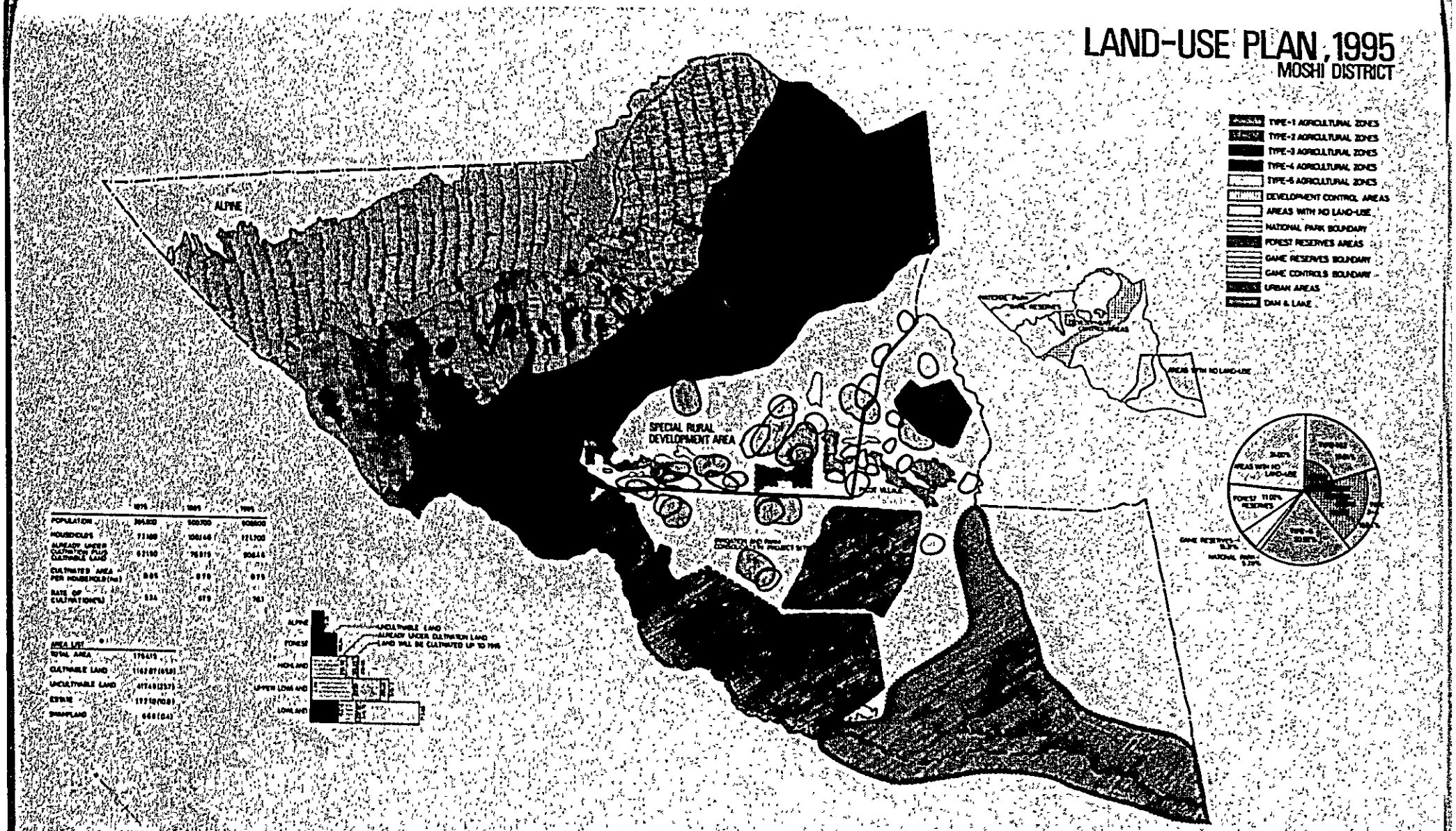
LAND-USE PLAN, 1995
MOSHI DISTRICT



	1975	1985	1995
POPULATION	304,800	408,700	508,600
HOUSEHOLDS	77,100	100,160	121,700
AREA ALREADY UNDER CULTIVATION PLUS CULTIVABLE LAND	67,150	76,915	80,614
CULTIVATED AREA PER HOUSEHOLD (ha)	0.85	0.76	0.70
RATE OF CULTIVATION (%)	53.4	67.9	76.1

AREA LIST	
TOTAL AREA	176,619
CULTIVABLE LAND	116,287 (65.8)
UNCULTIVABLE LAND	47,140 (26.7)
FOREST	11,710 (6.6)
SWAMPLAND	482 (0.4)

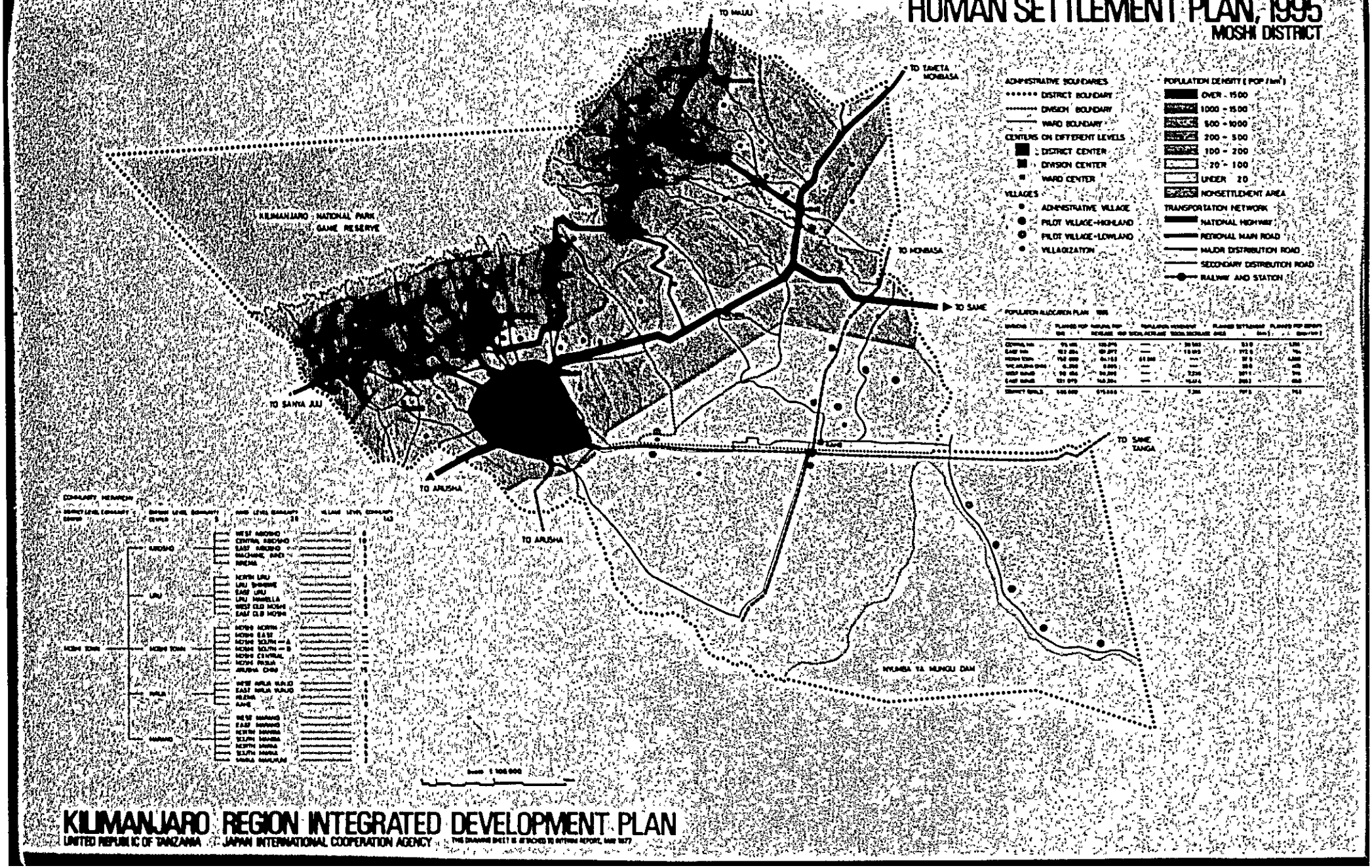
Scale 1:100,000

KILIMANJARO REGION INTEGRATED DEVELOPMENT PLAN

UNITED REPUBLIC OF TANZANIA · JAPAN INTERNATIONAL COOPERATION AGENCY

THIS DRAWING SHEET IS ATTACHED TO INTERIM REPORT, MAY 1977

HUMAN SETTLEMENT PLAN, 1995
MOSHI DISTRICT

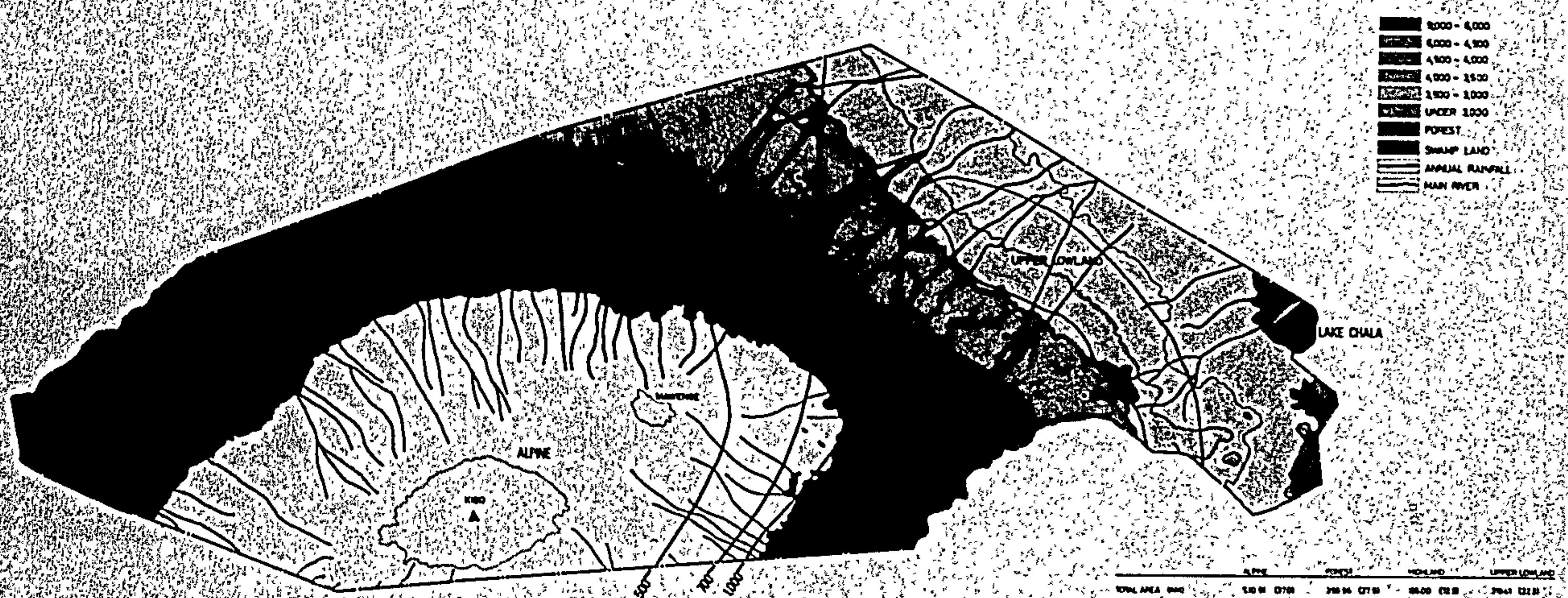


KILIMANJARO REGION INTEGRATED DEVELOPMENT PLAN

UNITED REPUBLIC OF TANZANIA : JAPAN INTERNATIONAL COOPERATION AGENCY

THIS DRAWING SHEET IS ATTACHED TO INTERIM REPORT, MAR 1977

NATURAL GEOGRAPHY
ROMBO DISTRICT



	ALPINE	FOREST	HIGHLAND	UPPER LOWLAND
TOTAL AREA	[illegible]	[illegible]	[illegible]	[illegible]
ALTITUDE (FT)	[illegible]	[illegible]	[illegible]	[illegible]
ANNUAL RAINFALL	[illegible]	[illegible]	700 – 2000	[illegible]
SLOPE	[illegible]	[illegible]	[illegible]	[illegible]
VEGETATION	SCATTERED TREES	FOREST	SCATTERED TREE AND SCRUB	THICKET
LAND USE	NATIONAL PARK	FOREST RESERVE	COFFEE & BANANA	CROP FARMING
REGULATION	GAME RESERVE	GAME RESERVE FOREST RESERVE	—	—

KILIMANJARO REGION INTEGRATED DEVELOPMENT PLAN

UNITED REPUBLIC OF TANZANIA JAPAN INTERNATIONAL COOPERATION AGENCY

HUMAN GEOGRAPHY
ROMBO DISTRICT

STATISTICS DATA

CODE NO	WARDS	AREA (km²)	POPULATION 1978 (%)	POPULATION DENSITY (pop/km²)	NO OF VILLAGE
10	MENGWE DIVISION	179.0	34,970 (23.9)	[illegible]	16
11	WEST MENGWE	[illegible]	[illegible]	[illegible]	[illegible]
12	EAST MENGWE	[illegible]	[illegible]	[illegible]	[illegible]
20	MKUU DIVISION	67.0	32,962 (22.5)	[illegible]	12
21	WEST MKUU	[illegible]	[illegible]	[illegible]	[illegible]
22	EAST MKUU	[illegible]	[illegible]	[illegible]	[illegible]
30	MASHATI DIVISION	94.0	34,039 (23.3)	362.1	13
31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
32	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
33	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40	USSERI DIVISION	143.0	38,209 (26.1)	271.4	15
41	SOUTH USSERI	[illegible]	[illegible]	[illegible]	[illegible]
42	CENTRAL USSERI	[illegible]	[illegible]	[illegible]	[illegible]
43	NORTH USSERI	[illegible]	[illegible]	[illegible]	[illegible]
50	TARAKEA DIVISION	27.0	6,094 (4.2)	225.7	2
	TOTAL OR AVERAGE	504.6	146,272 (100.0)	290.0	[illegible]

Scale 1:150,000

KILIMANJARO REGION INTEGRATED DEVELOPMENT PLAN

UNITED REPUBLIC OF TANZANIA JAPAN INTERNATIONAL COOPERATION AGENCY

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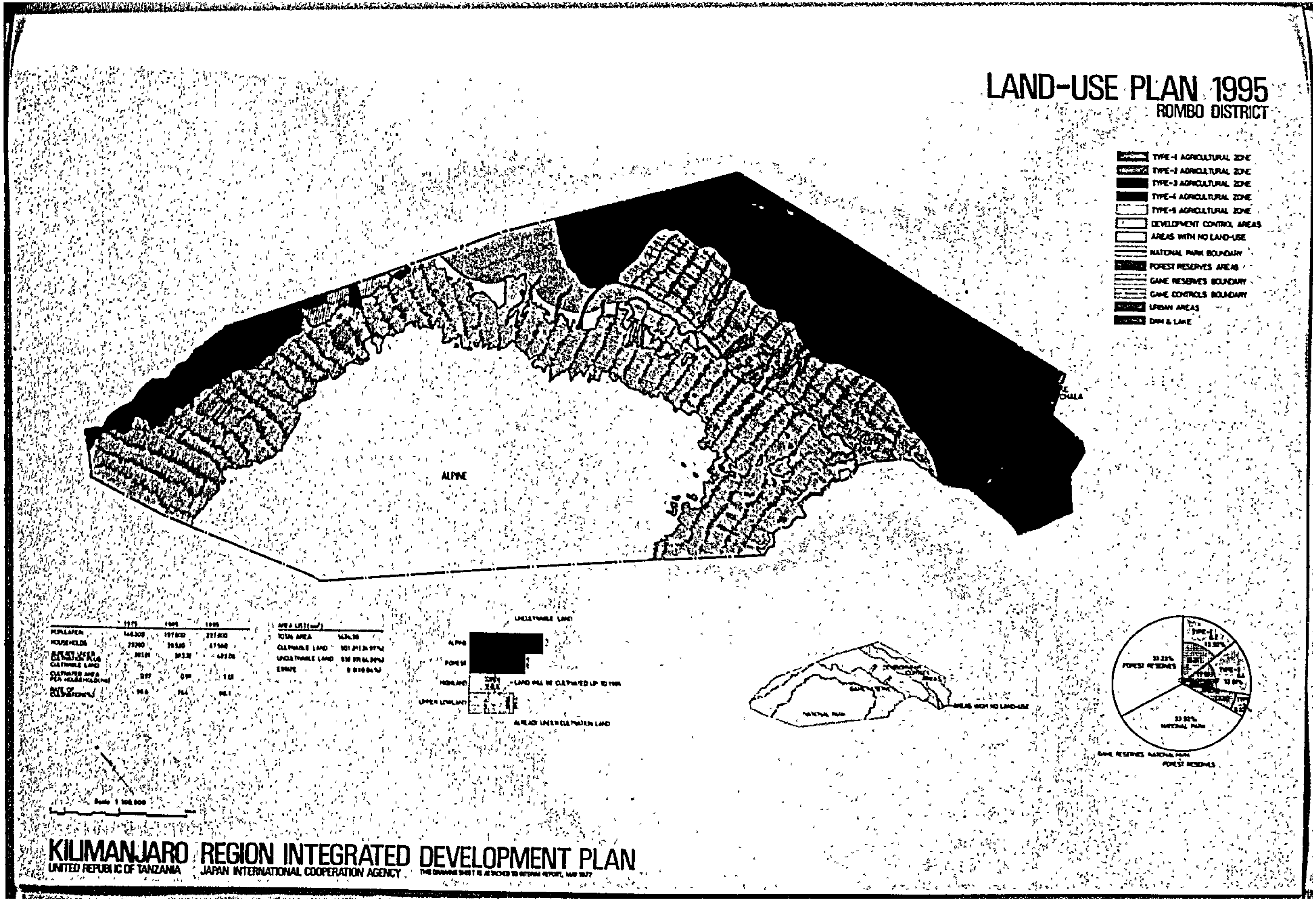
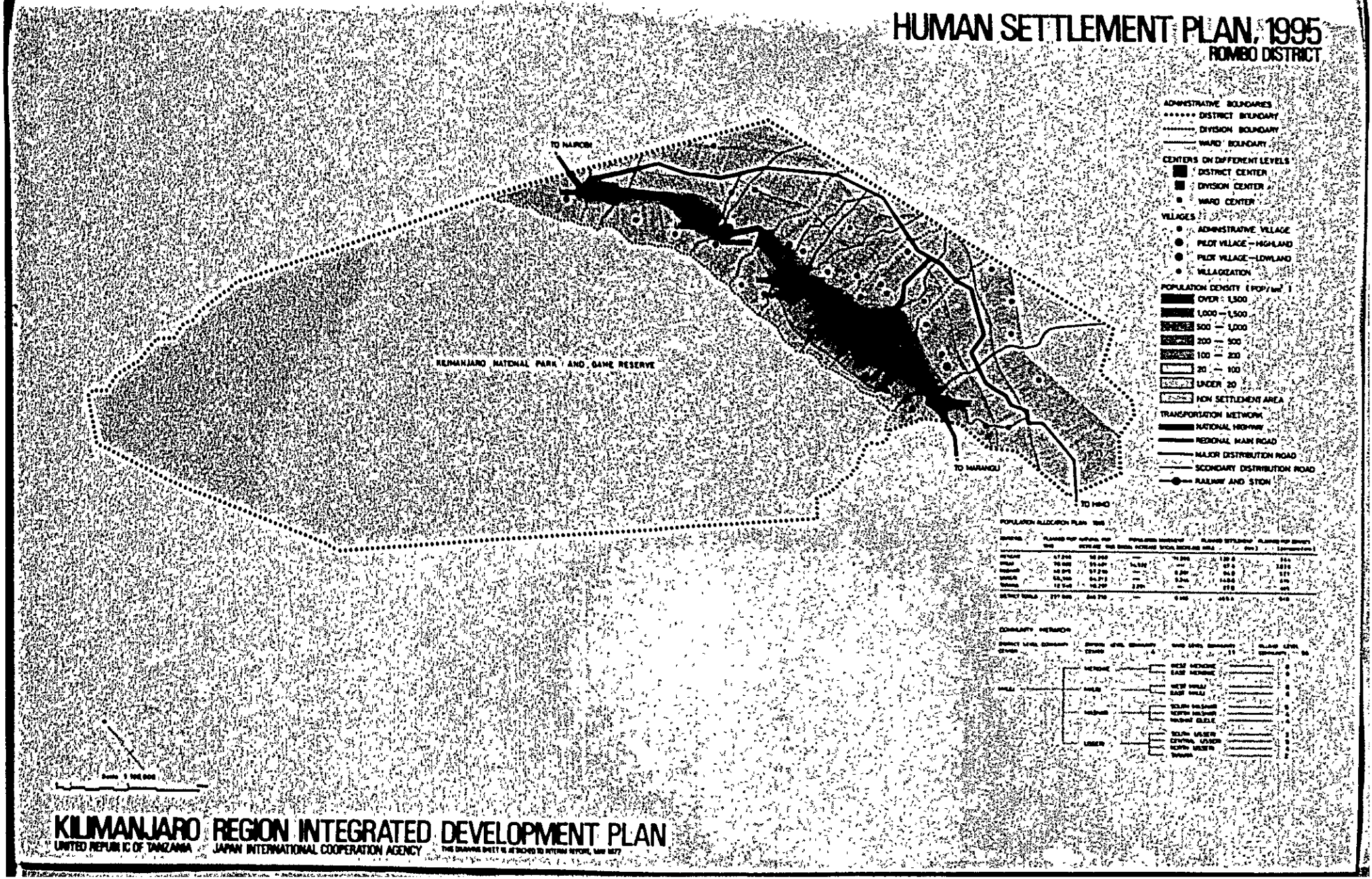

LAND-USE PLAN 1995
ROMBO DISTRICT
TYPE-1 AGRICULTURAL ZONE
TYPE-2 AGRICULTURAL ZONE
TYPE-3 AGRICULTURAL ZONE
TYPE-4 AGRICULTURAL ZONE
TYPE-5 AGRICULTURAL ZONE
DEVELOPMENT CONTROL AREAS
AREAS WITH NO LAND-USE
NATIONAL PARK BOUNDARY
FOREST RESERVES AREAS
GAME RESERVES BOUNDARY
GAME CONTROLS BOUNDARY
URBAN AREAS
DAM & LAKE
CHALA
ALPINE
POPULATION
HOUSEHOLDS
TOTAL AREA
UNCULTIVABLE LAND
LAND WILL BE CULTIVATED UP TO 1995
ALREADY UNDER CULTIVATION LAND
NATIONAL PARK
AREAS WITH NO LAND-USE
FOREST RESERVES
NATIONAL PARK
GAME RESERVES
KILIMANJARO REGION INTEGRATED DEVELOPMENT PLAN
UNITED REPUBLIC OF TANZANIA
JAPAN INTERNATIONAL COOPERATION AGENCY

HUMAN SETTLEMENT PLAN, 1995
ROMBO DISTRICT



KILIMANJARO REGION INTEGRATED DEVELOPMENT PLAN

UNITED REPUBLIC OF TANZANIA — JAPAN INTERNATIONAL COOPERATION AGENCY

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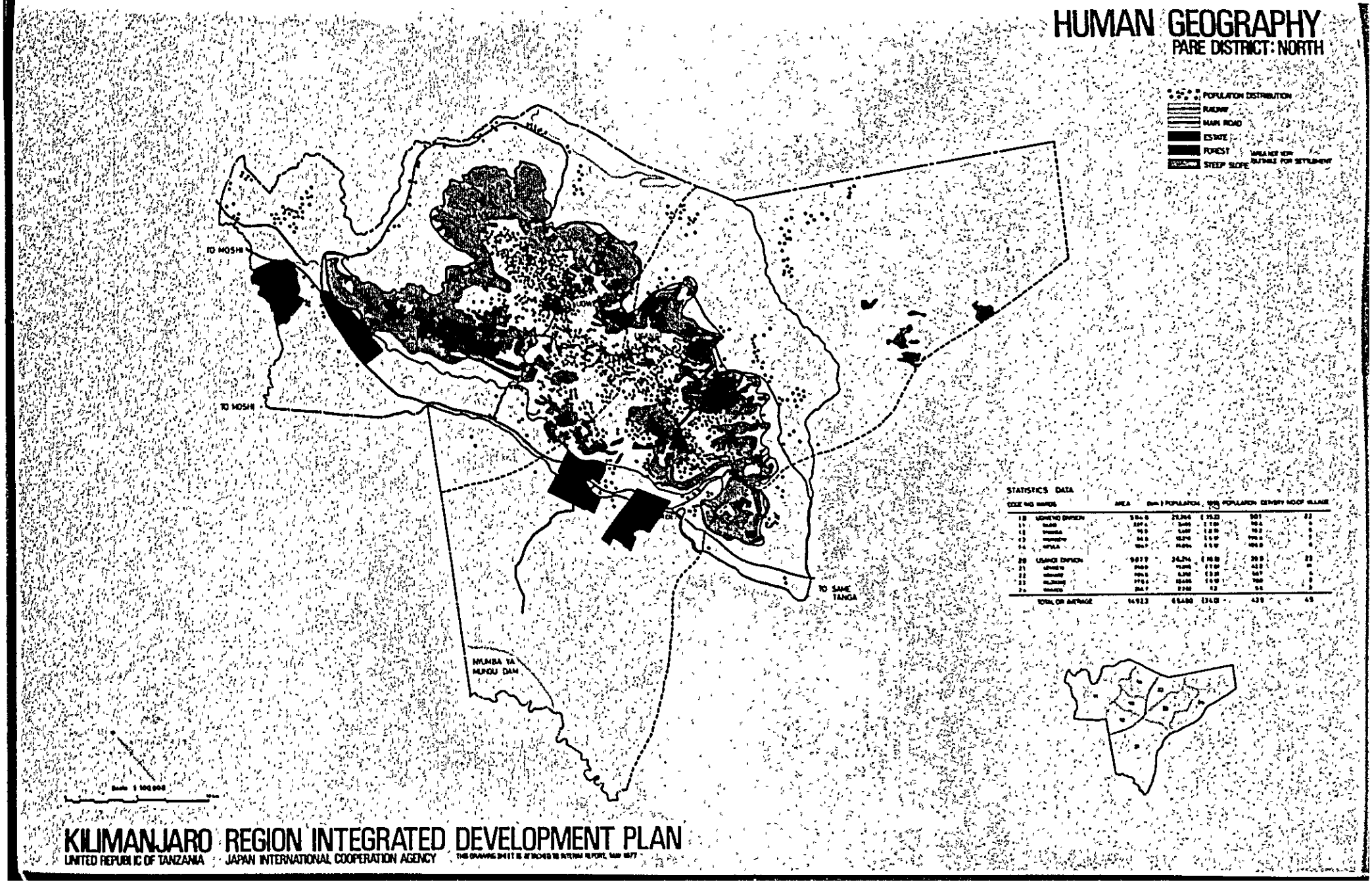
NATURAL GEOGRAPHY
PARE DISTRICT: NORTH

KILIMANJARO REGION INTEGRATED DEVELOPMENT PLAN
UNITED REPUBLIC OF TANZANIA JAPAN INTERNATIONAL COOPERATION AGENCY

HUMAN GEOGRAPHY
PARE DISTRICT: NORTH



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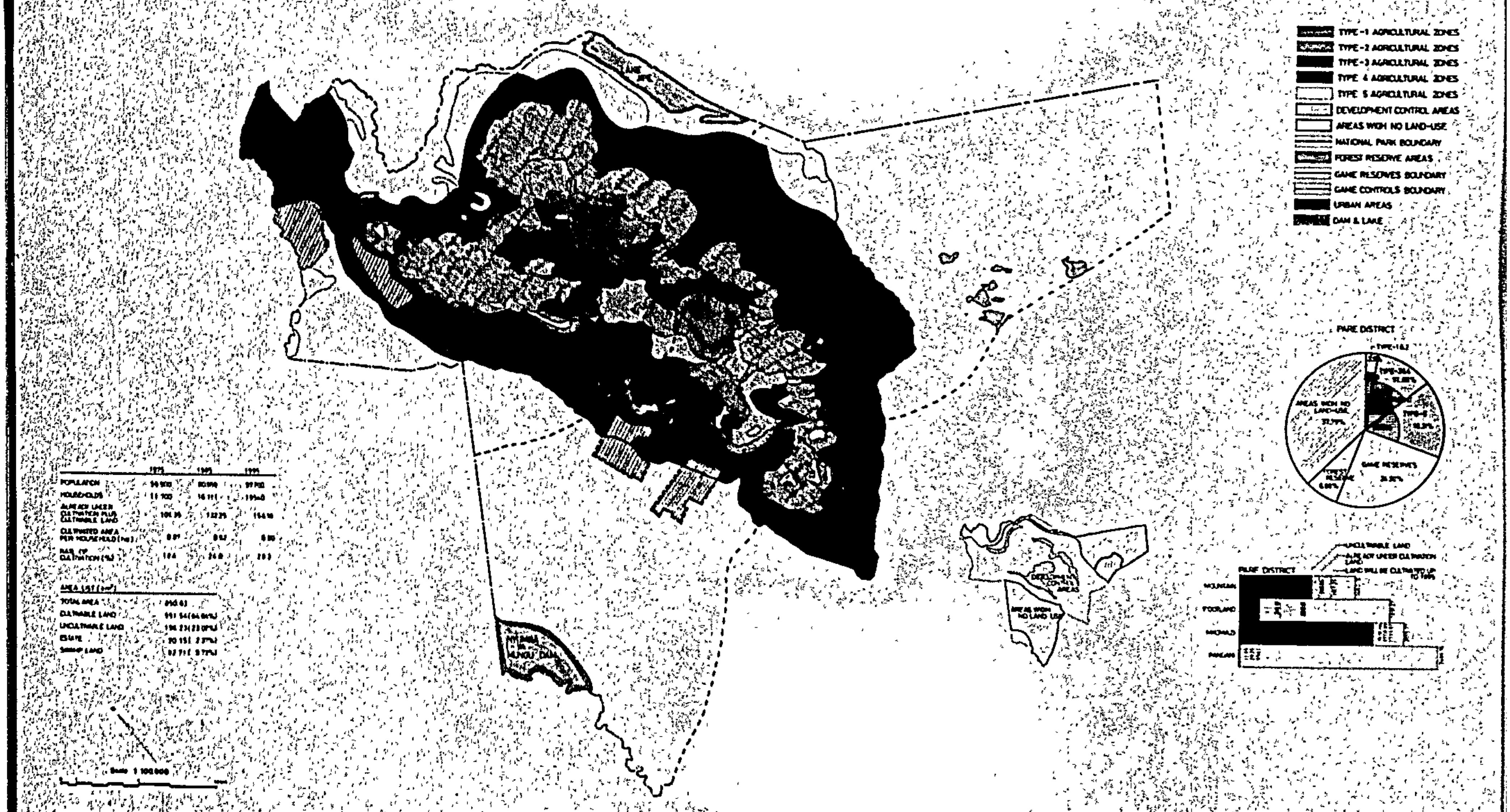
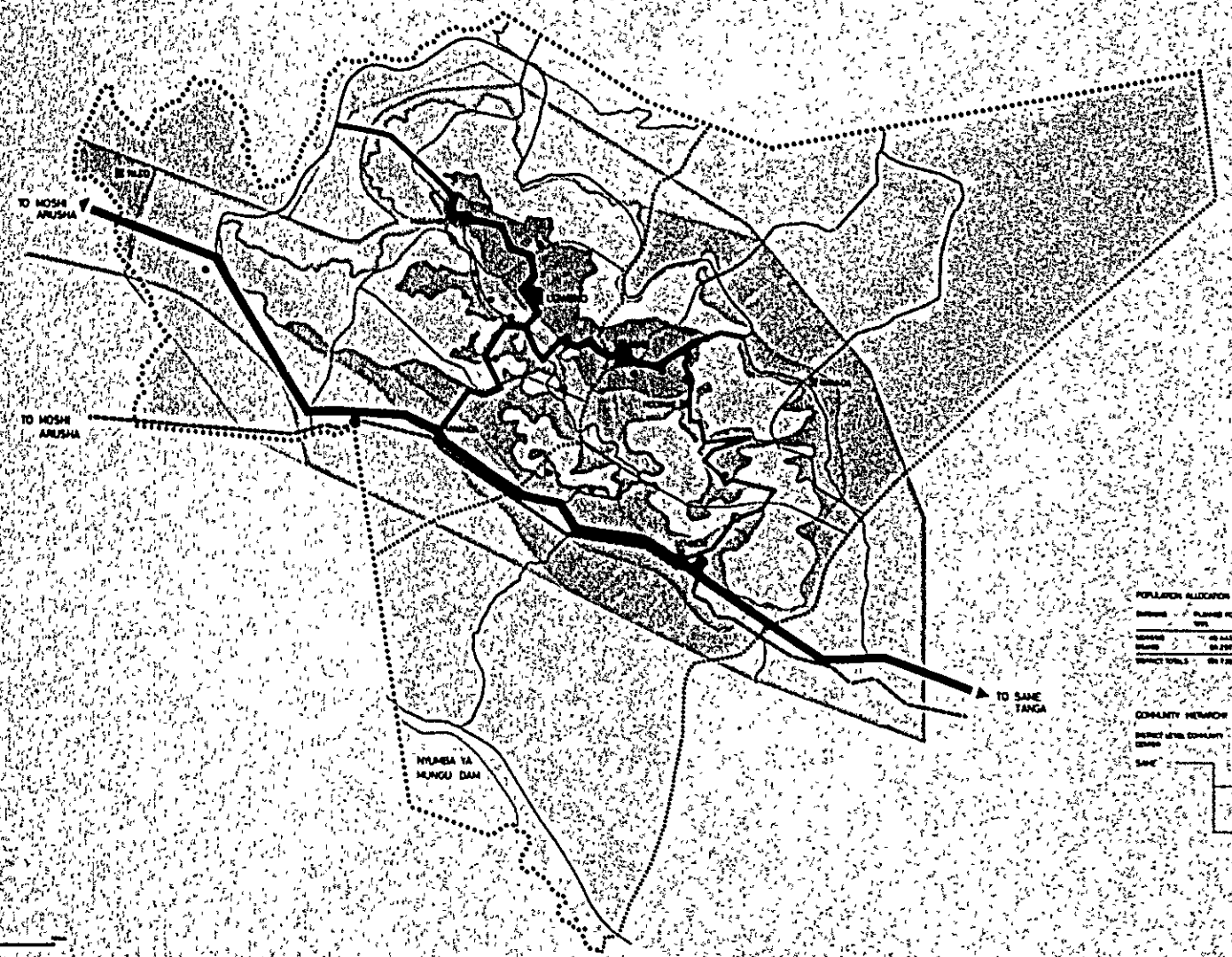
LAND-USE PLAN 1995
PARE DISTRICT: NORTH



TYPE-1 AGRICULTURAL ZONES
TYPE-2 AGRICULTURAL ZONES
TYPE-3 AGRICULTURAL ZONES
TYPE 4 AGRICULTURAL ZONES
TYPE 5 AGRICULTURAL ZONES
DEVELOPMENT CONTROL AREAS
AREAS WITH NO LAND-USE
NATIONAL PARK BOUNDARY
FOREST RESERVE AREAS
GAME RESERVES BOUNDARY
GAME CONTROLS BOUNDARY
URBAN AREAS
DAM & LAKE
PARE DISTRICT
AREAS WITH NO LAND-USE
GAME RESERVES
POPULATION
HOUSEHOLDS
TOTAL AREA
ESTATE
PARE DISTRICT
MOUNTAIN
MIDLAND
PANGANI

KILIMANJARO REGION INTEGRATED DEVELOPMENT PLAN
UNITED REPUBLIC OF TANZANIA · JAPAN INTERNATIONAL COOPERATION AGENCY

HUMAN SETTLEMENT PLAN, 1995
NORTH PARE



ADMINISTRATIVE BOUNDARIES
- DISTRICT BOUNDARY
- DIVISION BOUNDARY
- WARD BOUNDARY

CENTERS ON DIFFERENT LEVELS
- DISTRICT CENTER
- DIVISION CENTER
- WARD CENTER

VILLAGES
- ADMINISTRATIVE VILLAGE
- PILOT VILLAGE-HIGHLAND
- PILOT VILLAGE-LOWLAND
- VILLAGIZATION

POPULATION DENSITY (POP / km²)
- OVER 1500
- 1000 - 1500
- 500 - 1000
- 200 - 500
- 100 - 200
- 20 - 100
- UNDER 20
- NONSETTLEMENT AREA

TRANSPORTATION NETWORK
- NATIONAL HIGHWAY
- REGIONAL MAIN ROAD
- MAJOR DISTRIBUTION
- SECONDARY DISTRIBUTION ROAD
- RAILWAY AND STATION

