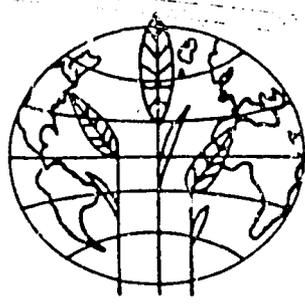
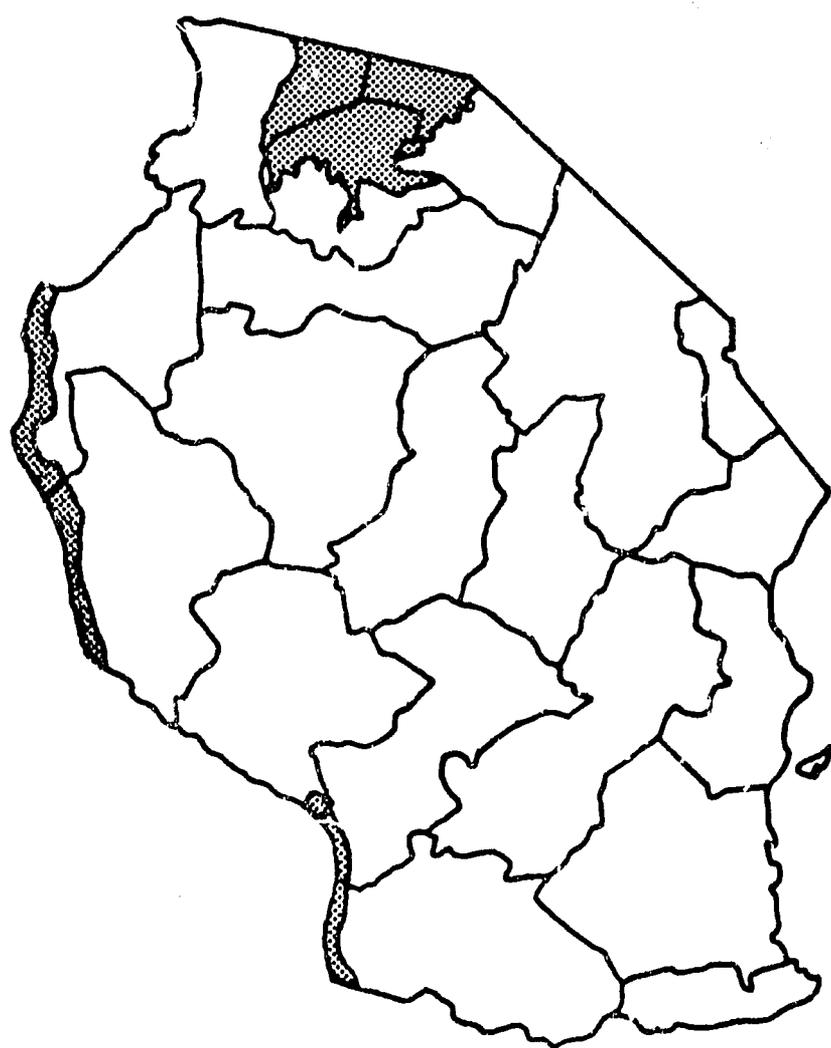


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TANZANIA



September 1982

International Development Program
Clark University
Worcester, Massachusetts 01610

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EASTERN AFRICAN COUNTRY PROFILES

THE UNITED REPUBLIC OF TANZANIA

by

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Revised Edition

September 1982
International Development Program
Clark University
Worcester, Massachusetts 01610

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FOREWORD

This Country Profile of Tanzania, is prepared as one in a series of Eastern African Country Profiles. In response to a request by the United States Agency for International Development, these profiles contain succinct statements of principle development issues and an analysis of poverty distribution. It is hoped that this revised version of the profile and its companion volumes will provide information useful to planners, designers, and evaluators of development projects.

Other country profiles in the series have been prepared for Sudan, Kenya, Somalia, Ethiopia, Uganda, and Djibouti.

Originally printed in January, 1980, the profile has since undergone extensive revision by the principal authors, L. Berry, O. Mascarenhas and S. Steward. T. Hart assisted in the preliminary research for the revised edition and drafted some of the new sections. Editorial and production assistance was offered by K. Sabasteanski and M. Riggs. The Center for Environment, Technology and Development word processing staff and the staff of Word Processing of Worcester typed the paper; all cartography was the work of Tim Fast and the staff of the Cartography Laboratory at Clark University.

Any comments or corrections concerning the general approach or the document in particular will be gratefully appreciated.

CHAPTER I. INTRODUCTION

This country profile is an introduction to development issues in Tanzania prepared for USAID personnel. The review provides three different dimensions of this unusual country: (1) a general overview of the country, people, philosophy, economy, and resources; (2) a summary analysis of selected current development issues; and (3) an assessment of the distribution of poverty in Tanzania.

Each of these topics is worthy of consideration at much greater length. For the reader who wishes to follow up any of the issues in more detail, a short list of further reading is appended. In the United States, Clark University's International Development Program will help to obtain such additional materials; in Tanzania, the University of Dar es Salaam has a good library and several continuing sets of official and other non-commercial periodicals.

Tanzania is well known. Many books, commentaries, and critiques pass judgement on its unique development policies and programs. President Nyerere's writings are widely published and read. In contrast to many other African countries, there is a fair amount of information available on Tanzania, including population data from 1948 to 1978, information on education and health services, and statistics on regional production.

Yet the apparent abundance of data hides important information deficiencies. Agricultural data are not very reliable and production and productivity is hard to measure. There is little hard information, even on a sample basis, analyzing the impact of the villagization program on patterns of production.

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FIGURE 1

Regions of Tanzania



Tanzania is a large country with varied ecological zones. It is not a rich country, but it does have a good potential for agriculture. A variety of crops can be and are grown for domestic and export markets including coffee, cotton, sisal, tobacco, tea, cloves, cashews, pyrethrum and various oilseeds, in addition to food crops; like maize, wheat, rice, beans, millet and sorghum. Large rivers like the Pangani, Rufiji, Kilombero and Ruaha have a great potential for irrigation as well as hydro-electric energy. Although it has as yet no known reserves of oil and other highly priced minerals, there is evidence of some deposits of natural gas and firm evidence of large deposits of coal and iron ore.

Since 1967, the country has become internationally well known for its distinctive national philosophy of African socialism. President Nyerere has been the only president since the country achieved independence in 1961. His thinking has dominated national, regional and international policy. His policies have brought major changes in the country: a formerly dispersed population now numbers nearly 18 million and is grouped into more than 8000 villages; there is near universal primary education; and health services are reaching more and more people. During the period 1961-1978 life expectancy has gone up from 42 years to 51 years; adult literacy has increased from 9.5 percent to 66.0 percent infant mortality has dropped from 250 per thousand to 125 per thousand and GNP has risen from \$70 to \$270, slightly higher than the average for low income countries south of the Sahara. However, agricultural production, particularly of cash crops, is declining; the government bureaucracy is inefficient, marketing bodies slow to operate, and nationalization efforts, particularly of small businesses, impractical.

Ironies abound for those who look for them. Tanzania, with a genuine commitment to rural development, is spending heavily on a new capital city and a new international airport; efforts at self-reliance have brought enthusiastic donors with more foreign aid per capita than almost any other developing country. These contradictions are part of Tanzania in the 1980's. Yet observers see long-term prospects for steady growth and see the capability for learning from and adjusting to mistakes. The current mood is towards more pragmatic marketing, agricultural production, and industrial development. Yet pragmatism only goes so far, as a recent IMF team found when they proposed changes that President Nyerere felt were against national goals. Their terms were rejected. A mixture of pragmatism and commitment to basic principles looks to be the pattern for the coming years. They will be important years because the rural people now concentrated in villages will need to see the benefits of these changes.

In Chapter 2, this profile offers a general background to Tanzania in 1982, meant to be helpful to those not familiar with the country. In Chapter 3, we have selected 12 key development issues and provide a short commentary on them. Neither the selection of issues nor the commentary is definitive. Some of the issues are not currently of direct concern to USAID programs but it was felt important to provide a broad overview. Finally, Chapter 4 begins an analysis of underdevelopment in Tanzania which shows significant variation in different parts of the country and growing problems for example among the urban poor in Dar es Salaam.

CHAPTER 2. BACKGROUND TO TANZANIA

2.1 HISTORY

Human life may have originated in Tanzania. Fossil remains found in Olduvai Gorge in the Rift Valley in northern Tanzania have yielded abundant information about early mankind. Modern settlement probably did not begin until the first millenium AD when Bantu-speaking agriculturalists moved into the area, probably from the Katanga highlands in modern Zaire. These migrants displaced small bands of hunters and gatherers who had subsisted in the region for centuries. The Bantu-speakers were farmers familiar with savanna cereals such as millet and sorghum. As they penetrated into more moist regions, they learned how to use bananas and root crops, possibly dif-fused from Indonesia. The Bantu-speakers also used iron. Archaeological excavations in the region suggest that iron was smelted and used as early as the first century A.D. Iron increased both agricultural efficiency and military effectiveness. Later they would smelt gold for trade across the Indian Ocean. The Bantu-speaking people also brought in pclitical institu-tions. The office of chief, land-use rights, food storage regulations and military obligations, taxation, drought coping mechanisms, and many other rules of polity have survived for 2,000 years through continuous occupation by these Bantu-speaking migrants.

By the end of the first or beginning of the second millenium, cattle herding people from the Nile Basin began moving south into northern Tanza-nia. The resilient Bantu-speakers quickly learned the worth of cattle as investment and providers of food and incorporated livestock into their

agricultural practices. These two African groups form the basis for Tanzania's current population. But there have been many other infusions. The most significant were Arab traders who settled along the coast. As early as the 9th century AD, Arabs from southern Arabia sailed south to trade along the east African coast. They brought cloth, pottery, glass, and beads and returned with ivory, iron, animal hides, and gold. The trade prospered. By 1200, Kilwa had become an important city, housing both Arab and African merchants. Gold trade built great fortunes. Convoys of merchant ships came on the monsoon winds from as far as China to join in the trade. Today, many 14th and 15th century artifacts from China, India, Persia, and Arabia, survive in Tanzania as testimony to the magnitude of this trade.

Kilwa became an important city in its own right and, along with other coastal cities such as Mombasa (Kenya), established the Swahili language and culture. The language is essentially Bantu with a considerable admixture of Arabic. The culture is primarily African with significant infusions of Muslim/Arabic characteristics.

Arab-African interaction continued along the entire coast until Portuguese ships arrived about 1500. Portugal's initial actions were destructive to local systems. Lethargic and intermittent Portuguese rule brought no ordered European structure to the region. Arab and local powers vied for control into the 19th century. The most notable of these groups were Omani Arabs who controlled the Tanzanian coast and interior trade from roughly 1800 to 1880. They carried a vigorous trade with the interior and brought out large caravans of ivory and slaves. The slaves were taken either to

markets in the Middle East or stayed in Zanzibar to work on clove plantations.

Yet Zanzibar's power was no match for an expanding Europe. Imbued with a mission to Christianize and a mandate to colonize, Europeans swept into Tanzania in the 1880's. Carl Peters and the German East Africa Company claimed the coast and eventually interior regions, as their protectorate in 1885. Zanzibar traders and coastal African struck back. By 1888, Germans were confined to only two coastal towns. They called in troops from Europe and by 1889 the "protest" was over.

A second and more significant resistance movement exploded in 1905. In southern Tanzania, the German governor had ordered every village leader to establish a village cotton plot to produce for the export market. All able-bodied workers in the village were required to work on the plot. Working conditions were bad and coercion high. The Africans protested and in July 1905 began to drive out their German administrators. This was the Maji Maji Rebellion. In August, several thousand Africans assaulted the German fort at Mahenge. But machine guns easily outmatched the Maji Maji spears with disastrous losses to the Africans. By November, German reinforcements arrived to put down the rebellion. A guerilla movement under Abdalla Mpanda continued until January 1907 when German forces killed him.

Today, Tanzanian nationalists consider Maji Maji as their first manifestation of African nationalism. Though initially unsuccessful, it united several different African groups against a common enemy and left a legacy of a common bond among Tanzanian Africans.

German rule prevailed until the end of World War I. Germans built railways from Tanga to Moshi and from Dar es Salaam to Kigoma. They

introduced plantations for coffee, sisal, and rubber and also encouraged private German farmers to settle, especially in the north around Kilimanjaro, Meru, and Usambara. By 1913, there were more than 5,000 European settlers.

The British when they acquired the protectorate over Tanganyika in 1918, continued the production of plantation crops. In addition, they also encouraged smallholder coffee and cotton production resulting in some highly efficient cooperative producer and marketing societies. Little was invested in transportation, industries, education, health or other social services. Segregation in education, employment, salary structure and residential zoning in urban areas laid the basis for potential racial tension.

Tanganyika became independent with British Commonwealth status in December 1961. The United Republic of Tanzania came into being on April 26, 1964 with the signing of the Articles of Union linking the Republic of Tanganyika and the People's Republic of Zanzibar.

2.2 POLITICAL SETTING

Although threads of Tanzanian nationalism can be traced back to the Maji Maji Rebellion and even earlier, Tanzania's formal nationalist movement did not get underway until the Tanganyika African Association (TAA) emerged. Agitating for greater Africanization of government and protesting against the British color bar, the TAA quickly gained strength as a mass party. In 1954, its leadership changed the name to the Tanganyika African National Union (TANU). Julius Nyerere, returning to teach school after earning degrees at Makerere, Uganda and Edinburgh, Scotland was one of TANU's early organizers and most important leader.

Within the country, opposition to TANU came from the European and Asian dominated United Tanganyika Party (UTP) whose major goal was to insure a multiracial policy for Tanganyika. Multiracialism, in this context, sought equal representation of numerically unequal racial groups. TANU maintained that Tanganyika should be recognized as an African country, with African majorities in all governmental bodies; TANU also called for the rejection of tribalism and the elimination of all forms of racialism.

Overwhelming TANU victories in elections in 1958 and 1959 convinced the British that the UTP alternative was unworkable and that TANU and Nyerere should lead the country to independence. Britain granted partial self-government in 1960, and full independence on December 9, 1961. Julius Nyerere has been President since then.

The political situation in Zanzibar was more complex. As a result of centuries of contact with both the African mainland and the Arabian peninsula, Pemba and Zanzibar consisted of three major groups: mainland Africans, Swahili-speaking Arabs, and Shirazis. The Shirazi, also Swahili speakers, are Muslims who trace their ancestry both to the Shiraz region of Iran and to mainland Africa. As independence neared, three political parties, each with a strong cultural bias, struggled for control. The Zanzibar Nationalist Party (ZNP) drew its support from the Arab community. Shirazis from Pemba, distrusting mainland Africans, formed the Zanzibar and Pemba People's Party (ZPPP). Mainlanders and Zanzibar Shirazis organized the Afro-Shirazi Party (ASP).

In elections held just prior to independence, the ASP received a majority of the popular vote; a coalition of the ZNP and the ZPPP gained a majority of seats in the Legislative Council and formed the new pre-independence

government. Faced with a precarious hold and the withdrawal of British backing, the minority government began to dismiss mainland Africans from sensitive security posts and drew up plans to put down future political opposition.

Independence from Great Britain came on December 10, 1963. A month later, a coup swept away the fragile ZNP-ZPPP coalition. Abeid Karume, head of ASP, became President of the People's Republic of Zanzibar. Karume banned all other political parties and established tight control over both islands. Even after the merger with Tanganyika, in 1964, Karume and the ruling Zanzibar Revolutionary Council (ZRC) retained considerable autonomy. Some have observed that Karume's Zanzibar received all of the benefits of union but bore few of the costs. It was not until Karume's assassination in 1972 and the more cooperative leadership of Aboud Jumbe, Vice-president of the union, that union with the mainland became an effective and working partnership.

In 1976, a joint TANU-ASP commission began drafting a new union constitution to merge the two parties. On April 26, 1977, the 13th anniversary of the union, Nyerere officially proclaimed Tanzania's new Constitution. In addition to creating a single political party, the CCM (Chama Cha Mapinduzi, or Revolutionary Party), the Constitution provides a framework for cooperation in development planning and is considered to be the first step toward a stronger and more fully integrated union.

2.3 PHILOSOPHY OF DEVELOPMENT

The development strategy that prevails today in Tanzania reflects the personal philosophy of one man, Julius Nyerere. It is characterized by the

concept of "ujamaa," a Swahili word usually translated as "familyhood." The concept of ujamaa embodies values such as solidarity, cooperation, and egalitarianism and is uniquely rooted in the traditions of Africans' concern for one another. According to Nyerere, ujamaa is the basic principle that guided traditional African societies before the advent of the colonial period.

During the first half-decade of independence (1961-1966), Nyerere became troubled by the slow growth of the rural sector, an ever widening gap between urban and rural incomes, and by the tendency of party and government officials to benefit economically from their positions of leadership. At the same time rural settlement schemes based on a resettlement of people from high density areas, block farming and mechanization of food and export crops were beset with problems. Nyerere, therefore, perceived the need to re-examine development strategies and societal goals, and incorporated them in the Arusha Declaration published in February 1967. This document, along with companion volumes (especially Socialism and Rural Development and Education for Self-Reliance) provides a blueprint which Nyerere hopes will guide the country's development, (see Appendix I for a list of major policy pronouncements). These guidelines commit Tanzania to socialism based on communal living, rural development, and self-reliance. These three principles have become the pillars of Tanzania's development strategy. The adoption of socialism has also involved national government control of the main economic sectors: finance, trade, industry, housing, business and agricultural marketing.

Commitment to Socialism

Nyerere argued that African socialism was based on a classless society in which all property was owned in common and in which all people were

equal. Since an economically elite leadership is a contradiction to a society which advocates egalitarianism, the Arusha Declaration included a Code of Leadership. The code limited party and government officials in their economic dealings and the extent to which they could acquire wealth beyond their basic salaries. The declaration gave officials one year to divest themselves of their holdings or resign their leadership posts. Due partly to inherent weakness, the Leadership Code has not yet accomplished all it was meant to do. It lacked an enforcement mechanism and it stressed urban-related economic activities while overlooking accumulation of rural holdings. "Leadership" for government officials was related to salaries and the cut-off point beyond which the officials were not allowed to have another source of income was unrealistic in the face of rising inflation.

Complaints of non-compliance were so numerous that TANU established a committee in 1973 to investigate alleged violations. Yet, despite such drawbacks, the code has made both the leaders and the citizenry aware of the problem of income differentials and public scrutiny has been especially keen when candidates stand for election.

Rural Development

Not only was Tanzania overwhelmingly rural at the time of independence, most peasants lived in scattered and often isolated homesteads making it that much more difficult to provide economic and social services. Nyerere's basic idea called for the scattered rural population to move voluntarily into villages, with each village unit living and working together according to the traditional values of ujamaa. As Nyerere has stated in his essay "Socialism and Rural Development:"

We shall achieve the goals we, in this country, have set ourselves if the basis of Tanzanian life consists of rural economic and social communities where people live together and work together for the good of all...

Fifteen years after the Arusha Declaration, some assessments are possible. There has been considerable success in relocating the rural population into villages. As of 1980, it was estimated that well over 13 million Tanzanians (close to 80 percent of the total population) were living in over 8000 villages. Government officials now admit, however, that relatively few of these villages are truly ujamaa communities. It is also clear that the initial slow rate of progress in establishing new villages forced the government to abandon the voluntary nature of the effort. The massive movement of people into villages in the period 1974-1976 was due, in part, to TANU's coercion. Simultaneously came the enactment of the Villages and Ujamaa Villages Act of 1975. This legislation recognized three types of villages: development villages, cooperative villages, and ujamaa villages. A unit could become an ujamaa village only after demonstrating that most of its economic activities were carried out collectively (See Chapter 3.10 Villagization). Current philosophy appears to place less emphasis on the ujamaa concept.

Self-Reliance

A major point in the Arusha Declaration, indeed part of the document's sub-title, was the notion of self-reliance. In recognition that Tanzania relied too heavily on foreign aid and that too many Tanzanians had come to equate development with foreign aid, Nyerere implored his people to be more

self-reliant and to look to their own resources for development. "We shall know," he stated in the Arusha Declaration, "what is the foundation and what is the fruit of development. Between MONEY and PEOPLE it is obvious that the people and their HARD WORK are the foundation of development, and money is one of the fruits of that hard work...Our emphasis should therefore be on: (a) The Land and Agriculture, (b) The People, (c) The Policy of Socialism and Self-Reliance, and (d) Good Leadership."

The quest for greater self-reliance has not been entirely successful. Indeed, in the late 1970's and early 1980's, Tanzania depended more on foreign assistance than a decade earlier. That some of this dependence is due to economic forces beyond the control of Tanzania (inflation, higher energy costs, conflict in southern Africa, drought, instability in Uganda) provides little solace for a leadership seeking genuine independence.

Development Planning

As a result of the Arusha Declaration and related documents, Tanzania's second five-year plan took on a set of priorities which reflect the spirit of ujamaa. These include:

- (i) development through maximum mobilization of domestic resources, particularly through the mobilization of the people;
- (ii) the spreading of the benefits of development through society to avoid wide disparities in income and wealth;
- (iii) development of economic activities undertaken through collective and cooperative efforts;
- (iv) economic cooperation with other African states.

These priorities continued in the third five-year plan (1976-81).

2.4 GOVERNMENT AND PEOPLE

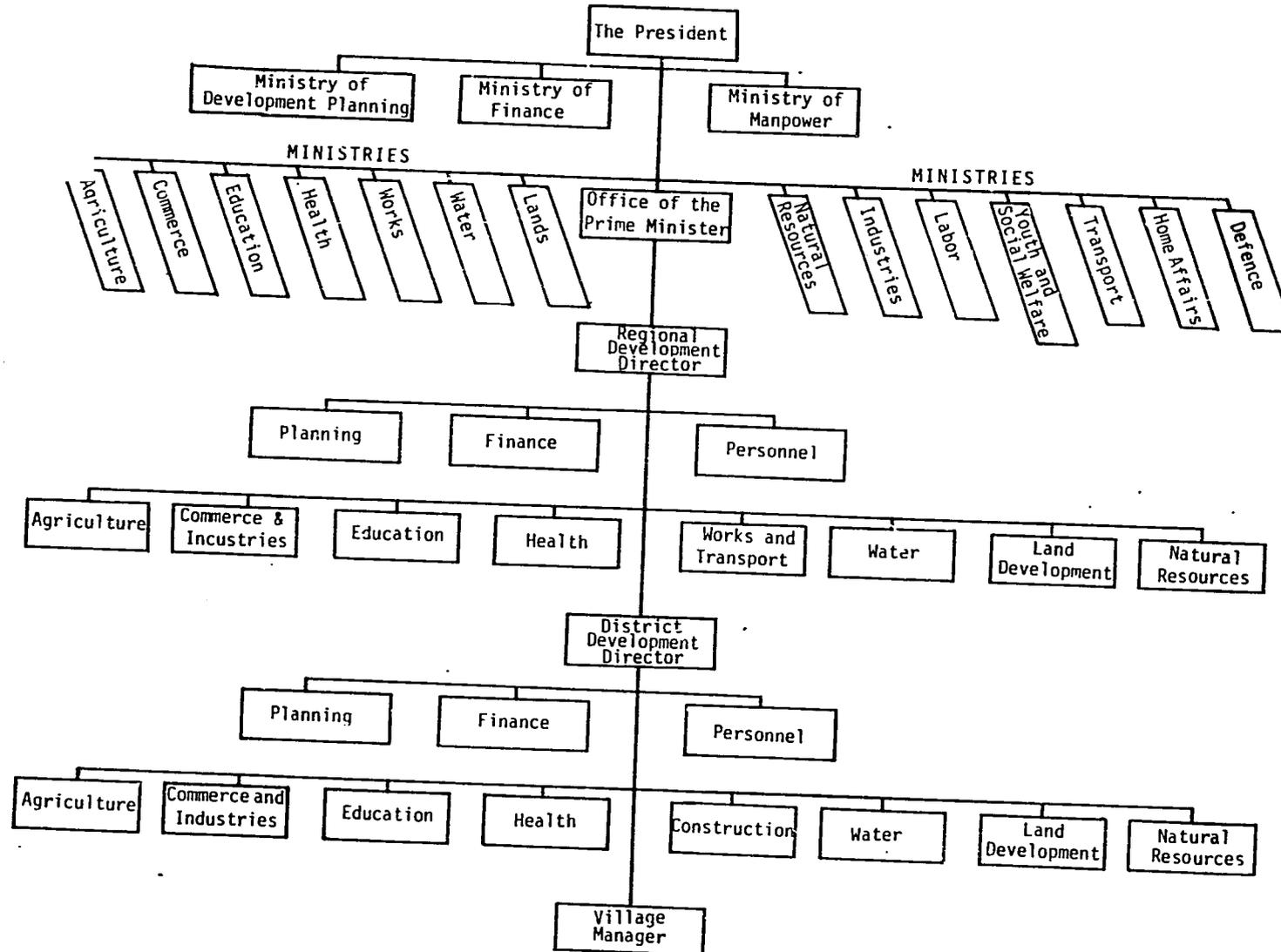
Tanzania has been independent since 1961, a republic since 1962, and a "united republic" since the merger of mainland Tanganyika and the Zanzibar islands in April, 1964. There is a single political party, the Chama Cha Mapinduzi (CCM). The president and vice-president of the country also serve as the chairman and vice-chairman, respectively, of the CCM. Executive power resides in the office of the president who is head of state and commander-in-chief of the armed forces. The cabinet, composed of the president and his ministers, is the principal instrument of policy.

The new United Republic Constitution of 1977 brought about several significant political changes, not the least of which was the creation of the CCM. This action ended the anomaly of Tanzania, officially a one-party state, having two political parties and two nearly autonomous administrative units. During the previous thirteen-year period (1964-1977), while Nyerere's TANU (Tanganyika African National Union) party held sway over the mainland, the Afro-Shirazi Party (ASP) retained close control over Zanzibar. The unusual arrangement of two vice-presidents serving directly below the president was also eliminated. The first vice-president had been, in effect, the President of Zanzibar, while the second vice-president served as the mainland's vice-president. There is now a single vice-president with the new Constitution requiring the vice-president to be from Zanzibar if the president is from the mainland, and vice-versa.

The role of the National Assembly (also known as the Parliament or Bunge) has been officially altered by the 1977 Constitution. Although the Interim Constitution of 1965 placed political supremacy with the National

FIGURE 2

ORGANIZATIONAL CHART FOR DECENTRALIZATION



Assembly, by the late 1960's, it was evident that TANU had become dominant over the National Assembly. The 1977 Constitution clearly recognizes the CCM as the final authority in all political matters.

CCM is a mass party with between three and four million members. It is open to any citizen 18 years or older who supports the goals and objectives of the party. Dues are a minimal one shilling (12 cents) per month, but members who fall behind, regularly miss meetings, or stray from party principles, may be dismissed. The structure of CCM reaches down to the branch level (villages) and to each 10-household unit or cell. Elected branch and cell leaders provide the linkage between the people and their national leadership.

Since 1972 the party has been committed to a policy of administrative decentralization (Nyerere, 1972). With the vast majority of the rural people living in villages, the party reasoned that there was a potential framework for incorporating local decision making and planning into national planning.

The regional administration is headed by a Regional Development Director who is assisted in the planning and management of regional development by an eleven man team (see Figure 2). The regions are directly under the Office of the Prime Minister which, together with the sectoral ministries, sets the broad national policy guidelines for the regions. Recurrent as well as capital funds are disbursed to the regions through the Office of the Prime Minister.

Planning and implementation is further decentralized to districts, and villages. Each region has from three to five districts with a planning and management organization that parallels that of the regions (See Figure 2).

The districts have the obligation to formulate the rudimentary proposals of the villages and wards into technical and economic plans for financial consideration by the regional team. All villages have five main committees: planning and finance, defence, politics, agriculture, and community affairs.

The main tenets of decentralization are that planning should start at the village level. Each September the village managers are expected to submit proposals to the Districts for consideration for the next fiscal year beginning July of the following year. The proposals are evaluated by the eleven man district management team together with representatives from the villages.

Lack of technical skills at village level greatly hamper the full realization of the policy of greater participation of the villages in the planning process.

Tanzania is one of the least urbanized countries in the world, with some 90 percent of its population living in rural areas. Most of the people living along the boundaries of the country. While vast sections of the interior plateaus register densities of under five persons/square kilometer, there are areas of the Lake Victoria basin and the northeastern highlands that have densities of over 200 persons/square kilometer. The major determinants of population distribution are rainfall, soil fertility, and the occurrence of tsetse fly.

Like most African countries, Tanzania has a multiplicity of ethnic groups, each with its own culture and language. Unlike most African countries, however, serious conflict between various ethnic groups has not been a problem in Tanzania. One reason for this may be that of the 120 ethnic or

tribal groups, none dominates numerically or politically. The largest, the Sukuma, constitute less than thirteen percent of the country's 18 million people. The prestige and charisma of Nyerere may be another factor. Coming from a small group himself, Nyerere for years has lectured his countrymen about the dangers of tribalism.

