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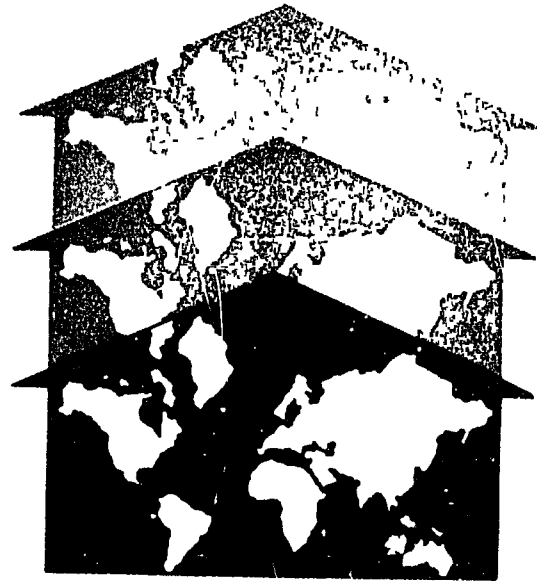
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Swaziland Shelter Sector Assessment

July 1978

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OFFICE OF HOUSING

Swaziland Shelter Sector Assessment

December 1978

Prepared For
The Government of Swaziland
and USAID

By
Rivkin Associates, Inc.
In Association With
Carl House

This Study is Conducted in Response to a Request by
The Government of Swaziland
Ministries of Finance and Local Administration

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON D C 20523

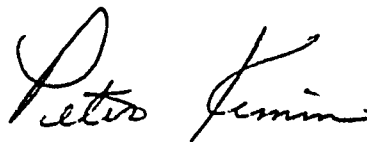
FOREWORD

This report is the product of a study requested by the Government of Swaziland and conducted by Rivkin Associates Inc. in cooperation with representatives of that Government. The study was made under the auspices of the Office of Housing of the Agency for International Development and financed by this Office. The purpose of the study was to obtain information, provide analysis and make recommendations relating to the shelter sector in Swaziland.

The study team included Malcolm D. Rivkin (team leader), Goldie W. Rivkin, Carl House and L. Alan Feinberg. Field work was completed in July, 1978.

The findings and recommendations of the study are for the purpose of discussion and review and are not to be considered as the official position of the Government of Swaziland or Agency for International Development.

We hope that the Government of Swaziland will find the report and its recommendations useful when considering its future shelter programs.



Peter M. Kimm
Director
Office of Housing

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APPENDIX

I. Introduction and Summary

A. Introduction

This report grows out of a shelter study mission to Swaziland in July 1978. The mission was conducted under the auspices of the U.S. Agency for International Development by request of the Ministries of Finance and Local Administration. Members of the study team and their professional disciplines were

Goldie W. Rivkin, Planner
Malcolm D. Rivkin, Planner
Carl House, Economist
L. Alan Feinberg, Architect-Planner

The team collected data, investigated current activity in the field and held dozens of interviews with officials, international advisers and private citizens. Throughout this work, cooperation was excellent, reflecting the importance of shelter issues in the country.

At the conclusion of the mission the team presented a summary of findings and recommendations to officials of the Government of Swaziland and obtained initial reactions. A draft report followed which amplified the analysis and proposals for future activity in the shelter field. This final report takes into account the views and comments of the Swaziland Government in its review of the draft. Although a number of details have been revised and some factual errors corrected, the recommendations remain unchanged.

The consultants take full responsibility for the interpretations and advice contained in this document. It is presented in the hope that it will be of value to the Government of Swaziland for shelter policy and program planning.

B. Summary

1. Background Chapters

Chapters II through V of this report deal with the anatomy of housing and urban development in Swaziland. As such, they are intended to present a detailed depiction of conditions and issues which can serve both as a reference document for those interested in the shelter field and a data base for program and policy initiatives. That material is not readily adaptable to summarization.

Chapter II presents a portrait of the geographic, demographic, economic, and cultural factors that bear on shelter in Swaziland. It discusses the small size (17,364 km²) of the country and decentralization of its relatively diversified resources and economic activity. The 1976 census population (slightly under 500,000) is examined in terms of growth rate, age and sex factors, income, and urban/rural distribution.

Significant population features are the relatively great cultural homogeneity, sizeable youthful component (47 percent under the age of 15), more numerous females than males (100 to 88), and dispersed pattern of settlement. Only 18 percent of Swaziland's population was in urban areas during the census, but the rate of urban growth (6.7 percent annually) is considerably higher than the overall population growth rate itself (2.8 percent annually). Much of this urban growth is concentrated in the core region whose principal urban areas of Mbabane and Manzini have evidenced a 7.4 percent annual growth. It is in the urban areas where principal expansion of wage-sector employment has occurred. Thus, urban income levels are about three times as large per family as rural. Urban family sizes are, however, about half those of rural. To a great degree this is due to the particular cultural and access patterns of Swaziland--where urban migrants often maintain their principal rural homestead residences. Tradition and the pattern of rural settlement of Swazi Nation Land, where each homestead can obtain rights of occupancy, have thus far served to retard rural/urban migration. Swaziland is a member of the South African Customs Union, and employment in South African mines has been both an additional source of employment and an alternative to permanent migration to the towns of Swaziland. South African labor was, however, only 21,000 in 1976, less than one-third of domestic wage employment.

Chapter III deals with the role government has played in shelter provision since independence in 1968. It discusses the role of government in providing units for civil servants and the changing practices towards subsidy in response to high costs and shortages. It reviews government requirements for private companies to provide shelter for their workers and creation of the Industrial Housing Company as a means of assisting in compliance. This chapter examines each of the several undertakings by government to address middle and lower income housing needs (from experiments at sites-and services, to the short-lived National Housing Corporation, to the present U.N. supported aided self-help housing effort). This chapter also examines the expenditure levels of government for housing and associated infrastructure during the second five-year plan completed in 1977. It concludes with a depiction of housing-related outlays contemplated for the third five-year plan now in preparation.

Chapter IV is a detailed description, with text, photographs, and drawings of current housing conditions and institutions in Swaziland. It begins with a review of the rural homestead, how constructed with what materials and how organized in terms of family occupancy and use. The serious problem of access to potable water along with prospects for resettlement under the Rural Development Program are examined. Chapter IV then describes urban housing, the range of types (informal and formal for various income levels) the manner and materials with which shelter is constructed; the availability and methods of infrastructure provision; the costs of land and utilities; the densities

of the various settlement types, and issues of land tenure and building codes that apply to each. It discusses financing mechanisms and then portrays the range and costs of urban housing types in use by the proportion of urban families who could afford each type under present financing conditions. Company built housing represents a significant portion of the present urban shelter stock, especially in towns outside Mbabane and Manzini. Chapter IV continues with a case investigation of housing provided by two companies--the Usutu Pulp Company and Libby's Cannery--to identify the characteristics of the shelter stock, the income levels served, subsidies provided, and issues perceived by the companies in expanding housing supply. This is followed by a review of urban land availability within the core region, particularly Mbabane and Manzini, where prospective demand for new shelter will require extremely careful attention to the planning and release of sites for all levels of income.

Remaining sections of Chapter IV are devoted to three important aspects of contemporary shelter conditions. First is the formal institutional framework affecting shelter provision and management. The relevant agencies of government, parastatal, traditional, and private sector are identified and their functions and relationships described. The conclusion is reached that Swaziland has today an excellent institutional base for expanding shelter efforts, with principal problems those of program, manpower, and finance--not organizational existence. The second element examined is the existing financial mechanisms, their capacities and policies. Conclusions are reached that Swaziland can expand its present level of mortgage lending (E90 million) considerably, and that present regulatory restrictions against leasehold tenure as a basis for financing sharply restrict housing options.

The third element examined is the formal sector construction industry which employs about 3,000 people. The scale of production is discussed along with the issues of increased manpower and limited training, and the considerable dependency on South Africa for building material imports. The chapter concludes with a review of several items of building materials for which import substitution through Swazi production has been proposed.

Chapter V is an attempt to spell out shelter needs during the next five years. As such, it provides a basis for policy and program formulation. It depicts the extent to which the informal sector has had to substitute for formal housing production within the core region during the past several years, along with those conditions of durability and sanitation which merit attention in both the rural and urban housing stock. As a framework for estimating short term needs, it projects overall Swaziland population to reach about 1,000,000 by the turn of the century (at present growth rates) and urban population to be about 40 percent. The following summary is presented for the near-term future.

Urban shelter needs over the next five years may be divided into two component parts: needs of people who have already settled in and around the towns, and needs of the families yet to come. The census data on living conditions set the scale of the problems of the first group:

- * 5,150 urban homesteads without a source of treated drinking water
- * 4,500 urban homesteads without toilet or sanitary pit latrine
- *14,600 urban homesteads in residential structures of non-durable or partially durable materials (which is only partially an indication of inability to afford lasting materials and much more significantly an indication of inability to secure tenure on the land so as to build a mortgageable house).