POPULATION ALLOCATION PLAN 1995

COMMUNITY NETWORK

KILIMANJARO REGION INTEGRATED DEVELOPMENT PLAN

UNITED REPUBLIC OF TANZANIA / JAPAN INTERNATIONAL COOPERATION AGENCY

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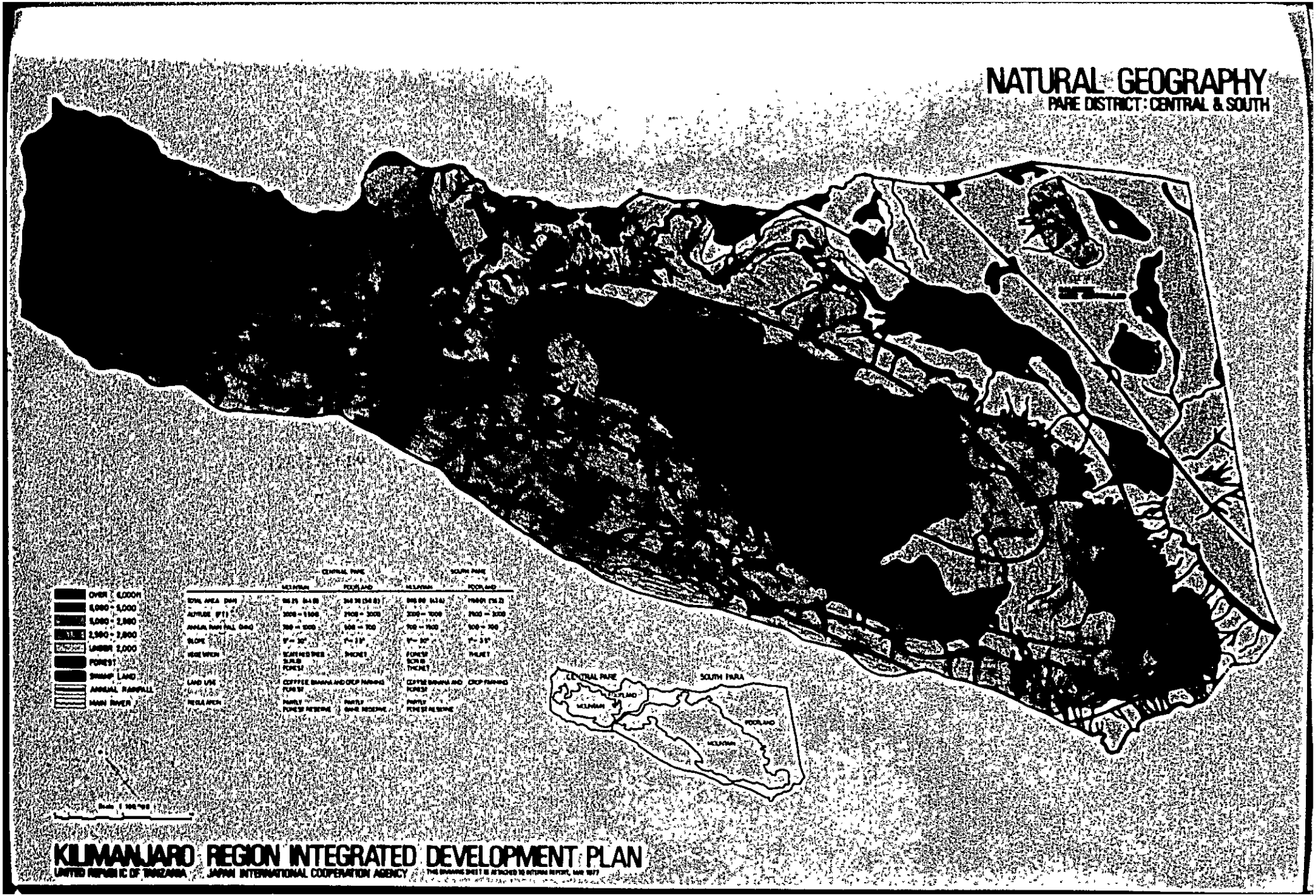
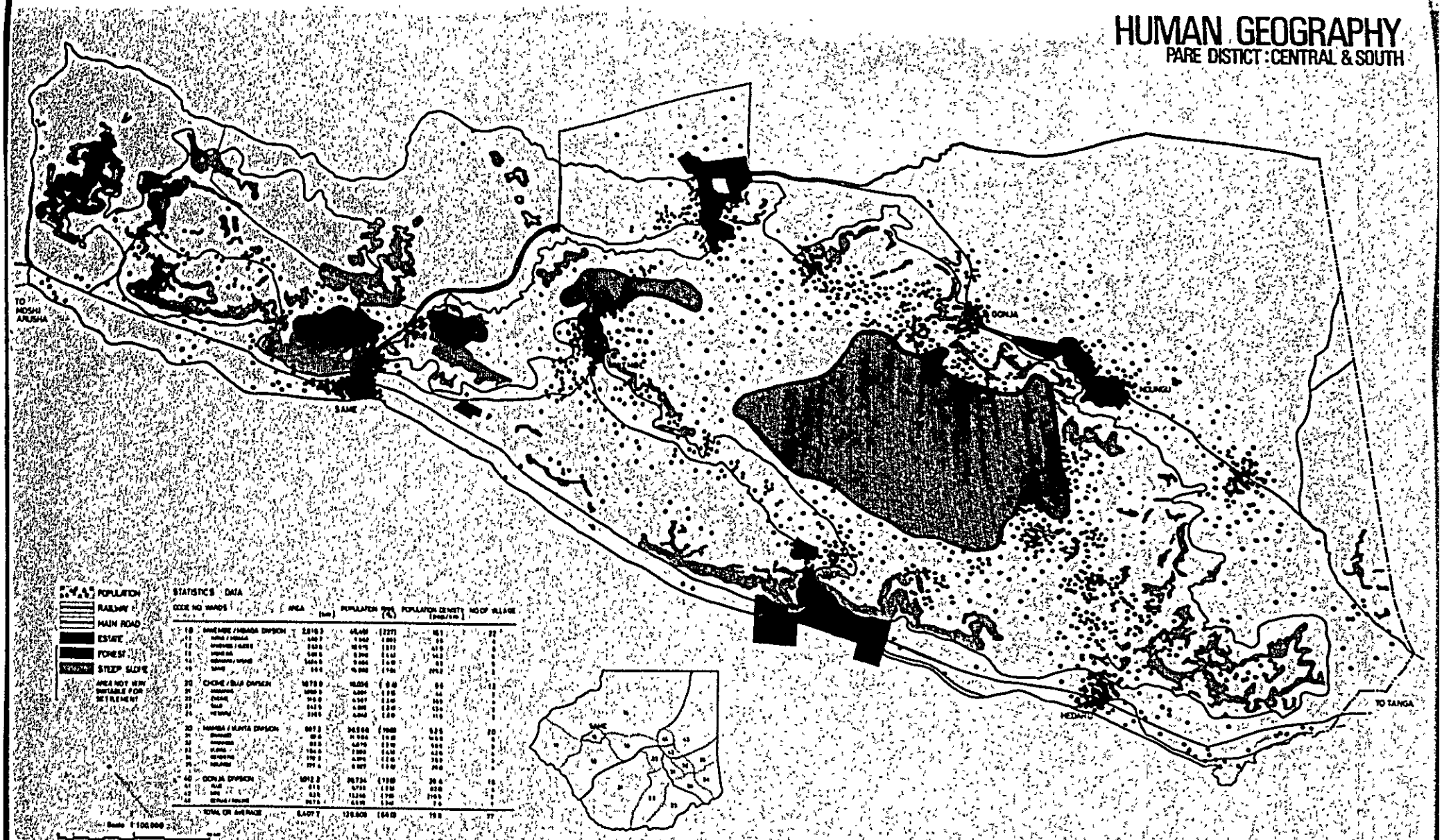

NATURAL GEOGRAPHY
PARE DISTRICT : CENTRAL & SOUTH
OVER 6,000m
6,000 ~ 5,000
5,000 ~ 2,960
2,960 ~ 2,000
UNDER 2,000
FOREST
SWAMP LAND
ANNUAL RAINFALL
MAIN RIVER
CENTRAL PARE
SOUTH PARE
MOUNTAIN
FOOTLAND
LAND USE
REGULATION
CENTRAL PARE
SOUTH PARA
MOUNTAIN
FOOTLAND
MOUNTAIN
KILIMANJARO REGION INTEGRATED DEVELOPMENT PLAN
UNITED REPUBLIC OF TANZANIA
JAPAN INTERNATIONAL COOPERATION AGENCY

HUMAN GEOGRAPHY

PARE DISTICT : CENTRAL & SOUTH



KILIMANJARO REGION INTEGRATED DEVELOPMENT PLAN

UNITED REPUBLIC OF TANZANIA JAPAN INTERNATIONAL COOPERATION AGENCY

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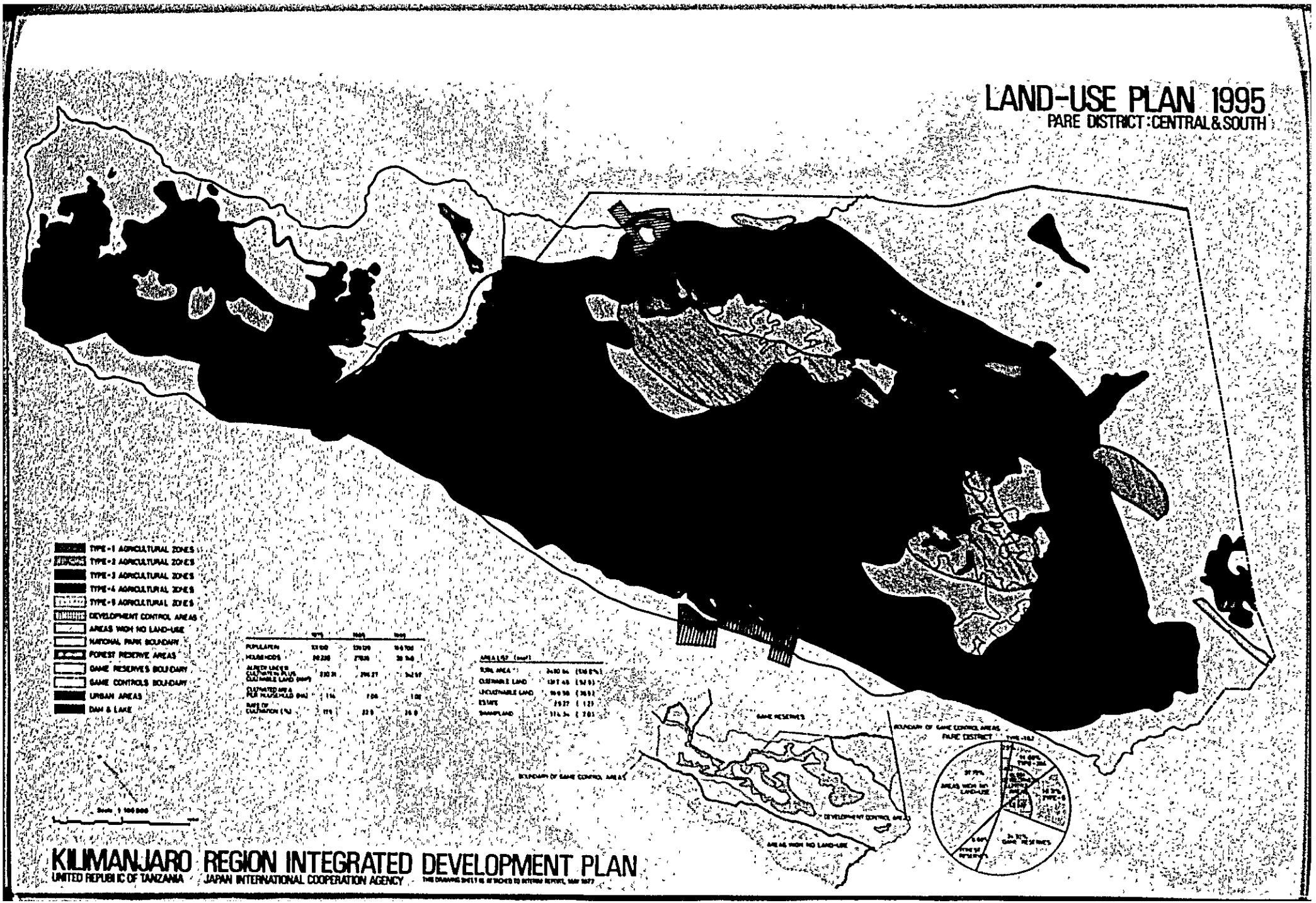
LAND-USE PLAN 1995

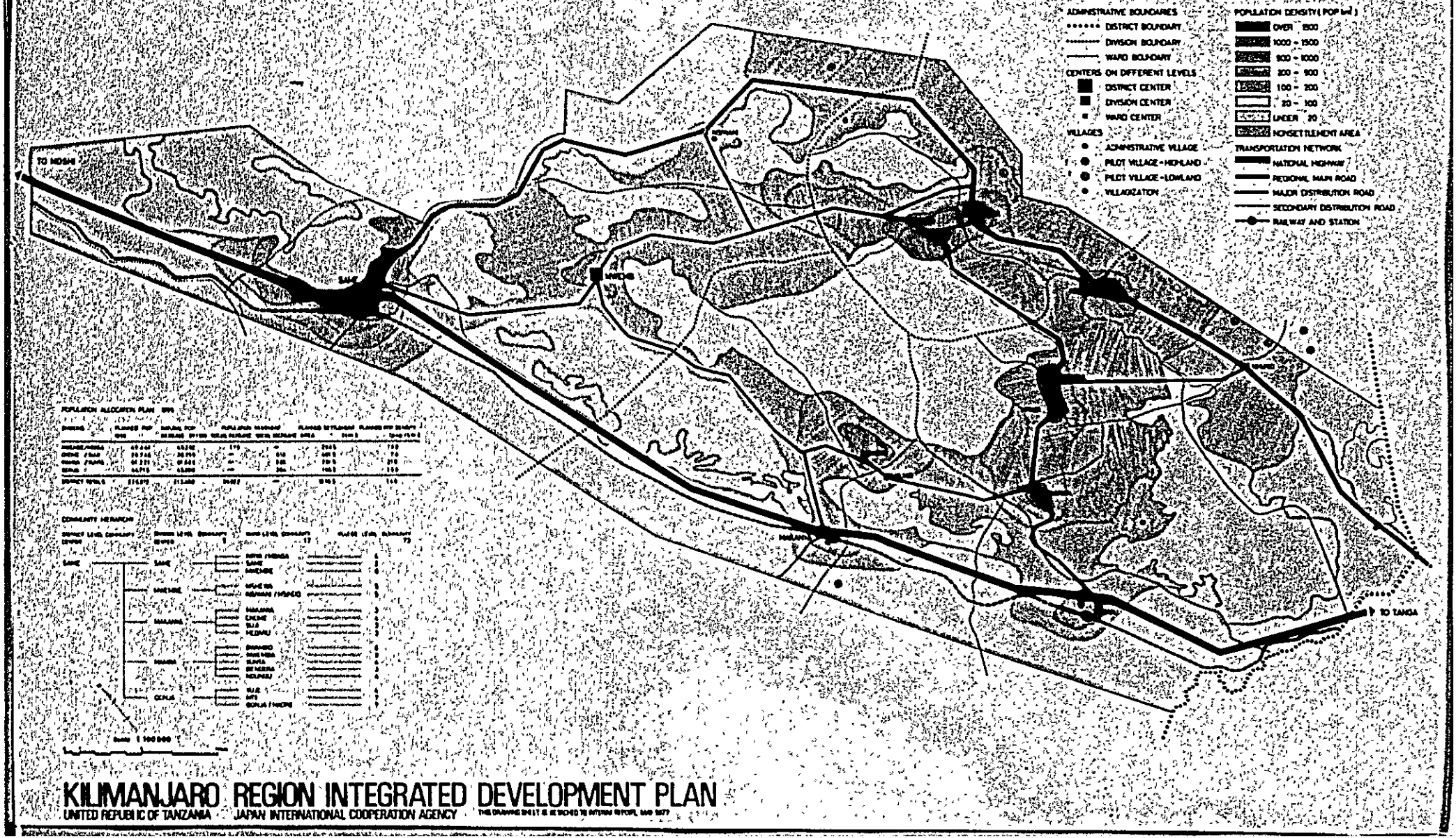
PARE DISTRICT : CENTRAL & SOUTH



KILIMANJARO REGION INTEGRATED DEVELOPMENT PLAN

UNITED REPUBLIC OF TANZANIA · JAPAN INTERNATIONAL COOPERATION AGENCY

HUMAN SETTLEMENT PLAN, 1995
SOUTH PARE



KILIMANJARO REGION INTEGRATED DEVELOPMENT PLAN

UNITED REPUBLIC OF TANZANIA · JAPAN INTERNATIONAL COOPERATION AGENCY

THIS DRAWING SHALL BE REVISED TO INTERIM REPORT, MAR 1977

INTRODUCTION

The Kilimanjaro Region, which boasts the grandest peak on the African continent, is beautiful country. In the prosperous villages on its mountain skirts one senses a bustling energy among the people that has accumulated since independence and that now makes the region one of the nation's strongholds of "freedom and unity."

For over fifteen years now the country, under the leadership of President Nyerere, has been integrating its some 120 national tribes into a single people for political stability, building socialism, and promoting Africanization.

Newly independent nations invariably are faced with many difficult problems, and Tanzania is no exception, some of its major difficulties being a high rate of population growth, the loss of overseas markets as a result of independence, and the need to rebuilt the entire socioeconomic fabric of the country for the sake of Africanization.

In 1967 the Arusha Declaration made at the foot of Mt. Meru set forth the goal of socialist construction on an agricultural foundation with the support and cooperation of the masses and in a spirit of independence and self-reliance. In the course of implementation of the First 5-year Plan for national development, which began the following year, nationalization of estates, public management of commerce, distribution, and trade, and formation of cooperatives were promoted, and now the country wants to build a new socioeconomic system on the foundation provided by traditional African society.

In accordance with the spirit of the Arusha Declaration, each region is to formulate its own integrated development plan so that a new national development plan can be formulated on the basis of such regional plans. This is the context in which the Kilimanjaro Integrated Development Plan has been prepared.

Needless to say, this regional integrated development plan aims for the long-range prosperity of the region and its people on the basis of the spirit of self-reliance. Accordingly, it sets forth a system of action guidelines for the running of the whole region as a socioeconomic unit on the basis of mass support.

The firts and foremost difficulty confronting the Kilimanjaro Region is that of achieving economic stability in the midst of rapid change in agricultural production, i.e., of keeping the economy from declining in the midst of world recession and inflation.

The basic idea behind the integrated development plan is that of indicating the way in which to enhance the autonomous development power of the regional socioeconomic unit sufficiently to be able to make it through this difficult stage, and the boostering of such autonomous development power is something that will take more than five years.

Needless to say, such autonomous development power is based on the strength of the people and of the land, and accordingly the basic purpose of the integrated development plan is precisely that of fostering such strength.

Now is the time for the region to call on the self-reliance and creativity that the nation has fostered under the banner of "freedom and unity" since independence so as to be able to realize this plan and enjoy the fruits thereof.

The most critical aspect of the plan is therefore the organization for its implementation.

The creativity and efforts of individuals must be organized through education and training, and the efforts of single villages must be channeled together for an overall effort, the result being an increase in welfare.

As for production, it must be increased not merely for greater consumption, but for accumulation of capital for the future.

Accumulation of capital from agriculture will foster the strength of the land through improvement of irrigation and distribution. Further accumulation of capital will eventually make possible the development of industry. Then accumulation of capital by industry will eventually exceed that by agriculture, and by that time the people of the region will be able to overcome natural limitations in further developing their land for their own benefit. At the same time, the vast Masai Steppe, too, will have received its baptism of economic development.

This plan aims at provision of those functions that will be initially necessary in order to proceed step by step in this very orthodox kind of industrialization.

The specific projects are all tools for this purpose and as such can be meaningful only in relation to the people whom they will serve. The strength of the people must be called up for the construction of these projects, that is to say, roads, bridges, irrigation channels, and new farmland must be provided in the context of new human organization and village building. Only then will there be an increase in welfare.

Accordingly, the process of implementation of the present plan can be said to be an administrative process, a process of gathering together the strengths of different people.

Regional integrated development planning will really take hold as planning for the socioeconomic unit that the region represents only after the first plan is further developed on the basis of the experience obtained in the course of its implementation.

And the fruits of implementation of the plan are to be enjoyed by the people of the region themselves as a reward for having participated in such implementation.

The Kilimanjaro Integrated Development Plan hereby submitted is the first step in the future development of the region. Together with the integrated development plans of other regions, it will serve as a basis for the compilation of a national development plan by the central government that in turn will serve as basic guidelines for the independent and self-reliant running of the socioeconomic system of the entire nation.

Furthermore, the Kilimanjaro Integrated Development Plan and the efforts of the people of the region will be mainstays for the overall development of Tanzania and achievement of more perfect national unity.

PART ONE : EXISTING CONDITIONS

1. HISTORICAL BACKGROUND

1.1 The Traditional Society and Economy

Two major areas of the political economy must be considered in an economic system survey. One is the social relationships which determine the economic surplus, distribution and utilization and which lead to the productive forces and production relations. The productive forces represent the production factors: resources, tools, labour, etc. The relations of production represent the roles of individuals and groups in the production process and in the control of production factors. The second is "adaptation of society" in changing the social condition, especially against external phenomena.

In the traditional society, the dominate productive system was the village community, which was based on the owners of land, who were the small preasant caltivators. The land tenure system is "clusters", and the traditional system of land tenure was charactrized by the right of every individual to the productive use of land, the rights overlapping in land and its products among individuals and groups, and prohibition of land over which a person has specific but never absolute rights.

The village community without class was a sustem of production, with no wage labour, the first need of capital accumulation. Production techniques were "land-intensive" because of the unlimited supply of good land, the cultivation of annual crops and the general simplicity of houses. Beside this mode of production, there was no land use competition. These factors show the lack of wide, well-organized political units in this area at that time. It seems that the low level of surplus generation helped to keep such a system.

The purpose of work is not for creating value, but for the maintenance of the owner and the family. There is no labour market in which labour was treated as a production factor. Thus, work was a part of social obligation insted of the production of value. The productive system is independent of the impersonal market under the "indigenous" social system.

Primary factors of production were never traded, and the lack of market exchange, encouraged the social context of production by region, kinship etc. Thus, social relationship and values were the most importants in the work organization.

From the social viewpoint, the life level was very low, which was a result of the social organization's failure to inspire innovation and technical changes. It seems that this inadequancy of the social system was implicit in the social structure itself.

Although the village community was the dominate unit of production, there were three other modes aswell: a) the "pasteral mode", in drier areas, constraining considerably the possibilities of a settled life; b) the "Banana culture" which created an artificial scarcity of land and hence a straggle for it's control; and c) Artisans and traders" who generated a surplus over subsistence which may have cushioned the social differentiations. Trade became an agent of diffusion of new products, innovations and skills. So we can call it a dynamic sector in the last traditional society. Thus, the precolonial society, beside its self-consumption characteristic, was a complex system with many modes of production which could service in the absence of colonialism.

1.2 The Slavery Period

In the traditional economy, productivity was determind by man power. The slave trade seriously undermind the traditional economy by reducing its productivity. The increasing famines became a problem and the traditional patriarchal democracies gave way to warrior monarchies. The psychological effect of the slave trade which made the people lose their self-confidence.

The introduction of a clove plantation economy in "Zanzibar had far-reaching implications. First of all the permanent Arab immigration into Zanzibar was necessary encouraged since the clove cultivation was limited to the Arabs. Secondly, because of the high labour requirement of the crop, especially during the picking season, the system encouraged the slave trade".

It should be mentioned that the Asian traders became the economic base of this sytem, financing virtually all the caravans which left the coast for the interior to capture slaves and other booty, on credit which they alone could afford to give, meanwhile controlling the export-import trade.

Economic, religious, and humanitarian, factors intertwined in influencing the slave trade. The capitalists found the slave trade against their benefits. And the christian missionaries realized that they could not succeed while slave-hunting and tribal war existed. When the British came to this area, the basic class of the society had been formed. There was usually an Arab "elite" who monoplized political power and progressive, and on the other side, was the undifferentiated African majority. In the middle was the Asian middle class whose status was treatened by the Arab planter.

1.3 The Colonial Period

The systematic Europian colonization had four main elements. First, the plantaition system stablishment; second, the introduction of cash crops to the peasantry; third, the financial and other infrastructures; forth, the establishment of the basic foreign trade.

The colony was the entity for supplying raw materials, labour and land, according to the demand from its metropolis (Germany or Britain). The colonial power was the center of product elavoration, management, and the sourcefrom which the system was provisioned with capital and skill.

The main goal in such systems is limiting the external intercourse of the colony with other areas, to restrict the colony to terminal activity in production. This means that the devision of labour and specialization was imposed by the central power, not by the objective resource of the colony. The result was to ensure that the colony was the supplyer forthe colonial power on any terms.

(1) The Proletarianization of the Peasantry

The German wanted the strategic raw commodities, like cotton, gold, rubber and sisal. The industries requiring these raw materials, which were important to the economy for millitary and political reasons, required an independent source which they could effectively control. The German settlers, and the English settlers after them, expropriated the best lands. In many lands, the result of these expropriations was to intersperce native reserves with settled European areas. This land reparation between African and Europeans made it possible to direct capital expenditure. The plantation owners, prospects depended on the labour supply from the African peasantry and the reduction of competition for export markets.

The plantation system in this period, was based on large-scale units. Compared to the traditional situation, where the proletarian class did not exist, the plantation system required the free labour that was alienated from the means of production, facing the capitalist who controlled the means of production; this was something not realized by the planter class at the beginning, but later on, the market mechanism did not resolve the paradox of "actual shortage in the presence of the appearance of plenty".

In the first place, African had the alternative of producing cash crops to supplement their income; This option was preferable to working on the plantation in that it did not alter the production relations of the community. A peasant could grow some cash crops augment his income while controlling the work process.

They discount the value of security of subsistence which was provided by the traditional sector. Such real income consisted of the flow

of means of subsistence accruing to the peasant family over its "life cycle", including the support the members would receive from the wider community during their old age and sickness.

The typical condition of an African labour was as follows:

"On arrival at the plantations, the laborens had to build some sort of shelter, and within a day or two were put to work. The diet was deficient in quality and variety, and there were no adequate arrangements for hospital accommodation, medical attention, water supplies, kitchens, catrines, etc. As a consequence, dysentery, bowel trouble and deaths ensued, and the proportion rendered unifit was large. In spite of these problems, those who did not like to work on plantations were regarded as "irrational".

This political mechanism had important effects on the labour supply, and attached the labour "migratory" characterized by low wages and caused migratory labour was caused by the cheap labour policy which incorraged the unskilled character of labour force, which is still visible in this area today, the major cause of absenteeism, lack of initiative, and the low productivity of labour was the nature of the plantation itself rather than the nature of traditional society.

The biggest effect on the system, was on the migration 10 system of the labour, which impeded the innovations in the society. Thus a vicious circle was built up with poverty caused by migration, and migration caused by poverty.

The available resources were not determined by the economic and social factors in Tanzania, because the system itself was dependent on the production factors which were drawn from abroad. The only eception was land and labour which was available in the colony. The other point is that the use of resources was determined by the owner's interests, so the investment opportunities were related to the opportunities in the metropolitan economy situation.

Foreign ownership showed that much of the saving and investment potential was depleted by the "outflow" of factors. And the development of the plantation system steped technological change in any kind. Thus the plantation was limited to the crops which were growing and very weak technical knowledge was used in production of other new crops.

(2) Cash Crop Production

German and British colonization maintained the traditional class differences and introduced new class differences linked to capitalist exploitation of the country. The major factors of these classes were: economic (cash crop and labour market), education (by missionary activity), and administration (indirect rule).

In the area where the effect of capitalism was maximized, these societies were most dependent on one single cash crop and non-communal form of landtenure. The trend of individualism, eroded the fundamental feature of the landless peasant, "the proletariat".

The human relationship in production tended to become commercialized as commercial agriculture tended to dominate the village economy. And this all took place in the old system of mutual and reciprocal obligations based on the traditional system. And in fact, co-operative forms of labour, began to be replaced by the hired labour. The commercialization of agricultur, in many areas, created the African trader class. Most of the big business continued to be owned and operated by the European and Asian "bourgeoisie".

European colonization created an auxiliary class of privileged people that exploited the peasants by systematically reinforcing and creating artificial chiefs through the system of indirect rule.

Beside the things which the colonial chiefs obtained, they set up a school for their children, which educated most of the "revolutionary" leaders of Tanzania. Through the educational system a salaried African class appeared. The members of this class had the positions as clerks, postman, teachers, etc. However, it was this class which articulated the "anti-colonial" consciousness.

The class divisions were formed by social, economic and political differences. There were different schools, clubs, hospitals, etc. for different classes. At the economic level, the racial salary structure in the public-and imitatively in the private-sector had the determining role. The natural desire for political autonomy and self improvement had resulted in the formations of various local political associations.

(3) The Institutional Setting

During this time, a partially inter-linked institutional structure of private trading interests grew up which has shaped the export enclave of the country. While British controlled of the economy, many merchandising companies were subsidiaries of international corporations and had their main offices more after in "Nairuhi" than "Dar es Salaam". The firms which handled exports were invariably involved in the import trade. And a significant proportion of private consumer good were supplied by a few European-owned firms.

The result of this system allowed the manufacturers and merchants to exploit the Tanzania market with an unusual throughness.

Besides the powerfull firms, there grew up a variety of institutions that facilitated and reinforced their role in the economy and the most important of these were the financial organizations including the bank system.

"It is thus fair to say that these financial institutions were instrumental in shaping the sectoral pattern of investment and consequently the structure of the Tanzanian economy. For by directing a significant proposition of their loans and advances to the export-import trade and to plantation agriculture, they reinforced the enclave character of the economy".

(4) Evaluation of the Colonial Period

The most important effect of the colonial period is the "nature" and the direction of development caused by some technical improvement -especially in the field of transport-and in the use of more efficient tools, and in the adoption of agricultural machinery. This shows that the future development in this area was highly dependent on forcess external to this country.

"There were as well some psychological effects, including the lack of "self-confidence", motivation and innovative consciousness as well as the destruction of the people's culture and history."

"Indeed, it can be argued that the biggest crime of oppression and foreign domination in Tanganika and elsewhere, is the psychological effect it has on the people who experience it".

1.4 Independency and After

That was the situation when Tanzania became independent in 1961. In economic terms, constituted an indpendent state on the periphery of capitalism. In political-social terms, a kind of "African socialism" was said to be a new brand of idealogy for development of a new Tanzania.

Because the economy of Tanzania lacked an industrial structure, developed capitalist production relations,United States' attempt to overthrow the United Republic of Tanzania. Some of these events brought the cold war to Tanzania to influence the revolution and to gain a foothold on this portion of eastern Africa.

During the first years of independency, resource allocation tended to be both "and hoc" and "lassez-paire". The major preoccupation of the leadership was the consolidation of The political affairs of the state. At first, the government had to face the problem of restoring African dignity. This was done by outlawing discriminatory practices in social pipe, in health and education in and wage rates. The other problem was the Africanization. This policy could be rationalized as a necessity to build up the people's "self-confidence". But the major push came from the "trade unions" which had allied themselves with the reling party in the fight for independence. The gap between the trade unions/movement and the new government remained. Wage increases were the next item of this disagreement, but it should be said that the rise of wages in some sectors was needed because African wages were kept low by colonial policy.

Land nationalization was also effected in the early days. Freehold land was abolished and development caluses imposed on all leasehold ownership rights. There was no other policy on land, distribution or land tenure.

The most important governmental policies during this period were related to planning. The three year Development Plan (1961-4) was a colonial hangover. It was drawn up by the out going administration on the recommendation of the World Bank. This plan should not be considered as an embodiment of their policies. Instead, the government hired a team of French economists to draft a new pl-n in May 1964. This was the first five year plan (1964-9), which was the comprehensive plan for all sectors of economy. The plan's goals were just quantitive targets involving no choice of the strategy for development or the nature of the future society.

One of the serious problems at this time is that of the school leavers. They are not only numerous - and their number is rising each year - but their average educational level is higher than workers who are already in employment, To the extent that the school leavers problem is potentially explosive in the more advanced areas, there is the likehood of manipulating the selection procedure by those in power to maintain the status guo. Besides the differentiations among the workers depending upon size, sector and region, there were also social differentiation between the workers and rural peasants.

It is clear that the policies adopted were not likely to year the economy to self-generating growth. This was because there emerged a contradiction between the rural and urban sector and controdiction among the various sectors.

By 1967, there was a realization by the leadership that Tanzania was moving along a familar post colonial path. The result of these developments and realization of "neo-colonial" design, set the events following the "Arusha Declaration". The declaration chartered out a new course of development emphasizing internal development. The two fundamental principles were: Socialism and Self-reliance. Socialism in this context was defined to mean first, the absense of exploitation; second, the people's ownership of the means of production and exchange; third, the establishment of a genuine political democracy.

In March 1967, the leadership issued another policy directive which was on education (educational revolution), which called for a recasting of the educational system in terms of its social objectives. But it was on elitist education designed to meet the interest and needs of a small proportion of those who enter the school system.

In September 1967, the third policy document, "Socialism and Rural Developent", was issued. Village land would become communally owned and would be worked for the common good. Unlike the earlier settlement schemes recommended by the World Bank, the new villages would be less capital-intensive and more spontaneous.

Institutionally, Tanzania is now well equipped for national economic Control. The limits here are now, basically, personnel, data and detailed consideration of how to expand and develop the uses made of the existing institutions.

Related to the Phrase ownership is the nature of the socialist relations of productions. The ownership of the means of production does not necessary guarantee workers' control, which is the real meaning of socialism from an economic standpoint. As President Nyerere has pointed out, "the people who are not in management positions in the public corporation, still do not feel that these corporation are theirs. Even the workers in the organizations frequently feel that they are working for them and not for themselves".

The way to socialism in the rural areas has been difficult for all countries and perhaps more difficult in Tanzania because of the low level of human and material resources. The policies on education and rural transformation should be geared toward creating a more meaning full economic base at the peasant level. There are few other examples in Africa of this way of social thinking, with its emphasis on rural development and elimination of market income and other differences.

1.5 Introducing Kilimanjaro Region

This section mainly aims at introducing the readers to the region. It will deal with some main points which are considered by the author to be of vital importance to the understanding of the problem in planning for rural development in this region.

Kilimanjaro Region sizewise is one of the smallest regions in Tanzania. It covers 13,209 Km^2 only. It is situated in the north-eastern of Tanzania. As its name reflects, the famous snow covered Mount Kilimanjaro is within this region. The mountain has two peaks Mawenze and Kibo and its highest peak Kibo, tower as high as 6,000 m above sea level. Mt. Kilimanjaro is the highest mountain in Africa.

The neighbourhood of Kilimanjaro Region is as follows: On the eastern and northern sides it borders with Kenya Republic while on the western it borders with Arusha Region. On the southern part it borders with Tanga Region.

As regard to climate, although situated within tropical areas, infact a few degrees south of equator, most parts of this region enjoy cool mountainous climate. Only on lowlands there is a hot and sometimes dry climate. It is, however, noted that as regard to rainfall and water sources, Kilimanjaro Region is in a good condition. (Ramsay: 1965) With the help of modern irrigation system, the dry areas could be supplied with adequate water to enable the peasants grow enough crops.

There are two main rain seasons. There is masika long rain season which covers March through May and Vuli which covers November through December. There are some showers of rain on mountain slopes during August and September, but not heavy one.

Kilimanjaro Region is divided into four political districts. These are: Moshi, Hai, Rombo and Pare. There is a talk of dividing Pare District into two districts and if this occurs, there will be five political districts within a region of 865,000 people.

There are two main ethnic groups in this region. These are Chagga, who are the majority, and Pare. There are other small ethnic groups who reside in this region, like Wakahe, Wakwavi and those migrant labourers who came to work in the big plantations, but have made the region as their home. Within these two main ethnic groups, there are sub-ethnic groups sometimes identified by their defferent dialects. For example, Wagweno among the Pare who speak both Kipare and Kigweno reside in the northern part of Pare (Kimambo: 1969). Or the different dialects among the Chagga which are identified according to the geographical identify. For example, kichagga kimachame may be differentiated from kichagga kibosho through their way of speaking and other linguistic characteristics.

In spite of the fact that there is such a distinction, Chagga and Pare are patri-local in their kinship, relationships. Traditionally, marriages were arranged by the parents and were exogamous in nature. At present young men and women do marry outside thier ethnic groups and this has tended to weaken the traditional kindship ties to some extent.

However, within the national cultural development, this is encouraged for inter-ethnicity marriages may enhance the development of Tanzania cultural homogenity. With the rich value systems embodied in the national language, Kiswahili, this new trend in the inter-ethnicity marriages, is desirable.

Division of labour among the people in this Region, is based on sex. There are certain tasks which are basically for women and as such men are not supposed to touch. (Swantz: 1966) It is this kind of division of labour which has tended to perpetuate oppression by men over women through male chauvinism. This kind of traditionalism has led women to be the major economic productive force in this region. Besides their normal domestic activities and biological reproduction, they till the family farms and tend the few animals which are normally fed with grass obtained from the lowlands. Such grasses are normally carried on the heads. Although this method of carrying the grass is being replaced by modern transport system whereby landrovers and pick-ups are being used to do the job, there are some areas where this is impossible. Thus human carrier is applied. And according to the traditional division of labour, it is the women who have to do this.

People of Kilimanjaro Region are cash-economy oriented in all respects. This is due to the historical development of the area. Cash economy mode of production has been introduced and fostered in this area by the colonialists for quite a long time. Kilimanjaro Region, to some extent has been specializing in producing non-ediblecash crops though due to the ecological situation of this region, edible-crops have been grown too. Thus, it is all round region as regard to crops cultivation.