The great majority of the population is Bantu-speaking and Swahili, the mother tongue of Zanzibar and the coastal area, is both the lingua franca and the official language of Tanzania. Because Swahili is so widely used and understood, it has opened leadership opportunities in government to a much broader segment of the population than would be the case if the language of the former colonial power had to be used. In this way, Swahili has served as a valuable tool in the nation building process.

A religious diversity also exists within Tanzania. Roughly one-quarter to one-third are Christian, with Islam being the dominant religious force in Zanzibar; the remaining third adhere to one of the indigenous religions.

2.5 ECONOMY

The Tanzanian economy, particularly since the Arusha Declaration of 1967, has followed a socialist path. Like many other low income countries that became independent in the years after World War II, Tanzania is heavily dependent on agriculture (83 percent of the labor force and 53.5 percent of Gross Domestic Product in 1979). This dependence is also reflected in the composition of exports which are largely primary agricultural products. Coffee leads the list, providing about one-third of all export earnings in recent years. Cotton, sisal, and tobacco are also important crops, while

diamonds are the major non-agricultural export and second in value to coffee.

Balance of payments problems have always been of concern, and are now (in 1982) serious. In 1974, the combination of a severe drought, the OPEC price increases, and a need to import considerable amounts of food to make up for domestic shortfalls contributed to a drop in the foreign exchange earnings. This was a severe blow to the economy and resulted in a number of wise policy revisions. These, combined with the surge in coffee prices in 1976 and 1977, greatly improved the balance of payments situation.

However, the costly war with Uganda once again placed severe pressure on the balance of payments. The cost of the war is estimated as being \$500 million. In addition, Tanzania has extended considerable credit facilities to Uganda to alleviate the Ugandan domestic food situation by providing the basic items like flour, sugar, and oil. In 1978 there was an almost 50 percent (New African, 1981) increase in the value of imports coupled with a 20 percent reduction in the value of exports. The economy in 1981 showed a further deterioration. While Uganda may pick up the cost of maintaining the Tanzanian troops stationed in Uganda, there is still a major residual burden from the war.

In an effort to fill a part of the foreign exchange gap which the war accentuated, Tanzania approached the International Monetary Fund (IMF) for \$200m in credit, but was unable to accept the terms that the IMF put forward. Not only is this loss of potential funds critical in itself, it also makes it much less likely that other commercial lenders will be willing to offer additional credit. In addition, Tanzania's appeal for more than \$300m in grants from a nine nation group has been weakened because of their

reluctance to "undercut" the IMF. Even so, Tanzania has received and will probably continue to receive a substantial amount of foreign aid (roughly \$500m per year in recent years). Tanzania's approach to development has been attractive to a considerable range of donors. During the Second Five-Year Plan, China played a major role, particularly in the construction of the TAZARA railway. The Scandinavian countries as well as Netherlands, Canada, and West Germany have given special attention to Tanzania and supplied substantial amounts of aid. The loan component of the aid was made available on very soft terms and much of it has subsequently been cancelled. As a result, Tanzania has not had much of debt service burden considering the large amount of loans it received. In spite of the problems, the economy managed to produce a good record of growth in the 60's and 70's. Per capita GNP has risen at a rate of 2.6 percent per year in comparison with 1.4 percent for the average low income countries and stood at \$271 in 1979. The most recent figures for total GNP (1978) show it to be 33,398 million Tanzanian Shillings. The Tanzanian Shilling has been devalued on a number of occasions and is now worth (end of September 1982) \$.12 U.S.

Although self-sufficiency has been a goal for many years, the economy is still far from achieving it. A drought in any given year can have a crippling effect since the economy is mainly dependent on rainfed agriculture and there is little industry to compensate for crop losses.

Regional cooperation with Kenya and Uganda was initiated by the colonial government in 1948. It was formally administered by the East Africa High Commission and, after the independence of the three countries, by the East African Common Services Organization. In 1968 the latter was re-organized on the lines of the European Economic Community and named the East African

Community with headquarters in Arusha. Cooperation involved many major financial, economic, service and research sectors such as Income Tax; currency control, customs and excise revenue; trade; road, sea, air and rail transport; posts and telecommunications and scientific research. Major differences among the three countries became apparent in the early 1970's specially after Idi Amin came to power in Uganda. Tanzania also felt that Kenya was getting an unfair share among the three countries and was pre-empting the industrial development in the region at the cost of the other two countries. The Community finally broke up in 1975. Since then Tanzania has looked west and south for multi-lateral economic cooperation.

In the west, Tanzania is cooperating with Rwanda and Burundi to develop the Kagera River Basin for mutual benefits. In the south, Tanzania's membership in the organization of the "Frontline States" has been carried over to the Southern African Development Cooperation Conference (SADCC).

2.6 THE RESOURCE BASE

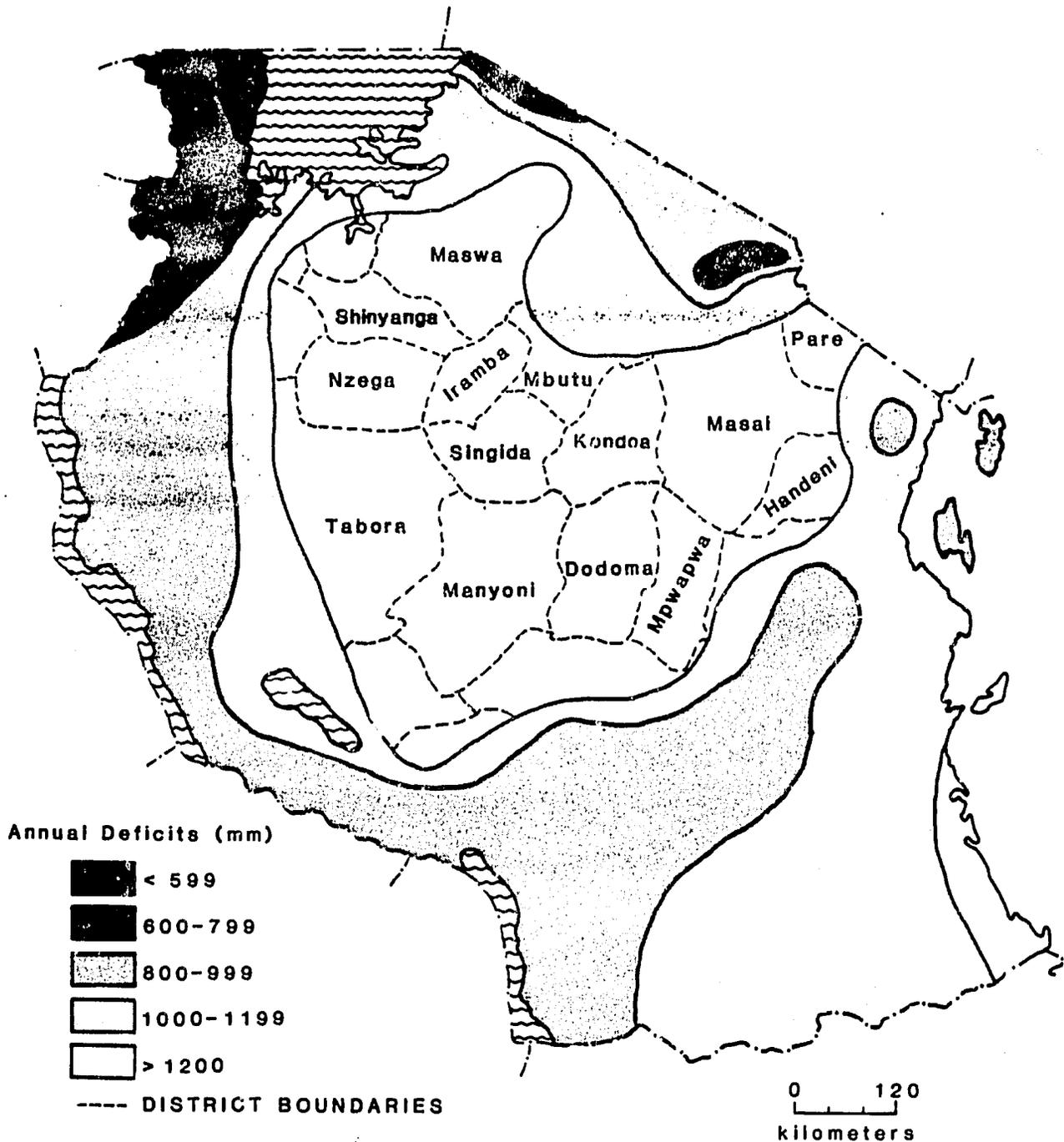
About 90 percent of Tanzanians earn their living directly from the soil: coffee and banana in Kilimanjaro and West Lake; cotton and maize in Sukumaland; sugar and rice in the Kilombero; pyrethrum and tea in Mbeya; herders and grain farmers in Arusha and Dodoma; and cashew, rice, millet, beans and cassava from Mtwara, Coast, Rukwa, Lindi and Ruvuma. The list of crops and localities suggests something of the variety of the Tanzanian resource base.

2.6.1 Rainfall

During years of average rainfall, most of Tanzania has a five month wet

FIGURE 3

Districts Prone to Rainfall Deficits in Tanzania



SOURCE: Based on Nieuwolt, 1973.

Note: Rainfall deficits are calculated on the interplay between rainfall and potential evaporation. More details on this methodology can be found in Nieuwolt's paper.

season, from November/December to March/April. Coastal Tanzania experiences adequate rainfall of up to 1000 mm associated with tropical lowlands. Away from the coast, the land rises to a plateau with steep sided mountains and hills reaching over 3,000 m (10,000 ft). Inland, the mountains have generally high rainfall with over 2,500 mm in places. The southern coast and highlands also have adequate rainfall.

The plateau, however, is generally dry with an annual average rainfall of 500-700 mm. If one regards the areas with less than 750 mm as potential risk areas, the whole of Dodoma and Singida Regions, much of Mbulu, Masailand and the southern parts of Moshi and Pare Districts, large parts of Handeni district in Tanga Region, as well as parts of Tabora, Shinyanga and Mwanza regions would fall into this category (see Figure 3). The shores of Lake Victoria are an exception, especially on the west side.

Rainfall is thus a major constraint to agriculture over much of the interior, not so much because it is low but more because of its erratic nature. In years of average rainfall the areas mentioned above can produce enough food crops for local needs as well as produce a surplus but in years of abnormally low rainfall, they suffer more than the rest of the country. Some studies suggest definite climatic cycles resulting in drought every 10 or 7 years, but on the whole, predictability of drought is as yet uncertain.

The rainfall pattern is further complicated by the high temperatures and rates of evapotranspiration as well as by localized differences. These differences occur not only between regions but also within regions and within districts. Agricultural forecasting and planning therefore requires a considerable amount of micro-level data.

The country has a number of meteorological stations, set up during the colonial period. There were continued by the joint East African Meteorological Department until 1975 and now run by the Tanzanian government. Some of these had fallen into disuse but are now being revived. The Directorate of Meteorology published weekly, monthly and annual data on various climatological conditions including rainfall. For the farmer, however, the most effective source of information is the radio, apart from the local folklore.

2.6.2 Soils

The soils are variable. The slopes of the volcanic mountains of Kilimanjaro and Meru have rich productive soils as do the volcanic areas of Mbeya region. Productive soils are also found in the rich river valleys such as the Pangani, Rufuji, and Kilombero Valleys. These valleys have a good potential for agriculture by flood control and irrigation.

However, by far the largest part of Tanzania is characterized by low to moderately productive soils with the cotton growing area of Sukumaland representing the higher end of the continuum and Masailand, Dodoma and Singida, the lower. Soil erosion is also quite serious in many parts of Tanzania particularly in the dry interior and on steep slopes where both traditional and modern techniques of soil conservation have been neglected. As much as fifty per cent of the soils of Tanzania are now alleged to be subject to soil erosion, the most dramatic case being that of Kondoa District in Dodoma Region. On the other hand, where traditional soil conservation methods have evolved and have been preserved, people successfully cultivate slopes that

to western eyes are best left alone. These areas illustrate the viability of local methods by supporting some of the largest densities and the highest incomes in the country.

There is no official soil survey or soil monitoring department. The Department of Lands and Survey, however, does produce useful geological maps. Even more useful are the growing number of detailed soil surveys and mapping carried out by the agricultural institutes, like those at Tanga, Mbeya, and Kilombero; by the Faculty of Agriculture of the University of Dar es Salaam and by the Bureau of Resource Assessment and Land Use Planning (BRALUP), now the Institute for Resource Assessment. The latter has used sophisticated technology including satellite imagery to map land units in Rukwa, Mbeya and Iringa Regions.

2.6.3 Land Use and Potential Agricultural Land

Overall, Tanzania has no problems of land shortage (see Table 1). Of the 48.7 million hectares of potential agricultural land, only 4.6 or less than 10 per cent are presently cultivated. Land tenure is also not a problem. Only about 1 per cent of the agricultural land is occupied by large estates and every household is entitled to have at least 5 acres of land for cultivation. A number of households, especially those involved in cash cropping, have much larger holdings.

The quality of land, however, varies. Sixty-seven percent of the population live in montane and highland areas and from here expansion outwards, though possible, will involve the use of less fertile lands and will require large inputs to conserve and even increase soil productivity. Another severe constraint is the infestation of large sections of these areas by

tsetse fly. The predominant form of agriculture is swidden agriculture with rotational bush fallow, but intensive agriculture is practised in several areas using both modern techniques as in the cotton/maize cultivation in Sukumaland but also traditional methods. The latter methods include the use of organic fertilisers; mound cultivation; crop rotation; inter-cropping and

TABLE 1

LAND USE IN TANZANIA

Total Area (000 ha)	Small-holder (000 ha)	%	Large-holder (000 ha)	%	Grazing (000 ha)	%	Forest/ Woodland (000 ha)	%	Urban, Swamps (000 ha)	%
88,360	3,880	4.4	585	0.7	44,245	50.1	38,050	43.0	1,600	1.8

Total Area (000 ha)	Potential Agricultural Land		Cultivated Land	
	(000 ha)	%	(000 ha)	%
88,360	48,710	55	4,465	5.1

SOURCE: Tanzania Food and Nutrition Center, 1980

and various forms of soil conservation such as ridging, terracing, and cultivating in pits. Intensive agriculture is likely to grow in importance with the settlement of Tanzania's peasants in villages and the country will continue to depend largely on the small-holders who now produce 75 per cent of the exported produce and 80 per cent of the total staple cereal crops.

2.6.4 Forestry

Although forests are estimated to cover over forty per cent of the country, most of this is open woodland and scrub. True forests are confined to the high rainfall montane and highland areas. A large part of these forests are protected as government reserves, including the catchment forests at the headwaters of major rivers and streams. These rain forests constitute an important resource. Most of the valuable timber for building and furniture is obtained from the rain forests. In addition, the government has a substantial afforestation program particularly around Sao Hills in Iringa Region. The original plan was to provide soft woods for a timber factory nearby, but the plantations will also provide soft wood for the large pulp and paper mill. The first phase of the mill is expected to be operational by 1984.

However, the main utilization of the forests and woodland is for providing fuelwood and building poles in the rural areas and charcoal for the growing urban areas. These constitute about 98 per cent of the total consumption. The rate of depletion of natural forests and woodland is a source of major concern of the nation. In certain areas, particularly the semi-arid regions of Dodoma and Singida, rural energy supplies have reached crisis situations. FAO is currently sponsoring a detailed fuel wood survey of selected villages, the work is being undertaken by BRALUP.

The government has launched a major afforestation program involving the distribution of free seedlings to develop village woodlots to cater for future rural fuelwood and building needs. In spite of research into and experimentation with alternative sources of energy, like solar and biogas,

the rural areas, and to some extent the urban areas, will continue to depend on the natural and planted forests for their domestic fuel needs for the foreseeable future.

2.6.5 Water Resources

Tanzania is fortunate in its surface water resources. A number of significant rivers rise in the high rainfall uplands and traverse the drier plateau before entering the Indian Ocean. The Pangani, Wami, Ruvu, Rufiji and Ruvuma rivers all have potential for hydro-power and irrigation. These rivers have all been developed to some extent for both purposes. The Rufiji river and its basin offer by far the greatest potential for multi-purpose development. Some of this has already been realized through flood control of its tributary, the Kilombero, and the damming of its other tributary, The Ruaha, to provide hydro-electricity. The full potential has yet to be realized and, in recognition of this aspect, the country has set up a major organization, the Rufiji Basin Development Authority (RUBADA) to undertake the development of the area. Several feasibility studies have been conducted with respect to schemes for hydroelectricity, agriculture, coastal and inland fishing and tourism. The schemes are all large scale and require substantial sums of hard to obtain foreign finance.

Other rivers such as the Kagera flowing into Lake Victoria may also soon be important as a joint development strategy with Rwanda/Burundi.

The coast and lakes are another source of considerable potential: Lakes Victoria and Tanganyika and, to a lesser extent, Nyasa and Rukwa, for inland fishing, and the coast for a variety of exotic marine fishes. A number of swamps, ponds, streams and dams also provide resources for

subsistence fishing. In all, about 75 per cent of current production comes from freshwater sources with the remaining 25 per cent coming from the Indian Ocean. The potential for further development of both varieties of fish is considerable. For instance, in the mid-70's, Lake Victoria was producing about 40,000 tons of fish annually, mainly from shallow portions of the Lake; whereas United Nations fisheries experts estimated that 750,000 tons could be harvested annually without endangering the recuperative ability of the fish stocks.

2.6.6 National Wildlife Heritage

Tanzania is world-famous for its wide variety of wildlife. The country spends a great deal of its hard pressed financial resources in conserving these species in national wildlife conservation parks. The most famous of these are the Serengeti, Ngorongoro, Lake Manyara and Selous Parks. Besides being a cultural and national heritage, the parks also draw a modest number of tourists from western countries. The parks, together with the coastal beaches, could draw larger numbers of tourists if the tourist industry was well organized and less hampered by the bureaucratic and other constraints that currently plague it.

2.6.7 Minerals

The full extent of the country's resources in minerals is still uncertain. The best known of these is diamonds. Both gem and industrial diamonds are mined and constitute the most important non-agricultural export. Deposits of iron ore and coal in southwest Tanzania have considerable potential although, again, it will require considerable financial resources to

make their exploitation an economically feasible venture. The Tanzania Zambia railway has improved communication links and with the rising costs of fuel oil, the search for alternative sources of fuel becomes more desirable. Gas has been discovered in exploratory drillings around Songo-Songo Island along the coast and the search for oil continues. Deposits of gypsum and phosphates in the coastal area and around Lake Manyara are also important.

At the same time, the government of Tanzania is increasing its exploration of the interior in a search for gemstones, gold and iron ore. Small quantities of gold used to be exported in the past, and the old mines are being currently re-opened for production.

In summary, Tanzania has a mixed resource base. Areas of fertile soil, productive forest, or valuable minerals are small. River basins of good potential are balanced by considerable areas of very modest surface or sub-surface water resources. There are large areas with modest to poor soils, some woodland and minerals deposited in difficult locations. Nevertheless, there is good potential for development based on a combination of resources.

CHAPTER 3. KEY DEVELOPMENT ISSUES IN TANZANIA

3.1 INTRODUCTION

Tanzania is a country which attracts more international attention than its modest resource base, population size, and strategic position would at first sight seem to warrant. The reason for this, many would agree, is one man, Julius Nyerere and the distinctive policies he and his country espouse. President Nyerere has maintained a broad vision and long perspective on many issues. He would have held up Tanzanian independence to allow the three East African community states to begin a joint cooperative independent existence. He enunciated in the Arusha Declaration a long-term objective of Tanzania-style socialist cooperation which was designed to guide the country to self-reliance and economic dependence. He has held a firm foreign policy stand on democratic rule in Southern Africa and has been an international leader in the conflict and negotiation in this area. More recently, he has taken a strong initiative in North-South negotiations for a New International Economic Order. The President and the country have gained respect in many parts of the world for their stand for social justice and a more equitable distribution of resources and wealth.

These are complex influences both internal and external on the Tanzanian economy. The southern African political situation is somewhat brighter with the independence of Mozambique, Angola and Zimbabwe. The war in Uganda was expensive and damaging to the balance of payments. In addition, the various internal policies of decentralization, villagization, and national

control of the economy have brought about real change but have also brought problems of management, efficiency and production.

Yet Tanzania appears to be resilient. For all the difficulties, the former colonial servants who were invited back for the tenth anniversary of independence were almost universally impressed by what had been done. Progress has not been so obvious in the second decade. However, primary education will soon be available to all. Many of the villages are evolving into productive enterprises with better social services than before.

The development issues at the present period (1982) are thus fundamental ones at a time of reassessment and perhaps readjustment. The issues that we will address in this section are set out below:

- balance of payments;
- poor economic infrastructure, particularly transport and agricultural marketing system;
- ill health and development;
- social and economic problems associated with urban growth;
- the energy crisis;
- environmental degradation;
- poor industrial base.
- decentralization;
- diversion of resources for a new capital;
- villagization;
- declining agricultural productivity;
- changing regional relationships.

3.2 TANZANIA BALANCE OF PAYMENTS

Issue: Tanzania has a persistent balance of payments problem which seems to be worsening. What are the basic causes for this trend, and how does this problem influence governmental decisions about development and how does it affect the well-being of the population?

Tanzania's overall balance of payments appeared to be in fairly good shape in the early 1970's. However, Table 2 indicates the worsening balance of payments since then. During 1978, the net level of external reserves turned negative and by the end of 1980 there was a deficit of US \$286 million.

The figures in Table 2 are verified by press reports and statements by government officials. The New African July 1981 summarized the situation as follows: "whereas exports in the 1975/80 grew from Tanzanian shillings 2589.3 million to T.Sh. 4355 million representing a growth of 71 per cent, imports soared from T.Sh. 5304 million to T.Sh. 10,403 million, representing a rise 96.1 per cent." In his budget speech for 1980/81, the Tanzanian Minister of Finance also expressed concern over the "disequilibrium between import costs and export values." (Tanzania Daily News, May 1981)

The reasons for the poor balance of payments are not generally unique to Tanzania. A combination of and interplay between the following factors contribute to the situation.

Primary agricultural products account for about 70 percent of Tanzania's export earnings despite the efforts to diversify. On the world market, agricultural produce has not increased in value as rapidly as the

TABLE 2

TANZANIA BALANCE OF TRADE
(U.S. \$ Million at Current Prices)

	<u>1966</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Merchandise exports (f.o.b.)	260	356	400	376	492	548	479	544	570
Merchandise imports (c.i.f.)	237	481	747	770	630	750	1146	1100	1300
<u>Trade Balance</u>	23	-125	-347	-394	-138	-202	-647	-556	-730
Net invisible receipts	12	8	5	55	39	31	47	65	30
<u>Current Account Balance</u>	11	-117	-342	-339	-99	-171	-620	-491	-700
Gross Aid Disbursements	25	121	195	360	225	310	362	460	580
Suppliers' Credits	-	-	-	-	-	-	-	84	100
Principal Repayments	-3	-27	-19	-20	-22	-29	-25	-22	-50
Other	-3	64	15	-35	-86	18	-30	-69	-60
<u>Overall Balance of Payments</u>	30	41	-151	-34	18	128	-313	-38	-130

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SOURCE: World Bank, 1980.

imports which Tanzania needs for the development of all sectors of the economy. Unpredictable fluctuations in prices for agricultural commodities makes long-term planning at best problematic.

Export earnings have risen on an average by 5.8 per cent since 1966 and by 7.0 per cent over the last six years (World Bank 1980). However, all of this increase is due mainly to higher prices rather than increased production. The World Bank estimates that export volume fell by about 25 per cent in 1974 and by 1979 was 35 per cent lower than in 1966. The severe drought of 1973/74 explains the sharp decline in 1974, but the persisting trends in lower export volumes are not encouraging.

In such a situation, the effects of the increasing cost of energy on the balance of payments become unusually acute. Despite a curtailment of total tonnage of oil imports from 800,000 tonnes in 1972/73 to 700,000 tonnes in 1980, currently 60 percent of all foreign exchange earnings are utilized to pay for fuel imports as compared with 10 per cent of such earnings used to pay for fuel imports in 1972/73.

World wide inflation has contributed to the accelerated increase in prices for non-oil imports. Increases in prices of inputs contribute to a decline in production in both the agricultural and industrial sectors. As a result, factories are short of raw materials and spares and are operating at a fraction of capacity whereas machinery and fertilizers necessary to increase agricultural production are not available. The decreasing buying power also affects other sectors especially transportation necessary to collect and process crops for export. Tanzania is also still recovering from the cost of the war with Uganda.

The effect of the poor economic situation on the government's development effort is clear. Successive five year plans have not attained their complete development goals. There is a shortage of foreign exchange needed for the procurement of raw materials, spares and other industrial inputs, a shortage of building materials such as cement, roofing sheets, and steel, as well as break downs in transport services because of lack of spare parts. For instance, by 1980, only 16.5 percent of the 328 planned projects for the 1976-81 period were completed, and 109 planned projects have not been implemented at all. Foreign exchange is not, of course, the only contributing factor but it is a serious one.

The Tanzanian government attempts to deal with the worsening economic situation by adopting successive emergency policies, including the National Economic Survival Programme adopted in May 1981. The general parameters include regional agricultural targets and the need to stimulate agricultural and industrial production to earn T.Sh. 6000 million (U.S. \$720 million) more than the original goal, of T.Sh. 1.2 billion (U.S. \$144 million) and to make the country self-sufficient in food production by 1982. It is also proposed to further restrict imports except for inputs needed to promote agricultural and industrial production and to refocus on making the growth of the economy less dependent on imported raw materials. There is a recognition, too, of the role of producer price incentives and economists are hopeful that this plan will offer more needed incentives to stimulate production.

Economic conditions in Tanzania make the country more dependent on external aid than President Nyerere's concept of "self reliance" would prefer. From 1970 to 1979, the gross aid disbursement to Tanzania increased tenfold

from \$46.9 million in 1970 to \$468.2 million in 1979, although, taking into account inflation and population increase, the aid per capita has only doubled (United Nations, 1981). Dependence on aid means that Tanzania has a decreased voice in its own development process. Aid is often tied to specific projects, and is not always reliable. For instance, U.S. AID is dependent on annual commitments made via the Congress. All these factors and others that enter the aid equation make the planning process more problematic.

The most obvious result of the foreign exchange squeeze on the daily lives of Tanzanians is in the recurring and increasing shortages of basic necessities. People are having to wait in line and search for staples such as bread, maize, meal, soap, cooking oil and matches. Not all these items are imported but they depend for their distribution on an adequate transportation sector which is beset by a shortage of spare parts. Hospitals are short of medicines and the university cannot get books and paper. Foreign travel is severely restricted and imported goods almost impossible to find. Hardware stores show almost empty shelves and long lines are a common daily sight in Dar es Salaam. Shortages have encouraged the magendo (black market) and signs are that this will increase as the situation worsens.

In the long run, the balance of payments issue will be resolved, not so much by additional restrictions, but by increased agricultural and industrial production for domestic consumption as well as for export.

3.3 REGIONAL DECENTRALIZATION

Issue: The Government of Tanzania has embarked on a clearly articulated policy of decentralization of economic planning and implementation of development projects to the regions, districts and villages. How does this affect national development and planning and international aid?

Tanzania is a large country, roughly square in shape, with the capital, Dar es Salaam located at about the middle of the eastern side of the square. Links between the capital and the rest of the country by road, rail and air are long and often tenuous in the wet season. The primary transport mode is the road network, which totals about 45,000 km. Of this, only 6.8 percent has been bituminized while the rest is engineered gravel and earth roads, often impassable during rainy seasons and difficult to maintain. Apart from the two main trunk roads linking Dar es Salaam to Zambia and the northeast, the system is poorly developed and maintained. The situation has worsened because of restrictions on the importation of spare parts and vehicles due to foreign exchange constraints. Similar restrictions and poor maintenance have hit rail and telecommunications systems.

The structure of the government inherited from the British created another set of problems. Colonial government was organized on a hierarchical basis within sectoral ministries (education, health, water, transport, agriculture, etc.). Administration came from the center downwards; messages and authority filtered down through the chain and replies came upward. It is here that there were local personnel in the form of Provincial and District commissioners and supporting staff, but they were merely spokesmen for

policies decided by the Secretariat. President Nyerere found this organization poorly suited to the type of development he envisaged after 1967: rural development and a more equitable distribution of resources and economic opportunities. Grassroot participation in policy making and implementation was fundamental to the success of this strategy.

