pulped by the cooperatives' 42 pulperies, most of the coffee berries are pulped by local handicraftsmen. At least six persons in each division are engaged in making calabashes, gourds and water-bottles on a part-time basis. Pottery is popular and exclusively done by women in Kibosho, Usangi (north Pare) and Vudee (south Pare), and the production is normally seasonal, between June and October when clay is not soaked with water and firewood is readily available. Basket-making, including mats, ropes and the like, is widespread in Kileo, Kilem, and Ugweno-Kileo. In Mbulu it is strictly women's work. As the population of each division varies considerably among the divisions in the region, and also the availability of raw materials differs between Pare and Kilimanjaro Districts, more handicraftsmen are found in Kilimanjaro District whose population density is as high as 493 persons per square kilometer as opposed to 190 persons in Pare District. Also, the figures quoted above are somewhat related to those who are more or less permanently engaged in respective productive activities, and thus, the actual number of persons who have acquired the skill and occasionally apply their skills to earn subsidiary incomes would be much larger. <sup>(2)</sup>

Village industry includes blacksmiths, Mbege brewing, brick making, woodwork and carpentry, repair of shoes, watches and bicycles, flour milling and the like. Blacksmithing is an old craft. Raw materials are obtained from Usseri. Mamba of Moshi District and Ugweno of Pare District are important centers of blacksmith activities in Kilimanjaro. Most of blacksmiths in the region work full-time and are helped by family members and some wage employees. Some smiths in the region have oxy-acetylene torches, power drills or other simple equipment. According to Professor Rweyemamu's estimate, the average investment for a total of 22 blacksmiths interviewed is approximately Tshs 600. It is interesting to note that the average investment of blacksmiths in Kilimanjaro seems to be similar to the village blacksmiths in Kenya. <sup>(3)</sup> Mbege brewing is the main Chagga drink; made of sorghum, it is brewed in special pombe (beer) shops in every division. Every division has at least four tailor shops

with more than three workers each. There are a few training schools specialized in tailoring in the Moshi area, catering for girls' school leavers. At one of them, established by Umoja wa Wanawake wa Tanzania (The Women Organization of Tanzania) in 1970, the training period is two years and the teacher-trainee ratio is one to fifteen. There are at least 2 carpentry workshops in every division in Kilimanjaro. Shoe repairers are found in all the local division centers. (4)

It is natural that most of the modern small scale industries in the region are located in Moshi town, but there are some in rural areas as well. Mwananchi Bakery in Rombo started operation in 1968, and there, there are two tanneries producing shoes, handbags and suitcases. In 1970 a new sawmill was established in Rongai with the assistance of FAO. Two sisal factories and 43 central pulperies were assisted by KNCU on the basis of coffee cooperatives. (5)

Table 3.1 prepared on the basis of Professor Rweyemamu's study, shows how small scale industries in the rural areas in Kilimanjaro Region are closely related to the local resources and local markets.

Table 3.1  
Some Characteristics of Rural Small Scale Industries  
in Kilimanjaro Region

Industries	Average Investment (Tshs)	% of Local Material Use in Total Input	% of Local Market in Total Market	Investment Employment (Tshs)	Average Employment
Blacksmith	600	80	70	120	5
Brick Making	31,000	n.a.	30*	3,100	10
Brewery	3,010	90	70	502	6
Tailoring	6,000	80	90	1,125	4
Carpentry	7,500	70	80	375 - 1,500**	5 - 20**
Shoe Repair	2,000	n.a.	100	1,000	2
Motor & Cycle Repair	10,000	n.a.	n.a.	500	20
Pottery	50	100	20*	n.a.	n.a.
Mechanics	n.a.	n.a.	n.a.	1,000	10

Source: J. Rweyemamu, *op. cit.*, p. 52 - 54.

Notes: \* If regional market is included, these figures reach 100 per cent.

\*\* Included wood-based handicrafts, and lower figures are mainly for handicrafts.

If the market is expanded from local to regional, almost 100 per cent of input materials and output markets are directly linked to the region as a whole. Most of the industrial units employ less than 10 workers, thus having been excluded from the official statistics which is concerned with establishments employing 10 or more workers. However, the average amount of investment in each branch of industrial activities shows that an initial capital investment should be usually within the reach of ordinary private savings, i.e. Tshs 10,000/ or less for an establishment and about Tshs 1,000/ or less per employee. All in all, the table affirms the importance of the informal sector activities in the region.

In Table 3.2 the identification of industrial branches was made in accordance with the listed items or 'products'. Out of a total of 70 small industries in the list, power-operated tools (together

ther with hand tools) are said to be in use in 53 industries. The list appears to have been originally prepared by municipality and district councils in respective areas.

It was said that the list is the only available source of information regarding the number of establishments and their industrial branches in the small scale industry sector in Kilimanjaro Region. Regrettably, however, the list seems to be grossly inadequate and out of date. It includes some establishments whose activity must be more in the nature of commerce. For example, photography and framing shops are included. On the other hand, no metal workshop is on the list although we happened to find two metal machine shops in the town. In view of the importance of relations with Arusha Region, we asked the office of the Department of Commerce and Industry at Arusha to provide us with a list of industrial establishments in Arusha Region. The list we obtained was taken out of an official file, and dated 1971. It contains only names of establishments and crude classification of their industries. One must be wary of generalizing on only two examples, but we are inclined to conclude that the basic data collection for small industry seems to be much improved.

**Table 3.2**  
**Number of Small Industries by Branches of Industrial Activities and**  
**by Location in Kilimanjaro Region as of the End of 1972**

Industries	Moshi Town	Kilimanjaro District <sup>a/</sup>	Pare District	Total
Garages and Related	5	1		6
Bus Body Building	1			1
Textiles and Tailoring	7	1		8
Furniture Making	12	4		16
Metal Workshop		2	1	3
Shoe Making & Repair	3	2		5
Building Contractors	4	1		5
Stone Crushing	6			6
Confectionery	8	2	1	11
Photographing	1			1
Scale Repair	1			1
Typewriter Repair	1			1
Watch Repair	1			1
Electric Installation	1			1
Vegetable Oil	1			1
Tanneries		1		1
Saw Mills		1	1	2
<b>Total</b>	<b>52</b>	<b>15</b>	<b>3</b>	<b>70</b>

Sources: The original list of small-scale industries was posted on the bulletin board of the office of the regional Department of Commerce and Industry, Moshi.

Note: <sup>a/</sup> Kilimanjaro District refers to the present Moshi and Romto Districts, excluding Moshi Township.

According to F. Schadler's study, there were 116 non-agricultural establishments in Moshi township in 1966-67. (6) Those establishments enumerated do not include retail and wholesale trade, but include a dozen service industries like barbers. Slightly more than half of the enumerated establishments were owned by African proprietors. The number of interviewed samples in Professor Rweyamamu's study of rural industries in the Kilimanjaro Region was nearly 200.

Another source of information on the number of establishments is the power service system. According to TANESCO, there were 118 establishments in Moshi Town alone which had three-phase power connections as of the end of October 1974. These establishments include large scale as well as small scale industries, but some, and perhaps a large proportion of, small scale industrial establishments do not have three-phase power connection. Incidentally, the number of customers having single-phase power connection was 3,490, a substantial part of which must be in commercial and small scale industrial sectors. Information for other districts cannot be obtained in this manner because as power is not transmitted to them.

Considering the facts presented above, it is highly likely that the actual number of small scale industrial units is much larger than the numbers presented by Rweyamamu or Schadler.

What conclusions can now we draw on the current situation of the small scale industrial activities in the region? From the point of view of policy implications, we feel urged to again emphasize that the regional government should consider three important features. First, there are a large number of manufacturing and repairing activities and establishments in the region which are neither enumerated nor registered by the administrative office of the Regional Government. We call these activities as a whole as the 'informal sector' of the regional economy, as opposed to the modern organized sector which are fully enumerated and registered, thus being given formal administrative attention and a variety of protective and assistance measures from the Central and Regional Governments. The 'informal sector' as a whole is providing the people, particularly the rural people, with many basic necessities of life. Of course, many of the industrial activities in the 'informal sector' are not undertaken as full time occupations, and they are greatly tradition-bound regarding the techniques of production and the division of labor between the sexes, e.g., pottery making in Usangi. Skill formation is carried out by informal training, and skill differentiation and specialization have not yet been fully established as the industrial activities are in the nature of part-time activities of low income farmers, undertaken to supplement their low farm incomes.

It is in this "informal sector" in which the regional planning office would find out a key to the development of small scale industry in the region. If improvement of quality would enable locally manufactured bricks to replace cement blocks, a large quantity of cement currently used for private home construction and school construction would be spared for the construction of large modern factories. Why can not Tanzania construct a gigantic building like the Roman Colosseum by bricks alone? The productive techniques of basket-making by rural women is remarkable, but does not appear to be fully utilized yet. Why are almost all the lamp shades covering electric bulbs made of iron wire and cloth, instead of a bamboo basket? What is the reason to use steel desks and chairs, instead of locally made wooden desks and chairs? We see a tremendous opportunity in that quite a large numbers and varieties of goods currently made of imported materials can be replaced by the products of the 'informal sector', *if and only if* deliberate efforts can be poured into the 'informal sector' in order to improve the quality of products without increasing costs, and thus prices. The above analysis suggest a high priority which should be placed on development of small scale industry in the region through

effective mobilization of the 'informal sector' by providing carefully designed training programs, both technical and managerial, to the progressive-minded participants--leaders, if you will-- in the sector.

Next in significance to the development prospects of the informal sector is under-utilization of productive capacity--a significant problem in Kilimanjaro Region. It appears, however, this problem is not one of the region alone but prevalent in the country as a whole. It was estimated that the food and vegetable oil manufacturing and light engineering industry were operating at 50 per cent or less of the installed capacity in the early 1970s. The garment industry, particularly manufacturing of shirts, was operating at nearly 40 per cent of the installed capacity. (7)

The fundamental nature of this under-utilization is not uniform for all industries, however, and to clarify the problem in order to devise a solution, we must be more specific about what is meant by the term. In Kilimanjaro Region, we noticed three kinds of under-utilization of productive capacity. Those are 'structural', 'technical' and 'institutional' under-utilization of installed physical capital. 'Structural under-utilization' appears to be more common in larger industrial units, while technical under-utilization seems more prevalent in small industrial units. The institutional under-utilization is likely to be observed both in large and small industries.

The structural under-utilization of productive capacity is defined to mean that some productive capacity was from the beginning installed at a calculated low degree of utilization in order to provide maintenance and repair services within the individual industrial units. One of the basic features of a dual economic structure is that a large modern industry with capital-intensive technology is transplanted into a national economy, and is operated in an enclave of the modern industrial sector. There are weak links between the modern enclave and the rest of the economy except the former tends to use the latter as the source of cheap labor supply and material inputs. In this case, an industrial enterprise does not function to provide a spill-over effect of technological diffusion, but tends to operate in a self-contained framework. Thus, the industrial base is self-centered, and does not constitute a basis for generating and stimulating complementary and supplementary activities.

A few examples would illustrate this problem. Almost all the saw mills in the region have their own repair workshop for maintenance of installed machines since independent and reliable repair shops were non-existent in the respective areas. An electrified sharpener is found in all the saw mills for sharpening of saw blades, but the machines are used at an extremely low degree of utilization. It should be recalled that 53 out of nearly 70 small manufacturing and repairing enterprises in Kilimanjaro Region are equipped with power-driven machines. Here, again, many of those machines are not used at or near full capacity, largely due to the failure to promptly repair the machines themselves due to short supply of parts for repair.

Large enterprises like the Tanzanian Planting Company and the Tanzanian Tannery Company are most completely self-contained in their ancillary and service facilities. The Tanzanian Planting Company has the most sophisticated modern industrial workshop which is capable of repairing even heavy transportation equipment and large farm machines. It is said that the present capacity of the workshop does not allow it to accept repair orders from other firms in the region, but it is probably more likely that administrative problems associated with the acceptance of isolated orders of repairing services would make the management reluctant to handle repair orders from other firms, particularly other small industrial firms.

Also, we noticed that most of the small industrial proprietors are not aware of the existence of such a modern industrial workshop in the Tanzanian Planting Company and, therefore, call repair services in from Dar es Salaam or even from Nairobi. If those large enterprises make the services of their workshop facilities available to others, there would be a large social gain with little, if any, private loss. By making a linkage between the installed capacity of large enterprises and repair demands of small industrial enterprises, a start would be made for integrated development of the industrial sector of the region.

The above findings call for attention to be given to the nature of institutional under-utilization of productive capacities. If an institutional arrangement can be worked out for rendering repair services by larger industrial units to smaller ones, it certainly would be possible to re-activate a large number of presently-idle machines and equipment in smaller industrial enterprises. We frequently found machines and equipment idle at automobile garages because of the lack of repair services. The total number of repairable machines in the region appears to be quite large. This also supports the contention made above.

The handling of import licenses for industrial parts and input materials is also one of the important causes of the present state of under-utilization of productive capacity in the region. We found that the owners' inability to obtain parts for repair and replacements was a significant reason for a large number of machines to be kept idle. Also, we found that a delay of issuance of import licenses for critical inputs materials was frustrating the entire productive operation by keeping productive facilities idle for an extended period. As a result, it was found that at least one enterprise applied for an import license of essential materials for its productive operation six months ahead of the time at which they are anticipated to be needed. The enterprise was still awaiting the import license and was anxious because need might arise to stop the entire operation if the issuance of the license is delayed even a few weeks beyond the anticipated date.

While we listened to the complains given by privately-owned industrial enterprises on the issues of the import licensing, we found another source of the under-utilization of productive capacity. It is the government policy to encourage the formation of industrial cooperatives. The policy is in line with the general principles of the country's development, but it would not be useful if the government policy were to discourage the growth of the informal sector. In our discussion with the officials of the Ujamaa and Cooperative Department of the regional office, we were told that a craftsman cannot open his own workshop in a ujamaa village unless he organized his business as a cooperative. For example, a graduate of tailoring training school may return to his/her ujamaa village with a sewing machine bought with private savings. It is not the government policy to allow him/her to open a tailoring shop as a full-time self-employed business in a ujamaa village, we were told. Does this imply that an occupational differentiation is thought of as a capitalistic venture? *Blacksmiths, carpenters and tailors will be much needed in a rural community no matter how they are organized and even if they are not organized.* In any case, one person cannot organize a cooperative as a single person, and the demand for their services in a small rural community would not, for the time being, require many workers in the same line of industrial activities.

Another important aspect which is contributing to under-utilization of productive capacity is the lack of dialogue between the existing industrial enterprises and the government bodies, and many privately owned industrial enterprises tend to feel uncertainty about their future. The allocation of scarce imported materials is said to be more directed to industrial cooperative societies than to the

private industries. If this is done at the cost of sacrificing the existing and effectively-operating privately owned industrial enterprises in the region, it may result in slowing down of small scale industrial development in the region. Even in a socialist framework of national development, privately owned small scale industries employing wage workers should be given a proper role to play. If the government and the TANU fail to continue to provide sufficient economic incentives to private proprietors, little hope will remain for small scale industry development in the region because it is the existing small scale industrial units which will provide the vital demonstration effects of dynamic nature of small scale industry to the rest of regional economy, thus will become a springboard for the future development.

We observed that a hasty industrialization program on the basis of subsidized cooperative societies is about to merge in the region. For example, an industrial workshop will be given a subsidized premises at an industrial estate. In principle this is desirable. However, what seems to have happened is that an industrial estate was constructed before workers were organized to industrial cooperatives. When the premises are ready for them, no industrial cooperatives would exist in the area, while some private artisans in various specializations would be suffering from severe working conditions. We agree with the government policy of placing priority on industrial cooperatives in the allocation of scarce resources in view of the strategic importance of developing industrial cooperatives in Tanzania. Nonetheless, there is a need to stress that from our observations of existing industrial cooperatives, it can be said that it is probably more important to emphasize that the government does not intend to provide blanket protection for every industrial cooperative.

Technical under-utilization of productive capacity in the region is common among crafts based-industry and modern small scale industry. One cause of the technical underutilization of production capacity arises from the very nature of the informal sector. In the informal sector, as mentioned already, artisans and craftsmen tend to accumulate tools and equipment by their private savings. However, all tools and equipment must complement each other. A plate cannot be efficiently used on wood which, because the saw used was poor, has been poorly rough-cut. Without a wheelbarrow, a cement block maker equipped with a block press cannot operate effectively. A veranda tailor with a sewing machine cannot work without a measure and needles. The sheer lack of a complete set of productive tools and equipment at crafts-based industrial enterprises is indeed a significant aspect of the technical-underutilization of existing production capacity.

A few examples, again, would serve to explain the nature of technical underutilization of production capacity. In Moshi Town, there is one open automobile repairing "place", where 45 young people are gainfully occupied. They have 8 incomplete sets of hand tools, and two welding equipment. But they do not have an electrified drilling machine so that much of their working time must be used for operation with hand-operated drilling tools. As a result, while some workers are working hard in making holes in steel plates, other workers and other tools simply remain idle. We found in Moshi Town a machine shop which is equipped with a modern electrified lathe. The enterprise is manufacturing parts of irrigation pipes on the basis of piece orders from customers. The productive capacity of lathe is said to be equal to 100 metal joiners a day if the shop is also equipped with a electrified metal cutter. Presently all metal cutting is done by hand, a very slow process indeed. Thus, while the materials must be cut by hand, the modern electrified lathe is kept idle.