The three types of problems generally occur in combination, but there are almost 10,000 of these urban dwellings where water and sanitation problems are not a health hazard. For the families in these households the crucial need is secure tenure on a piece of land so they have the basis for improving the quality of their housing over time

To the foregoing measures of urban need must be added the needs of new households in the urban areas.

- * 2,200 new urban families per year (about 700 per year in the Mbabane urbanized area and about 600 in the Manzini urbanized area).

Thus, over a five year period to 1983, there will be about 11,000 new urban households who will require shelter, utilities, and some form of secure tenure. This compares with about 6,000 new rural homesteads estimated for addition during the period, whose needs must be added to over 50,000 who presently lack a source of treated drinking water.

If the shelter needs of new urban households were met, without squatting, annual capital investment would approximate E20,000,000. This is for all sectors and includes land and infrastructure as well as building. It assumes housing types are related to income levels, with sites and services for the lowest income groups, and does not include allowance for subsidies.

Much relevant information on matters treated in Chapters II-V is not placed in the text but may be found in tabular and narrative form within the Appendix to this report.

2. Evaluation and Recommendations

Chapters VI and VII include evaluations made by the study team and recommendations to the Government of Swaziland.

Chapter VI makes the evaluation in terms of opportunities and constraints. Is the country equipped to deal with its shelter problems? What are the strengths in present systems and relationships? What are the weaknesses to overcome? The opportunities and constraints associated with shelter cut across many aspects of society: institutions, policy, geographic patterns, financial resources, social controls, law, etc. The most important conclusion which any analyst--or national government--can draw is that a comprehensive approach to shelter provision must address the full range of relevant issues.

Ten primary opportunities are identified

1. The Geographic Pattern of Communities and Resources. This pattern provides a logical basis for controlling the future pace of urbanization and for staging the supply of infrastructure and housing--an opportunity not available in many other developing countries
2. The Traditional System Maintaining Primacy of Rural Homesteads and Rural Loyalties This helps to restrain rural/urban migration and to maintain relatively small family sizes in urban areas.
3. Priorities for Rural Development Activity This formal recognition of rural needs contributes to retarding the migration flows
4. Employment in Urban Centers At least at current levels, which must be strengthened, urban shelter problems are not made more intense by a large, indigent population
5. Land Ownership by the Swazi Government and the Swazi Nation. These landholdings, within and adjacent to urban areas, provide formal institutions with an extraordinary opportunity to stage the flow of land for housing and related services, to program the supply of water, sewer, roads and other infrastructure in advance of need, and to aggregate parcels of adequate scale and in adequate locations for urban growth requirements
6. The Complement of Urban Development, Housing, and Related Institutions Swaziland has a full array of planning, production, finance, and management institutions to serve as a basis for an accelerated housing effort. While the country may one day need new institutions in the housing field, the present shelter delivery system can be adapted in the short run to fill the need for substantially expanded supply.

7. Adaptable, Flexible Building Construction Standards. Swaziland has building codes and standards which allow for flexibility and experimentation in meeting a broad range of housing needs.
8. Availability of Prototypes to Meet Shelter Needs. In recent years significant experimentation with low-cost housing has occurred, and the nation has available shelter prototypes to meet the needs and affordability of a broad range of income levels.
9. The Energies of Migrants Able to Produce "Self-Built" Housing. Migrants to urban areas have closed the shelter gap by producing their own housing, basically in traditional fashion but in many cases incorporating modern materials and methods. Despite the many issues this raises, the capability must be appreciated and considered in any future approach to shelter provision.
10. Priority in the Third Five-Year Plan. By emphasizing shelter needs in the third plan, the government accepts a priority for this field. This acceptance stands as a commitment to seek out improved approaches to meeting shelter needs.

Arrayed against these opportunities, Chapter VI identifies 13 serious constraints which serve to retard an effective response to housing need.

1. Lack of Spatial Development Policy Swaziland's fortunate urban and economic distribution pattern can not be expected to continue without direct policy guidance on the location of investment actions by the Swazi Government and Swazi Nation. Without such guidance the Mbabane-Manzini corridor could become a primate city, with all the frustrations of inadequate shelter and services such a situation entails.
2. Inadequate Scale to Shelter Efforts. Despite its activities, every undertaking by the formal sector since Independence has been far too small in scale. Industrial Housing Company production has been fewer than 500 in four years. The U.N.-sponsored self-help project has produced 100 units. Private builders rarely add more than 1-2 units at a time. Company produced housing has evidenced some larger scale projects, but financial difficulties and heavy subsidies may reduce future contributions. Meanwhile, squatter housing proceeds unabated. Small scale projects can not hope to meet demand. Moreover, they fail to mobilize the real employment-potential of construction or the nation's ability to substitute locally-produced materials for imported products. The 2,000 unit residential estate planned by Tisuka for Kwaluseni is

the first undertaking by either government or the traditional sector to set a meaningful scale of development

3. Inadequate supply of Land for Housing in Appropriate Locations and Appropriate Densities to Serve Every Segment of the Urban Housing Market. Over 500 acres within Mbabane and Manzini are deemed "developable" but are immobilized. At an overall density of 10 dwellings per hectare, this land alone could serve 5,000 families. Reasons for immobility vary--from lack of infrastructure to the site, to cloudy title, to low scheduled densities of 1-2 units per acre that make development uneconomical. Each parcel has its own issues. But in absence of governmental priority to increase the supply of urban land for housing, the issues cannot be addressed.

4. Inadequate Tenure Arrangements. The most serious issue affecting land availability is tenure. Lending institutions will provide mortgages only for freehold land. Yet urban private land holdings are modest. The bulk of land suited to expansion is owned by the government and Swazi Nation. A land lease system is the only reasonable tenure basis for major housing expansion. It can be coupled with transferability and mortgages for individually owned structures. It could be made applicable to a range of shelter types, from low income sites and services, to high income condominium flats. Recognizing the importance of the constraint, Tsuka's legal advisors are drafting a leasehold instrument for pilot application at Kwaluseni.

5. Inadequate Planning Concepts and Instruments. Town planning legislation currently in use is modeled on older British instruments which are unsuited to rapidly expanding urban areas. The low density concepts often employed do not maximize the efficiency of land or the economy of services. Current master plans for Mbabane and Manzini are being prepared outside the country, a process which precludes day-to-day contact with Swazi institutions. Use of planning as an instrument to coordinate and budget infrastructure provision for urbanized areas is precluded by the present system.

6. Subsidy Dependence. Even though the government is reducing subsidies in accordance with the Weaver Report of 1971, it and many private companies and parastatal organizations continue to subsidize heavily the rentals of housing which they manage. The practice is inequitable for those who qualify but can not receive housing, and it limits expansion of supply.

7. Company Shelter Financing Practice. Generally companies finance shelter out of current budgets. This makes expansion of supply extremely vulnerable to the rise and fall of profits. Some companies are exploring more long-term financing, however, and institution of home-ownership programs.

8. Low Bank Savings Rates. Interest rates for savings accounts (4-7 percent) are low and taxable. Combined with the slow pace of formal housing production, these contribute to the elusiveness of home ownership as a realistic goal. Cattle remain a more favorable investment, even for urban families
9. Insufficient Governmental Response to the Gap Between Supply and Demand in Urban Housing. While government is sensitive to the housing problem, it has addressed the problem largely in terms of housing quality. In addition to limited scale efforts to provide formal housing for civil servants, approaches towards low income housing have been coupled with slum clearance. As a result, these have led to little net increase in housing supply. Given the anticipated scale of demand, a more realistic commitment to work with the informal sector (improving and regularizing its contribution to the settlement pattern) will become essential.
10. Lack of a Clear Housing Component in Rural Development Activity. Although the RDA program is extremely important in maintaining rural/urban balance, it has no shelter component. Resettled families do not receive assistance, financial or technical, in building their shelter on new sites after re-location.
11. Insufficient Trained Manpower. Even with a larger commitment to shelter provision, lack of trained personnel in all phases of the production process will hamper the country's ability to produce. For example, the Planning Office, the Housing Unit and the Community Development Office of the Ministry of Local Administration lack sufficient Swazi personnel to extend their efforts in urban areas. Foreign advisors do not have counterparts to train and to take over their responsibilities on departure
12. Recurrent Budget Ceilings. Present governmental practices sharply constrain the personnel and operating budget expansion of the key agencies in the shelter field. Even if a priority for increased manpower training were established for these agencies, the constraining ceilings would require removal or modification. Recurrent budget ceilings place a limitation on operating expenses as well--a policy which might preclude major expansion of water supply to low income areas, since present rates in these areas are heavily subsidized.
13. The Summary Issue, Absence of Housing Policy. Taken together, the array of constraints demonstrate that no comprehensive policy exists to guide Swazi efforts in the shelter field. Thus far, individual institutions or agencies have made isolated attempts at performing in this field. Lacking a means of monitoring results, government has not known what progress has been made. Lacking detailed analyses of issues, it has not been possible

for the government to establish reasonable objectives for either the public or private sector. Lacking explicit objectives, weaknesses in such matters as the land tenure system, the scale of production, the manpower supply cannot reasonably be debated or realistically addressed. Without policy guidance at the highest levels of government, the informal sector continues to solve shelter problems on its own terms endangering both public health and the orderly development of urban areas.