The First Five Year Plan (1964-1969) was conceived and administered from the center, though there were many local initiatives. The key note of the plan for rural development was the transformation approach, planned and implemented from the center. The first sign of recognition that local projects had to be planned and coordinated under one agency came with the plan for village settlement projects and the creation of the Village Settlement Agency (VSA). Unfortunately, the settlement project failed and the VSA had to be disbanded. Nevertheless, the Second Five Year Plan (1969-1974) continued to reflect the concern for transfer of authority to the regions by including a volume which analyzed the pattern of development in the various regions.

This policy proceeded in stages from 1969 onwards. First, a regional development fund (RDF) was set up to provide regional capability for initiating and funding small projects. The regional development funds are an effective way of devolving responsibility though the capital involved is still only a small part of the development budget, and grassroot participation in the utilization of the fund is still weak.

Decentralization was officially adopted as a policy in 1972. A framework for transferring greater responsibilities for administrative and economic decisions to the 20 regions with their 80 districts and now over

8,000 villages was devised. In essence, the official policy of decentralization involves the following:

- a) The overall political economic and social policies are decided by the National Executive Committee (NEC) comprising of top government and party leaders and under the chairmanship of President Nyerere. NEC works within the guidelines of the country's policies set by the Chama Cha Mapinduzi (CCM), the country's sole party, during its Annual National Conferences. These conferences have input from the local level through regional and district representatives.
- b) The sectoral ministries work out the overall implications of the decisions of NEC for their sector and offer technical research and training services in their sector for the regions. The specific implications for the regions have to be worked out by the regions and incorporated in their annual plans.
- c) The regional plans theoretically originate at village level. In September of each year the regions request their main administrative sub-divisions, the districts, to prepare proposals for the regional economic plans. The districts in turn request proposals from their sub-divisions, the wards. The latter are expected to incorporate the projects and proposals of all the villages within their jurisdiction and present them to the district.

The Third Five Year Plan (1976-1981) did, in principle, incorporate the framework for economic planning, though it is clear that the ideal of decentralisation, particularly the input from villages, has a long way to go to be a reality. There are continuing problems with decentralization.

There is a dearth of technical expertise in many of the villages. The current move to upgrade the educational and professional qualifications of the village manager may rectify this to some extent. At the district and regional levels, the search for genuine participation depends on the commitment of the personnel. There are many complaints that these personnel are

only marking time before moving to "better" regions or to the prestigious central government positions.

The emphasis on regional development as opposed to overall rural development can lead to surprising rivalries. Some of the problems of villagization resulted from regional commissioners and regional development directors competing with each other to achieve maximum villagization first.

Manpower strategy for the country has also been affected by decentralization. The role of the sectoral ministries to act as coordinating and guiding organizations has been greatly hampered by the forced drain of technical manpower to the regions, sometimes to administrative positions and duties. Decentralization on the whole has delayed the country's selfsufficiency in high-level and even middle-level manpower. Perhaps the greatest single drawback to the realisation of the full potential of decentralization is the total inability of the regions to raise revenue, except through cooperative and voluntary contributions.

Nevertheless, decentralization does have considerable potential for a rational development of the rural sector. It enables the regions and districts to plan in an integrated manner rather than sectorally. It can lead to the creation of a real pride, interest and commitment to local improvements, particularly if regional opportunities can outweigh the desire for the city lights.

In the latter part of the 1970's there has been a major effort to gather data and increase the understanding of the resource base of the regions. Rural Integrated Development Plans (RIDEPS) and Water Master Plans to map out a strategy for development for the next 15 years have initiated the trend, although the quality of data thus generated has varied. Both the

regional RIDEPS and the Water Master Plans were allocated to whichever donor agency or country was interested. Thus the RIDEP for Tanga was done with West German finance and expertise; Dodoma, Dar es Salaam and Coast, by Canadian aid; Arusha is now being done by USAID. The Water Master Plans are similarly dispersed. The various donors do not follow a common format or compatible levels of context and precision. There is, thus, a significant coordination problem.

For the donor, the regional emphasis has two major implications. The first is how far a donor should concentrate attention on a limited part of Tanzania so that the focus and interaction be with one or two regions. The second implication is that for rural development activities, the focus is increasingly on the regions and project management is only possible through good cooperation with the regional authorities.

3.4 CAPITAL DEVELOPMENT: DODOMA

Issue: In 1973 the Government of Tanzania decided to relocate the nation's capital from Dar es Salaam to Dodoma, near the geographical center of the country. Is this a realistic option?

After independence in 1961, the question of a moving capital from Dar es Salaam was raised a number of times. Dar es Salaam was growing rapidly and skewing the pattern of investment in the country. President Nyerere was anxious that the location of party and administrative headquarters in Dar es Salaam, as well as most of the nation's industry and port facilities, was removing the government more and more from the philosophical and practical needs to focus on rural development in Tanzania. The potential for skewed development in Dar es Salaam was well illustrated when a master plan for the development of the city, produced in the late 1960's, showed that the city could use almost all of the national development budget.

The decision to transfer the capital to Dodoma was made in 1973 when about two-thirds of TANU branches voted in favor of the move. This procedure ended a debate that had carried on for many years, since the German administration's initial decision to locate the capital in Dar es Salaam in preference to Bagamoyo, its first administrative capital.

The choice of Dodoma appears to have been made on the grounds that:

- it is centrally located;
- it has some basic infrastructure - railway, airport, and road links, though all need major improvement;
- it is located in a rural area in need of investment and growth opportunities.

The arguments against the location are:

- the high cost of the new capital - about \$500 million estimated in 1973;
- acute shortage of water in the Dodoma region and the lack of easily accessible, large sources that could be tapped to provide the capital with water;
- the need for major improvements in the transportation network - macadamized roads reach only a few miles outside the city;
- the lack of housing and other infrastructure to provide for a massive transfer of civil servants and their families from Dar es Salaam to Dodoma.

As a partial concession to some of these problems, the move was planned to take place over a considerable time period, initially over ten years but now likely to be fifteen or more. After the decision, a Capital Development Authority and a Ministry for Capital Development were set up, funds allocated and detailed planning begun. An interim, and later a draft, master development plan was drawn up for the new capital. Visits were paid to many of the new capitals of the world and a major attempt was made to draw on previous experience and fit it into the Tanzanian context. The goal in 1975 when the draft plan was approved was to move 40 percent of the central government personnel from Dar es Salaam to Dodoma by 1980 and the rest by 1985.

Financing this move has been a major problem and the hope to establish Dodoma as the true Capital by 1985 is unrealistic. Donors are reluctant to invest in this project but there is still a financial commitment to the venture by the government of Tanzania as evidenced by the allocation of T.Shs. 113 million to Capital Development in the 1978/79 Annual Plan. President Nyerere has also theoretically transferred his office to Chamwino (near Dodoma) where a new state house has just been completed.

The official statements still envisage Dodoma as the true capital by the end of the 1980's, but there is serious skepticism about whether this is still a viable option. Some government offices have already moved; according to the Third Five Year Plan, 10 percent of the party and government employees have already been moved to Dodoma. However, major problems have yet to be solved. For instance, Dodoma is located in an arid area with no major rivers and yet a solution to providing water for the city has not been decided upon. There are frequent breakdowns in both electricity and water supply causing great discomfort.

It is clear that the move will be made at the cost of some other priorities. A great deal of scarce government funding is being channelled into the area, much of it not directly into productive investment. It is not yet clear how the mere relocation of the capital will reduce bureaucratic inefficiencies or reduce bottlenecks caused by poor transportation. Nyerere argues that the change is an investment for the future and has to be made now. As support for the capital, investment is also planned to be made in the surrounding regions, especially in livestock, agriculture, and small scale industry. Many feel that this self-same investment would have been more beneficial to the nation if invested in other projects or in other potential capital sites with better land and water resources and greater potential for rapid development.

In 1982, nine years after the decision to relocate the capital was taken, Dodoma is still a small rural center, lacking basic facilities. There are six generators for electricity and frequently only one is working; the road, rail and air lines still need improvement, Dodoma is still a ten hour bumpy drive from Dar es Salaam; there is only one reasonable hotel,

which is frequently full. Although there is little open criticism of the projected move, there is a general consensus that only President Nyerere is still committed to the new capital. Perhaps even the President is less convinced than before. In the latest cabinet re-shuffle, the President dissolved the Ministry for Capital Development and put Capital Development Authority under the State House.

The future for Dodoma is still uncertain. If the effort to move from Dar es Salaam is not realized, this still begs the question of the skewed growth of that city.

3.5 AGRICULTURAL PRODUCTIVITY

Issue: Tanzania's dependence on agriculture is two-fold. It is a primary export earner and domestic food security is a priority. What are the major constraints to growth in this sector?

Agriculture still dominates the Tanzanian economy. In 1980, it accounted for 50 percent of the GDP and more than 80 percent of the export earnings. Small-holders contribute about 75 percent of the country's export earnings and more than 80 percent of the marketed cereal production. Large-scale farming is restricted to livestock, a small number of estates producing sisal, tea, coffee, sugar, wheat and rice. Despite the occurrence of periodic poor rains, the long-term agricultural potential would seem to be good, with a considerable proportion of arable land still unutilized and a wide range of agro-climatic zones for producing a variety of crops.

It is difficult to obtain accurate data about food crop production in Tanzania, in part because a great proportion is used for domestic consumption for which there is no reliable data, and partly because a considerable quantity is diverted to unofficial marketing channels when local pricing and marketing systems are unsatisfactory. However, Tanzania has imported food grains every year since 1965 with imports increasing in the 1970's (Table 3).

The National Milling Corporation (NMC) however, has increased its purchases of maize steadily over the last 5 years from 25,000 tons in 1974/75 to an estimated 240,000 tons in 1979/80 despite fluctuations caused by adverse weather (the drought in 1979/80 necessitated large imports in (1980/

TABLE 3

IMPORTS AND EXPORTS¹ OF MAJOR FOOD GRAINS 1965/66 - 1980/81
(000 Metric Tons)

	1965/ 1966	1966/ 1967	1967/ 1968	1968/ 1969	1969/ 1970	1970/ 1971	1971/ 1972	1972/ 1973
Maize	8.8	7.9	(0.3)	(51.8)	46.9	(53.4)	92.3	78.9
Wheat & Flour	21.6	32.1	13.6	36.7	35.7	11.6	49.5	8.2
Rice Paddy	11.4	6.5	3.8	-	-	-	(4.2)	(10.2)

	1973/ 1974	1974/ 1975	1975/ 1976	1976/ 1977	1977/ 1978	1978/ 1979	1979/ 1980	1980/ 1981 (estimate)
Maize	183.6	317.2	42.3	48	34	-	29	249
Wheat & Flour	35.8	109.6	31.2	34	45	60	33	43
Rice Paddy	23.0	63.0	20.5	5	61	41	43	78

SOURCE: World Bank, 1977 ; Kline et al., 1981.

Tanzania Food and Nutrition Center, 1980.

¹When food grains were exported the figures are shown in parentheses.

81). The NMC purchases for maize account for only about 30% of maize production, most of the maize remains in the village area. The increase in NMC purchasing does indicate an advance towards food self-sufficiency. For rice and wheat, the trend is not so promising and overseas purchases will continue to be required for several years. Despite modest increases in production, food demand due to population growth and a change in food consumption habits has outstripped current supply, necessitating a continued need to import basic foods particularly in drought years. Food security will not be achieved until Tanzania production can provide a buffer for difficult years.

Figures for export cash crops are more reliable. Export crop figures as shown in Table 4 are a reasonable reflection of production since a greater proportion of cash crops enter the formal market. Growth in productivity has been mixed. Tobacco production increased substantially during the mid-70's but then levelled off as increasing costs of wood for flue-curing and declining world prices reduced the incentive for further investment. Sugar production has increased but has fallen far behind the estimated growth of domestic demand. Tea production has expanded steadily with the increase being mainly in the small-holder sector. The level of small-holder coffee production seems to have been sustained, but estate coffee production has steadily fallen from 11,000 tons in 1974/75 to 2,500 tons in 1978/79. Sisal production has also declined sharply from 181,000 tons in 1970/71 to 81,000 tons in 1978/79 due to cut backs in investment during the period of low world prices in the mid-70's and parastatal problems. A crop-by-crop analysis would be necessary to arrive at conclusive reasons for specific changes which are summarized in Table 5. For instance, the stagnation

TABLE 4
VOLUME OF EXPORTS FROM TANZANIA

Principal Commodity	Unit	1965	1966	1967	1971	1972	1973	1974	1975	1976	1977	1978
Coffee	000 Tons	28	50	44	36	55	60	41	54	58	47	51
Diamonds	000 Grams	NA	NA	NA	55	65	60	49	119	89	71	99
Cotton	000 Tons	46	67	70	162	125	115	76	38	55	40	47
Sisal	000 Tons	220	214	216	161	153	113	93	102	80	69	79
Cloves	000 Tons	NA	NA	NA	9	12	11	4	8	7	6	--
Cashewnuts (raw) ^{1/}	000 Tons	62	73	75	96	113	110	114	97	66	75	44
Tea	000 Tons	4	6	6	8	9	10	10	10	12	12	15
Meat and Meat Pre- parations	000 Tons	NA	NA	NA	3	3	2	3	1	1	3	4
Tobacco	000 Tons	2	5	7	5	6	6	9	6	11	12	11

^{1/} The reduction in export volume is in part caused by increased local processing of this product.

SOURCE: Tanzania, 1980.

TABLE 5

MARKETED PRODUCTION OF MAJOR CASH CROPS

Cash Crops	Average 1970/71-1972/73 ('000 Tons)	Average 1978/79-1980/81 ('000 Tons)	Change %
Cotton	72.9	55.0	-25
Tobacco	12.0	17.0	42
Pyrethrum	3.7	1.9	-49
Sugar	96.5	128.0	33
Oilseeds	160.6	132.3	-18
Coffee	50.7	48/3	-5
Sisal	164.4	92.1	-44
Cashews	118.2	49.5	-58
Tea	11.4	21.3	87
Cloves	8.5	4.7	-45

SOURCE: World Bank, 1980.

in the coffee production is attributed to a variety of factors including the occurrence of coffee berry disease which alone accounted for a fall of 20 per cent especially in the northern zone. More generally, climatic vagaries, inadequate inputs and problems with the marketing system affect all crops.

The reasons for the difficulties in increasing agricultural production are varied. The World Bank makes the following generalizations about the problems.

1. The long-term downward trend has been associated with the neglect in the maintenance of capital stock and other assets of the agricultural sector. For some crops there has been a considerable investment in new plant and machinery for crop processing while existing capacities especially for production have been allowed to deteriorate.

The result has been a decline in raw materials and overcapacity in the agro-industries. For other crops where there has been no investment in plant and machinery for processing, as for example, sisal, the decline of the directly productive sector has been even more serious. Sisal estates have been badly run down and will require substantial capital and managerial inputs to revive their role in the economy.

2. Perhaps the most difficult constraint has been institutional. Tanzania has invested increasingly in agriculture but most of this investment has gone into institutional changes particularly the creation of crop authorities. There are nearly 100 parastatal authorities directly responsible for agricultural production. Their functions often overlap and the end result is often a deterioration of service to small-holders in the form of input supply, extension, crop collection and crop payment. The government is aware of this and is re-instating the cooperatives abolished in 1976 and streamlining the existing bewildering array of parastatals in the agricultural sector.
3. Little attention has been given to maintaining financial and material incentives for the farmer. With the possible exception of maize, official agricultural prices have not kept pace with general inflation in the economy and

the rising input costs. The shortage of consumer goods has further affected the incentives to grow cash crops.

4. Crop losses due to inadequate storage facilities is a major problem.
5. There is a severe shortage of trained personnel at the village level not only in extension services but also in management and record keeping.
6. Transportation and marketing also pose such a range of problems and issues that they will be examined more closely under their respective sections.

Many of these constraints are recognized by the Tanzanian government, whose 1981 report to the United Nations conference on the Least Developed Nations at Arusha cites a range of problems largely coinciding with the factors mentioned above.

Despite the government efforts to introduce policies aimed at increasing output, there is still a need to strengthen this sector. President Nyerere's comment in 1977,

that agricultural results have been very disappointing. Modern methods have not yet spread very quickly or very widely

still holds true.

With a rapidly rising population, and the national dependence on agricultural exports for foreign exchange, it is essential that agricultural production and productivity rise. All the indications are that the small farmer can be the instrument of this growth if the prices are right and input and marketing services are available. Much of the national economic situation in the next ten years will depend on this.

3.6 AGRICULTURAL MARKETING

Issue: Agricultural marketing has emphasized greater government control over policy since the Arusha Declaration through the formation of parastatal marketing and crop authorities. The aims have been to increase efficiency and eliminate exploitation of the peasants by private middlemen and corrupt cooperative officials. How have these organizations achieved these goals?

In Tanzania, government philosophy has resulted in the evolution of a complex network of about 300 parastatal institutions. About a third of these deal with agriculture including marketing. That there are serious deficiencies in these parastatals and many problems in the marketing of foodstuffs arise from their managerial and organizational problems.

Low productivity in agriculture can be in part attributed to the failure of other sectors which are supposed to serve agriculture. The marketing system is of great importance here. It has, for example, been observed that:

the government-owned crop authorities which handle buying and exporting of agricultural produce have been eating up an increasing percentage of the export earnings, and even so, many are running in the red. For instance, the marketing costs of CATA, the cashewnut authority, more than quadrupled between 1973 and 1979, leaving less money for both the government and the producers. Further, the crop marketing organizations are, in general, highly inefficient, often picking up produce late or not at all and not paying the growers on time. (Honey, 1981)

Between 1965 and 1976, a cooperative system of marketing developed in Tanzania to replace the small private traders. By 1976 there were too many cooperatives and corruption and lack of accountability were frequent. In 1976, the cooperatives were abolished and parastatal crop authorities were

organized, but these have since become unwieldy and share some of the problems attributed to cooperatives. There was a drop in the farmers' share of export prices in the 70's from 70% to 35%. The parastatals are bureaucratic and often mismanaged by inexperienced staff. Each parastatal has its own buying posts and transport fleets. Inefficiency leads to delays or even omissions in picking up crops and paying peasants.

The National Milling Corporation (NMC) responsible for the marketing of food crops is often cited as a prime example of inefficiency. The accumulated losses of NMC was expected to reach T.Sh. 410 million (US \$49.2 million) by the end of 1981, but how much of this was due to a subsidized pricing policy and how much to internal inefficiency is difficult to discern. Rising transport costs, difficulties in acquiring spares and deteriorating roads exacerbated the poor managerial situation.

To take another example, the Tanzanian Livestock Marketing Corporation (TLMC) had two major problems by the mid 1970's. Their pricing structure was one of uniform prices which did not take into account quality and geographic differences. Hence, livestock producers sold their inferior stock, usually from remote areas to TLMC and the better quality cattle were sold and slaughtered locally in the informal economy. It was then necessary to trek and ship the TLMC cattle considerable distances with poor transportation facilities which resulted in substantial losses of weight and life. While the pricing policy would tend to minimize regional differences in income and to support the relatively inefficient cattle raiser, it did not have the effect of drawing substantial quantities of good quality cattle into official marketing systems.

Since domestic prices are fixed, the cost of operating parastatals directly affects the price given to the producer. If operating unit cost are high the producer price suffers. Given strong pressures to maintain low prices for the ultimate consumer and to keep parastatals operating at a surplus, producer prices were just not high enough in the livestock industry to induce much production into the official marketing channels. Parallel instances of inefficiency in the cash crop can be cited and periodic reports of corruption and inefficiencies in these parastatals are published.

The government of Tanzania is aware of the problem of parastatal in efficiency and steps are being taken to remedy the problem. The private sector is not as actively discouraged in providing marketing services though there has been no official change in policy. Moreover, in October 1980, a government appointed commission looked into the possibility of re-establishing cooperative unions which were dissolved in 1976, and the government has in principal accepted the commission's recommendations that they be re-established. It is not clear at this point how this will be done and how it will be more responsive to peasant needs and provide incentives for better productivity.

3.7 TRANSPORT IN TANZANIA

Issue: The transport network in Tanzania is still inadequate at national and local levels. This is a major constraint to the productive and distributive sectors, especially agricultural production and marketing.

The lack of an efficient transportation system poses a major problem to the developmental strategy in Tanzania. Only a small percentage of farm families live within easy access of an all weather road. Provision of economic as well as social services is hindered because of inadequate transport services.

These problems are not unique to Tanzania. Many African nations inherited a colonial transportation system which sought to export natural resources, import manufactured goods and effect necessary administration. Tanzania is no exception. A brief review of the historical evolution of the nation's transport network will illustrate its legacy.

The German Period, 1885 - 1916

The Germans built two major railroads: The Central Line from Dar es Salaam to Kigoma on Lake Tanganyika with a branch line from Tabora to Mwanza (1905-1914); and the Tanga Line from Tanga on the coast to Arusha in the northeastern agriculturally productive highlands. Their purpose was strategic, political, administrative and commercial. The Germans had planned to locate the capital in Tabora and the early infrastructure evolved around that concept. Planners urged white settlers to establish sisal, coffee, and rubber estates along the Tanga Line.

The British Mandate and Trusteeship, 1916 - 1961

(i) up to 1945. The British justified investments in East African transport solely in terms of its benefit to British industry (cotton and textiles, iron and steel, locomotive manufacturers, shipping, etc.). By the 1930's, road construction was increasing with special focus on the northern white settler areas of Tanga and Arusha. By 1936, the total road length was about 12,300 km although only 4,500 km were main roads. The south had no railway and very few roads, and as a result, agricultural development in this region stagnated. There was out-migration, even from productive areas.

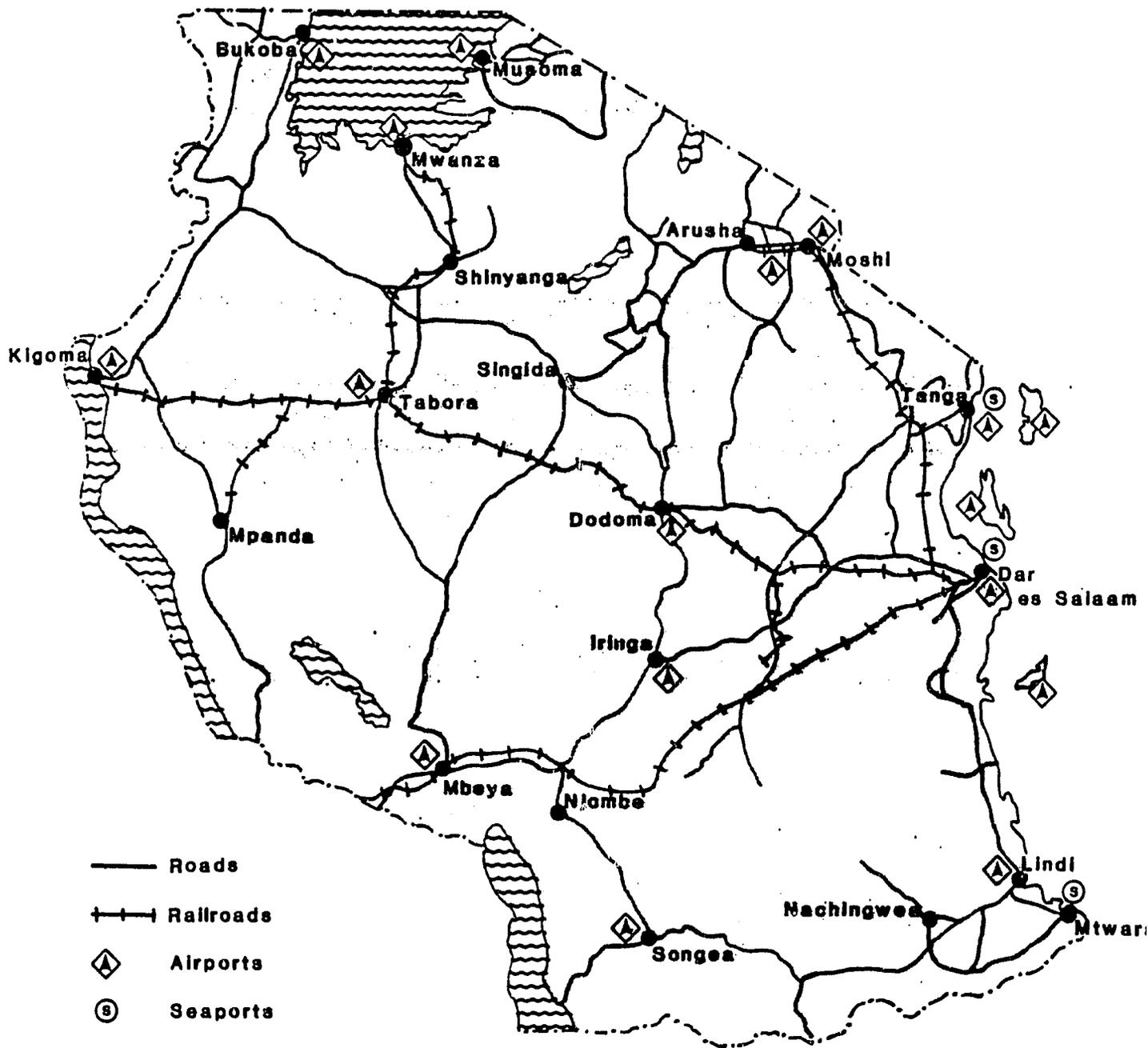
(ii) Post 1945. The Colonial Development Plan of 1946 enunciated the aim of providing a network of low-cost roads. A grid of trunk roads was to be constructed, with four roads running from north to south and three from east to west. The total of classified roads increased from 20,000 km in 1950 to 32,800 km in 1962, but there was little progress during this period on feeder roads.

Post Independence Period: 1961 to present

The road and rail transportation network is still sparse with 3,682 km of rail track and about 45,000 km of roads. (See Figure 4.) Less than 20 percent are all weather roads (1972: 6% bitumized, 9.6% gravel). One overwhelming difficulty is the overall size of the country (945,087 sq. km); its low density and widely dispersed population. If the agricultural and marketing sectors, which employ about 90 percent of the population, are to flourish, an adequate transportation network is a prerequisite.

FIGURE 4

Transportation Routes in Tanzania



SOURCE: American University, 1978.

Transport problems have been addressed in Tanzania's Five Year Plans and Annual Plans and considerable forethought has gone into the design of an optimum transportation system that will enhance the development of all areas of Tanzania.

Progress though remarkable relative to the pre-independence era is slow. The Second Five Year Plan is illuminating as it contains a master plan (including maps) for the development of transportation for the period 1969-1990. In 1969, only a rudimentary trunk road network existed with bitumized roads connecting Dar es Salaam (north east to Tanga, Moshi, Arusha and the Kenyan border; west to Morogoro and south to Mkuranga). In 1970, work was started on the construction of a bitumized road from Dar es Salaam to Tunduma on the Zambian border - this was completed in 1972 and is known as the TanZam Highway. This road, built with a soft loan from the People's Republic of China, was originally constructed to relieve Zambia's crucial transport problems, brought about by the Unilateral Declaration of Independence (UDI) in Rhodesia and the latter's closure of Zambia's traditional routes to the sea. However, the TanZam Highway has a great potential to develop the mineral resources of the south and enhance the value of irrigation schemes along the valleys of the Rufiji and its major tributaries.

According to the Annual Plan 1978-79, progress on the Southern Coast road from Dar es Salaam to Mtwara should be facilitated by the construction of a bridge across the Ruvuma River. A major grant has also been received from the British government for the upgrading of 322 km of a road from Songea to Makambako on the TanZam Highway and thus linking it with the main urban centre and port of Dar es Salaam. The Songea Road provides the only all weather link between some of the poorest but paradoxically potentially

most productive regions of Tanzania: Mtwara, Lindi and Ruvuma, and the rest of the country. Work has also started on the upgrading of the road from Morogoro to Dodoma, the future capital. In Dar es Salaam the port access road has been improved to cope with increased traffic generated by the new railroad and the Pan-African policies to attract traffic from Southern Africa.

The road network is supplemented by two railway systems: the Central and Tanga lines built during the colonial period, and the TAZARA or Uhuru Railway between Dar es Salaam and Zambia; three main ocean ports (Dar es Salaam, Tanga and Mtwara), and other minor ocean and lake ports (especially Bukoba and Mwanza on Lake Victoria); two international airports and fifty smaller airfields.

Coincidentally with Tanzania's need to improve the general transportation structure, there are growing problems in maintaining the present transportation system. The railroad system is beset with problems. Extensive maintenance is required on the old German lines. The Tanzanian railroad faces operational problems such as poor coordination, inadequate maintenance and shortage of rolling stock (exacerbated by Zambia's diverting rolling stock for its own internal use). Coordination between these lines and the newer TAZARA or Uhuru Railway is made difficult by the fact that the two lines have different track gauges. Rolling stock is thus not interchangeable. Each system is managed by a different organization - the TAZARA is operated by the Tanzania - Zambia Railway Authority while the Tanga and Central lines are now operated by the Tanzania Railways Corporation. Both organizations lack an efficient data system and skilled technical and organizational manpower. More recently the bridge between Tanzania and

Zambia has been blown up, forcing goods to be transferred by road transport. Turn around time from Tanzania to the Zambian border was 64 days in 1980, instead of the originally estimated 15 days.