Another type of technical under-utilization of productive capacity is that due to inability of the owners themselves to repair machines which have a mechanical problem. As mentioned, technical training in small industries is mostly done on an informal basis. The workers learn skills by seeing, and



copying how to use tools and equipment for production. They may be excellent in the use of those productive facilities, but are often confused as to how to maintain and repair them since the informal training does not often give the workers technical know-how in maintenance of tools and equipment, much less in repairing machines. Thus, once a machine has a mechanical breakdown, it is left idle hopelessly.

A closer look into the present situation of small industry in the region should reveal the magnitude of private and social losses arising from the inter-actions of the three types of underutilization of productive capacity in the region. Economic and social losses would probably be much larger than what one may consider. Technical under-utilization leads to slowness of the process of operation on the one hand, and inferior quality of products on the other. The results invariably lead to a consequence of narrowed marketability of the products, which in turn result in low incomes and low savings of industrial proprietors. From the societal point of view technical under-utilization should imply that many craftsmen and crafts-based industries are bound to remain at a low degree of technical competency, slowing down the process of skill formation among them.

## 2. The Current Situation of Government Development Programs

Since the establishment of the Small Industry Development Organisation (SIDO) in 1973, Tanzania has strengthened its institutional capacity for assisting small scale industry development. However, the nature of small scale industries calls for further decentralized development efforts which would serve specific local needs. The SIDO is fully aware of the disadvantages arising from centralized decision-making in formulation of small scale industry development policies. Thus, it intends to establish regional offices, in each region. The present capacity of the SIDO in the light of the newness of the organisation itself, however, seems to be a serious constraint in extending its services to each region. At most, it is able to appoint its regional representatives but not more than that. On the other hand, the urgency of small scale industry development along with the policy commitment of the country for decentralization and rural development necessitates a much more flexible but effective organization that may be beyond the capacity of appointed SIDO regional representatives.

SIDO undertakes training programs both in technical and managerial fields for existing small scale industrial enterprises in the country. The training program, however, tends to be of 'once-and-for-all' types. Difficulties are experienced in providing follow-up training and advisory services to the trainees.

The promotional and planning functions for small scale industry development are essential parts of the SIDO activities; the SIDO has conducted a number of feasibility studies of specific industries in many regions. It also aims to build a number of industrial estates in a number of locations. In Kili-manjaro Region, for example, it has constructed an industrial estate at Usangi. There, SIDO is planning to provide technical assistance in the fields of woodworking, metalworking and pottery at the central workshop, and will rent nine premises to clients. It appears, however, that the present planning and promotional functions of the SIDO are not based on deliberate analysis and preparation. One manifestation of this fact is that the Usangi Industrial Estate began to look for clients *after* the construction of the estate had been completed. It may take a long time to rent the nine premises regardless of whatever industries may apply for them, occupied by potential clients.

Tanzania Investment Bank (TIB) has also proposed to build an industrial estate at Moshi,

in cooperation with KIDECO, on the ground that sufficient skilled manpower is reported to be available in Kilimanjaro Region. In view of the fact that the available information on existing small scale industries and the quality and quantity of skilled manpower in the region appear to be grossly insufficient, as mentioned in the early parts of this section, TIB's optimistic judgement which is an important basis for the proposal should be challenged. Furthermore, the selection of industries to be accommodated in the Moshi Industrial Estate appears arbitrary. For example, it proposes a plastic button manufacturing establishment calling for an investment of Tshs 100,000 for creation of a mere six jobs, and suggests to build a hand pump manufacturing unit in the region where no foundry and forging workshops exist!

Financial assistance to small scale industries is another form of government support for development of the small scale industrial sector. According to the 1970 - 71 Economic Survey, smaller projects are handled by Tanzania Development Finance Co. (TDFL), Industrial Promotion Services (IFS), the National Small Industries Corporation (NSIC), and the Workers Development Corporation (WDC) and the Co-operatives. (8) However, the Survey admits that institutional support for small industries has not been very successful. In Kilimanjaro Region, SIDO, TIB, TRDB, and NBC are supposed to provide financial assistance to small industrial ventures in one way or another. The extent that their assistance has been effective is not certain. Although SIDO has appointed its regional representative in Kilimanjaro Region, the officer in charge was on study leave abroad and no replacement was made. TIB is interested in the construction of an industrial estate, but it seems to have no regional representative who will be specifically assigned to handle loans to small scale industries.

The Regional Government is also providing financial assistance for the development of industrial cooperatives. During the fiscal year of 1973/74, Tshs 715,000/ was budgeted for a small scale industrial development program. During the fiscal year of 1974/75, the budget was increased to Tshs 1.096 million, with the following composition:

1. Moshi Small Scale Industrial Workshop	Tshs 250,000/
2. Pare Small Scale Industrial Workshop	Tshs 350,000/
3. Pare Cooperative Industrial Workshop	Tshs 200,000/
4. Rombo Cooperative Industrial Workshop	Tshs 296,000/

The intensified emphasis on small scale industrial development as seen in the budget allocation deserves commendation, but government-assisted industrial workshops or cooperatives are not necessarily being operated satisfactorily.

A significant problem is the organization of cooperatives. Cooperatives would be an appropriate form of organizing workers with equal and fair participation of the members for those types of activities which require jobs with equal technical level. However, manufacturing processes are not of this type. Within an industrial establishment, jobs of different skill contents and orientation are necessary. To complicate the problem, a sophisticated system of rewards for participants is required to maintain an organization based on job differentiation. The ambitious government programs for creating industrial cooperatives appear to be faced increasingly with the organizational problem of cooperatives. Without a thorough reexamination of the organizational aspects of cooperatives, an intensified government program for establishing industrial cooperatives would likely result in an intensified organizational problem of industrial cooperatives.

In the above, a general way of thinking among the development agencies for small scale

industries has been revealed: 'Build first, and worry about manpower and organization later.' The current situation of small scale industry development, however, clearly indicates that physical facilities are not the limitation for development of small scale industries in the region, and that better utilization of the existing production capacities of the region would increase tremendously the output of the small scale industrial sector.

### 3. The Current Situation of Bank Loans and Credits

There are four banking institutions in Tanzania; the Tanzania Investment Bank (TIB), the Tanzania Rural Development Bank (TRDB), the National Bank of Commerce (NBC) and the Tanzania Housing Bank (THB). All of them are important sources of financial resources for the development of the small scale industries. These banks are all state-owned and started their career quite recently. The TIB was formed in 1970, the TRDB in 1971, the NBC in 1967 and the THB in 1972. They were directly or indirectly established when the Government of Tanzania nationalized the previous privately-owned banking organizations. In Kilimanjaro Region, there are branch offices of the TRDB, the NBC and the THB (all in Moshi), but not of the TIB. As they had to reorganize themselves according to their new bank policies, their real activities are believed to have started shortly after their official establishment.

Although each bank has its own characteristics in its lending activities, <sup>(9)</sup> their new operating policies are in line with the decentralization policy of the Government. More specifically, they are directed to upgrading the standard of living of the rural population. Thus all the banks already pay much attention to the development of small scale industries in rural areas. This, however, does not necessarily mean that they have already given a number of project loans to the small scale industrialists. Some entrepreneurs have been financed by some of the banks, but they have rarely been small scale industrialists as both Tanzanians and we understand them. Most of the loans have been given to large scale public corporations and modernized private firms often owned by expatriates.

Loan conditions vary in accordance with the nature of the project and the policies of the bank, involved. Interest is normally a flat charge on the outstanding amount of the loan and is set at around 8% per annum. As a rule, the banks finance 50 to 80% of the cost of investment. In general, terms to individuals are more severe than to institutions such as cooperatives and public corporations. The grace period ranges from three months to two years. The pay back period also ranges from fifteen months to ten years.

Banking funds are obtained from customers' deposits and also from the Treasury and the international banking institutions. As the private sector of the economy is not well-developed, the banks tend to rely on the governmental sources more heavily than the private sources.

Each of the three branch offices in Moshi has autonomy in lending to some extent: they can grant project loans up to a certain size by their own judgement. The loan committee, which consists of members from various regional governmental offices and the bank manager, is the decision-making body. However in spite of the decentralization policy of the Government, large loans must be approved by the head office in Dar es Salaam.

The size of the staff in the Moshi branch is invariably small for the purpose of attending even the present development projects. The TRDB, for instance, has only three officers for all the

banking activities in Kilimanjaro Region, but their responsibility is broad. They evaluate loan applications and conduct post-loan supervision. The former obviously includes examination of credit-worthiness of the borrower and the appraisal of the projects from the financial, technical and managerial points of view. Of all the branches we visited in Moshi, not one was adequately equipped with specialists who take on these responsibilities.

Training is, therefore, of great importance in order to staff the branch offices adequately. Three types of training are currently undertaken: (1) institutional type of training, by sending the bank staff to institutes such as the Institute of Finance Management, the National Institute of Productivity, the College of Business Education, the Cooperative College and the Institute of Development Management, (2) the in-service training and (3) education and on-the-job training abroad by either obtaining grants from the advanced countries or providing bank scholarships. These training efforts are expected to be intensified as the banks have long realized how urgently they have to expand the number of well-trained and well-qualified bank officers.

Upgrading of the bank's staff quality is, however, only one side of the coin. Those industrialists who have been producing certain products in the informal sector should be given guidance as to how they can obtain loans to expand their activities. Such banking advisory and educational services are badly needed at this stage of development. This is precisely the other side of the coin: they must expand the scope of services. There is already a beginning which has been made in this direction. The banks have been trying to contact potential rural tradesmen and industrialists through arrangement with DDDs and ujamaa leaders. But the effort invested in these services is presently grossly inadequate.

In addition to the above banks, there exists a credit institution specializing in hire-purchase, presumably one of the most effective methods for developing the small scale industrial sector. It is the KARADHA Company Ltd., established in 1969 as a subsidiary of the NBC. It has no office in Moshi, but the Mawenzi zonal office of the NBC in Moshi performs a liaison function for the KARADHA's hire-purchase business. Present hire-purchase conditions are fairly tight; the purchaser typically has to pay 40 per cent of the equipment price when he buys it and the payment period is only eighteen months. Thus, the business in the region is very limited at the moment both due to the insufficient organizational support and tight conditions for credit.

As the TRDB and the NBC are most relevant banks as financial sources for small scale industrial development, brief description of their current operation in Kilimanjaro Region will be given below.

The Moshi Branch Office of the Tanzania Rural Development Bank reflects the infancy of the bank itself, enervated but suffering from the shortage of staff. Presently only 3 professionals are working. Since the start of the TRDB, the amount allocated to the Moshi Branch by the head office in Dar Es Salam is Tshs 4.0 million. Out of this, Tshs 2.6 million have been disburse and only Tshs 700,000. have been directed to the small scale industrial sector.

The terms and conditions of lending are as follows:

- |                             |             |
|-----------------------------|-------------|
| (1) Interest rate per annum | 8 - 9 %     |
| (2) Repayment period        | 2 - 4 years |
| (3) Grace period            | none        |

The Branch Office may grant loans of up to Tshs 50,000 by its own discretion. However, rather stringent loan conditions and the shortage of the staff are preventing prospective small scale industrialists from having full access to the available financial resources.

The National Bank of Commerce was formed and started its operation in February 1967. As this bank is the oldest among the four, its scope of banking activities is fairly large and substantial. However, the bank has not, so far, committed its funds to the development of small scale industry. <sup>(10)</sup> The bank attributes this to the absence of a national strategy for the development of small scale industry. This cautious position of the bank is quite understandable as the bank collects funds on relatively high interest paying deposits such as current accounts, saving accounts, time deposits and deposits from other banks.

The total outstanding liabilities of the NBC as a whole in the country stood at Tshs 2,660 million as of the end of September, 1974, while those of the Kilimanjaro branch offices at Tshs 135 million. Although the figure fluctuates seasonally, both have been increasing constantly.

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- (1) J. Rweyemamu, *op. cit.*
  - (2) J. Rweyemamu, *op. cit.*, p. 49 - 50.
  - (3) I. Inukai and J. Okelo, *Rural Industrial Survey in Nyeri District, 1972*, Nairobi, IDS, *Rural Industrial Survey in Kakamega District, 1973*, Nairobi, IDS.
  - (4) J. Rweyemamu, *op. cit.*, p. 50 - 51.
  - (5) *Ibid.*, p. 52
  - (6) K. Schlader, *Crafts, small-scale industries, and industrial education in Tanzania, 1970*, Munchen, Weltforum Verlag, Table 7.
  - (7) J. Rweyemamu, *op. cit.*, p. 17
  - (8) *Economic Survey, 1970 - 71*, p. 60
  - (9) The NBC specializes in lending for commercial working capital. The TRDB is engaged in the supply medium and long term credits to the rural sector and the TTB finances for the development of large scale establishments in commercial agriculture, manufacturing including assembly, processing and engineering, construction, transportation, tourism and mining. The THB is mainly responsible in financing for construction and purchase of residential and commercial premises.
  - (10) According to NBC, *Annual Report and Accounts for the Year Ended June, 1973*, p. 66

#### IV. DEVELOPMENT STRATEGIES FOR SMALL SCALE INDUSTRIES

The small scale industrial sector of the Kilimanjaro economy is constrained by a variety of factors, notably the lack of formal training institutions and trainers, the inadequate way of introducing mechanization, and inadequate system of financing available for small scale industrial proprietors. However, as the development of the informal sector has demonstrated, the region is rich in potential industrial labor force, and has good potential for the development of this sector.

Generally, development potentiality is good for those small scale industries which have a number of the following characteristics: (1) a small scale of operation which does not imply high production costs, (2) the use of locally available materials, (3) the availability of local markets, (4) the production process is not capital intensive, and (5) the required technology is not much higher than the currently available levels. In addition, there is a considerable possibility that the development of parts manufacturing which may serve a larger market than that of Kilimanjaro Region only. The development of ancillary small scale industries to larger industries is also considered to be promising. Subcontracting for larger scale industries and the use of waste materials or scrap appears also to be promising, provided that the measures for quality control and timely delivery of the goods produced by subcontractors can be assured.

Some examples may serve to strengthen the above observation. We hold the view that establishing a foundry in Kilimanjaro Region is urgently needed for the following reasons: (1) scrap metal is plentiful in supply and may even be able to meet the demand for input material for the next ten years, (2) casting sand is available from the coast, (3) locally produced charcoal can be used as a source of energy, (4) a foundry, which is a basic requirement for developing metal industry, does not exist in the three regions of Kilimanjaro, Arusha and Tanga, and finally Kilimanjaro Region is geographically and strategically best suited to serve the three regions as a whole.

Related to the development of a foundry, wood pattern shops, which are indispensable for a foundry, can be developed by utilizing forest resources in Kilimanjaro Region. The availability of cast iron parts would make shops where machinery is repaired more economically viable, as those shops could obtain parts from the foundry at relatively low cost. Thus, the machinery industry would at the start emphasize repair work, but would gradually shift to production of more sophisticated machinery through reproduction of imported machinery.

Over time, the development strategies would be as follows: first emphasis will be placed on the better utilization of existing production capacity by the training of existing and prospective technicians and artisans in order to economize available investment resources. Parts of such training may be on a formal base, but greater attention would be given to on-the-job training and advisory services both provided on a periodic basis. The training would cover not only technical fields but also managerial and marketing fields. Such training would lay down a basis for further development of small scale industries in the region for the future since it will accumulate competent manpower to run small scale industries in the region.

The role of the government should remain largely that of providing advisory services and development incentives. It appears that there is a great need for building up appropriate business environments for small scale industrial proprietors in the country. Social as well as economic incentives to

encourage the emergence of self-employed proprietors and industrial cooperatives must be worked out in accordance with the broader principle of Tanzanian nation building. Heavy subsidies by the government in an attempt to develop small scale industries quickly would not benefit the nation's long term development: it would tend to deprive people of their determination to develop. The incentives which the government provides would lie more importantly in clarifying the roles of private small scale industries in the committed politico-economic framework of the government rather than in the provision of subsidies cum protective measures for the small scale industries as a whole.

Development efforts of the government should concentrate on priority industries and techniques rather than covering all fields thinly. Such concentration is desirable as the resources available for the small scale industry development are very limited. Thus, we recommend the development policies of the government be concentrated in the following areas: (1) better utilization of existing facilities, (2) technical and managerial training of existing and prospective industrial proprietors and workers, (3) the development of marketing systems and (4) the provision of financial resources.

#### 1. Better Utilization of Existing Production Facilities

As we discussed in the previous chapter, there are many plants and workshops where the productive capacity is not fully utilized at the present time. Therefore, priority should be given first to increasing the rate of capacity utilization and then to establishing new industrial units. Some measures of increasing the utilization rates of productive capacity cannot be formulated on the regional level. For instance, import policies are determined by the Central Government, and import licenses are issued by the Central Bank. Price controls, through control of prices of commodities and services, are carried out by the Central Government. Some of those are, of course, important causes of the under-utilization of productive capacities in the region and should be examined on the national level. There are, however, a number of factors which are manageable on the regional level. For example, a regional government can establish an efficient distribution system for manufactured products to stimulate effective demand, and a scheme whereby some under-utilized machines and equipment be purchased by industrial cooperative societies, which might in turn specialize in activities based on the use of those machines and equipment. In short, various causes of capacity under-utilization in the region should be sorted out and be removed with the help of both the regional government and the small scale industrialists through a variety of methods, of which some are mentioned above and elsewhere in this chapter. In fact, the very effort of this sort would lead to simultaneously identifying the types of industries to be newly promoted in the region.