Chapter VII presents recommendations to the Government of Swaziland directed at removing constraints and mobilizing opportunities. The recommendations are at two levels--policy formation and immediate action programs. Each are essential, but early-start efforts to expand supply can proceed along with the policy formulation process.

Policy

A. Formulation of a spatial development policy is urged as a part of national economic planning. Such a policy would set population and development targets by regions and urban areas and would identify packages of public, Swazi Nation and private investment to assist in achieving the targets. Responsibility is proposed for the Office of Economic Planning in the Prime Ministry.

B. Formulation of a comprehensive National Housing Policy is urged, to be handled by an interministerial task force--with participation by Swazi Nation and private sector institutions--chaired by the Office of Economic Planning. This task force would review and hopefully resolve such issues as the need for housing by income levels and communities, capital requirements for shelter provision and the roles of various sectors and agencies in meeting needs, subsidy questions, utilities pricing, expanded capability for financial institutions, land availability, housing investment in rural development, possible institutional and legislative changes, and possible roles for external assistance in shelter development. An 18-month period is proposed for preparation of a draft policy document for governmental review.

Foreign technical assistance is suggested for both policy formation tasks, although primary participation by Swazi officials and staff is critical.

Early-Start Activity

Category I: Options for urban housing should be increased

- A. The more than 500 hectares of vacant, developable, residential land in Mbabane and Manzini should be evaluated by the Planning Office and steps taken to remove obstacles to their early development.
- B. Priority should be given to establishing leasehold arrangements for government and Swazi Nation-owned urban land and to removing mortgage lending restrictions on leaseholds.
- C. The 100-odd unoccupied units of National Housing Corporation production should be rehabilitated and sold.
- D. Once these actions are taken the MLA should mount a major program to publicize the new shelter opportunities and offer assistance to individuals and groups in organizing to take advantage of them. An outreach effort by community development workers in both urban and rural areas will require training in the shelter field and should include training in the organization and management of cooperatives.

Category II. In framing its posture towards shelter, the government should accept the inevitability of self-built urban housing: defer slum clearance; and work to encourage sites-and-services for new shelter, along with squatter upgrading.

Category III. As an early start measure, the capacity of the Swaziland Building Society to make mortgage loans should be increased and its lending restrictions eased.

Category IV. At least one major urban action program for a specific area should be established. In this area, present shelter institutions could work together and at a far larger scale than past individual projects. The area proposed is the 900 hectare Kelly Farm adjoining Mbabane. This area contains the country's fastest growing squatter settlement (Nkwalini) along with much developable land which will become squatter area unless steps are taken to channel growth. The land is strategically located to the city and employment areas and is offered for sale to the government. Under coordinated leadership by the Ministry of Local Administration the following steps for the Kelly Farm are proposed:

- * purchase of the land by government
- * appointment by MLA of a project coordinator and staff directly responsible to the Permanent Secretary.

- * inventory of physical features (by the Surveyor General), land use and socio-economic characteristics (by MLA).
- * development of a detailed land use, agency allocation, and infrastructure plan by the Planning Office, with possible external technical assistance.
- * preparation of a detailed development program by the coordinator targeting projects and resources and possible external assistance. The program would include an array of: sites-and-services, self-help and contractor built units, squatter upgrading, and possible sites for IHC, government pool and private housing.
- * assumption of a major role by the Community Development Office to involve existing squatters and their organization in the effort.
- * application of leasehold tenure and home mortgage instruments.

A second unusual opportunity for large scale development is at Kwaluseni, the 2,000-unit development near Manzini being planned by Tisuka. Both projects could be absorbed by the market over the next five-eight years. One would represent coordination by the Swazi Government and the other by the Swazi Nation. each should be encouraged and together could represent a quantum jump in Swaziland's ability to deal with its shelter problems.

Category V. The MLA should reconstitute the responsibilities and expand the staff of the Planning Office. This would be a first priority for staff expansion in the shelter field, although both the Housing Unit and the Community Development Office should receive comparable treatment

The professional staff and complement of resident foreign advisors and trainers should be increased to at least 20, requiring an early exception to the recurrent budget ceiling.

Responsibility should be given to consult well in advance on site location for housing. The Mbabane-Manzini land availability studies and master plans and the Nkwalini plan should get high priority. The Town Planning Act should be amended to allow for urban area guide plans which can coordinate programming of land availability and infrastructure

Category VI. A major effort to train Swazi professionals and technicians in shelter-related fields should be undertaken. The Office of Establishments and Training would be the agency to develop a training plan for the shelter sector as a whole,

identifying needs and training opportunities for: planners, architects, civil engineers, draftsmen, quantity surveyors, economists and financial analysts, community development workers, construction supervisors--as well as aritsans, housing managers and maintenance supervisors.

II. Country Situation

A. Geography and Climate

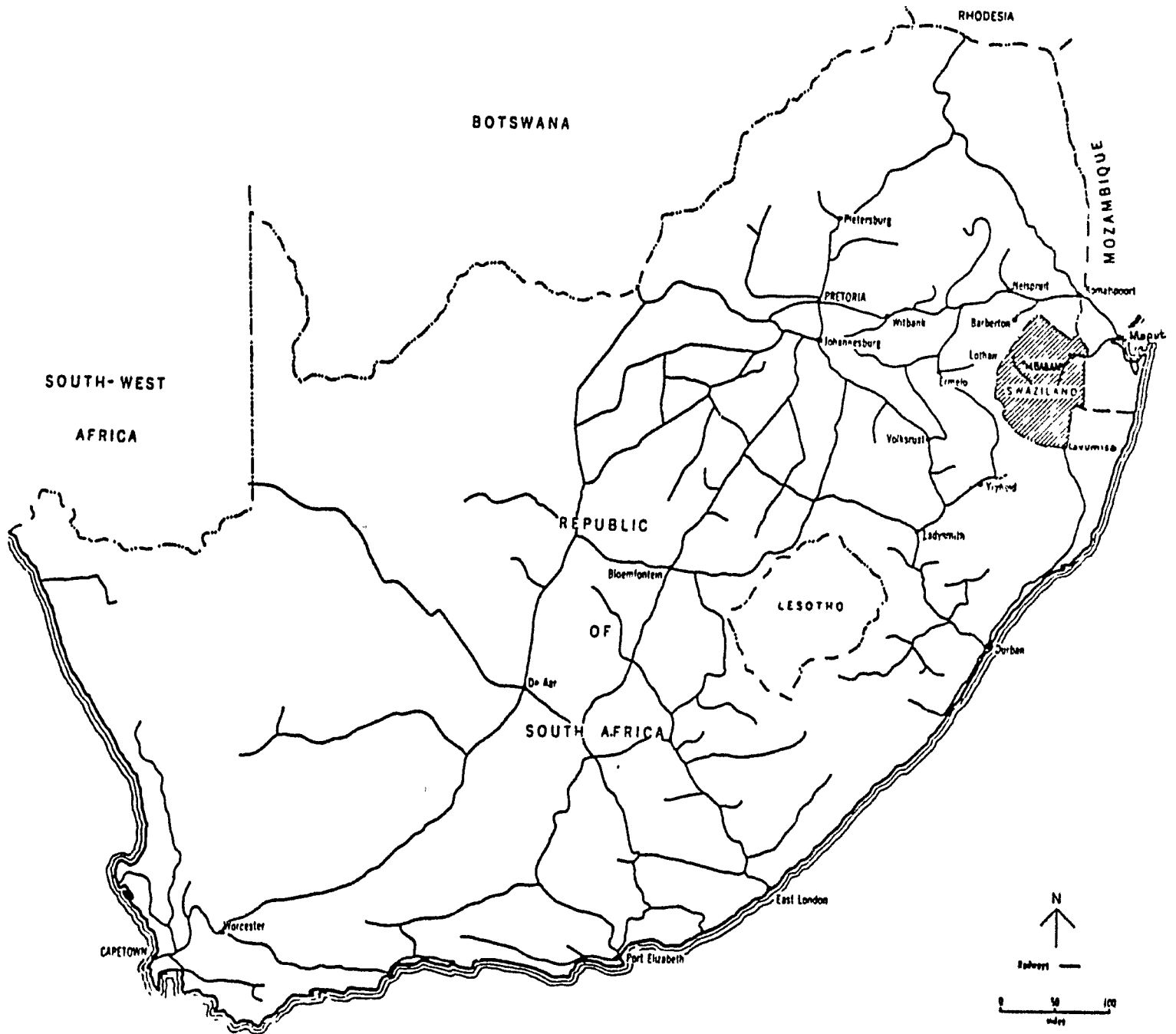
The Kingdom of Swaziland occupies a landlocked position, bordered on the north, west and south by South Africa and on the east, by Mozambique, its outlet to the sea. Mbabane, the capital, is 390 km east of Johannesburg and 225 km from Maputo, the nearest port. (See Figure 1.)