This tendency has led to a growing of a class of few rich people among the Africans. The cash-economy oriented group which happened to grow at a time when the capitalistic mode of production was being forstered and developed in the country, has been there until the birth of Arusha Declaration which helped to stop the development of an exploitative class. It is, however, noted here that even though the class formation was prevented by the Arusha Declaration, the income differentiation does exist in Kilimanjaro to this time.

General introductory observation on population charactaristics can be made as well. There is high population density on mountains while low population density is noticeable on the lowlands. Such kind of population characteristic has its effect to the Ujamaa village development. While on the lowland it is easy to make definite plans as regard to the structure of a village, it is very difficult to effect this on the mountains. On mountainous environment, with high population density, the logical procedure is to regroup the traditional village since facilies live adjacently to each other. Such villages structural relation do effect very much the economic production system as it will be noted later in this paper in relation to how best we can plan for ujamaa villages in this region and the marketing system.

Having said the above few introductory remarks, it is safe to say that this short paper contains the authors views and does not represent official stand at all. It is hoped that what is going to be said in the following pages is within the national socio-economic development strategy. The views are presented here with a hope that they will help, in some points, those charged with the task of planning for rural development.

It must be pointed out from this very beginning that a paper of this kind is not intended to be an exhaustive treatment of the subject matter. Therefore it should be looked at as an introductory paper to the subject under discussion. From that stand point, some of the topics which are equal important to this subject matter, have been left out for the sake of making the paper much shorter and more precisely to the points which have been singled out for the purpose of Kilimanjaro Region intergrated rural development plan. For this reason than, the paper is situational and specific which is embodied with the strategy for national socio-economic development plans.

2. PHYSICAL CONDITIONS

2.1 Regional Setting

The Kilimanjaro Region, located in the northeastern part of the United Republic of Tanzania, borders on Kenya to the north, the Tanga Region to the southeast and the Arusha Region to the west and covers an area of 13,209 km^2, or 1.4% of the area of the entire country.

Mt. Kilimanjaro (5,895 m) and the Pare mountains (2,000-2,500 m) form the backbone of the region, running through the middle of it in a lengthwise direction. On the north side of the Pare mountain chain, which runs roughly through the southeastern half of the region, lies the Nkomazi Game Reserve, and on the south side lies the Pangani Basin, which extends to the Masai Steppe. Above 2,000 m on Mt. Kilimanjaro there are national park, game reserve, and forest reserve areas.

In 1975 the population stood at 865,000, or 5.7% of the national total. Most of this population is concentrated on the slopes of Mt. Kilimanjaro and the Pare mountains at altitudes between 800 and 2,000 meters, which makes for one of the highest population densities in the country: 65 persons/km^2 gross and 91 persons/km^2 net.

The largest national tribes are the Chagga and the Pare, and there are several smaller tribes, including the Masai, the Kahe, and the Arusha Chini.

The entire country is now administratively divided into 20 regions, 72 districts, and 15 subdistricts, the Kilimanjaro Region accounting for 4 districts (Hai, Moshi, Rombo, and Pare) and one subdistrict (Moshi Town). Although there is only one region smaller in area than the Kilimanjaro Region--the Dar es Salaam Region--the population of the region is somewhat higher than the average for all of the regions of the country. Moshi Town, the regional capital had a population of roughly 50,000 in 1975, which makes it the sixth largest town in Tanzania.

The region also has good long-distance transportation links, with trunk roads connecting Moshi Town with Arusha (85 km), Tanga (354 km), and Dar es Salaam (562 km), railroads leading to Arusha, Tanga, and Mombasa, and air routes from Kilimanjaro International Airport on the regional border with Arusha, which opened in 1975, to major towns throughout the country and cities throughout the world.

2.2 Topography

Eastern Africa, the highest part of the continent, is known as its "roof." This high elevation is due to the major volcanic strip that has resulted from the influence of the great African Rift Valley, the largest in the world, which runs in a north-south direction along the eastern part of the African continent. Here are found Mt. Kilimanjaro (Kibo Peak, 5,895 m), the highest mountain in Africa, and Mt. Kenya (5,200 m), as well as many other high peaks.

Mt. Kilimanjaro, which was formed from volcanic activity on what was previously a plain, is a scenic symbol of Africa. It is nearly conical in shape and has a gentle slope the skirts of which reach out to a radius of approximately 40 km.

The Kilimanjaro Region is formed around this lountain and the Pare mountain system. The Mt. Kilimanjaro area can be classified into three major altitude zones:

- The mountain zone above 6,000 ft. (forest reserve and alpine zone)
- The mountainside zone between 4,000 ft. and 6,000 ft. (highland zone)
- The zone below 4,000 ft. (upper lowland and lowland zones)

Similarly, the Pare mountain area can be classified into two zones:

- That above 3,000 ft. (highland areas)
- That below 3,000 ft. (footland zone and that part of mountain zone that does not include highland areas)

2.3 Climates

The Kilimanjaro Region, although classified as a tropical savanna area, has considerable climatic diversity owing to the existence of Mt. Kilimanjaro, the ice cap of which stands out against the lower surroundings of tropical savannas.

One can hardly overemphasize the importance of climatic conditions, and particularly rainfall, in the context of the severe natural conditions to be found on the African continent, the respective lengths of the wet and dry seasons being of major relevance.

(1) Rainfall

Water is a key factor in the development of Tanzania and clearly, therefore, rainfall, together with evaporation, are the most important climatic elements. The seasonal rainfall distribution in particular greatly influences agricultural practices. The major cause of rainfall in the tropics is convergence of air leading to an upward movement, and resultant cooling. The seasonal pattern of rainfall would seem therefore to be simply explained by convergence of air in the low-pressure trough and, in particular, at the meeting of the north-east and south-east airstreams (a feature often called the Inter-Tropical Convergence Zone or ITCZ).

In the Kilimanjaro Region the year can be divided into four periods with respect to the amount of rainfall:

There are two rainy seasons--a major one in April-May and a minor one in Sept.-Nov.--and two dry seasons, a major one in Dec.-Jan. and a minor one in July-Aug.

Besides varying amounts of rainfall in a particular season in different years, there is marked variation according to altitude and the direction of the slope in mountainous areas.

Most of the rainfalls above 3,000 ft., the annual rainfall between 6,000 ft. and 8,000 ft. on the southern slopes of Mt. Kilimanjaro exceeding 2,000 mm. Even in the south Pare mountain area there is annual rainfall of over 1,000 mm at an altitude of 6,000 t. A feature of the rainfall distribution is that more rainfalls on the southern or southeastern slopes of the mountains than on the northern or western slopes.

(2) Temperatures

Temperatures are closely related to altitude. The variation in mean monthly temperature is small (26°C-22°C) between the altitudes of 2,000 feet and 3,500 feet.

During the rains, extra cloud cover and evaporative cooling tend to reduce maximum temperatures. Cloud cover also tends to raise minimum temperatures.

The south-east monsoon is cooler than the north-east one.

The northeast monsoon also has a major influence on the distribution of villages, most of them being located on the southwest slope in order to be protected from it. In the Kilimanjaro region, the hot season lasts from October to March and is accompanied by high humidity.

But during the hot season the afternoon temperature can rise to 40°C and the weather becomes extremely oppressive.

The cool season runs from June to September and with mean temperature is 20°C-22°C and maximum temperatures of 35°C the weather is relatively pleasant at this time of year.

2.4 Soils

(1) Soils on the Slopes of Mt. Kilimanjaro

As can be seen in the soil map, the soils on the slopes of Mt. Kilimanjaro very in strip-like fashion according to the contour lines as a reflection of climatic conditions. The volcanic lava and ashes on the slopes, which represent the parent materials of the soils, are also of may rock types and therefore influence the soils in many different ways. Most of the lava from Mawenzi Peak, which covers wide areas of the eastern slopes, is rich in calcium and magnesium minerals, and that from Kibo Peak is for the most part rich in potassium minerals. Furthermore, there are a large number of volcanic cones with centers in the Rombo, Kilema, Kibongoto, and North Shira areas and representing piles of volcanic pyroclastic rock consisting of scoria and ash, Since scoria and ash are highly porous, their weathering is rapid, and the soils of which they are the parent materials are deep.

(2) Soils in the Pare District

(a) Soils of the Pare Mountains

The soils of the North and South Pare mountains derive from metamorphic rock, chiefly gneiss. The western slopes of these mountains are very steep for most part, with basic rocks lying shallowly. Here are to be found shallow lithosols containing splinter from disintegrated rocks of this type. On the upper slopes there is a wide distribution of humic ferrisols derived from parent materials different from those of the humic ferrisols of Mt. Kilimanjaro. Although the rainfall is only in the range of 800-1,000 mm, the base saturation of the soil is generally quite low because of rather advanced leaching, which means that the soils have an acidic reaction. In comparison to the same type of soils on the slopes of Mt. Kilimanjaro, the soils here seem to be rather deficient in potassium content. It will therefore be necessary to use fertilizers in order to raise agricultural productivity in the Pare mountains.

There is considerable variation within the region with respect to climate, terrain, soil, and other natural conditions influencing agricultural production. For instance, while some areas receive as much as 2,500 mm of rainfall annually, there are other areas, and not just the top of Mt. Kilimanjaro, which have less than 400 mm.

On the southern and eastern slopes of Mt. Kilimanjaro between the altitudes of 3,000 ft. and 6,000 ft. and in the Pare mountains at altitudes above 3,500 ft. in what are known as kihamba or highland areas, there is plentiful rainfall and favorable temperature and soil conditions, which make possible high population densities in excess of 500 persons/km^2 and rate of cultivation of over 70%. On the other hand, lowland areas in the region are characterized by dryness and high temperatures and are practically uninhabited.

The highland areas, which have been agriculturally developed for a long time, have a very high socioeconomic level in comparison with most other areas of the country, as shown by income, education, and other indicators. Here there is efficient mixed cultivation of the food crop bananas with the cash crop coffee, with some maize as well. Livestock raising is of the stall-feeding type, the animals involved being for the most part dairy cattle. This form of agriculture makes for large and stable yields, which make it possible to support a dense population.

In 1975 approximately 550,000 persons, or 65% of the regional population, lived on an area of about 2,200 km^2, or 16¥ of the total area of the region, for a gross population density of 255 persons/km^2 and a net population density (water surfaces, forest areas, steep slopes, and other uninhabitable areas not taken into account) of 448 persons/km^2, both of which are 4 times as high as the regional averages (Gross population density of 65 persons/km^2 and net population density of 103 persons/km^2).

The upper lowland areas in the region, located in between the highland areas and the lowland areas mentioned above and known as shamba lands, have been developed only as recently as the 1960's for cultivation of such food crops as maize, finger millet, and beans and such cash crops as sisal, cotton, and sugar. In addition to crop cultivation there is also some livestock raising in these areas, chiefly of cattle for meat and occasionally for trading or status purposes as "property" on the hoof. Since they do not, however, have as favorable natural conditions as the kihamba lands, yields are not as high or as stable, and the use of the land is not as intensive.

Approximately 60% of the total area of the region, or 8,000 km^2, consists of semi-arid savanna lands, forests, game reserves, etc.

3. PRESENT LEVEL OF THE SOCIAL SYSTEM

3.1 The Production Process

The main industry of the Kilimanjaro Region is agriculture, which accounted for 81.6% of the total number of jobs in the region in 1975 and for 67.1% of the gross regional product. Although efforts will have to be made to expand manufacturing and service industries, one cannot expect a very rapid change in the industrial structure, which means that most of the population increase will have to be supported by agriculture.

Table 3-1

	Gross regional product (1975) (thousands of shs.)		Employment 1975	
Agriculture	764.9	67.1	208,997	81.6
Mining	26.4	2.3	1,051	0.4
Manufacturing	54.0	4.7	11,390	4.4
Electricity and water	13.8	1.2	793	0.3
Construction	26.0	2.3	1,276	0.5
Trade	115.3	10.1	6,078	2.4
Transportation and communications	19.5	1.7	4,433	1.7
Services	120.2	10.5	18,184	7.1
N.S			3,863	1.5
Totals	1,140.1	100.0	256,065	100.0

(1) Agriculture

The so-called "coffee-banana" belt on the slopes of Mt. Kilimanjaro not only enjoys plentiful rainfall but also has fertile soils, making it very suitable for agriculture. In recent years, however, new land for cultivation has become more and more scarce higher up, with the result that lower areas are being looked to increasingly as possible areas for agricultural development.

The main cash crops are coffee and sugar, which together account for more than 90% of the total. Among food crops, bananas are way out in front, followed by maize and wheat, in that order. Opinion surveys have revealed that the people consider agricultural development to be the most feasible means of solving the population problem. The fact is, however, that in the last five years food crop production has risen by only 2%. Hence the urgent need for strong promotion of

agricultural development, chiefly through development of water resources.

Agricultural Production (Table 3-2)

	(1) 1966∿70, Average		(2) 1971∿75, Average		(2)/(1)
	Quantity (tons)	Value (Shs)	Quantity (tons)	Value (She)	
Cash Crops					
Coffee	16,054	144,486	21,974	197,766	1.37
Cotton	1,700	3,400	1,080	2,160	0.64
Sugar	37,160	66,888	46,420	83,556	1.25
Sisal	10,980	25,254	7,240	16,652	0.66
Seed-beans	518	1,135	640	1,408	1.24
Pyrethrum	253	1,138	45	202	0.18
Castor	267	214	122	98	0.46
Subtotals	-	242,515	-	301,842	1.24
Food Crops					
Bananas	289,800	144,900	304,000	152,000	1.05
Maize	43,600	32,745	33,600	25,200	0.77
Beans	2,640	5,280	2,520	5,040	0.95
Finger millet	2,660	2,128	3,960	3,168	1.49
Paddy	3,740	2,992	4,860	3,880	1.30
Wheat	9,720	9,720	8,740	8,740	0.90
Cassava	2,360		3,000		1.27
Irish potatoes	6,560	5,363	10,000	8,120	1.52
Sweet potatoes	1,800		3,240		1.80
Vegetables	2,560	2,827	3,100	3,580	1.21
Fruit	267		480		1.80
Subtotals	-	205,955	-	209,736	1.02

(2) Secondary Industry

Secondary industry in the region consists of the processing of primary products grown in the region itself, including food processing, textile industries, and lumber processing. Such industry, however, accounts for less than 5% of employment in the region and its level

of production is not very high.

The region has a relatively high level of education, which enhances its secondary industry potential in terms of the supply of skilled labor. It is to be hoped that both secondary and tertiary industry will be expanded in order to absorb some of the surplus population of rural areas.

(3) Tertiary Industry

Tertiary industry, which consists of commerce, transportation, communications, service industries, etc., is as yet underdeveloped in the region except in a few urban areas. Transportation, in particular, has fallen far behind demand. With improvement of the transportation network, productivity can be expected to rise considerably in both agriculture and secondary industry.

Commerce is brisk in urban areas, with marketplaces full of life. In rural areas, however, it is still inadequate. It is to be hoped, therefore, that the consumption process can be upgraded by increasing the production of cash crops and thereby realizing an increase in income. In this respect the growing number of cooperative stores is an encouraging development.

Let us now sum up what has been said above regarding the different industrial categories in the Kilimanjaro Region and touch on some of the problems concerning future industrial policy.

The promotion of cooperatives, which is presently being undertaken in each industrial category in the region, should be continued as a strategy well suited to the development of rural areas with little private capital. At the same time, however, it will be necessary to strike a proper balance in the distribution of profits between expansion of capital within the industry in question, provision of infrastructure relating to the industry, and provision of wages and welfare facilities for workers. Once the scale of industry reaches a certain level, production can no longer be expanded without improvement of infrastructure, which, in turn, will also lead to higher productivity. And as for wages, they are a very important factor in motivating workers to work hard. In this connection it should be noted that productivity of Ujamaa village cooperative farms is very much lower than that of private farms and that this should be interpreted chiefly as a problem of incentive. Needless to say, incentive is necessary not only in cooperative undertakings but in all production activities. In a situation where quite a few men in the towns spend their time during the day drinking beer instead of being engaged in production, better results can be expected of campaigns to enlighten people with respect to the need to improve their ways and hence their lives than of an attempt to force such men to work, which, even if effective, would not be acceptable. Once people come to realize that they can and should improve their lives, they will also have an incentive to work

harder, and wages should be regarded as the direct form which such incentive should take. In such enlightenment campaigns there should also be systematic provision of information regarding production, such as tips on when to plant crops and farm product market price quotations, for the sake of raising productivity from the know-how angle as well.

3.2 The Consumption Process

The level of incomes in the Kilimanjaro Region is approximately 10% higher than that of the mainland as a whole, which, together with the region's high level of agricultural production, makes for a comparatively high standard of consumer living on the whole. Some improvements will have to be made, however, for the formation of a higher quality consumption process.

First of all, there is the need for improvement of housing, particularly in rural areas. For instance, most housing in rural areas in the region is without flooring. Although toilets are in outhouses, the lacking of flooring makes housing unsanitary, particularly in the rainy season, since these outhouse toilets are generally of the "natural seepage" type. In fact, this state of affairs is responsible for the contraction of various diseases and therefore must be remedied, the low-lying areas between the Pangani R. and the trunk road requiring improvement most urgently. Another problem is the fact that the living room and bedrooms are not separated. Since housing lots are not particularly small and inexpensive and readily available building materials are used in housing construction, increasing the number of room should not constitute an additional economic burden. Increasing floor space and the number of rooms would be very effective in terms of raising the standard of living of the people in the region.

Another problem is the lack of cupboards, wardrobes, closets, and other space for keeping eating utensils, foodstuffs, clothing, and so on since adequate storage space is a must for keeping the indoors neat and clean. Then again, there is a need for larger windows to let in light from the outside, particularly in the kitchen and the dining room, where inadequate lighting can be unsanitary.

Since rural housing around Machame is of a comparatively high standard, it should serve as a model in a regional campaign for improvement of housing.

A second improvement that will have to be made is correction of unbalanced nutrition. The level of calorie intake does not seem to present that much of a problem -- 2,520 cal. per day per capita according to TFNC figures, but under 2,000 cal., if sugar is excluded, according to the calculations of the Japanese agriculture team. Furthermore, with an Engel's coefficient approximately half that of the whole mainland, the people of the region seem to be faring better in terms of food than those of other regions. The problem is that this high nutritional level is accompanied by a nutritional imbalance, as exemplified by, but not limited to, the extraordinarily high level of consumption of beer. Moreover, only about half of the wives who answered the questionnaire seem to be aware of the importance of a balanced diet.

Another problem is the fact that few people in the region have sterilized or otherwise purified drinking water. Only urban areas in the region are supplied with purified water. Although approximately 40% of the regional

population is serviced by piped water, in most cases the piping is rather primitive and the water is not treated. Hence the need to provide more homes in rural areas with simple apparatuses for purifying the water that they use for drinking purposes.

Many people in the region have to walk more than 10 km. to market to obtain consumer goods that they are not able to provide themselves. In this regard it is necessary not only to locate markets conveniently in relation to the distribution of population but also to provide bus service between the centers in which the markets are located.

3.3 The Learning Process

The learning process is extremely important in terms of raising the functional levels of the other five basic social processes. The reason why this process is referred to as the "learning process" and not just the "educational process" is that what is involved here is more than just the acquisition of new technical or other knowledge. Rather, this process includes acquisition of the ability to be creative in terms of improving one's own living conditions. Here we shall consider separately school education, primary and secondary, and adult education.

(1) School Education

In terms of facilities the Kilimanjaro Region has higher levels of primary and secondary education than other regions. At the same time, children in the region attend school more years on the average than those in other regions, the average number of years attended being 1.25 times the national average.

In recent years there has been emphasis on providing more primary schools under the slogan "universal primary education by 1977.) Nevertheless, investment in primary schools will have to be continued for some time even after achievement of this goal in view of the fact that, as shown in Table 3-3, there are some 20,000 fewer Standard VII leavers than Standard I pupils.

No. of Pupils in Kilimanjaro (Table 3-3)

	I	II	III	IV	V	VI	VII	Total
1976	35,918	27,890	19,444	17,390	16,639	15,724	15,567	148,572
1981	32,171	31,708	31,748	32,287	32,824	35,272	27,391	223,404

What is needed is classrooms and teachers. Up to now local people have volunteered their labor in the construction of classrooms, and this arrangement will still be necessary. As for teachers, at present their period of training would appear to be too short, but this cannot be helped under existing circumstances, including an insufficient number of training facilities. One respondant in the abovementioned survey of attitudes suggested that camps or centers be established for primary school teachers who have not had sufficient training as places where they can learn various new skills instead of having to try to acquire them on their own. This is a reflection of the widely recognized need for improvement of teacher education.

At the present time the region has 30 secondary schools with a total of 8,191 students, 15 of them located in Moshi, which is a stronghold of secondary education on the national level.

As the percentage of primary school leavers who go on to secondary school and beyond rises, the demand for such educational facilities will grow, and in order to meet this demand, it will be necessary to provide new technical schools, technical colleges, vocational institutes, etc.

Moreover, it would be a good idea to establish a university in Moshi by 1995. Although there is only one university in the country at the present time, there should be three or four by then, and as a region that ranks relatively high educationally and culturally, Kilimanjaro should be able to host one of them.

(2) Adult Education

Up to now the emphasis in adult education has been on teaching people how to read and write, and as a result the illiteracy rate has fallen to 36%. In the next ten years or so, however, this phase of adult education will have been completed, its goal accomplished, and in the next phase emphasis will be on technical guidance for improvement of living conditions, which will cover the following areas: (i) family planning, (ii) nutrition, (iii) childbirth and child care, and (iv) health and housing. Besides providing systematic technical guidance, however, it will be necessary to get people to realize the need for and the meaning of "improvement of their living conditions." Moreover, as people get to be more enthusiastic about such improvement, community spirit ought to be reinforced. In fact, the ultimate purpose of the learning process is the formation of the kind of independent character that makes people inclined to improve their own lives, their own villages, and their own region.

3.4 The Protection Process

The protection process centers on medical and health service. Although the standard of medical care facilities in the Kilimanjaro Region is not particularly high in comparison to that of mother regions, this region does have an advantage in terms of accessibility to such facilities, mainly because of the fact that most of the people of the region are concentrated in the highland areas. Such concentration of population, needless to say, is a favorable circumstance not only for medical care but also for all other types of social service.

The amount of facilities is still far from being adequate in absolute terms, however, and one can hardly say that demand for medical and health service is being fully met.

A problem that figures here is disparity between different areas of the region. Although, on the average, accessibility is very good in the region, in some low altitude areas, particularly in the Pangani R. valley, there are many villages without dispensaries, which makes for a much lower social service level than that obtaining in urban areas in the region. From the standpoint of investment efficiency, one unit of investment in medical and health facilities in a highland area would benefit the region as a whole more than investment of the same unit in a lowland area. Nevertheless, it will be necessary to go ahead and invest as much as possible in lowland areas so as to avoid widening the gap between them and highland areas, one possibility in the way of efficient provision of medical and health services in lowland and other areas being the use of mobile clinics.

Other problems include the need of medical care facilities for more manpower and public utilities, including purified water, electricity, telephone service, and roads, and the need to increase the number of dispensaries, which serve as the facilities in the medical care facilities network which are closest to the people who are actually served.

Provision of telephone service is stressed here for the sake of closer exchange of medical and health service information between different facilities. Although individually the various facilities may be operating efficiently as it is, they should be able to function even more effectively with a greater flow of information between them. If, for instance, dispensaries refer cases of various illnesses to hospitals, the hospitals in turn can give them appropriate instructions on how to treat them. Such vertical cooperation, together with cooperation between government institutions and volunteers, can no doubt raise the level of medical and health service in the region very substantially.

In the public opinion poll already mentioned hospitals, water supply, and all-weather roads, in that order, were identified by the respondants as the facilities needing the most improvement. Moreover, the poeple are very anxious to have such improvements made.

Besides medical and health facilities, the protection process includes

police protection, fire-fighting, and disposal of refuse.

In some mountain areas where population has grown particularly dense, rivers have become so polluted that they are no longer suitable for provision of drinking water. Accordingly, it will be necessary to consider providing not only urban areas but also rural areas with water supply piping, purification facilities, and sewage treatment facilities.

Service Levels of Medical and Health Facilities, 1976 (Table 3-4)

	Hospitals	Hospital Beds	Health Centers	Dispensaries	% of population within 10 km from hospital (1967)
Mainland	129	19,268	206	1,981	24.9
Kilimanjaro	11	1,440	10	114	84.0

3.5 The Decision Making Process

Since it came into being, the overall policy goal of the United Republic of Tanzania has been independent self-reliance, and in accordance with the purport of the Arusha Declaration, the policies of regional decentralization and social democratization have been adopted as means of achieving this goal. In order to follow such a policy line, it is necessary that the policy-making and decision-making processes be highly enough developed to be able to meet diverse and comprehensive demands, irrespective of the ideological content, and in this respect one is justified in saying that the efforts to improve the political and administrative organization, on both the central and regional levels, for determining and carrying out this kind of policy that have been made since the establishment of such organization are beginning to bear fruit. Moreover, TANU, the largest political party in Tanzania, keeps in close touch with the administrative process in both the central government and regional government in order to facilitate systematic policy making and also plays a central role in the building of regional society, which is proceeding at a fast tempo, the role of TANU cell leaders being particularly important. On the division and village levels, however, administrative organization is still considerably less adequate, and in view of the fact, as will be explained in greater detail in the next section on the interaction process, that two-way exchange of information between the administrative machinery and the people is essential to community activities, the expansion and improvement of administrative organization on the lowest level, including the establishment of community centers at the division level, is an important future task.

The results of the questionnaire seem to indicate that the community center facilities are not considered all that necessary by the people themselves. One possible reason for this is lack of awareness of just what kind of facilities such centers include, and another is the fact that apparently not too many people appreciate the importance of exchange of information and the bringing together of a diversity of opinions. Nevertheless, for improvement of the lives of the people it will become necessary that they themselves consider what uses of the given resources will be most effective, make decisions regarding such uses, and participate in the actual construction work. For instance, although the number of new classroom that should be built is a matter to be decided on the regional planning level, there are many specific matters that ought to be decided by the peiple themselves, including the locations of the new schools, who should carry the bricks, who should put in the windows, and so on. The community development subcenter within the community center will serve as a base for such participation, the purpose of which will be to motive people to improve their own communities by giving them responsibility and a decision-making role in such improvement efforts instead of just rounding them up for "volunteer" construction work.

3.6 The Interaction Process

Of the six basic processes in the social system, the interaction process is the most closely related to the ultimate values of human life. A social system in which there are hostile relations and many conflicts of interest between different individuals and different value groups can hardly be described as one that is comfortable to live in, and since such a defect will eventually have an adverse effect on the performance of the other basic processes in the social system, such an unstable situation can not last for long. Furthermore, looking at it the other way around, marked inequity in the consumption process, for instance, will give rise to conflict between the favored and the disfavored, which will in turn have an adverse effect on the interaction process. In other words, a defective interaction process will impede the other basic processes, and vice versa. While all six of the basic processes are important, the level of performance of the interaction process has the most direct effect on people's happiness. Let us now consider the present state of the interaction process in the Kilimanjaro Region and some of the main problems relating to it.

(1) Personal Interaction

Although in the Kilimanjaro Region some aspects of the interaction process within the family are premodern and undesirable -- for instance, some eating habits -- interaction within the family is not characterized by the strained relations in evidence in more developed areas throughout the world since the majority of the people in the region live in rural communities, where life is based on family farming, i.e., farming in which father and son and man and wife work together, side by side. Nevertheless, there is plenty of room for improvement of interaction within the family in cultural and intellectual terms considering the low level of education and the poverty of the information media. For instance, there is the problem of malnutrition of children in spite of the fact taht their families raise livestock, which are an important source of proteins. Because of their lack of knowledge concerning the need for balanced nutrition, parents sell all of their livestock for cash instead of using some of it to improve their children's diet. This and other problems will have to be pointed out and solved, particularly through improvement of the education process and the information system.

In rural areas relations wiht the people around one in all aspects of daily life, including cooperative farming, shopping at the market, attending church, and visiting the local bar and various local service facilities, are far closer than in the new urban areas, and it will be necessary to devise means of retaining such closeness of community relations even in the course of implementation of development planning. On the other hand, the level of interaction between individuals and between groups beyond walking distance is very low because of the underdeveloped state of the transportation and communications systems.

For instance, a great many children in the region have never seen the Mkomaji Game Reserve, and very few people have visited any of the Ujamaa villages along the Pangani R. This situation will have to be remedied since poverty of human interaction over wide areas constitutes a serious hinderance to social progress.

In the region the vast majority of the people are deeply religious and enthusiastic churchgoers, and every Sunday one sees throngs of them heading for the village church in a joyful mood dressed in their Sunday best. Moreover, having witnessed the beauty of Nature and held it in awe from early childhood, the people of the region are blessed in terms of spiritual interaction with such entities transcending man as God and Nature. Accordingly, it is also important that a development strategy be selected that will not have an adverse effect on this desirable situation.

(2) Public Interaction

The maintaining of good relations between the population and public organizations and between people in large companies and public organizations is an important condition for social progress. Not only in the Kilimanjaro Region but also throughout Tanzania there is a well-developed political system the core of which is party organization. Grass-roots leaders keep in close touch with the people and convey their views and values smoothly, accurately, and with high frequency to the district and regional levels. Moreover, the ideas and thinking of top-echelon political leaders are efficiently conveyed all the way down to the members of the TANU cells. A problem, however, is represented by the fact that the underdeveloped state of the communications network makes for slow communications from the top downward and from the bottom upward and therefore hampers feedback as well as impairing diversity of expression. For instance, newspapers, in the printing of which large quantities of pulp, a limited resource, are consumed, are often filed away at the intermediate level instead of reaching the people at the lowest echelons, and even if they were more widely available, the information that they contain would not be adequately absorbed because of the high rate of illiteracy, which stood at 36% in 1975. In this connection, therefore, improvement of both adult education and the communications network is absolutely necessary.

Every bit as important as interaction between the poeple and the political system is interaction between them and the administrative system, which at present is not exactly satisfactory in the Kilimanjaro Region. In the Pare District and on the north side of Mt. Kilimanjaro, for instance, people have to travel 10-15 km in order to reach the district office, which makes for a large gap in the level of office service between different districts. Division offices and their village branches, too, are provided very inadequately, and the degree of interaction between people and the administrative system is not very high. Moreover, this poverty of interaction jeopardizes harmony

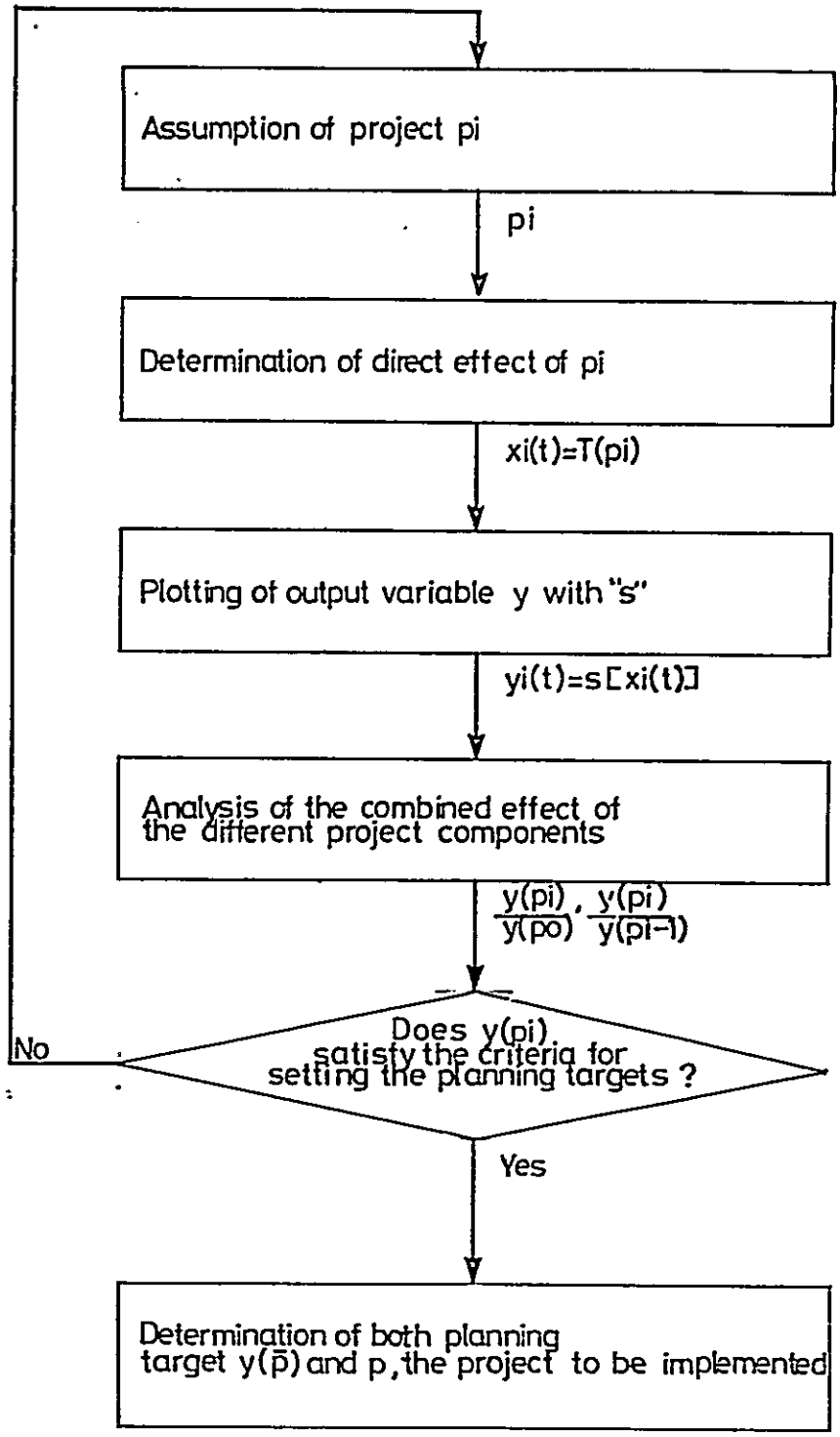
between the political and administrative systems through an imbalance with the lower echelon organization of the political system, which tends to improve along with socioeconomic development. This defect will have to be remedied as soon as possible by, for instance, providing each division with a community center.

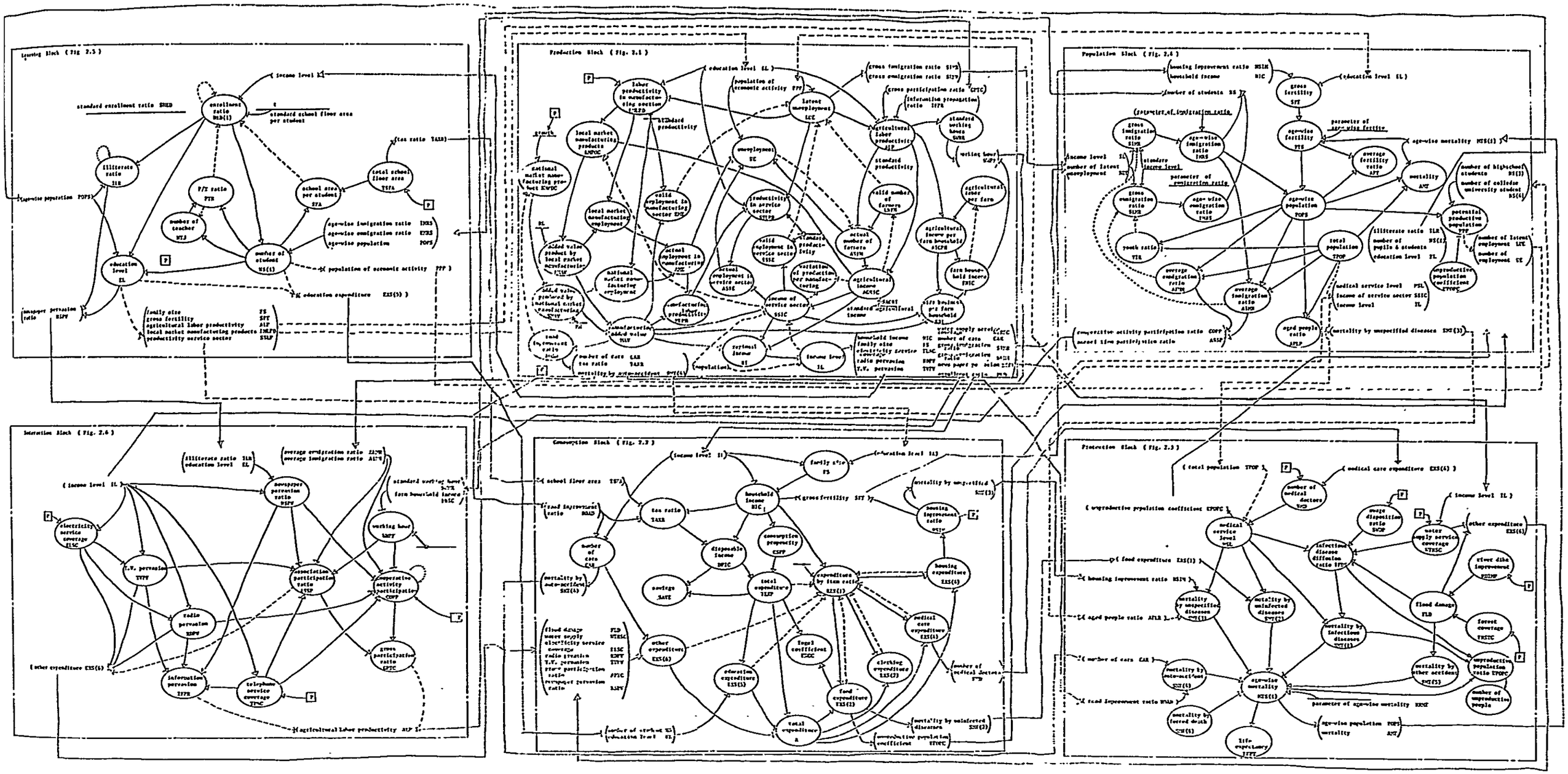
(3) Problems Caused by Economic Growth

The state of the interaction process in the social system of the Kilimanjaro Region can, as a whole, be evaluated as "very good." The defects mentioned above, however, will have to be remedied while at the same time promoting development, and this is no easy matter, as the experience of countries which have already undergone such development indicates.