#### 2. Technical and Managerial Training

As pointed out often in the previous chapter, the present level of technology in the small scale industrial sector is at a primitive level. Obviously this problem has to be solved by giving high priority to the progressive development of suitable and appropriate technical skills among small scale industrialists in the region. It should be clearly borne in mind that the suitable and appropriate technical skills do not imply that the small scale industrial units be kept in regressive and backward technical conditions. For example, a craftsman can enhance his productive capacity by learning how he can command such skills as accurately measuring and scaling in precision work. Once he masters skill in precision work, the quality of his products will be controlled easily, resulting in widely opening his market to include institutional demand. Then he would be encouraged to purchase more sophisticated machines and equipment. Naturally and additionally, in this process, he would be obliged to feel the

need to improve managerial skill to properly run his business.

It is exactly for this reason that the development strategies should be formulated in such a way as to mobilize large numbers of the unenumerated self-employed, family workers and employees in the 'informal sector' in terms of technology up-grading. The activities of the 'informal sector' are often conceived as economically marginal, less efficient and beyond the law since they are not often registered. However, far from being marginally productive, the bulk of the self-employed and employed people in the sector are economically efficient and profit-making, though small in scale and limited in technological level due to having little capital and lacking links with the modern industrial sector. They offer virtually the full range of basic skills needed to provide goods and services for a large, though often poor, section of the population.

Technology up-grading normally is performed through training and advisory services. Our attention is now drawn to the need to provide the self-employed private entrepreneurs with greater opportunities for acquiring and improving skills so that they could more actively participate in the industrial development of the region. However, we should be aware that training may not contribute to the development of regional economy if its method of approach is mistaken. We have seen in many developing countries that formal industrial and vocational training institutions ironically are turning out large numbers of unemployable persons since such training tends to be carried out with very expensive, modern and sophisticated machinery and equipment which are usually beyond the reach of ordinary small scale industries in those countries. This means, in essence, that those training institutions merely function to subsidize on-the-job training cost for larger-scale industries. This type of failure in training should be avoided by all means. In this connection, it is necessary to place great importance on differentiation of training contents for the present - in the short run - and for the future - in the long run.

The training strategy for the present should emphasize technical upgrading to perform precision work and simple managerial training, such as bookkeeping and cost analysis for those presently engaged in manufacturing activities. In formulating training programs, it should be crucial to take into account the fact that the trainees of the program are busily engaged in daily productive activities and cannot be taken away from their factories because they would be deprived of income. Therefore, the training programs for the present must be carried out as on-the-job training.

The training programs for the future should aim at introducing new branches of industrial activities to the region including the youth vocational training on a formal basis and in an institutionalized setting. Some new, high-priority industries can be developed through provision of financial incentives and technical training, but those urgently needed should be established on the pilot plant basis, i.e., the plant is built in the beginning at government expense as a training ground for prospective workers, and the premises is later purchased by the workers when they have acquired sufficient managerial and technical skills.

The selection of new industries is primarily made by considering locally available resources and the markets of end products. However, attention should also be given to establishing new industries which will strengthen the repair and maintenance facilities of production tools, equipment, machines, and transportation facilities. This calls for a super-regional approach to the long-term development of small scale industries in the region, including a wider area, such as the Arusha-Moshi-Tanga axis. To start with, high priority should be placed on developing parts production metal industries in Kilimanjaro Region. At the present time, no foundry exists in this axis which has Moshi at the center. If we can



start now to promote three related industries; namely, a foundry, a wood-pattern shop and a machine shop, all on the pilot plant scheme basis, it would certainly serve to strengthen the industrial base of the region. All three require a high standard of skill mix although they can easily be operated at a small scale. Unless the parts-producing metal industry is established in the region, the rest of the industries would inevitably continue to depend on imported parts. *More importantly, parts manufacturing is the first step of the evolution of more sophisticated metal industries like the production of simple machines and equipment. Also, it will contribute to a significant extent to reduce the under-utilization of productive capacity owing to long periods of idle time following mechanical breakdowns.*

### 3. The Development of Marketing Systems

Marketing problems loom large in most of the small scale industries in the region. However, various markets in the region have not yet been fully integrated for the development of small scale industries. The institutional demands for such products as school uniforms and furniture, housing construction materials in ujamaa villages, and drainage and road construction materials, will comprise a large market for many small scale industries in the region. *To illustrate this, let us take the slope of Mt. Kilimanjaro. There, roads are often impassable and many rural communities become isolated from the rest of the nation. The improvement of roads would thus be of vital importance and an urgent necessity in the region. The protection of roads from erosion by seasonal rivers floods, and the maintenance of roads which are heavily damaged by water flowing on the road surface needs a great deal of cement-based products. Therefore, the task is to channel manufactured products by small scale industries into appropriate specific markets through better organization of production units as well as institutional demands.*

In this respect, public trading corporations, particularly the Kilimanjaro Regional Trading Corporation (KRTC), should be advised to establish a purchasing program for specific commodities from the small scale industries in the region. In a planned economy like Tanzania's, the public sector, as mentioned above, constitutes a large part of the national and regional markets for manufactured products and construction materials. Therefore, once a localized marketing system for institutional demands is established, small scale industrial activities will be substantially strengthened.

### 4. Provision of Financial Resources

The development banks such as the TRDB and the TIB should participate more actively in providing financial assistance to small scale industries and industrial cooperatives. We are fully aware of the constraints arising from the manpower shortage in terms of both quality and quantity in handling loan/credit operations for small scale industrial development. Needless to say, the funds are limited. However, there are still a number of things which should be immediately adopted so that the efficiency of the loan/credit administration be improved. For example, the upper limit to the size of loan for discretionary decision by the regional office level can be raised in order to make loans more widely and readily available to the small scale industrialists. A mechanism of quicker disbursement of approved loans should be established.

In addition, a hire-purchase system as an indirect form of loan/credit provision should be developed with some caution. A hire-purchase scheme in developing countries often does not function well owing to various reasons. Among them, the most critical seems to be the disintegrated system of scheme operation. In its simplest form, a development bank disburses money to a supplier, and the

supplier sends a machine to a loanee, and the loanee soon breaks it and gets indebted without being able to repay the loan. If, however, a development bank assists loan applicants in selection of suitable machines, and a training institution supervises the proper use of the machines, and a supplier renders regular maintenance and repair services, the vicious circle of a hire-purchase scheme would easily be eliminated. In other words, the loan administration of development banks must become an integrated part of small scale industry development in close collaboration with other development agencies in the region and in the country as a whole.

## V. DEVELOPMENT POLICIES

The development strategies outlined in the previous chapter must now be spelled out as a set of development programs. Those policies in the development programs we propose are presented below in four categories: planning, training, organization and promotion.

### 1. Building up the Information Basis for Industrial Planning

The present planning capacity can be easily strengthened without any substantial additional allocation of resources to the planning machinery of the region if the system of information collection is improved. Thus, we propose the following programs to the planning machinery of the region.

#### 1.1. Multi-purpose use of licensing system

Tanzania has a licensing system for commercial, industrial, and transportation enterprises. In principle, no business operations can be begun unless a license has been obtained from an appropriate government office, which is often the district or municipality council. So far, the licensing system has been used solely for the purpose of collecting revenue, and thus, licenses are issued at the revenue offices. Every year, proprietors and corporations, companies and partnership enterprises, must apply for a license by submitting a completed application and paying the fees. The application form now in use requires the applicant to give such items of information as the name and address of applicants, type of business, and branches of business activities. Submitted applications are filed at the revenue offices, and are not processed in any form at the present, thus the valuable information they contain is not utilized for planning purposes for the non-agricultural sector.

We hold the view that the licensing system should be improved to make it possible to provide necessary information to the offices of industrial and commercial administration for purposes of planning and providing assistance. This licensing system can be used to produce an annual census of all the industrial, commercial and transportation establishments. The value of such a census is beyond dispute. For this purpose, the application form must be changed so that it includes items like the number of employees or persons at work, values and types or kinds of capital investments, the nature, value and quantity of major commodities manufactured, raw materials purchased and sources of supplies, markets of the commodities produced and an inventory of stock.

One may argue that the existing proprietors, particularly those in the informal sector, would not be able to provide accurate information on those items. It may be true, indeed. But those applicants would not be left alone for completing the application. The proposed industrial extension system should assist the applicants to fill out the more-complicated application form. In any case, the applicants should certainly acquaint themselves with their own business situation, and expansion of the application form contents as suggested here would give them an additional person to do so. In addition, the practice of filling the form, once a year, will make them more aware of the changes in their business over time. In other words, the proposed change in the licensing system would have some training implications.

It may take a few years or more to successfully implement the program, and it is to be expected that in the early years many applicants will be unable to provide required information.

However, we consider that even a slight improvement in the application form would give basic information required for planning purposes. Thus, the integration of the revenue function and the planning function in the licensing system should be started as soon as possible.

### 1.2. Register of establishments

The presently available register of establishments in the region appears to be out-dated. In fact, we were given a list of industrial establishments at the office of commercial and industrial administration. But the list is almost three to four years old, and seems to be incomplete.

We thus advise the regional government to prepare a register of establishments in the region on the basis of the most recent license application forms. The register would be different from the census in that the former contains the address, the owner or the type of organization as well as the line of products for each firm. As the country and municipal councils are responsible for licensing, it may be possible to request the local councils to prepare up-to-date lists of firms in respective administrative areas on the basis of the application of the licenses.

### 1.3. An inventory of production capacity of the region

We noticed that a considerable part of production capacity is not fully utilized in the region. Many machines and pieces of equipment are left idle in a number of industrial firms. We observed also a number of machines and equipment which easily could be made usable if they were repaired. Those under-utilized or non-utilized machines and equipment would be very important sources of the second-hand machinery markets.

It is, thus, of crucial importance to have thorough information on the existing production capital assets and their rates of utilization in the region for making a rational development plan for the industrial sector, including small scale industries, as a whole. As mentioned already in the proposal for improving the existing licensing system, it would be possible for the government to make it obligatory for industrial license applicants to submit annually, detailed lists of installed capacities of applicants' plants. If this makes for too much complication in administering the licensing system, it would be a reasonable alternative to collect the information once, say, every three years. There is good reason to believe that private industries which may have idle capacity would be relatively larger plants which employ competent clerks who can fill out the required forms. Also, the number of existing plants in the region, both large and small, would not be so many as to make the processing of collected data beyond management. If the regional office feels that the proposed inventory of productive capacity would increase the office load to an unmanageable extent, it then would be advised to consult with the University, employing members of its staff as short-time consultants to the planning body of the region. As an alternative, the National Service of the university graduates who are natives of the region may temporarily be mobilized for this task, and the final analysis of the collected data may be entrusted to the relevant faculty of the University or Technical Colleges.

## 2. Training and Advisory Services Programs

As stated in the preceding chapter, training and advisory services are of crucial importance for the development of small scale industries in the region. Training and advisory services programs can be divided into two groups; one for on-going industrial establishments and the other for forthcoming industrial entrepreneurs.

## 2.1. Training and advisory services for current industrial proprietors and workers

The diffusion of advanced know-how in agriculture has been greatly facilitated by the system of agricultural extension services. It would be useful to establish a similar extension service system particularly designed for the promotion of small scale industries in the region. However, the kinds of technical expertise involved in the small scale industries are so numerous that it would be practically impossible to designate a single person to provide all-round technical competency in various production lines. However, in the area of management substantial commonality exists among different industrial groups. Thus, training and advisory services will be conducted by groups of experts to suit the differential demands and supply capabilities. There would be three identifiable groups: (1) management and marketing advisory core, (2) extension workers' unit, and (3) mobile technical training unit.

### (1) Management and Marketing Advisory Core

This is the central coordinating unit for all training and advisory services activities to be undertaken for presently engaged small scale industrial workers cum managers. The core will be manned by a small number of well-qualified management and marketing experts. Its functions include, in addition to the management of these training and advisory services units, the provision of expert advice on difficult management and marketing problems which cannot be adequately handled by regular extension workers, which will be described below. For example, they will provide guidance as to the layout of factory premises, selection of machines and equipment, enlarging product markets beyond the regional boundary, and making diagnoses of the health of enterprises.

*In addition, this unit will provide training for prospective industrial extension workers who will be recruited within the country. Furthermore, it would not be unreasonable to assume that the team of management and marketing experts may well function even as an advisory body to the regional planning office.*

### (2) Extension Workers' Unit

Thus, the major function of the industrial extension would be limited to providing services for common problems for all small scale industries in the region, which are largely of management and marketing in nature.

These are abundant indications that the provision of sufficient knowledge of bookkeeping and accounting to the proprietors of small industries increases the efficiency of management. Also, they need to know opportunities and methods of tendering a contract for institutional demands, of loan applications, and of marketing beyond a limited locality. Thirdly, they should be given a channel of expressing their views and grievances to the government. In addition, upon familiarizing themselves with the situation of each establishment within the area of responsibility of each extension worker, they will identify those establishments which need technical training and request the services of the mobile technical training unit.

The recruitment of industrial extension workers would be primarily made from the secondary school graduates in the region. They will be screened and those who have passed the screening will be given an intensive three-month course prior to starting of the service. Considering the present

number of the small scale industries existing in the region, an initial intake of trainees would be limited to 10 candidates at most, and the number thereafter would be increased according to the need. To begin with, the Moshi Cooperative College would be entrusted to train those candidates in consultation with the Management and Marketing Advisory Core.

### (3) Mobile Technical Training Unit

Although many proprietors of small industries may wish to participate in formal training programs for skill development, it is not so easy for them to leave their jobs for training since it often means a loss of income. We believe that the on-the-job training at their working places is one of the most useful methods of training the existing proprietors of small scale industries. Therefore, we recommend to establish a mobile technical training unit. The unit will be equipped with four-wheel-driven long-size land rover/cruisers and with a set of relevant tools and equipment for different industrial branches, for example, blacksmithing, woodworking and repairing of vehicles. The training on the job will be focused on three aspects of manufacturing and repairing. One is to economize in the use of raw materials. Most of the currently manufactured goods in the small industries in the region tend to unnecessarily use large quantities of materials. For example, beds and chairs would be easily made by use of a much smaller quantity of wood than presently used if joining and fixing techniques can be improved. Some metal sheet products appear to use an unnecessary amount of materials. By introducing proper use of tools and equipment and better designs of products, a number of goods produced by small scale industries can conserve quite a good deal of raw materials without sacrificing durability of the products. Secondly, the mobile unit will stress the essential importance of work precision in the manufactured goods in the region, so that it will eventually achieve quality improvement and standardization of goods. Thirdly, it will identify critical technical skill gaps in each of the small scale industries. This will help industrial planners for the region to identify the course of future technical training programs for small scale industries.

The mobile unit will thus play a complementary function to the industrial extension services which will primarily be concerned with the improvement of managerial aspects of small industries. They would work together at local centers of commercial and industrial activities in the region, in which the industrial extension workers are guiding the mobile technical training unit through their intimate knowledge of the locale.

Although the recruitment of clients will be done on the basis of requests made by extension workers priority may be initially given to such industries as those which are organized as industrial cooperatives, and/or are directly involved in the supply of institutional demand. However, priorities should be reversed in accordance to the changing structure of regional economy.

The recruitment of the staff members of the mobile technical training unit should be from those workers who have passed higher grades of national vocational tests. It will be necessary to have some internationally recruited experts in the early stage of mobile technical training unit operation, and the locally recruited workers will be assigned as their counterparts.

## 2.2. Youth Training for Prospective Industrial Proprietors and Workers

A large number of young workers are engaged in the informal sector, learning basic skills

in various trades. If they can be given proper training in both technical skills and management, they would become a significant source of supply of competent industrial proprietors and workers. At the present, the absence of formal training tends to limit the growth potential of the youth since the technical level of the informed sector is deplorably low, particularly in providing the youth with the sense of precision work. It is of vital importance to launch a formal training program for young workers in the region, if the industrial sector is to grow in the region. Therefore, we propose to establish a new youth training program in conjunction with the establishment of new industries on the pilot plant basis.

The training program should take the form of retraining of young workers who have at least a few years of practical experience in manufacturing and repairing activities. The training is aimed at widening their production lines so that the variety and ranges of product mixes in the regional industrial sector be enlarged. In order to carry out the training program at as low a cost as possible, the actual training would be combined with directly productive activities in the newly-created pilot plants on the basis of collective and cooperative principles. The training program would be divided into three phases. For the first year, the trainees will be taught theoretical and practical aspects of production techniques at the classroom and workshop. In the second year, elementary management will be added to the trained program, and they will be organized into an industrial cooperative. During the third year, the management of the pilot plant will gradually be transferred to the trainees' industrial cooperative, although still under the supervision by the trainers. By the end of the fifth year, the industrial cooperative will become a completely independent plant.

The trainees should be paid the minimum wage which will in turn be used for payments for board and accommodations. However, the payments of wages should cease by the end of the second year when the trainees are allowed to make their earnings out of their products, and a compulsory saving program will be introduced for getting the ownership of the plant transferred to them on the basis of the hire-purchase arrangement. Some amount of grant might be needed for the transfer of the plant at the end of the fifth year of operation, but it should be kept as low as possible.