The international energy crisis and the dramatic increase in the cost of oil has repercussions that are particularly stressful for Tanzania. Gasoline is in such short supply that it is only sold on certain days in the week and in limited quantities. This rationing puts a further strain on the distributive and service sectors. As increasing proportions of the foreign exchange have to be used to import oil to keep up with the price increases, less money is available to invest in new stock or maintain the existing one.

The international inflation also affects maintenance. Recurrent expenditure on trunk and regional roads has increased significantly - from T.Sh. 45 million in 1975/76 to T.Sh. 178 million in 1979/80, for the former; and from T.Sh. 63 million to T.Sh. 114 million for the latter. However, the effectiveness of these increases is diminished by the inflationary rises in costs of imported spare parts, equipment for road maintenance and materials for surfacing the roads.

These two aspects - lack of efficient planning and management and the spiralling costs of imports, affects all types of transport: road, rail, sea, lake and air. Road traffic growth in Tanzania over the past five years has been estimated by the World Bank to be at only 2% - 5% instead of the expected 7% - 8%. Freight handled by the older railway system dropped from 1.59 million tons in 1973 to 0.86 million tons in 1979. The ports are similarly affected and Air Tanzania, the country's domestic airline, has a reputation for frequent cancellations of scheduled flights.

An efficient transport system is vital to development. The country has made considerable progress in expanding its road and rail networks since gaining independence in 1961. The port of Dar es Salaam, too, has undergone expansion and the airports have increased. Nevertheless, problems persist. Many of these problems can be eliminated through a more disciplined and efficient planning and management; many are associated with the decline in foreign exchange earnings due to lower productivity and international economics that affect the country's ability to invest more in the transport sector.

3.8 ENVIRONMENT AND DEVELOPMENT IN TANZANIA

Issue: The interplay between the development process and the need for rational protection of the environment is of increasing concern in Tanzania. What are the main environmental issues and how are they being addressed?

Tanzanian development, with its emphasis on agriculture must be based on sound environmental management if productivity is to be increased on a long-term basis. In such a large, sparsely populated country, there is danger of considering land as an unlimited resource. Fortunately, there is a growing awareness that the quality of land is variable; that certain areas already have too high man/land ratios and that environmental problems have considerable effect on the development process. Such factors as soil erosion, deforestation, pests, and the disappearance of wild life species are all pressing issues. These concerns are not limited to the agricultural sector; increasingly Tanzania has to deal with industrial pollution, water contamination, marine pollution, unsafe urban housing, etc.

A decade has passed since the U.N. Environment Conference in Stockholm in 1972, and in Tanzania, there has been considerable academic work on environmental problems. There are also serious efforts towards translating the wealth of information and concern for the environment into policy action. The current debate about what kind of environmental agency Tanzania needs is indicative of the awareness of the need for a co-ordinated national environmental policy.

The emphasis within Tanzania is on the need to sharpen legislation on environmental issues such as deforestation, over-grazing, and encroachment

on catchment forests; to provide a forum for interaction between the people and the authorities as well as between the various ministries involved. The participation of the people in conserving their environment is crucial for the success of any environmental program or legislation. Tanzania has tried to achieve this through mass campaigns like the recent (1981) campaign to encourage the rural people to plant trees but the follow-up programs have been weak. Development projects also give scant attention to environmental assessments as is evident in the rather reluctant attitude towards incorporating environmental impact assessment components in the proposed Rufiji Basin Development Project and the southern paper mill, at Mufindi.

The Bureau of Resource Assessment and Land Use Planning at the University of Dar es Salaam, now the Institute for Resource Assessment (IRA), has taken a leadership role in increasing awareness of environmental problems and coordinating the activities of other concerned institutions by organizing workshops on resource development and the environment as well as initiating and undertaking research on many environmental issues such as soil erosion, water quality, malnutrition and health problems.

The following section offers a closer look at some of the more pressing environmental problems.

Soil erosion and declining soil productivity: This has been documented as a problem in some parts of Tanzania (Singida, Dodoma, Uluḡurus, Sukumaland for example), for a long period of time. Because colonial attempts to deal with soil erosion were heavy handed and sometimes inappropriate, strong farmer resistance to some kinds of soil conservation technology was built up, particularly to terracing. Perhaps because of this, soil conservation was given low priority between independence and 1972 when President Nyerere

once again emphasized its central role in improving the economy of the country in a paper, "Siasa Ni Kilimo." It is not clear how far the change in philosophy has been incorporated into field programs but the problem of soil erosion remains urgent over a large part of the country.

There is an increasing fuel shortage particularly in areas around large towns, in the drier parts of the country, and in high demand areas of tobacco production. This shortage leads to over cutting of trees that provide fuel with resultant deforestation. In addition, the devegetation is causing soil erosion and downstream sedimentation. The magnitude of the problem is unclear; its increasing severity in many localities is evident.

Insect and animal pests

A recent extensive survey of over 900 Tanzanian farmers found surprising unanimity that their most serious crop production problem was destruction of growing or harvested crops by wildlife and pests. The culprits ranged from elephants and bush-pig, to monkeys, rats and roaches. The savanna woodland ecological system has a great range of bird, insect and animal life.

Most birds are potential pests, but the quelea quelea aethiopica is the major one. A roost of a million birds can destroy about 54,000 kg of grain per day (A. Mascarenhas, 1971). Several million birds are destroyed each year: in 1959, 104 million; in 1963, 162 million. When one realizes that these figures are but a proportion of those that affect the farmers' crops annually, one can begin to ascertain the enormity of the problem.

Another persistent and pernicious pest is the locust. The problem affects all the countries in the region and is of such great concern that the Eastern African countries have set up a regional locust control organization and an extensive monitoring system.

Some of these agricultural pests destroy not only field crops but also stored crops. Post harvest storage losses in Tanzania are put as high as 40 per cent. Although not all the loss is through pests, insufficient drying leading to rot and mold can often be due to premature harvesting to prevent field losses from agricultural pests. Livestock are also affected. Tsetse fly and east coast fever combine effectively to exclude people and their animals from large parts of the country.

The pest problem has serious implications for food security. In Sukumaland, for instance, in the drought prone areas, farmers have abandoned growing the hardy drought resistant millet in preference to maize. Millet requires too much work in scaring away birds during the ripening period and inevitable losses from bird damage are too high. Maize, on the other hand, is more susceptible to rainfall deficits, but is not so labor demanding.

Environmental Health

Many of the diseases of Tanzania are insect or water borne and relate to environmental conditions. Malaria, schistosomiasis, yellow fever, and gastro intestinal diseases are but examples of the wide range of health scourges. Given the organization of most Tanzanians into villages, there is both an opportunity to address environmental conditions to reduce these hazards and also a danger that neglecting to consider environmental health issues may increase disease levels due to the greater proximity of people to one another.

Environmental Problems Associated With Development Activities

Tanzania emphasized water development including irrigation as part of the Third Five Year Plan. Included are several dams, the largest of which at Steiglers Gorge will be a major engineering undertaking. Although these

projects have good potential, there are environmental risks involved in large and small scale water projects. Already Tanzania has had some local problems from sisal waste in water supply, minor chemical accidents in industry, pollution near cement plants, and unwanted side effects of irrigation projects.

Urban growth

Although Tanzania has a low level of urbanization compared with many countries, urban growth is rapid, especially in the case of Dar es Salaam which has grown from 270,000 to 850,000 in the eleven years between 1967 and 78. The environmental problems of energy supply water supply, sanitation disposal, as well as problems of health in peri-urban areas, are growing rapidly.

In summary, Tanzanian development, with its emphasis on agriculture, must be based on sound environmental management if productivity is to be sustained. Basic to any solutions on a national or regional level is a better understanding of the situation and a framework of national land and other resource use decisions.

3.9 ENERGY

Issue: As in many developing countries, the greatly increased prices of petroleum products has had a major impact on the Tanzanian economy. Even more crucial in some parts of the country is the fuelwood shortage caused by a growing depletion of forests and a lack of a systematic afforestation program. What options does the country have?

Tanzania is not a high user of fossil fuels. Table 6 shows the pattern of consumption of total commercial energy for five East African countries.

TABLE 6

ENERGY USE IN EAST AFRICA

Total Commercial Energy in Coal Equivalent Kilograms per Capita

	<u>Sudan</u>	<u>Ethiopia</u>	<u>Kenya</u>	<u>Tanzania</u>	<u>Zambia</u>
1971	121	31	143	71	497
1972	135	33	134	73	523
1973	133	33	148	97	539
1974	125	31	171	74	487
1975	140	29	174	70	504

SOURCE: United Nations, 1977

Per capita energy use in Tanzania has varied from 70 to 97 coal equivalent kilograms per capita compared with 143 - 174 for Kenya and 487 - 539 for Zambia. This is, in part, because many people in Tanzania are not involved in the commercial sector. Their energy use is measured in fuelwood and

charcoal. It is estimated that Tanzanians use about 30 million cubic meters of fuelwood per year. Fuelwood thus accounts for a high proportion of total energy use and is also the major component of internal energy production. So far, the people have relied on the natural forests and bush but, as the following table illustrates, the majority of the 20 regions in Tanzania will have moderate to serious fuelwood deficits by 1985.

TABLE 7
PROJECTED DEMAND FOR FUELWOOD AND POLES BY 1985

Region	Demand 10 ⁶ cubic m	Potential Supply 10 ⁶ cubic m	Required Annual Planting in 10 ³ ha
Arusha	1.88	.75	7.06
Coast	2.13	.57	9.76
Dodoma	2.12	.84	7.08
Iringa	2.53	1.41	7.00
Kilima	1.27	0.86	2.58
Kilimanjaro	2.01	0.11	11.8
Lindi	1.17	1.17	-
Mara	1.74	0.09	10.26
Mbeya	2.37	1.62	4.72
Morogoro	1.92	1.35	3.63
Mtwara	1.87	0.26	10.08
Mwanza	3.15	0.11	18.98
Rukwa	0.99	0.99	-
Ruvuma	1.77	1.58	1.18
Shinyanga	2.74	0.67	12.93
Singida	1.27	1.27	-
Tabora	2.36	2.19	1.1
Tanga	2.21	0.56	10.56
West Lake	1.90	0.28	10.0

SOURCE: Nkhoma and Asman, 1980.

In addition, Tanzania produces a few thousand tons of coal per year. It has, however, great potential for a steady increase in coal extraction. At present, Tanzania has nine known coal fields with proven resources of 304.3 million tons and reserves of 1142 million tons. The coal resources

are the country's major asset and can help it to lessen its dependence on oil imports.

Another major source of energy is hydro-electricity of which the potential is estimated to be some 1400 MW. So far, only about a fifth of this is being exploited. The main hydroelectric power stations in Tanzania are shown in Table 8.

TABLE 8
MAJOR HYDROELECTRIC STATIONS

	Capacity (MW)
Kidatu	100
Hale	21
Pangani falls	17
Nyumba ya Mungu (Same)	8
<u>Kikuleta</u>	<u>2</u>
TOTAL	148 MW

SOURCE: Nkhoma and Asman, 1980.

Extension of Kidatu has already started. Other projects are the Kagera River Basin project in cooperation with Rwanda and Burundi. If the Steigler's Gorge Project on the Rufiji River takes off, the country will even be able to export power to Kenya.

Although gas has been discovered in trial bores, Tanzania has no current petroleum production and the cost to import petroleum products has caused problems in the country's balance of payments. Per capita consumption of gasoline is small, about 12 gallons per annum but this is, of course, unevenly distributed. A large proportion of oil is utilized by

transport (55.9%) and industry (17.3%). Imports of crude petroleum are about one million metric tons per year and the import costs have risen dramatically and now approach one-third of the export earnings.

Several energy issues are important for Tanzania. First, the size of the country and the long distances most export products must travel means that the need for petroleum products will continue to rise despite all efforts at conservation. The more effective use of the railways may be the only ameliorating factor, if this is possible. Second, the higher price of alternatives strengthens the case for development of the more expensive hydro power projects and may have been a factor in the decision to go ahead with the controversial Steigler's Gorge project.

Third, the high proportion of energy use in fuelwood and charcoal raises serious planning questions about the maintenance of supply. Though in total there appears to be ample resources of fuelwood, there has been a steady drop in the area of forestland and, on a regional basis, shortages are already occurring. The tobacco growing areas of Tabora and Iringa and the drier parts of Dodoma and Mwanza are among the areas of supply shortage. In the tobacco growing areas the longer distances now required for collecting wood for curing the tobacco have led to farmers decreasing their tobacco acreages or abandoning tobacco growing completely.

All of the above suggests the need for a strong energy policy with a number of components. Already Tanzania is exercising extreme conservation methods, such as rationing, selling petrol on a limited number of days a week and banning non-commercial driving on Sundays. Expansion of the use of internal conventional resources is another important component, especially coal and hydro power. New departures include exploration for gas and

oil, careful management of wood and charcoal supply, experiments with nonconventional energy sources. In the longer run, solar, wind energy, and geothermal may all play a part in Tanzania's energy portfolio. For the next ten years, however, the import energy bill is likely to remain a major problem in the balance of payments and foreign exchange issues. For the rural areas, the major source of energy will still be fuelwood. The country has embarked on a nationwide campaign for afforestation including village woodlots. Villagers are provided with free seedlings and extension service to encourage the development of village woodlots. Other experiments combine agriculture and forestry. The success of these measures will depend on the extent to which the country can meet the needs of the rural peoples in their struggle for a better economic and social life.

3.10 VILLAGIZATION

Issue: The Tanzanian rural population has been moved from scattered households into villages in an effort to raise the level of production and thereby the standard of living as well as provide a framework for more grassroot participation. A controversy has arisen as to whether the process of villagization has affected agricultural productivity adversely. The data base available is not sufficient to make an overall objective evaluation. Villagization is an on-going process, the full impact of which is still not clear.

Two names, ujamaa and villagization in Tanzania have captured international attention as alternative models to rural development strategies in the Third World. Both have evolved out of attempts to transform the rural sector. In the early 1960's, the program "village settlement schemes" was a highly mechanized and capital intensive resettlement program aimed at new levels of production. In all, about 40 such schemes were set up. At the same time, isolated ujamaa villages sprang up as a spontaneous response to the President's pamphlet Ujamaa - The Basis of African Socialism. Between 1962 and 1963 there were about a thousand such settlements. About half of these were under the leadership of TANU Youth League. With the growing urban-rural differentiation in incomes and social conditions and the increasingly obvious failure of the planned village settlement schemes, as well as the spontaneous schemes, President Nyerere opted for planned ujamaa as a national program to transform the rural sector.

Essentially, ujamaa villages attempted to insure that the limited financial and technical resources on one hand and labor and natural resources on the other, were used to benefit the over 90 percent of the people who

lived in the rural areas. More specifically, the strategy aimed at fostering:

- 1) community production and sharing of all the proceeds of this production;
- 2) democratic participation in decision making at the village level and thereby indirectly in national planning. It was visualized that national planning would begin with the input from villages and take off from there;
- 3) community projects such as schools, wells, social centers and dispensaries;
- 4) overall increase in production through economies of scale assisted by government inputs in the form of loans, agricultural inputs, agricultural machinery and better marketing facilities;
- 5) easier framework for government assisted social services such as water, health care, education and electricity;
- 6) elimination of exploitation of each other, or of one class of farmers by another through the development of the attitude of regarding each other as members of the "traditional" African extended family.

In 1967, at a time when about 80 percent of the population of Tanzania lived in scattered rural homesteads, Nyerere proposed his plan to the TANU National Executive Committee at a meeting in Arusha. The formal policy directive for setting up ujamaa villages came a few months after the Arusha meeting in a paper entitled "Socialism and Rural Development" (in Kiswahili: "Ujamaa Vijijini").

Until 1973, however, the implementation was slow and was concentrated in a few regions, particularly in the south. Some 400 villages were set up in Lindi and Mtwara Regions to strengthen the defence of the border against Portuguese colonialism and cater for the Mozambican refugees. In 1970 and 1971, TANU began the first of its "operations" beginning with the Wagogo in Dodoma and the people of the Rufiji River Valley. At this stage the

government was taking advantage of a natural climatic hazard, a drought in Dodoma and floods in the Rufiji, to persuade people to live in ujamaa villages. At this time too, the emphasis was on communal production but the settlers were also allowed to cultivate private plots presumably for the household's food needs.

From November 1973, the tempo changed. The President decreed that all people in rural Tanzania would live in villages by 1976. A massive nationwide resettlement of people between 1973 and 1976 resulted in the villagization of over 90 percent of the country's population (see Table 9). Each regional commissioner felt compelled to do better than his neighbor and coercion was not uncommon. At the same time, the emphasis was on villagization and not ujamaa and a new phrase "development villages" came into existences.

TABLE 9

RESETTLEMENT OF RURAL POPULATION IN TANZANIA

PERCENT OF RURAL POPULATION IN TANZANIA
ESTIMATED IN VILLAGES 1967-1976

<u>YEAR</u>	<u>PERCENT</u>
1967	N.A.
1968	<1
1969	1.7
1970	4.4
1971	12.5
1972	15.6
1973	16.5
1974	19.1
1975	66.6
1976	91.3

SOURCE: Data from Prime Minister's Office

Effects of Villagization

In the initial stage there was definitely some disruption to the agricultural system; people were moved just before or even during harvests; the

new village sites had yet to be cultivated; there was some degree of resentment at the procedures used and uncertainty about the permanency of the move. In some cases the sites were almost totally without water or land resources so that peasants had to be moved twice or even three times. Many errors were made. In the mistaken belief that all villages had to be sites near a road some rather harsh decisions were taken. In Kagera, for instance, where the roads run along the tops of hills, people were moved from the fertile valleys which they cultivated to the tops of hills. In the Rufiji Valley the peasants who had been moved from the flood prone but rich alluvial soils were forbidden to cultivate in the former areas even though this was physically possible and economically more productive. Nevertheless on the whole, the Tanzanian peasants have accepted the move in the ensuing five or more years and have resumed the peasant mode of production and cultural and social way of life.

There are obvious advantages to villagization. Nearly every village now has a primary school and some even post-primary technical schools. A good number of villages have wells with pumps and health services are being expanded. The villagers have a government made up of an assembly comprising of all village adults above the age of eighteen; a council elected by the assembly and five committees. The village government does give the people framework for grassroot participation in national and local affairs, although admittedly, the level of participation varies with the economic, cultural, social and political characteristics of the villages and the villagers.

The debate about the effect of villagization has been sparked off by the decline in agricultural production since the latter half of the 1960's.

However, Hyden (1980) has shown that before the drought of 1974/75, the country increased both food and export crops. Even Lofchie (1978), perhaps the greatest critic of ujamaa, admits that villagization alone was not responsible for the drastic food grain shortfalls of 1974/75. The World Bank report (1980) also confirms that the subsistence sector increased rapidly over the latter half of the 1970's although production of most of the export crops declined. Micro-studies of ujamaa development agree generally that communal production declined but that production from individual plots showed some remarkable successes as well as some stagnation. For instance, Development Alternatives Inc. currently working on the Rural Integrated Development Plan (RIDEP) for Arusha show a great variation between villages in different parts of the Region. In some villages where cash crops have been adopted successfully, peasants are earning substantial incomes and are helping to pay for village projects (milling machine, community center, teachers' houses). In Rukwa Region, at least one village was commended for the way peasants had used cash obtained from the sale of food crops to improve all the housing in the village. All the houses in this particular village had brick walls and corrugated iron roofs.

Some of the problems of declining national productivity are associated with the nationalization of large farms and estates and their subsequent change into state owned enterprises or peasant holdings. State farms and estates have had severe management problems ensuing in low productivity. Villagization must also be seen in the context of peasant-state relations. Through villagization, producer price control, abolition of local and regional cooperatives, the government has taken away the mechanism of the market and substituted direct state control. This would have been fine if

the government owned organization could meet the peasants' requirements in the fields of supplying agricultural inputs, extension service, realistic prices and efficient marketing channels. Monopolization of the service and marketing sectors has led to bureaucratic enmeshment, duplication of services, incompetence and excessive overheads. The market mechanisms have been further destroyed by the inability of government owned enterprises to supply consumer goods such as salt, sugar, bicycles, radios, etc. These are not problems of villagization per se.

There are, however, some potential problems associated with villagization which have yet to be evaluated and dealt with. One of these is the possible increase of soil erosion. The traditional farming system in many parts of Tanzania prior to villagization was a sixteen year rotational fallow system. Can this system still be used in village agricultural production and if not what are the consequences of short fallow or annual cropping on the land resources of the village? Intensification is not necessarily detrimental but it pre-supposes inputs to restore soil fertility. Villagization of pastoral groups like the Wagogo is already straining poor soils in Dodoma through the concentration of large numbers of livestock in smaller areas around villages rather than having the cattle located near the dispersed household units that existed before villagization.

Another potential problem associated with villagization is the effect of concentrated populations on fuelwood and building timber in areas where such resources are scarce. How do the villages plan to cope with decreasing resources in their immediate environment? A third factor is the possible effect of villagization on sanitation, health and the incidence of diseases. There has not yet been a comprehensive analysis of villagization. Until then, it will be difficult to obtain an accurate evaluation of its effects.

3.11 ILL HEALTH AND DEVELOPMENT

Issue: Tanzania has made major strides in the health sector since independence, and the availability of health services has improved markedly. Much, unfortunately, remains to be done. What activities in this sector should be expanded and extended to provide better health for Tanzanians?

At independence in 1961, Tanzanians inherited a health sector that was predominantly serving the urban centres. The over 90 percent of the population who lived in the rural areas had very limited medical services. The only exceptions were those areas which had hospitals or other health facilities run by missions. Since then and particularly after 1967 the country has spent a great deal of money to improve health. The strategy is twopronged: directly through the expansion of health facilities such as dispensaries, health centres, maternal and child health care clinics and to a lesser extent hospitals; indirectly, through improvement of social services such as water supply and education as well as programs designed to improve the economic and thereby the nutritional status of the rural poor.

Some changes have been achieved between 1961 and 1980 (see Table 10). The figures for 1980 show Tanzania to be better off than many middle income countries of Africa south of the Sahara. Nevertheless, a great deal needs to be done particularly in the area of nutrition, sanitary conditions and access to safe water. The poor health and nutritional status of many Tanzanians continues to be a major impediment to the development process.

Illness in Tanzania is clearly and directly related to the economic, physical and social environment of the people. Insect borne diseases, in

addition to polluted water supply, inadequate waste disposal, crowded and

TABLE 10

SOME INDICATIONS OF THE HEALTH STATUS IN TANZANIA

	<u>1961</u>	<u>1980</u>
Life expectancy at birth	37	51
Infant Mortality	250	125
Access to Safe Water	--	40%
Population per Nursing Person	10440	3080

SOURCE: World Bank, 1980.

poor housing and inadequate food supply are all important factors. Diseases which cause the highest mortality are malaria, measles, gastroenteritis, diarrhea and malnutrition. Those which cause a high rate of morbidity generally include malaria, tuberculosis, schistosomiasis, trypanosomiasis, onchocerciasis and intestinal parasites.

The relationship between malnutrition/infectious diseases and reduced productivity has been recorded in several studies. For instance, one study (Malentlema, 1976) has found that peasant workers with a nutritional intake of less than eight joules can barely do 2 hours of hard work while those with a nutritional intake of 10 joules can do 4 to 6 hours of such work. Decreasing standards of nutrition lead to declining productivity through greater tendency towards morbidity and general debilitation. Studies of the effects of schistosomiasis show that infected workers are 3 - 5 percent less productive than those who are not infected. Malaria and helminth infections also have similar impacts.

In addition, many developmental activities have the potential of increasing already severe health problems. Periodic screening of workers on the irrigated sugar plantations in Arusha Chini showed increasing incidences

of schistosomiasis among immigrant workers who had come from areas where the disease was practically unknown. The proposed dam on the Rufiji will have repercussions on the incidence of malaria and schistosomiasis and to a lesser extent on onchocerciasis unless prevention measures are incorporated in both the planning, implementation and maintenance phases. It is also clear that with increased urbanization and industrialization, new health problems are likely to develop in relation to these changes. Chemical pollution of fishing sites around the Dar es Salaam coast from wastes from a bicycle factory is only one example.

Child mortality is a persistent problem both in urban and rural areas and is generally associated with poor weaning foods and resultant malnutrition. Here cultural practices and food taboos play as great a role as general economic levels and there is a need for good nutrition education. High infant and child mortality negate efforts in family planning leading to the tendency for large families. High mortality and frequent childbearing put an unnecessarily heavy burden on the physical and psychological resources of the family, especially women.

As the population increases, expansion of agricultural lands will become a major need and the importance of tsetse, malaria, and schistosomiasis control will become more acute as new lands are irrigated and the bush is cleared or grazed. The health of Tanzanians involved in these new development projects will need to be monitored and preventive measures taken. It is also clear that with increasing urbanization and industrialization, new health problems are likely to develop in relationship to these changes. The disbanding of the municipal councils had serious negative effects on the maintenance of waste disposal systems, and health supervision of buildings

and surroundings. Public outcry at the unhealthy conditions of houses and streets was one factor in the re-instatement of the municipal councils.

The government of Tanzania has placed a high priority on preventive efforts. National campaigns like Mtu ni Afya (man and health) and latrine building are initially carried out with great vigor but there is no adequate evaluation and follow up to maintain the momentum. Training of village health workers and the extensive use of para-medical staff is another useful approach.

The re-orientation of the health services from urban based consultant hospitals, the greater expenditure on preventive activities together with the general expansion of health centers, dispensaries and maternal and child health care facilities have a great potential for improving the health of the people of Tanzania, not withstanding quite serious constraints in financial and manpower resources and the size of the country.

3.12 URBAN GROWTH: PROBLEMS OF RURAL-URBAN MIGRATION AND UNPLANNED URBAN GROWTH

Issue: Tanzania remains an essentially rural country, yet urban growth rates are high and the continued concentration of this growth in Dar es Salaam creates a number of problems.

Tanzania is one of the least urbanized countries in the world. In 1967 the total urban population was 831,000, about 6.7 percent of the total population. This compared with 21 percent for Zambia, 16 percent for Nigeria, and 8 percent for Kenya. Even this low total was the result of steady growth. Using a slightly different statistical base, the 34 gazetted townships (the largest towns) accounted for 2.6 percent of the population in 1948, 4.1 in 1957, and 5.7 in 1967. In the period 1948-1967, while national population grew by 52 percent, the urban population grew by 244 percent.

The pattern of change since then is revealed in Table 11. The population of the 20 regional centres totalled 1,644,088 in 1978 suggesting a current (1982) total population of over two million. Urban population has grown by at least 150 percent since 1967 and now constitutes about 12 percent of the population. Dar es Salaam has grown from 273,000 in 1967 to over 850,000 in 1978. Tanga, Mwanza, and Arusha as well as Mbeya, Tabora, Iringa and Morogoro also grew substantially.

Some of the growth can be attributed to the growth of the administrative and service sectors. Decentralization and the expansion of educational, health and water sectors has increased the bureaucratic as well as professional personnel in the regional headquarters.

TABLE 11

URBAN POPULATION GROWTH OF REGIONAL HEADQUARTERS, 1967-1978

REGIONAL HEADQUARTERS	1967	1978	% GROWTH
DAR ES SALAAM	272,821	757,346	178
Arusha	32,452	55,281	70
Bagamoyo	5,112	16,272	218
Bukoba	8,141	20,430	151
Dodoma	23,559	45,703	93
Iringa	21,746	57,182	154
Kigoma	21,269	50,044	135
Lindi	13,352	27,308	105
Mbeya	12,479	76,606	514
Morogoro	25,262	61,890	144
Moshi	26,864	52,223	94
Mtwara	15,412	32,658	113
Musoma	20,413	48,510	137
Mwanza	34,861	110,511	217
Shinyanga	5,135	21,703	323
Singida	9,478	29,252	209
Songea	5,430	17,954	231
Sumbawanga	n.a.	28,586	n.a.
Tabora	21,012	67,392	220
Tanga	61,058	103,409	69

SOURCE: Mascarenhas, 1973 and Tanzania Bureau of Statistics, 1978.

However, the main factor for high urban growths has been the differentials between rural and urban income levels. The expansion of educational facilities and the colonial hangover of equating education with the opportunity to obtain white collar jobs is another major factor. In spite of the emphasis on development of the rural sector, the urban centers still have the attraction of more secure employment and more cash income earning opportunities. They are still better off in easy accessibility to electricity, water, post-primary education, health as well as entertainment. For the youth, urban centers present also the added attraction of getting away from restrictive patriarchal controls in the peasant household.

Many of the migrants find jobs for their various skills, but a considerable number have joined the mass of urban poor. Some have turned to petty crime and incidences of stealing, street mugging and even burglary with violence have increased noticeably.