Economic growth is made possible only when land, labor, and other resources are converted from a low-productivity production system to a high-productivity production system. In fact, experience has proved that such conversion of basic factors of production is absolutely necessary. If growth is to be sustained while at the same time maintaining the overall balance of the social system, socioeconomic mobility must be raised to an approproate level. For instance, it will be necessary for high-productivity, urban-located industry in Moshi Game and eleshwere to attract as labor people who were born and raised in rural areas, and if development planning is successful, socioeconomic mobility will inevitably rise. What this increase in mobility means is that more people than ever will have to move to new environments from the ones they are already used to living in. In other words, what is involved here is a double task: adjusting to devleopment while at the same time building a new interaction process from the existing one. If this task is gone about in the wrong way in the transitional period, economic development will make havoc of the interaction process as it has in many of the developed countries of the world.

It will certainly be no easy matter to maintain the desirable human bonds which are in evidence in the Kilimanjaro Region today while at the same time standing up to and coping with the many, many social changes taht are taking place and will continue to take place, including population movement from rural to urban areas and from Rombo and upper Moshi to the new villages of north Pare, universal primary education, improvement of secondary education, a growing number of illiterate parents with literate children, and wider availability of electricity and telephone service and other infrastructural amenities. Rapid social change deals the harshest blow to the interaction process, which is so important to people's happiness, and although economic growth well in excess of, say, 6% will bring material plenty, it should also be recognized that it will seriously reduce the chances that people will have to lead happy lives.


Assumption of project pi
pi
Determination of direct effect of pi
xi(t)=T(pi)
Plotting of output variable y with "s"
yi(t)=s[xi(t)]
Analysis of the combined effect of the different project components
y(pi)/y(po) , y(pi)/y(pi-1)
Does y(pi) satisfy the criteria for setting the planning targets ?
No
Yes
Determination of both planning target y(p̄) and p, the project to be implemented


Learning Block (Fig 2.5)
Production Block (Fig. 2.1)
Population Block (Fig. 2.4)
Interaction Block (Fig. 2.6)
Consumption Block (Fig. 2.3)
Protection Block (Fig. 2.5)
standard enrollment ratio SNER
standard school floor area per student
enrollment ratio NER(I)
income level IL
illiterate ratio ILR
P/T ratio PTR
school area per student STA
total school floor area TSFA
tax ratio TAXR
age-wise population POPS(I)
number of teacher NTJ
number of student NS(I)
education level EL
age-wise immigration ratio IMRS
age-wise emigration ratio EMRS
population of economic activity PPP
education expenditure EXS(5)
newspaper pervasion ratio NSPP
family size FS
gross fertility SFT
agricultural labor productivity ALP
local market manufacturing products LMPDC
productivity service sector SSLP
labor productivity in manufacturing section LMLPD
national market manufacturing product NMPDC
standard productivity
unemployment UE
latent unemployment LUE
gross immigration ratio SIMR
gross emigration ratio SEMR
gross participation ratio GPTC
information propagation ratio IFPR
agricultural labor productivity ALP
standard working hours SWHR
working hour WHPP
agricultural income per farm household AICPH
farm household income FMIC
valid employment in manufacturing sector EMC
local market manufacturing employment
actual employment in manufacturing EMC
national market manufacturing employment
valid employment in service sector SSVE
actual employment in service sector ASSE
productivity in service sector SSLP
standard productivity
valid number of farmers LNFM
actual number of farmers ANFM
agricultural income AGSIC
variation of production per manufacturing
income of service sector SSIC
standard agricultural income
value added product by local market manufacturing MMVP
value added product by national market manufacturing NMVP
manufacturing added value MAV
manufacturing labor productivity MLPD
total employment ratio TEMR
number of care CAR
tax ratio TAXR
mortality by auto-accident SMT(4)
personal income PI
income level IL
population
household income family size electricity service coverage radio pervasion T.V. pervasion
WIC number of cars CAR
IS
ELSC
RSPP
TVPP
BMFT
TVFT
water supply service coverage WTSC
gross immigration SIMR
gross emigration SEMR
newspaper pervasion NSPP
telephone service coverage TTSC
cooperative activity participation ratio COPP
sacred sites participation ratio ASLP
mortality by unspecified diseases SMT(3)
mortality by unaffected diseases SMT(2)
housing improvement ratio HSIM
household income HSIC
gross fertility SFT
age-wise fertility
age-wise mortality MRS(I)
parameter of age-wise fertility
parameter of immigration ratio
parameter of emigration ratio
standard income level
average fertility ratio AFT
mortality AMT
number of high school students NS(3)
number of college university student NS(4)
potential productive population PPP
number of labour employment LUE
number of employment UE
illiterate ratio ILR
number of pupils & students
education level EL
medical service level MSL
income of service sector SSIC
income level IL
reproductive population coefficient EPOPC
aged people ratio AFLR
mortality by unspecified diseases SMT(3)
mortality by unaffected diseases SMT(2)
mortality by auto-accidents SMT(4)
mortality by forced death SMT(5)
mortality by infectious diseases SMT(1)
mortality by other accident SMT(5)
age-wise mortality MRS(I)
parameter of age-wise mortality MRMT
age-wise population POPS
mortality AMT
life expectancy LIFE
number of medical doctors NMD
village disposition ratio SVDP
water supply service coverage WTSC
other expenditure EXS(6)
infectious disease diffusion ratio IFDC
river dike improvement PRIMP
flood damage FLD
forest coverage FRSTC
reproductive population ratio EPOPC
number of reproduction people
medical care expenditure EXS(6)
food expenditure EXS(1)
housing improvement ratio HSIM
road improvement ratio RMAR
number of medical doctors NMD
expenditure by item ratio EXS(I)
housing expenditure EXS(6)
medical care expenditure EXS(6)
clothing expenditure EXS(2)
food expenditure EXS(1)
Engel coefficient EGEC
education expenditure EXS(5)
other expenditure EXS(6)
total expenditure TLEP
total expenditure A
consumption propensity CSPP
disposable income DPIC
savings SAVE
household income HSIC
family size FS
gross fertility SFT
housing improvement ratio HSIM
tax ratio TAXR
number of cars CAR
road improvement ratio RMAR
mortality by auto-accident SMT(4)
flood damage FLD
water supply service coverage WTSC
electricity service coverage ELSC
radio pervasion RSPP
T.V. pervasion TVPP
P/T ratio PTR
sacred sites participation ratio ASLP
newspaper pervasion ratio NSPP
information pervasion IFPR
telephone service coverage TTSC
cooperative activity participation ratio COPP
green participation GPTC
association participation ratio ASSP
working hour WHPP
standard working hours SWHR
farm household income FMIC
agricultural labor productivity ALP
other expenditure EXS(6)
average emigration ratio AVEMR
average immigration ratio AVIMR
illiterate ratio ILR
education level EL
income level IL
number of student NS(I)
number of teacher NTJ
education level EL
population of economic activity PPP
education expenditure EXS(5)
family size FS
gross fertility SFT
agricultural labor productivity ALP
local market manufacturing products LMPDC
productivity service sector SSLP
labor productivity in manufacturing section LMLPD
gross immigration ratio SIMR
gross emigration ratio SEMR
gross participation ratio GPTC
information propagation ratio IFPR
standard working hours SWHR
agricultural labor productivity ALP
agricultural income per farm household AICPH
farm household income FMIC
valid employment in manufacturing sector EMC
actual employment in manufacturing EMC
national market manufacturing employment
valid employment in service sector SSVE
actual employment in service sector ASSE
productivity in service sector SSLP
valid number of farmers LNFM
actual number of farmers ANFM
agricultural income AGSIC
variation of production per manufacturing
income of service sector SSIC
standard agricultural income
value added product by local market manufacturing MMVP
value added product by national market manufacturing NMVP
manufacturing added value MAV
manufacturing labor productivity MLPD
total employment ratio TEMR
number of care CAR
tax ratio TAXR
mortality by auto-accident SMT(4)
personal income PI
income level IL
population
household income family size electricity service coverage radio pervasion T.V. pervasion
WIC number of cars CAR
IS
ELSC
RSPP
TVPP
BMFT
TVFT
water supply service coverage WTSC
gross immigration SIMR
gross emigration SEMR
newspaper pervasion NSPP
telephone service coverage TTSC
cooperative activity participation ratio COPP
sacred sites participation ratio ASLP
mortality by unspecified diseases SMT(3)
mortality by unaffected diseases SMT(2)
housing improvement ratio HSIM
household income HSIC
gross fertility SFT
age-wise fertility
age-wise mortality MRS(I)
parameter of age-wise fertility
parameter of immigration ratio
parameter of emigration ratio
standard income level
average fertility ratio AFT
mortality AMT
number of high school students NS(3)
number of college university student NS(4)
potential productive population PPP
number of labour employment LUE
number of employment UE
illiterate ratio ILR
number of pupils & students
education level EL
medical service level MSL
income of service sector SSIC
income level IL
reproductive population coefficient EPOPC
aged people ratio AFLR
mortality by unspecified diseases SMT(3)
mortality by unaffected diseases SMT(2)
mortality by auto-accidents SMT(4)
mortality by forced death SMT(5)
mortality by infectious diseases SMT(1)
mortality by other accident SMT(5)
age-wise mortality MRS(I)
parameter of age-wise mortality MRMT
age-wise population POPS
mortality AMT
life expectancy LIFE
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household income HSIC
family size FS
gross fertility SFT
housing improvement ratio HSIM
tax ratio TAXR
number of cars CAR
road improvement ratio RMAR
mortality by auto-accident SMT(4)
flood damage FLD
water supply service coverage WTSC
electricity service coverage ELSC
radio pervasion RSPP
T.V. pervasion TVPP
P/T ratio PTR
sacred sites participation ratio ASLP
newspaper pervasion ratio NSPP
information pervasion IFPR
telephone service coverage TTSC
cooperative activity participation ratio COPP
green participation GPTC
association participation ratio ASSP
working hour WHPP
standard working hours SWHR
farm household income FMIC
agricultural labor productivity ALP
other expenditure EXS(6)
average emigration ratio AVEMR
average immigration ratio AVIMR
illiterate ratio ILR
education level EL
income level IL
number of student NS(I)
number of teacher NTJ
education level EL
population of economic activity PPP
education expenditure EXS(5)
family size FS
gross fertility SFT
agricultural labor productivity ALP
local market manufacturing products LMPDC
productivity service sector SSLP
gross immigration ratio SIMR
gross emigration ratio SEMR
gross participation ratio GPTC
information propagation ratio IFPR
standard working hours SWHR
agricultural labor productivity ALP
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farm household income FMIC
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actual employment in service sector ASSE
productivity in service sector SSLP
valid number of farmers LNFM
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number of pupils & students
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income of service sector SSIC
income level IL
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mortality by unaffected diseases SMT(2)
mortality by auto-accidents SMT(4)
mortality by forced death SMT(5)
mortality by infectious diseases SMT(1)
mortality by other accident SMT(5)
age-wise mortality MRS(I)
parameter of age-wise mortality MRMT
age-wise population POPS
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flood damage FLD
forest coverage FRSTC
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food expenditure EXS(1)
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road improvement ratio RMAR
number of medical doctors NMD
expenditure by item ratio EXS(I)
housing expenditure EXS(6)
medical care expenditure EXS(6)
clothing expenditure EXS(2)
food expenditure EXS(1)
Engel coefficient EGEC
education expenditure EXS(5)
other expenditure EXS(6)
total expenditure TLEP
total expenditure A
consumption propensity CSPP
disposable income DPIC
savings SAVE
household income HSIC
family size FS
gross fertility SFT
housing improvement ratio HSIM
tax ratio TAXR
number of cars CAR
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flood damage FLD
water supply service coverage WTSC
electricity service coverage ELSC
radio pervasion RSPP
T.V. pervasion TVPP
P/T ratio PTR
sacred sites participation ratio ASLP
newspaper pervasion ratio NSPP
information pervasion IFPR
telephone service coverage TTSC
cooperative activity participation ratio COPP
green participation GPTC
association participation ratio ASSP
working hour WHPP
standard working hours SWHR
farm household income FMIC
agricultural labor productivity ALP
other expenditure EXS(6)

4. REGIONAL ECONOMY

4.1 Magnitude and Structure

Kilimanjaro Region holds 5.8% of the total population of Tanzania Mainland in 1976 according to the Government's estimates. Its population density, which is one of significant indicators of economic agglomeration, is the second highest on the national basis at 66 persons/Km^2 excluding Dar es Salaam as shown in Table-1. Urban population ratio for Kilimanjaro Region is estimated at approximately 9% compared with 6.8% on the national basis.

Regional Distribution of Population, 1976 (Table-1)

	Region	Population (1,000)	(%)	Area (Km^2)	(%)	Density Persons/Km^2
1	Arusha	821	5.41	82,098	8.89	10
2	Coast	555	3.66	33,719	3.65	16
3	Dodoma	869	5.73	41,311	4.47	21
4	Iringa	907	5.98	56,845	6.15	16
5	Kigoma	541	3.57	37,039	4.01	15
6	Kilimanjaro	872	5.75	13,209	1.43	66
7	Lindi	490	3.23	65,630	7.10	7
8	Mara	738	4.86	21,797	2.36	34
9	Mbeya	952	6.27	90,144	9.76	11
10	Morogoro	818	5.39	73,038	7.90	11
11	Miwara	822	5.42	16,707	1.81	49
12	Mwanza	1,336	8.80	19,684	2.13	68
13	Ruvuma	502	3.31	61,254	6.63	8
14	Shinyanga	1,129	7.44	50,764	5.49	22
15	Shingida	519	3.42	49,340	5.34	11
16	Tabora	677	4.46	76,146	8.24	9
17	Tanga	975	6.43	26,807	2.90	36
18	West Lake	787	5.19	28,749	3.11	27
19	Dar es Salaam	596	3.93	975	0.11	611
20	Rukwa	269	1.77	78,700	8.52	3
	Total	15,175	100.00	923,956	100.0	16

Source: PMO

The rate of increase of estimated population of Kilimanjaro Region is also higher than that of the national total, but slightly lower than that of Arusha Region as follows. It is not statistically easy to compare population growth by region through adjustment of change of administrative area.

Population Growth (Table-2)

	Population (1,000) 1967	1976	Rate of Increase (%) 1967 - 1976
Kilimanjaro	653	872	3.27
Arusha	610	821	3.36
Tanga	770	975	2.66
Dar es Salaam	346	596	6.22
National	11,909	15,175	2.73

The laborization factor in population 15 years and over is different by region. Based on 1967 census, economically active population participating ratio for Kilimanjaro Region is lower than the national average, but higher than that of Arusha and Dar es Salaam.

Economically Active Population Participation Rate, 1967 Census (Table-3)

Kilimanjaro	62.7%
Arusha	54.0
Tanga	85.4
Coast	66.8
Dar es Salaam	56.9
National	79.5

According to 1967 census, percentage of unemployment to the economically active population in this region marks 7.9%. Compared with 1.8% on the national basis. The census figures include casual employment and tend to understate the real unemployment. The high proportion of employment in agriculture, trade and service sectors are also to mask considerable measure of underemployment. On assumption of relative comparison, it has to be noted that unemployment rate for Kilimanjaro Region is the highest in the nation on the 1967 census.

Unemployment, 1967 Census (Table-4)

	Economically Active Population (1,000)	Unemployed (1,000)	Percentage
Kilimanjaro	205.0	16.2	7.9
Arusha	179.5	12.6	7.0
Tanga	370.8	6.3	1.7
Coast	213.9	5.4	1.7
Dar es Salaam	102.4	5.9	5.8
Mainland	5,328.3	96.8	1.8

The employment structure of this region obviously inclines to the primary sector. The ratio of secondary sector, however, exceeds general figures in Tanzania, as far as observed through 1967 census as follows. In this case, accordingly, sectoral productivity shall be an object to be analyzed.

Employment Structure, 1967 Census (Table-5) (%)

	Kilimanjaro	Arusha	Tanga	Coast	Mainland
Agriculture	83.28	83.40	89.34	87.12	91.04
Mining	0.20	0.05	0.04	0.17	0.09
Manufacturing	3.70	2.27	2.11	2.46	1.64
Construction	1.14	0.43	0.59	0.93	0.55
Electricity & Water	0.18	0.17	0.27	0.19	0.10
Sub-Total	5.22	2.92	3.01	3.75	2.38
Trade	2.09	1.94	1.71	1.22	1.29
Transport & Communication	1.04	0.90	1.41	0.94	0.80
Services	6.87	7.69	4.01	5.30	3.54
Not Stated	1.51	3.14	0.53	1.67	0.95
Total	100.00	100.00	100.00	100.00	100.00

According to the government estimation on regional allocation of GDP for 1974, Kilimanjaro Region's Gross Regional Product (GRP) is equivalent to 5.5% to GDP as follows. Per capita GDP for this region is estimated to be slightly smaller than per capita GDP, as far as based on this estimation. Per capita GRP for Kilimanjaro Region has been assumed to exceed the per capita GDP. Economic growth for this region, however, can be deemed to have recently left behind from the average growth.

Inter-regional Comparison of GRP, 1974 (Table-6)

		Regional Distribution (%)	Per Capita GRP (Per Capita GDP=100)
1	Arusha	6.0	113.9
2	Coast	3.7	95.2
3	Dodoma	3.3	57.1
4	Iringa	4.9	83.8
5	Kigoma	2.7	73.6
6	Kilimanjaro	5.5	97.0
7	Lindi	2.1	63.3
8	Mara	3.2	68.4
9	Mbeya	6.1	98.2
10	Morogoro	5.5	102.7
11	Mtwara	2.9	56.8
12	Mwanza	6.2	71.1
13	Ruvuma	1.8	54.6
14	Shinyanga	7.0	94.8
15	Singida	1.9	54.5
16	Tabora	4.2	106.4
17	Tanga	9.0	140.9
18	West Lake	4.4	84.5
19	Dar es Salaam	17.6	535.9
20	Rukwa	1.9	79.1
	Total	100.0	100.0

Apart from this estimation, there would be a reviewed GRP for Kilimanjaro Region for the purpose of analysis of economic capacity of this region as follows. The rate of growth of GDP is accounted for 4.2% at 1966 prices annually for 1967-1975 according to estimates done by Bureau of Statistics. Meanwhile, GRP for Kilimanjaro Region is estimated to have grown at a rate of approximately 3.8% at 1966 prices.

Comparison of Economic Growth; 1966 Prices (Table-7)

	GDP		GRP, Kilimanjaro	
	GDP * (million shs.)	Per Capita (shs.)	GDP * (million shs.)	Per Capita (shs.)
1967	6,875	575	435.7	667
1975	9,590	648	588.4	680
Yearly Change '67-'75 (%)	4.2	1.5	3.8	0.2

* Figures include imputed bank service charge.

To compare the industrial structure on GDP basis, there is distinctive difference in ratio of primary sector and manufacturing sector.

Sectoral Distribution, Current Prices (Table-8) (%)

	GDP, 1974	GRP, Kilimanjaro, 1975
Agriculture	39.6	67.1
Mining	1.2	2.3
Manufacturing	10.6	4.7
Electricity & Water	0.9	1.2
Construction	4.9	2.3
Trade	13.2	10.1
Transport & Communication	8.3	1.7
Services	21.3	10.5
Total	100.0	100.0

The standard growth rate is obtained by average growth rate by sector on the national level taking account of industrial mix. This would suggest there is some superiority on productivity or regionality and mobility in connection with analysis of the actual regional economic growth. The assumptions for computation of assumed GRP for Kilimanjaro Region is as follows. As a result, actual growth rate is slightly higher than assumed growth rate given by the average rate on national basis by sector, because of higher growth rate in the actual agricultural sector, which holds 62.9% of GRP in 1967.

Standard Economic Growth, Kilimanjaro, 1966 Prices (Table-9)

	Sectoral Distribution (%)			Economic Growth (%) 1967-1975	
	1967	1975			
		Actual	Assumed Standard	Actual	Assumed Standard
Agriculture	62.9	59.0	55.9	3.0	1.98
Mining	0.5	1.6	0.2	18.9	-13.12
Manufacturing	3.3	5.4	4.2	10.5	6.69
Elect. & Water	1.1	2.3	1.8	13.8	9.93
Construction	4.8	2.2	5.6	-6.6	5.36
Trade	9.6	9.1	10.1	3.2	4.14
Communications	1.1	2.4	1.6	14.9	8.54
Services	16.7	18.0	20.7	4.8	6.34
Total	100.0	100.0	100.0	3.8	3.49

The regional industrial productivity is roughly outlooked by region through value added per employee in agriculture and manufacturing based on District Data 1967, although up-to-date statistic are not available. According to the following table, agricultural productivity is relatively very high, but that of manufacturing is very low in Kilimanjaro Region.

Index for Per Capita Value Added per Employee, 1967 (Table-10)

	Regional Disparity (National=100)		Sectoral Disparity between Agriculture and Manufacturing (Agriculture=100)
	Agriculture	Manufacturing	
Kilimanjaro	293	32	120
Arusha	236	74	349
Tanga	68	22	350
Coast	153	75	547
Mainland	100	100	1,104

Exports of coffee and sisal still maintain an important position in international balance of payment for Tanzania as follows.

Exports of Coffee and Sisal (Table-11) (shs. million)

	Coffee	Sisal	Sub-Total (a)	Total Exports (b)	Percentage (a)/(b)
1970	312	179	491	1,689	29.1
71	227	134	361	1,735	20.8
72	383.9	144.8	528.7	2,028.0	26.1
73	495.3	221.6	716.9	2,232.6	32.1
74	375.1	463.8	838.9	2,552.3	32.9

In this connection, it is, as a fact, an important role of Kilimanjaro Region in the national economy that this region is in main producer of coffee and sisal, although there can be pointed out various problems centering stability, independence, and duality of regional economy. As for coffee production, Kilimanjaro Region recently shares more than a half of the national production.

Coffee Production, Kilimanjaro (Table-12) (1,000 tons)

	Coffee			Sisal		
	Kilimanjaro	National	%	Kilimanjaro	National	%
1970	15.6	49.7	31.4	8.2	202.2	4.1
71	21.0	45.8	45.8	8.6	181.1	4.7
72	24.3	51.4	47.3	8.3	156.8	5.3
73	12.0	55.1	21.8	8.4	155.4	5.4
74	24.4	44.9	54.4	6.4	143.4	4.5

4.2 Government Finance

The Government system of development finance has become somehow slightly complicated since decentralization. Complicated in a sense that it gets more difficult to grasp accurately how much funds for development to a region are allocated every year. To clarify this systematically, Fig-1 is drawn. All the decisions concerning budgetary allocation are made at the Treasury upon approvement by the Parliament. The Treasury, then, disburse its budgets periodically (quarterly) toward three directions, the Prime Minister's Office, Regional Development Director's Office and the other Ministries. Those budgets are broadly devided into recurrent budget and development budget. In Fig-1, the budgetary supply flow to Kilimanjaro is shown. The regional recurrent and development budgets come straight from the Treasury, though its budgetary negotiation has to go through the Prime Minister's Office. In addition to this, a special fund, called the Regional Development Funds, is allocated to various specific projects, while development funds for specific National Projects under direct control of the Ministries concerned are disbursed directly to the former Ministry's branch offices which are now under supervision of the RDD's Office. What is quite difficult to trace is this latter case--the development funds supplied directly from the Ministries concerned. However, there is a good reason why the total amount of available development funds supplied in the form of regional development budget and the RDF would be the approximation of the capacity of the development financing in the whole region. Namely, the regional authority is not in a position to control those funds for National Projects ar their own will.

Accordingly, it is not useful to see only regional development budget. Although accurate figures of whole public investments have not obtained, per capita development expenditures for Kilimanjaro Region including expenditures through the ministries and Parastatals are summarized as follows at PMO.

Per Capita Development Expenditures, Kilimanjaro (Table-1)

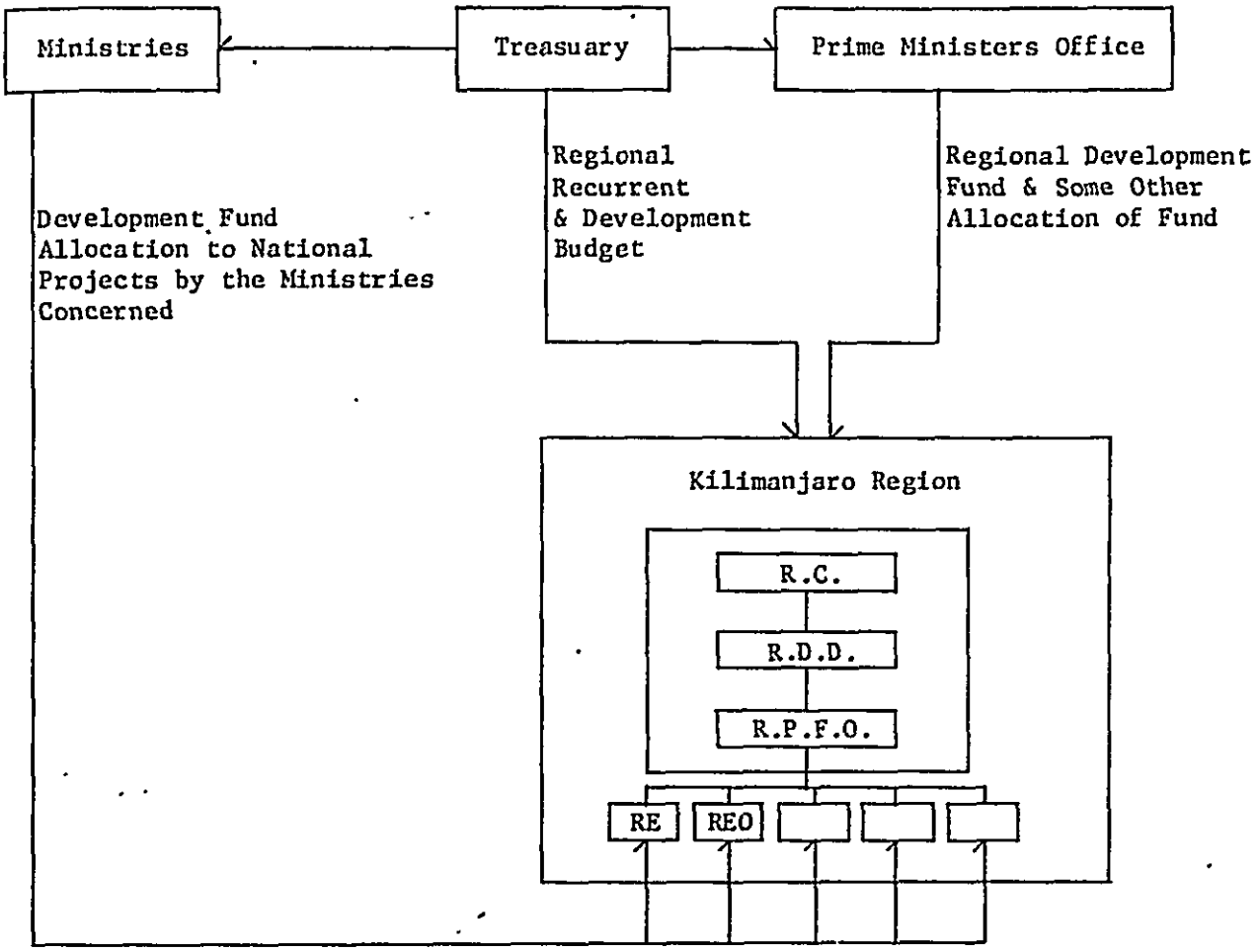
	Service Ministries	Ministries, Regions, and DDC's	Parastatals	Total
1969/70	7.8	54.2	8.0	70.0
1970/71	6.2	64.5	45.9	116.6
1971/72	6.9	36.1	38.9	81.9
1972/73	4.3	20.1	23.5	47.9
1973/74	11.1	41.3	72.3	124.7
1974/75	6.7	23.7	67.3	97.7

Although it is not easy to settle the criteria of allocation of government fund involving aspects of efficiency and equity based on regional potentiality, capacity, level of existing social overhead capital, and balanced social

needs, it would be also very difficult to conclude justification of this allocation on the interregional level.

Analyses for public invetments by sector should be done on the total basis through integration of allocated funds given through various institutional roots as already mentioned. However, these figures are not available on this report except sectoral distribution of development actual expenditures through the regional government as follows. As far as these figures are concerned, priority is given to agricultural development, water supply and education on the sectoral allocation.

Government Development Finance (Fig-1)



Development Expenditures by Sector, Kilimanjaro Regional Government (Table-2)

	1972/73	(%)	1973/74	(%)	1974/75	(%)	1975/76	(%)
Agriculture	236.3	5.2	2,171.8	12.3	6,248.7	31.4	9,568.9	48.6
Education	563.9	12.3	1,773.0	10.0	1,964.5	9.9	2,305.2	11.7
Health	9.7	0.2	737.6	4.2	1,471.7	7.4	1,434.2	7.3
Transportation	110.3	2.4	2,548.6	14.4	1,691.0	8.5	1,310.4	6.6
Commerce and Industry	-		713.9	4.0	450.0	2.3	856.5	4.3
Water	2,034.9	44.5	8,514.4	48.2	6,665.3	33.5	3,663.7	18.6
Land	60.0	1.3	945.3	5.4	1,071.1	5.4	413.1	2.1
Fishery	108.1	2.4	207.4	1.2	-		-	
Forestry	33.1	0.7	35.4	0.2	97.9	0.5	154.2	0.8
Game Reserve	-		-		227.7	1.1	-	
Others	1,411.5	30.9	-		-		-	
Totals	4,567.8	100.0	17,647.4	100.0	19,887.9	100.0	19,706.2	

RDF, Kilimanjaro (Table-3)

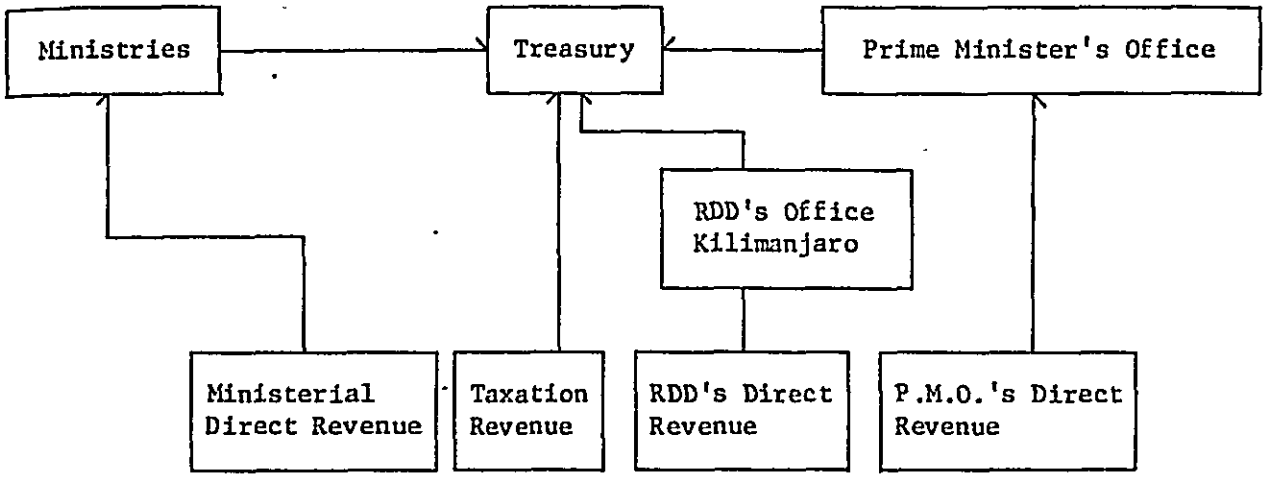
	(1,000 shs.)
1970/71	1,000.6
1971/72	1,305.4
1972/73	1,305.4
1973/74	1,305.4
1974/75	1,632.0
1975/76	987.0
1976/77	1,035.3

The government revenue system, which is fully centralized, is summerized as shown in Fig-2. Revenue of Kilimanjaro Region which is collected by the regional government is very limited as shown in Table-4, Major components of the revenues called by regional government are water consumption charge, and service charges represented by sewage disposal and market stall fees.

Revenue, Kilimanjaro Region (Table-4)

	1972/73	(%)	1973/74	(%)	1974/75	(%)	1975/76	(%)
Production Taxes (Forest Royalities)	-		365.1	9.7	212.8	4.1	158.2	2.5
Game Operations	-		52.9	1.4	30.7	0.6	62.8	1.0
Sales of Goods and Services	720.4	31.1	1,443.8	38.4	2,006.1	38.5	1,690.4	27.2
Public Property Rent	603.0	26.0	1,156.4	30.8	316.5	6.1	301.5	4.8
Fines and Fees	24.0	1.0	53.8	1.4	15.2	0.3	4.5	0.1
Workshop Services	-		15.8	0.4	142.2	2.7	145.2	2.3
Water Consumption	958.2	41.4	653.2	17.4	2,451.7	47.1	3,692.8	59.4
Water Connections	-		15.8	0.4	142.2	2.7	145.2	2.3
Supervision and Agency Fees	11.5	0.5	15.7	0.4	28.2	0.5	159.9	2.6
Surplus of Industries	-		0.3		0.8		1.0	
Totals	2,317.1	100.0	3,757.0	100.0	5,204.2	100.0	6,219.0	100.0

Revenue System (Fig-2)



Revenue Sources in Kilimanjaro

Let us now turn to the other source of development fund for the industrial sector, namely the R.D.F. The R.D.F. has a history of 9 years since 1967/68 and has following characteristics;

(a) the R.D.F. is intended to be instrumental in implementing the policy of self-reliance.

(b) the R.D.F. is limited to small projects under 50,000 shillings.

(c) the R.D.F. allocation to each reagion is based on a principle of 2 shillings per capita.

In spite of the fact that a drastic change in its use took place in 1970/71 from transport and rural infrastructure to Ujamaa productive projects, its objectives still remain valid as ever as follows;

(a) to produce more, diversify production or improve the quality of the produce.

(b) to provide better storage facilities.

(c) to facilitate the marketing of produce.

(d) to improve transportation.

(e) to induce co-operative production.

(f) to encourage the establishment of cottage industries.

In Table-3, time series movement in the R.D.F. allocation to Kilimanjaro is shown from the fiscal year 1970/71 up to 1976/77. Since 1970/71, the R.D.F. grew up more or less steadily. But over the couple of years, it dropped to a substantial degree.

4.3 Banking System

(1) General Aspect of Industrial Financing

The basic relation of saving and investment is essential and crucial for economic development even under any economic system. The difference of economic system would merely affect institutional set-up of saving and investment such as ways of saving, investment ways and ways to link saving and investment.

Although saving is generally realized by either autonomous or enforced process, the latter is ordinary for developing countries. This is more true for a socialist country, Tanzania. In order to create more saving by curbing consumption, there are many measures such as taxation, profits of public organizations, public lottery, etc.