The training program should be changed in accordance with the need of diversifying industrial activities in the region. But, the principle of the three-phase structure in the training programs should be maintained, with the duration of each phase adjusted to the nature of industrial activities. For example, metal industry would require a longer training period than woodwork industry. The timing of the transfer of the pilot plants would not be uniform because of the apparent differences in skill requirements.

This Youth Training Program will be undertaken by a group of experts in technical, managerial and marketing fields. Much of the expertise needed can be supplied from the Management and Marketing Advisory Core and the Mobile Technical Training Units. However, depending upon the type of technical requirements for the pilot plant there is a possibility that one or more additional technical experts must be recruited specifically for this program.

### 3. Organizational and Administrative Policy Needs

From the foregoing analyses presented in previous chapters, it is clear that the organizational systems within an industrial establishment itself, particularly of a cooperative, and between industrial establishments and clients need to be improved. -

In the case of industrial cooperatives, no clear government guidance is provided on how to organize an industrial cooperative beyond the value which is attached to getting together and working together. However, the success or failure of an establishment crucially depends upon the judgement of each participant on joining in a cooperative. At the present time, the principal benefit of joining in a cooperative appears to be the priority, placed by the government and the consequent subsidy. As a result, industrial cooperatives are producing, generally, poor goods at higher costs. These deficiencies can be removed by improving the organizational rules within cooperatives. The government should start providing specific guidance on this matter.

Another area of concern is the link of small scale industries to institutional demand. At present moment, the existing institutional demands are not fully utilized for the development of small scale industries due to administrative deficiency.

It is not unusual at all that most small scale industries would face the danger of bankruptcy, if they get a contract from the government on the basis of the local purchase order slips. It takes a month--often longer than a month--to get the LPO slips cashed at the government office. Small scale industries cannot bear such a financial burden since they typically suffer from the lack of finance. It is thus of great importance to improve the payment system for institutional contracts. The removal of this deficiency alone would function as an important tool for boosting the development of small scale industries. Guaranteed and quick payments would often prove to be a much more effective tool than credit provisions in assisting small scale industries.

In addition to the improvement in the payment system described above, the opportunity of supplying institutional customers must be widely publicized. This can be done through the use of the proposed union of industrial cooperatives. The government should try to program a schedule of institutional orders in advance, so that industrial establishments can prepare themselves for the tender.

Another policy which deserves attention is a guaranteed purchase program through the Kilimanjaro Regional Trading Corporation. For certain manufactured commodities which can be produced in accordance to standard specifications, the KRTC should establish a guaranteed purchase program through the proposed Cooperative Union, which would assume the responsibility for quality control of products produced by the members. Such a purchase program would have a great impact in the promotion of small scale industries.

Such a guaranteed purchase program is not without problems. One is the possibility of overproduction. To avoid it, the guaranteed price should not be fixed legally, but be left to the discretion of the purchasing organization, with changes to be announced sufficiently in advance.

#### 4. Promotion of Industries

We have examined the development potentials of various categories of small scale industries in the region, and identified more than ten industries which are considered to have good development potential. They have been selected largely on the basis of technical requirements, the demand within the region and marketability to outside of region, and, the production costs, as these factors determine the profitability of each industry. However, each one of the factors has been examined carefully on the basis of additional factors such as the linkages to other existing or proposed industries, the availability of materials within or nearby the region, comparison of feasible alternative technolo-



gies, the degree of savings in foreign exchanges, and so forth.

For the purpose of formulating promotion policies, we have divided those high priority industries into three groups: one is a group of new industries to be created, the second is the group of existing industries which should and can be expanded and improved, and the third is the group of industries which can be transferred from large scale industries to small scale industries in the form of subcontracting.

As to policy instruments, for creating new industries, we propose that the pilot plant approach be employed as a primary instrument, while for the expansion and improvement of the existing industries, the industrial extension services and mobile technical training will be the primary instruments. Management and marketing advisory services will be commonly provided to the two groups. The third groups should be promoted in a similar manner as the first.

The industries which have been identified as having development potential are the following:

- (1) New Industries:
  1. Foundry
  2. Wood Pattern Shop
  3. Scrap Metal Sorting
  4. Knitting Shop
  
- (2) Existing Industries to be Expanded and Improved:
  5. Blacksmith for Manufacturing Agricultural Tools and Equipments
  6. Machine Shop for Light Metal Engineering
  7. Carts/wheelbarrow Manufacturing
  8. Tin and Zinc Smith
  9. Construction Woodwork Shop
  10. Furniture and Fixtures Shop
  11. Sandals Shop
  12. Tailoring Shop
  13. Cement Products Shop Manufacturing L-shape and flat construction materials
  14. Pottery Shop
  15. Vegetable and Edible Oil Manufacturing from Castor and Sunflower Seeds
  
- (3) Subcontracting Small Scale Industries;
  16. Industrial Glove Manufacturing for the Tanzanian Tannery Company
  17. Curio and Souvenir Manufacturing for the Tanzanian Taxidermy Company

Estimates of investment requirements and possible returns to the investment for those proposed industrial promotion are given in Appendix A. However, a short explanation will be needed for each of those proposed industries.

**(1) and (2) Foundry and Wood Pattern Workshops**

Foundry and wood pattern workshops are proposed to be established at the industrial estate. The two workshops are mutually dependent in production. The foundry will produce intermediate mate-

Table 5.1  
Summary of Basic Data of Promoted Industrial Units

Industry No.	1	2	3	4	5	6	7	8	9
Industry Name	Foundry	Wood Pattern	Scrap Sorting	Knitting	Blacksmiths	Machine Shop	Carts	Tinsmiths	Woodwork
Investment Cost (Tshs 1000's)	110	83	120	48	93	485	160	145	82.
Building	90	63	60	20	63	125	125	100	72
Machinery	20	20	60	28	30	360	35	45	10
Workers (persons)	20	18	20	14	20	20	30	20	20
Investment/worker (Tshs/p)	5,500	4,583	6,000	3,393	4,625	24,250	5,333	7,250	8,600
Annual Gross Sales (Tshs 1000's)	403	350	266	361	269	328	336	353	343
Annual Production Costs (Tshs 1000's)	318	279	218	284	242	393	326	324	305
Wages and Salaries	98	90	82	74	98	98	138	98	82
Material Costs	161	140	93	162	102	193	118	168	165
Others	59	49	43	48	42	102	54	58	58
Net Profits (Tshs 1000's)	85	71	48	77	27	35	26	29	38
Normal Rate of Return to Investment (%)	77	86	40	161	29	7	16.5	20	22

Table 5.1  
Summary of Basic Data of Promoted Industrial Units (continued)

Industry No.	10	11	12	13	14	16	Simple Total	Simple Average	Simple Average without (6)
Industry Name	Furniture	Sandals	Tailoring	Cement Products	Pottery	Gloves			
Investment Cost (Tshs 1000's)	82	100	107	80	145	95	1,935	129	104
Building	72	60	70	50	125	60	1,155	77	74
Machinery	10	40	37	30	20	35	780	52	30
Workers (persons)	20	20	21	30	20	20	313	21	
Investment/worker (Tshs/p)	4,100	5,000	5,338	2,667	7,250	4,750	-	6,470	5,256
Annual Gross Sales (Tshs 1000's)	196	265	562	314	294	294	5,034	336	
Annual Production Costs (Tshs 1000's)	182	241	449	295	230	258	4,335	289	
Wages and Salaries	82	82	108	122	98	82	1,432	95	
Material Costs	69	119	265	125	88	132	2,116	141	
Others	31	40	76	38	44	44	787	52	
Net Profits (Tshs 1000's)	14	24	113	18	64	36	698	47	
Normal Rate of Return to Investment (%)	18	24	106	23	44	38	-	34	

rials for blacksmith and machine shops by supplying cast iron, aluminum alloy and copper alloy. The wood pattern shop will manufacture casting molds made of wood, which will be used for casting molten metal to shapes of parts for ploughs, wheelbarrows, hand pumps, sanitary fittings, water valves etc. Those will be supplied to machine shops for final processing if necessary, and to blacksmiths for assembly. Therefore, the pilot plants for the foundry and wood pattern workshops will play double roles: one is to introduce those new productive activities in the region and the other is to foster the diversification of the product mixes of metal-related industries in the region. In addition, the wood pattern shop would supply patterns to the cement products shop, and some elements of its productive techniques are also directly applied for improving the current level of production techniques in the construction wood works, and carpentry in the region. Therefore, the pilot plant can also be utilized for on-the-job training for those related industries.

### (3) Scrap-Metal Sorting Industry

During our survey in the region, we have seen various broken machines and equipment thrown aside in factories, fields and road side. They were abandoned, to rust and disintegrate. This is indeed a waste of precious resources, especially in a resource-scarce country. With introduction of a foundry shop, such scrap metal can be used as productive inputs, and this process requires a scrap-metal sorting industry. Although these scraps cannot fill the entire material demands of foundry shops, blacksmiths, tin-and-zinc smiths and machine-and-repair shops forever, the presently available scrap would be sufficient for meeting the demand for some 10 years.

### (4) Knitting Mill

A knitting mill as a pilot plant is proposed with special consideration of climatic conditions in the highland of Kilimanjaro Region where well over a half of the regional population concentrated. Major items of production are pullovers and sweaters, the market which does not compete with the existing textile industries in the region. Treadle-driven industrial knitting machines are relatively cheap and the training period for the operation of the machines is rather short, and the job is particularly suited for women workers. The pilot plant seems to have a good potential market and the shop is particularly suited to the cooperative form of organization.

### (5) Blacksmith

According to the study quoted in Chapter 3, there exist more than 22 blacksmith shops in the region. Most of them are, however, operated on a part-time basis. This is considered to be due to two main constraints, the low level of demand and the supply shortage of raw materials. Therefore, if these constraints are removed, this industry will substantially be expanded. The former constraint can easily be removed as it is quite conceivable that demand for agricultural tools and equipment such as hoes, spades, shovels, axes and hatchets will be expected to be greatly increased, in view of the high national priority assigned to the agricultural sector. The latter constraint can be removed, without worsening the balance of payments, by utilizing scrapped cars and machines which are presently left idle to rust.

### (6) Machine Shop

The machine shop for light metal engineering primarily has the purpose of repairing various machines and equipment. Larger industries like the Tanzanian Planting Company and the Tanzanian Tannery Company are mechanically self-contained, having their own sophisticated modern industrial machine shop. However, almost all the machine shops and repair shops in the town do not utilize their machines at full capacity, because they cannot repair them owing to short supply of parts and the low

level of technical skills needed for repair work. Therefore, a model machine shop is urgently needed in the region not only for the sake of training poorly skilled mechanics but for providing repairing services of machines and equipment for small scale industrialists. Thus, a high quality machine shop is urgently needed, but it requires an enormous amount of capital investment and highly qualified technical experts. Therefore, we propose that a machine shop be established as a facility both for the proposed training activities and also as a part of the proposed industrial estate.

#### (7) Cart/Wheelbarrow Manufacturing

The presently existing vehicle manufacturing industry in the region is of the nature of carpentry. Carpenters collect metal wheels and bars from, say, scrapped cars and wood materials, and all they have to do is to put them together. This is what is normally done in every part of the region. Naturally, the product is poorly made and is subject to frequent breakdowns. As a result, small scale transporting within the region is very difficult. An introduction of handy means of transporting, for example, by carts and wheelbarrows would certainly remove substantial part of transportation constraints which are currently preventing faster growth of agriculture as well as small scale industries. Therefore, it is recommended that carts and wheelbarrow manufacturing should be given serious attention. With the proposed introduction of a foundry shop and a woodworking shop, technical constraints for the development of this industry would be totally removed.

#### (8) Tin and Zinc Smiths

The tin and zinc smiths are engaged in producing small metal containers, household utensils, oil lamps and metal lanterns. For this production, zinc and tin plates have to be imported as raw materials. However, because the technical know-how for these activities is not too difficult to learn, domestic processing is encouraged. This is essentially an import-substituting industry and can depend upon the currently existing demands. In addition, the domestic demand is expected to increase in accordance with up-grading of the standard of living through rural development.

#### (9) and (10) Construction Woodwork, and Furniture and Fixtures Shops

There exist two carpentry based industries in the region in addition to the cart/wheelbarrow manufacturing industry; the construction woodwork and the furniture and fixture shop. This, particularly in the Rombo and the Pare Districts, is suited for these industries as the slope of Mt. Kilimanjaro produces abundant hard and soft wood of good quality. Consequently, a substantial number of workers are currently engaged in these industries. But, in order to take full advantage of the natural resources and the available skills, there is a need to provide more formal training and better equipment. Then, the woodwork industry would become an important export industry of the region, servicing the demand in the Coast Region and the interior. Possible products of the construction woodwork industry are window frames, windows, door frames and doors, and those for the furniture and fixture industry are school desks and chairs, office desks and chairs, tables, beds, benches and closets.

#### (11) Sandal Shop

Leather shoes and sandals are produced by a few large shoe factories outside the region as well as small veranda shoe makers in townships of the region. One of the aims to promote the sandal industry in the region is to supply the rural population with cheaper and more practical footwear. It is frequently observed in the rural areas that quite a few people do not use footwear. We understand that this is mainly because most shoes and sandals are too expensive. As raw materials are abundant in the region and can easily be procured locally and from the Tanzanian Tanneries Company, it must be possible to manufacture sandals cheaply for popular use. Expansion and improvement of this industry

would be beneficial to local people not only from the economic and industrial points of view but also by improving the standards of living.

(12) Tailoring Shop

Tailoring industries in the region are mostly of the veranda-tailor type. Even today, veranda tailors seem to be in oversupply. However, our contention is that presently existing veranda tailors are providing services to individual custom orders. Consequently, there still remain large individual and institutional markets for semi-standardized and relatively inexpensive articles such as shirts, slacks and blouses. It should be desired that several veranda-tailors can get together and start this business.

(13) Cement Products Shop

The cement industry is engaged in producing low quality cement blocks which are used only for house walls. The reason for this low quality is believed to be due to the low quality of sand used which contains a high percentage of clay and mud, and the sparing use of cement. It is, therefore, fairly easy to up-grade its quality by obtaining high quality sand from the slope of Mt. Kilimanjaro and some other sources in the region. Once this is done, those industrialists can diversify their products and possibly start producing technically more sophisticated products such as L-shape drainage and flat construction materials for public works.

(14) Pottery Shop

The pottery industry is popular in the Pare district. One of the district characteristics is that the pottery production is done exclusively by women. Another is that productive activities are only possible during dry seasons when pottery clay is dryable and firewood is available. The technical level, however, is very low and primitive. Even a potter's wheel has not been introduced. Thus, substantial quality improvement can be achieved through training, and improving production methods. Although presently-produced products are limited to water pots, some diversified products such as bowls, cups and roof tiles can be easily produced. In the future, this industry should be developed to porcelain industry which produces better quality, more durable products.

(15) Edible Oil Manufacturing

Vegetable and edible oil production is considered for ujamaa village industry. Much of the castor beans which grow wild are not utilized at all. If school children can be mobilized in collection of castor beans, the quantity collected should be sufficiently large enough to produce castor oil by simple pressing equipment. The castor oil thus produced then can be sold for refining. If each farm household in a ujamaa village agrees to plant ten to twenty sunflower plants in their back garden they can collectively obtain a large quantity of sunflower seeds from which they can extract oil, and the waste can be used as fodder. It seems to us that the ujamaa villages can easily start such vegetable and edible oil production in a small quantity at the beginning, and, then, when they are more fully acquainted with the production and marketing, they can expand the scale of production through investment in more equipment. Although the vegetable and edible oil production has been suggested many times in the past, no project has been attempted in the region. This is partly because too a large project was sought from the beginning. However, the vegetable and edible oil production can be implemented without difficulty on a village industry basis if the inhabitants of a given ujamaa village are willing to organize themselves for the implementation of a small project. Also, it should be mentioned that the extracting equipment is a simple one which can be manufactured by the blacksmith and machine shop in the region with the help of the foundry and wood pattern shops.

(16) Industrial Glove Manufacturing

Industrial gloves are now produced by the Tanzanian Tannery Company. The overseas markets have been secured by the company, and they are expanding. If quality control can be successfully implemented, the company is willing to offer sub-contracts to local manufacturers, and in such cases some technical assistance can be provided by the Company. In view of these favorable conditions, an industrial cooperative should be organized for obtaining sub-contracts from the Company. The government should provide substantial assistance during initial stages.

(17) Curio and Souvenir Manufacturing

Leather and hide curios and tourist's souvenir manufacturing is now actively carried out by the Tanzanian Taxidermy Company near Arusha. Since it is producing high quality and expensive products, a large quantity of small pieces of good leather and skin is now wasted. It is quite conceivable for the traditional village wood-based crafts to use this waste leather and hides in order to produce good curios and souvenirs. What is needed is good design and product quality. While the Tanzanian Taxidermy Company will make high quality and expensive curios, the village crafts industry can concentrate on small pieces of wood-cum-leather and skin curio.