Dar es Salaam accounts for over 40 percent of the total urban population. Its position as the country's administrative capital, the largest industrial center and as the city with the biggest harbor has always assured it the highest rank in the hierarchy of urban centers since the colonial era. Events after independence have added to this strength. It has become: the focus for small and medium-scale industry; an international center for diplomatic missions and aid organizations; an international political center for liberation movements and the Organization of African Unity Liberation Committee and more recently the terminus for the Tanzania-Zambia rail, road and pipe line links.

Like many big cities in developing countries, Dar es Salaam's social and health services as well as economic opportunities have not been able to

keep pace with the migration into the city. Although it does not have the excesses found in cities like Sao Paulo or shanty structures found in Nairobi, overcrowding, poor housing, and insufficient sanitation and public health facilities prevail in the poor and not so poor areas. The Dar es Salaam sewage system was installed during the colonial period and needs urgent overhaul. Likewise, water and electricity facilities are strained and water shortages and electricity cuts are frequent, affecting industries. The electrical problem is currently being tackled but difficulties persist.

Similar problems, to a lesser extent, exist in other urban centers. The relocation of the capital to Dodoma may help to alleviate the problems caused by the continued expansion of Dar es Salaam, but Dodoma has serious water shortages.

The Third Five Year Plan has made provisions for the distribution of new large and medium scale industries in other regional headquarters, like the textile mills in Tabora and Mwanza. Some industries are located in suitable nonurban areas, as for example, the Sao Hills Timber Factory in Mufindi. However, the decentralization of the industries has not always been successful. Lack of an immediate market for consumption, the cost of transportation and inadequate supporting services such as electricity and water are some of the transitional problems.

Thus we have the situation where a predominantly rural focused economic and social strategy has to cope with the additional problems of an overlarge primate city and a hierarchy of rapidly growing regional centers. Among other policies there will be a growing need to provide alternatives and opportunities for the presently unemployed urban poor.

3.13 REGIONAL/INTERNATIONAL POTENTIAL

Issue: The East-African Community composed of Kenya, Tanzania and Uganda has broken up. Yet the need for inter-country co-operation and exchange in East Africa is perhaps more compelling than ever. What are the possibilities for Tanzania?

The East African Community at one time seemed to be a model for other parts of Africa. The three countries, despite their differences, were linked together in a working relationship that provided common institutions, common services, and preferential inter-community trade. An important part of the system was the network of East Africa institutions: the airways, postal service, telecommunications service, railways, tax system, and university. Another component was an agreement to share industrial growth so that specialized industry could be allocated between the three countries. And a third element was the mobility of labor (with some restrictions) between the three countries.

None of these three components ever operated without some difficulties, but the 1970's saw a progressive breakdown in all three which culminated in the formal dissolution of the community. As the patterns of development after independence diverged, the common tax system and common university system were early victims, but the real breakdown stemmed from political and economic forces. Tanzania and Kenya in particular could not agree on detailed industrial allocations and on methods to share the lucrative tourist trade of north Tanzania. There were also difficulties in the equitable distribution of services and proceeds from these services, as for instance, the common railways, the harbors, the training schools for railways and harbors,

and the East African Airways, to mention just a few. Tanzania and Uganda split sharply after President Mbote took up residence in Tanzania following the coup which brought Idi Amin to power. Even after the war of liberation in Uganda and attempts to normalize relationships between Kenya and Tanzania, it is clear that it will be a long time before such closely cooperative arrangements are again considered and each country has now well established institutions to replace the community framework.

Tanzania in particular is finding some major advantages to the closure of the frontier and is developing a new set of international relationships in the region. Tanzanian manufacturing industry has benefited from the protection it is enjoying from Kenyan competition and even if the border is open, it is likely that strong support will be given for the maintenance of these industries. Similarly the tourist industry is growing steadily after initial setbacks and much more of the revenue from tourist visits is remaining in Tanzania.

New infrastructural and political developments have also resulted in changed perspectives. Links with Zambia have been consolidated with the TAZARA railroad and the Tanzania road and pipeline links. However, there are many problems in the operation of these facilities and in the overload on the Dar es Salaam harbor facilities. The independence of Mozambique and the close political alliance between the countries has brought increasing bilateral trade and Tanzania is looking southward as one outlet for her growing industrial production. Already, a free trade zone has been established in Mbeya. The other direction is west to Rwanda and Burundi. The traditional links of these countries to Zaire are changing and trade with Tanzania, although small, is growing steadily. Last but maybe most

importantly, the involvement of Tanzania in Uganda may result in the re-building of cooperation in a number of areas. There may be a renewed effort to develop good communication links around Lake Victoria which might serve in the long run as Uganda's other outlet to the sea.

In conclusion, it seems clear that no East African common market resurgence is on the immediate horizon. More realistically, Tanzania will continue to use her advantages particularly her control of the route to the seas, and ties with the newly liberated countries of the South, to promote Tanzanian industrial and agricultural products.

CHAPTER 4. NATURE AND DISTRIBUTION OF POVERTY

4.1 BACKGROUND

Conventional measures by the United Nations categorize Tanzania as one of the "Relatively Least Developed Countries" and one of the thirty poorest countries in the world. Tanzania has also been labeled as one of the 45 countries "most seriously affected" by recent adverse economic conditions. Another study claims that 75 percent of Tanzanians are estimated to be below the 2,150 calorie intake level, a figure judged by WHO to be a critical poverty threshold.

These are grim statements. While not denying that the country has economic problems and that the quality of life is far from comfortable in the rural areas, the statements must, nevertheless, be taken with some reservations. Life expectancy is rising and mortality rates, including child mortality, are dropping. Also, there has been an overall increase in cereal consumption, from 279 grams per day in 1970/71 to 516 grams per day in 1977/78. Furthermore, a regional breakdown of caloric consumption show that out of the 18 regions for which figures were produced by the Tanzania Food and Nutrition Centre (TFNC) 14 were above the WHO threshold level (Tanzania Food and Nutrition Centre, 1980).

Conventional measures of the United Nations tend to emphasize overall national growth rather than development in terms of well-being and equity and are therefore not a true reflection of development or conversely of poverty. Furthermore, overall categorizations tend to mask the real strengths and weaknesses of the country--the areas that are better off; the areas that are poor

but with a potential for development and the areas that are resource poor and would require large sums of money to raise their level of development.

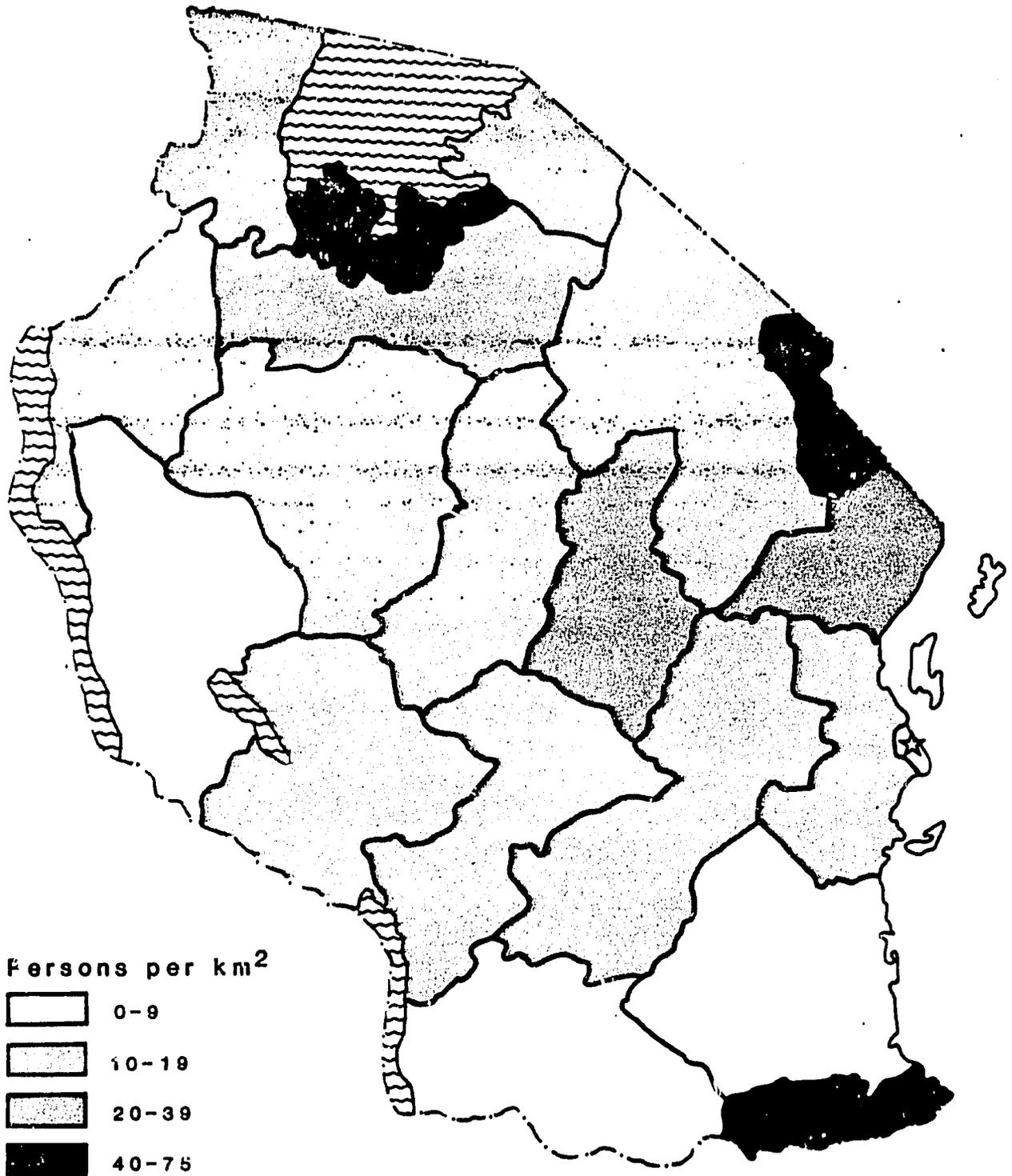
Some experts, including those involved in a recent study by USAID, conclude that in the long term, Tanzania has a very good chance of alleviating poor living conditions among a significant part of the population. They find, contrary to many others, that the political-economic system and the resource base has the potential for growth and development provided the current population growth can be lessened and poor organization and management problems can be resolved.

Indeed, the country is large, with pockets of development interspersed with areas of poverty within regions and even at the district level. The population distribution is such that there are large, very sparsely populated areas making it difficult to provide equitable, necessary social services (see Figure 5). One of the measures of this variation is that the entire country has never suffered from famine but specific districts have. Even during the current food shortages, while the country is importing food, some areas are experiencing surpluses and spoilage due to lack of adequate storage facilities; others have a thriving business in black marketing good harvests of maize and other much needed staples.

The following discussion will therefore examine some conventional measures of poverty, dynamic development indicators and the nature, distribution and composition of the economic activities which sustain the livelihood patterns in Tanzania. It will also examine the Tanzanian approach to development planning as well as provide a regional analysis of production and social services, to show both inconsistencies and strengths.

FIGURE 5

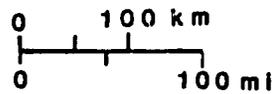
Population Density of Tanzania 1978



Persons per km²

-  0-9
-  10-19
-  20-39
-  40-75

★ Dar es Salaam Region
611.3



SOURCE: Tanzania, 1978b.

4.2 PHYSICAL QUALITY OF LIFE INDEX (PQLI) AS A MEASURE OF POVERTY/WELL-BEING

It is difficult to assess poverty in a country using the well-known traditional economic indicators such as per capita GNP. The satisfaction of basic human needs which are an integral part of any development policy cannot always be measured in productive units, as inputs into health, water, education and comfort cannot be translated into direct economic growth. In an attempt to measure the performance of the world's poorest countries in meeting some of the most basic needs of people, the Physical Quality of Life Index (PQLI) was introduced in 1977 by the Overseas Development Council (ODC).

Briefly, the value of and determinants for the PQLI index can be explained in the following three components: literacy (LIT.), infant mortality (I.M.) and life expectancy (L.E.). They measure the percentage of population over 15 years of age able to read; the number of deaths per 1000 live births and life expectancy at age one, respectively. These statistics were selected by ODC and others because they are not ethnocentric and are comparable internationally. Also, these three indicators have been found to capture a range of conditions, such as improved water, nutrition and health, as well as environmental conditions which are not always reflected in the standard economic indicators. Each of the components is weighted on a scale of 0 to 100 such that 0 represents the worst performance of any country in 1950 and 100 represents the best performance expected by the end of the century. According to this scale the ranges are as follows: L.E. 38 to 77 years; I.M. 229 per thousand to 7 per thousand live births; and LIT. 0 to 100%. The values for the three indicators were then averaged to obtain a composite value for the PQLI index number (Overseas Development Council, 1980).

In Tanzania, according to the census results of 1978, infant mortality rate is 125 per 1000 live births. The current life expectancy at age one is 52.7 years while the literacy rate is 66%. These figures are estimates, as births and deaths are often not officially recorded in the rural areas. Based on these figures, the PQLI for Tanzania is 50 which represents a remarkable increase over the 1960 estimate of 20. Although each component has shown an improvement, the most spectacular has been in literacy which increased from 10% in 1960 to 66% in 1978. Compared to selected other low and middle income countries including Kenya and Zambia, Tanzania has shown the greatest improvement in its PQLI index.

There is no general correlation between GNP and the PQLI (see Table 12). Thus Tanzania with a per capita GNP of US \$230 has a higher PQLI value than Kenya (per capita GNP \$320); Zambia (per capita GNP \$480); Algeria (per capita GNP \$1260) and Gabon (per capita GNP \$3580). Except for Algeria, these countries have much smaller populations and greater natural resources.

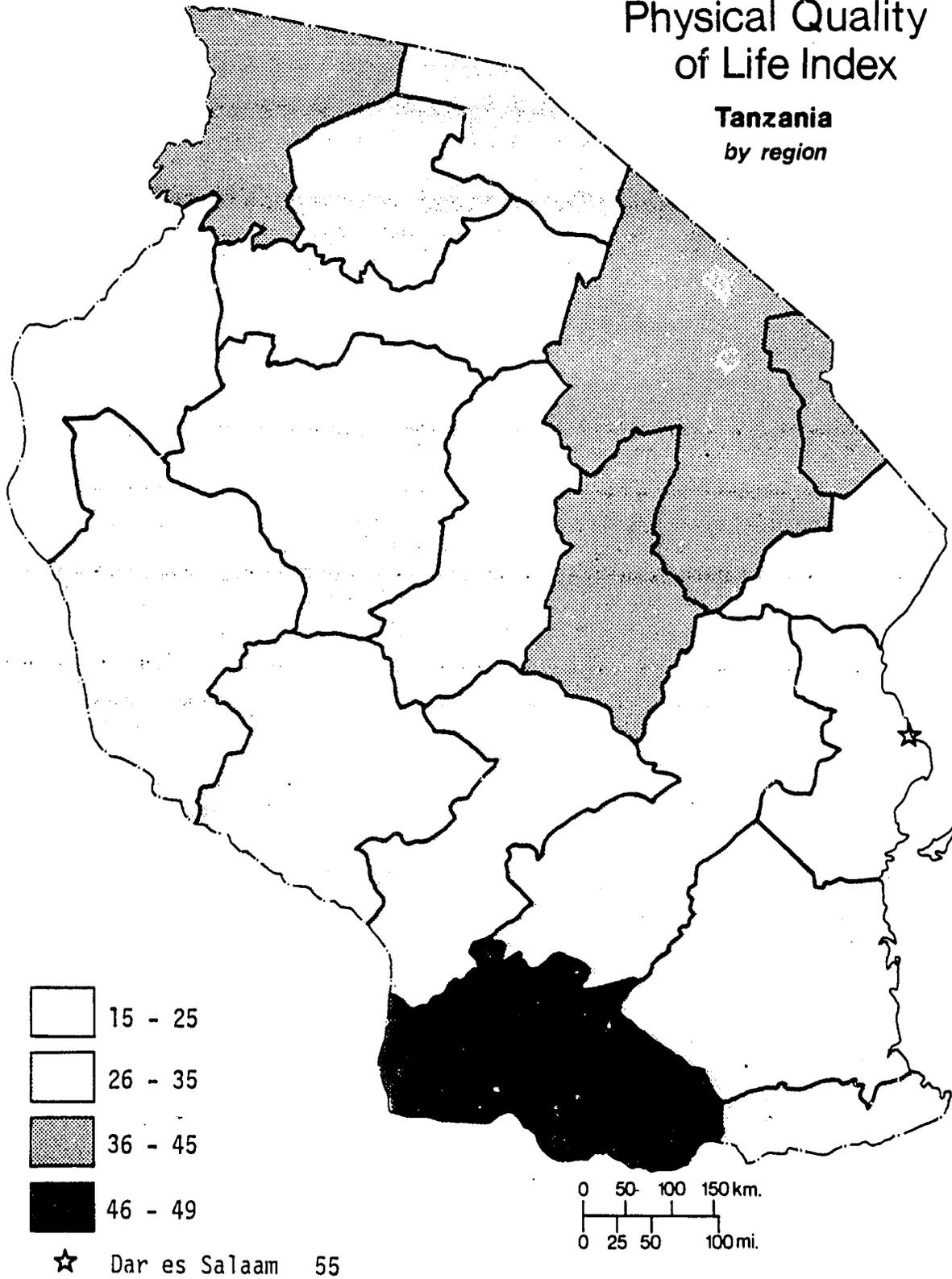
Using somewhat different official statistics for the three indicators, USAID compiled a regional PQLI for Tanzania. Regional variations range from 55 for Dar es Salaam to 15 for Kigoma as indicated by Figure 6. Apart from Dar es Salaam, the highest regional value is in the Ruvuma Region.

There is no direct correlation between PQLI and GNP in the different regions, for instance per capita GNP is highest in Kilimanjaro, Tanga and Tabora regions. The PQLI puts these regions in the upper to lower middle ranges of values. Conversely Dodoma, at the lowest level of the per capita GNP, is in the upper middle range of the PQLI values.

FIGURE 6

Physical Quality of Life Index

Tanzania
by region



Source: (CDSS) FY 1981 U.S.AID

SOURCE: USAID, 1981.

TABLE 12

COMPARATIVE PQLI INDEX VALUES FOR
SELECTED DEVELOPING AND DEVELOPED COUNTRIES

	POP. MID 1979 (in millions)	PQLI INDEX		DRR ¹ (in percentage)	PER CAPITA GNP (in US dollars)
		1960	1979		
<u>Low income</u>					
Ethiopia	660.9	30	43	1.4	180
India	31.8	n.a.	21	n.a.	120
Mali	6.5	10	18	0.6	120
Somalia	3.5	n.a.	34	n.a.	130
Tanzania	17.0	20	50	3.3	230
<u>Lower middle income</u>					
Bolivia	5.0	n.a.	47	n.a.	510
China	950.0	n.a.	71	n.a.	460
Kenya	15.4	35	48	1.7	320
Sudan	17.9	21	32	1.0	320
Zambia	5.6	n.a.	41	n.a.	480
<u>Upper middle income</u>					
Algeria	19.1	29	45	2.0	1,260
Brazil	118.7	n.a.	69	n.a.	1,570
Iran	36.3	n.a.	52	n.a.	1,990
Taiwan	17.3	n.a.	87	n.a.	1,400
<u>High income</u>					
Gabon	0.5	n.a.	21	n.a.	3,580
Italy	56.9	86	94	5.4	3,840
Qatar	0.2	n.a.	32	n.a.	12,740
Sweden	8.3	n.a.	98	n.a.	10,210
U.S.A.	220.3	91	95	4.0	9,700
Venezuela	13.5	66	79	3.9	2,910

¹DRR (Disparity Reduction Rate) is the rate at which the disparity between each country's performance and the best expected performance in the year 2000 is being reduced.

SOURCE: Overseas Development Institute, 1980.

4.3 AGRO-ECONOMIC ZONES: ONE UNIT OF DIFFERENTIAL LAND RESOURCES

The agro-economic zones classification of Tanzania was developed because of a problem planners encountered in a working party for the Second Five Year Plan. When asked to produce a series of crop priorities and food production possibilities for the different parts of the country, they found it impossible to do so because of the lack of basic information.

As a result BRALUP was requested to carry out a survey at the beginning of the 1970's (Conyers, 1973). Teams visited each district and through cross-questioning of many different people were able to define and describe a number of agro-economic zones for each district. The general aim was to define units of enough uniformity to provide a basis for planning agricultural change. Air photo studies, literature search, and some field checking completed the assessment. The first round of the exercise produced more than 240 different zones. After some generalization and elimination of double counting (i.e., the same zone in two different districts) 46 major agro-economic zones were designated as subcategories of 16 zonal groups.

The BRALUP exercise produced 47 categories of information on a wide range of topics from land resources to livestock and crops. Figure 7 depicts the agro-economic zones that the research identified while Table 13 gives a sample of the designated categories that indicate the diversity of rural Tanzania. A number of questions arise. How far are the differences based on cultural habits which might change quickly? To what extent do these differences contribute to the distribution of poverty in Tanzania? There is no simple correlation between agro-economic zones and poverty level, but stark differences in resources clearly have a strong influence.

TABLE 13

AGRO-ECONOMIC ZONES IN TANZANIA - SAMPLE

DISTRICT	ARUSHA	ARUSHA	ARUSHA	ARUSHA	EXPLANATION OF CATEGORIES
ZONE NO.	012.1	012.2	012.3 ¹	012.4	
Z. GROUP	1a	14b	SPECIAL	4a	
1.1	-	5	-	-	Location
1.2	1,2,3,6	1,2,3,4,6	3,4	3	
2.1	16b, 30b	16b	5	16b, 30b	Land Resource Units
2.2	mountain slopes	undulating	undulating	rolling	Topography
2.3	800-1500	600-1000	400-700	800-1000	PP in MMS
2.4	forest/ grass	grass	grass	grass	Vegetation
2.5	severe	moderate	moderate	moderate	Soil Erosion
2.6	-	-	-	-	Tsetse Fly
3.1	very dense	medium +	low	medium	Population Density
3.2	out	in	in	-	Population Migration
3.3	Arusha, Meru	Arusha, Meru	Arusha, Meru	Arusha Meru	Ethnic GP
3.4	dispersed	dispersed	small clusters	dispersed	Settlement Type
3.5	medium	medium	high	low	Social Cohesion
4.1	shortage	plenty	adequate	adequate	Land Avail- ability
4.2	permanent	permanent	permanent	permanent	Land Tenure
4.3	small +	large (varied)	very small	large (varied)	Area Cultivated
4.4	coffee	-	-	maize	Cash Crops
4.5	-	maize	-	wheat	
4.6	pyrethrum	cotton	pyrethrum	-	
4.7	bananas	maize	maize	maize	Food Crops
4.8	maize, beans	beans cassava	beans, l. pots	beans	
4.9	low	-	-	-	Double Cropping
4.10	flat	flat	flat	flat	Tillage
4.11	high	-	-	-	Fertility
4.12	low	-	-	-	
4.13	low	-	-	-	
4.14	high	low	-	-	Water Control
4.15	low	-	-	low	Soil Conserva- tion
4.16	low	low	low	high	Mechanization
4.17	-	low	-	low	
4.18	-	low	-	low	Labor
4.19	low	low	medium	low	
5.1	-	some	some	-	Pastoralists
5.2	medium +	medium +	high +	medium	Cattle Ownership
5.3	small	medium	large	medium	Herd Size
5.4	high	-	-	-	Improved Stock
5.5	milk, manure	milk	sale	milk, draught	Uses of Cattle
5.6	medium	medium	low	medium	
5.7	high	high	high	high	Small Stock
5.8	low	low	low	-	Donkeys
5.9	high	high	low	low	Poultry
5.10	-	-	-	-	Other Livestock
5.11	both/ youths	individual/ youths	coop/ youths	individual/ youths	Organization
6.1	-	-	-	-	Other Activities
6.2	yes	yes	-	yes	Estates
6.3	regional	-	-	-	Urban Influence
6.4	average	good	average	good	Communication

SOURCE: Conyers, 1973.

Porter (1974) has shown that there are fundamental differences in the solar energy available for crop growth in different parts of the country largely because of altitude. Soils and water supply vary considerably even within a district and the possibilities of livestock are greatly influenced by the localized presence or absence of the tsetse fly. Cultural differences are of course an important determinant in crops grown or animal/crop mix but the particular agricultural pattern in most areas is rooted more in the patterns of change of the last 60 years than in very old traditional systems.

It is important to be able to define the different production zones within a district in order to understand:

- a) the strengths and weaknesses of a district;
- b) the interrelationships between the zones and how these interrelationships can or do contribute towards alleviating poverty in the district.

Although a district is in most cases a good unit of administration, district boundaries are quite often drawn to include diverse environments. The agro-economic zones system allows a more sophisticated look at agriculture and land use within a district or region and provides the basis for detailed planning of change. Assessments of the adaptability of new varieties, marketing surveys and projections for crops and animals are all more reliable if they are based on the zone.

The usefulness of agro-economic zones can be seen in the context of development planning. It would, for example, be very useful if the considerable amount of information collected in the various river basin surveys of the Pangani and Rufiji Rivers could be set in the context of the agro-economic zones. While national administration and planning will obviously focus on the

established units of the region and district, more specific programs of rural development could usefully focus on the properties of and possibilities of the agro-economic zones.

4.4 AGRICULTURAL PRODUCTION: THE BASIS OF TANZANIAN ECONOMY AND WELL-BEING

Agriculture supports much of the Tanzanian economy. In 1980/81 it accounted for 50 percent of the GDP and 80 percent of the exports. The success or failure of agriculture thus plays a significant role in the well-being of the people and in the extent, nature and distribution of poverty.

Overall land resources are still ample. For example, the World Bank has estimated that by 1990 there will be 2.8 hectares of potentially productive land per capita or more than 16 hectares per average family of six. Of these 2.8 hectares, only 0.5 hectares or approximately 20 percent will be under production (World Bank, 1977). Thus the prospect for both extensive and intensive agriculture appears good.

But the definition of what is potentially productive land varies. For instance the World Bank Report (1977) estimated that in 1972 Dodoma region had a total area of 4.13 million hectares of which 3.53 million hectares or 85% were potentially agricultural land. Given the semi-arid conditions of large sections of two out of the three districts comprising the region, the estimate appears somewhat over optimistic.

Soil and climatic conditions in Tanzania are generally not conducive to high levels of unit area production without some inputs. Nevertheless, it is generally accepted that land is ample and that the land policy whereby every household in a village is entitled to at least two hectares of land, is

necessary for the rural population to feed itself as well as produce for domestic and foreign markets.

However, recent trends in agriculture have a direct bearing on the well-being of the people. The average annual growth of subsistence agriculture has increased by 7.1 percent per annum between 1970 and 1979 (World Bank, 1980). Marketed surpluses of some food crops like cassava, millet and sorghum have shown substantial increases but marketed production of maize, wheat and rice has declined over recent years, necessitating substantial imports and putting a further strain on development funds. Monetary agriculture has also declined.

Tables 14 and 15 depict the distribution of the main food and cash crop production. The data express volume of production, not value, and therefore understate high value crops like coffee, pyrethrum and cashews. Figures 8 and 9 graphically depict the range of agriculture production by volume and therefore have the same limitation. Yet they provide a good measure of production of staples like maize, millet, cassava and bananas. Kilimanjaro ranks high in food production, thus questioning the theory that cash cropping necessarily or inevitably leads to a decline in food production. Other regions vary greatly. For instance Rukwa, with significant production of maize and millet, and Mtwara, with considerable cassava production, rank high in food production; while the former has insignificant production of cash crops the latter produces a large cash crop harvest.

The high food production index for regions like Dodoma and Mtwara show that Tanzania can grow a variety of staples. Food shortages usually mean a shortage of maize particularly in urban areas.