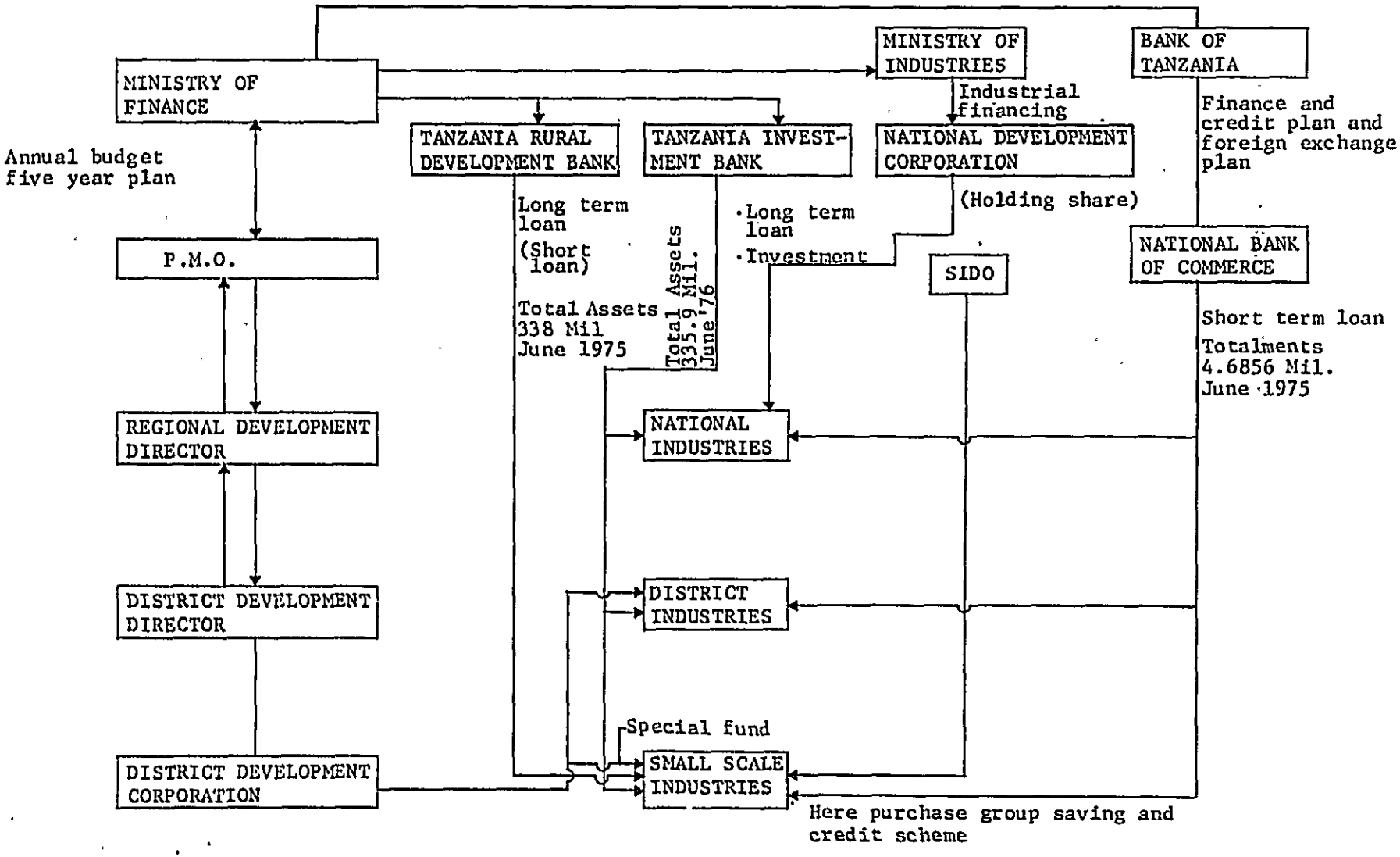
Among them, the public organization's profits seem to be most powerful next to governmental tax and to be most stressed by the government, especially after Arusha Declaration. This means that as public organizations or corporations occupies a major part of total economy, the government can have a decissive role in saving and investment allocation through planning.

In this country, the investment allocation to industries through banking institutions is generally well specialized. The financial allocation through banks to the three categories of industries is indicated in Table-1.

The basic features being shown in the Table are firstly that their roles and functions in industrial financing are clearly defined by each banks, which means that the government can easily manage their investment allocations to each industrial group and they can avoid to duplicate in their activities. Meanwhile, there remain some problems such as that non-existence of competition among the banks, may discourage their incentives of efficiency improvement, for example, the National Bank of Commerce is the only institution to deal with working capital in the country.

Secondly under this system, although working capital is supplied to every category of industries through NBC, as far as equipment fund is concerned, the district industries may face some difficulties in accessibility of equipment fund due to lack of proper financial suppliers.

Institutional Framework of Financing (Fig-1)



Financial Functions by Major Banks (Table-1)

	Equipment Fund	Working Capital
National Level	T.I.B., T.D.F.C. N.D.C.	N.B.C.
Industry		
District Level	(None)	N.B.C.
Industry		
Village Level	Government Fund (R.D.F.)	N.B.C.
Industry	T.R.D.B., Karagha S.I.D.O.	

T.I.B.: Tanzania Investment Bank
T.D.F.C.: Tnazania Development Financial Corporation
N.D.C.: National Development Corporation
T.R.D.B.: Tanzania Rural Development Bank
N.B.C.: National Bank of Commerce
Karagha: Karagha Company
S.I.D.O.: Small Industry Development Corporation
R.D.F.: Raginal Development Fund

(2) Industrial Financing of Major Banks

(i) Tanzania Investment Bank (T.I.B.)

T.I.B. was opened in 1970, taking over medium and long term lending functions from N.B.C. The initial objectives of the Bank were many-sided such as long and medium term financing for economic development, technical assistance and advice for industrial development, administration of some special funds, and other related activities.

Up to July 1976 from the establishment, the Bank supplied finance to 94 projects amounting to Tsh. 437 million, at average Tsh. 46 million per project, mostly for parastatals.

But the biggest problem for the Bank seems to be the skilled manpower, which makes the above objectives impossible to achieve. Mainly due to the manpower shortage, the Bank has no branch and the staff is limited to only 40 in all, which make it difficult to cover whole industrial activities in the country, particularly rural industries.

For example, in 1972, the Bank was allocated Tsh. 6 million as

special fund for promotion of small industries development, but unfortunately, up to now, has not been utilized because it seems to be manpower shortage to take care of small industries.

(ii) Tanzania Rural Development Bank (T.R.D.B.)

T.R.D.B. was set up in 1971, assuming all the assets and liabilities of the National Development Credit Agency, with the major objectives such as a vehicle for spreading management education based on a sound financial institution policy, bringing up competent people for extension service particularly within the framework of Ujamaa village development, attracting international fund through the bank's competent staffs and its objectives of comprehensive rural development, and providing its resources and technical advices including project identifications to rural development industries.

However, although the Bank emphasize agro-based industries and spreading of management education, their activities have been so far limited to agriculture production proper, not to related industries as shown in Table-2.

Lending by Kind of Economic Activities (Table-2)

	71/72	72/73	73/74	74/75
Seasonal Inputs	58.7%	57.6%	53.5%	69.8%
	21.0	62.1	85.9	141.8
Farm Machinery	2.8	1.9	0.8	2.0
	1.0	2.0	1.3	4.0
Rural Transport	18.4	8.0	18.9	7.7
	6.6	8.6	37.4	15.7
Siorage	14.8	1.8	0.4	0.15
	5.3	1.9	0.5	0.2
Farm Development	2.6	22.7	8.0	0.05
	0.9	24.4	12.8	37.6
Livestock	1.4	7.2	16.1	18.5
	0.5	7.7	25.8	37.6
Small Scale Industry	1.3	-	1.5	1.3
	0.5	-	2.7	2.7
Fisheries	-	0.8	0.8	0.5
	-	0.9	1.3	1.1
Total	100.0	100.0	100.0	100.0
	35.8	107.6	167.7	203.2

Source: T.R.D.B. Annual Report

(iii) Tanzania Development Financing Company (T.D.F.L.)

T.D.F.L., established in 1962, is unique in characteristics in a sense that the government has not the majority shares like other banking institutions. The major objectives of the Bank is to encourage to introduce foreign capital and to allocate properly to productive projects. The Bank can invest in the form of loan or shareholding or combination of the both.

Up to now, the Bank has been taking an important role in utilizing foreign capital effectively, and the Bank's performance has been increasing, as much as foreign capital reaching to about Tsh. 200 million.

(iv) National Bank of Commerce (N.B.C.)

The N.B.C. was established on 6th February, 1967, as a child of Arusha Declaration which nationalized all commercial banks. The functions of the Bank are as follows:

- to provide banking service to everybody who need them,
- to render depositors a fair value for his money,
- to utilize savings deposited for economic development of the country,
- to mobilize local savings for development purpose including rural and urban progress,
- to carry on with the idea of service first and surplus nest.

Although, since 1967, N.B.C. has been making a great effort to achieve the above objectives, there seems to be many problems before it. Above all, lack of qualified staffs and lack of incentives to raise banking service level, are conceived to be most acute.

(v) National Development Corporation (N.D.C.)

N.D.C.'s Companies and Share Holdings (Table-3)

Name of Company	% of Share
Tanzania hide and Skins Ltd.	70%
Tanzania Shoe Company	98
Pnntpak (T) Ltd.	100
Tanzania Publishing House	60
Tanzania Brewenes Ltd.	55
Tanzania Cigarette Company	100
General Tyer E.A. Ltd.	74
Tanzania Fertilizer Company	60
Ubungo Farm Implements	100
Steel Rolling Mills	86.7
National Bicycle Company	100
I.P.S. Tanzania	18
Tanzania TANNERIES Company	83.3
Rubber Industries Ltd.	-
National Pnnting Company	100
Kibo Paper Industries Ltd.	70.44
Tanganyika Instant Coffee Co., Ltd.	90
Tanganyika Tegry Plastics	100
Metal Box Tanzania Ltd.	50
MTAVA Ltd.	22.6
National Steel Corporation	100
Aluminium African Company	-
TANZANIA DISTILLERIES LTD.	45

Source: N.D.C. Annual Report 1975

Although N.D.C. is not a financial institution, N.D.C. has an important meanings, as a holding company of N.D.C. group comprising 23 companies, in industrial financing in a sense that it can control its group companies occupying almost large industries of the country through regulating their new investment and reinvestment.

(3) Financial Allocation to Kilimanjaro's Industries

It is rather easy to outline the present financial status of Kilimanjaro industries. It is summarized as there is abundant fund but scarce investment activities, or in other words Kilimanjaro is one of main su-pliers of fund to other regions. This fact, for example, is clearly recognized by merely looking at the difference between total lending and deposit of the National Bank of Commerce as shown in Table-4.

In addition, if considered a situation that the peasants and farmers of the region tend to hoard their cash income instead of depositing in banks, the fact being abundant fund will be more true. The reasons why the investment activities are limited relative to the available funds in the region, can be explained from various angles, including socio-economic factors, but more discussion will not be made here.

The present discussion will be limited to the problem that the investment activities in the region through major banks are at an unsatisfactory level, compared with other regions with high level per head income like Kilimanjaro.

(4) Financial Activities by Major Banks

(i) Tanzania Investment Bank

As shown in Table-5, total activities of T.I.B. have concentrated in manufacturing and physical distribution sectors, both of which cover more than 50% of total T.I.B. loans and equity.

But, geographically, Kilimanjaro region receive very small proportion of it, that is, only 2.3% in terms of amount and 7.4% in terms of number, compared with the figures of neighbouring regions, Arusha and Tanga.

Another important feature is that average amount of investment is rather small than those of Tanga and Arusha, which means that larger projects have not been established in Kilimanjaro by T.I.B. Biggest project in Kilimanjaro is Tanzania Tanneries Ltd., and the total amount of T.I.B. loan of the region is Tsh. 3.4 million which is below Tsh. 4.6 million at average.

Lending and Deposits of Selected Regions (Table-4)

	Kilimanjaro			Tanga			Arusha			D.S.M.			Total		
	L	D	L-D	L	D	L-D	L	D	L-D	L	D	L-D	L	D	L-D
1971	173	206	33	97	65	32	46	91	45	892	875	17	1353	1,672	4319
1972	62	277		36	17			11			32		7	3	
	107	96	11	72	76	4	46	101	55	896	1,071	175	1,257	1,812	553
1973		54		13	21			1		50	13		10		
	103	148	45	81	92	11	57	102	45	943	1,205	262	1,386	2,144	758
1974		11		98	100		337	1			28				
	89	165	76	162	186	24	279	119	160	1,719	1,542	177	2,243	2,714	471
1975		24		78	9		61	41			33		11		
	179	205	26	284	200	84	87	168	81	2,087	2,056	31	2,937	3,648	711
1976		88													
	108	386	278	-	-	-	-	-	-	-	-	-			

* Lending = Loans + Overdrafts +

Deposits = Demand Deposit + Term Deposit + Saving

Source: NBC's data.

TIB Loan and Equity by Industry (Table-5)

	1970/71	71/72	72/73	73/74	74/75	Outstanding asset loans
Agriculture and agricultual processing	2.9%	27.0%	0%	18.0%	34.6%	13.6%
Manufacturing and processing	53.8	18.6	41.5	28.0	41.3	39.1
Tourism and hotel development	0	0	31.5	3.0	1.2	4.7
Forestry and wood processing	0	0	28.0	21.0	9.2	12.5
Mining and processing	43.3	5.0	0	2.7	0	6.5
Fishing and fish processing	0	0	0	5.3	7.7	3.8
Transport and strage	0	49.4	0	13.8	0	17.7
Power	0	0	0	8.2	0	1.5
Construction and engineering	0	0	0	0	6.0	0.6

Amount of Loan and Equity by Region (Table-6 (a)

	1970/72	72/73	73/74	74/75	75/76	Total
Kilimanjaro	0	3.0 1,500	7.2 6,536	1.2 1,560	0.3 313	2.3 9,989
Arusha	11 4,190	29.5 15,000	16.4 14,960	13.3 17,067	0	4.4 38,557
Tanga	0	12.8 6,500	0.5 500	3.1 4,024	85.6 24,806	48.4 29,746
DSM	378 19,795	39.5 20,070	22.2 20,225	50.3 64,600	57.6 91,723	48.4 21,413
Rest	30.0 13,500	15.2 7,700	53.7 49,076	32.1 41,190	26.7 42,556	37.9 147,526
Totals	100 37,485	100 50,770	100 91,297	100 128,441	100 159,398	100 437,231

TIB Project List in Kilimanjaro Region (Table-7)

1. Tanzania Tanneries Ltd. (1973/74)

   Shareholders: NDC 75%, M/S Ehrnberg and Sons 25%

   Total Investment: Tsh. 8,364,000

   TIB Loan : Tsh. 3,364,000

   This loan will finance the expansion of the company so as to boost the output from 4 million to 8 million sq. ft. of leather ayear. The total employment will increase from 178 to 198 persons.

2. Tanzania National Parks (1974/75)

   Shareholders: Government 100%

   Total Investment: Tsh. 33 million

   TIB Loan : Tsh. 1.56 million + Tsh. 1.5 million

   This loan is to finance the increased investment costs for the construction of new Mt. Kilimanjaro climbing huts.

3. Same Hotel

   Shareholders: Pare Development Corporation 100%

   Total Investment: Tsh. 1,457,000

   TIB Loan : Tsh. 700,000 + Tsh. 392,600

   This was an additional loan to finance part of the increased investment cost of a hotel project.

4. Same Oil Mill

   Shareholders: Pare Development Corporation

   TIB Loan : Tsh. 1,072,300 (1974)

(ii) Tanzania Rural Development Bank

The share of the region in the TRDB's loan also has been very small, amounting for about 1% of the total which is smaller even compared with other neighbouring regions, as shown in Table-8. The project list of the region by TRDB are as follows:

TRDB Loan by Regions (Table-8)

	1973/74	1974/75
Kilimanjaro	1.1 1,737.8	0.6 1,177.8
Arusha	1.4 2,239.9	2.8 5,784.4
Tanga	4.6 7,228.5	0.4 895.7
Rest	93 149,488.6	98 195,388
Totals	160,694.8	203,248.9

* Unit: Tsh. 1,000

The project list of the region by TRDB are as follows:

1. 1973-1974
   Dairy cattle to small farmers ----- Tsh. 1,200,000
   Cotton ginnery to Pare Development Corporation -- Tsh. 469,000
   Produce Transportation ------- 6 Tsh. 69,000

2. 1974-1975
   Buses and Lorries -------- Tsh. 720,000
   Farm Machinery ---------- Tsh. 258,000
   Tanning Industry --------- Tsh. 200,000

(iii) Tanzania Development Financing Company

Even though TDFL covers a wide range of activities from agriculture to property sector as shown in Table-9, Kilimanjaro region has received only two projects as below:

1. Tanganyika Magnesite Mines Ltd. (Same)

   Total Loan: Tsh. 1,188,000

   No equity holding

2. Kibo Match Corporation Ltd. (Moshi)

   Total Loan: Tsh. 2,500,000

   Equity holding: Tsh. 1,711,000

TDFL Investment and Commitment by Industry (Table-9)

	Investment	%
General industries	15,437	176.0
Textiles and knitwear	14,564	16.4
Food beverages and	13,359	15.0
Agriculture and fishing	12,661	14.3
Wood industries	8,911	10.1
Tourist development	7,886	8.8
Printing and stationary	4,890	5.5
Commercial hotels	4,041	4.6
Property	3,552	4.0
Plastics	1,291	1.4
Minning and quarring	1,188	1.3
Rubber products	925	1.0
Totals	88,705	100%

Geographically, the TDFL projects concentrate in Dar es Salaam accounting to 56.5% of the total, which is one of characteristics compared with otherbanks.

(iv) National Bank of Commerce

Since NBC is the only institution to provide working capital, the lending situation of the Bank has well reflected economic activities including industrial sector of regions.

NBC Lending by Region (Table-10)

	1971	1972	1973	1974	1975
Kilimanjaro	12.8	8.5	74	10	61
	173	107	103	89	179
Tanga	7.2	37	5.8	7.1	9.7
	97	72	81	160	284
Arusha	3.4	37	41	10.4	3.0
	46	46	57	797	87
D.S.M.	65.7	71.2	68.3	6.0	11
	892	896	943	1,219	2,087
The Rest	10.7	11	4.6		10.2
	145	138	202	4	300
Totals		100	100	100	100
	1,353	1,259	1,386	2,243	2,937

Source: NBC's Data. 1974 figures must be wrong.

Table-10 indicates us an interesting fact that, in comparative aspect of regions, Dar es Salaam and other three Northern regions occupy about 90% of total lending of NBC, and among them, Tanga and Arusha have been showing an increasing trend in lending share, but Kilimanjaro shows a downward trend which is remarkable particularly after 1974.

(5) Some Concluding Remarks

The following remarks can be concluded.

(i) Kilimanjaro region is endowed with abundant financial fund relative to investment activities, in other words, one of main suppliers of funds to other regions.

(ii) As for finance for equipment fund, the Kilimanjaro region's position is at quite low as far as the major banking institutions supplies are concerned.

(iii) As for finance of working capital, at present, Kilimanjaro's share has been still high at national level, but the position is gradually leveling down. This may be partly due to the downward trend of new investment activities as seen in the financing of major banks. Under such circumstances, it can be predicted that even though the present level of industrial development of Kilimanjaro is some high relative to national level, in the future perspectives, the Kilimanjaro's share of industry will be declining down. Regarding these basic causes, the discussion will be made later on.

4.4 Marketing and Distribution System

(1) History

At independence, Tanzanian distributive, marketing and physical networks inherited from colonial days, were for the most part established to facilitate colonial export-import trade, primarily between export/modern economy and metropolitan country. Road, railway and storage facilities were constructed to link exports producing centers to Dar es Salaam and Tanga, and the imported manufactured goods were carried back on the same route to exports producing areas which were endowed with biggest purchasing powers.

As far as distributor system were concerned, while export-import and large scale trades were monopoliously handled by large colonial trading firms, urban medium and small trades were dominated by settlers traders. Hence, the sphere of African traders were generally limited to rural duka traders even some of which were in hands of settlers. The trades over which local people dominated, were itinerant traders who hawked small lots about remote villages, and were in majority in terms of numbers but small in terms of turn-over.

Wholesale and Retail Trade-1961 (Table-1)

Type of trader	No.	Inhabitants per trader (1,000)
Wholesalers	3,904	2,252
Retailers	44,671	197
Itinerant	11,578	-
Totals	60,151	181

Further, there was another traditional trading organization which was to a great extent important for daily life of local people. It was called a rural open air market place which were located nearly one each ward and opened once or twice a week. These market places dealt daily necessities such as foods and clothings. Still, even at present, it is important, for rural people.

As far as exports crops were concerned, as mentioned above, production marketing system was highly advanced. Central organization in export marketing system was statutory marketing boards such as Tanganyika Coffee Board, Tanganyika Cotton Board, etc. Within the framework of such a colonial marketing system, only one exceptional organization in Tanzania which was in local people side and was intended to protect their interests, was the Kilimanjaro Native Cooperative Union established in 19 . The KCU's functions covered a wide area including coffee marketing, selling of agricultural inputs, cooperative education and other service business.

By and large, the distributive, marketing and phisical systems were not originally designated to facilitate the sale of locally manufactured goods. And, marketing and physical system was not well established to market bulky foodstuffs produced in remote rural area to urban centers. Besides distributors and marketers network, the inadequacy of transport and storage facilities were so serious that some products would be in short supply, damaged and spoiled, and expensively sold.

(2) Importance of Marketing and Distribution

In early stage of economic stage development of developed countries, a commercial revolution preceded the agricultural and industrial ones. That is to say, an evolutionary progress of agriculture and manufacturing industry has made possible only by the existence of a domestic market with a well organized structure. In spite of this historical fact, the problems of commercial development has been underestimated. Tanzanian case was also not exceptional one up to the Arusha Declaration. One of the reasons seems to be that economist's and Planer's views on marketing and distribution problems are widely divergent, depending on their standpoint. Neverthless, it is sure that these problems are very significant as seen in Tanzanian socialist country.

The importance of distribution and marketing can be pointed out from many angles. The foremost one relates to production side. Improvement of trading activities, in many cases, could give a great impetus to production. So far, in this country also, many surplus products remain unmarketed and wasted which discourages producers, because a distribution network and transportation is in underdeveloped situation. In such a situation, if marketing system is better organized, it would greatly stimulte production for market and eventually raise productivity. This tendency is not true only for traditional agriculture but also for handicraft or village industries.

One of the difficulties of industrial development is lack of market information. If the distribution network oriented to domestic market is substantially improved, and if local industrialists could be provided with proper market guidance, industrial activities would be greatly encouraged. Above all, this case seems to be effective in the case of development of village industries. Such industries, compared with larger industries, are extremely short of market information. However, distributors know not only where to sell their products and which product will be sold, but usually provide even raw materials and frequently capital. If such industrialists are supported by proper distributors, they would be quickly able to expand their production for a wider market and, sometimes, even for overseas market.

Another importance is of consumer market. The improvement of distribution and marketing network can make local people or rural people possible to obtain various commodities at relatively low price and

on stable terms through proper market information and rise of efficiency. This will, in turn, enhance local purchasing power and contribute to expand local market, which are bottleneck for local industrialists. Further, it will contribute to divert local customer's attention from imported goods to local products. As a whole, the improvement of distribution and marketing network oriented to local and rural market, will greatly devote to expand a stable market size favourable for local and rural industrialists.

(3) New Network of Distribution and Marketing

In accordance with the idea of the Arusha Declaration that the major means of production are under the control and ownership of the peasants and the workers themselves through their government and their co-operatives, major import and wholesale trade were taken over to the government from private hands. Immediately, the State Trading Corporation was established to manage and expand these activities.

As far as distribution system is concerned, the STC was inevitably compelled to build a highly centralized system of operation and organization structure. And at the same time it expanded rapidly both geographically and in terms of products it handling altogether more than 35,000 different items. Its turnover jumped from Shs.132 million realized in 1967-68 period to Shs.659 million in 1971-72.

However, in spite of this moderately impressive performance, the STC encountered serious structural and operational problems basically arising from its fast rate of expansion and the over-centralization of authority. Within about six years, the nature and scope of the Corporation's activities expanded at such a dramatic pace as to make the organization unwieldly to manage in terms of numerous and varied product lines. Some remedies to alleviate these problems were urgently required, and a recommendation come out with the direction that the activities of the STC should be decentralized and streamlined.

In restructuring the STC, many rearrangements of the existing functions and subsidiaries were made to provide an efficient distribution system to Tanzanian people. As a result, six importing companies, now called the National Trading Companies based in Dar es Salaam and the Regional Trading Companies by each regions, were established. Above these two groups of companies, the board of Internal Trade (BIT) was created to supervise and coordinate them.

The fundamental role of six National Trading Companies is to procure goods both from the overseas market and the local industries and to ensure that each Regional Trading company gets its requirement. The six is as follows;

(i) National Specialized Companies:
Which require specialized knowledge in importation, sales, service, and distribution.

- National Pharmaceutical Company,
- Building Equipment Hardware and Electrical Supplies Company,
- Industrial and Agricultural Supplies Company.

(ii) National Central Companies:
which will mainly act as import agencies of Regional Trading Companies

- General Food Company,
- Household Supplies Company,
- Domestic Appliances Company.

The most significant achievement in restructuring the STC, is decentralization of distribution system based on the principle of equitable and fair allocation of all the basic essentials items throughout the regions and districts. So far, trading activities were heavily based towards the minority urban people and import-export trades. In this sense newly established Regional Trading Companies are rural oriented and at the same time, can be take a role of marketer of small industries and village industries by providing marketing information and merchandising technology. It is obvious that at the regional and district level, the Kilimanjaro Regional Trading Company will be a core of distribution system and will also take an important role in marketing of local industries.

In this a way, the whole process of restructuring STC and setting up the new internal trade system was completed. In February 1974. Thereafter, in 1976, additional structural re-organization was realized. The National Textile Corporation (NATEX) was dissolved and distribution of textiles in the regions taken over by the Regional Trading Companies. At the same time, the Regional Co-operative Unions like the Kilimanjaro Native Co-operative Union were dissolved and the Regional Trading companies were given the responsibility of handling goods hitherto distributed by the Unions. As a whole, distribution system was reorganized to the direction of intensifiying the Regional Trading Companies as a central public trading institution in each region.

The Kilimanjaro Regional Trading Company, as a regional wholesaler, supply goods through district branches, Moshi, Rombo, Same, to cooperative shops, Ujamaa village shops as well as individual retailers. And also it purchases some limited goods from small and village industries.

PART TWO : PLANNING ENVIRONMENTS

2. THE CONCEPTUAL FRAMEWORK OF SOCIAL INDICATORS

2.1 Why We Use Social Indicators to Evaluate I.R.D.P.

One might ask why components of regional development project for an agricultural area like Kilimanjaro must be evaluated by social indicators. This is quite a natural question to ask for one who is used to economic evaluation. Preparing an understandable answer to this question is the first task we deal with in the case study of social indicators.

It is obvious that I.R.D.P. has to focus on modernizing agricultural production process in the area since most of the people living there build their life on agricultural production. One can not deny economic efficiency, for instance the internal rate of return, to be one of the most appropriate measurements to evaluate project components considered for an agricultural development project like I.R.D.P.

A greater productivity brings a greater internal rate of return. In order to achieve a higher level of productivity, a farmer has to use manufactured fertilizers instead of home-made natural fertilizers and he has to employ machines replacing less productive human labors. When he wants to sell surplus of his agricultural products brought about by modernized production, he inevitably finds himself wanting a better transportation and market information than he used to have. Deciding what to grow, he tends to become more sensitive to changes in market. He might need technological information and a well equipped storage to keep his products fresh till he feels it is time to sell them. These facilities, equipments, input materials might be included somehow in the project components since they are directly related to agricultural production. That is fine indeed. Project components had better be consistent themselves. Changes which project components directly bring about are usually referred as input changes, or sometimes direct impacts. Since I.R.D.P. concentrates mainly on agricultural production, direct impacts will be found in the production process. Therefore, production impacts must be allowed to mean direct impacts in this particular case. Production impacts might be effectively evaluated by economic efficiency.

However, as everybody knows, production impacts, especially if they imply higher productivity, do not confine their effects within the production process. First of all, if a project is successful, and it should better be, it will increase the farmer's income. An increase in income makes it possible to live a better life. The farmer might be interest in letting his sons have higher

education which he could not afford before. And he would feel less confined in demanding better qualified and better equipped medical service. He would certainly be inclined to improve his house and to let his family enjoy better foods and more comfortable clothes. He might contemplate buying durable goods like a washer, a television set, fashionable furnitures and even a car. If a project brings a considerable increase in income, these impacts on living will take place. Changes which an income increase brings to living can be adequately referred as income impacts. One has to pay appropriate attention to income impacts in designing an evaluation model projects.

Secondly, production impacts and income impacts jointly generate so called back-wards and forewards effects in industrial systems. Both of production impacts and income impacts imply that the project area will be demanding more and more goods and services than it has been. Industries which produce these goods and services will be stimulated to grow. This phenomenon is called backwards effects. And some industries prefer their production sites near to the market. When the direct impacts and their backwards effects take place, the project area produces more products. Industries which use those products as inputs will also be stimulated to grow. This is usually referred as forewards effects. Generally speaking, backwards effects exert greater stimulation than forewards effects, though it depends upon the nature of direct impacts. If a project evaluation fails to take into consideration these phenomena (let us call them industrial impacts), it can not be too adequate.

Thirdly, industrial impacts immediately imply changes in employment, namely, an increase of employment opportunity in the project area. This usually tends to discourage emigration and encourage immigration. Young people are sensitive to move in response to job opportunity. Therefore, an increase in employment opportunity will eventually change the age structure of population. We name this phenomenon migration impacts. In evaluation of a project, one should not fail to incorporate migration impacts.

Fourthly, it is appropriate to point out that backwards effects of direct impacts and income impacts do not confine themselves in the private sector, that is, industries. They will certainly build up considerable pressure to improve public services, demanding better education, medical care, fire protection, transportation and so forth. Let us call the phenomena public service impacts. A proper project evaluation should not ignore public service impacts.

Finally, we should not fail to notice that any project can not be perfectly positive. No project is devoid of negative impacts. A growth in production tends to increase pollution. An increased use of chemical fertilizers contaminates water in rivers. A higher level of goods consumption, which is one of income impacts, produces a greater amount of waste and sewage, which make the environment less attractive if not disposed properly. Both production

impacts and income impacts will stimulate mortalization and increase traffic. An increase in traffic is highly likely to result in increasing traffic accidents. These negative impacts have to be also incorporated in project evaluation.

We admit economic efficiency can take care of production impacts. But, that is all. It is too obvious that the internal rate of return, though it is often used and well known, is miserably powerless in dealing with indirect impacts such as income impacts, migration impacts, public service impacts, and negative impacts. The concept of internal rate of return might be good to negotiate with industrial impacts if it accompanies a more proper procedure for actual evaluation. As it is, the internal rate of return is equally helpless about dealing with industrial impacts.

Simplicity is preferred unless it coincides with terrible incompletion. Although economic efficiency is hand to use, it is doubtlessly incomplete and irrelevant to deal with any of indirect impacts. On needs much more comprehensive indicators than economic efficiency if one really wants to make a proper evaluation of a project like regional development. The concept of social indicators has been thus reached and conceived. Stating generally, social indicators are a set of measurements which describe effectively changes in a social system, referred as input changes. Project components create input changes. Now let us regard direct impacts and indirect impacts mentioned before as input changes and output changes respectively. Then, social indicators are a set of measurements which describes indirect impacts in the social system brought by a give set of direct impacts and enable us to assess a project, which generate the direct inputs, in terms of its indirect impacts on the state of life. Now we can answer the question raised at the first paragraph of the section. Why do we use social indicators to evaluate the I.R.D.P.? The answer is very very simple. We use them because they provide us an appropriate evaluation and put us in a far better position to formulate a desirable project.

In developed countries economic efficiency, namely, the gross national product has long been used to evaluate policies at least, the national policies. Decision makers have been reluctant to pay an appropriate attention to most of indirect impacts, especially to negative impacts when they make selection of development policies. Of course, this neglect allowed negative impacts to accumlate their adverse effects so much all over the social system until people started buying quite a wrong notion that every development makes their life less comfortable.

Most developed countries realized this recently and have made various attempts to build more comprehensive indicators than economic efficiency indicators like the gross national product or the internal rate of return. Let us discuss briefly some of attempts made. Economists proposed to modify the concept of gross national products

into the concept of the gross economic welfare. The latter indicator is obtained by subtracting from the former indicator negative products which are monetary term evaluation of negative impacts. The gross economic welfare is a flow indicator and therefore ignores stock on which a state of people's life is dependent. A conceptual weak point of the gross economic welfare is that it measures input side of life. That is, it can tell us how much of goods and services people can be obtained a year as inputs to their life, but it fails completely to describe what people achieved by those inputs.

We advocated the concept of social concern, which can be regarded as an attempt to evaluate a state of life at the output phase. This is indeed a very bold attempt to make an evaluation in terms of fundamental value of life. However, it unfortunately lacks objective and practical procedure for policy evaluation.

Comprehensive and theoretically ideal indicators tend to make policy evaluation complicated and impractical. This apparently comes from poor understanding of how and to what extent a development policy exerts its effects on life. The concept of the gross economic welfare starts from the input side and fails to reach the output side. The concept of social concern starts from the output side and fails to reach the input side. The urban institute, Washington, D.C., has proposed a functional approach to social indicators, which attempts to build a never existed and badly wanted bridge between the input side and the output side by the concept of funciton. What is actually built is not the bridge but a fairly large list of measurements. No operational model appeared in the report. It remains to be built.

Our concept of social indicators can be regarded as a theoretical extension of the work done by the urban institute. Our approach is called the social systems approach to social indicators, borrowing the expression from the urban institute. We define a social system as consisting of a set of processes which transforms a set of inputs, a resource mix, into a set of outputs and we attempt to evaluate a set of project components which change directly inputs by measuring how they (changes of inputs) improve the state of the social system.

Developed countries have accumulated tremendous capital stock both in private sector and public sector. A big ship takes long time to change its course. It will be long before any impressive effects can be brought about by employing social indicators to evaluate policies in developed countries. Developing countries have better change. The Republic of Tanzania is and will be implementing many development projects. Therefore, the importance of employing social indicators to evaluate development projects can not be overemphasized. It will doubtlessly enable the country to take a much more preferable growth path.

When an elder brother makes a mistake, a younger one likes to consider it is his right to make exactly the same mistake. We can only hope it will not be the case.

2.2 The Concept of Social Indicators

There have been many discussions made on social indicators, but so far no one has ever established a precise a widely accepted concept as to what social indicators are. Referring to a few important aspects, this section discusses about social indicators and builds an appropriate conceptual image on them from viewpoint of the social systems approach.

The essential purpose of social indicators is to describe systematically impacts of a social change on the state of life for people in issue. The primal concern is on the state of life of people. There seems to be no confusion to the primal concern of social indicators. Professor M. Shinohara (Chairman, Research Committee, Council of National Living, Economic Planning Agency of Japan) stated:

"Social indicators are designed at measuring the state of people's welfare, centering on non-monetary indicators, systematically and comprehensively." (Social indicators of Japan, Research Committee, the Council of National Living, 1974).

Placing the primal concern on the state of life implies that measurements have to be ones which refer best and most directly to the state of life whatever it is. So far, we agree with Professor Shinohara. However, what to describe is not the state of life itself from our point of view, but social changes, or more precisely, their impacts on the state of life. Professor Shinohara was a little bit vague about the difference.

Let us briefly discuss about this difference. There are numerous measurements, may be too many, conceivable which refer to the state of life for people. If the state of life were to always stay as it is, which is not the case, systematical description would become non-sense. One indicator is enough to describe the state of life after relationship among measurements once established. Of course, the state of life changes in the real world. If the state of life were to always change so as to keep the relationships among measurements as they are, well, again nobody would want systematic description which could be very complicated, since a single indicator can do the job as good as, say, ten thousand of indicators do. No, a social change, at least an ordinary one, does not occur that way. The social systems approach defines the state of life as the state of the social system in issue, whose concept will be discussed in the following section and a social change as a change of the state of the social system.

We think that a part of a social system is likely to change differently from the rest of the system. Unbalanced growth is one of the fundamental characteristics of any social system.

What an ordinary social change brings to an aspect of the state of life differs, sometimes very much, from what it brings to other aspects.

Without any social change, no need of social indicators arises, and with a very particular and very very rate social change such as balanced growth, social indicators are still useless. However, to deal with an ordinary social change, one has to be careful. An arbitrary set of measurements might be good enough to describe and to understand an aspect of it, but they might be quite powerless in describing another aspect. So, a systematic description is needed in order to understand what an ordinary social change brings to the state of life, which leads us to social indicators. What social indicators aim to describe is social changes, not the state of life itself. However, they are to describe social changes from viewpoint of the state of life. Of course, broadly speaking, describing social changes and describing the state of life are nearly same thing. Let us not draw a rigorous line between them. However, it must be clearly understood that social indicators are essentially to deal with dynamics of the social system in issue and that otherwise they are quite useless.

Now, let us turn to another aspect of social indicators. As told in the previous section, we are trying to build an operational model of social indicators as the best tool to evaluate the impact of social changes caused by a development project. Any development project primarily aims to improve the state of people's life by introducing planned changes into various aspects of the social system in issue. As to social changes caused by a development project, we have two distinct changes introduced to the social system directly caused by project components from changes of the state of the social system indirectly caused by the components through given changes, the former being referred as input changes and the latter as output changes. As far as the practical purpose of project evaluation is concerned socialindicators must consist of measurements which are relevant to describe the output side of social changes, not the input side.

Post-evaluation of social changes does not require any dynamic model of social indicators. A set of measurements which give a systematic description of output changes are good enough for postevaluation. On the other hand, however, exante-evaluation, that is what exactly is required either for project evaluation or project justification doubtlessly needs a dynamic model of social indicators which simulates with proper accuracy behaviors of the social system so as to facilitate us to transform given input changes into output changes, that is, into increments or decrements of social indicators. The concept of social system provides us a good foundation to design such a model.

Now, let us discuss about the concept of output change by which we refer to the output phase of social change. People have their own values to achieve in life. Every activity of them is considered to pursue higher values. The output phase means the value phase. Let us assume there are a set of measurements which measure the values, and a value space can be conceived upon them. Theretically output change is defined as the project of social change into a value space. Value is very relative concept and one can conceive various value spaces. Every value space has its own image of social change, that is output change. If one goes too far, there is the concept of the ultimate value of life waiting, say, happiness, satisfaction or welfare. A discipline has its own terminology to refer to the ultimate value of life, different from other discipline. Since social indicators obviously respond to a multi-dimentional value space, we should not go that much far away. Presently, the concept of the ultimate value can be dealt with very much better by a philosopher than by a scientist.

A space upon pre-value measurements is where to stop and to build social indicators. Pre-value measurements are those which describe the state of social system. As we will discuss later a social system is composed of various processes, each of which is built in the system to achieve what people want to. Pre-value measurements are those which describe directly and objectively how good the processes are functioning. A space upon a systematically arranged set of prevalue measurements can be, and is regarded in the social systems approach as, a space of social indicators, and the image of social change in the space is output change.