## 5. Industrial Estate Development

We agree in principle with the proposition that the establishment of an industrial estate is one of the most effective approaches for accelerating small industry development. It will enable the development agencies to offer concentrated actions to clients in the estate by rendering advice, training, marketing and financial assistance. On the other hand, we are rather cautious in supporting the industrial estate approach in Kilimanjaro Region on the following ground. First, the presently available quantitative and qualitative information regarding the situation of small scale industries in the region is too scanty and too inadequate to identify the client industries to the estate. Secondly, there is a tendency of creating a lucky few in the industrial estate approach who would endanger the existing small scale industrial enterprises and proprietors by taking advantage of being protected and subsidized. Thirdly, it is not certain, indeed, whether potential clients will come out *immediately* to occupy the premises in the estate as soon as the estate is ready for occupancy and, consequently there is a high likelihood of the premises or part of it, being unoccupied for a long time. Fourthly, in designing an industrial estate, it is usual to build premises before the potential clients and their industries are fully identified. Thus, most of the industrial estates in developing countries tend to have a number of premises of the same space for all varieties of industries. This, then, often ends up offering too-small premises to some industrial units and too-large premises to other industrial units.

We therefore suggest to build an industrial estate with great caution. Our proposal is as follows: First, develop pilot plants for those industries which are not existing but are urgently needed. Second, use the pilot plants as a training ground for creation of the required skilled manpower. This is the approach adopted in the Second Five Year Plan for the promotion of small scale industries in Tanzania, and we believe that *this approach is the most relevant one* in order to establish an industrial estate within the region. In other words, an industrial estate will eventually emerge when a number of pilot plants are converted to industrial cooperative societies at a specific location in the region. In addition, it is quite conceivable that industries related to the pilot plants will be attracted to the same area in due course as competent skilled manpower in technical and managerial aspects in increased through training at the IDCK. They should be invited to join the industrial estate in order to strengthen the complementarity of industrial operations. In other words, the industrial

estate we contemplate is based on the two propositions: new industries can be housed in the industrial estate in the beginning and the pilot plant approach will be used for developing new industries.

We propose that the transfer of an pilot plant to an industrial cooperative society must involve a contract for payments of the initial capital investment by the industrial cooperative to the government over a certain fixed period. Detailed conditions must be worked out, but the principle of the purchase of the plant by an industrial cooperative must be firmly maintained, although there may be a grace period, and interest payments may be subsidized according to needs.

## 6. Industrial Cooperatives Development

In view of the serious organizational weakness of the industrial cooperative societies, a three-tier system of cooperatives organization is proposed so that individual cooperative societies are effectively linked with each other for common purposes. At a level above the primary cooperatives, we recommend Cooperative Unions be established at the Regional as well as District levels.

*Primary cooperatives* will be engaged in production. An elected manager of every primary cooperative will be required to attend management and marketing training programs which will be conducted at the IDCK, and an elected treasurer will be requested to participate in a training course on bookkeeping and elementary accounting at the IDCK. Also, an elected representative of the members will be asked to join a technical training program at the IDCK. Those attending training courses are assumed to play a role of facilitators of diffusion of new know-how by organizing periodic meetings at the respective primary cooperative, where they are obligated to report and discuss training contents. They also will be requested to report to the IDCK about the contents of the discussion held at their primary cooperatives. In this way, elected participants to various training programs will perform as transmitters in two-way communication processes between the training institution and workers.

*District Industrial Cooperative Unions* will be organized by the primary industrial cooperatives in each district, and will equip themselves with one or more lorries. A primary function of a District Industrial Cooperative Union is that of collection and distribution. It will transport goods produced by primary cooperatives to marketing agencies and retail/wholesale dealers, and raw materials which will be purchased in bulk from the Regional Industrial Cooperative Union and/or Kilimanjaro Regional Training Corporation to the primary industrial cooperatives. Quality control measures will be carried out by the District Union at the time of collecting finished goods to the Regional Union and local markets. Therefore, the staff members of the District Union will be designed and offered by the IDCK.

*Regional Industrial Cooperative Union* will have the functions of marketing and bulk purchasing of materials. To undertake these functions, it will have storage facilities which can be used for storing finished goods transported from primary cooperatives as well as raw materials and intermediate goods purchased in bulk for the use by primary cooperatives. The Union will maintain close relations with KRTC, other institutional buyers, and extra-regional and international markets, and the Union will adopt a cash purchase program for those commodities for which the market is considered to be assured. For this program as well as part of the general purpose of upgrading products, the Union will undertake strict quality control measures.



The proposed three-tier system of developing industrial cooperatives in the region cannot be built in a short time, but the applied principles of specialization of different functions to relevant levels of the cooperative organizations will enable the regional cooperatives as a whole to enjoy scale economies, which are seriously lacking in the present structure of industrial cooperatives which are not organized at all. One may wonder whether this proposed three-tier system of the industrial cooperatives can be implemented in view of the present levels of small scale industrial activities in the region. Let us recall, however, that there are 22 blacksmiths employing an average of 5 persons each, and 6 brick makers employing an average of 10 persons each in the region according to the *sample survey* carried out by Professor J. Rweyemamu. It would be reasonable to assume that the actual total number of those industrial units may be more than what a sample survey disclosed. If those units can be persuaded to organize as cooperatives, it would then be possible to launch an implementation of the proposed system even at the present time. Also, the proposed Third Five Year Plan intends to create 135 industrial cooperatives in the region in five years. In view of those programs, it should not be too ambitious to contemplate the establishment of the Primary-District-Regional three-tier system in order to increase the efficiency for accelerated development of industrial cooperatives in the region.

We ought to stress, however, that persuasion and incentives rather than compulsion must be the instrument for establishing or converting to industrial cooperative societies. If social and political pressures are used with excessive exhortation, the number will grow in a short time, but the essential advantages of having cooperatives may be lost. In this sense, we would stress the importance of a 'slow but steady' approach in the campaign for the development of industrial cooperatives. In this connection, the experimental pilot plant scheme described in connection with IDCK and the industrial estate will have demonstration effects for other industrialists, and a replicable pattern of organizing industrial cooperatives would emerge from it.

## 7. Development Financing

Our consideration on the existing four banks in Tanzania has led to the conclusion that the TRDB and the NBC should play a main role in developing small-scale industries, and the TIB and the THB should orient themselves more to fields other than the small-scale industrial development.

According to the present policies of the TRDB and the NBC, the TRDB's financing is directed only to fixed capital but not to working capital; on the contrary, the NBC finances working capital only. There is no doubt that even a very small project cannot be started and managed properly if these two kinds of capital are not available.

It would be even better if each bank can start financing both the fixed and the working capital. However, according to our examination, it would be too much to expect each bank to start carrying out both of these activities within the first few years of the Third Plan period. Our proposal is, therefore, to establish a mechanism by which the lending activities of the TRDB and the NBC are coordinated; TRDB financing for fixed assets and NBC for working capital. As the current policies of the NBC are not compatible with financing of working capital for small scale industries, a special section has to be established within the NBC, Small Scale Industry Division, to which concessionary loans would be provided from the Treasury for lending to small scale industrial establishments for working capital. The reason for placing this particular section in the NBC is to utilize its available expertise in financing for small scale industrial development. TRDB and NBC will be coordinated through a committee in which both TRDB and NBC are represented along with the Regional Government.

In addition, the size of staff and staff capabilities should be expanded in these institutions. In order to provide small scale industrial proprietors better access to financing institutions, there should be at least one resident officer in every District for either of TRDB and NBC. Substantial assistance from other sources would be needed for loan applicants and the banks alike in the preparation of projects, filing of application forms and appraising of loan applications. Such services would be provided by the proposed experts who would be undertaking training and advisory services for existing and prospective small scale industrial proprietors and workers.

It is a well-recognized fact among developing as well as some developed countries that to some extent, small scale industries must be financially subsidized at least during the early stages of development. In formulating lending programs for small scale industries, this fact should be borne in mind. The current terms and conditions for lending are fairly close to those for commercial lending. We propose that concessionary conditions be introduced for loans to small scale industries. We shall describe specific contents of our recommendations in the following chapter.

## VI. DEVELOPMENT PROGRAMS

In the preceding chapter, we have described individually elements of development programs which we consider necessary for the development of small scale industries in the region. It is now necessary to relate them with each other and present them as packages of development programs, each of which can be implemented by an appropriate public agency or agencies.

There are four packages of programs: (1) Industrial Development Center of Kilimanjaro (IDCK) for planning, training and advisory services, (2) Industrial Estate Development for promotion of new industries, (3) Development Assistance for Industrial Cooperatives, and (4) Lending from Banking Institutions.

### 1. Industrial Development Center of Kilimanjaro (IDCK)

In order to provide planning, training and advisory services needed for proper development of small scale industries, we recommend that an 'Industrial Development Center of Kilimanjaro' be established at Moshi for serving for the entire region.

#### *The Functions of the IDCK*

The IDCK will be assigned to perform the following functions: (1) industrial survey and planning, (2) technical and managerial training of and advisory services for existing and prospective industrial proprietors and workers, (3) marketing promotion, (4) advisory services for financial institutions, (5) common facility services for small scale proprietors, and (6) planning and management of industrial estates. Specific details of each of the above functions are described below.

#### (1) Industrial Survey and Planning Function includes:

- (1.1) to assist both the government and industrialists in the preparation and implementation of the annual industrial licensing;
- (1.2) to undertake continuous assessment of development potentials of small scale industries in the region, and recommend policies to the regional government when appropriate;
- (1.3) to undertake feasibility studies of individual industrial projects arising from the assessment of the potentials;
- (1.4) to act as a liaison agent with the SIDO and other relevant government and parastatal bodies, and facilitate the coordination among them.

#### (2) Training and Advisory Services Function includes:

- (2.1) to provide industrial extension services to existing small scale industrial enterprises, private and cooperative, in which the existing conditions of the establishment are diagnosed, and remedial measures are prescribed and on-the-job training is given;
- (2.2) to provide advisory services for forthcoming small scale industrial enterprises on matters related to their planning and preparation;
- (2.3) to make arrangements for loans and grant provisions, and hire-purchase schemes for small scale industrialists;
- (2.4) to undertake formal training programs in production techniques and management and marketing skills for existing and prospective industrial proprietors and workers,

- in both private and cooperative establishments.
- (2.5) to undertake formal training programs for industrial extension workers.
- (3) Marketing Promotion Function include:
- (3.1) to devise a system of quality control and standardization for manufactured goods and repair services, particularly for those goods which are intended for extra-regional and international markets and institutional markets in the region, and to advise appropriate marketing agents such as KTRC or Cooperative Unions for the implementation of the system;
- (3.2) to undertake promotional activities of product design and quality improvement for improved marketing;
- (3.3) to undertake studies for increasing competitiveness of regional products against goods imported from other regions and countries;
- (3.4) to organize exhibitions and contests of regional industrial products.
- (4) Advisory Services Function for Financial Institutions includes:
- (4.1) to provide advice to financial institutions on matters related to lending for small scale industries;
- (4.2) to undertake on behalf of financial institutions appraisal of loan request for small scale industrial projects;
- (5) Common Facility Services Function includes:
- (5.1) to provide free or inexpensive machines/equipment repairing services to small scale industrial units;
- (5.2) to manufacture simple tools such as hammers, knives and pincers, and metal products such as bolts and nuts, and, over time, simple machines and equipment in collaboration with pilot plants installed in the proposed industrial estate.
- (6) Planning and Management Function of Industrial Estates includes:
- (6.1) to plan the development of industrial estates, if such is considered to be needed;
- (6.2) to undertake the preparation and implementation of the development of those industrial estates which have been approved by the regional government.

Detailed steps recommended for the development of industrial estates are presented in the following section.

#### The Organizational Structure of IDCK

The IDCK will be an autonomous public agency reporting to the Board of Directors which is headed by the Regional Development Director as Chairman. Aside from having the Manager of the IDCK as Secretary, the Board should have representation from both government and non-government sources. Specifically, the following representation is recommended:

1. Regional Development Director as Chairman,
2. Manager of the IDCK as Secretary,
3. Regional Development Planning Officer,
4. Regional Commerce and Industry Development Officer,
5. Regional Ujamaa and Cooperative Development Officer,

6. District Development Directors,
7. SIDO Regional Officer,
8. TRDB Regional Representative,
9. KRTC representative,
10. KNCU representative,
11. Two appointed or elected representatives from small scale industrial establishments, one from a private company and the other from cooperative societies, and
12. One representative from large industrial establishments.

All the heads of operational departments of the IDCK should be invited to the Board meetings as observers without voting rights. The presence of them at the Board would be vital for facilitating two-way communication between the Board and operational staff.

The IDCK will have three departments, under the direction of the Manager: (1) Economic and Management Department, (2) Technical Department and (3) Administrative Department. However the five functions described above in this chapter will not be assigned to either one of the departments, but will be carried out jointly by the two operating departments, with coordination of each program assigned to a senior member of the operational staff.

#### Staff Size

Our fundamental approach for staffing the IDCK is to assign internationally recruited personnel at the initial stage of the IDCK development and toward the end of the Third Plan period to replace them with Tanzanian experts who would be trained as their counterparts. This implies that each internationally recruited expert is assisted by or collaborated with a Tanzanian counterpart.

In the year 1975/76, the following appointments would have to be made:

- 1 IDCK Manager, Tanzanian, Economist-Engineer
- 1 Chief Adviser, Expatriate, Industrial Economist
- 1 Assistant Chief Adviser, Expatriate, Economist
- 1 Assistant Chief Adviser, Tanzanian, Economist or Engineer
- 1 Management Expert, Expatriate, Management Consultant (Engineer)
- 1 Assistant Management Expert, Tanzanian, Economist
- 3 Production Engineers, Expatriates
- 3 Assistant Production Engineers, Tanzanians
- 6 Clerks

In addition, in accordance with newly identified demand for particular technical skill, the IDCK need to invite different types of experts on either the short term or the long term basis during the course of the Plan period.

#### Phasing of Development

It is hoped that the IDCK should be established as soon as possible and should be expanded to its full scale development as quickly as possible. But, in order to have it achieved its objectives efficiently, inevitably there is need for carefully designed phasing in the implementation. The following is a tentative time table suggested for the establishment of the IDCK.

## Phasing of the 5 Year Development Program of the IDCK

Year	Actions	Recruitments
1975/76	<p>Set up the Board of Directors</p> <p>Appointment of the IDCK Manager &amp; Internationally recruited industrial economists, management expert, and their counterparts locally recruited.</p> <p>Preparation of a new and complete Register of Industrial Establishments, with special assistance of EDs and County/municipality licensing clerks. The Register is to be completed in three months after arrival of an industrial economist.</p> <p>Establishment of a management advisory team by the management expert and the counterpart. A sample survey of productive assets in industrial establishments has the specific of obtaining second-hand machines for training purposes. Start developing methods of managerial extension services to small industrial establishments. The work is to be completed in four months after arrival of a management expert and recruitment of a counterpart.</p> <p>Industrial economist start preparing facility requirements for IDCK under the direction of the Manager.</p> <p>The Board of Directors should select special branches of new industrial activities to be promoted in the region. (Here tentatively assume that they may be a foundry, and a wood pattern shop). Recruitment of production experts would be made, and counterparts be also recruited.</p> <p>The Board of Directors should decide priorities to be given to specific industries among existing ones, say textile or machine shop, and production expert (or experts) be recruited.</p> <p>Finalize the IDCK building requirements which may include common facility room, classrooms, hostels and canteen, and administrative block and the first phase construction of pilot plants, and prepare for detailed engineering documents. This should be completed in six months after the appointment of manager and industrial economist. With approval from the Board, the construction then should start.</p> <p>Two mobile technical training teams would be organized by the production experts and the counterparts, and start its operation by the end of the first year.</p> <p>Potential industrial extension service workers are selected, and training for them starts by the management and technical experts and their counterparts.</p>	<p>Board members</p> <p>Industrial economists, management expert, local counterparts, &amp; a few administrative staff.</p> <p>Foundry expert, woodwork expert with special skills in wood pattern making, and their counterparts.</p> <p>Production experts and counterparts.</p> <p>A short-term consultant for IDCK building layout</p> <p>Two vehicles obtained.</p> <p>10 trainees for industrial extension services.</p>
1976/77	<p>Start the industrial extension services as soon as the training is over.</p> <p>Recruitment to be started for workers at pilot plant (or plants), and the training to be launched.</p>	<p>Pilot plant workers.</p>

Year	Actions	Recruitments
	<p>Identification of loan worthy projects and enterprises, and set up a hire-purchase scheme particularly geared to the needs of enterprises in the informal sector, in close coordination with the SIDO.</p> <p>Follow-up services by mobile units.</p> <p>Continued industrial survey and planning activities with special emphasis on diversifying product mixes of existing industrial units.</p> <p>Start the formal classroom training courses both for short and long durations.</p> <p>Organize the first annual exhibition of small scale industry products in the region.</p>	
1977/78	<p>Pilot plants be converted to industrial cooperative societies, if the workers are ready, and the management responsibility be partially transferred to them.</p> <p>The Board will decide on new pilot plants be established at the IDCK.</p> <p>Training programs be expanded to more formal classroom training and intensification of industrial extension services. If necessary recruitment will be made for industrial extension services and training would start.</p> <p>Quality control measures be worked out and an arrangement be made to secure the institutional demands for small scale industries.</p>	Recruitment of additional industrial extension workers.
1978/79	<p>Product design and improvement, quality control and standardization will start in its full scale.</p> <p>Subcontracting with the larger industrial establishments be worked out.</p>	
1979/80	<p>Full set-up of the IDCK will be completed, and all functions envisaged will be carried out.</p> <p>All the internationally recruited experts may be replaced by the counterparts so long as their competency is justified to do so, and the complete Tanzanianization of the IDCK operations may be materialized if desired.</p>	

#### Facility Requirements and Development Costs

It is extremely difficult to make an estimate of the development expenditures for the establishment of the IDCK partly because of the prevailing inflationary trends in Tanzania and the world. However, it is prepared on a set of assumptions regarding the operations of the IDCK. First, the costs of pilot plants are not included, but are included as parts of the cost of the industrial estates. Second, the number of trainees in each of the pilot plants will be 10 persons or more but not exceeding 20 persons. Thirdly, the trainees of the pilot plants will be housed in a hostel of the IDCK. Fourthly, one large classroom with movable partitions will be needed for managerial and marketing training courses, and it will also be used as a meeting room for general purposes. Finally, the IDCK will have

an up-to-date repair shop of industrial tools, equipment and machines not only for the pilot plants but also for all repair demands from the small scale industries in the region. Those facilities will be housed in a Common Facility Room of the IDCK, but will be made readily available to the establishments in the proposed industrial estate in Moshi. This requires that the IDCK and the industrial estate must be located in close proximity of each other. In fact, it is assumed here that IDCK and the industrial estate are located within a single campus.