Ecological Regions. Swaziland is the smallest country in southern Africa, and among the very smallest on the continent as a whole. Yet, its 17,364 square kilometers cover a significant variety of topographic and climatic conditions. Four geographically distinct regions extend from the northern border to the south in relatively narrow, parallel bands. Stepping down from the Highveld in the west (average altitude 1,300 meters), there is the Middleveld (averaging 700 meters), the Lowveld (200 meters) and then an abrupt rise to the Lubombo Plateau in the east (600 meters). Characteristic features of these regions are summarized in Table A-1. (See also Figure A-1.)

Land Use. This variation in physical conditions supports a diverse agriculture. Extensive man-made pine and gum forests thrive on the often steep, rainy slopes of the highveld. There are citrus and pineapple crops in the middleveld, and sugar cotton and rice under irrigation in the lowveld. Most of this intensive cultivation is done on individual tenure or freehold farms, owned mainly by individuals of European origin or commercial enterprises. (See Figure A-2 and Table A-2.)

The predominant use of land, however, is for subsistence farming. More than half the land area is held in trust for the Swazi Nation by the Ngwenyama (the King). This land is

FIGURE 1
THE KINGDOM OF SWAZILAND IN SOUTHERN AFRICA



allocated by chiefs to individual Swazi families for their use but it cannot be individually or privately owned. Because 85 percent of it is used for natural veld grazing of livestock, a very dispersed pattern of rural settlement has occurred.

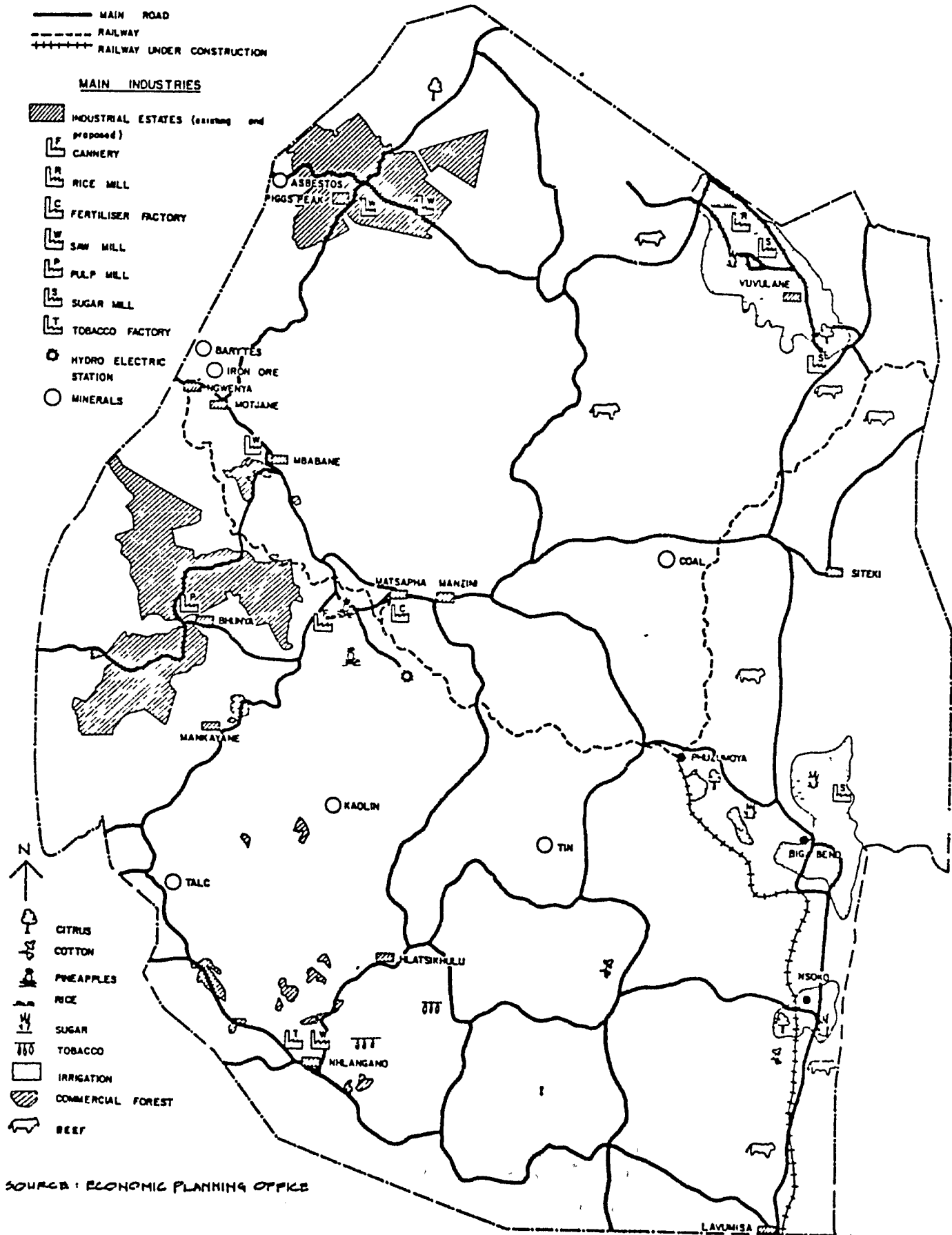
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Of the relatively little area devoted to urban land use (93 km²) more than two-thirds is in the highveld. Another 20 percent is in the middleveld. This latter region has the highest rural population densities of the four.

Location of Economic Activity. Industrial development in Swaziland is quite widely distributed across the country. This pattern has occurred as the result of the emphasis on extractive and agricultural based enterprises. An industrial park at Matsapa, however, has created a concentration of manufacturing activity in the western part of the country. Together with a major complex of tourist facilities in the Ezulwini Valley, this industrial estate has contributed to the emergence of the Mbabane-Manzini road as an important urbanizing corridor.

Other foci of economic activity are around Piggs Peak and Havelock in the northwest (asbestos mining, forestry, pulp and saw mills), Bhunya-Mhlambanyati in a west-central location (forests and pulp mills), Malkerns (pineapple canning), Nhlangano (tobacco, forestry and saw mills) and Hlatikulu in the southwest, Tshaneni and Mhlume in the northeast (rice, sugar, citrus, beef and saw mill), Big Bend and Stegi in the east (sugar and citrus). Mining activity occurs in the northwest (asbestos and now-exhausted, iron) and in the east at Mlaka (coal). Locations are shown in Figures 2 and A- 3 and 4.

FIGURE 2 CENTERS OF ECONOMIC ACTIVITY



Major Infra-structure. Most of Swaziland's towns and industrial centers are linked by graded roads accessible most of the year. Paved portions of the network connect Mbabane and Manzini with each other, the western border and with the east as far as the Mpaka coal field. The segment between Manzini and the border at Sandlane, through Malkerns and the Usutu Pulp Mill, is also paved. There is a rail line between the Ngwenya Mountain iron mine and Mozambique with a spur to Matsapa Industrial Estate. A new spur from Sidvokodvo south to the border at Lavumisa is under construction. A new national airline has recently initiated service between Swaziland and Johannesburg, Durban, Antananarivo, Mauritius, Blantyre, Seychelles and Lusaka, Zambia.

Swaziland's Electricity Board operates two hydroelectric power stations and a diesel fuel generator but imports about fourth of the energy used in the Kingdom from South Africa. (See Figure A-5.)

Although several major rivers drain Swaziland, none is used for waterborne transit--either external or domestic.

B. Major Aspects of the Economy¹

Swaziland's economy is characterized by three factors. The first is its modern, expatriate-owned, commercial, export-oriented agriculture dominated by sugar, and built on a rather well-endowed agriculture resource base. Commercial agriculture provided 18 percent of the GDP in 1975, the bulk of exports (60%), a sizeable component of government revenue (36% in 1975), and a large part (43%) of the modern sector wage employment. Traditional subsistence type agriculture coexists with the modern agricultural sector.

1. Excerpted from USAID, Office of Southern and East African Affairs, Africa Bureau, Transition in Southern Africa: Swaziland, February 1977.

It serves as welfare maintenance for half of the population who are totally dependent on it. The traditional sector provides only a small fraction of the total exports, and virtually no revenue to the central government. It contributes about 11 percent of the GDP. Some headway is beginning to be made in promoting cash crops and commercial/semi-commercial livestock, but it is apparent that the different functions performed by the modern and the traditional agricultural sectors demonstrate a severe duality in the economic system.

The second factor is an open economy and attractive environment for foreign investment. Foreign investment is responsible for developing all the productive sectors of the economy including agriculture.

The third factor is the link of the domestic economy into the larger South African economy. The two economies are tied by customs, monetary agreements and pricing policies for many of Swaziland's exports and all of its imports. The Swazi currency is backed by the rand and is readily convertible. South Africa provides Swaziland with an important market for its goods, and a source of capital and human resources. Swaziland's close relationship with the South African economy has partly shielded it from the worst effects of world inflation of the last two years in as much as most of Swaziland's imports come from South Africa. The average unit import cost has risen less than in most LDCs because of the close proximity of the two countries, and because moderate inflation in South Africa has kept down the cost of Swaziland's imports.