To have a good set of indicators, we need to build a good conceptual model of social system. Firstly, it has to facilitate us to select an appropriate set of measurements among numerous characteristics of social system so as the set of measurements selected provide a manageable and systematic description of the system. Secondly, the conceptual model has to enable us to classify the selected measurements into two groups: the input side and the output side. A process-wise description will provide us one which safisfy the requirements.

More close investigation on the concept of social system will make building such a conceptual model easier.

2.3 The Concept of Social System

In describing a social change from viewpoint of the state of people's life, we have to heavily rely on the concept of social system. The section discusses only the essential aspect of the concept of social system, leaving further elaboration to the next section.

People build various systems to organize better life and integrate them into a complex, partly loose-knitted, partly tight-knitted super system, which is often referred very vaguely as "the society, which is, we consider, a conceptual system rather than a substantially existing one in entity. That is, it does not exist in the form of organization though it really exists as a whole in a sense.

People engage themselves in activities of various kinds, producing things or services, consuming them, protecting themselves against natural disasters, educating youngsters, deciding what to do, loving others, talking with friends and so forth. The most precise and exhaustive description conceivable of one's life can be given in the form of stating series of activities in which one has been and was engaged so far. If we go this way to describe the state of life for a large number of people, a vast amount of information involved doubtlessly defeat us both in observation and in description. Let alone understanding. No, this is not the direction to go.

Activities of people are usually neither independent nor separate. There are certain relationships observed among activities. An activity of a person is generally accompanied by other persons' responsive activities. A seller needs a buyer to sell something. In order to run a train to carry passengers, a lot of people have to cooperate. People have various means to organize their activities to avoid confusion and to minimize worthless activities, such as many organizations, institutions, laws and regulations, well-obeyed traditional rules, and so forth. They let people know what they have to do or what they had better to do in response to other people's activities. Thus, activities of people got organized and become related to one another in one way or the other. Some of responsive activities are forced by laws or rules of some kind, some are invited by some form of incentives, and others are done on voluntary will of the responding party to satisfy the calling party. Some relationships are very firm while others are not. The concept of social system essentially refers to the way people organize their activities, or more precisely, to the pattern of relationship among activities. Although there can be found no existing organization in one entity which functions to organize activities of people, it should be allowed to assume the existence in concept of a system with the function if the assumption brings us a better

position to desctibe systematically people's activities.

The concept of social system is a theoretical device which facilitates us to employ systems view in describing changes of the state of life of people systematically. A better way of organization of activities naturally provides people a better state of life. The state of life. The state of life is a very vague expression, without a clear definition of what life is, which is indeed tremendously difficult to define directly. The systems approach simply avoids defining life directly. It makes an indirect definition: the concept of state of life is equivalent to the concept of state of social system. The following section will make more close discussions on the latter concept.

Let us indulge ourselves in obtaining the equivalence from a notion commonly acceptable. A particular group of people, for instance, people in a particular project area, have their own way of organizing and arranging their activities, some of which work satisfactorily while others do not. To describe how good their own way of organizing and arranging their activities is working is virtually the same as to describe how good they are living. This is the essence of our notion stated in common terminology to support the equivalence, "their own way of organizing and arranging their activities," means "the social system of the people," and generally, "to describe how good a system is working,"means"to describe the state of the system." With the statement "to describe how good they are living" rephrased as to describe the state of life, the equivalence is reached.

Recurrent and firmly established activities, to which we have to give a great deal of attention in order to describe how people are living, are mostly generated by existing sub-systems of social system such as manufacturing factories, transportation networks, schools, water supply service and so forth. Of course, behaviors of existing sub-systems are certainly best to observe to understand how the social system is working. One can, however, identify too many of existing sub-systems, and they operate with inter-relations of defeating complexity. The complexity involved is still far from allowing us to build a manageable and systematic description of the system. In order to make the concept of social system much more useful than "the society" and to let it provide us a systematic descripton of people's activities, we need further elaboration. The concept of processes in it, a conceptual model of social system will be shown in the following section.

2.4 The Major Processes in Social System

The concept of social system will be investigated closely here, yielding a conceptual model of social system, which provides us a good foundation for a systematic description of social system in accordance with a given extent of representation.

A social system is really complicated one. When one deals with a complicated system, the best way to describe it systematically and to build a manageable model of it is to focus on major processes in it. Within a social system, six major and fundamental processes can generally be identified, and one will see the social system of Namgang has them. They are production process, consumption process, protection process, learning process, interaction process, and decision process.

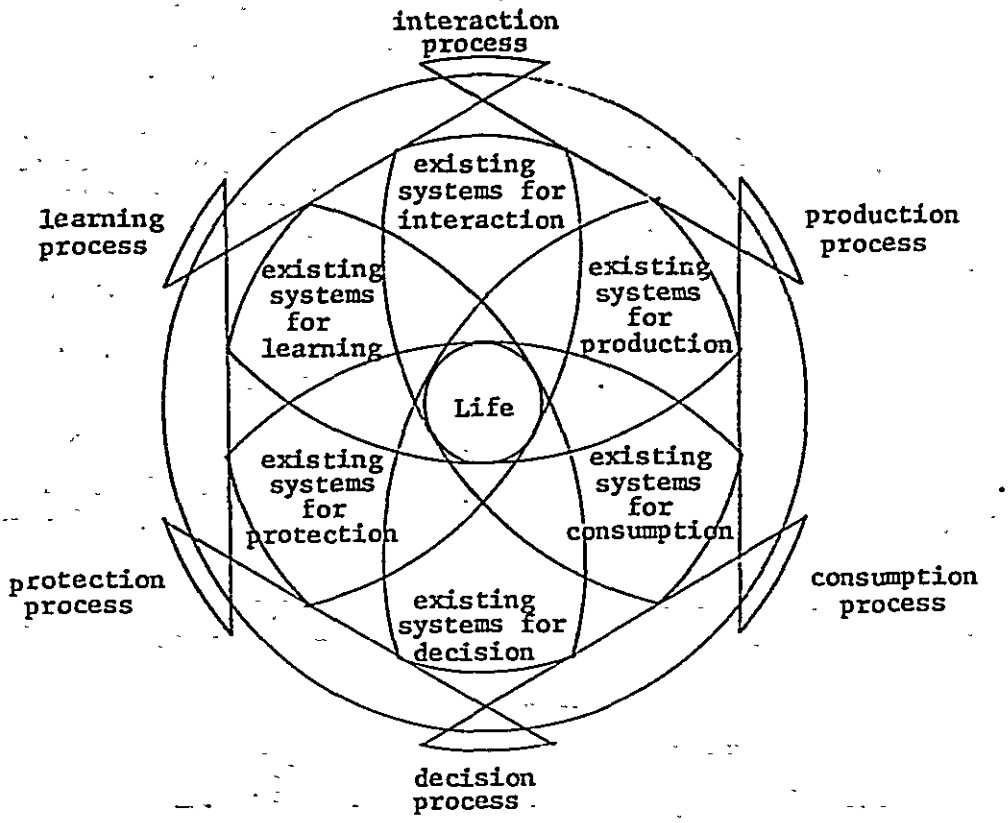
The concept of process primarily refers to function rather than to physical existence of a system, that is, a process refers to a part of system function, not a physical part, though they sometimes practically mean same thin. Each of the six processes stated above are functioned by various existing sub-system of the system in issue and they are essentially designed and built to contribute their primary function to the process. Here, an existing sub-system refers to a physical part of the social system, for instance, an organization, a facility, a group of people, and so forth.

If one can identify the essential function of a given esisting sub-system, which should not be too difficult, one can classify it as attributed to the according process. Thus the six processes provide us a handy classification for numerous existing sub-systems. The concept of process has another aspect, very important one concerning the concept of social system.

Each process refers to so a fundamental function as every existing sub-system has its own version of the process. In other words, each process spreads itself over the whole system. Therefore, one can describe the whole system by regarding it as one of the major processes. The image thus described can look very much overall, reflecting every observable part of the system. However, it is very partial function-wise. For instance, one can regard a social system as a production process. Every substantial sub-system participates in the production process, producting some goods or services in some form. Regarding the whole system this way, one can safely measure how good the state of the system is in economic indicators. To measure how good the state is improved, economic efficiency serves beautifully. But, it only measures the function of production process. Social indicators aim to describe the whole system from all of the processes.

The function of each process is very fundamental not only because it covers the whole system but also because it responds in a sense to what people want to achieve. Let us put it the other way around. Each process is built in the social system so as it functions to yield something people want to have. This is a key statement for the social systems approach to social indicators. When every process is functioning satisfactorily, that is virtually equal to say that the social system is at a good state, people are getting what they want and therefore, they are living at a good state of life. The state of social system, which is conceptually equivalent to the state of life, can be represented by indicators with performance of every process described by them.

Fig.-1 illustrates our conceptual model of social system. A systematic description is needed for social indicators, putting equal emphasis on two phases of social system; function and physical existence. From viewpoint of observation, that is, collecting data for measurements from which indicators are derived, the phase if physical existence is very important. To understand and to describe how a process is working, one has to observe behaviors of existing sub-systems concerning to the process. Let us use "a sector" to refer to a group of existing sub-systems. As far as actual data are concerned, the phase of physical existence which can be described in terms of sectors and their behaviors is vitally important. However, from the theoretical point of view concerning social indicators, the phase of function is vital, because social indicators are essentially to refer to performance of social system.



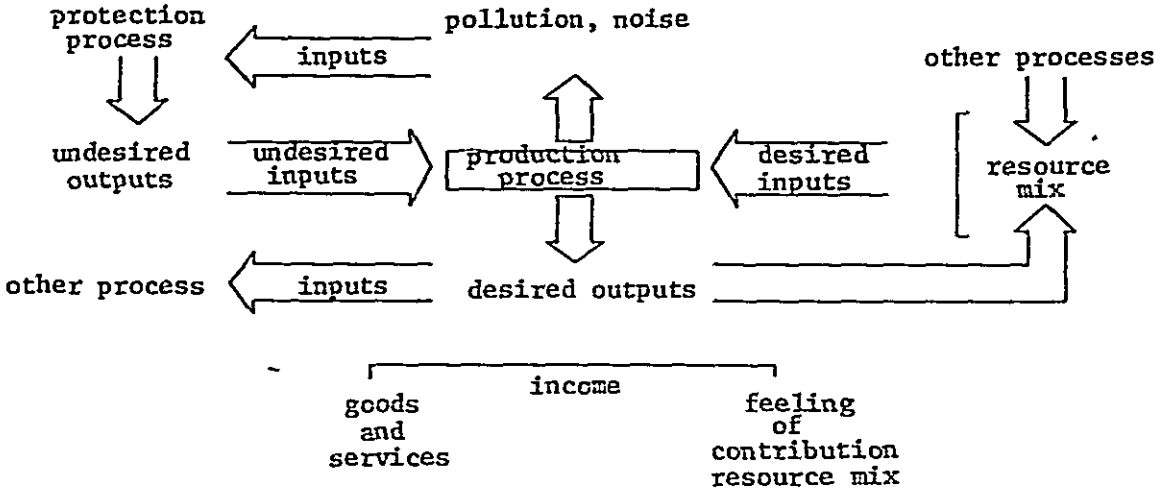
Each process functions primarily to transform desired inputs, a resource mix into desired outputs, goods and services in some form or other. No process, however, can avoid taking to a certain extent undesired inputs and is highly likely to produce undesired outputs besides desired outputs. Performance of a process refers to how good its transformation is working and generally can be described in terms of indicators such as the amount of gross desired outputs, the amount of desired outputs produced by a unit of desired inputs, the amount of undesired outputs generated to produce a unit of desired outputs and so forth. Before building the theoretical framework of social indicators it is necessary to understand each of the six major processes and therefore to develop the conceptual image on social system. Let us here briefly discuss about each process, living constructing the theoretical framework to the next section.

(1) Production Process (Table-1)

The production process is a process which transforms resource mix into a set of:

resource mix	:	A mix of resources
resources	:	materials, produced goods, human being, services, information money, capital

desired outputs (goods and services) and a set of undesired outputs such as air pollutions, noises, and so forth. People participate in operating the process and participation provides them income to support their life and the feeling of contribution to other people's welfare. Desired outputs serve as inputs both to the production process itself and the consumption process. Undesired outputs must be taken care of by the protection process. And one often observes that undesired inputs to the production process cause troubles to its function. And sometimes result in serious damages. One can find many existing sub-systems (or organizations) whose essential functions are devoted to the process, manufacturing factories, farm households, building companies, hotels, barbers and so on.

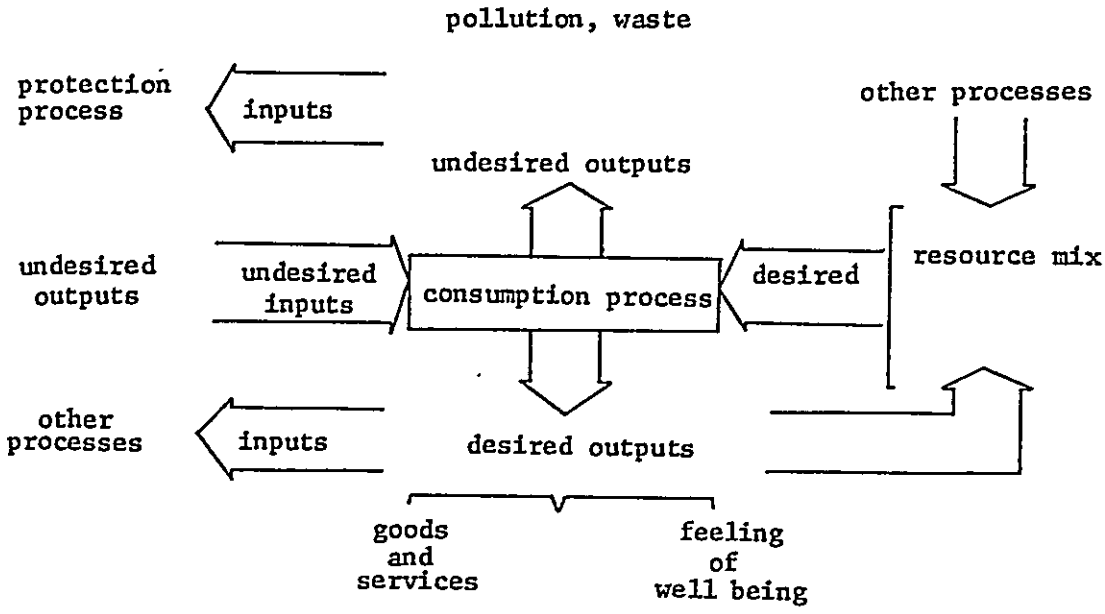


(2) Consumption Process (Fig.-3)

This is a process in which people transform a resource mix into a set of outputs. People are able to sustain themselves by consuming a certain amount of resource mix and reproduce human beings. Through doing this people obtain satisfaction. Sustaining people and obtaining satisfaction are two major desired outputs of the process.

As by products of the process, there are goods, services, and a set of undesired outputs such as waste and some pollutions. Undesired outputs from all of the processes can be potential undesired inputs to the consumption process. Although most of existing sub-systems have their own consumption process, there is only one sub-system whose essential function is to consume, that is, the household sector.

Fig.-3 Consumption Process

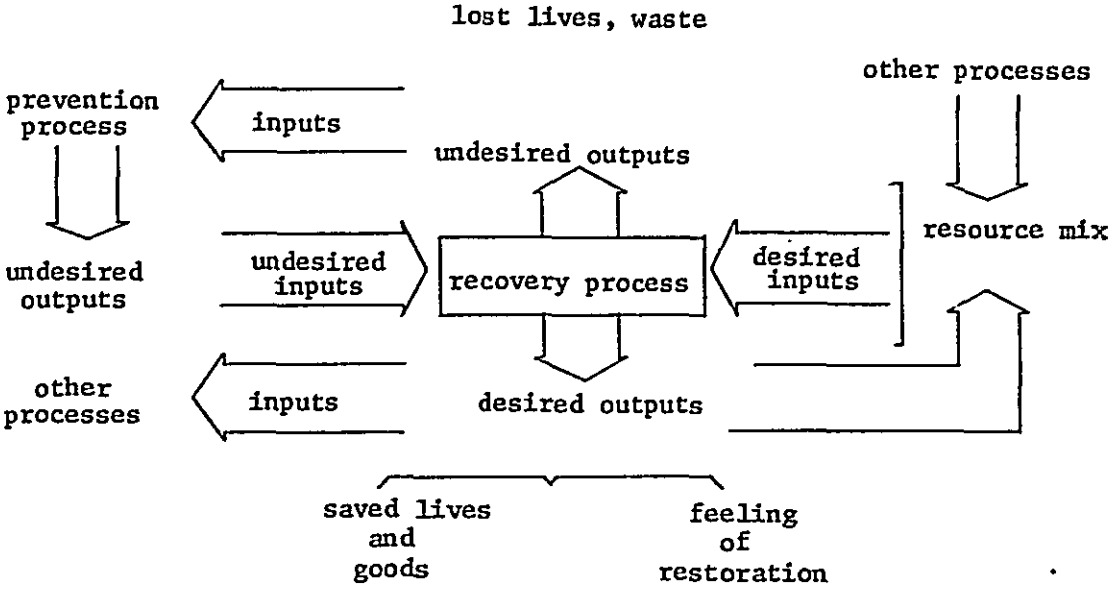


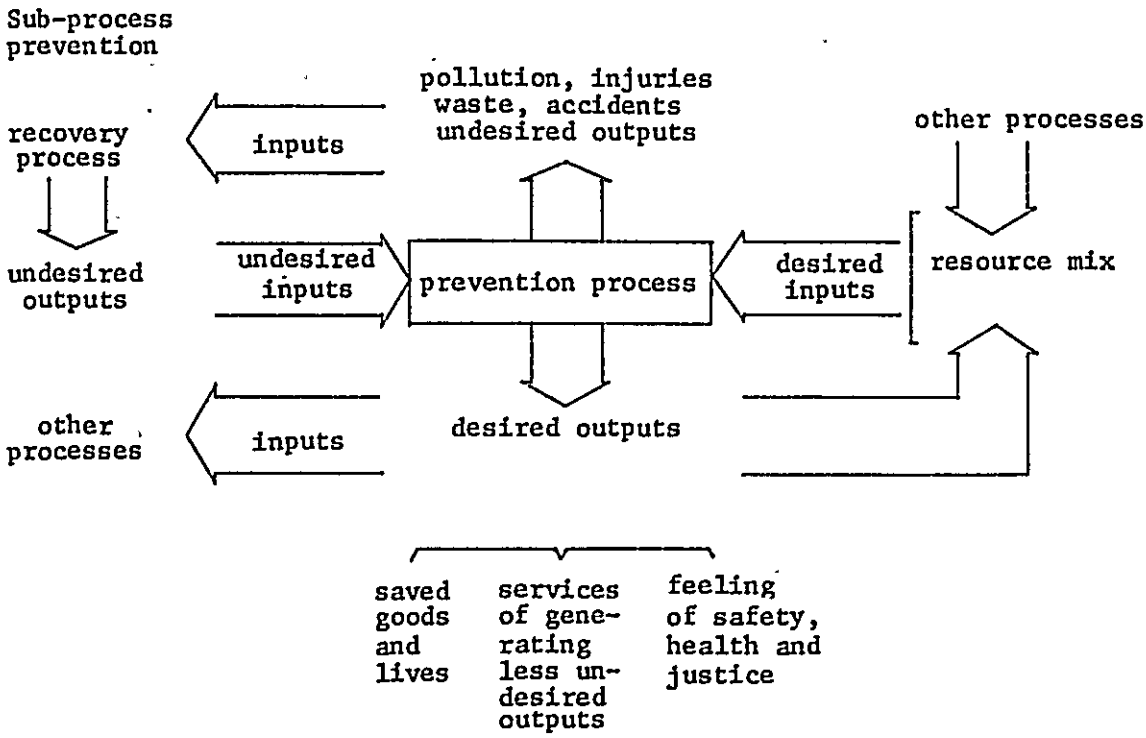
(3) Protection Process (Fig.- 4 and 5)

Any process can not be free from producting undesired outputs to an extent while it is functioning. The protection process engages itself in transforming a resource mix which in this particular case includes undesired outputs from all of the processes into another resource mix so as each process suffers from lesser undesired inputs. The process consists of two sub-processes; prevention process and recovery process. The prevention process is essentially to prevent any of the processes both from producing undesired outputs and getting undesired inputs.

Prevention cannot possibly perfect. Therefore, the social system needs to incorporate the recovery process in it which treats damages and recover proper function. Police service and fire protection service work both ways. Health service is in the prevention process while medical service essentially contribute to the recovery process.

The anti-pollution act belongs to the prevention process and an emergency rescue program to the recovery process. If the prevention process becomes weak the recovery process gets heavier loads and tends to operate at a higher level.



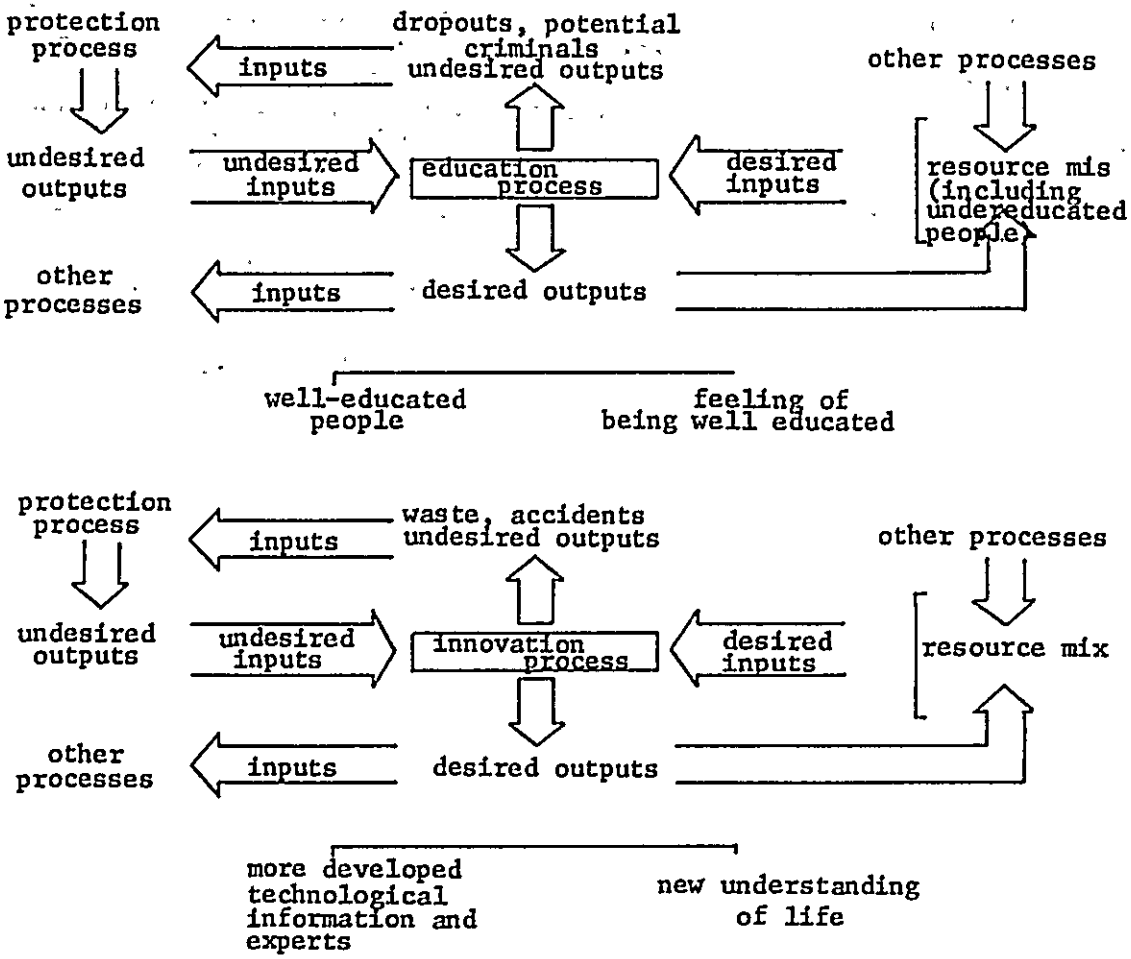


(4) Learning Process (Fig. - 6 and 7)

This is a process to make preparations for future in the long run. It transforms a resource mix into a set of desired outputs, learned people and higher level of technology. Also in this process one can identify two subprocesses; education (including self-realization) process and innovation process. The education process transforms a resource mix in which we include under educated people who are mostly growing generation for the sake of explanatory convenience into educated people. The innovation process fundamentally refers to creative activities such as researches and technology developments. A resource mix is transformed into a new body of knowledge and advanced technology by the innovation process.

Kindergartens, schools, universities and many other educational or research institutes are existing sub-systems which mainly devote themselves to the process. However one should not fail to notice that every existing sub-systems has its own learning process and that household sector plays a vital role in infant education and adult self realization. Neither sub-process is free from generating undesired outputs. For instance, the education process produces dropouts and when an innovation challenge fails occasionally costs

human lives, or at the least, waste of natural resources.



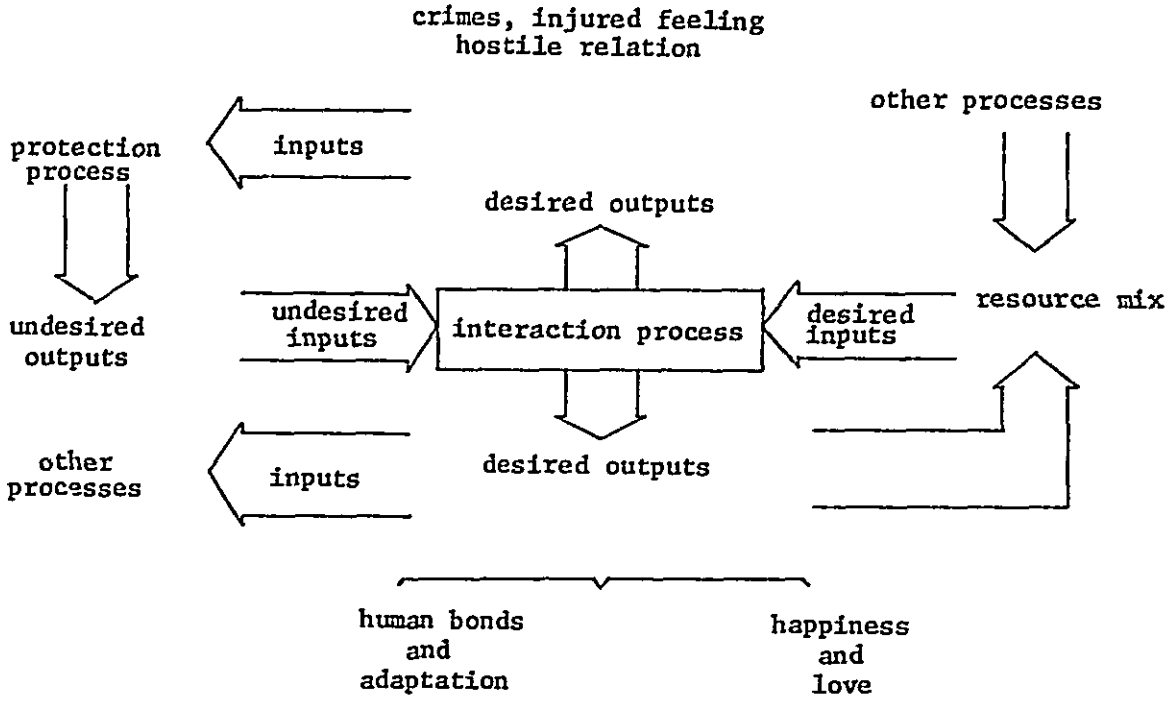
(5) Interaction Process (Fig. - 8)

Living a life in any social system involves interactions among members of the system. Human interaction can be found everywhere in the social system. Interactions generated in a sub-system of a process differ from those generated in another sub-system of a different process. One's life can be described as a series of interactions. These are various kinds of interaction. Some interactions are generated by operations of existing sub-systems which are formally established such as interactions in families, women's clubs, community associations, political parties and so forth. Other interactions come from informal relationships among people.

The interaction process can be regarded as transforming a resource mix into satisfactions, or, at least it can be said that people interact one another in the hope of obtaining satisfactions through doing so.

Any existing sub-system full of hostile interactions can not last long. Illicit and strongly hostile interactions result in undesired outputs, crimes. A life full of hostile and unsatisfactory interactions is a nightmare. If every interaction which takes place in a social system is satisfactory for every member of the system, the system can be regarded as operating at the most desirable state, which means equivalently it provides people an ideal state of life. when any sub-system in any process is operating at an unsatisfactory state, the social system can not achieve the ideal state. In this sense, this process provides us the final subjective indicators to evaluate the operation of the whole social system.

Imaginary interactions, which are interactions with conceptual existences like God, the future generation and the past generation, must be considered included in this process.

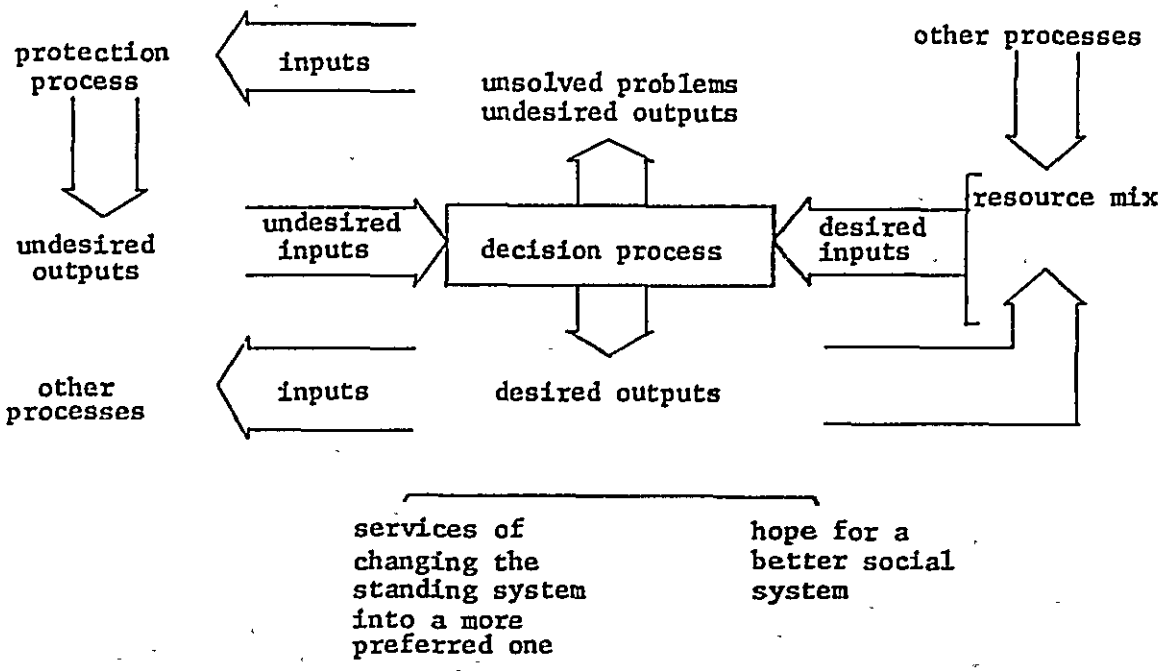


(6) Decision Process (Fig. - 9)

Any social system has self-governing function, though often partial. The decision process is a process built in the social system to keep its operation in order and to change its current structure into more preferred one through introducting new rules, demolishing improper ones, and deciding allocation of resources, mostly public resources.

quality of education can be a good indicator of performance of the process. Assuming there is nothing wrong with other processes, dropout rates indicates in a sense the extent of undesired output of the process. These indicators are represented by Xi3, particularly by X33.

People do not leave an area where the social system is functioning at a good state. A rapid drain or in-flow of population tends to deteriorate performance of various processes. Population growth and out migration are of great concern. For the sake of conceptual convenience, migration is considered in our framework as interaction between the area in issue and outside of the area. Therefore, indicators related migration are represented by Xi6.



2.5 A Theoretical Framework of Social Indicators

The conceptual model of social system has been built in the previous section, which provides us an excellent foundation for defining what social indicators are.

The section concludes the chapter by presenting the theoretical framework of social indicators. Firstly, we will present the framework in the form of a matrix and secondly, we will familiarize it by placing indicators of great concern and of wide attention.

The essential purpose of social indicators is to describe systematically impacts of a social change on the state of life for people in issue. The primal concern is on the state of life of people. A social change can be conceived as an airplane flying in a multidimensional space, which is a space to describe the state of life. Social indicators are to provide decision makers and planners with a cockpit best reliable to guide and keep social change onto a most desirable course.

The state of life of people can be best observed and described in terms of activities of people. People have various means to organize their activities to avoid confusion and to minimize worthless activities. To describe how good their own way of organizing and arranging their activities is working is virtually the same as to describe how good they are living. Since the concept of social system essentially refers to the way people organize their activities, or more precisely, to the pattern of relationship among activities, the concept of state of life is considered equivalent to the concept of state of social system.

As shown in Fig. 1.1 within a social system, six major and fundamental processes can generally be identified; production, consumption, protection, learning, interaction and decision process. Each process is built in the social system so as it functions to yeild something people want to have, that is, people operate the process to transform desired inputs, resource mix, into desired outputs such as goods, services, income, satisfactions in some form or other. When every process is functioning satisfactorily, they are living at a good state of life. The state of social system can be represented by indicators with performance of every process described by them and social indicators are to describe the state of the whole system from all of the processes. Thus we have reached to a verbal definition of social indicators as follows. Social indicators are a set of indicators which describe properly performance of social system from all of the six major processes, with each indicator defined to be derived from a relevant set of measurements so as to let it represent performance of the according process.

In order to clarify the definition, let Xij, denote a set of indicators describing performance of prosess j in sector i and let X denote the set of all Xij ($i = 1,2,....6$; $j = 1,2,....6$). With each Xij defined

properly, X represents our concept of social indicators. A set of indicators which are derived from a set of measurements to furnish a systematic description of performance of every process in every sector, this is our notion of the theoretical framework of social indicators. Fig. 1.2 illustrates the framework.

Performance of a process refers to how good its transformation is working and generally can be described in terms of indicators such as the amount of gross desired outputs, the amount of desired outputs produced by a unit of desired imputs, the amount of undesired outputs generated to produce a unit of desired outputs and so forth.

Further elaboration might make the concept of social indicators more familiar and easier to understand in common terminology. Most of democratic governments in the world have been very much concerned about income, unemployment and pollution. One might ask where they appear in the matrix X. They are considered as indicators describing performance of the production process. People operate the process to transform resource mix as desired inputs into desired outputs goods and services. By participating in operating the process, people obtain income to support their life and feeling of contribution, which are regarded as desired outputs of the process. Here, resource mix refers to a mix of resources such as raw materials, produced goods, human resource (labor force), technology, capital and land. If the production process is performing at its best, every one working has to be getting a fair amount of income and no one would expect much of unemployment found in the process. The process produces undesired outputs beside desired outputs, pollution being among undesired outputs. So, these three are represented by X11.

Income distribution indicators which are also highly respected by foregoing studies on social indicators, must be regarded as describing performance of the decision process, represent by Xi5 in Table-1. For, the decision process fundamentally transforms resource mix as its desired inputs into various decisions including those concerning resource allocation.

Of course, nutrition is directly connected with food consumption, and therefore is represented by Xi2, specially X22. The protection process is considered to consist of two sub-processes; prevention and recovery. Since the prevention process is to function to prevent people and sub-systems from getting damaged, the number of patients of communicable diseases is considered as referring to performance of the prevention sub-process. The recovery sub-process transforms resource mix into vaious services to recover people and sub-systems unfortunately incurred damages. Therefore, the numbers of patients cured and patient dead are regarded as referring to performance of the sub-process. Indicators concerning health service and medical care are represented by Xi3.

Education is among the greatest concerns for people every where in the world. The education process primarily transforms undereducated people and resource mix into well educated people. Although the

quality of education can be a good indicator of performance of performance of the of the process. Assuming there is nothing wrong with other processes, dropout rates indicates in a sense the extent of undersired output of the process. These indicators are represented by Xi3, particularly by X33.

People do not leave an area where the social system is functioning at a good state. A rapid drain or in-flow of population tends to deteriorate performance of various processes. Population growth and out migration are of great concern. For the sake of conceptual convenience, migration is considered in our framework as teraction between the area in issue and outside of the area. Therefore, indicators related migration are represented by Xi6.

Table-1 Theoretical Framework of Social Indicators

Processes / Sectors	1 Production Process	2 Consumption Process	3 Learning Process	4 Protection Process	5 Decision Process	6 Interaction Process
1 Production sector	X_{11}*	X_{12}	X_{13}	X_{14}	X_{15}	X_{16}
2 sonsumption sector	X_{21}	X_{22}*	X_{23}	X_{24}	X_{25}	X_{26}
3 learning sector	X_{31}	X_{32}	X_{33}*	X_{34}	X_{35}	X_{36}
4 protection sector	X_{41}	X_{42}	X_{43}	X_{44}*	X_{45}	X_{46}
5 decision sector	X_{51}	X_{52}	X_{53}	X_{54}	X_{55}**	X_{56}
6 interaction sector	X_{61}	X_{62}	X_{63}	X_{64}	X_{65}	X_{66}*

* : diagonal element

X_{ij} : denotes a set of indicators which measure the function level of sector i in process j.