On the basis of the above assumptions, building space requirements have been estimated and they are presented in Table 6.1. There would be three building blocks, the administrative, training and hostel. The Common Facility Room in the Training Block would house the machinery required for the Machine Shop and would serve for training as well as for general repair services for the industrial establishments within the industrial estate and in the region. The canteen in the Hostel would be made available not only to the residents of the hostel but also to those working in the IDCK and the Industrial Estate.

The cost estimates of the buildings and land improvements and those for machinery and equipment for IDCK are presented in Tables 6.2 and 6.3. In all, it is estimated that the capital investment needed for IDCK would be about 1.3 million Shillings (US\$180,000., or ¥ 54 million). The entire facility should be built as soon as possible, and, therefore, the total cost is budgeted for 1975/76 with the understanding that some part of it has to be carried over to the following fiscal year as the preparation for construction would take a large part of the first year.

## 2. Industrial Estates

There is already a proposal for establishing an industrial estate in Moshi by TIB in cooperation with KIDECO. As presented in the preceding chapter, there are a number of uncertain points with respect to the proposal. Therefore, we propose that the pilot-plant approach be employed for the development of this industrial estate. Upon identification of those industries which are not existing but urgently needed in the region, pilot plants will be designed by the IDCK and will be built from the budgetary allocation of the Regional Government. The plants will be used for training for IDCK-recruited trainees by IDCK experts.

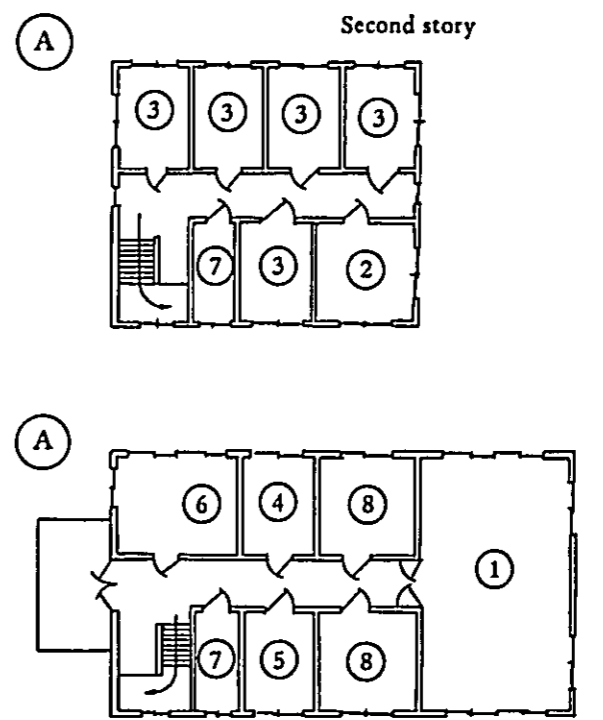
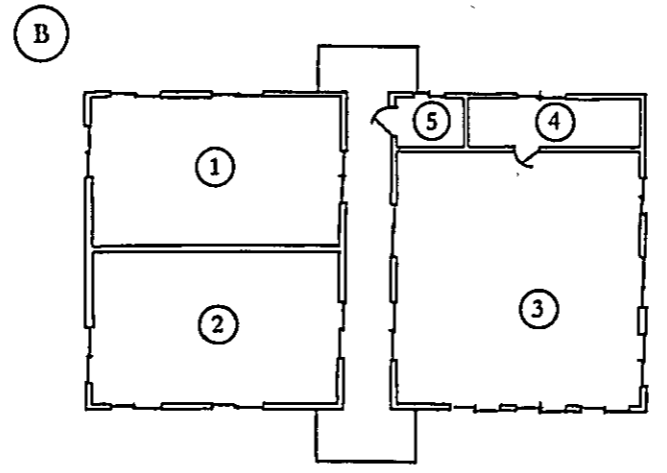
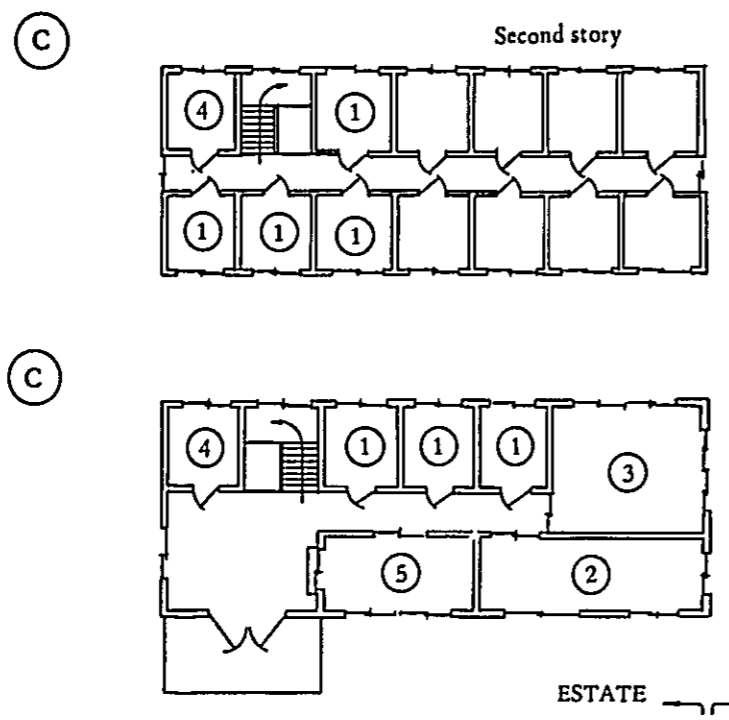
We have identified four new industries, as described in Chapter V, which are candidates for pilot plants. We recommend three of them, foundry, wood pattern shops and scrap metal sorting, be provided pilot plants during the first year of the development program. The remaining industry, knitting, can be started during the third year. By this time, other new industries would have been identified by the experts at the IDCK. Therefore, the number of pilot plants to be started during the middle of the five year plan period would be greater. The exact number and the nature of pilot plants should be determined on the basis of the experience gained by the first three and subsequent examination of demands and supply capabilities.

Nonetheless, the objective of having pilot plants is to develop industries which can support themselves. Therefore, after two to three years of training-cum-production under IDCK supervision and management, the plant will be converted into an industrial cooperative by the trainees, and the management responsibility will be partially transferred to the industrial cooperative. In five years, it will be fully transferred to the industrial cooperative.



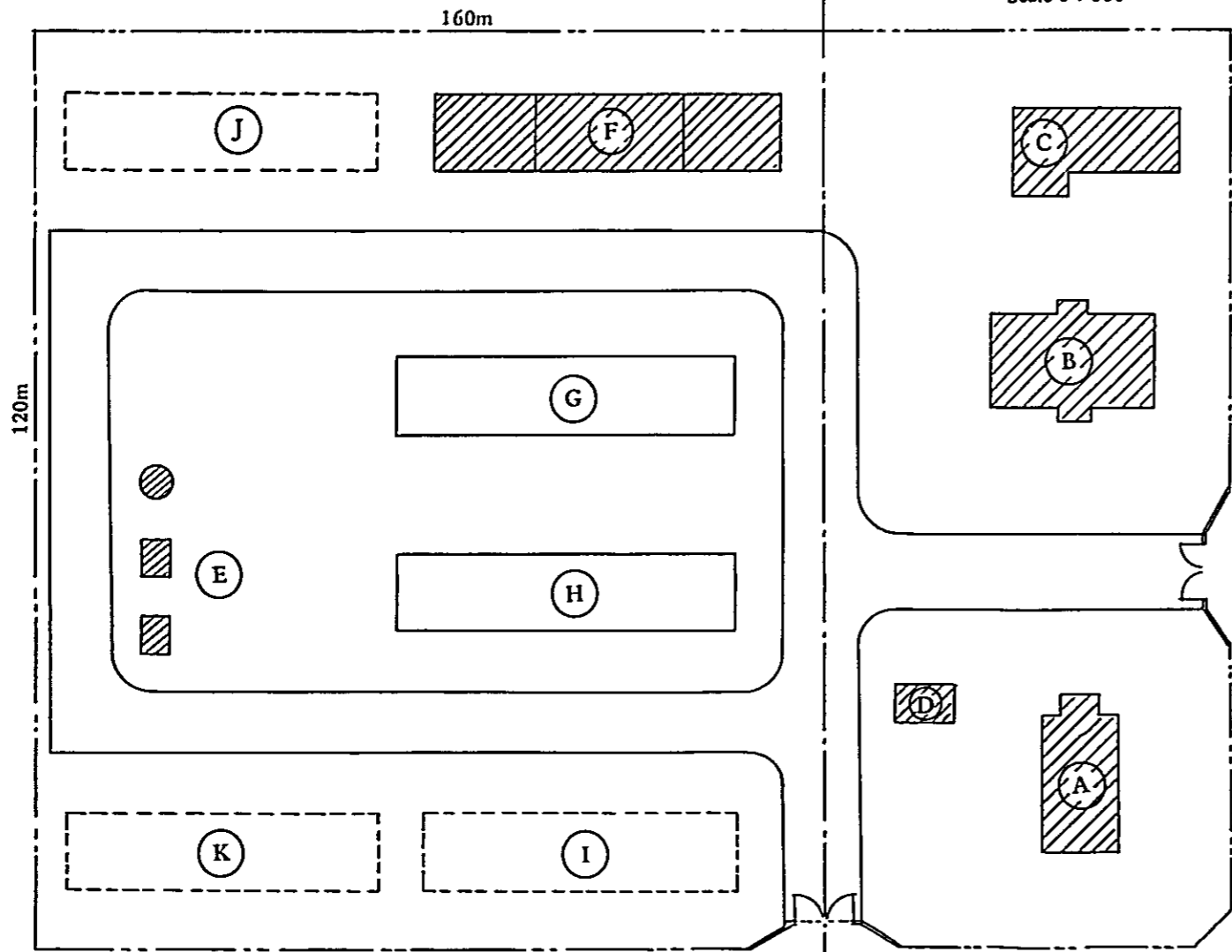
**Table 6.1**  
**Building Space Requirements for IDCK**

Facility Name	No. of Rooms	Square Meters
<b>1. Administrative Block</b>		
Managers	1	20
Industrial Economist	1	12
Management Expert	1	12
Production Experts	3	36
SIDO Representative	1	12
Counterparts	1	50
Clerks	1	20
Library	1	12
Lavatories	2	10
Halls, corridors	-	60
Meeting (Class) Room	1	60
<b>Subtotal</b>		<b>304</b>
<b>2. Training Block</b>		
Workshops	2	120
Common Facility Room	1	100
Storage Room	1	20
Lavatories	2	6
Hall and Corridors		20
<b>Subtotal</b>		<b>266</b>
<b>3. Hostel</b>		
Bedrooms (2 beds per room)	15	150
Canteen with kitchen	1	30
Study Room	1	30
Lavatories and showers	2	20
Office	1	20
Halls and Corridors		50
<b>Subtotal</b>		<b>300</b>
<b>4. Garage for 3 vehicles</b>	<b>1</b>	<b>40</b>
<b>Total</b>		<b>910</b>



Scale 1 : 200

Scale 1 : 600



No.	Description	Area (M <sup>2</sup> )
A	Administrative block	304
B	Training block	266
C	Trainees hostel	300
D	Garage	40
E	Common utility	40
F	Pilot plants No. 1	460
G	Pilot plants No. 2	450
H	Pilot plants No. 3	450
I	Other plants No. 1	420
J	Other plants No. 2	420
K	Other plants No. 3	420

No.	Description	Area (M <sup>2</sup> )
A-1	Class room	60
2	Manager room	20
3	Expert room	12 x 5
4	SIDO room	12
5	Data room	12
6	Office room	20
7	Lavatories	10
8	Counterparts	20 x 2
B-1	Workshop No. 1	60
2	Workshop No. 2	60
3	Common facility	100
4	Storage	20
5	Lavatories	6
C-1	Bed room	10 x 15
2	Canteen	30
3	Study room	30
4	Lavatories	10 x 2
5	Office	20

LAYOUT of IDCK and I.ESTATE

**Table 6.2**  
**Estimates of Building and Land Improvement Costs for IDCK**

	Item	Sq. M.	Tshs/Sq. M.	Tshs
1.	<b>Building Costs</b>			
1.1	Administrative Block	304	650	197,600.
1.2	Training Block	266	550	146,300.
1.3	Hostel	300	650	195,000.
1.4	Garage	40	350	14,000.
	Subtotal			552,900.
2.	<b>Building Accessories Costs</b>			
2.1	Electric works 5% of (1)			27,645.
2.2	Plumbing works 3% of (1)			16,587
2.3	Furniture and fixtures 4% of (1)			22,116.
	Subtotal			66,348.
3.	<b>Land Improvement Costs</b>			100,000.
	Total			719,248.

**Table 6.3**  
**Estimates of Machinery and Equipment Costs for IDCK**

	Purpose and names of equipment	Tshs
1.	Common Facility Room Machinery; lathe, drilling machine, milling machine, plane, gear cutting machine, tools, etc.	360,000.
2.	Metalworking machinery; foundry, forging equipment	30,000.
3.	Wood work machinery; lathe, band saw, grinder, tools, etc.	30,000.
4.	Leather and cloth works; sewing machine, knitting machine, tools, etc.	30,000.
5.	Vehicles; 2 long size land cruisers and a sedan	120,000.
	Total	570,000.

The development budget for industrial estates is made on the following assumptions: (1) there will be only one industrial estate, which is located at Moshi, in the region during the Third Five Year Plan period, (2) the common facilities for the industrial estate such as repair shop and canteen are provided by the IDCK, (3) three pilot plants, for foundry, wood pattern shop and scrap metal sorting, will be built during the fiscal year of 1975/76, three pilot plants will be built during 1977/78, and three pilot plants will be built during 1979/80. In addition, demands for space in industrial units within the industrial estate would be generated from the informal sector during the latter parts of the five year plan period through various training and advisory activities of the IDCK.

For estimating expenditures of the government, it is assumed that they include those for both building and machinery in the case of pilot plants, but only for building in the case of other plants. For other than those first three pilot plants for which investment costs have been specifically estimated, the average building cost per unit is assumed to be Tshs 75,000 and the average machinery cost to be Tshs 40,000. In addition, common utility and land improvement costs are included in the estimation of development costs. The estimates are given in Table 6.4

### 3. Financial Assistance Program for Industrial Cooperatives

As presented in the preceding chapter, the development of industrial cooperatives should be given priority during the coming development plan period. For this purpose, the government should have two programs: one for financial assistance for the Regional and District Cooperative Unions, and

Table 6.4  
Estimates of Development Expenditures for the Industrial Estate at Moshi

	1975/76	1976/77	1977/78	1978/79	1979/80	Total
No. of pilot plants constructed	3.	-	3.	-	3.	9.
Unit investment cost (Tshs 1000's)	105.	-	115.	-	115.	-
Investment cost of pilot plants (Tshs 1000's)	315.	-	345.	-	345.	1,005.
No. of other plants constructed	-	-	2.	3.	4.	9.
Unit investment cost (Tshs 1000's)	-	-	75.	75.	75.	-
Investment cost of other plants (Tshs 1000's)	-	-	150.	225.	300.	675.
Site development including internal roads (Tshs 1000's)	100.	-	30.	10.	10.	150.
Power station	50.	-	-	-	-	50.
Central water facility	30.	-	-	-	-	30.
Landscaping	30.	-	10.	10.	10.	60.
<b>Total</b>	<b>525.</b>	<b>-</b>	<b>535.</b>	<b>245.</b>	<b>665.</b>	<b>1,970.</b>

the other for financial assistance for establishing primary industrial cooperatives.

The financial assistance programme for Cooperative Unions is aimed at providing on the grant basis half of the operation costs of running those unions for the initial five years, and assisting them for obtaining loans for obtaining lorries and storage facilities.

The financial assistance programme for establishing primary cooperatives would be similar to the current one. The government will provide up to 20% of the capital costs to qualified industrial cooperatives on a grant basis. Resource requirements for this program are shown in Table 6.9.

#### 4. Lending Programs by Financial Institutions

We recommend TRDB and NBC be actively involved in providing loans for the development of small scale industries in Kilimanjaro Region.