However, unlike Lesotho, migrant labor to South Africa is not an important feature of the Swazi economy. Twenty-one thousand Swazis worked in the South African mines at least part of the year in 1976, compared with 175,000 to 200,000 from Lesotho.

(An additional 12,000 Swazis live in South Africa but are not classified as migrant laborers). Income remittances from migrant laborers back to Swaziland are only a small component of the GNP and in no way offset the income outflow from Swaziland in the form of corporate profits.

These factors have worked to give Swaziland a diversified economy, one of the more dynamic and growing in Africa.

Gross Domestic Product

The Gross Domestic Product grew in real terms at 7 percent annually from 1967-1975 and is estimated at E186.3 million for 1975.

Some slow down in the general economic activity is expected with the down-turn in the prices for sugar on the world market. The economy, nonetheless, is expected to maintain a 5 to 7 percent rate of growth for the period ending in 1980/81.

The GDP per capita figures show Swaziland to be at a high level of development. The 1975 GDP per capita of E390 (\$581 at the 1975 rate of E1=\$1.40) ranks Swaziland among the highest in Africa, surpassing even Rhodesia. The Economic Planning Office in the Prime Ministry² estimates per capita GDP of E495 for 1976-78 (E1=\$1.15). (See Table A-3.)

2. Formerly in the Ministry of Finance and Economic Planning.

Structure of Production: Sector Contributions and Developments.

Swaziland's economy is highly diversified for a country of its size. The major productive sectors of the economy include agriculture and forestry, manufacturing, mining and tourism.

The major development in the economy is the growth in the value of Swaziland's agricultural exports and the expansion of the manufacturing sector. Agriculture and manufacturing have in fact replaced mining as the dominant sector(s) of the economy.

Economic Dualism. Swaziland's economy is severely dualistic. The modern wage sector contributes 86 percent of the GDP, virtually all exports and revenues, and most of the growth in the economy. The traditional sector made up of subsistence small farms on which 50 percent of the total population is totally dependent, is virtually stagnant. In fact, its contribution to the GDP has declined over the past decade. Swaziland's dualism is however somewhat different from the typical dual economy. Much of the dualism is within the agricultural sector (where in fact 43 percent of the total wage employment is provided by the freehold tenure farm operations). This is unlike the more typical duality between the rural vs. the urban economies. As a result, Swaziland's duality has not given rise to the glaring urban/rural income gap. The gap is inter-rural. Swaziland's duality is also mainly foreign vs. Swazi and not Swazi elite vs. Swazi masses.

A significant feature of this dualism is the ebb and flow of migrant labor between the traditional rural sector and paid employment in Swaziland's urban areas, intensive agriculture or South Africa. One recent study estimates that as many as two-thirds of rural homesteads receive cash from migrant or temporarily absent workers.³ Reports concerning migrant labor

3. Fion deVletter, The Rural Homestead as an Economic Unit, July 1978.

in South African mines indicate that the Swazis, much more than the workers from Lesotho or Botswana, typically prefer the shorter-term (7-9 month) contracts and not infrequently leave before the end of the contract period. Other information suggests that the number of absentee workers averages on the order of 1.5 per rural homestead (the typical extended family household complex) and that as many as 40 percent of the households in urban squatter settlements maintain economic ties with family in the rural sector, through sending or receiving food or cash.

Employment. The Economic Planning Office estimates almost 40 percent of the labor force were employed in the wage sector in 1977. Paid employment rose from 57,000 in 1973 to 66,000 in 1976, averaging an annual increase of 3,000. The labor force, however, was growing twice as fast. The number of workers recruited for mining jobs in South Africa jumped from 8,100 in 1973 to 17,000 in 1975 and 21,000 in 1976. Some Swazis unable to find wage jobs are able to earn income in the urban informal sector (perhaps 10,000-11,000 individuals). Most, however, have remained in the traditional rural subsistence sector. (See Tables A-4 and A-5.)

Industry-wide wage councils representing management, labor and government set minimum wage scales for Swaziland on an industry-by-industry basis. Between 1972 and 1975 nominal wage increases have meant growth in real income for the 35-40 percent of the labor force employed in the wage sector. More recently, however, inflation has been catching up with the gains.

Imports/Exports. Because of the very limited domestic market most of Swaziland's modern sector production is exported. The value of exports, estimated to be E125.28 million in 1975, accounts for 67.2 percent of the GDP. Three exports--sugar (60%), woodpulp and iron ore--together account for about 75 percent of the total export value. Other exports were citrus, asbestos, pineapple, meat and coal.

Swaziland enlarged its balance of trade surplus in 1974 and 1975 because of two factors. The first was a sharp rise in the price of sugar--the value of Swaziland's sugar rose 600 percent in five years. The second factor was relatively slow rise in the average unit cost of imports. It did so because 90 percent of it came from South Africa.

Machinery and transport equipment dominate imports. Most are headed for the private sector.

A sharp increase in the value of imports came in 1974 following the oil price hike. Oil rose from 9 percent to 12 percent of the total value of imports. The Arab Oil Fund however granted Swaziland E1.8 million to offset part of the impact of the price rise.

Balance of Payments. Prior to 1974, Swaziland used the rand as its national currency. In 1974 the Government of Swaziland established the Monetary Authority of Swaziland and issued a national currency. The currency, the lilangeni, is wholly backed by the rand, and readily convertible in rand on demand. Swaziland continues to be a member of the Rand Monetary Area.

By nature of the monetary arrangements in force with the Republic of South Africa, Swaziland cannot have either a surplus or deficit on its overall balance of payments. Money in circulation is either expanded or contracted by the central

monetary authority according to the activity within the monetary area, and most foreign exchange is held by the Central Monetary Authority.