TABLE 14

REGIONAL FOOD CROP PRODUCTION IN 1977/78
(in 000 metric tons)

Regions	Beans	Maize	Paddy	Bananas	Wheat	Sorghum	Millet	Cassava	Totals	Regional Population (000's)	Regional Production in kg/capit
Dodoma	0.6	64.0	--	0.1	--	131.6	118.2	2.6	317.1	972	326
Arusha	64.4	110.0	3.3	40.0	23.2	12.0	3.2	15.0	271.1	928	292
Kilimanjaro	3.0	50.0	3.0	380.0	6.0	0.7	5.5	3.0	451.2	902	500
Tanga	10.0	99.0	15.6	80.0	--	8.2	--	122.0	334.8	1088	308
Morogoro	5.3	90.0	52.0	5.0	--	15.0	0.1	2.7	170.1	939	181
Coast	--	58.0	18.3	5.9	--	42.8	0.3	74.0	199.3	517	385
Dar es Salaam	--	--	--	0.1	--	0.1	--	20.0	20.2	852	24
Lindi	--	30	4.8	2.2	--	25.9	0.3	48.0	111.2	528	211
Mtwara	--	21	8.4	2.0	--	61.6	0.5	262.0	355.5	772	461
Ruvuma	5.6	150	5.9	1.5	0.1	4.0	2.3	3.0	172.4	564	306
Iringa	4.5	91	2.7	1.5	5.1	0.4	0.1	32.0	137.3	923	149
Mbeya	27.0	111	39.4	123.0	0.1	1.8	20.1	55.0	377.4	1080	349
Singida	--	19	0.4	1.5	--	63.3	52.6	1.0	137.8	614	224
Tabora	3.4	111	30.0	3.6	--	62.5	0.5	59.0	270.0	818	330
Rukwa	22.4	120	2.1	1.0	0.2	5.5	75.1	26.0	252.3	452	558
Kigoma	35.1	35	2.5	10.4	--	8.5	1.0	150.0	242.5	649	374
Shinyanga	5.3	116	16.4	0.4	--	118.2	14.0	41.0	311.3	1323	235
West Lake	15.3	14	0.4	28.9	0.4	15.3	0.6	70.0	144.9	1009	144
Mwanza	20.3	96	8.8	18.5	--	26.5	9.5	180.0	359.6	1443	249
Mara	--	48	4.8	51.8	--	9.7	5.2	115.0	234.5	723	324

SOURCE: Tanzania Food and Nutrition Centre, 1980.

TABLE 15

REGIONAL VOLUME OF OTHER CASH CROP PRODUCTION IN 1977/78
(in 000 metric tons)

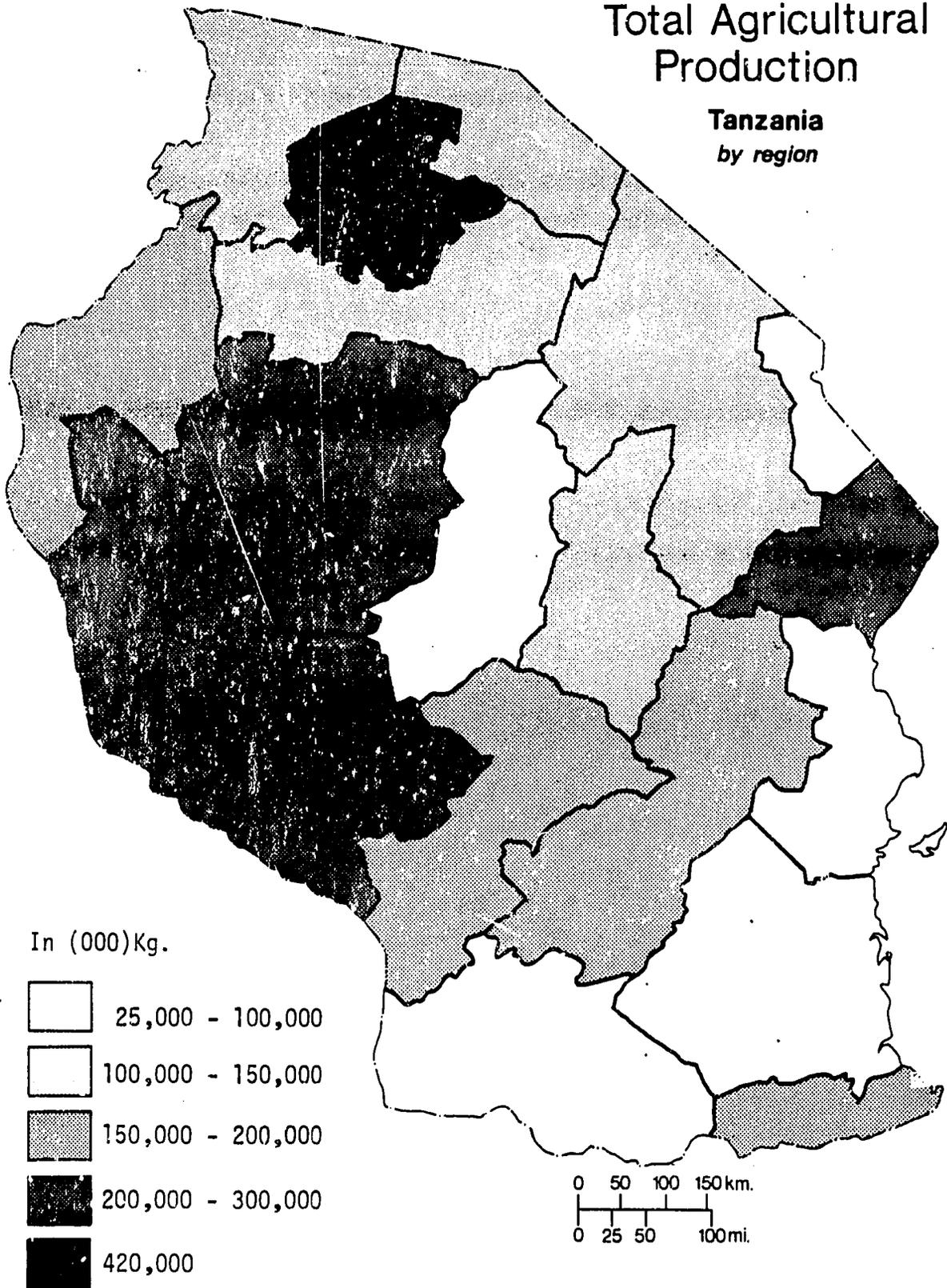
Regions	Coffee	Cotton	Sisal	Tobacco	Cashews	Sugar	Oilseeds	Regional Total Production	Regional Population	Regional Production in kg/per capita
Dodoma	--	--	--	--	--	--	3.5	3.5	972	3.6
Arusha	4.3	--	2.0	--	--	--	0.3	6.6	928	7.1
Kilimanjaro	20.0	--	2.2	--	--	--	--	64.2	902	71.1
Tanga	0.9	--	66.6	0.04	0.8	42.1	--	68.3	1088	62.7
Morogoro	0.4	1.8	15.9	0.01	0.3	--	5.6	85.2	939	90.7
Coast	--	--	3.2	--	11.1	61.1	0.4	14.7	517	28.4
Dar es Salaam	--	--	--	--	--	--	--	--	852	--
Lindi	--	--	1.1	--	11.3	--	8.2	20.6	528	39.0
Mtwara	--	--	0.8	--	34.3	--	3.7	38.8	772	50.2
Ruvuma	4.1	--	--	4.5	7.6	--	5.7	21.9	564	38.8
Iringa	--	--	--	4.1	--	--	1.5	5.6	923	6.1
Mbeya	4.0	--	--	0.8	0.4	--	5.0	10.2	1080	9.4
Singida	--	--	--	--	--	--	--	--	614	--
Tabora	--	--	--	9.2	--	--	11.5	20.7	818	25.3
Rukwa	--	--	--	0.3	--	--	4.2	4.5	452	9.9
Kigoma	--	--	--	0.07	--	--	--	0.07	649	0.1
Shinyanga	--	18.8	--	--	--	--	1.0	19.8	1323	14.9
West Lake	12.6	3.4	--	0.02	--	--	4.0	20.02	1009	19.8
Mwanza	--	15.9	--	--	--	--	--	15.9	1443	11.0
Mara	--	6.2	--	--	--	--	0.4	6.6	723	9.1

SOURCE: Tanzania Food and Nutrition Centre, 1980.

FIGURE 8

Total Agricultural Production

Tanzania
by region

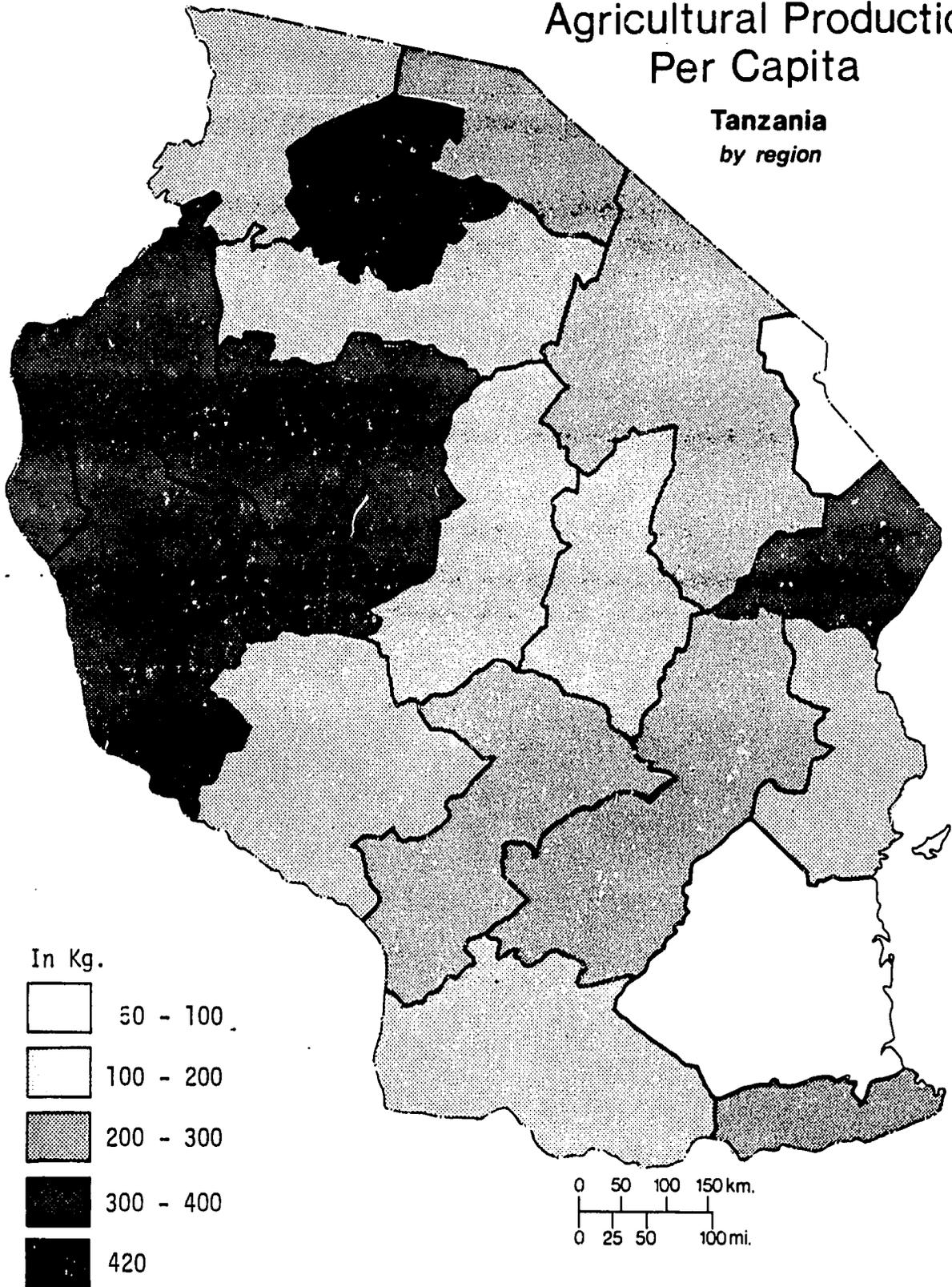


Source: Third Five Year Development Plan (1976-81)

FIGURE 9

Agricultural Production Per Capita

Tanzania
by region



Source: Third Five Year Development Plan (1976-81)

The main staple is undoubtedly changing to maize even in areas where sorghum and millet were important. In years of good maize harvests, the National Milling Corporation, compelled to buy millet, sorghum and cassava at government subsidized prices, has had a hard time disposing of these staples profitably. These drought resistant crops are not popular foods when maize is available, but during serious maize shortages cassava flour is accepted as a substitute even in urban areas. The prospects for sorghum and millet can be equally good.

Regional variation in soil types, cultivated land area and rainfall shown in Table 16 suggest substantial variation in growing conditions among regions and in the types of crops grown. Such a wide range of ecological conditions together with the small size of the average peasant holding can make the task of increasing agricultural production in an equitable manner that much more difficult. It is easier to plan for and obtain higher agricultural output from the more fertile soils or the more homogenous ecological areas. In the former case, output can be increased with little inputs; in the latter, homogeneity simplifies the use of agricultural and technological inputs. Nevertheless, a variety of ecological conditions can contribute to a greater food security as well as a more diversified agricultural export strategy, but some regional inequality will therefore be inevitable.

4.5 LIVESTOCK OWNERSHIP AS A MEASURE OF WELL-BEING

Preliminary results from the national cattle census of 1978 show that Tanzania has about 12.1 million cattle. The greatest concentrations are in the tsetse free zone in northern and central Tanzania particularly in Arusha, Dodoma, Shinyanga, Mwanza and Mara regions, each with over a million head of

TABLE 16

SOIL AND RAINFALL CONDITIONS BY REGION

Region	Total land area ('000 ha)	Total Cultivated Land (%)	Class 6 (%)	Area in land use a/Class 5 b/ (%)	Area with adequate rainfall c/ (%)	Average annual rainfall (mm)	Number of consecutive months with over 100 mm rainfall
Arusha	8,210	2.1	7	10	3	941	2-3
Coast	3,380	7.5	-	27	10	1,178	2-3
Dodoma	4,130	6.4	10	15	2	556	4
Iringa	5,685	4.2	29	21	54	1,205	5
Kigoma	3,705	7.6	5	27	41	957	6
Kilimanjaro	1,320	13.3	13	18	24	958	3
Mara	2,175	9.4	4	-	19	1,209	2-4
Mbeya	8,315	3.1	16	36	24	1,444	5-6
Morogwro	7,310	5.2	20	33	61	1,217	5
Mtwara	8,275	4.4	3	34	5	1,059	5
Mwanza	1,965	20.9	4	19	16	926	6
Ruvuma	6,125	2.0	17	14	66	1,214	5
Shinyanga	5,075	6.7	-	9	-	862	6
Singida	4,935	3.2	8	11	-	648	4
Tabora	12,200	1.8	-	21	3	940	6
Tanga	2,680	12.7	11	34	30	1,112	2-3
West Lake	2,875	10.1	-	56	44	1,088	2-4
TOTAL	88,360	5.1	9	23	22	-	-

a/ Class 6: Soils of medium to high fertility with high potential (Map IBRD 2804 R).

b/ Class 5: Soils of low to medium fertility with moderate potential (Map IBRD 2804 R).

c/ Adequate rainfall, as computer, consists of more than 750 mm of rainfall 9 years out of 10.

SOURCE: University of Missouri, An analysis of the Tanzanian Food Crop Subsector (Draft, 1974).

cattle. Tabora and Mbeya are next in importance with 900,000 and 800,000 head respectively (see Table 17). East Coast Fever and tsetse limit the cattle population in the other regions.

Most people in Tanzania equate the possession of many head of cattle with wealth. However, ownership of cattle is currently a qualified measure of well-being. Approximately 95 percent of the cattle population are part of family farms or pastoral units. Most of these owners do not raise them as a commercial enterprise and yearly off-takes are only at about 14 percent. Meat is a rare item in the diet of even the pastoralists whose reluctance to sell their animals keeps meat prices at levels beyond the normal reach of the low income earners in both urban and rural areas.

Cattle are viewed more as a security, a status symbol, and an important asset in obtaining a wife or wives than in making a profit. The only exception may be the Wasukuma of Mwanza Region who are beginning to treat cattle as an investment and status symbol as well as a commodity. Therefore, although an asset in terms of total wealth possessed, livestock can be a liability particularly in marginal areas where the land carrying capacities for livestock units (LU) are already overstrained. In Dodoma, for example, it is estimated that there should be an allowance of 2.5 hectares per LU--instead there are densities of 0.8 hectares per LU (Christiansson 1981). Overgrazing, concentrations of livestock around water resources, soil erosion, disease, parasitic transmission and inefficient utilization of forage are the usual results of overstocking.

Mandatory destocking was unsuccessful during the colonial area and is proving difficult under the present government, particularly among nomadic groups like the Masai, Wagogo and the Barabaig. Periodic droughts also take a

TABLE 17

CATTLE POPULATION BY REGION (000' HEAD) 1978

<u>Region</u>	<u>Cattle</u>
Arusha	2,104
Shinyanga	1,653
Mwanza	1,144
Mara	1,036
Dodoma	1,028
Tabora	995
Mbeya	837
Singida	778
Tanga	511
Iringa	487
West Lake	454
Kilimanjaro	414
Morogoro	262
Rukwa	137
Coast/Dar es Salaam	102
Kigoma	67
Ruvuma	36
Mtwara/Lindi	7

SOURCE: Tanzania Food and Nutrition Centre, 1980.

heavy toll so that mandatory off-takes are regarded with suspicion. The compulsory villagization of these pastoral groups has also caused some resentment while the effects of permanent settlement on the fragile semi-arid ecology of the areas with some of the greatest cattle populations are yet to be assessed.

Cultural differences also contribute to well-being whether or not families own cattle. Preliminary findings of a recent socioeconomic-demographic study conducted by BRALUP in Mara, Morogoro and Kilimanjaro showed that nutritional standards of infants in Kilimanjaro were higher than of those in Mara, although the latter region had more cattle and the total wealth including cattle ownership of the Mara families far exceeded that of the Kilimanjaro families. The Wachagga of Kilimanjaro are culturally used to mixing milk with weaning foods, a habit that was not traditional to the cattle keeping people of Mara Region. In other tribes, food taboos prevent children and women from making full use of the cattle resources of the family. The variation in levels or styles of livestock keeping are also a determining factor in the correlation between cattle ownership and well-being. The greatest cattle concentrations are in the semi-arid areas of Tanzania where only hardy strains survive but are of low quality both for meat and milk production.

Dairying is just becoming important in Arusha, Mbeya and Mara but transportation problems prevent large urban centers like Dar es Salaam from benefiting from this development. Instead the country imports and reconstitutes large quantities of dehydrated milk in order to meet the demands of large urban centers, particularly of Dar es Salaam.

These problems are not insurmountable but extensive efforts will be needed in educating the rural population in herd management, nutrition, disease control measures and marketing before cattle ownership can be a real

measure of well-being in Tanzania. A great deal also needs to be done with the potential of livestock manure as organic fertilizer and a source of renewable biogas energy.

If these problems are resolved, there will still be the question of the current inequitable distribution of cattle. Using 1978 cattle census estimates, several regions are considered to have a cattle deficit, which then affects about 45 to 60 percent of the Tanzanian population. Among the regions with the greatest deficits are Lindi, Mtwara, Ruvuma, Kigoma, Tanga, Coast and Dar es Salaam. The variation in cattle ownership per capita is shown by Figure 10 using 1972 data. If ecological conditions permit, increased cattle ownership should be encouraged in these areas. Well managed livestock ownership can contribute to better health, overall wealth and can also facilitate extensive and internal agriculture by providing animal traction for ploughs and organic fertilizers.

4.6 INCOME: REGIONAL VARIATIONS AND RELATION TO POVERTY

The Household Budget Survey carried out by the Bureau of Statistics in 1969 estimated that the average cash income in 1969 of a peasant farm family was approximately US \$110. Seventy-eight percent of this income was obtained through agriculture (World Bank, 1974a). Non-farm rural households earned slightly more, while urban dwellers earned approximately four times as much.

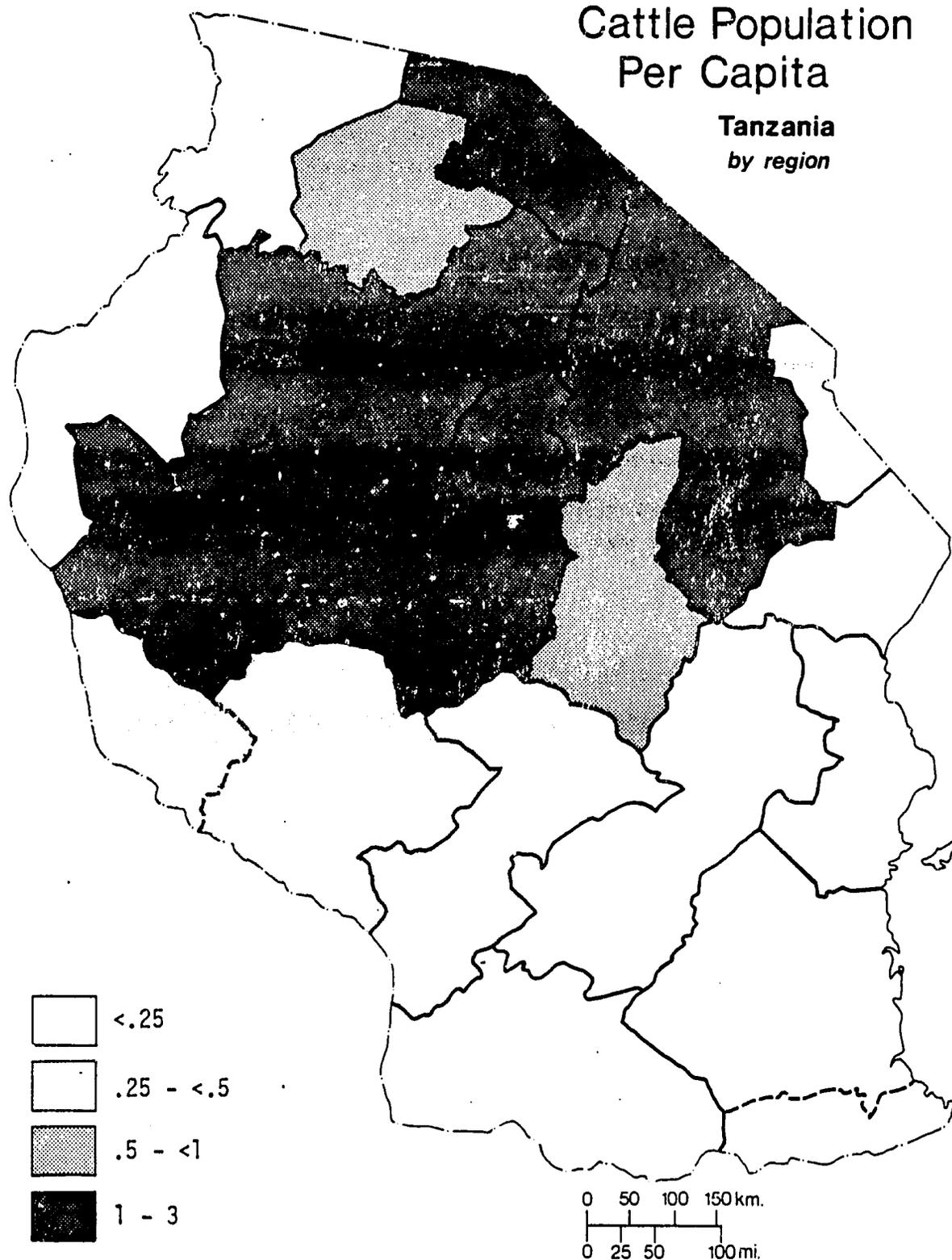
Agricultural production of monetary crops has not increased significantly since 1969. Prices for export crops have also suffered serious oscillations so that the average annual agricultural income, in real terms, is probably not much higher now than in 1969.

Since non-agricultural rural wage employment accounted for only two percent of the rural labor force in the period 1969-1975, most rural income is

FIGURE 10

Cattle Population Per Capita

Tanzania
by region



Source: FAO 1972

derived primarily from the agricultural smallholder households. Six sources of income for smallholder households have been identified: (1) subsistence output, (2) cash agricultural income, (3) carpentry, (4) pottery, (5) temporary daily paid labor, and (6) agricultural wage employment on estate and large farms. Most of the income comes from the first two sources.

It is interesting to note that the World Bank figures show very little regional variation in the amount of subsistence income for smallholder households in all regions. Table 18 shows that in 1975 the monthly subsistence income ranged from T.Sh. 133.5 (low income regions) to T.Sh. 151.8 (middle income regions). The significant difference in regional smallholder incomes appear only when cash incomes are taken into consideration. The aggregate sum of cash income obtained from sale of crops and from agricultural wage labor are the major variant between the low and high income regions.

Total cash income is one of the differentiated inter-regional variables and explains some of the income/poverty problems faced by smallholder households in certain regions. In 1969 the cash income differential between the high income regions and the low income regions was 2.4:1. This increased to a differential of 4.7:1 by 1975 (see Table 19). The cash income is crucial in enabling households to buy supplementary foods like meat, salt and sugar as well as cooking oils, clothing, household items and kerosene for lighting and cooking. In the current state of the economy, where even the peasants in the most remote areas are integrated into the money economy, the amount of cash available in the household is one of the most significant indicators of poverty or wealth. The only other comparable indicator in the rural areas is the ownership of cattle.

TABLE 18

SMALLHOLDER HOUSEHOLD INCOMES BY REGIONS (1969 and 1975)
(Shillings per month per household)

	<u>Extra Rural Crop Sales</u> (1)	<u>Agricultural Wage Income</u> (2)	<u>Extra Rural Cash Crops + Agric. Wage Income</u> (3)	<u>Total Cash Income</u> (4)	<u>Subsistence</u> (5)	<u>Total Income</u> (6)
1969 (All Regions)	21.0	9.6	30.5	61.6	64.1	125.7
1975 (All Regions)	30.1	22.5	52.6	98.0	142.5	240.5
<hr/>						
<u>1969</u>						
High Income Regions	22.1	34.0	56.1	112.6	62.8	175.4
Middle Income Regions	19.4	7.5	26.9	56.5	67.4	123.9
Low Income Regions	22.6	2.1	24.7	46.4	60.2	106.6
<hr/>						
<u>1975</u>						
High Income Regions	49.7	76.1	125.8	222.9	136.1	359.0
Middle Income Regions	29.1	17.8	46.9	94.5	151.8	246.3
Low Income Regions	22.9	5.3	28.2	47.9	133.5	181.4

SOURCE: World Bank, 1977.

NOTE: Low Income Regions--Mara, Ruvuma, Dodoma, Singida, Tabora, Lindi, Mtwara, Rukwa.
Middle Income Regions--Kigoma, West Lake, Iringa, Mbeya, Morogoro, Shinyanga.
High Income Regions--Coast, Mwanza, Kilimanjaro, Tanga, Arusha, Dar es Salaam.

TABLE 19

Smallholder Cash Income Differentials by Region

(low income regions set at unity)

<u>Regional Group</u>	<u>1969</u>	<u>1975</u>
High Income	2.4	4.7
Middle Income	1.2	2.0
Low Income	1.0	1.0

SOURCE: World Bank, 1977

Generally a direct relationship exists between size of land holdings and income. In Sukumaland, for example, larger farm households (greater than 4 ha) earn approximately T.Sh. 1,778 per capita each year. Small farms (less than 1 ha) earn T.Sh. 25 per capita each year (World Bank, 1977).

The interregional disparities in cash income do indicate areas of greater poverty in the rural areas. Table 20 shows a fairly consistent correlation between per capita income, gross regional product and the PQLI index. Ruvuma in a low income region has a high PQLI (49) and Kigoma in the middle income range has the lowest PQLI (15); thus emphasizing the need to look at figures other than conventional per capital income. The trends are not good for the poorer areas. Real cash income per smallholder household has been halved from 1969 to 1975 in the low income regions while it has also declined slightly in the high income regions as shown by Table 21.

The general decline of real cash income for smallholder households can be attributed to one major factor, the fall in the value of crops sold to non-rural destinations (World Bank, 1977). More recent indications of increasing crop yields and greater export sales may offset this decline (African Business, 1979).

TABLE 20

SELECTED SOCIAL AND ECONOMIC INDICATORS BY REGION

<u>INCOME LEVEL</u>	<u>POPULATION¹</u>	<u>PER CAPITA INCOME²</u>	<u>GROSS REGIONAL PRODUCT³</u>	<u>PQLI⁴</u>
<u>HIGH</u>	(000's)	(Tanzanian Sh.)	(000 T.Sh.)	
Dar es Salaam	852	3,838	6060	55
Arusha	928	700-800	1300	40
Tanga	1088	700-800	1849	30
Kilimanjaro	902	600-700	1093	43
Mwanza	1443	600-700	800	33
Coast	514	600-700	1280	22
<u>MIDDLE</u>				
Shinyanga	1323	600	1055	35
Morogoro	939	500-600	1275	29
Mbeya	1080	500-600	1294	31
Iringa	923	500-600	1190	32
West Lake	1009	500-600	1041	39
Kigoma	649	500-600	990	15
<u>LOW</u>				
Rukwa	452	500	814	n.a.
Mtwara	772	400-500	552	30
Lindi	528	400-500	678	31
Tabora	818	400-500	1026	35
Singida	614	400-500	640	27
Dodoma	972	400-500	680	36
Ruvuma	564	400-500	689	49
Mara	723	400	748	31

SOURCE: 1. Tanzania, 1978b.
2. World Bank, 1974b.
3 & 4. USAID, 1980a.