TRDB would specialize in the provision of long-term loans for capital improvement, while NBC would be providing working capital for small scale industrial establishments.

The general lending policies of these financial institutions and the Regional Government should be coordinated by a Loan Policy Committee, which has the representation by the following members:

- (1) TRDB Regional Representative as Chairman,
- (2) TRDB Regional Senior Loan Officer as Secretary,
- (3) NBC Regional Office Small Scale Industry Division Chief,
- (4) Regional Development Planning Officer,
- (5) Regional Commerce and Industry Development Officer,
- (6) SIDO Regional Representative
- (7) Manager of the IDCK.

This committee would serve as a channel for exchange of information between the financial sector and the planning and promotion sector for small scale industrial development.

##### Long-Term Lending by TRDB

During the Third Five Year Plan period, the bank staff within the region should be doubled, so that at the middle of the Third Plan period, manpower allocation should appear as shown in Table 6.5.

The Junior Loan Officer at each branch should perform advisory and education services for small scale entrepreneurs in each district in addition to receiving loan applications, in cooperation with industrial extension workers of IDCK. The terms and conditions of TRDB loans cannot be determined by the Regional Branch Office alone, but must be determined by the head office on the national basis. But, we present below what we consider appropriate to lending for small scale industrial development.

- |     |                                |                               |
|-----|--------------------------------|-------------------------------|
| (1) | Annual rate of interest:       | 5%                            |
| (2) | Grace period:                  | 6 months to 2 years           |
| (3) | Payback period:                | 1 to 10 years                 |
| (4) | Upper limit to the debt ratio: | 75% of total investment cost. |

**Table 6.5**  
**Staff Requirement by TRDB Offices in Kilimanjaro, 1977/78**

Location and personnel	No. of persons
<b>Moshi Regional Branch</b>	
Branch Manager/Senior Industrial Officer	1
Loan Officers	2
Accountant	1
Junior Industrial/Loan Officer	1
Clerk	3
<b>Subtotal</b>	<b>8</b>
<b>Rombo District Branch</b>	
Junior Industrial/Loan Officer	1
Clerk	1
<b>Subtotal</b>	<b>2</b>
<b>Pare District Branch</b>	
Junior Industrial/Loan Officer	1
Clerk	1
<b>Subtotal</b>	<b>2</b>
<b>Regional total</b>	<b>12</b>

These conditions are substantially more favorable than those practiced at the present time. Such relaxation of the terms and conditions can be made through the introduction of development assistance loans from international development institutions and bilateral sources.

The loan would be guaranteed by the respective District Cooperative Union, if the borrower is a cooperative, while the mortgage will be held by the District Cooperative Union. For non-cooperative borrowers, cosigners would be required and the mortgage would be held by the bank.

At the present time, the Kilimanjaro Regional Branch Office can grant loans of the size up to Tshs 50,000/ without authorization from the head office. However, this is a serious limitation for financing small scale industries, as the amount of loans needed for this sector frequently exceeds this limit, and the financing of this sector requires flexible decisions. Therefore, we recommend that this limit be raised to Tshs 100,000.

The collection of payments is an important problem in small scale industrial financing. We recommend that the bank takes the advantage of the frequent visits and friendly relationship held by extension workers of IDCK for the collection of payments.

#### Short-Term Lending by NBC

It is proposed here that the NBC provides loans for working capital which is an indispensable input for the operation of small scale industries. As NBC is reluctant to be involved in small scale

financing, this financing would be undertaken by a special unit, the Small Scale Industry Division, which will be provided with interest-free loans from the Treasury.

The Small Scale Industry Division in the Mawenzi zonal office should be supervised by the zonal manager and be allocated one loan officer and two clerks to begin with; the staff should be doubled by the third year of the plan period, and by the end of the plan period each District should have at least one loan officer.

The terms and conditions of loans should naturally differ depending upon the financial situation of the borrower. However, we present below some guidelines:

- |                              |                          |
|------------------------------|--------------------------|
| (1) Annual rate of interest: | 6 - 8%                   |
| (2) Grace period:            | 1 to 6 months            |
| (3) Payback period:          | 6 to 18 months           |
| (4) Maximum amount of loan:  | 20% of the fixed assets. |

The range of the interest rate suggested above is slightly lower than the prevailing commercial rates. However, such rates would be made possible by combining normal resources of NBC with interest free loans from the Treasury.

The requirements for loan guarantee and the collection procedure for payments would be identical to those for long-term loans.

#### The Hire-Purchase Scheme

The present hire-purchase scheme is undertaken by the Karadha Company Limited, which is a subsidiary organization of the NBC and does not have any branch office in the country. Therefore, its operation in areas other than Coast Region is entrusted to branch offices of the NBC. When the Small Scale Industry Division is established within the Mawenzi zonal office, this function should naturally be transferred to the new division.

The presently operating hire-purchase scheme is not very practical or promising as its conditions are too strict. As this scheme is potentially an effective tool for accelerating the development of small scale industry, it should be suggested that the down payment be reduced from the present level of 33.5% to 40% of the machine/equipment price to around 20% and the repayment period be lengthened from 12 to 18 months to a flexible period which would range between 18 months and 5 years. Also, attempts should be made to lower the present interest rate of 8%.

#### 5. Budgetary Requirements for Grants and Lending

The foregoing programs of development described in the preceding two sections imply a set of development expenditure programs for the Regional Government. We present below the procedures and results of our estimates of development expenditures based on the development programs recommended above.

For new small scale industrial establishments, cooperative or not, we make the following assumptions (per establishment):

- (1) Average initial capital investment per establishment: Tshs 150,000.

The average initial capital investment assumed here is very close to the simple average of the 15 industries, Tshs 129,000, for which investment requirements are investigated in this report, as presented in Table 5.1.

(2) Average number of workers per establishment: 20;

For expansion of existing establishments, the following are assumed (per establishment):

(3) Average capital investment for expansion: Tshs 100,000.

The savings in the capital investment by expanding establishments relative to new establishments are primarily due to savings in the cost of buildings, as the existing units can utilize the existing structure for covering newly purchased machinery and equipment.

(4) Average number of workers added per establishment: 10.

The following assumptions are made in regard to the growth of the sector during the Third Five Year Plan period, by considering the possible impact of the proposed programs for planning, training, advisory services, financial assistance and lending:

(5) The total number of establishments receiving project loans is 200 with the following composition and time sequence as shown in Table 6.6.

Table 6.6  
Projection of Growth in the Small Scale Industrial Sector

	1975/76	1976/77	1977/78	1978/79	1979/80	Total
No. of new units	1	2	5	10	42	60
No. of expanding units	3	10	20	40	7	70
No. of new cooperatives	1	3	5	10	51	70
<b>Total</b>	<b>5</b>	<b>15</b>	<b>30</b>	<b>50</b>	<b>100</b>	<b>200</b>

To estimate the demand for working capital, we make the following assumptions for existing small scale industries:

- (6) The number of existing small scale industrial establishments is 200 at the end of 1974/75;
- (7) The average number of workers of existing establishments is 15;
- (8) The average amount of working capital loans is Tshs 6,000;
- (9) Those establishments having access to working capital loans receive loans on the average two times a year.
- (10) The following percentages of establishments have access to working capital loans: 10% in 1975/76, 30% in 1976/77, 50% in 1977/78, 70% in 1978/79 and 90% in 1979/80.



Correspondingly, we assume the following for new and expanded establishments:

- (11) Average amount of working capital loans is Tshs 20,000;
- (12) On the average they receive loans two times a year;
- (13) All of the new and expanded establishments borrow working capital loans;

And for both existing and new or expanded establishments, we assume:

- (14) All working capital loans are repaid fully within one year.

Then, we have the requirements for financial resources for lending to the small scale industrial sector in the Kilimanjaro region as shown in Tables 6.7 and 6.8. Similarly, the financial resource needs for the grant program for cooperatives are shown in Table 6.9.

Table 6.7  
Estimates of Financial Resource Needs for Long-Term Loans

	1975/76	1976/77	1977/78	1978/79	1979/80	Total
(1) No. of new units	2	5	10	20	93	130
(2) Investment by new units (Tshs 1000's) (1) x 150	300	750	1,500	3,000	13,950	19,500
(3) No. of expanding units	3	10	20	30	7	70
(4) Investment by expanding units (Tshs 1000's)	300	1,000	2,000	3,000	700	7,000
(5) Total Investment (2) + (4)	600	1,750	3,500	6,000	14,650	26,500
(6) Long-Term Loan Needed (5) x 75%	450	1,312.5	2,625	4,500	10,987.5	19,875

Table 6.8  
Estimates of Financial Resource Needs for Working Capital Loans

	1975/76	1976/77	1977/78	1978/79	1979/80	Total
(1) No. of traditional units at the beginning	200					
(2) No. of expanding units	3	10	20	30	7	
(3) No. of remaining traditional units (1) - $\Sigma$ (2)	197	187	167	137	130	
(4) % of units demanding working capital loans	10	30	50	70	90	
(5) Units demanding working capital loans (3) x (4)	20	56	84	96	117	
(6) Fund needed for working capital loans (Tshs 1000's) (5) x 6	120	336	504	576	702	
(7) Annual need for additional fund (Tshs 1000's) (6) - (6) - <sub>1</sub>	120	216	168	72	126	702
(8) No. of new and expanded units	5	15	30	50	100	
(9) Fund needed for working capital loans (Tshs 1000's) (8) x 20	100	300	600	1,000	2,000	

	1975/76	1976/77	1977/78	1978/79	1979/80	Total
(10) Annual need for additional fund (Tshs 1000's) (9) - (9) -1	100	200	300	400	1,000	2,000
(11) Total annual need for additional fund (Tshs 1000's) (7) + (10)	220	416	468	472	1,126	2,702

**Table 6.9**  
**Estimates of Financial Resource Needs for Grants to Cooperatives**

	1975/76	1976/77	1977/78	1978/79	1979/80	Total
(1) No. of new cooperatives units	1	3	5	10	51	70
(2) Investment by new cooperatives (Tshs 1000's) (1) x 150	150	450	750	1,500	7,650	10,500
(3) Grant to cooperatives (Tshs 1000's) (2) x 20%	30	90	150	300	1,530	2,100

**APPENDIX A**

**BASIC INDUSTRIAL UNIT DATA**

### Basic Industrial Unit Data - 1 Foundry Shop

(1)	Products: Cast iron, aluminum alloy and copper alloy products			
(2)	Initial investment			
		Building	Tshs	90,000.
		Machinery & Equipment	Tshs	20,000.
		Total		Tshs 410,000.
(3)	Number of workers			20.
(4)	Investment per worker			Tshs 5,500.
(5)	Annual gross sales			
	5.1 Production capacity			
		Cast iron 240t @2,400Tshs/t = Tshs 576,000. or combination of cast iron, aluminum alloy and copper alloy of similar value		
	5.2 Expected sales at 70% of capacity utilization			
		Tshs 576,000 x 0.7 =		
				Tshs 403,200.
(6)	Annual production costs			
	6.1 Labor costs			
		17 persons @ Tshs 4,080 =	Tshs	69,360.
		3 persons @ Tshs 9,600 =	Tshs	28,800.
		Subtotal	Tshs	98,160.
	6.2 Material costs		Tshs	161,280.
	6.3 Depreciation			
		Building Tshs 90,000 x 0.05 =	Tshs	4,500.
		Machinery 20,000 x 0.1 =	Tshs	2,000
		Subtotal	Tshs	6,500.
	6.4 Overhead costs		Tshs	27,195.
	6.5 Miscellaneous costs		Tshs	25,000.
	6.6 Total costs			Tshs 318,135.
(7)	Annual net profits	Tshs 403,200 - 318,135 =		Tshs 85,065.
(8)	Normal rate of return to investment			(7) / (2) = 77.3%

### Basic Industrial Unit Data - 2 Wood Pattern Shop

(1)	Products: Wood patterns for foundry			
(2)	Initial investment			
		Building	Tshs	62,500.
		Machinery & Equipment	Tshs	20,000.
		Total		Tshs 82,500.
(3)	Number of workers			18
(4)	Investment per worker			Tshs 4,583.
(5)	Annual gross sales			
	5.1 Production capacity			
		Pulley patterns 10,000 @50 Tshs = Tshs 500,000.		
	5.2 Expected sales at 70% of capacity utilization			
		Tshs 500,000 x 0.7 =		
				Tshs 350,000.
(6)	Annual production costs			
	6.1 Labor costs			
		15 persons @ Tsh 4,080 =	Tshs	61,200.
		3 persons @ Tshs 9,600 =	Tshs	28,800.
		Subtotal	Tshs	90,000.
	6.2 Material costs		Tshs	140,000.
	6.3 Depreciation			
		Building Tshs 62,500 x 0.05 =	Tshs	3,125.
		Machinery 20,000 x 0.1 =	Tshs	2,000.
		Subtotal	Tshs	5,125.
	6.4 Overhead costs		Tshs	23,993.
	6.5 Miscellaneous costs		Tshs	20,000.
	6.6 Total costs			Tshs 279,118.
(7)	Annual net profits	Tshs 350,000 - 279,118 =		Tshs 70,882.
(8)	Normal rate of return to investment			(7) / (2) = 85.9%

### Basic Industrial Unit Data - 3 Scrap Metal Sorting Shop

(1)	Products: Sorted scrap metal for foundry			
(2)	Initial investment			
		Building	Tshs	60,000.
		Machinery & Equipment	Tshs	60,000.
		Total		Tshs. 120,000.
(3)	Number of workers			20
(4)	Investment per worker			Tshs. 6,000.
(5)	Annual gross sales			
	5.1 Production capacity			
		Sorted scrap metal 448t @ 850 Tshs = Tshs 380,000.		
	5.2 Expected sales at 70% of capacity utilization			
		Tshs 380,000 x 0.7 =		
				Tshs 266,000.
(6)	Annual production costs			
	6.1 Labor costs	20 persons @ Tshs 4,080 =	Tshs	81,600.
	6.2 Material costs		Tshs	93,296.
	6.3 Depreciation			
		Building Tshs 60,000 x 0.05 =	Tshs	3,000.
		Machinery Tshs 60,000 x 0.1 =	Tshs	6,000.
	6.4 Overhead costs		Tshs	18,955.
	6.5 Miscellaneous costs		Tshs	15,000.
	6.6 Total costs			Tshs 217,851.
(7)	Annual net profits	Tshs 266,000 - 217,851 =		Tshs 48,149.
(8)	Normal rate of return to investment	(7) / (2) = 40.1%		

### Basic Industrial Unit Data - 4 Knitting Shop

(1)	Products: Pullovers and cardigans by hand-driven flat knitting			
(2)	Initial investments			
		Building	Tshs	20,000.
		Machinery & Equipment	Tshs	27,500.
		Total		Tshs. 47,500.
(3)	Number of workers			14
(4)	Investment per worker			Tshs 3,393.
(5)	Annual gross sales			
	5.1 Production capacity			
		Bullovers 5,000 @ 55 Tshs =	Tshs	275,000.
		Cardigans 4,000 @ 60 Tshs =	Tshs	240,000.
		Subtotal	Tshs	515,000.
	5.2 Expected sales at 70% of capacity utilization			
		Tshs 515,000 x 0.7 =		
				Tshs 360,500.
(6)	Annual production costs			
	6.1 Labor costs			
		11 persons @ Tshs 4,080 =	Tshs	44,880.
		3 persons @ Tshs 9,600 =	Tshs	28,800
		Subtotal	Tshs	73,680.
	6.2 Material costs		Tshs	162,225.
	6.3 Depreciation			
		Building Tshs 20,000 x 0.05 =	Tshs	1,000.
		Machinery Tshs 27,500 x 0.1 =	Tshs	2,750
		Subtotal	Tshs	3,750.
	6.4 Overhead costs		Tshs	24,328.
	6.5 Miscellaneous costs		Tshs	20,000.
	6.6 Total costs			Tshs 283,983.
(7)	Annual net profits	Tshs 360,500 - 283,983 =		Tshs 76,517.
(8)	Normal rate of return to investment	(7) / (2) = 161.1%		

### Basic Industrial Unit Data - 5 Blacksmiths

(9)	Products: Hoes and other forged metal products			
(2)	Initial investment			
	Building	Tshs	62,500.	
	Machinery & Equipment	Tshs	30,000.	
	Total			Tshs 92,500.
(3)	Number of workers			20
(4)	Investment per worker			Tshs 9,625.
(5)	Annual gross sales			
	5.1 Production capacity			
	Hoes 24,000 @ 16 Tshs = Tshs 384,000.			
	5.2 Expected sales at 70% of capacity utilization			
	Tshs 384,000 x 0.7 =			Tshs 268,800.
(6)	Annual production costs			
	6.1 Labor costs			
	17 persons @ Tshs 1,080 =	Tshs	69,360.	
	3 persons @ Tshs 9,600 =	Tshs	28,800.	
	Subtotal	Tshs	97,860.	
	6.2 Material costs	Tshs	101,600.	
	6.3 Depreciation			
	Building Tshs 62,500 x 0.05 =	Tshs	3,125.	
	Machinery Tshs 30,000 x 0.1 =	Tshs	3,000.	
	Subtotal	Tshs	6,125.	
	6.4 Overhead costs	Tshs	21,048.	
	6.5 Miscellaneous costs	Tshs	15,000.	
	6.6 Total costs			Tshs 241,633.
(7)	Annual net profits	Tshs 268,800 - 241,633 =		Tshs 27,167.
(8)	Normal rate of return to investment			(7) / (2) = 29.4%