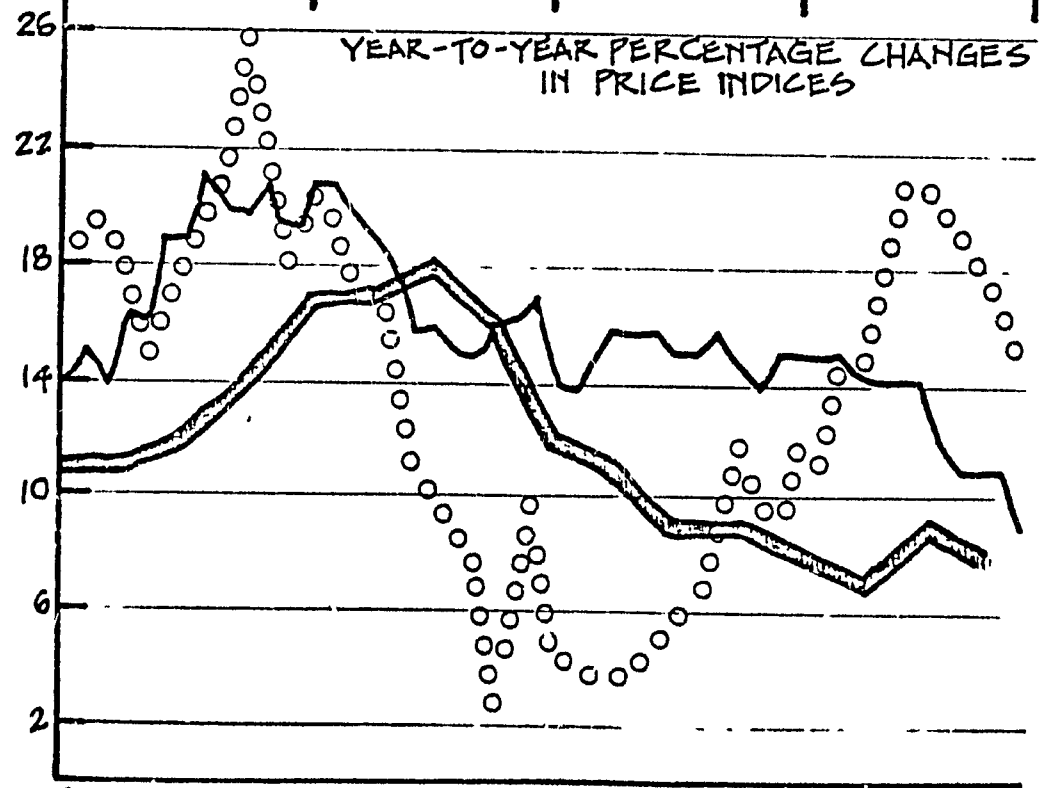
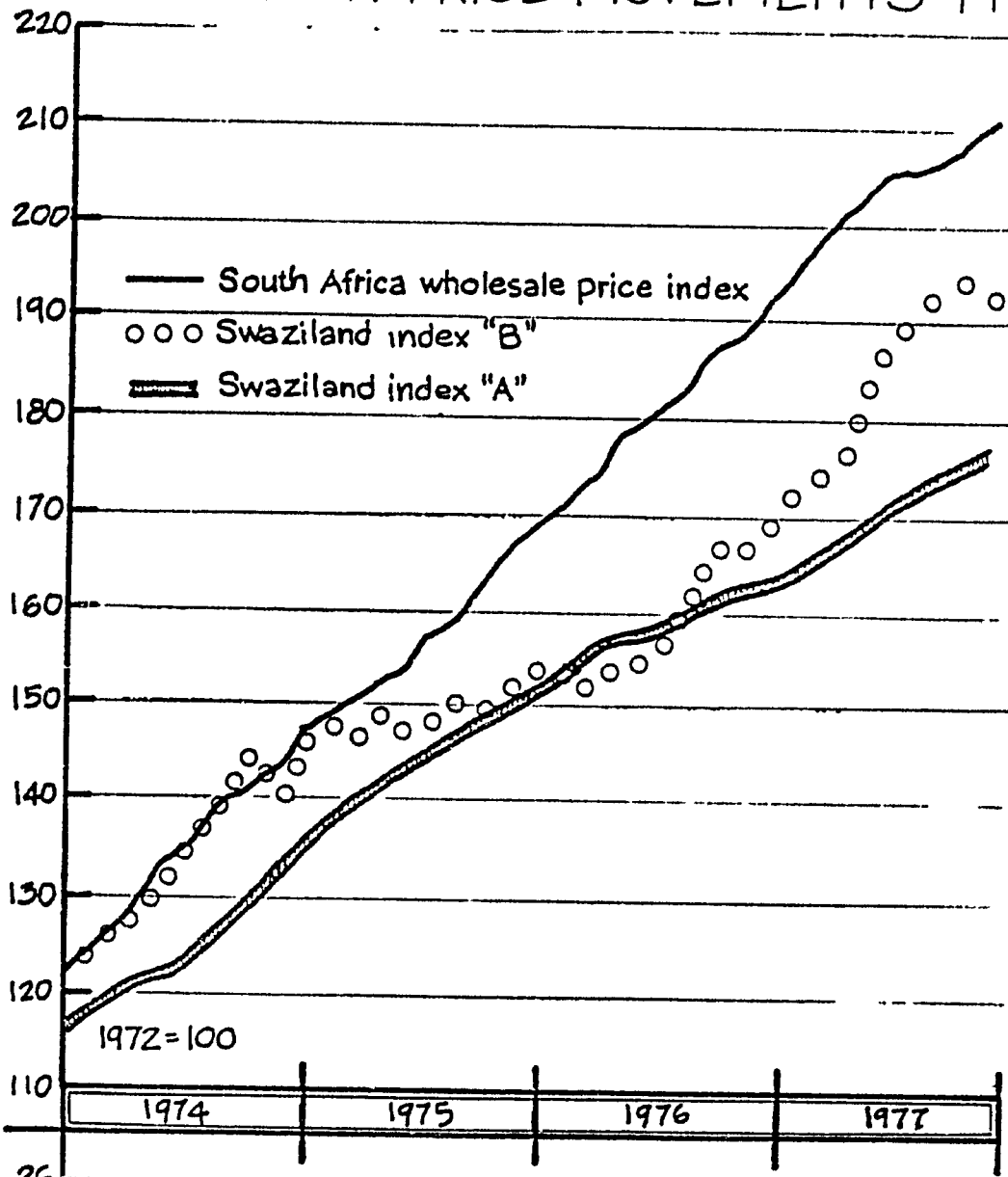
From 1968-75, Swaziland enjoyed a small, favorable overall balance on its current account that was derived from its favorable balance of trade. In earlier years, Swaziland typically ran a hypothetical current account deficit because of the net outflow in transportation, corporate income remittances, and service payments. In 1976, however, there was a trade deficit of more than E5 million. (See Table A-6.)

Swaziland's external debt was \$39 million in 1974. Debt service payments on that level were \$4.2 million, a fraction of the total GDP and about 5 percent of the value of total exports at that time. Between 1976 and 1977, however, the external debt rose from E50 million to E71 million (\$81.6 million) with debt service payments in similar relationship to GDP and value of exports.

Prices. Swaziland's close, and distinctly unequal, trading relationship with South Africa brings it very much under the influence of price movements of its dominant partner.

Up until 1972, this influence made for a degree of relative price stability. In 1973, however, the price index climbed fourteen points. Inflationary pressures were particularly severe the following year, pushing the price index up by another twenty points. A cooling trend in 1975 corresponded with effects of the recession in South Africa. This was reflected in the "A" index of price movement in Swaziland, pegged to the consumption patterns of mid- to high income groups in the capital, which rose 11.7 percent between 1974-77. The "B" index, pegged to the costs of fresh produce as an indicator of low wage earners' consumption patterns rose in these years by 13.7 percent. (See Figure 3.)

FIGURE 3
 CONSUMER PRICE MOVEMENTS 1974-77^{3rd QTR.}



SOURCE: ECONOMIC PLANNING OFFICE

C. Population

Significant features of Swaziland's population are its relatively great homogeneity, high rate of growth, sizeable youthful component, more numerous females than males and dispersed pattern of settlement.

Swaziland's resident population at the time of the 1976 census was 494,534. An additional 25,425 were counted as temporary absentees, most of them migrant workers in South Africa. All but the 2.3 percent of non-Swazi origin share a common language and cultural heritage.

Growth Rate. An annual growth rate of 2.8 percent added almost 120,000 people in the decade since the previous census. If the same growth rate continues, Swaziland's de jure population (the total which includes temporarily absent workers) will pass the one million mark by the year 2,000.

Age-Sex Distribution. In 1976, a little over 47 percent of the population were under the age of 15, fewer than 2 percent were over 65. Between 87 and 88 percent of the 200,511 working age (18-59) population were resident in Swaziland. Among the resident population, women outnumber men by 100 to 88. When absentees are included the ratio is 100 to 93. (See Figure A-6.)

Geographical Distribution. Although the large majority of Swaziland's population live in rural areas--and will probably continue to do so during this century--urbanization is increasing. Urban population, a small 14 percent of the nation's total in 1966, grew twice as fast as the rural. It reached a level of 80,600 by 1976, 16 percent of the total. (See Table 1.) Population of individual towns is shown in Table A-8.

Focus of the heaviest growth was on the emerging core region in the west-central part of the country. This area encompasses the Manzini District and the southern part of Hhohho as far as the

Table 1
POPULATION DISTRIBUTION 1966 AND 1976

Type of Settlement**	POPULATION				66/76 CHANGE	
	1966	% of Total	1976	% of Total	No.	%
<u>Towns & Peri-Urban:</u> (Mbabane, Manzini, Manzini Peri-Urban)	29,900	8%	51,900	10%	22,000	74%
<u>Company Towns:</u> (Havelock, Sidvokodvo, Bhunya-Mhlambanyati, Mhlume, Tshaneni).	14,100	4%	20,500	4%	6,400	45%
<u>Villages:</u> (Piggs Peak, Mankayana, Hlatikulu, Goedegun/Nhlangano, Gollel/Lavumisa, Siteki).	6,800	2%	8,200	2%	1,400	21%
Sub-total Urban	50,800	14%	80,600	16%	29,800	59%
Rural	323,800	86%	413,900	84%	90,100	28%
Swaziland Total	374,600	100%	494,500	100%	119,900	32%

** Categories as designated in the 1966 Census. The Draft Third National Development Plan for 1978-82 classifies Pigg's Peak and Nhlangano as Towns, and excludes Bhunya-Mhlambanyati from the list of Company Towns. Manzini's peri-urban settlements are included here together with the town because they share relationship with the same complex of economic activity.

capital city of Mbabane and its environs. (See Figure 4.) It contains a little more than one-third of Swaziland's population. Between 1966 and 1976 the core region population grew from 118,900 to 172,800. More than 60 percent of this growth occurred in urban and peri-urban areas (15,700 in the Hhohho portion and 17,700 in the Manzini portion.)

Rural growth in the core region was 20,600 during the same period. This was comparable in magnitude with the combined urban and rural growth of the northern Hhohho District (22,100), Shiselwini (21,400) and Lubombo (22,500). (See Table 2.)

Rapid growth of the core region was stimulated by expanding wage sector employment opportunities (e.g. government positions in the capital, the forestry-pulp complex in Bhunya-Mhlambanyati, Matsapa Industrial Estate, tourism development in the Ezulani Valley, traditional sector activities centered at Lobamba and the pineapple growing-packing industry at Malkerns). These centers of economic activity form a triangular cluster within the core region, with Mbabane at its apex, Bhunya and Manzini at the western and eastern ends of its base.

Economic Profile. Expansion of employment opportunities in the wage sector, while encouraging in many respects, has not yet had a widespread impact on the family incomes and living conditions of the majority of Swazi families. The economic profile of the population, summarized in Table 3 reveals a sizeable differential between urban and rural families. Not only are the urban family (or homestead) incomes almost three times as large as the rural, the number of family members such incomes go to support in the urban areas is half the rural number.