TABLE 21

CHANGE IN REAL CASH INCOME OF SMALLHOLDERS BY REGION

(1969 = 100)

<u>Regional Group</u>	<u>1975</u>
High Income	98.7
Middle Income	83.4
Low Income	51.5
All	79.3

SOURCE: World Bank, 1977.

Small amounts of cash are usually used up for household needs; moderate amounts are invested in improving housing or purchasing a bicycle; large amounts can lead to capital accumulation and investment in small business or small industries. The amount of cash generated by agriculture is therefore important not only to the individual household but to the region on the whole.

The comprehensive range of per capita income for all the regions is shown in Figure 11. Regions such as Singida, Dodoma and Ruvuma have low incomes due to the lack of cash crop production in these regions. Their situation appears to have been compounded by low levels of investment. These regions have been among the lowest recipients of per capita development funds during the period from 1969 to 1975. Since 1975 the government policy has been towards a more equitable distribution of funds as is reflected in the 1977/78 allocation of development funds (see Table 22). Of the high income regions such as Tanga, Kilimanjaro and Arusha, Tanga had a moderately high investment rate of US \$5.2 per capita but Kilimanjaro had only US \$3.9 per capita compared to Ruvuma which had US \$5.0 per capita.

The more recent high levels of investment are not all in the productive sector or in the provision of economic infrastructure. A good proportion is invested in the social infrastructure. While the importance of health and education is not to be denied, sustained regional growth requires a substantial development of the productive sector: agriculture, livestock, forestry and industries.

The significance of industrial development is clearly shown in the predominant position of Dar es Salaam in regional per capita income levels. Similarly Kilimanjaro, Arusha, Tanga and Mwanza have a higher industrial development than many of the middle and low income level regions. Some of these regions like Iringa, Mbeya and Ruvuma have the potential for industrial development particularly if the proposed large scale industries based on the coal resources of the Southern Highlands can take off. Industrial growth will not only boost regional incomes but also have a positive effect on agriculture by providing higher incentives for commercialization of the food sector. The disparity in Gross Regional Product per capita shown in Figure 8 will need a concentrated effort to distribute investment and development funds equitably in both the industrial and agricultural sector.

Currently, the low level of industrialization in the urban areas cannot meet the needs of the rural poor who migrate to towns in search of better incomes. In urban areas income is a much more critical indicator of wealth or poverty. Although the urban areas represent less than 10 percent of the total national population, the urban poor sector has increased greatly in the last 10 years. The decline in real income of urban households from 1969 to 1975 has worsened the standard of living of the "informal sector" as well as the "middle class household" (World Bank, 1977).

PER CAPITA INCOME BY REGION

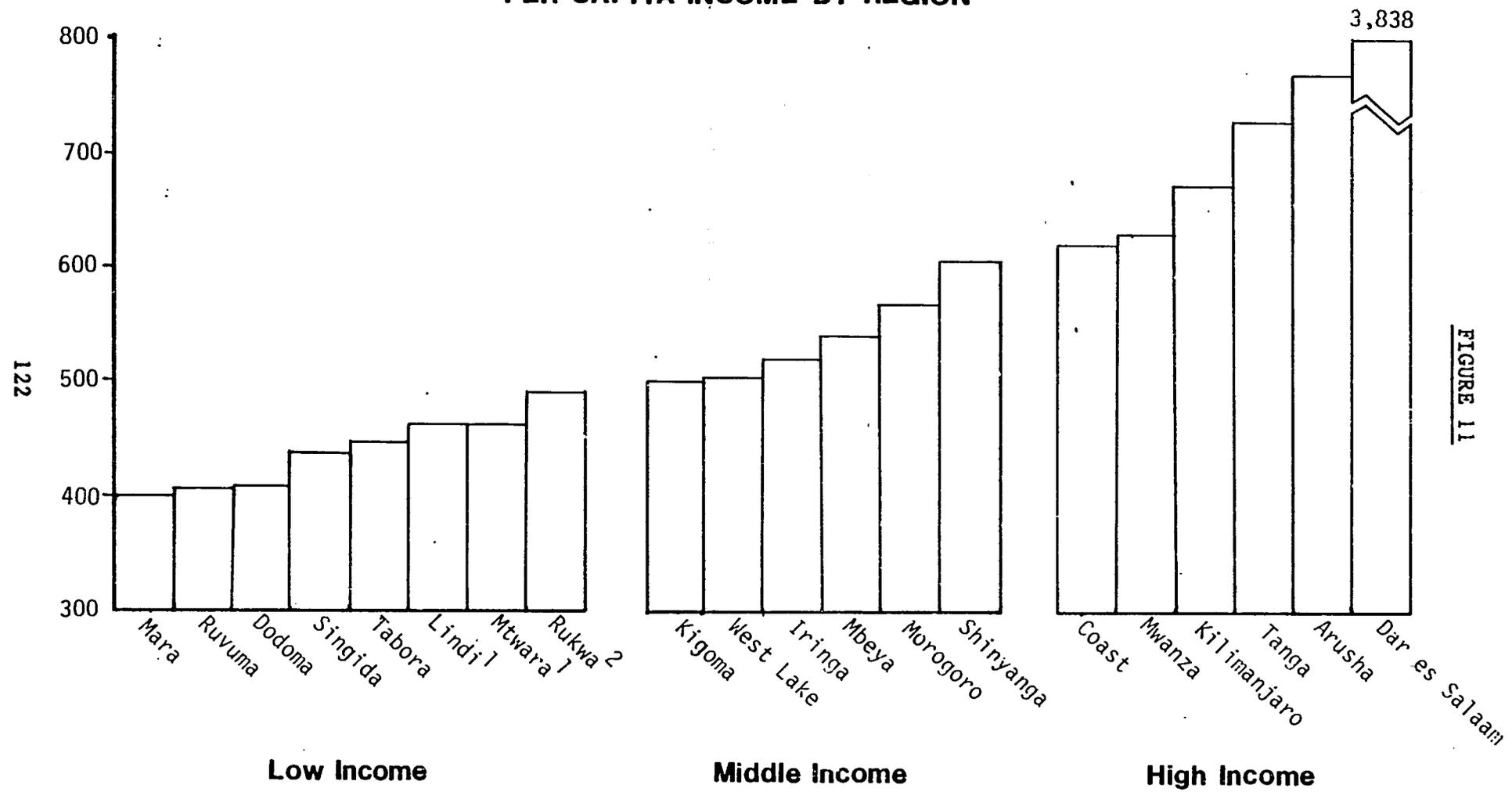


FIGURE 11

¹Lindi and Mtwara were formerly Mtwara Region. These numbers represent former Mtwara Region.
²Rukwa Region was formed from Mpanda District in Tabora Region and Sumbawanga District in Mbeya Region. This number is an average of Mbeya and Tabora Regions.

TABLE 22

REGIONAL ALLOCATION OF DEVELOPMENT FUNDS FOR AGRICULTURE

EDUCATION, HEALTH AND WATER (1978/79)

Region	Popula- tion (1978) (000's)	Agri- culture (US \$s) (000's)	Educa- tion (US \$s) (000's)	Health (US \$s) (000's)	Water (US \$s) (000's)	Total % ¹	Total Per Capital ¹ (US\$/ person)
Arusha	928	502	476	517	494	5.2	4.4
Coast	517	457	483	315	309	4.6	6.9
Dar es Salaam	852	178	1879	618	168	5.5	5.0
Dodoma	972	437	518	361	390	3.9	3.1
Lringa	923	774	659	539	531	5.6	4.6
Kigoma	649	443	725	191	560	5.4	6.5
Kilimanjaro	902	493	534	283	689	4.5	3.9
Lindi	528	936	358	337	642	4.7	6.8
Mara	723	311	439	351	771	4.0	4.3
Mbeya	1080	304	666	366	720	4.4	3.2
Morogoro	939	544	670	560	418	4.7	3.9
Mtwara	772	483	623	417	1008	4.8	4.9
Mwanza	1443	197	976	641	391	4.5	2.4
Rukwa	452	354	384	269	413	3.8	6.5
Ruvuma	564	346	211	251	468	3.6	4.9
Shinyanga	323	216	593	541	818	4.4	2.6
Singida	614	391	641	459	551	3.9	5.0
Tabora	818	818	314	456	466	10.2	9.6
Tanga	1088	1317	701	716	740	7.0	5.2
West Lake	1009	530	693	276	466	4.3	4.6

SOURCE: Tanzania, 1978a.

¹Totals include other sectors: livestock, natural resources, small scale industries, construction and lands.

4.7 INDUSTRY: A FACTOR OF EMPLOYMENT AND INCOME

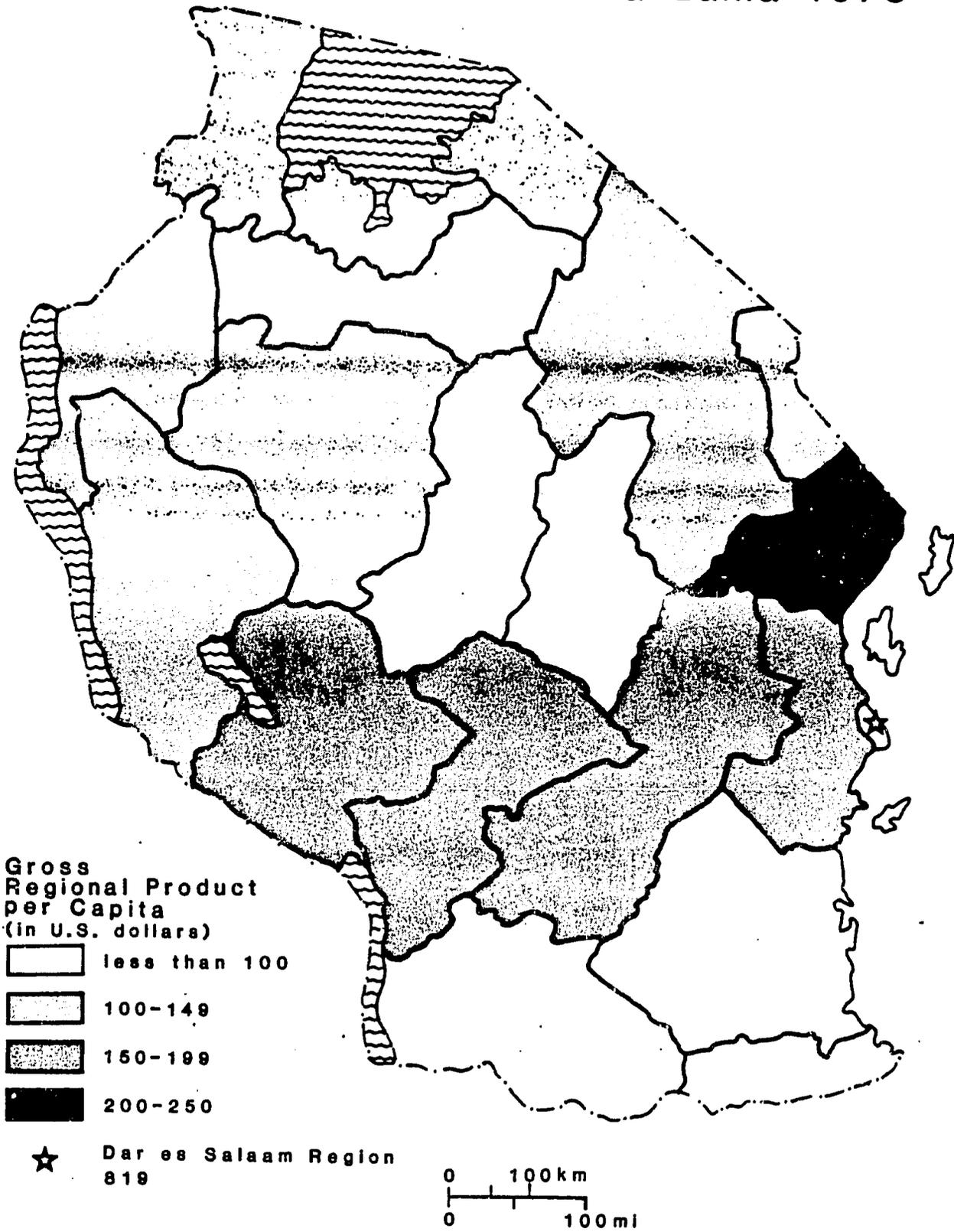
The discussion of rural income emphasized the need for wage labor and cash crops as critical factors in enabling households to buy certain essential items. Improving levels of income, particularly in the lower income rural areas has been difficult. The two main sources of income derived from agriculture are erratic and subject to adverse weather conditions as well as world price fluctuations.

As one approach to the growth of the nation, Tanzania has encouraged the development of industries including small scale industrial projects in the rural areas. At independence in 1961, Tanzania's industrial base comprised of six major companies: the East African Tobacco Company, the East African Breweries, the Coca-Cola Plant, the Metal Box Company, Tanganyika Packers and Bata Shoes, all located in Dar es Salaam. Apart from these "big six" there were 230 other firms with a capital of less than T.Sh. 200,000 each. By 1967 there were 440 small and medium industries and their number rose to 520 in 1974. Production in industries went up from T.Sh. 1,322 million (19.5 percent of the GDP) to T.Sh. 3,908 million in 1974 (27.7 percent of the GDP). Industrial employment rose from less than 2% in 1967 to about 10 percent in 1978.

Industrial location outside Dar es Salaam followed the lines of cash crop development in the country. Areas of cash crop development had a reasonable transportation system which encouraged industrial investment. In 1973 almost 75 percent of the industries were located in the eastern and northern zones (see Table 23). Apart from Dar es Salaam, the other important centers were Arusha, Moshi in Kilimanjaro Region, Tanga and Morogoro. These centers are located in regions which have relatively high PQLI's and highly valued cash crops, mainly coffee, sisal and pyrethrum. Poor infrastructure, including

FIGURE 12

Gross Regional Product Per Capita Tanzania 1978



SOURCE: USAID, 1980a.

TABLE 23

NUMBER OF MANUFACTURING ESTABLISHMENTS
BY INDUSTRIAL ZONES 1966 AND 1973

		<u>Number of Establishments</u>		<u>In Percentage</u>	
		<u>1966</u>	<u>1973</u>	<u>1966</u>	<u>1973</u>
Eastern:	Dar es Salaam, Coast, Morogoro	193	221	44.0	44.0
North:	Tanga, Arusha, Kilimanjaro	137	154	31.3	30.6
Lake:	Mwanza, Shinyanga, Mara, West Lake	70	77	16.0	15.3
Central:	Tabora, Kigoma, Dodoma and Singida	12	20	2.8	4.0
Southwest:	Iringa, Mbeya, Rukwa	19	22	4.3	4.4
South:	Mtwara, Ruvuma, Lindi	7	9	1.6	1.8

SOURCE: Tanzania, 1967; Tanzania, 1974.

transport and electricity, has hampered efforts to diversify the industrial base. Nevertheless, the country has now made strenuous efforts to decentralize industries to regions other than those in the northern and eastern zones. Projects at various stages of completion in the southwest include cement production, meat processing, processing of cashew nuts, manufacture of agricultural implements, pyrethrum processing and a pulp and paper mill. The country has also adopted a twenty year industrial strategy in which the chief element is the development of an iron and coal industry together with an associated complex which will manufacture plants as well as machine tools.

It is difficult to assess the effects of this growth and planned expenditure. Heavy and middle industries will most likely have very little impact on increasing the income of the rural population unless adequate linkages are implemented between the agricultural and industrial sectors. On the other hand industrial growth will be severely handicapped if there is not an adequate market and purchasing ability among the majority of the population who now live in the rural areas.

In the transitional period small scale industries may assist both in terms of increasing the availability of simply processed foodstuffs and providing a modest income to a small portion of the rural poor. The development of small scale industries in the rural areas has been actively promoted by the Small Scale Industries Development Organization (SIDO). Some of the arguments favoring rural based industries are the beneficial effects of additional income for the villagers, less dependence on the inadequate transportation networks and greater efficiency. The rural industries are based on appropriate technology and the use of local resources unlike the middle level industries which import large amounts of raw materials.

From 1971 to 1979, the Tanzanian Rural Development Bank (TRDB) approved 1043 loans amounting to over T.Sh. 47 million for small scale industrial projects. Table 24 shows the regional allocation of funds for small scale industries for the year 1978/79 compared to the allocation of the Third Five Year Plan. The total allocation was T.Sh. 8.3 million. Although this amount is small compared to the planned total annual government investment in industries of T.Sh. 973 million, SIDO projects have a great potential for raising incomes particularly in those regions which do not yet have substantial conventional industrial development. Some of the projects established by SIDO include: Mbeya Pottery and Ceramics Institute; Dodoma Leather Craft Institute; Moshi Gourd Craft Center; Kilosa Oil Extraction and Soap Making Center; and the Azimio School in Tabora specializing in blacksmith and sheetmetal working.

In conclusion, it must be emphasized that expansion of both large scale and small scale industries are necessary to increase alternative sources of income for the rural population of Tanzania as well as to create a demand for a more efficient and productive agricultural sector.

4.8 EDUCATION

Education is one of the most basic social services which, as viewed by the Tanzanian leadership, has the potential for the alleviation of chronic poverty. The goal of social policy in Tanzania had been a concerted effort to reduce the disparities between individuals and between regions. Thus, Tanzania's Education for Self-Reliance promotes equitable accessibility to education as well as making education more appropriate to the country's developmental needs. National education policy stipulates that education should be

TABLE 24

REGIONAL PLANNED INDUSTRIAL INVESTMENTS

		Government Investment in Industries	Small Scale Industrial Investments
		1976-1981	1978-1979
		%	%
East:	Dar es Salaam	27.6	3.4
	Coast	0.5	8.3
	Morogoro	10.7	8.1
North:	Tanga	10.7	0.9
	Arusha	1.7	7.3
	Kilimanjaro	0.2	8.0
Lake:	Mwanza	4.7	-
	Shinyanga	0.2	3.0
	Mara	1.9	8.6
	Kagera	5.8	0.5
Central:	Tabora	1.0	6.3
	Kigoma	0.2	7.3
	Dodoma	3.0	5.3
	Singida	0.2	3.5
Southwest:	Iringa	12.7	1.3
	Mbeya	8.3	-
	Rukwa	0.1	3.6
South:	Mtwara	0.5	7.8
	Ruvuma	0.2	2.4
	Lindi	0.2	4.5

SOURCE: Tanzania, 1978a; Tanzania, 1978c.

seen as an opportunity to learn how to increase productivity and hence increase the communal and national welfare. A greater proportion of the total education budget is therefore going toward primary and adult education rather than secondary and tertiary education. Adult education has been a national activity since independence; universal primary education is compulsory since 1977; and higher education is provided as is appropriate to the immediate manpower needs of Tanzania.

The curriculum in the Universal Primary Education (UPE) program is designed to meet the basic mass needs rather than producing a small highly educated class. The objective of the UPE curriculum is to foster both knowledge in skills and pride in agriculture as a livelihood. It is important that this strategy succeeds, as only 4% who start primary school reach secondary school and only 0.4% of these starters go to the nation's only university in Dar es Salaam (USAID, 1980b).

One acute problem is the distribution of educational facilities. Due to the patterns of growth during the colonial period, regional and district facilities are uneven. The Third Five Year Development Plan (1976-1981) acknowledged this regional discrepancy in its statistics. Kilimanjaro registered 75 percent of the children of school-going age in Standard One whereas Singida registered only 31 percent (Court, 1976). Tanzania is working to rectify this regional disparity. Primary school fees have been abolished and more Standard One facilities instituted in the deficit regions. Every village now has a primary school.

As a result about 75% of potential primary school starters are being enrolled each year. In 1980, 486,753 students were admitted to Standard One and it is expected that approximately 90% will complete the seven year primary course. Although a large percentage have been enrolled, pupil absenteeism is

as high as 40% in some areas (Tanzania Daily News, May 28, 1981). While school fees have been abolished there are other educational expenses that must be met by the families. In addition, schools take away valuable labor from the homes and farms, as many tasks are normally performed by children. Many girls are forced to leave schools because of pregnancies. These and other factors may account for the high drop out and absentee rates. Nevertheless, the current Standard One intake is a remarkable achievement because in 1975/76 there were 665,621 children of school age in Tanzania and only 273,375 places in primary schools (Brown, 1979). The universal education program cannot, overnight, eliminate the built-in advantages of some regions, which have had high levels of educational enrollment for years, but it is a beginning.

It is the government's policy to provide technical, secondary, and higher education only to the extent justified by the manpower requirements of the national economy. To meet the needs of the expanded mining and industrial sectors there are to be a technical college and a vocational school for each region and district, respectively, by the year 2000. In 1981, for 375,506 students completing primary school, only 9000 places are available in secondary schools (United Nations Conference on Least Developed Countries, 1981). A recent government directive prohibiting the transfer of students from private to public schools has resulted in a decline in secondary school enrollments. While fulfilling a need until government schools can be expanded, the existence of private secondary schools challenges the educational philosophy promoting equitable accessibility. There is also a shortage of teachers for science, mathematics, English and technical subjects, which results in high teacher turnover rates. Qualified people can still earn more outside the teaching profession. For example, recently at the School of Accounting in Dar es Salaam, it was reported that on the average over a 5 year period from 1975

to 1980/81 at least one teacher left the school every month, and the salary difference for diploma holders in accounting employed by the Civil Service was 490 T.Sh. (US \$60) less per month than those employed by parastatals (Tanzania Sunday News, May 24, 1981).

The considerable deficit in high-level manpower training has been recognized as an acute problem, yet the government is proceeding cautiously in implementing appropriate policies. Male students, for example, are now required to complete at least two years of employment prior to university education. Science and technical subjects are given priority. Direct training of prospective professionals in engineering, medicine, agriculture, and commerce is available to students who have successfully completed secondary schools. Universities of Technology, Agriculture and Geology are to supplement the existing General University at Dar es Salaam by the year 2000. Education is expensive and higher education is even more expensive. Yet the significant lack of skilled personnel in these professions in Tanzania has a direct impact on the level of services provided to the rural poor, and this has to be addressed.

4.9 ENVIRONMENT AND POVERTY

Since agricultural development is a high priority of the Tanzanian government, environmental concerns represent a very real constraint when setting realistic goals, especially in rural development planning. The status of the environment has a profound effect on rural well-being and therefore should be an integral part of defining the "nature" of poverty.

Soil erosion, decrease in soil fertility, water conservation, pests and animal problems, and vegetational change are among Tanzania's most pressing

environmental concerns. Problems of water and land pollution exist for certain agricultural activities such as sisal production. Hazards of drought and flood present problems in agricultural production and hence make the peasant farmer more vulnerable. Water-borne and/or insect-carrying tropical diseases such as malaria and schistosomiasis pose very real problems to those in susceptible regions.¹ Livestock are also vulnerable to pests with tsetse infesting certain areas, such as Arusha (Mbula District), Dodoma, Kigoma, and Mara. Crops are also afflicted with both growing and storage problems including birds, locusts, termites, and wild animals. On farm storage losses are estimated to be as high as 40 percent.

There is considerable regional variation in the intensity of environmental problems. In Morogoro region, for example, severe problems of pest/animal disease as well as human diseases such as malaria and trypanosomiasis impair food crop production in maize and rice. These environmental problems may contribute to the below average PQLI in this region. Dodoma district suffers from intense soil erosion and potential hazards such as flood and drought. Pests and animal diseases penetrate the Kigoma region and hamper the production of cassava, sorghum, and mixed stands of maize/beans. Kigoma region also records the lowest PQLI (15) and US \$5-25 per capita development funds.

Livestock overgrazing, discussed earlier in this section on poverty, is one of the causes of soil erosion in Tanzania. Especially in those regions where cattle population is relatively high (Mara, Mwanza, Shinyanga, Tabora, Singida, Dodoma, and Arusha), there has been a decrease in pastoral areas and a steady increase in cattle numbers without commensurate off-take.

¹Refer to Chapter 3, Section 11, Health, for a general discussion of these problems.

Regions of low population density are much more susceptible to pests and animal diseases. Densely populated areas are cleared whereas the bush provides a secure breeding area for the tsetse fly and other pests. Bird and smaller animals also cause serious destruction in Kilwa, Kondo, and Rufiji districts.

4.10 HEALTH STATUS AND ACCESSIBILITY TO HEALTH SERVICES

The First and Second Five Year Development Plans began directing improvements in health and living standards of the entire Tanzania population. The goal was to manage all resources into a national health service thereby utilizing facilities provided by the government, local authorities, and voluntary agencies. From 1970 to 1978 between 5 and 7% of the national budget has been allocated to the health sector amounting to about US \$5 per capita per year. Throughout the seventies the portion of the health budget directed to rural facilities and preventive services steadily increased while that allotted to administration and hospitals decreased. The government stressed the need for rural health programs manned by inexpensively trained paraprofessionals in its effort to make health services more accessible to the rural areas, yet hospital services still consumed more than 50% of the health budget in 1977/78 (USAID, 1980b).

In spite of this effort severe health problems exist. Ninety percent of all causes of ill health can be attributed to malnutrition and water related diseases and 60% of the population still does not have access to safe potable water (Tanzania Daily News, May 21, 1981). The main factors of malnutrition are insufficient food intake often limited to a single food crop and lack of knowledge about good nutritional practices. In addressing the issue of

health, it is necessary to consider the interplay of other factors of poverty, i.e., lack of resources, capital, facilities, manpower, transportation network, sanitation, food, etc., as poverty-related diseases account for a large percentage of all deaths.

Table 25 gives the leading causes of mortality in hospitals in Tanzania. Some of the most prevalent diseases resulting in death are pneumonia, gastroenteritis, measles, defective nutrition and malaria. An estimated 16% of reported deaths in children under five years of age could be attributed to diseases for which immunizations are available (USAID, 1980b). A measles

TABLE 25
MOST COMMON CAUSES OF DEATH IN HOSPITALS 1974-1977
TANZANIA MAINLAND

<u>Cause</u>	% to the total number of deaths in hospitals			
	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
1. Pneumonia (all forms)	14.1	13.4	11.1	11.6
2. Gastroenteritis (all forms)	10.2	2.7	2.4	10.5
3. Measles	8.9	26.4	8.6	14.7
4. Defective nutrition (all forms)	7.8	5.1	7.4	7.6
5. Condition of early infancy	7.9	1.0	6.6	5.3
6. Malaria (all forms)	4.5	7.8	6.1	4.7
7. Anaemia (all forms)	4.8	3.9	6.3	3.8
8. Tuberculosis (all forms)	3.9	2.2	2.8	4.9
9. Diseases of the heart	4.6	4.6	4.6	3.8
10. Tetanus	1.9	13.2	2.0	2.1
11. Meningitis	0.6	0.3	3.0	1.4

SOURCE: Planning Unit, Ministry of Health. (Quoted in USAID, 1980b)

immunization program has been launched and while the number of cases has decreased in the last few years there were still 56,000 reported cases of measles in 1980 (Tanzania Daily News, June 28, 1981).

Immunization is not the only answer. For example, one study concluded that by augmenting the protein intake of a sample of village children, mortality due to measles was reduced by 66% (Lewis, 1976). Most of the anemias in adults are a result of inadequate nutritional intake. Malaria, which is more difficult to control except through prophylactic medicines, will continue to be endemic in Tanzania until a mosquito eradication method is devised and successfully implemented. Cases of kwashiorkor and marasmus occur in rural areas where children are fed a starchy diet unsupplemented by green vegetables or fruits. Because of these nutritional deficiencies, the severity of normal childhood diseases is increased, resulting more frequently in deaths. In addition, studies of pregnant and lactating mothers show that 10-25% of a sample of mothers consume only 50-75% of their daily energy requirements. Since most (90-100%) mothers in Tanzania continue to breast feed, this has a direct effect on infant health.

To address these needs the Maternal-Child Health (MCH) services were organized in 1973. By 1979, 70-80% of child bearing women were thought to be attending MCH clinics and an estimated 60% in vulnerable age groups had been immunized against measles, polio, diphtheria, pertussis, tetanus, tuberculosis, and small pox. Between 1974-75 and 1976-77, the total available calories and grams of protein per capita per day increased nationally. In six regions however, decreases both in calories and protein availability per capita were noted. These regions are Coast, Mtwara, Ruvuma, Iringa, Singida, and Mara.

Other common malnutrition problems in Tanzania are avitaminosis A, goiter and fluorosis. Mass education programs on nutrition have been initiated by

Chama Cha Mapinduzi (CCM) the national party, as well as by the Adult Education Institute. A nutrition campaign has also begun through the use of the radio and distribution of special books and pamphlets. The Ministry of Agriculture is training agriculture and nutrition extension workers who specialize in assisting farmers in food crop production. Nutrition Rehabilitation Units (NURU) have been set up as training and health centers which admit malnourished children and parents.