$X = (X_{(ij)})$

: denotes a set of indicators

Production sector
: existing sub-systems mainly engaged in production process.

consumption sector
: existing sub-systems mainly engaged in consumption process.

learning sector
: existing sub-systems mainly engaged in learning process

protection sector
: existing sub-systems mainly engaged in protection process.

decision sector
: existing sub-systems mainly engaged in decision process

interaction sector
: existing sub-systems mainly engaged in interaction.

3. PEOPLE'S PREFERENCE SURVEY

(1) Purpose

The plan, being an "integrated" one, covers many different areas and will affect the whole of the lives of the people of the region. Accordingly, the opinions of the people themselves should be reflected to the greatest extent possible in the planning and evaluation process. That is why the planners took to the field, talking to people in general in the region and engaging in lively discussions at R.D.D. and D.D.D. offices. In order, however, to get a still better idea of the people's views, it was deemed necessary to carry out an opinion survey on the basis of a questionnaire as described below.

The questions in the questionnaire concern primarily items of importance in evaluation, with space left at the end for free expression of any opinion the respondant might have concerning the integrated regional development plan. Fortunately, all respondants filled out the questionnaire very enthusiastically. We would like to thank them and also Mr. Kigoda of R.D.D. for his assistance in distributing the questionnaire and are happy to be able to say that the results of the survey have been helpful in the planning.

(2) Method

The survey was carried out in January and Feburary of 1977, the respondants being opinion leaders in the various areas of the region. Fifty questionnaires were earmarked for each area, and R.D. did the actual selection of respondants and distribution and collection of questionnaires.

(3) Description of Questionnaire

Questions 1-4 concerned the respondants themselves: their age, sex, occupation, family size, and formal education.

Questions 5-6 were designed to determine what the respondants thought of the problems relating to population increase and what, in their view, should be done to solve such problems.

Question 8 asked the respondants themselves to estimate the extent to which the importance of a balanced diet is appreciated by the people of the region, and particularly housewives since it is they who prepare the family meals.

Question 9 asked the respondants to give the order in which various facilities and services are necessary for improvement of their lives, including all-weather roads, electricity, bus service, and hospitals.

Question 10 asked the respondants to freely express their opinions concerning the integrated regional development plan.

QUESTIONNAIRE

Q. 1. Age & Sex ( ) years old ( ) male

Q. 2. Occupation

Q. 3. Number of persons in family ( ) Persons

Q. 4. Education ( ) none ( ) Primary school

( ) Secondary school ( ) Higher education

Q. 5. Do you think population of your village (division) is growing very fast and causing problems?

( ) Yes ( ) No

Q. 6. If you answered yes for the above Q.5, what do you think best to do. Please describe your priority. Make A for priority 1 Mark C for priority 3 Mark B for priority 2

( ) Develop more agricultural land
( ) Develop small-scale industries in rural areas
( ) Develop large scale industries in urban areas
( ) Reduce number of children per family

Q. 7. If the approved plan of the region says child spacing is indispensable, do you think most of people in your village (division) will cooperate?

( ) yes ( ) no ( ) depends

If your answer is "depends", please state the conditions to be satisfied to obtain people's cooperation. Please select 2 conditions from below.

( ) Intensive education of wives is needed
( ) Materials necessary must be made available very cheep
( ) Intensive education of husbands is needed
( ) Nation wide campain is needed

Q. 8. How many of mothers in your village (divison) are well aware of the importance of balanced nutrition food to keep family health? Please describe your impression.

( ) about 3/4 of them ( ) about 1/4 of them
( ) about 1/2 of them ( ) less than 1/4 of them

Q. 9. What do you think your village (division) need to improve peoples living conditions? Please describe your priority
Make A for three services (facilities) of the first priority
Make B for three services (facilities) of the second priority
Make C for three services (facilities) of the third priority

1. ( )	all weather road	8. ( )	telephone services
2. ( )	more electricity	9. ( )	Hospital services
3. ( )	cooperative shop	10. ( )	library services
4. ( )	bus services	11. ( )	secondary school
5. ( )	treated water	12. ( )	market to sell agricultural products
6. ( )	better house		
7. ( )	better and more materials for primary school	13. ( )	small scale industries
		14. ( )	community centre

Q.10. Please state any suggestions you have in mind for the integrated regional development plan

(4) Findings of the Survey

(i) Questions Regarding the Respondants Themselves

For these questions there was a total of 222 effective quationnaires: 60 for the Hai District, 60 for the Moshi District, 48 for the Rombo District, and 54 for the Pare District.

(a) Age (Q 1.1)

Most of the respondants were in the age group 20-44, their average age being 35.

Age group	Hai	Moshi	Rombo	Pare	Region
15 ~ 19	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
20 ~ 24	10 (16.7)	8 (13.3)	11 (22.9)	2 (3.7)	31 (44.0)
25 ~ 29	10 (16.7)	15 (25.0)	11 (22.9)	12 (22.2)	48 (21.6)
30 ~ 34	16 (26.7)	12 (20.0)	8 (16.7)	6 (11.1)	42 (18.9)
35 ~ 39	8 (13.3)	4 (6.7)	8 (16.7)	11 (20.4)	31 (14.0)
40 ~ 44	9 (15.0)	11 (18.3)	8 (16.7)	8 (14.8)	36 (16.2)
45 ~ 49	7 (11.7)	5 (8.3)	1 (2.1)	4 (7.4)	17 (7.7)
50 ~ 54	7 (0.0)	2 (3.3)	0 (0.0)	5 (9.3)	7 (3.2)
55 ~ 59	0 (0.0)	1 (1.7)	1 (2.1)	5 (9.3)	7 (3.2)
60 ~ 64	0 (0.0)	2 (3.3)	0 (0.0)	1 (1.9)	3 (1.4)
65 ~ 69	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Totals	60 (100.0)	60 (100.0)	48 (100.0)	54 (100.0)	222 (100.0)

(b) Sex (Q 1.2)

Males accounted for 80.6% of the respondants.

	Hai	Moshi	Rombo	Pare	Region
No answer	1 (1.7)	0 (0.0)	2 (4.2)	0 (0.0)	3 (1.4)
Male	52 (86.7)	41 (68.3)	34 (70.8)	52 (96.3)	179 (80.6)
Female	7 (11.7)	19 (31.7)	12 (25.0)	2 (3.7)	40 (18.0)
Totals	60 (100.0)	60 (100.0)	58 (100.0)	54 (100.0)	222 (100.0)

(c) Occupation (Q 2)

Many different occupations were represented among the respondants, including farmers, typists, secretaries, teachers, and administrative officers.

(d) Number of Persons in Family (Q 3)

The average was 7.8 persons per family, 25% of the respondants having either 7 or 8 persons in their family.

No. of persons	Hai	Moshi	Rombo	Pare	Region
1	2 (3.3)	4 (6.6)	6 (12.5)	1 (1.9)	13 (5.9)
2	4 (6.6)	0 (0.0)	1 (2.1)	0 (0.0)	5 (2.3)
3	2 (3.3)	1 (1.7)	4 (8.3)	4 (7.4)	11 (5.0)
4	7 (11.7)	3 (5.0)	5 (10.4)	4 (7.4)	19 (8.6)
5	4 (6.6)	7 (11.7)	4 (8.3)	2 (3.7)	17 (7.7)
6	5 (8.3)	6 (10.0)	3 (6.25)	6 (11.1)	20 (9.0)
7	6 (10.0)	10 (16.7)	5 (10.4)	4 (7.4)	25 (11.3)
8	8 (13.3)	8 (13.3)	6 (12.5)	9 (16.7)	31 (14.0)
9	2 (3.3)	3 (5.0)	4 (8.3)	3 (5.6)	12 (5.4)
10	10 (16.7)	3 (5.0)	3 (6.25)	8 (14.8)	24 (10.8)
11	2 (3.3)	1 (1.7)	3 (6.25)	2 (3.7)	8 (3.6)
12	1 (1.7)	2 (8.3)	2 (4.2)	5 (9.3)	13 (5.9)
13	1 (1.7)	3 (5.0)	0 (0.0)	1 (1.9)	5 (2.3)
14	6 (10.0)	6 (10.0)	2 (4.2)	5 (9.3)	19 (8.6)
Totals	60 (100.)	60 (100.0)	48 (100.0)	54 (100.0)	222 (100.0)

(e) Level of Formal Education (Q 4)

Since most of the respondants were opinion leaders of their areas, their level of formal education was of course considerably higher than the average in the region. More than 50% of them had graduated from secondary school or a higher educational level.

Level of formal education	Hai	Moshi	Rombo	Pare	Region
No answer	3 (5.0)	0 (0.0)	2 (4.2)	1 (1.9)	6 (2.7)
No schooling	0 (0.0)	1 (1.7)	2 (4.2)	1 (1.9)	4 (1.8)
Primary school	19 (31.7)	26 (43.3)	24 (50.0)	29 (53.7)	98 (44.1)
Secondary school	18 (30.0)	16 (26.7)	13 (27.1)	18 (33.3)	65 (29.3)
Higher education	20 (33.3)	7 (11.7)	7 (14.6)	5 (9.3)	49 (22.1)
Totals	60 (100.0)	60 (100.0)	48 (100.0)	(54 (100.0)	222 (100.0)

(ii) Questions Concerning the Respondants' Views on the Population Problems (Q 5-7)

(a) Do you think the population of your village (division) is growing very fast and causing problems? (Q 5)

Since 82% answered "yes" to this question, rapid increase in population is obviously already giving rise to tangible problems in their everyday lives.

	Hai	Moshi	Rombo	Pare	Region
No answer	0 (0.0)	0 (0.0)	1 (2.1)	0 (0.0)	1 (0.5)
Yes	54 (90.0)	49 (81.7)	36 (75.0)	43 (79.6)	182 (82.0)
No	6 (10.0)	11 (18.3)	11 (22.9)	11 (20.4)	39 (17.5)
Totals	60 (100.0)	60 (100.0)	48 (100.0)	54 (100.0)	222 (100.00)

(b) What to Do About Rapid Population Growth (Q 6)

Agricultural development was cited by 58% of the respondants as being a very good way of coping with the population problem, the next most popular solution being development of small-scale industry.

		Agricultural development	Deveopment of small industry	Development of large industry	Birth control
Hai	A	32 (53.3)	16 (26.7)	3 (5.0)	8 (13.3)
	B	16 (26.7)	27 (45.0)	8 (13.3)	8 (13.3)
	C	9 (15.0)	10 (16.7)	17 (31.7)	20 (33.3)
	No response	3 (5.0)	7 (11.7)	30 (50.0)	24 (40.0)
	Totals	60 (100.0)	60 (100.0)	60 (100.0)	60 (100.0)
Moshi	A	30 (50.0)	19 (31.7)	3 (5.0)	5 (8.3)
	B	20 (33.3)	25 (41.7)	6 (10.0)	5 (8.3)
	C	6 (10.0)	9 (15.0)	26 (43.3)	18 (30.0)
	No response	4 (6.7)	7 (11.7)	25 (41.7)	32 (53.3)
	Totals	60 (100.0)	60 (100.0)	60 (100.0)	60 (100.0)
Rombo	A	32 (66.7)	12 (25.0)	1 (2.1)	5 (10.4)
	B	9 (18.8)	26 (54.2)	6 (12.5)	5 (10.4)
	C	4 (8.3)	10 (20.8)	15 (31.3)	21 (43.8)
	No response	3 (6.3)	0 (10.0)	26 (54.2)	17 (14.6)
	Totals	48 (100.0)	48 (100.0)	48 (100.0)	48 (100.0)
Pare	A	35 (64.8)	21 (38.9)	1 (1.9)	1 (1.9)
	B	13 (24.1)	21 (38.9)	7 (13.0)	10 (18.5)
	C	3 (5.6)	8 (14.8)	19 (35.2)	20 (37.0)
	No response	3 (5.5)	4 (7.4)	27 (50.0)	23 (42.6)
	Totals	54 (100.0)	54 (100.0)	54 (100.0)	54 (100.0)
Region	A	129 (58.1)	68 (30.6)	8 (3.6)	19 (8.6)
	B	58 (26.1)	99 (44.6)	27 (12.2)	28 (12.6)
	C	22 (10.0)	37 (16.7)	79 (35.9)	79 (35.6)
	No response	13 (5.9)	18 (8.1)	108 (48.6)	96 (43.2)
	Totals	222 (100.0)	222 (100.0)	222 (100.0)	222 (100.0)

Remarks: (1) "A" indicates "very effective," "B" effective," and "C" "less effective".
(2) The figures in parentheses are percentages.

(c) Do you think people will go along with the proposal to space the births of children farther apart? (Q 7.1)

Many of the respondants answered that they were not sure since the answer depended on many factors that were hard to judge. The question of national policy regarding the population problem obviously needs to be more fully debated.

	No answer	Yes	No	Not sure	Totals
Hai	1 (1.7)	15 (25.0)	3 (5.0)	41 (68.3)	60 (100.0)
Moshi	0 (0.0)	10 (16.7)	9 (15.0)	41 (68.3)	60 (100.0)
Rombo	0 (0.0)	14 (29.2)	7 (14.6)	27 (56.3)	48 (100.0)
Pare	1 (1.9)	17 (31.5)	8 (14.8)	28 (51.9)	54 (100.0)
Region	2 (0.9)	56 (25.2)	27 (12.2)	137 (61.7)	222 (100.0)

(d) If you answered "not sure" to Q 7.1 circle two of the following means of promoting brith control as being the most desirable: (Q 7.2)

(A) Intensive education of wives

(B) Making contraceptives available at lower prices

(C) Intensive education of husbands

(D) A national campaign

The preferred answers were (A) and (D).

Means		A		B		C		D	
Hai	Circled	32	(53.3)	19	(31.7)	20	(33.3)	35	(58.3)
	Not circled	28	(46.7)	41	(68.3)	40	(66.7)	25	(41.7)
	Totals	60	(100.0)	60	(100.0)	60	(100.0)	60	(100.0)
Moshi	Circled	39	(65.0)	10	(17.7)	29	(48.3)	25	(41.7)
	Not circled	21	(35.0)	50	(83.3)	31	(51.7)	35	(58.3)
	Totals	60	(100.0)	60	(100.0)	60	(100.0)	60	(100.0)
Rombo	Circled	28	(58.3)	12	(25.0)	19	(39.0)	23	(47.9)
	Not circled	20	(41.7)	36	(75.0)	29	(60.4)	25	(52.1)
	Totals	48	(100.0)	48	(100.0)	48	(100.0)	48	(100.0)
Pare	Circled	31	(57.4)	22	(40.7)	14	(25.9)	20	(37.0)
	Not Circled	23	(42.6)	32	(59.3)	40	(74.1)	34	(63.0)
	Totals	54	(100.0)	54	(100.0)	54	(100.0)	54	(100.0)
Region	Circled	130	(58.6)	63	(28.4)	82	(36.9)	103	(46.4)
	Not circled	92	(41.4)	159	(71.6)	140	(63.1)	119	(53.6)
	Totals	222	(100.0)	222	(100.0)	222	(100.0)	222	(100.0)

(iii) What percent of housewives do you think are aware of the importance of nutritionally balanced meals? (Q 8)

(A) 75%

(B) 50%

(C) 25%

(D) Under 25%

The answers did not follow a clear enough pattern to be able to judge the extent to which the importance of balanced meals is appreciated in the region.

Q 8	No answer	A	B	C	D
Hai	1 (1.7)	8 (13.3)	13 (21.7)	17 (33.3)	18 (30.0)
Moshi	0 (0.0)	10 (16.7)	12 (20.0)	20 (33.3)	18 (30.0)
Rombo	0 (0.0)	8 (16.7)	14 (29.2)	17 (35.4)	9 (18.8)
Pare	1 (1.9)	9 (16.7)	17 (31.5)	10 (18.5)	17 (31.5)
Region	2 (0.9)	35 (15.8)	56 (25.2)	67 (30.2)	62 (27.9)

(iv) Order in Which Facilities and Services are Necessary (Q 9)

The order of priority of provision of facilities and services came out as follows:

Highest priority	Hospitals	9
	Water supply	5
	All-weather roads	1
	Housing	6
	Small-scale industry	13
	Marketing through cooperatives	3
	Marketing of form produce	12
	Educational materials for primary schools	7
	Electricity	2
	Bus service	4
	Secondary education	11
	Telephone service	8
	Libraries	10
Lowest priority	Community centers	14

The overwhelming top priority choices were hospitals, water supply, and all-weather roads.

Lowest priority was given to community centers, libraries, and telephone service, all of which relate to the interaction process of the social system and the demand for which will become greater and treater as supply increases. The reason why they were given such low priority is that contact between the people and the administrative apparatus is not very close.

Furthermore, no substantial difference in priorities was detected between the districts, except for a somewhat lower priority in the Moshi and Hai districts for all-weather roads, which is attributable to the fact that these districts are already better provided with roads than the others.

	Q 10	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Hai	A	25 41.7	1 1.6	10 16.7	5 8.3	39 65.0	16 26.7	10 16.7	2 3.3	42 70.0	1 1.6	4 6.7	8 13.3	13 21.7	2 3.3
	B	15 25.0	14 23.3	23 38.3	8 13.3	7 11.7	15 25.0	22 36.7	1 1.6	11 18.3	3 5.0	12 20.0	20 33.3	22 36.7	3 5.0
	C	13 21.6	14 23.3	18 30.0	17 18.3	9 15.0	14 23.3	12 20.0	5 8.3	6 10.0	19 31.4	11 18.3	13 21.6	14 23.3	11 18.3
	No answer	7 11.7	31 51.7	9 15.0	30 50.5	5 8.3	15 25.0	16 26.7	52 86.7	1 1.6	37 60.7	33 55.0	19 31.7	11 18.3	44 73.3
	Totals	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0
Moshi	A	19 31.7	5 8.3	15 25.0	9 15.0	33 55.0	23 38.3	7 11.7	2 3.3	34 56.7	1 1.6	5 8.3	11 18.3	15 25.0	1 1.8
	B	21 35.0	7 11.7	15 25.0	8 13.3	12 20.0	16 26.7	24 40.0	0 0.0	19 31.7	4 6.7	13 21.7	17 28.3	18 30.0	2 3.3
	C	9 15.0	20 33.3	20 33.3	21 35.0	5 8.3	8 13.3	19 31.7	5 8.3	5 8.3	13 21.7	10 16.7	24 40.0	14 23.3	7 11.7
	No answer	11 18.3	28 45.7	10 16.7	22 36.7	10 16.7	13 21.7	10 16.7	53 88.3	2 3.3	42 70.0	32 53.3	8 13.3	13 21.7	50 83.3
	Totals	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0	60 100.0
Rombo	A	24 50.0	4 8.3	13 27.1	3 6.3	27 56.3	11 22.9	7 14.6	2 4.2	30 62.5	0 0.0	4 8.3	8 16.7	12 25.0	0 0.0
	B	12 25.0	6 12.5	14 29.2	13 27.1	11 22.9	15 31.3	13 27.1	4 8.3	13 271.1	4 8.3	8 16.7	16 33.3	11 22.9	2 4.2
	C	7 14.6	10 20.8	12 25.0	21 43.8	3 6.3	9 18.8	13 27.1	9 18.8	4 8.3	12 25.0	10 20.8	13 27.1	14 29.2	4 8.3
	No answer	5 10.4	28 58.3	9 18.8	11 22.9	7 14.6	13 27.1	15 31.3	33 68.8	1 2.1	32 66.7	26 54.2	11 22.9	11 22.9	42 87.5
	Totals	48 100.0	48 100.0	48 100.0	48 100.0	48 100.0	48 100.0	48 100.0	48 100.0	48 100.0	48 100.0	48 100.0	48 100.0	48 100.0	48 100.0

	Q 10	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Pare	A	33 61.1	12 22.2	9 16.7	5 9.3	32 59.3	13 24.1	8 14.8	3 5.6	29 53.7	3 5.6	6 11.1	7 18.0	9 16.7	1 1.9
	B	12 22.2	3 5.6	19 35.2	10 18.5	16 29.6	16 29.6	22 40.7	3 5.6	17 31.5	5 9.3	10 18.5	19 35.2	19 35.2	1 1.9
	C	8 14.8	9 16.7	16 29.6	24 44.4	3 5.6	8 14.8	15 27.8	5 9.3	7 13.0	10 18.5	17 31.5	14 25.9	15 27.8	5 9.3
	No answer	1 1.9	30 55.6	10 18.5	15 27.8	3 5.6	17 31.5	9 16.7	43 79.6	1 1.9	36 66.7	21 38.9	14 25.9	11 20.4	47 87.0
	Totals	54 100.0	54 100.0	54 100.0	54 100.0	54 100.0	54 100.0	54 100.0	54 100.0	54 100.0	54 100.0	54 100.0	54 100.0	54 100.0	54 100.0
Region	A	101 (45.5)	22 (9.9)	47 (21.2)	22 (9.9)	131 (59.0)	63 (28.4)	32 (14.4)	9 (4.1)	335 (60.8)	5 (2.3)	19 (8.6)	34 (15.3)	49 (22.1)	4 (1.8)
	B	60 (27.0)	30 (13.5)	71 (37.0)	39 (17.6)	46 (20.7)	62 (27.9)	81 (36.5)	8 (3.6)	60 (27.0)	16 (7.2)	43 (19.4)	72 (32.4)	70 (31.5)	8 (3.6)
	C	37 (16.7)	53 (23.9)	66 (27.7)	83 (37.4)	20 (9.0)	39 (17.6)	59 (26.6)	24 (10.8)	22 (0.9)	54 (24.3)	48 (26.6)	64 (28.8)	57 (25.7)	27 (12.2)
	No answer	24 (10.8)	117 (52.7)	38 (17.1)	78 (35.1)	25 (11.3)	58 (26.1)	50 (22.5)	181 (31.5)	5 (2.3)	147 (66.2)	112 (50.5)	52 (23.4)	46 (20.7)	183 (82.4)
	Totals	222 100.0	222 100.0	222 100.0	222 100.0	222 100.0	222 100.0	222 100.0	222 100.0	222 100.0	222 100.0	222 100.0	222 100.0	222 100.0	222 100.0

(v) Please State any Suggestions You have in Mind for the Integrated Regional Development plan (Q 10)

Many of the respondants made frank suggestions, only a few of which are given below. Most of them had to do with production or education.

Comments Made by Respondants

Regarding Production Process

4004 Diversification of farming mixed farming, including raising of grade cattle, and food and cash crops.

4011 Intensification of small-scale industries.

4016 We need man-power for any plan. We may have had very sound plans but they havn't been successful because of man-power shortages. So I recommend a man-power system for the region.

4018 The peasants should be encouraged to.

1006 Better cooperation among people involved in a particular project engage in dry agriculture.

2001 Growing grass for cattle is important.

2002 Research of irrigation in this country is very important owing to wide spread drought. So my opinions concerning this issue are (a) all the dams should be closed to collect rain water and (b) water should be channeled by pipes from large rivers to drought areas where the land is fertile enough for agriculture.

2047 Water supply in dry areas of the region for expansion of pastures and arable land.

3030 Small scale industries should be encouraged by

(a) giving technical advice freely
(b) granting loan on liberal conditions
(c) creating opportunities for marketing of products.

3041 The Gov't and Party should take an active interest in suggestions concerning agriculture. The Gov't should negotiate the prices of crops for farmers.

3039 In certain areas of lowland in Kilimanjaro region e.g. Rombo there is underground water system which appears in Kenya after crossing the border. Drilling of this water can be done with very little expences, provided that peasant would get an expert plus drilling machine.

3040 Government should take immediate arrangement in growing trees beside rivers because most of the water in the river are drying due to lack of trees (cut down trees) which were centers of attracting water.

Regarding Learning Process

4011 More polytechnic education is necessary.

4048 Women in villages should be given more education, especially regarding nutrition, child care and home management.

4037 People should be educated to move to the places where land is available so as to avoid over population.

1010 I suggest that there should be camps or centers for primary school teachers who have not been selected for further education to learn various skills instead of having to learn them on their own.

2027 To coordinate campaigns regarding agriculture technology, family planning and all sorts of development and to follow them up with concrete action.

2047 Education for higher level mechanical and industrial technicians.

3036 Education should be provided by means of radio and newspapers.

2016 Technical centers for primary school leavers are needed.

Others

4011 Treated water for all villages and extension of electric facilities are very important.

3029 Reduce the cost of living for the general population and made things available at lower prices.

3038 Family planning must be done in accordance with dignity and conscience of individual and society.

4011 Improvement of medical services is important.

4011 The communications system should be improved.

PART THREE : GOALS SYSTEMS

1. POPULATION PROJECTION

1.1 Profile of population growth

In the last census, which took place in 1976, the total population of the Kilimanjaro Region was placed at 653,000. Since then BRALUP has estimated the population of the region at 865,000 in 1975 on the basis of a reliable sample survey it carried out in 1973. Assuming that the rate of growth was constant, it cames to 3.58% a year during that period, at which rate the population would doble in twenty years. As can be judged from Table-1, this rate is high in comparison to that for the whole of Tanzania, which means that the population of the region is growing at a very rapid pace.

POPULATION TRENDS (Table-1)

	World total	Africa	Kenya	Uganda	Tanzania	Kirimanjaro
Total population (1974) (unit: 1,000)	3,893,000	391,000	12,900	11,200	14,536	834
Crude birth rate (1970-75)	3.15%	4.63%	5.0%	4.9%	4.7%	5.0%
Crude death rate (1970-75)	1.28%	1.98%	1.7%	1.9%	1.5%	1.4%
Population growth (1970-75)	1.87%	2.65%	3.3%	3.0%	3.2%	3.6%
Life expectancy (1970-75)	55	45	50	50	47	50

Let us now make a more detailed analysis of both the natural and social dynamics of the population of the region.

(1) Natural Dynamics

The natural dynamics of population are determined by the birth and death rates, the former being exceptionally high and the latter exceptionally low in the Kilimanjaro Region, which explains why its population growth rate is among the highest in the world.
The death rate is not low in absolute terms. It is, in fact, higher than those of developed countries. It is lower, however, than those of other African countries and of other regions in Tanzania.
And, of course, a low death rate is a good thing in the sense of lengthening life expectancy, which has no doubt increased at about the same rate since 1976 as before then.

(2) Social Dynamics

The social dynamics of population are determined by the rates of population inflow and outflow, which were 2.2% and 3.9%, respectively, for the Kilimanjaro Region in 1967 according to the census of that year. These figures are for migration between regions, and no figures are available for population movement within the region.
Although the region has in the past had a net population outflow, recently it is hard to say whether there is a net outflow or a net inflow because of considerable and extensive population movement in connection with the construction of Ujamaa villages.
Nevertheless, social dynamics have not contributed nearly as much to the overall dynamics of population as natural dynamics and accordingly will not be taken into account in projecting future population.
Another reason for not taking it into account is that it would not be advisable to assume interregional movement of population in view of the fact that such movement represents an imposition on other regions, which have their own problems of rapidly growing population.

1.2 Problem Formulation

The problems of population growth can be summarized in the following two formulations.

(1) Living standards decline if population grows faster than the economy, as aptly pointed out by President Nyerere: "Whatever we produce has to be divided between an increasing number of people every year.... It is no use saying that these extra 380,000 people have hands as well as mouths. For the first ten years of their life, at the very least, children eat without producing. "As we have noted in the preceding section, growth of the social system must be balanced. What is meant here by balance is primarily balance between economic growth and population growth and balance between the working population and the youth population. The achievement of such balance will be no easy matter, however.

(2) Another problem of rapid population growth is that of equity. In order to maintain the level of social while population is growing, it is necessary to invest a great deal of money in the construction and improvement of facilities, and all of the people, irrespective of the number of their children, must bear the burden, however, is not really equitable in view of the fact that it is more for the benefit of those with more children than for the benefit of those with fewer children that such investment is made.

From the above it is obvious that if the present population growth rate is not lowered, all five of the criteria previously mentioned for maintaining the balance of the social system (self-reliance, equity, adaptability, resource procurability, and satisfaction) will falter, and even the people themselves seem to be aware of the gravity of the situation in view of the fact that 82.0% of the respondants in the previously mentioned opinion poll considered population growth to be a problem. Comprehensive planning from a long-range viewpoint is an absolute must in this respect.

1.3 Population Projection

What is meant here by "projection" is not simply the extrapolation of past trends. Rather, it is projection of future population on the basis of statistical methods after arriving at an appropriate population growth rate for achievement of system balance, taking into account other releveant development planning as well.

(1) Appropriate Growth Rate From the Standpoint of Balance of the Social System Fig-1 shows how population will grow in the future if the present growth rate of 3.4% remains unchanged. In this eventuality, it will be extremely difficult to increase per-capita GDP. In fact, by the second half of the 1980's it will almost surely decline.

The question of what would be an appropriate population growth rate has occasioned a great deal of discussion and argument among the planners, but repeated rethinking of the question and trial calculations finally resulted in the conclusion that it should fall to 1.5-1.6% by 1995. This projection is an integral part of the system of goals of the whole social system and as such is based on the following requirements:

(i) Keeping the proportion of the whole population represented by those under age ten below a certain level.

(ii) Keeping the proportion of the whole population represented by those between ages fifteen and forty-five (the "labor force population") above a certain level.

(iii) Keeping population within the limits set by the amount of money and manpower that is available for investment in the facilities that the population will require.

(iv) Consistency with the agricultural plan, the human settlement plan, and other relevant aspects of the project and reflection of the expected impact of such plans in the population projection itself.

Achieving this goal with respect to population growth will not be easy, especially if one considers the fact that ten years from now the young people who present such a large proportion of the total population will be having children themselves. In spite of all of the difficulties involved, however, this goal must be attained since it is the only way in which the Kilimanjaro Region can minimize its troubles. Moreover, considering the edge that Kilimanjaro has on other regions with respect to the level of education, this goal should be attainable, provided that both the government and the people make a serious effort to do so.

(2) Projection Methodology

The projection has been based on W.Lexis's " Cohort method:

(i) Determination of male and female populations for different age groups in 1975, the base year.

(ii) Estimate of death rates for different age groups

(iii) Estimate of populations of different age groups

(iv) Estimate of birth rate

(v) Calculation of population of infants twelve momths of age.

Because of the limited amount of date available, many assumptions have been made with respect to (ii) and (iv), including the assumption that the death rate pattern by age is the same for the region as for the whole country.

Some additional explanation is in place regarding the population breakdown by age in 1975. The BRALUP figures for the age groups 0-4 years of age and 20-24 years of age -- 156,500 and 21,000, respectively -- would seem to be too low in comparison to those for the other age groups. A possible reason for the lowness of the figure for the 20-24 age groups is migration of young people to Dar es Salaam and cities outside the region, a possibility that is substantiated by the high proporation that the 20-29 age group accounts for in Dar es Salaam's population breakdown. No plausible reason presents itself, however, for the lowness of the figure for the 0-4 age group. Nevertheless, for lack of data capable of refuting this figure, we have used it anyway in our projection.

(3) Results of Projection

The crude death rate should gradually decline as medical and health service is improved, and one can expect life expectancy to increase in the same proportion.

As for the crude birth rate, it should decline rapidly after 1985, by which time family planning will start having an effect, and by 1995 it should fall to about 2.6%.

There trends are shown in Fig. 6-2, which gives population pyramids for the years 1975, 1985, and 1995, the difference between the crude birth rate and the crude death rate being the population growth rate since no social population increase or decrease has been taken into account.

The present high proporation of in the 5-14 age group will shift to the 15-24 age group by 1985 and the 25-34 age group by 1995. Initially the proportion of the population age 14 and below will rise a little, but after 1985 it will begin to decline, falling to 46% by 1995. If thereafter a growth rate of 1.5% is sustained, it will continue to fall, reaching 36-38% by the year 2010.

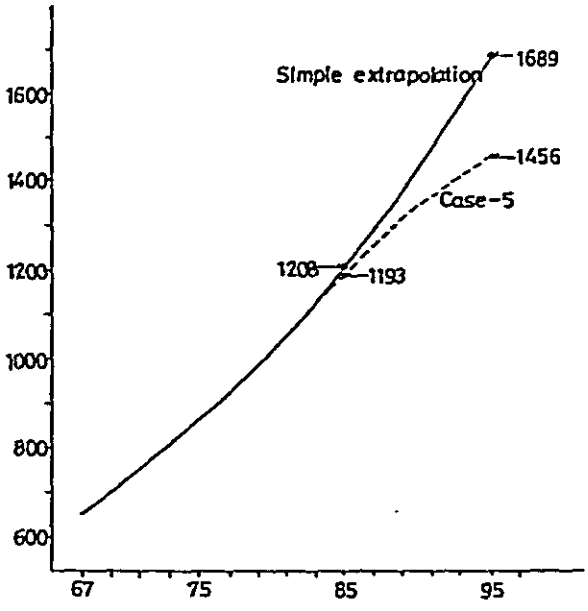
Since, as already mentioned, the figure for the proportion of population in the 0-4 age group in 1975, the base year for the projection, is strangely low, it has not been possible to avoid correspondingly low and equally dubious projections for the age groups 10-14 and 20-24 for the years 1985 and 1955, respectively.