FIGURE 4
 SWAZILAND · POPULATION AND LAND TENURE · 1976

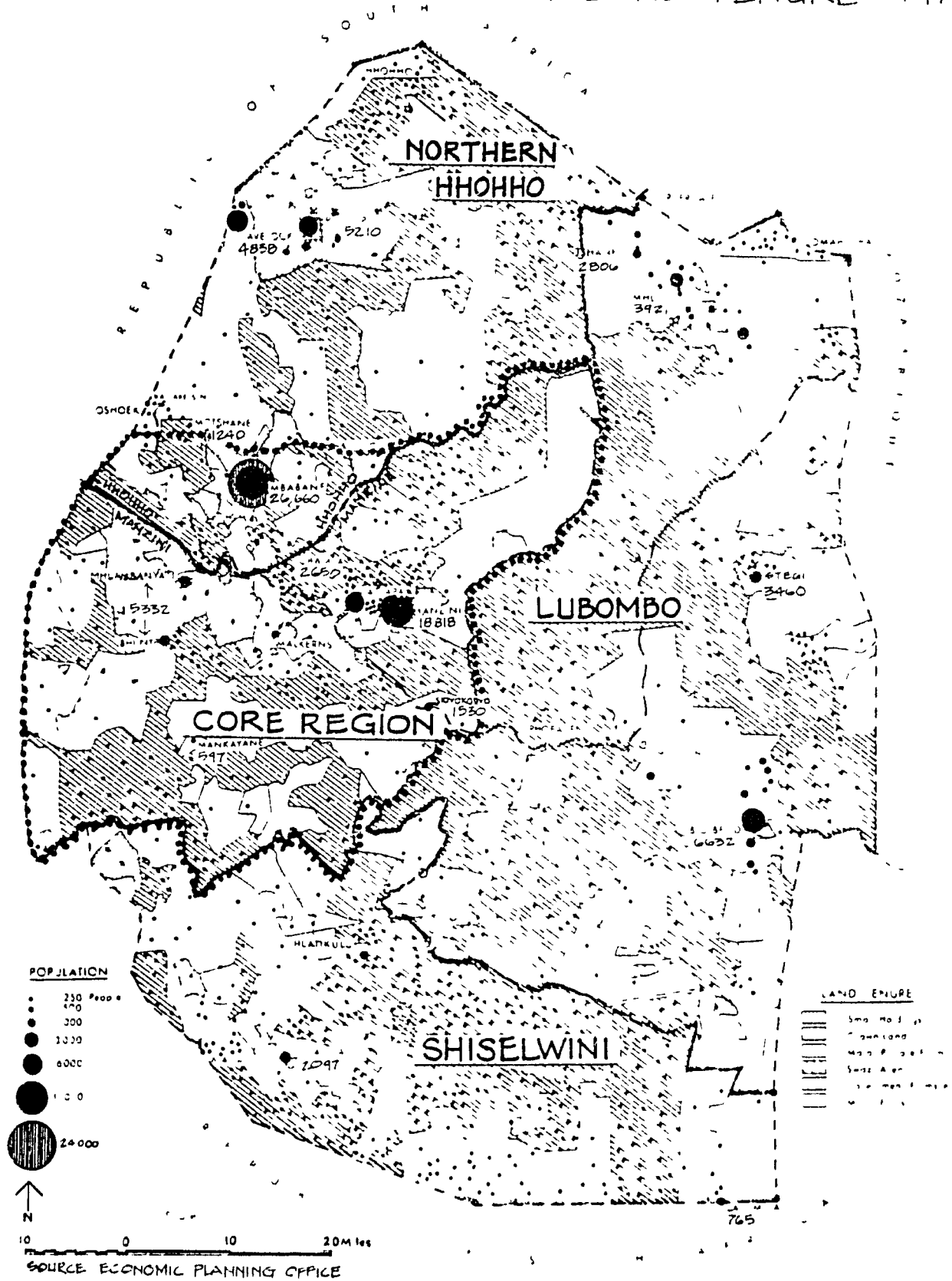


Table 2

DISTRIBUTION OF THE 1966-76 POPULATION GROWTH

District	1966-76 Population Increase
Core Region*	54,000
<u>Urban</u>	33,400
Hhohho Portion.	15,700
Manzini Portion	17,700
<u>Rural</u>	20,600
Northern Hhohho.	22,100
Shiselweni	21,400
Lubombo.	22,500
Swaziland Total.	119,900

* Manzini District plus Mbabane area and Hhohho settlements between Mbabane and Manzini.

Table 3
ECONOMIC PROFILE OF THE POPULATION OF SWAZILAND, 1976

	TOTAL	URBAN	RURAL
Resident Population	494,500	80,600	413,900
Homesteads	86,550	25,640	61,210
Resident Persons per Household	5.7	3.1	6.8
Labor Force Participation	41%	50%	39%
Labor Force	202,000	40,000	162,000
Monthly Cash Income Total (1976)	E7,200,000	E3,900,000	E3,300,000
Monthly Cash Income per Homestead	83	152	54
Average Monthly Income per Worker	36	98	20

Note: This table presents the basic population, homestead, and income estimates used in the present shelter sector study. They are based on assumptions and judgments where documented data are not available, and therefore, should be used with caution. Derivation of these figures is explained in Appendix A-9.

Analysis by an ILO team illuminates further the income disparities that may be obscured by the generalized averages.⁴ They point out that in the private sector wages are higher for all skill categories than in the public sector, and most particularly for non-Swazis. The wage differential between Swazis and non-Swazis, was wider for the skilled and semi-skilled categories of workers than for professional, administrative and clerical categories. Yet non-Swazis occupy but 2 percent of the jobs. More important was ILO's estimate of the disparity in per capita personal income between the 15 percent of Swazis living in urban areas, the 21 percent employed on freehold farms and the 64 percent living in traditional style on Swazi Nation Land. These estimates, based on 1974 data show a range of E42 per month, E12 and E4 for the respective groups (E7 for the two groups of rural Swazis combined).

Comparison with the 1976 cash income estimates in this present shelter study, computed on a monthly per capita basis, would indicate an increase for the urban Swazi of E6 (14 percent) over the two year period, 1974-76. For the rural Swazi, however, the gain would be less than E1 (about 8 percent). In light of inflation trends most Swazis would thus appear to be relatively less well off than they had been before 1976. Wage sector employees experienced gains in real income through 1975 as the result of minimum wage increases set by the individual industrial wage councils. But even in the urban areas impact of these increases was diluted by efforts on the part of government to keep its personnel budget in line with expected increases in revenue, and by the growing numbers of lower income earners dependent on the urban informal sector.

4. International Labour Office, Jobs and Skills Programme for Africa, Reducing Dependency: A Strategy for Productive Employment and Development in Swaziland, Addis Ababa 1977, pp. 136-138.

The ILO study cited above also considers the adequacy of family incomes to satisfy basic human need for nutrition. Their food cost estimates would suggest that as many as 3,500 urban area households (13 percent of the urban total) and 40,000 rural homesteads (two-thirds of the rural total, or more than half the Swazi population) have incomes that fall short of the minimum needed to satisfy basic nutritional requirements.⁵ (Appendix A-12.)

The Economic Planning Office estimates the numbers of new entrants into the labor market are double the numbers of available paying jobs. Today, absorption of the labor surplus by the urban informal sector or traditional agriculture seems not to pose a severe problem. A number of observers, however, have predicted that strains will begin to show--particularly among the younger people who have some education--if concerted efforts are not made to close the gap. In this context, a reduction in external employment opportunities, e g. in South Africa, or a policy to receive refugees will not generate a new problem of unemployment or underemployment. Rather, such events will only accelerate the need for an effective expansion of employment opportunities.

Cultural Factors. A theme and object of dedicated purpose in Swazi society since the early years of this century has been the recovery and consolidation of control over lands and rights in land lost through concessions to foreigners in the 1870-1900 period. In 1907 a special commission of the British Government (then administrator of Swaziland) issued a proclamation of the partition of lands in an effort to settle multiple, conflicting claims by Swazis and European settlers and mining prospectors. This proclamation established that one-third of all concessions were to be expropriated for the exclusive use and occupancy of the Swazi people. Thirty-four separate pieces of land totaling 2,509 square miles (less than 40 percent of the

5. Unfortunately, there are no data available on actual household expenditure patterns which could shed light on the practices--or capacity--of families to save for shelter. Such savings could represent an important source of funds to mobilize for shelter programs.

land area of present-day Swaziland) were thus turned over to the Swazis. For the remaining land, all holders of land leases for 99-year periods or longer were to receive freehold title. Any subsequent acquisitions of land by the Swazis were to be by compensation of the respective owners.

A Swazi National Authority was created to negotiate such purchases and in 1946 the Lifa (inheritance) Fund was created to carry on the expansion of Swazi lands. From the time of the partition, management of the freehold or individual tenure lands was strictly the responsibility of the British authorities. The Swazi lands were managed by the Swazi Nation Council through a system of the King, senior chiefs in the Swazi Nation Council, local chiefs and sub-chiefs. Jurisdiction between the foreign commissioners and Swazi Nation remained a controversial issue but in effect a non-interference policy in land management and governance seemed to prevail. At Independence, the function of land acquisition was taken over by the Tibiyo Taka Ngwane Fund among its other responsibilities on behalf of the traditional Swazi Nation. Jurisdiction over the freehold properties passed from the British to the modern Swaziland Government (or for designated urban areas and specific functions to urban government) but the distinctly separate traditional sector authority over Swazi Nation Lands and the hands-off policy of government continues even today.