### Basic Industrial Unit Data - 6 Machine Shop

(1)	Products: Machine repairs, hand pumps, etc.			
(2)	Initial investment			
	Building	Tshs	125,000.	
	Machinery & Equipment	Tshs	360,000.	
	Total			Tshs 485,000.
(3)	Number of workers			20
(4)	Investment per worker			Tshs 24,250.
(5)	Annual gross sales			
	5.1 Production capacity			
	Hand pumps 720 @ 850 Tshs = Tshs =	Tshs	612,000.	
	5.2 Expected sales at 70% of capacity utilization			
	Tshs 612,000 x 0.7 =			Tshs 428,400.
(6)	Annual production costs			
	6.1 Labor costs			
	17 persons @ Tshs 4,080 =	Tshs	69,360.	
	3 persons @ Tshs 9,600 =	Tshs	28,800.	
	Subtotal	Tshs	98,160.	
	6.2 Material costs	Tshs	192,780.	
	6.3 Depreciation			
	Building Tshs 125,000 x 0.05 =	Tshs	6,250.	
	Machinery Tshs 360,000 x 0.1 =	Tshs	36,000.	
	Subtotal	Tshs	42,250.	
	6.4 Overhead costs	Tshs	35,259.	
	6.5 Miscellaneous costs	Tshs	25,000.	
	6.6 Total costs			Tshs 393,449.
(7)	Annual net profits	Tshs 428,400 - 393,449 =		Tshs 34,951.
(8)	Normal rate of return to investment			(7) / (2) = 7.2%

### Basic Industrial Unit Data - 7 Cart/Wheelbarrow Shop

(1)	Products: Carts, wheelbarrows				
(2)	Initial investment				
		Building	Tshs	125,000.	
		Machinery & Equipment	Tshs	35,000.	
		Total			Tshs 160,000.
(3)	Number of workers				30
(4)	Investment per worker				Tshs 5,333.
(5)	Annual gross sales				
	5.1 Production capacity				
	Wheelbarrows 2,400 @ 200 Tshs =		Tshs	480,000	
	5.2 Expected sales at 70% of capacity utilization				
	Tshs 480,000 x 0.7 =				Tshs 336,000.
(6)	Annual production costs				
	6.1 Labor costs				
		27 persons @ Tshs 4,080 =	Tshs	110,160.	
		3 persons @ Tshs 9,600 =	Tshs	28,000.	
		Subtotal	Tshs	138,160.	
	6.2 Material costs		Tshs	117,600.	
	6.3 Depreciation				
		Building Tshs 125,000 x 0.05 =	Tshs	6,250.	
		Machinery Tshs 35,000 x 0.1 =	Tshs	3,500.	
		Subtotal	Tshs	9,750.	
	6.4 Overhead costs		Tshs	29,018.	
	6.5 Miscellaneous costs		Tshs	15,000.	
	6.6 Total costs				Tshs 309,528.
(7)	Annual net profits	Tshs 336,000 - 309,528 =			Tshs 26,472.
(8)	Normal rate of return to investment				(7) / (2) = 16.5%

### Basic Industrial Unit Data - 8 Tin and Zinksmiths

(1)	Products: Tin buckets and other products of tin and zink plates				
(2)	Initial investment				
		Building	Tshs	100,000.	
		Machinery & Equipment	Tshs	45,000.	
		Total			Tshs 145,000.
(3)	Number of workers				20
(4)	Investment per worker				Tshs 7,250.
(5)	Annual gross sales				
	5.1 Production capacity				
	Buckets 24,000 @ 21 Tshs =		Tshs	504,000.	
	5.2 Expected sales at 70% of capacity utilization				
	Tshs 504,000 x 0.7 =				Tshs 352,800.
(6)	Annual production costs				
	6.1 Labor costs				
		17 persons @ Tshs 4,080 =	Tshs	69,360.	
		3 persons @ Tshs 9,600 =	Tshs	28,800.	
		Subtotal	Tshs	168,000.	
	6.2 Material costs				
	6.3 Depreciation				
		Building Tshs 100,000 x 0.05 =	Tshs	5,000.	
		Machinery Tshs 45,000 x 0.1 =	Tshs	4,500.	
		Subtotal	Tshs	9,500.	
	6.4 Overhead costs		Tshs	28,295.	
	6.5 Miscellaneous costs		Tshs	20,000.	
	6.6 Total costs				Tshs 323,955.
(7)	Annual net profits	Tshs 352,800 - 323,955 =			Tshs 28,845.
(8)	Normal rate of return to investment				(7) / (2) = 19.9%

**Basic Industrial Unit Data - 9 Construction Woodwork Shop**

(1)	Products: Window frames, door frames and doors				
(2)	Initial investment				
		Building	Tshs	72,000.	
		Machinery & Equipment	Tshs	100,000.	
		Total			Tshs 172,000.
(3)	Number of workers				20
(4)	Investment per worker				Tshs 8,600.
(5)	Annual gross sales				
	5.1 Production capacity				
		Window-door frame sets 1,960 @ 250 Tshs =		Tshs 490,000.	
	5.2 Expected sales at 70% of capacity utilization				
		Tshs 490,000 x 0.7 =			Tshs 343,000.
(6)	Annual production costs				
	6.1 Labor costs	20 persons @ Tshs 4,080 =	Tshs	81,600.	
	6.2 Material costs		Tshs	164,640.	
	6.3 Depreciation				
		Building Tshs 72,000 x 0.05 =	Tshs	3,600.	
		Machinery Tshs 10,000 x 0.1 =	Tshs	10,000.	
		Subtotal	Tshs	13,600.	
	6.4 Overhead costs		Tshs	29,700.	
	6.5 Miscellaneous costs		Tshs	15,000.	
	6.6 Total costs				Tshs 304,540.
(7)	Annual net profits	Tshs 343,000 - 304,540 =			Tshs 38,460.
(8)	Normal rate of return to investment				(7) / (2) = 22.4%

**Basic Industrial Unit Data - 10 Furniture and Fixture Shop**

(1)	Products: Wooden desks, chairs, beds				
(2)	Initial investment				
		Building	Tshs	72,000.	
		Machinery & Equipment	Tshs	10,000.	
		Total			Tshs 82,000.
(3)	Number of workers				20
(4)	Investment per worker				Tshs 4,100.
(5)	Annual gross sales				
	5.1 Production capacity				
		Desk and chair sets 2,800 @ 100 Tshs =	Tshs	280,000.	
	5.2 Expected sales at 70% of capacity utilization				
		Tshs 280,000 x 0.7 =			Tshs 196,000.
(6)	Annual production costs				
	6.1 Labor costs	20 persons @ Tshs 4,080 =	Tshs	81,600.	
	6.2 Material costs	Tshs 196,000 x 0.35 =	Tshs	68,600.	
	6.3 Depreciation				
		Building Tshs 72,000 x 0.05 =	Tshs	3,600.	
		Machinery Tshs 10,000 x 0.1 =	Tshs	1,000.	
		Subtotal	Tshs	4,600.	
	6.4 Overhead costs		Tshs	16,880.	
	6.5 Miscellaneous costs		Tshs	10,000.	
	6.6 Total costs		Tshs	10,000.	
(7)	Annual net profits	Tshs 196,000 - 181,680 =			Tshs 14,320.
(8)	Normal rate of return to investment				(7) / (2) = 17.5%



**Basic Industrial Unit Data - 11 Sandal Shop**

(1)	Products: Leather sandals				
(2)	Initial investment				
		Building	Tshs	60,000.	
		Machinery & Equipment	Tshs	40,000.	
		Total			Tshs 100,000.
(3)	Number of workers				20
(4)	Investment per worker				Tshs 5,000.
(5)	Annual gross sales				
	5.1 Production capacity				
		Sandal pairs 8,400 @ 45 Tshs =	Tshs	378,000.	
	5.2 Expected sales at 70% of capacity utilization				
		Tshs 378,000 x 0.7 =			Tshs 264,600.
(6)	Annual production costs				
	6.1 Labor costs	20 person @ Tshs 4,080 =	Tshs	81,600.	
	6.2 Material costs	Tshs 264,600 x 0.45 =	Tshs	119,070.	
	6.3 Depreciation				
		Building Tshs 60,000 x 0.05 =	Tshs	3,000.	
		Machinery Tshs 40,000 x 0.1 =	Tshs	4,000.	
		Subtotal	Tshs	7,000.	
	6.4 Overhead costs		Tshs	22,915.	
	6.5 Miscellaneous costs		Tshs	10,000.	
	6.6 Total costs				Tshs 240,585.
(7)	Annual net profits	Tshs 264,600 - 240,585 =			Tshs 24,015.
(8)	Normal rate of return to investment				(7) / (2) = 24.0%

**Basic Industrial Unit Data - 12 Tailoring Shop**

(1)	Products: Men's shirts, blouses, slacks				
(2)	Initial investment				
		Building	Tshs	69,550.	
		Machinery & Equipment	Tshs	37,200.	
		Total			Tshs 106,750.
(3)	Number of workers				21
(4)	Investment per worker				Tshs 5,338.
(5)	Annual gross sales				
	5.1 Production capacity				
		Men's shirts 12,000 @ 20 Tshs =	Tshs	240,000.	
		Blouses 12,000 @ 17 Tshs =	Tshs	204,000.	
		Slacks 12,000 @ 30 Tshs =	Tshs	360,000.	
		Subtotal	Tshs	704,000.	
	5.2 Expected sales at 70% of capacity utilization				
		Tshs 704,000 x 0.7 =			Tshs 562,000.
(6)	Annual production costs				
	6.1 Labor costs	17 persons @ Tshs 4,080 =	Tshs	69,360.	
		4 persons @ Tshs 9,600 =	Tshs	38,400.	
		Subtotal	Tshs	107,760.	
	6.2 Material costs		Tshs	265,300.	
	6.3 Depreciation				
		Building Tshs 69,550 x 0.05 =	Tshs	3,478.	
		Machinery Tshs 37,200 x 0.1 =	Tshs	3,720.	
		Subtotal	Tshs	7,198.	
	6.4 Overhead costs		Tshs	38,870.	
	6.5 Miscellaneous costs		Tshs	30,000.	
	6.6 Total costs				Tshs 449,128.
(7)	Annual net profits	Tshs 562,000 - 449,128 =			Tshs 112,872.
(8)	Normal rate of return to investment				(7) / (2) = 105.7%

### Basic Industrial Unit Data - 13 Cement Products Shop

(1)	Products: L-shaped and flat cement blocks				
(2)	Initial investment				
		Building	Tshs	50,000.	
		Machinery & Equipment	Tshs	30,000.	
		Total			Tshs 80,000.
(3)	Number of workers				30
(4)	Investment per worker				Tshs 2,667.
(5)	Annual gross sales				
	5.1 Production capacity				
		L-shaped blocks 56,000 @ 8 Tshs =	Tshs	448,000.	
	5.2 Expected sales at 70% of capacity utilization				
		Tshs 448,000 x 9.7 =			Tshs 313,600.
(6)	Annual production costs				
	6.1 Labor costs	30 persons @ Tshs 4,080 =	Tshs	122,400.	
	6.2 Material costs		Tshs	125,440.	
	6.3 Depreciation				
		Building Tshs 50,000 x 0.05 =	Tshs	2,500.	
		Machinery Tshs 30,000 x 0.1 =	Tshs	3,000.	
		Subtotal	Tshs	5,500.	
	6.4 Overhead costs		Tshs	27,006.	
	6.5 Miscellaneous costs		Tshs	15,000.	
	6.6 Total costs				Tshs 295,346.
(7)	Annual net profits	Tshs 313,600 - 295,346 =			Tshs 18,254.
(8)	Normal rate of return to investment				(7) / (2) = 22.8%

### Basic Industrial Unit Data - 14 Pottery Shop

(1)	Products: Water pots, plates				
(2)	Initial investment				
		Building	Tshs	125,000.	
		Machinery & Equipment	Tshs	20,000.	
		Total			Tshs 145,000.
(3)	Number of workers				20
(4)	Investment per worker				Tshs 7,250.
(5)	Annual gross sales				
	5.1 Production capacity				
		Water pots 8,400 @ 50 Tshs =	Tshs	420,000.	
	5.2 Expected sales at 70% of capacity utilization				
		Tshs 420,000 x 0.7 =			Tshs 294,000.
(6)	Annual production costs				
	6.1 Labor costs	17 persons @ Tshs 4,080 =	Tshs	69,360.	
		3 persons @ Tshs 9,600 =	Tshs	28,800.	
		Subtotal	Tshs	98,160.	
	6.2 Material costs		Tshs	88,200.	
	6.3 Depreciation				
		Building Tshs 125,000 x 0.05 =	Tshs	6,250.	
		Machinery Tshs 20,000 x 0.1 =	Tshs	2,000.	
		Subtotal	Tshs	8,250.	
	6.4 Overhead costs		Tshs	20,124.	
	6.5 Miscellaneous costs		Tshs	15,000.	
	6.6 Total costs				Tshs 229,734.
(7)	Annual net profits	Tshs 294,000 - 229,734 =			Tshs 64,266.
(8)	Normal rate of return to investment				(7) / (2) = 44.3%

**Basic Industrial Unit Data - 15 Industrial Gloves Manufacturing Shop**

(1)	Products: Leather industrial gloves					
(2)	Initial investment					
		Building	Tshs	60,000.		
		Machinery & Equipment	Tshs	35,000.		
		Total			Tshs.	95,000.
(3)	Number of workers					20
(4)	Investment per worker				Tshs	4,750.
(5)	Annual gross sales					
	5.1 Production capacity					
		Industrial gloves pairs 42,000 @ 10 Tshs = Tshs 420,000.				
	5.2 Expected sales at 70% of capacity utilization					
		Tshs 420,000 x 0.7 =			Tshs	294,000.
(6)	Annual production costs					
	6.1 Labor costs					
		20 persons @ Tshs 4,080 =	Tshs	81,600.		
	6.2 Material costs	Tshs 294,000 x 0.4 =	Tshs	81,600.		
	6.3 Depreciation					
		Building Tshs 60,000 x 0.05 =	Tshs	3,000.		
		Machinery Tshs 35,000 x 0.1 =	Tshs	3,500.		
		Subtotal	Tshs	6,500.		
	6.4 Overhead costs		Tshs	22,551.		
	6.5 Miscellaneous costs		Tshs	15,000.		
	6.6 Total costs				Tshs	257,951.
(7)	Annual net profits	Tshs 294,000 - 257,951 =			Tshs	36,049.
(8)	Normal rate of return to investment					(7) / (2) = 37.9%

**APPENDIX B**

**FACILITY REQUIREMENTS FOR INDUSTRIAL UNITS**



**Appendix B**  
**Facility Requirements for Industrial Units**

	1	2	3	4	5	6	7	8
	Foundry Shop	Wood Pattern Shop	Scrap Metal Sorting	Knitting Shop	Blacksmiths	Machine Shop	Carts/Wheelbarrow Manufacturing	Tin and Zinc Smiths
Site Area (sq.m.)	560	370	600	70	260	660	660	660
Building Area (sq.m.)	165	165	180	38	135	230	230	330
Principal Machinery and Equipment Required	Small cupola, blower, grinder, sand, clay, tools, ladle, etc.	Lathe, band saw, grinder, 10 sets of tools, working desks, etc.	2 chain blocks, gas burner, truck, 5 sets of tools,	3 hand-driven flat knitting machines (7G, 40'), 3 hand-driven flat knitting machines (10G, 40'), 3 Roabben-Tuck knitting devices, 3 color changing devices (3 colors), treadle-type sewing machine for straight, zigzag, button hole and button sewing, charcoal iron, etc.	5 firegrates, 2 sets of tools, 2 grindets	Lathe, drilling machine, milling machine, gear cutting machine, 2 grinders, 2 tables.	Band saw, 15 sets of tools	Shearing machine, rolling machine, bending machine, 5 sets of tools

**Appendix B**  
**Facility Requirements for Industrial Units**

	9	10	11	12	13	14	15
	Woodwork Shop	Furniture Shop	Sandal	Tailoring	Cement Products	Pottery	Industrial Gloves
Site Area (sq.m.)	500	500	400	180	1,800	1,000	250
Building Area (sq.m.)	230	200	230	120	500	250	150
Principal Machinery and Equipment Required	2 saw benches, travelling cut-off saw, 2 single straight trainers, end tenonner, double spindle, hollow chisel mortiser, bench drill, spindle mortiser, bench drill, woodwork-machine, 2 ing press, knife grinder, tool grinder, tools	2 saw benches, travelling cut-off saw, 2 single straight trainer, hollow chisel mortiser, bench drill, spindle mortiser, bench sander Ronger, woodwork-machine, 2 hand sander, woodworking press, sprayer, knife grinder, tool grinder, tools	Cutting machine, folding machine, 10 sewing machines, 8 single-needle foot press, fluffing machine, chimes, single-needle lock-stitch machine, electric heaters, finishing machine, tools	Cutting table, portable cutting machine, cloth drilling machine, 8 single-needle lockstitch machines, holding machine, 6 electric irons, 3 electric steam irons, 2 finishing electric irons, etc.	Carts	2 potter's wheels, furnace, tools	12 treadle sewing machines, skiving machine, cutting machine, tools