All health services provided by the government are free of charge to the people. The plan for the health facility infrastructure defines three main levels in the hierarchy. These are ideally: one dispensary to serve 6,000 people; a Rural Health Center for every 50,000 people, and one hospital bed for every 1,000 people. Voluntary agencies contribute substantially to the health services. As of 1976-77, 40-45% of health services in rural areas were provided for by these agencies, and almost one-half of the hospital facilities had been constructed by voluntary agencies. The 1980 target figures for the facilities of 2,300 dispensaries, 320 Rural Health Centers, and 130 hospitals can be compared to the actual situation as of 1978 shown in Table 26. With the current population growth rate of 3.3% more than 100 facilities must be constructed annually to maintain the present levels. As seen from the table all but five regions, Shinyanga, Mara, Kigoma, Coast and Rukwa have achieved the desired ratio of hospital beds per inhabitant while no region has the targeted number of Rural Health centers. Only six have sufficient dispensaries. In other words, fifteen regions have not met the goals established in two or more areas.

There are also great differences in the proportion of each region's population living close to a facility. Table 27 shows the average distance of households to health facilities. For the rural population, residents of five

TABLE 26

REGIONAL DISTRIBUTION OF HEALTH SERVICES AS OF 1978

	Population ¹ (000's)	Hospitals ²		Pop./Bed	Rural Health Centers ³		Dispensaries ³		Health Expenditures 1977/78 sh/c
		No. of Hospitals	No. of Beds		Health Centers (RHC)	Pop/RHC (000's)	Dispen- saries	Pop./Disp (000's)	
Mwanza	1,443	9	1,490	969	19	76	188	7.7	20.6
Shinyanga	1,323	6	923	1,434	14	95	154	8.6	24.3
Mbeya	1,080	11	1,320	818	12	90	136	7.9	20.2
Tanga	1,039	11	1,549	670	12	87	214	4.9	31.3
West Lake	1,009	11	1,636	617	8	126	121	8.3	18.4
Dodoma	972	7	1,795	542	14	69	148	6.6	23.3
Morogoro	939	10	1,440	652	10	94	181	5.2	22.9
Arusha	928	9	960	957	11	84	142	6.5	27.8
Iringa	923	-	1,383	667	11	83	161	5.7	21.9
Kilimanjaro	902	13	-	727	11	82	145	6.2	18.0
Dar es Salaam	952	5	959	888	8	106	106	8.0	49.8
Tabora	818	7	1,135	721	8	102	111	7.4	28.0
Mtwara	772	6	1,056	731	7	110	96	8.0	29.6
Mara	723	4	658	1,099	10	72	109	6.6	14.6
Kigoma	649	5	540	1,202	7	93	87	7.4	28.9
Singida	614	5	728	843	6	102	84	7.3	22.7
Ruvuma	564	7	1,214	465	9	63	94	6.0	22.0
Lindi	528	-	717	736	7	75	98	5.4	15.9
Coast	517	6	447	1,156	4	103	100	5.2	26.5
Rukwa	452	3	290	1,558	6	75	72	7.0	22.6
Tanzania	17,528	151	21,482	791	184	92	2,547	6.7	23.3

- SOURCES:** 1) Tanzania, 1978b
 2) Planning Unit, Ministry of Health (1972-76) and Health Inventory, 1978
 3) Planning Unit, Ministry of Health (1974-76) and Health Inventory, 1978
 4) Kitabu Cha Ru, Treasury, 1st July, 1977-30th June, 1978

(2, 3, 4, and 5 are quoted in USAID, 1980b)

TABLE 27

AVERAGE DISTANCE OF HOUSEHOLDS TO HEALTH FACILITIES

	<u>Dispensary</u>		<u>Hospital</u>	
	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Iringa	1.45 kms	3.06 kms	1.68 kms	23.9 kms
Mara	.95	4.66	2.14	7.5
Kigoma	.92	3.73	3.85	28.6
Singida	11.50	3.12	11.50	28.3
Shinyanga	3.72	5.86	9.65	27.1
Mbeya	2.25	2.97	3.02	14.7
Mwanza	3.13	4.38	12.49	16.6
Rukwa	1.65	4.06	1.65	29.7
West Lake	1.32	3.26	1.36	13.3
Dodoma	.89	6.95	7.17	32.21
Coast	--	2.37	--	37.91
Mtwara	6.59	8.21	6.11	26.7
Lindi	1.39	4.59	2.74	19.3
Morogoro	.96	6.42	3.10	17.13
Tabora	2.04	3.09	3.27	17.7
Tanga	1.66	3.39	4.19	21.68
Ruvuma	1.76	7.67	1.76	45.7
Arusha	.31	4.30	3.30	31.91
Kilimanjaro	2.75	4.61	4.26	18.43
Dar es Salaam	2.59	--	7.66	--

SOURCE: Tanzania Household Budget Survey, 1976

regions are on the average more than five km from the nearest dispensary and the rural inhabitants of eleven regions are more than twenty km from a hospital. In 1972, it was estimated that only 13.5% of the rural population was within ten km of a Rural Health Center (Thomas and Mascarenhas, 1972). A district study of rural health centers and populations found that five of the poorest served districts bordered on Lake Victoria (Maswa, Bukoba, Zeita, Musoms and North Mara). This regional deficiency was also found for the distribution of hospitals. A survey of selected hospitals, health centers and dispensaries in four regions (Dodoma, Kigoma, Kilimanjaro and Mwanza) found that the percentage of outpatients who come from within five km were as follows: for hospitals 73%, RHC 71% and dispensaries 90%. This suggests that facilities may be used more by those living close to them and under-utilized by the population living more than five km away. In addition to the shortage and unequal distribution of facilities there is also a deficit of qualified personnel particularly Assistant Medical Officers, rural medical aids, health assistants, MCH aids and nurses. The quality of services provided by those who are practicing is hampered by lack of medications, supplies and resources including systematic support and supervision.

As Lewis suggests in his paper, "Report on the Health Sector of Tanzania" (1976), the accessibility to better health conditions may be measured by the degree to which many kinds of barriers may be overcome. Some of the barriers Lewis enumerates are:

- (1) geographic factors;
- (2) availability of health professional manpower;
- (3) economic barriers;
- (4) organizational factors; and

(5) psychosocial factors, such as the individual's belief about the cause and prevention of disease.

Tanzania has attempted to deal with these barriers through various development efforts. The emphasis upon increasing rural health center facilities as well as the Third Five Year Development Plan's directive to increase manpower training are programs which could provide better health services to the majority of people in the rural areas, and thereby increase productivity.

REFERENCES

There is a considerable amount of literature on Tanzania. The following items represent only those materials that were specifically mentioned in the text. For further readings please refer to Appendix II below.

African Business, 1979. v. 11, p. 21.

American University. 1978. Tanzania: A Country Study. I. Kaplan ed. Area Handbook Series. Washington, D.C., U.S. Government Printing Office.

Brown, L. 1979. Teaching Self-Reliance. New African, v. 137, pp. 30.

Christiansson, C. 1981. Soil Erosion and Sedimentation in Semi-Arid Tanzania. Uppsala, Scandinavian Institute of African Studies.

Conyers, D. 1973. Agro-Economic Zones of Tanzania. BRALUP Research Paper No. 25, Dar es Salaam, Bureau of Resource Assessment and Land Use Planning, University of Dar es Salaam.

Court, D. 1976. The Educational System as a Response to Inequality in Tanzania and Kenya. Journal of Modern African Studies, v. 14, pp. 672-685.

Honey, M. 1981. Tanzania's Plight Reflects an African Problem. Africa News, Jan. 12, p. 5-7.

- Hyden, G. 1980. Beyond Ujamaa in Tanzania; Underdevelopment and an Uncaptured Peasantry. Berkley, University of California Press.
- Kline, B. et al. 1981. Tanzania Food for Development (PL 480 Title III). Some Policy Considerations and Areas for Further Considerations. Mimeo. Dar es Salaam, USAID.
- Lewis, C.E. 1976. Consultant Report on the Health Sector of Tanzania. Los Angeles, University of California.
- Lofchie, M. 1978. Agrarian Crisis and Economic Liberalization in Tanzania. Journal of Modern African Studies, v. 16, pp. 451-475.
- Maletnlema, T.N. 1976. Malnutrition in Tanzania and its Consequences. TFNC Publication no. 11. Dar es Salaam, Tanzania Food and Nutrition Centre (TFNC).
- Maletnlema, T.N. 1979. Tanzania: Nutrition and Government Policy--Socialism as a Solution. Mimeo. Dar es Salaam, Tanzania Food and Nutrition Centre (TFNC).
- Mascarenhas, A. 1971. Agricultural Vermin in Tanzania. In: Studies in East African Geography and Development, edited by S.H. Ominde. London, Heinemann, pp. 259-267.

Mascarenhas, A. 1973. Urban Growth. In: The Population of Tanzania; an Analysis of the 1967 Population Census, edited by B. Egero and R. Henin. Dar es Salaam, Bureau of Statistics and Bureau of Resource Assessment and Land Use Planning, University of Dar es Salaam.

Mudge, J., Crosswell, M. and Kwan, K. 1980. Tanzania Development Performance and Implications for Development Assistance. Washington, D.C., USAID.

New African, 1981. Nyerere Launches Survival Plan, v. 166, pp. 52-53.

Nieuwolt, S. 1973. Rainfall and Evaporation in Tanzania. BRALUP Research Paper, No. 24. Dar es Salaam; Bureau of Resource Assessment and Land Use Planning, University of Dar es Salaam.

Nkhoma, J.S., and Asman, S.J. 1980. Reflections on Energy with Some References to Tanzania. In: Energy and Environment in East Africa. Nairobi, United Nations Environmental Programme (UNEP), pp. 267-280.

Nyerere, J.K. 1962. Ujamaa - The Basis of African Socialism. Dar es Salaam, Tanganyika African National Union (TANU).

Nyerere, J.K. 1965. Education for Self-Reliance. Dar es Salaam, Government Printer.

Nyerere, J.K. 1967(a). The Arusha Declaration and TANU's Policy on Socialism and Self-Reliance. Dar es Salaam, Government Printer.

- Nyerere, J.K. 1967(b). Socialism and Rural Development. Dar es Salaam, Government Printer.
- Nyerere, J.K. 1972. Decentralization. Dar es Salaam, Government Printer.
- Overseas Development Council. 1980. The United States and World Development Agenda. New York, Praeger.
- Porter, P. 1974. Potential Photosynthesis and Agriculture in Tanzania. BRALUP Research Paper No. 29, Dar es Salaam, Bureau of Resource Assessment and Land Use Planning, University of Dar es Salaam.
- Tanganyika, 1964. First Five Year Plan for Economic and Social Development, 1st July 1964 - 30th June 1969. Dar es Salaam, Government Printer.
2 vols.
- Tanzania, 1967. Survey of Industrial Production, 1966. Dar es Salaam, Bureau of Statistics.
- Tanzania, 1974. Survey of Industrial Production, 1973. Dar es Salaam, Bureau of Statistics.
- Tanzania, 1978(a). The Annual Plan, 1978/79. Dar es Salaam, Ministry of Finance and Planning.
- Tanzania, 1978(b). Third Five Year Plan for Economic and Social Development, 1st July 1976 - 30th June 1981. Dar es Salaam, Ministry of Finance and Planning.

Tanzania, 1980. Economic Survey, 1978/79. Dar es Salaam, Ministry of Finance and Planning.

Tanzania Bureau of Statistics. 1978 Population Census: Preliminary Report. Dar es Salaam, Bureau of Statistics.

Tanzania Daily News, May 21, 1981.

Tanzania Daily News, May 28, 1981.

Tanzania Food and Nutrition Centre. 1980. Data Report on the Food and Nutrition Situation in Tanzania, 1973/74-1977/78. Dar es Salaam.

Tanzania Household Budget Survey. 1976. Unpublished Report.

Tanzania Sunday News, May 24, 1981.

Thomas, I.D., and Mascarenhas, A. 1973. Health Facilities and Population in Tanzania. BRALUP Research Paper No. 21.1. Dar es Salaam, Bureau of Resource Assessment and Land Use Planning, University of Dar es Salaam.

United Nations. 1977. World Energy Supplies: 1971-1975. Statistical Papers, Series J, No. 20, New York.

United Nations. Conference on the Least Developed Countries. 1981. Country Review Meetings. Country Presentation, United Republic of Tanzania (Issued by the Ministry of Planning and Economic Affairs, Dar es Salaam), New York.

USAID. 1980(a). Tanzania, Country Development Strategy Statement (FY 82). Washington, D.C.

USAID. 1980(b). Tanzania, Health Sector Strategy. Dar es Salaam.

USAID. 1981. Country Development Strategy Statement: Tanzania. FY 1981. Washington, D.C.

World Bank. 1974(a). Agriculture and Rural Development Sector Study. Washington, D.C.

World Bank. 1974(b). Fiscal Aspects of Decentralization, 1973/74. Washington, D.C.

World Bank. 1977. Tanzania Basic Economic Report. Washington, D.C., 8 vols. Especially important to this paper are: Annex III: Labor Market Allocation and Income Distribution; Annex IV: Key Issues in Agriculture and Development.

World Bank. 1980. Economic Memorandum on Tanzania. Washington, D.C.

APPENDIX I

MAJOR EVENTS IN TANZANIA 1954-1981

- 1954-July 7 - Tanganyika Africa National Union (TANU) formed during the Annual Conference of the Tanganyika African Association. Julius K. Nyerere elected leader.
- 1960-August - Julius K. Nyerere made Chief Minister.
- 1961-December 9 - Tanganyika gains independence from the United Kingdom. Julius K. Nyerere is the first Prime Minister.
- 1962-January - Julius K. Nyerere resigned to reorganize and strengthen the TANU Party. For the remainder of that year he wrote the three first policy guidelines of TANU:
(i) Ujamaa: The Basis of African Socialism;
(ii) The Second Scramble;
(iii) TANU na Raia (TANU and Citizenship)
- Late 1962, Julius K. Nyerere won the presidential election.
- December 9 - TANU made Tanganyika a Republic with Julius K. Nyerere as Executive President.
- Following the strikes of 1962, four main bills were passed to control trade union movements.
(i) Trade Union Ordinance (Amendment) Bill;
(ii) The Trade Disputes (Settlement) Bill;
(iii) The Civil Service Negotiating Bill;
(iv) The National Union of Tanganyika Workers (Establishment) Bill.
- Government Paper No. 2: Conversion of Freehold into Government Leases, makes all tribal lands government lands.
- 1964 - The National Development Corporation (NDC) was created to expand public ownership in the industrial sector, and the NDC became a holding company in 1967.
- The National Insurance Corporation was created.
- February - Revolution in Zanzibar to overthrow the Arab oligarchy and establish African majority rule under the Afro-Shirazi Party (ASP).
- April - TANU approved the union of Tanganyika and Zanzibar with the TANU and the ASP operating independently. The union is called Tanzania.

- 1964 (cont.) - Late 1964, President Nyerere appointed a Committee of Thirteen to investigate the working of a one-party democracy.
- 1965-March - An Interim Constitution of Tanzania was formed on the basis of "The Report of the Presidential Commission on the Establishment of a Democratic One-Party State."
- September - The First Democratic One-Party election was held.
- 1967 - Tanzania and eight other independent African countries broke relations with the U.K. over the ineffectiveness of the U.K. in dealing with the Universal Declaration of Independence (UDI) in Zimbabwe (then Rhodesia).
- First National Population Census conducted.
- January - The Executive Committee of TANU adopted socialism as the ideology of the Party.
- February - The TANU Annual Conference endorsed the Arusha Declaration.
- February - Immediately after the Arusha Declaration a number of private companies, all commercial banks and insurance services were nationalized. In some cases the government acquired majority shares.
- September - President Nyerere published another policy document entitled "Socialism and Rural Development" which called for Ujamaa living in Tanzania. President Nyerere himself was involved in setting up Chamwino Ujamaa Village, Dodoma in 1972.
- "Freedom and Unity" published by President Nyerere.
- 1968 - Parastatal salaries and fringe benefits were almost equalized with government pay scales and a Standing Committee on Parastatal Organizations (SCOPO) was created to monitor parastatals.
- 1971 - The Buildings Acquisition Act nationalized rental properties valued over T.Shs. 100,000.
- The TANU (Mwongozo) Guidelines aimed at guarding, consolidating and advancing the revolution of Tanzania and granting workers' more participatory powers in the work place was published and adopted as guidelines for worker-management industrial relations.
- 1972-July - The government of Tanzania adopted a decentralization policy.

- 1973 - "Freedom and Development" was published by President Nyerere.
- 1974 -- In late 1974, TANU's National Executive Committee (NEC) met at Misoma and endorsed the policy of Universal Primary Education (UPE).
- 1975 - The Villages and Ujamaa Villages Act was passed specifying the regulations about land distribution and efficient administration of village affairs with the emphasis on local participation.
- The TANU government closed over 1000 private shops in Operation Maduka to encourage co-operative shops in villages.
- 1976 - Abolition of co-operatives.
- Crop Authorities formed.
- 1977-February 5 - TANU and ASP merged to form the only revolutionary party in Tanzania, called the Chama Cha Mapinduzi.
- Publication of "Arusha 10 Years Later" by President Nyerere.
- October - In a speech at the Institute of Finance Management, Mwalimu Nyerere called for the strengthening of small-scale private industries and instructed banks and credit institutions to be liberal when processing applications for industrial licenses.
- 1978 - Population Census.
- War with Uganda.
- 1980 - Order to reestablish co-operatives.
- 1981 - Minimum wages were raised for the fourth time. The minimum wage for the urban centers was T.sh. 600, and was approximately T.sh. 400 for the rural areas.
- Troop withdrawal from Uganda completed.
- New Economic Survival Plan was adopted, which contained stringent import restrictions, and established strict regional production quotas in the agricultural sector.

APPENDIX II

FURTHER READING

A number of sources are available for more detailed investigation. The following list is merely a sample and should be considered no more than suggestive. In general, items that are in the Reference List are not included in this list of recommended readings. The two lists are intended to complement each other.

The Tanzanian government publications that have proved useful include:

Bureau of Statistics. 1980. Agricultural Census of Tanzania 1971/72. Ministry of Planning and Economic Affairs. Dar es Salaam, Government Printer.

The Economic Survey 1967-77. Dar es Salaam, Government Printer

The First, Second and Third Five-Year Plan for Economic and Social Development. 1 July-30 June, 1964-1969, 1969-1974, 1976-1981. Dar es Salaam, Government Printing Office.

At the University of Dar es Salaam, the Economic Research Bureau (ERB) and the Bureau of Resource Assessment and Land Use Planning (BRALUP), as well as the Faculty of Agriculture have produced many high quality studies. Their papers are too numerous to cite here but lists of publications are available from these institutions.

Other research institutes in Tanzania that have produced important studies include the Tanzania Food and Nutrition Centre (TNFC), the Tanzania Marketing Development Bureau, and numerous colleges of agriculture such as the Uyole Agricultural Centre Training Section and the Mlingano Agricultural Research Institute. The writings of President Julius Nyerere are important to understanding the political basis of Tanzanian development. They include:

1962. Ujamaa--The Basis of African Socialism. Dar es Salaam, Tanganyika African National Union (TANU).
1965. Education for Self Reliance. Dar es Salaam, Government Printer.
1966. Freedom and Unity. Nairobi, Oxford University Press.
- 1967a. The Arusha Declaration and TANU's Policy on Socialism and Self-Reliance. Dar es Salaam, Government Printer.
- 1967b. Socialism and Rural Development. Dar es Salaam, Government Printer.
1970. Freedom and Socialism: A Selection from Writings and Speeches 1965-1967. New York, Oxford University Press.
1971. Ujamaa: Essays on Socialism. New York, Oxford University Press.
- 1974a. Freedom and Development--Uhuru Na Maendeleo. New York, Oxford University Press.
- 1974b. Man and Development--Binadamu Na Maendeleo. New York, Oxford University Press.
1977. The Arusha Declaration Ten Years After. Dar es Salaam, Government Printer.
1979. Crusade for Liberation. New York, Oxford University Press.

Another source of bibliographic information on Tanzania is "SADEX, the Southern African Development Information/Documentation Exchange" published by the African Bibliographic Center in Washington, D.C.

In addition, other individual titles of interest are:

- Barnum, H.N. and Sabot, R.H. 1976. Migration, Education and Urban Surplus Labour & the Case of Tanzania. Development Centre Studies, Employment Series No. 13. Paris, Development Centre of the Organization for Economic Cooperation and Development.
- Berry, L. 1971. Tanzania in Maps. New York, Holmes and Meier.
- Blue, R.N. and Weaver, J.H. 1977. A Critical Assessment of the Tanzanian Model of Development. USAID Development Studies Program. Occasional Paper No. 1. Washington, D.C., USAID.
- Bcesen, J. 1976. Tanzania: From Ujamaa to Villagization. Institute for Development Research Papers A.76.7. Copenhagen, Center for Development Research.

- Boesen, J. and Mohele, A.T. 1979. The "Success" Story of Peasant Tobacco Production in Tanzania: The Political Economy of a Commodity Producing Peasantry. Publication No. 2. Uppsala, Scandinavian Institute for African Studies.
- Chung, Do-Sup. 1975. Review of On-Farm Grain Storage in Tanzania. Kansas, Food and Feed Grain Institute.
- Datoo, B.A. 1973. Population Density and Agricultural Systems in the Muguru Mountains, Morogoro District. Bureau of Resource Assessment and Land Use Planning. BRALUP Research Paper No. 26. Dar es Salaam, University of Dar es Salaam.
- Fleuret, P. and Fleuret, A. 1980. Nutritional Implications of Staple Food Crop Successions in Usambara Tanzania. Mimeographed.
- Glaeser, B. ed. 1980. Factors Affecting Land Use and Food Production. Saarbrücken, Germany, Verlag breitenbach (Publishers).
- Henn, A.E. 1980. Tanzania & Health Sector Strategy. Dar es Salaam, USAID/Tanzania.
- Hofmeier, R. 1973. Transport and Economic Development in Tanzania With Particular Reference to Road Transport. Ifo-Institute für Wirtschaftsforschung-münchen. Afrika Studien Nr. 78. Munich, Weltforum Verlag. rt
- Hoeven, R. van der. 1979. Meeting Basic Needs in a Socialist Framework: The Example of Tanzania. World Employment Programme Research, Working Paper No. WEP 2-32/WP 20. Geneva, International Labour Office.
1978. The Human Environment in Tanzania. Tanzania Notes and Records No. 83. Dar es Salaam.
- International Labour Office. 1978. Towards Self-Reliance: Development, Employment and Equity Issues in Tanzania. Addis Ababa, ILO/JASPA (Jobs and Skills Programme for Africa).
- Kamuzora, C.L. 1978. The Dynamics of Labor in African Smallholder Agriculture, the Sources of Labor for a New Cash Crop, Tea in Bukoba District, Tanzania. Ph.D. dissertation, University of Pennsylvania.
- Kjekshus, H. 1977. Ecology Control and Economic Development in East African History. Berkeley, University of California Press.
- Kocher, J.E. 1979. Rural Development and Fertility Change in Tropical Africa: Evidence from Tanzania. East Lansing, Michigan/Dar es Salaam, Michigan State University/Bureau for Resource Assessment and Land Use Planning (BRALUP).
- Kocher, J.E. and Fleicher, B. 1979. A Bibliography on Rural Development in Tanzania. MSU Rural Development Paper No. 3. East Lansing, Michigan, Dept. of Agricultural Economics, Michigan State University.

- Boesen, J. and Mohele, A.T. 1979. The "Success" Story of Peasant Tobacco Production in Tanzania: The Political Economy of a Commodity Producing Peasantry. Publication No. 2. Uppsala, Scandinavian Institute for African Studies.
- Chung, Do-Sup. 1975. Review of On-Farm Grain Storage in Tanzania. Kansas, Food and Feed Grain Institute.
- Datoo, B.A. 1973. Population Density and Agricultural Systems in the Muguru Mountains, Morogoro District. Bureau of Resource Assessment and Land Use Planning. BRALUP Research Paper No. 26. Dar es Salaam, University of Dar es Salaam.
- Fleuret, P. and Fleuret, A. 1980. Nutritional Implications of Staple Food Crop Successions in Usambara Tanzania. Mimeographed.
- Glaeser, B. ed. 1980. Factors Affecting Land Use and Food Production. Saarbrucken, Germany, Verlag breitenbach (Publishers).
- Henn, A.E. 1980. Tanzania & Health Sector Strategy. Dar es Salaam, USAID/Tanzania.
- Hofmeier, R. 1973. Transport and Economic Development in Tanzania With Particular Reference to Road Transport. Ifo-Institute fur Wirtschaftsforschung-munchen. Afrika Studien Nr. 78. Munich, Weltforum Verlag.
- Hoeven, R. van der. 1979. Meeting Basic Needs in a Socialist Framework: The Example of Tanzania. World Employment Programme Research, Working Paper No. WEP 2-32/WP 20. Geneva, International Labour Office.
1978. The Human Environment in Tanzania. Tanzania Notes and Records No. 83. Dar es Salaam.
- International Labour Office. 1978. Towards Self-Reliance: Development, Employment and Equity Issues in Tanzania. Addis Ababa, ILO/JASPA (Jobs and Skills Programme for Africa).
- Kamuzora, C.L. 1978. The Dynamics of Labor in African Smallholder Agriculture, the Sources of Labor for a New Cash Crop, Tea in Bukoba District, Tanzania. Ph.D. dissertation, University of Pennsylvania.
- Kjekshus, H. 1977. Ecology Control and Economic Development in East African History. Berkeley, University of California Press.
- Kocher, J.E. 1979. Rural Development and Fertility Change in Tropical Africa: Evidence from Tanzania. East Lansing, Michigan/Dar es Salaam, Michigan State University/Bureau for Resource Assessment and Land Use Planning (BRALUP).
- Kocher, J.E. and Fleicher, B. 1979. A Bibliography on Rural Development in Tanzania. MSU Rural Development Paper No. 3. East Lansing, Michigan, Dept. of Agricultural Economics, Michigan State University.

- Maeda, J.H.J. (n.d.) Popular Participation, Control and Development: A Study of the Nature and Role of Popular Participation in Tanzania's Rural Development. Unpublished Ph.D. dissertation. Yale University.
- Mascarenhas, A.C. 1973. Studies in Famines and Food Shortages in Tanzania. Journal of the Geographic Association of Tanzania. Special Issues No. 8. Dar es Salaam.
- Mascarenhas, O. and Mbilinyi, M. 1980. Women and Development in Tanzania, an Annotated Bibliography. Bibliography Series No. 2. Addis Ababa, African Training and Research Centre for Women, Economic Commission for Africa, United Nations.
- Matzke, G. 1977. Wildlife in Tanzanian Settlement Policy; The Case of the Selous. Foreign and Comparative Studies/Africa Series 18. Syracuse, NY, Maxwell School of Citizenship and Public Affairs, Syracuse University.
- Mbilinyi, M.J. 1977. Women: Producers and Reproducers in Peasant Production. Dar es Salaam, University of Dar es Salaam, Economic Research Bureau.
- Mbilinyi, S.M. 1973. Rural Development and Rural Employment Generation: Lessons from Experimentation in Tanzania. Rural Africana 19:67-85.
- Morris, M. 1979. Measuring the Condition of the World's Poor. Elmsford, NY, Pergamon Press.
- Mwansasu, B.U. and Pratt, C. 1979. Towards Socialism in Tanzania. Toronto, University of Toronto Press.
- O'Keefe, P. 1976. Fuelwood and Energy in Eastern Africa. Worcester, Massachusetts, Clark University International Development Program.
- Omari, C.K. 1976. Strategy for Rural Development. Dar es Salaam, East African Literature Bureau.
- Nyerere, J. 1977. The Arusha Declaration Ten Years After. Dar es Salaam, Government Printer.
- Raikes, P. 1978. State and Agriculture in Tanzania. CDR Project Paper A.78.1. Copenhagen, Centre for Development Research.
- Rweyemamu, J. 1973. Underdevelopment and Industrialization in Tanzania. Nairobi, Oxford University Press.
- Shivji, I. 1976. Class Struggle in Tanzania. London, Heinemann.
- Tanzania. 1980. Statement of the Ministry of Water, Energy and Minerals during Presentation in the National Assembly of Estimates of Expenditures for the Year 1980/81. [Section on Energy, pp. 19-22]. Dar es Salaam, Government Printer.

Tanzania, Ministry of Economic Affairs and Development Planning Central Statistical Bureau and University of Dar es Salaam Bureau of Resource Assessment and Land Use Planning (BRALUP). 1975. 1973 National Demographic Survey of Tanzania. 6 vol. Dar es Salaam, Government Printer.

Temu, P.E. 1974. Marketing Board Pricing and Storage Policy with Particular References to Maize in Tanzania. Ph.D. dissertation. Stanford University.

Yeager, R. 1982. Tanzania: An African Experiment. Boulder, Colorado, Westview Press.