Population Projection (Table-2)

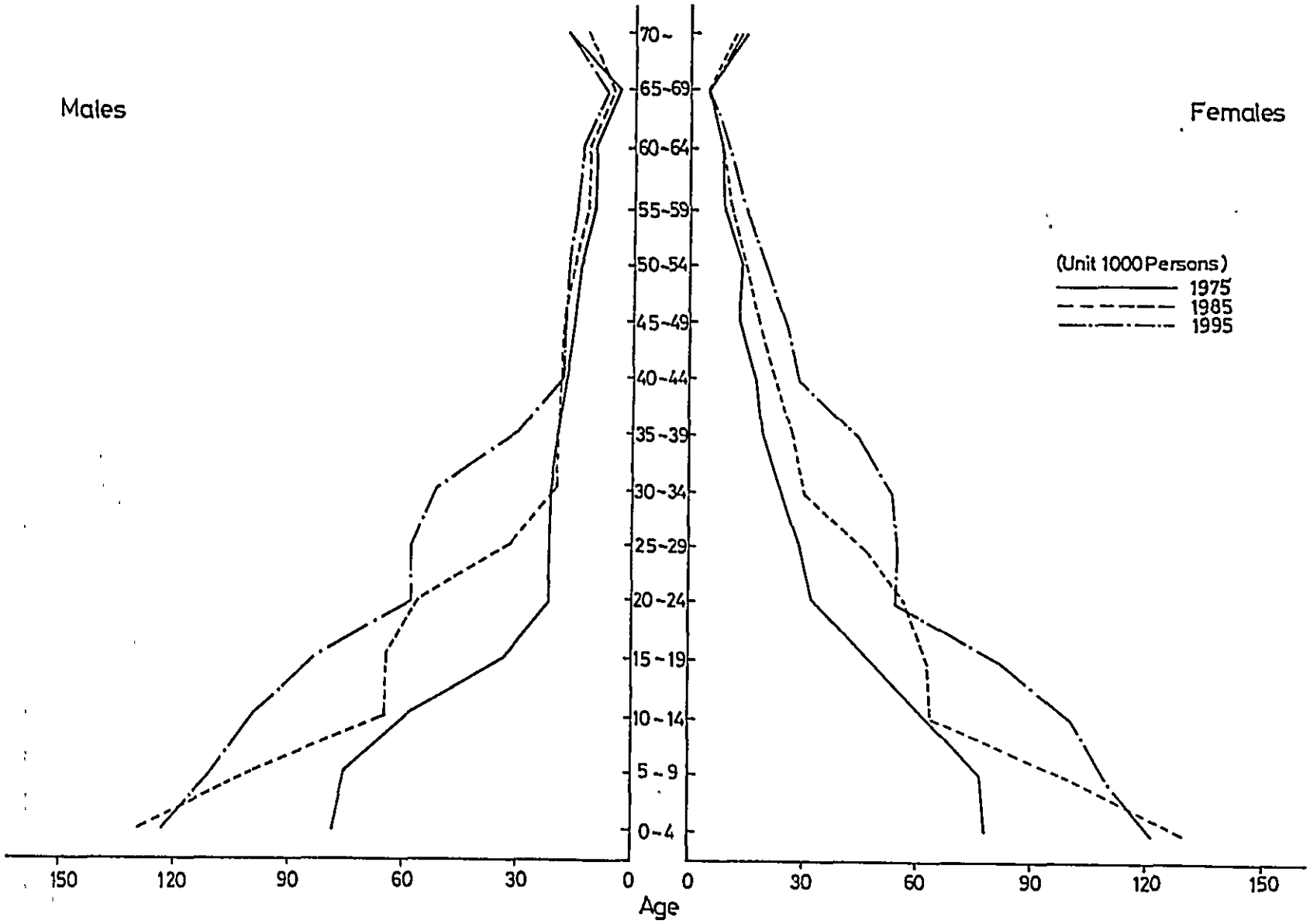
	Total Population (x1,000)	Growth Rate	Crude Birth Rate	Crude Death Rate	Infant Mortality Rate	Life Expectancy
1967	653	3.53	5.38	1.85	140	49
68	676	3.52	5.31	1.79	138	49
69	700	3.55	5.29	1.74	136	50
70	725	3.57	5.27	1.70	135	50
71	751	3.59	5.25	1.66	133	50
72	777	3.46	5.08	1.62	132	51
73	805	3.60	5.18	1.58	130	51
74	835	3.73	5.27	1.54	128	51
75	865	3.59	5.10	1.51	126	51
76	894	3.35	4.83	1.48	125	51
77	925	3.47	4.93	1.46	124	51
78	956	3.35	4.78	1.43	122	52
79	989	3.45	4.86	1.41	121	52
80	1,022	3.34	4.73	1.39	120	52
81	1,055	3.23	4.60	1.37	119	52

81	1,055	3.23	4.60	1.37	119	52
82	1,090	3.32	4.68	1.36	118	52
83	1,125	3.21	4.55	1.34	117	52
84	1,159	3.02	4.34	1.32	116	52
85	1.193	2.93	4.24	1.31	115	52
86	1,226	2.77	4.06	1.29	114	52
87	1,257	2.53	3.81	1.28	113	53
88	1,287	2.39	3.65	1.26	113	53
89	1,315	2.18	3.43	1.25	112	53
90	1,342	2.05	3.28	1.23	111	53
91	1,367	1.86	3.08	1.22	110	53
92	1,390	1.68	2.89	1.21	110	54
93	1,413	1.65	2.86	1.21	109	54
94	1,455	1.56	2.76	1.20	108	54
95	1,456	1.46	2.66	1.20	108	55

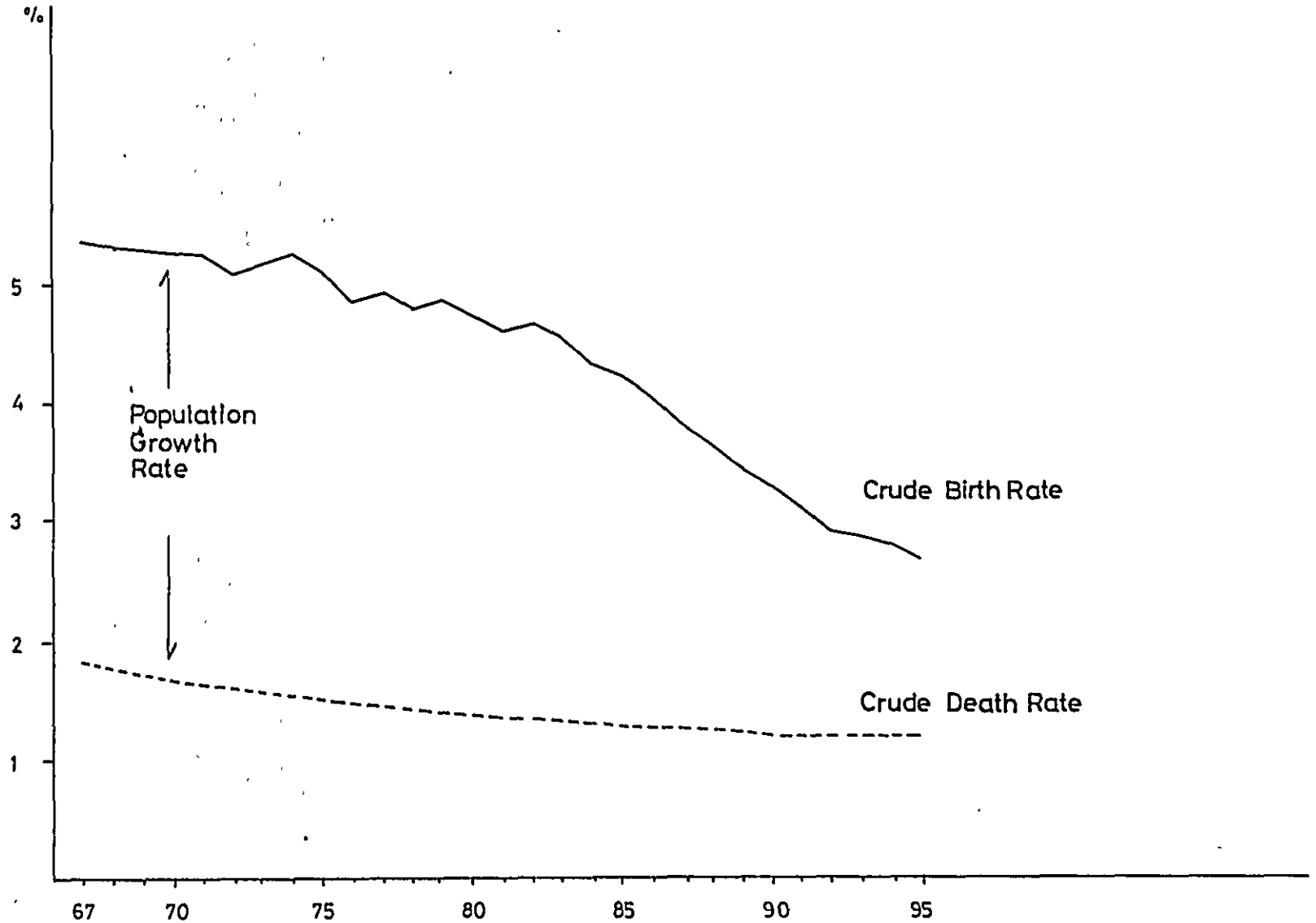
Trend of Population Growth



POPULATION PYRAMID



CRUDE BIRTH RATE AND CRUD DEATH RATE



2. Estimation of Macro-Frame

2.1 Gross Regional Product

It is very important that resource requirements to achieve the development objectives should be well consistent with economic macro-frame. All of the needs cannot be satisfied during limited period. Resource constraints and competing demands will make it necessary to modify the proposed objectives so that they can be achieved within actual capacity for the planning period.

This macro-frame could not be strict target of the plan but an indicative check-point for acceptable volume of development activities on the plan, because there are various problems centering reliability and availability of basic data required for analyses and programing in formation of the plan. Estimated GRP of Kilimanjaro Region for 1975, initial base of the plan, is roughly drown up as follows refering to available data.

Estimated Economic Macro-Frame, 1975 Prices (Table 1)

	Sectoral Distribution			Rate of Growth	
	1975	1980	1985	'75-'80	'80-'85
Agriculture	67.1%	63.0%	57.8%	5.1	5.1
Mining	2.3	1.9	1.5	2.5	2.0
Manufacturing	4.7	6.1	8.4	12.0	14.0
Electricity and Water	1.2	1.7	2.6	14.0	16.0
Construction	2.3	2.9	4.1	12.0	14.0
Trade	10.1	10.9	11.5	8.0	8.0
Transport and Communi-cation	1.7	2.0	2.3	9.5	10.0
Services	10.5	11.4	11.9	8.0	8.0
Total	100.0	100.0	100.0	6.4	7.0
GRP (Million Shillings)	1,140.1	1,553.0	2,173.6		
Population (Thousand persons)	865	1,022	1,193	3.4	3.1
Per capita GRP	1,318	1,520	1,822	2.9	3.7

GRP including subsistence production is estimated to grow at a rate of 6.4% yearly for 1975-1980 and 7.0% for 1980-1985, 6.7% for 1975-1985. The regional economy of this region will attain higher growth exceeding national economic growth. Per capita GRP will be shs 1,520 (US$183) in 1980 and shs 1,822 (US$220) in 1985 on 1975 prices. Primary sector will share 57.8% in 1985 compared with 67.1% in 1975

in sectoral percentage of GRP. Secondary sector's percentage will increase from 10.5% in 1975 to 16.6% in 1985. The percentage of manufacturing sector, however, will still remain at 8.4% in 1985, even though its high growth is to be projected, compared with 10.8% on GDP basis for 1974.

2.2 Employment

According to population projection already described, population aged 15 years and over will reach 511.5 thousand in 1980 and 604 thousand in 1985 from 440.9 thousand in 1975 at a rate of increase of 3.2% yearly for 1975-1985. The total labor force in this region is estimated at 340.2 thousand for 1980 and 409.9 thousand for 1985 from 282.3 thousand for 1975 on assumption of increase of laborazation factor corresponding to urbanization and intensification of productive motivation of regional people in spite of increase of higher shooling rate. This means some 127.6 thousand population will additionally participate into labor forces in this region during 1975-1985. It is clearly not easy how to meet this vast incremental labor forces in this region to consider rise-up of productivity, especially in the agricultural sector.

Based on this trial projection of economic growth, labor demands would be estimated as shown Table 2 taking account of expected increase of productivity. Initial employment structure is estimated based on 1967 census. Although rate of increase in productivity applied in this projection seems still low, it is nothing but hard task to secure the demands for coming labor forces which are to amount to 123 thousand persons for this region up to 1985. In this case, there will be still found out possibly the disguised employment in each sector. On assumption of this proposed level of economic growth and estimated growth of productivity, rate of unemployment in this region would be barely decreased from 9.3% in 1975 to 5% in 1985. In order to resolve the unemployment, it would be required to raise more rapid economic growth under various difficulties including natural factors, insufficient infrastructure, and problems of management system and low qualified labor, otherwise to restrain increase of productivity under constraints from the viewpoint of international competitiveness.

Projected Employment (Table 2)

	Sectoral Distribution (%)			Rate of Increase (%)		Rate of Increase in Productivity	
	1975	1980	1985	'75-'80	'80-'85	'75-'80	'80-'85
Agriculture	81.6	80.2	78.6	4.0	3.8	1.1	1.3
Mining	0.4	0.4	0.3	1.0	1.0	1.5	1.0
Manufacturing	4.9	5.3	6.9	8.2	9.6	3.5	4.0
Electricity and Water	0.3	0.3	0.3	3.6	1.8	10.0	14.0
Construction	0.5	0.7	0.9	9.8	10.7	2.0	3.0
Trade	2.4	2.4	2.4	4.9	3.9	3.0	3.9
Transport and Communication	1.7	1.8	1.8	4.8	4.8	4.5	5.0
Services	8.6	8.9	8.8	4.9	3.9	3.0	3.9
Total	100.0	100.0	100.0	4.3	4.2	2.0	2.6
Total Employed (1000)	250.5	309.2	379.9				
Unemployed (1000)	25.9	23.3	12.7				
Rate of Unemployment (%)	9.4	7.0	3.0				

From the aspect of productivity gap between agriculture and manufacturing, transformation of industrial structure will not yet be accelerated. It means agriculture oriented structure will be still sustained, although there is slight structual decrease of agricultural sector. Productivity gap between agriculture and manufacturing, which would be significant indicator related to incentive for transformation of industrial structure, is shown as follows.

Productivity Gap (Table 3)

(Agriculture = 100)

	1975	1980	1985
Agriculture	100	100	100
Manufacturing	130	146	168
Total	122	127	136

2.3 Fixed Capital Formation

The cumulative total of fixed capital formation for 1976-1985 in this region is expected to reach around 3 billion shillings in 1975 prices on assumption of investment rate of 15% for 1976-1980 and 22% for 1981-1985 to GRP which is to increase at an annual rate of 6.7%: During the smae period, cumulative public investment capacity would be around 1.6 billion shillings in 1975 price on assumption of 10% as public investment rate to GRP. In this case, it has to be noted that this total economic capacity includes subsistence sector.

3. GOALS OF PLANNING

3.1 Overall Goals

The following are the ultimate goals of the Kilimanjaro Integrated Development Plan that will influence the course of the Tanzanian people:

(i) Improvement of the lives of the people;

(ii) Sustained development of the regional economy;

(iii) Contributing to the development of the entire country;

(iv) Serving as a symbol of African progress; and

(v) Putting the region and the country in the international limelight.

These goals can only be achieved step by step, starting with the realistic situation. Accordingly, the immediate goals of the integrated development plan are the first goals in the sequence of goals ultimately leading to the above goals.

In this connection, the situation that the Kilimanjaro Region now finds itself in is that that was achieved in the nation's first 5-year development plan: national independence and unity and a certain degree of Africanization of the various administrative and economic fields.

This being the case, the main task to be achieved in the present plan is that of rebuilding and reorganizing the socioeconomic structure of the region, which underwent such great change in the course of accomplishment of independence and Africanization, and building a basis for the stable development of the regional economy.

Let us again consider the basic conditions for the development of the region as summarized in the following three points.

First, there are the natural conditions of the region, as represented by Mt. Kilimanjaro itself. In this respect, maximum use must be made of the rainfall of the region and of the symbolic value of Mt. Kilimanjaro as a world-famous attraction that can benefit the people of the region.

Secondly, there is the need to muster the strength of the people of the region, who have long been of a high caliber with a relatively high educational level and aptitude due to their comparatively favorable natural environment and as such have been a motive force in the achievement of independence and Africanization. Now their strength will have to be reorganized and gathered anew to serve as the motive force for the development of the regional socioeconomic system. Without more efficient organization and consolidation of such strength, the people of the region will not be able to be an effective force for attainment of the goals of the present and subsequent plans in spite of their propensity to diligence.

Thirdly, there are the historical assets of the region. In the 1910's the region was linked to the coast by a railroad, which made it possible for it establish a place for itself in global markets for primary products as an inland agricultural zone.

Although not of major importance, there was some technological and infrastructural accumulation in the region, and some of it still is in evidence and can serve as a basis for introduction and fostering of new technology and knowledge as an historical endowment for development of which maximum use should be made.

The goals of the present 5-year plan are therefore as follows:

(i) Building of new villages through reorganization and consolidation on the basis of mass support and participation.

(ii) Stabilization of the economy on the basis of solidarity and cooperation (stockpiling and stabilization of distribution through cooperatives)

(iii) Building of infrastructure for conservation and water resource utilization through the organized efforts of the people themselves (joint control and management of water resources and cooperation in construction and maintenance of related infrastructure.

(iv) Raising and stabilizing agricultural productivity through joint-labor and cooperative efforts (joint cultivation, cooperative management of seedlings and fertilizers, joint disposal of harvests, etc.)

(v) Establishment of the basic conditions for industrialization and opening the way for introduction of advanced technology by starting out with a joint processing development consisting chiefly of facilities for the processing of agricultural, forestry, and livestock produce.

(vi) Ensuring that the villages benefit from such development, increasing the solidarity between rural and urban areas, and improvement of the levels of education and medical and health services for greater stability in the people's lives--all for the purpose of generating motive force for further village construction.

(vii) This new cycle of development will not only bring wealth to the region but will also stimulate its further development as a hospitable region open to the world.

These goals will be shared by all those taking part in the realization of the integrated development plan, the specific contents of which are the strategies for attainment of these goals and the projects that will make implementation of these strategies possible.

3.2 The Social System Approach to Setting Planning Goals

Integrated development plans for regions, cities, and so on, are all by nature social systems plans regardless of the particular planning methodology employed, and generally social system plans strive ultimaly for an increment in welfare no matter what kind of community is involved. This concept of "welfare," which serves as both a measure for appraisal and a planning goal in itself, is a very broad concept which has to be delineated more precisely in each case by the state and structure of the social system for which the planning is being done.

As we have already seen, the social system embodies six basic processes: production, consumption, protection, learning, decision making, and interaction. The people who make up the social system use their ingenuity to devise all sorts of subsystems for improvement of their lives, which, compounded, make possible a more effective functioning of the six basic processes of the social system. If the social system is well balanced and healthy, people's lives are improved, and welfare is augmented. If, on the other hand, the social system is internally defective or in a poor state of health, the lives of the people will be adversely affected, either directly, and it will be difficult to realize any increase in welfare. The purpose of social system planning is to improve the health of the social system by removing internal defects and introducing better subsystems that will enable each of the basic processes of the social system to function more effectively.

The health of the social system depends on good balance and linkage between its basic processes and between its subsystems. Although it is possible to keep the consumption process operating a level above the level of production for a while, in the long run it will inevitably run into serious trouble.

A certain amount of social mobility is important for stimulation of the interaction process and has the important effect of keeping the decision making process functioning properly.
A social system in which there is little social mobility, such as a colonial society, will eventually crumble from within.

People in almost any society want a better functioning learning process, but if the learning process alone is developed to the neglect of the production, consumption, and other processes, the upshot will be lack of jobs for the better educated people turned out by this more highly developed learning process and hence also lack of means for them to support themselves.

The same sort of relationship exists between many other internal parts of the social system, and the most important consideration in setting planning goals is maintaining a balance between them for the sake of the continuing good health of the system as a whole.

If there is marked inequity between the members of a social system, the functioning of the interaction process in its various subsystems will be weakened, and this will eventually result in impairment of the all-important function of the decision making process and inability of the social system to increase the welfare of its members.

Although a certain degree of dependence on some other more developed social system is perhaps inevitable in the case of a social system of limited scope and size, overdependence and even subordination will result if the smaller social system gets into a situation where its basic processes contribute first and foremost to the functioning of the larger social system since it will lose its balance and will no longer be able to maintain its integrity and self-neriance.
In other words, the social system is deprived of its most important values to the detriment of its purpose of augmenting the welfare of its members. Thus, the need for equity and independence, two important standards in regional development planning, also dervies from the concept of a balanced social system.

Complicated systems invariably experience unbalanced growth,comple-ty balanced growth of all of the parts of a system being a true rarity in the real world. This also hold true, of course, for all regional and other community systems.
The maintenance of a balance as the guiding principle in social system planning should not be confused with the idea of balanced growth in the narrow sense. Not only does planning for balanced growth not have very good prospects of being successful, but even the advisability of such intent is dubious.
The growth of one part of a system will trigger the growth of another part or other parts after a certain interval.
Likewisw, if one part has its growth impeded by some internal defect or external pressure, other parts closely related to it will also, with a certain time lag, stop growing.
This is accomplished by a feed-back mechanism the purpose of which is preservation of the integrity of the system. If, however, the growth or degeneration of an important part of a system is so extreme that the other parts are unable to adapt to this change, the entire system will eventually cease to function, that is to say, it will "die." In other words, system balance is a concept which allows for short-term imbalance of the system, provided that it is within the scope of mutual adaptability of the parts.

The targets of the integrated development plan for the Kilimanjaro Region have been set in such a fashion as to allow for both growth and maintenance of the health of the social system of the region. Since this formulation is rather abstract, let us review the criteria for the setting of these targets in terms of the actual conditions in the region:

(i) Equity between individuals and grops with respect to allocation of resources and opportunities.

(ii) Maximum equality and self-reliance in relations between different parts of the social system of the region and between the social system of the region and those of other regions or other external entities.

(iii) Feasibility in terms of the resources and technology available for use.

(iv) Ability to satisfy the justified needs of the people of the region.

(v) Compatibility with the natural and social environment of the region.

All five of these conditions are essential to the balance of the social system of the region, and the ultimate goal of the plan is to have the social system of the region satisfy all of them by the target year.

3.3 Target Setting Methodology

The purpose of the Kilimanjaro Region Integrated Development Plan is to give the social system of the region an artificial shock, through the various projects incorporated in the plan, out of its present state to a different, "more desirable," state which the lives of the people of the region will represent an improvement over their present lives, and the targets set in the plan represent a description of what this "more desirable" state will be.

Although it is not very difficult to describe such a state of the social system of the region, it is not so easy to determine whether or not that state represents a healthy balance in the system and satisfies all of the five criteria mentioned above.

Let us consider briefly the methodology employed in the setting of the targets of the plan. The best way to describe the state of the social system of the region is in terms of social indicators selected as being most representative of the state of the lives of the people living in the region.

First, we designed a system model best representing the social system of the region, the structure and substance of which are indicated specifically in Fig,-1., the letter "S" standing for the whole model, which is expressed in terms of three groups of variables. The first group of variables, erlating to the development projects, are referred to as "input" variables since they represent input into the system model of the change that the development projects will bring about in the social system of the region, this change being referred to as "planned" change.
The second group of variables are the social indicators which best represent the state of the lives of the people living in the social system for which the model was designed.
These variables are referred to as "output" variables in the double sense that they are the output of the whole model as well as the results or output of the development projects or policy measures represented by the input variables.
The third group of variables are parameters that have been introduced in order to enhance the representativeness of the model since it is not possible to adequately represent the interrelations within the actual social system with the input and output variables alone.

Let us now consider how this formulation has been employed in the setting of the targets of tje plan. First of all, it was necessary to determine what kind of direct shock would be delivered to the social system by a development project and translate this determination into on input variable.
Let "p" stand for the project, "x" for the input variable, and "T" for the translation of "p" to "x." Here "T" signifies the task of calculation of the direct effect of "p."
For instance, the task of calculation of the increase in the

number of Standard-1 pupils that would result from the provision of a primary school in each village in the region and making attendance compulsory can be represented by

$$x\ (t) = T\ (p)\ ,$$

where "t" stands for time. The task of finding the value of x (t) can be accomplished by determining the change that will be brought about directly by complete implentation of "p," and this is not very difficult.

In the language of manthematics, "S" is a translation from space "X," in which "x" is included, to space "Y," in which the output variable "y" is included. With "S" as the social system model, "y" as the output variable, "Y" as the space which includes "y," "x" as the input variable, and "X" as the space which includes "x." we can plot the values of y (t) on the basis of the formula

$$y\ (t) = s\ [x\ (t)] \qquad (b)$$

Now let us consider the case of two projects, p_o and p_t. The value of y (t_t) at the target point of "t_t" is a function of "p" in the sense that it depends on the content of the project.
Let y (p_o) represent the value of y(t_t) upon implementation of p_o and y (p_t) the value of y (t_t) upon implementation of p_t.
If several components are set in addition to those of p_o and p_t y (p_t) minus y (p_o) is the combined effect of all of the additional components. In this case p_o is the base of comparison for measurement of the effect of project p_t .

Generally it is convenient to take a "nul" project, i.e., a project in which nithing whatsoever is done, as the base of comparison.
It is impossible for a social system to remain constantly in the same state even if there is no change artificially induced through development projects. Although the amount of change will vary according to the stage of development of the social system in question, there is never complete absence of change.
The purpose of taking a "nul" project for p is to be able to measure the social change that will be artificially induced by the development project over and above the social change that will result from the natural trends already embodied in the system, i.e., at the time of planning, when t=0. Accordingly, employment of the "nul" project p does not mean that the input variable x (t) is fixed at its initial value of x (0).

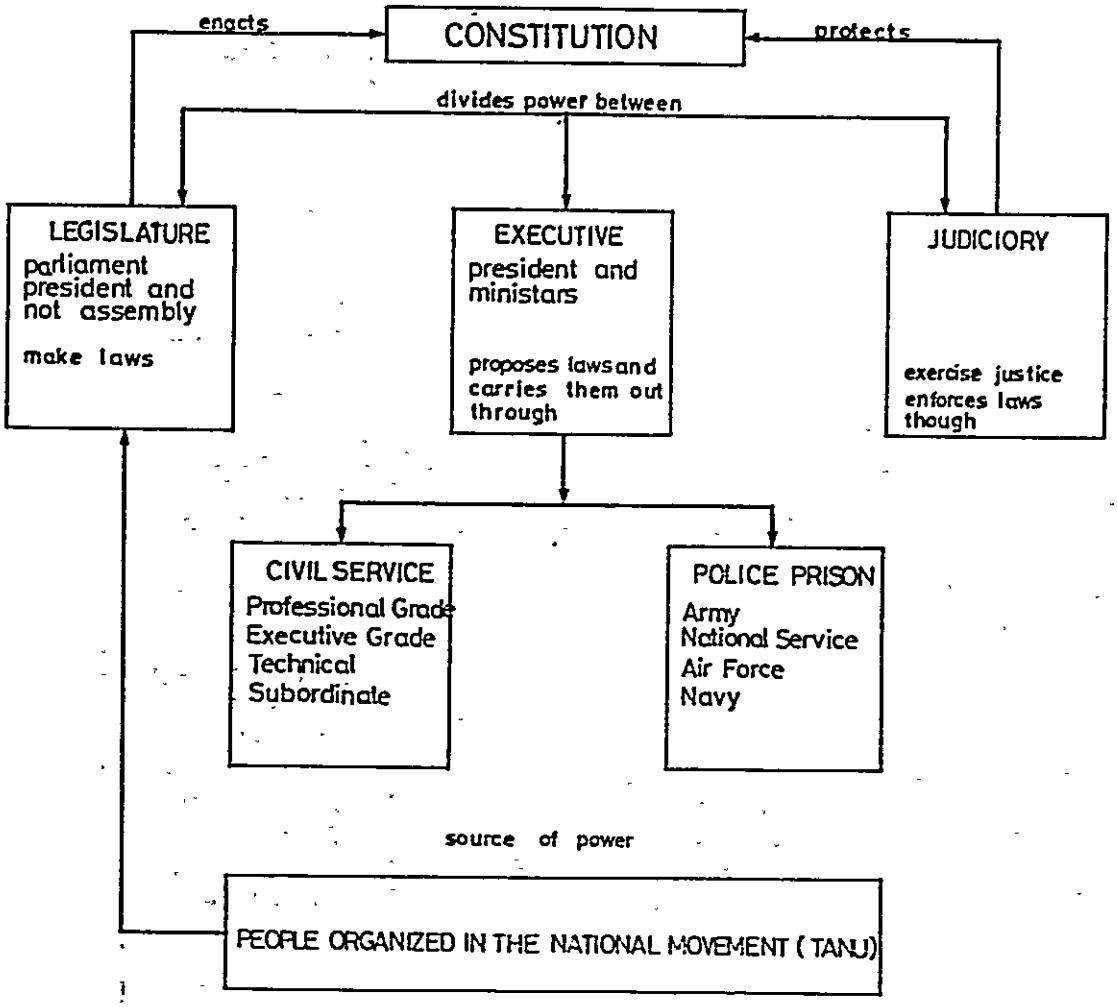
The general procedure followed is to set p_{i+1} by adding several components to project p_i and then use "S" to find y (p_{i+1}), from which y (p_i) can be subtracted as the base of comparison to obtain the overall indirect effect of the additional components.

The next step is to find the project p_i which will yield the value of y (p_i) satisfing the previously mentioned five criteria for system

balance from among all of the possible projects.
Let p represent such a project. The planning target that we are looking for can now be expressed as y ($\bar{p}$).
It should be noted, moreover, that once the planning target y ($\bar{p}$) is determind by this method, the whole system of policy measures for bringing about such a state of the social system--in other words, $\bar{p}$, the project to be implemented--is also determined.

Fig.-1 below summarizes this whole methodological procedure.

SOURCES AND DIVISIONS OF POWERS IN THE GOVERNMENT OF THE UNITED REPUBLIC



3.4 Objectives Setting

The state of the social system of the Kilimanjaro Region to be attained through the Third 5-year Plan should be considered as no more than a milestone on the road toward greater long-term development.
In Table- the state of the social system of the region in 1976 is given in the left-hand column, the short-term targets to be achieved by 1980 in the middle column, and the long-term targets to be achieved by 1995 in the right-hand column. Table- indicates the main indicators for each of the basic processes of the social system, and more detailed targets are explained later on together with the projects to which they are repectively related.

(1) Production Process

The main output of this process is income. In 1976 the per-capita income of the region was 1,318 shs., or about 10% higher than the national average. The preferable target for 1995 is raise to 3,080shs., or 2.3 times the figure for 1976.

Since the intial period covered by the plan will represent a gestation period for both direct and indirect investment in the production process, one cannot expect very rapid growth in income during it.
An annual rate of a little over 2% would seem appropriate.
The goal for the period after 1985, however, should be in excess of 3%.

In order to make it possible to attain this later goal, it will be necessary to emphasize expansion of agricultural production capacity in the Third 5-year Plan as well as to strengthen tertiary industry in which considerable demand will be created by population and income growth. Since the production infrastructure of the region is very weak and the region has the disadvantage of being located far from the coast, rapid industrialization is not presently advisable.
In fact, secondary industry should not given the leading role in the economic growth of the region before 1985. The period of the Third 5-year Plan should be a period of preparation for industrialization in earnest in the period of the next 5-year plan.

Another impotant criterion for judging whether or not the production process is satisfactory is the level of employment since a rise in the rate of unemployment is an indication of slower expansion of the production process than growth in population.
There is reason to believe that in 1976 the rate of unemployment in the Kilimanjaro Region was over 9% not even taking into account the number of unemployed temporarily accommodated in agriculture production, i.e., the potentially unemployed.
If they are included, the overall rate was no doubt above 15%.
The targets for 1980 and 1995 should be to lower the actual rate (9%-plus) to below 7% and 5%, respectively.

(2) Consumption Process

Since the Kilimanjaro Region has a higher level of nutrition than other regions in the country, the target of achieving the international standards should be set for as early as 1980.
The region is already within reach of this target with respect to the calorie level but is a considerable distance from it in terms of nutritional balance, as indicated by the case study made in Kibosho Village, which revealed a large number of people suffering from malnutrition. The task that has to be takled, therefore, is that of getting more people in the region to take balanced meals.

With respect to housing, an improvement campaign should be launched, with the goal of having over 50% of the people live in the same standard of housing by 1995 as the people in the Machame area now enjoy.

The goals for clothing are to raise the proportion of expenditures for this item from the comparatively low 5.5¥ of 1969 to at least 8% by 1980 and over 10% by 1995.

Improvement of the level of education and housing will bring about an increase in demand for electric power, the suggested goal for 1995 being that of raising the rate of provision of electricity from the present level of under 2% to 10%. Since, however, the bulk of electrification in the period of the Third 5-year Plan will be concentrated in public facilities and industries, the target for 1980 shouls not be set above 3%.

The water supply goals should be provision of enough water piping by 1980 to put two-thirds of the population within 500m of a pipied water tap and enough by 1995 to put the entire population within that distance. At the same time it is also important from the standpoint of eliminating diseases caused by unsanitary drinking water that every home have a simple water purifying device by 1995.

(3) Learning Process

In 1976 the average number of years of schooling complrted was an extremeiy low 2.86% years. By 1980, however, this should rise to 3,45years with the commencement of universal compulsory education in 1978, and the target for 1995 should be 5.8 years.
An indispensable condition for sustaining an annual rate of increase in income of over 3% is improvement of the level of education of workers. Since efforts will be concentrated on improiving primary education in the period up to 1980, it will not be possible to raise the oresent rate of advancement on to secondary school of 14.3% to more than 15% by then, but thereafter it will be possible to shift

the emphasis to secondary scools at the same time that the economic growth rate approaches 4% to attain a rate of 25% by 1995. Management and technical personnel with a higher level of education will be required for sustained economic growth, and this means that university education in the country will eventually have to be expanded. Moreover, since the cultural and educational levels of the Kilimanjaro Region are high in comparison of those of other regions, it has the potential to host a multi-college university by 1995 than can serve a wider area than the region itself.

In 1975 the literacy rate of the region was 64%, which is higher than the national average. The goals for 1980 and 1995 should be to raise this figure to 75% and 95%, respectively.
If people are not able to adapt to change in the social system brought about by economic development, they will not be able to design their lives in such a way as to take advantage of new amenities and benefits. In other words, they will be misfits, and with a large number of such misfits, it will be impossible to achieve the planning goal of "greater welfare," at least in real terms.
Since a decisive factor in adapting to change in the social system is the amount of information that a person can assume, an effort must be made to increase such capacity by promoting literacy education still further. Another consideration for improving the literacy rate is the fact that this will be indispensable to the success of family planning efforts.

(4) Protection Process

The most basic goal of health services will be elimination of malnutrition, the rate of which should be lowered to under 3% by 1980 and to zero by 1995. This should not be too difficult, provided that nutritional education br afforded housewives in a family life improvement program.

The goal for 1995 with respect to the rate of preventative innoculation against various contagious diseases should be 100%, the means of achieving it being improvement of mobile clinic service.
The target for 1980 should be innoculation of all persons under age twenty. By 1995 the number of hospital beds per 10,000 persons should be increased to 333, or doble the present level, and all villages should at least have a dispensary. Since, however, there will not be very much construction of hospitals and clinics before 1980, the goals of the Third 5-year Plan are 211 hospital beds for every 10,000 persons and a dispensary for every 5,870 persons.
In the meantime, improved mobile clinic service will have to make up for the deficiency in such medical facilities, and in order to make maximum use of such mobile clinics, it will be necessary to provide adequate hospital system information and road networks.

Through improvement of medical and health services it should be possible to lower the infant mortality rate from 130% in 1973 to 108% 1995 and to raise the average life expectancy from 51 years to 55 years.
At the same time, however, it will be necessary to promoto family

planning so as to lower the birth rate. Otherwise, population growth will get out of hand.

(5) Decision-making Process

Since the political decision-making process, the backbone of which is TANU organization, already functions rather well, the major emphasis in improving the decision-making process should be placed on the administrative system, and particularly its lowest echelon.
The people must be given appropriate assistance in designing and realizing a better community life and a better family life by their own efforts by providing each division with a community center for promotion of community life improvement and family life improvement programs. In view of the fact that these community centers will be very important for achievement of all of the planning goals as the point of contact between the people and the administrative apparatus in the promotion of the whole plan, construction of them at the rate of one a year would not be rushing things.

(6) Interaction Process

As we have already noted, the interaction process in the Kilimanjaro Region is already in good condition. It will therefore suffice to make sure that this condition is not upset by the various kinds of social and spatial mobility that will invitably result from change in the social system brought about in the course of implementation of the plan.

In other words, large-scale one-way movement of population between regions that would force other regions to shoulder the problems that have arisen from the region's population increase will not be countenanced from the standpoint of the principle of self-reliance.

Since the Kilimanjaro Region has a relatively large number of school at and above the secondary level, in the past it has educated a considerable number of people from other regions.
This situation should be continued and even encouraged for the sake of stimulating growth of the social system and in no way runs counter to the policy of keeping net interregional migration down to near the zero mark.

Another important consideration regarding the interaction process is the need for transportation facilities, of which there are still few in the Kilimanjaro Region.
Transoortation is not only important for movement of people but also facilitates the conveyance of raw materials and products, thereby increasing mutual accessibility within the social system of the region. It contributes at one and same time to both the interaction process and the production process and other processes.

The goals that should be met for all-weather road coverafe are 90% of the population living within 5 Km of such a road by 1980, and 98% by 1995. Since unpaved roads sustain considerable damage in the rainy season, raising the percentage of paved roads is important in terms of low-cost and regular road maintenance. In view of the fact, however, that the paving of roads is expensive, the target for 1980 should be only about 40% paved, the 70% mark not being passed until 1995 or a little earlier. Moreover, it will be necessary to determine as soon as possible what roads are to be built by 1995 so that ample space can be set aside not only for the initial traffic lanes, sidewalks, and green belts but also for future widening of major roads as traffic volume increases, which will not be possible if houses and other buildings are allowed to be built right up against the initial right-of-way line.

Also conducive to better functioning of the interaction process is improvement of the communications system.

Presently the newspaper subscription rate in Tanzania is lower than 10%. By 1995 it ought to be raised to over 50% so that a majority of the people can keep abrest of what is happening not only in Tanzania but also in the rest of the world. Such widening of newspaper readership will also make it possible to improve productivity by providing people in various industries technical information and latest market quotations.

Expanision of telephone service should for the time being concentrate on public and industrial facilities, the target for 1980 being 5% coverage. By 1995 service coverage should be raised past the 15% mark. Such improvement of telephone service coverage will be extremely important in terms of keeping spatial separation from becoming a barrier to communication between the residents of the region and hence a barrier to their active participation for achievement of all planning targets.

Objectives Indicators	Present Conditions							
	Kilimanjaro region		All of mainland Tanzania		1980	1995	Unit	Note
Production								
Per-capita annual income	1,318	(1975)	1,020	(1974)	1,520	3,080	shs.	(a)
Unemployment rate	9.3				7.0	5.0	%	
Consumption								
Calorie intake	2,520	(1968)			2,700	2,700	cal./person/day	
Protein intake	42	(1968)			50	50	g/person/day	(b)
Coverage of water supply by pipes	39.4				66.7	100	%;pop. served w/piped water/total population	
Expenditures on clothing	36				70	180	shs./person/year	(c)
Coverage of electricity supply	1.9				2.8	15.9	%;no. of households w/electricity/total no of households	
Electricity consumption	18.5				27.3	53.8	KWH/person/year	
Learning								
Average years of formal education	2.86	(1973)	2.28	(1973)	3.45	5.8		(d)
Literacy rate	64	(1975)	61	(1975)	75	95	%	(e)
Secondary school enrollment rate	14.3	(1976)	9.9	(1975)	15 (1981)	25	%	(f)
Primary school pupil/teacher ratio	49.6	(1976)	53.2	(1975)	49.6	40		(g)
Protection								
% of protein and/or calorie deficiency	5.3	(1968)			4	0	%	(h)
Population per hospital bed	621		826		475	300		(j)
Population per dispensary	7,840		8,030		5,870	4,180		(j)
Infant mortality rate	130	(1973)	152	(1973)	118	108	%	(j)
Life expectancy	51	(1973)	47	(1973)	52	55		
Interaction								
Interregional migration (in)	2.2				0	0	%	
" " (out)	3.9	(1967)			0	0	%	
Newspaper subscription rate	10				15	55	%	(k)
Telephone subscription rate	4.2		4.0	(1974)	4.7	15	%	(l)
Rate of coverage all-weather roads	80.6				90	98	%	(m)
Percentage of roads paved	26.4				32	70	%	(n)
No. of automobiles	3,600				4,400	12,000		
Decision-making								
No. of community centers	0		0		4	19		

(a) ..... In 1975 prices

(b) ..... FAO reference proteins. Source: Tanzania Food and Nutrition Center.

(c) ..... Source: Household Budget Survey Vol. 1, "Income and Consumption", 1969

(d) ..... Source: National Demographic Survey of Tanzania, Vol. 1, 1973

(e) ..... Source: WIZARA YA ELIMU YA TAIFA/KIJITABU CHA TAKWIMU/TAKWIMU ZA ULINGANSHO, 1961-1975

(f) ..... No. of Form I students/no. of Standard VII pupils. Source: same as (e).

(g) ..... Source: same as (e).

(h) ..... % of children under five with severe protein and/or calorie deficiency. Source: same as (b).

(j) ..... Source: "Distribution of Medical Facilities by Region.

(k) ..... No. of subscribers/total no. of households.

(l) ..... No. of telephones/thousand persons.

(m) ..... Population within 5 km of all-weather road/total population.

(n) ..... Of total mileage of district (A) and higher grade roads.