Although the modern government in Mbabane and the traditional government centered in Lobamba come together in the person of the King who heads both and, indeed, in many top officials who hold key positions in both, the legacy of this history reveals itself in a number of important factors that bear on shelter and urban development in Swaziland.

Among these factors are a generally unfavorable attitude toward the long-term leasehold as a form of land tenure and the traditionally unacceptable idea of private (fee) property ownership of Swazi Nation territory. Speculation in land is discouraged through a 1972 law requiring that all land transactions involving non-Swazis be reviewed and approved by a Land Speculation Board located in the traditional government.

Another group of factors centers about the strong loyalty to local chiefs and to the traditional rural connections, fostered by long years of political stability and extended family ties. Cattle are still favored as evidence of wealth and commodity for exchange as well as their inherent value for hide, meat and milk. They require pasture land and this is secured under allocation by the local chief. Workers absent from the rural homestead tend, for the most part, not to be true, permanent migrants. Many relatives, if not their entire family stay behind and they return periodically to look after such responsibilities as planting and harvesting and service to their chiefs. One observer characterized the typical urban Swazi as a man with two homes, a rural one and an urban. Patterns of the exchange and extended family relationship are observable even in the urban areas, particularly in the squatter settlements. Here a homestead might include nieces enrolled in a local school or the urban family may send their elderly or infants to be looked after at the rural home. Because distances in Swaziland are relatively small and access to public transportation quite good, the rural-urban ties persist.

Migration. Until now the migration that has occurred from Swaziland's rural areas may be attributed to a "pull" factor, the attraction of higher incomes in South Africa or Swaziland's urban areas. Under present rates of population growth, however, pressure on the rural subsistence economy can be expected to

bring the "push" factor into play. Unless productivity of the rural sector increases substantially and the ability of the rural areas to support more people expands, families will leave in ever increasing numbers to seek their living elsewhere--shortage of urban housing and strong rural ties notwithstanding. Should work opportunities in South Africa diminish, or even remain at the present level, the effects of rural "push" on Swaziland's urban areas must be anticipated and prepared for. Success of the Rural Area Development Program in raising rural living standards through intensified agriculture will hold the key to the timing and the magnitude of the rural-urban migration that can be expected. The timing and the distribution of new wage sector job opportunities within Swaziland will be an important determinant of where the migrants go. As to the impact of the migration on Swaziland's urban areas, here the issue turns on what advance preparation is made for the settlement of the newcomers.

III. Government

A. Role in Housing and Urban Development

A decade after Independence conditions in the shelter sector still reflect to a considerable extent the development patterns and organization from the years of Swaziland's earlier protectorate status.

There has been no failure to identify the housing problems of the nation. Nor has there been lack of recognition that new approaches were required if the problems were to be solved. Indeed, quite a variety of efforts have been made to introduce changes. Each of them may be accorded some degree of success in light of its specific objectives, but taken together all these separate projects and policies have not yet added up to the major impact that is needed for Swaziland to cope effectively with its present and future needs.

Room for improvement in the programming and implementation of these various governmental actions can be found; but their limited scale in relation to apparent needs has been a function of the rather low priority accorded housing among the national development strategies during this period. Discontinuity and fragmentation which have characterized housing efforts are attributable to the absence of a clear-cut, comprehensive shelter policy for the nation.

Segmentation of Housing Sector

Prior to 1968 housing needs were regarded in a segmented manner. There were the needs of civil servants which were in the domain of government to provide. Housing for managers of business or industry was the responsibility of the employer. In both cases, the housing was a significant fringe benefit for the occupants, frequently the families of expatriates. Shelter for the middle and higher income merchants, skilled craftsmen, technical and professional people was, for the most part, secured by the individual family through the private sector. Shelter for domestic servants was provided on the employers' property and other low income urban families were relegated to designated "locations" on the urban fringe, their shelter needs a matter of "out of sight--out of mind" policy. These groups combined totaled fewer than 10 percent of Swaziland's population. Apart from the residents on individual tenure farms, all the rest were families living in traditional style on Swazi Nation Land.

Since that time, emergent new needs have been recognized by Swazi Government. Some important adaptations have been made, but the basic segmentation of shelter need by client group still follows along the lines established earlier.

Examples of Government Action in the Shelter Field, 1968-78 for Individual Client Groups

Government Workers. New government functions and consequent growth of the civil service challenged the ability of government to continue the policy of providing housing--built or leased by government--at heavily subsidized rentals. Resources would simply not be available to keep pace with the need for expanded housing stock and the rental subsidies posed the prospect of a heavy financial drain, still leaving many of the intended beneficiaries unserved. A policy was instituted to raise rentals on government pool housing incrementally so that, over a period of ten years, rental levels would be achieved that represent an economic

return on the values of the respective units. The burden of these increases on the occupants would be eased by housing allowances and better matching of units with the salary levels of the tenants. Over time, the housing allowances would also be phased out as costs of living came to be covered in salary levels. As of 1978¹ the rental charges on government pool housing appear to be about 50 percent of the economic rates (11½ percent of the value of the unit annually-- 10 percent for amortization and 1½ percent for operating and maintenance costs). If the rentals rise by 10 percent each year, government will be receiving full economic return by 1983. Thus, the subsidy will be removed and with it, an important disincentive for civil servants to seek home ownership. An additional measure to encourage home ownership among government workers is their eligibility for no-down-payment loans at the Development and Savings Bank up to an amount three times salary on terms more favorable than those available to the general public.²

Meanwhile, however, the Second National Development Plan, 1973-1977 called for investment of E600,000 in new government pool units between the fiscal years beginning 1973 and 1975. These were to be additions to the general pool. There were also to be expenditures for four specially earmarked categories of government housing: E20,000 for District Commissioners' housing; E200,000 for ministerial rank accommodations; E605,000 for housing expatriate technical assistance personnel (to be sought in the form of financial assistance from the donor countries and institutions) and, for growing numbers of teachers, clinic personnel, police, border guards, agriculture workers and others to staff the new services and facilities in outstation housing; E710,000. The combined total was E2,135,000 or 70 percent of the programmed housing investment for the plan period. Government housing expenditure of this order of magnitude would be one and one-half times the level of public sector construction activity handled in the previous three-year period. (E 1,370,500 between FY 1970/71 and 1972/73).³

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1. Prime Minister's Office, Department of Establishments and Training, Establishments Circular No. 16 of 1978, 30 June 1978.
 2. John W. Henderson, Housing Study of Swaziland, September 1977, p. 16.
 3. Central Statistical Office, National Accounts 1973.

This implies an average annual residential building volume of more than E 700,000, a level never achieved in the Government sector prior to the 1972-73 budget year. Although more than 500 dwelling units were actually built under the Government housing program during the 1973-1978 plan period, there remained a chronic deficit (as indicated by waiting list applicants) of 200 or so units.⁴

Company Employees. Under the Employment Act (No. 51) of 1962, Care and Welfare Regulations of 1964 require that enterprises employing 25 or more permanent workers provide housing accommodations in accordance with specified standards. Exceptions are made where it is judged that employees are able to commute from their homes daily without hardship or are able to find acceptable alternatives to company-provided housing. Some employers at Matsapa Industrial Estate provide free transport for employees between their jobs and their homes at Manzini, Kwaluseni or other areas lacking adequate public transportation. Libby's operates similar bus service between Manzini and Malkerns. Employers may, however, deduct transport costs from employee wages, and dwelling rental charges up to a maximum of E1.25 per week.

As an incentive for production of company housing, industrial tax payers may claim allowances over a nine year period equal to 100 percent of the capital outlay for housing, with a maximum for each unit of \$5,600 (\$1,120 in the first year and \$560 in subsequent years). The dwellings must continue to be occupied by the employees.

In the early 1970's the capital value of company owned housing was rising by a little over E 2 million annually. As of fiscal year 1972/73 the estimated total value was more than E20 million (an increase of 27 percent over 1970/71).⁵

Reports from a 1977 interview at the Mhlume Sugar Company Ltd. indicate annual housing expenditures of that enterprise to be close to E1 million.

4. Henderson, Op. Cit. p. 15.

5. Central Statistical Office, National Accounts 1973. Unfortunately, more recent publications omit comparable figures.

This suggests that the production of company housing has been sustained in the following years.

Unmet needs for industrial employees' housing, particularly in Mbabane and Manzini, led to creation of the non-profit Industrial Housing Company (Pty) Limited. The Minister of Industry, Mines and Tourism played a major role in organizing this entity under the auspices of the National Industrial Development Corporation in 1972, and in securing its initial financing (a grant of E 200,000 from the Sugar Industry). Since 1974 financing has been through Government loans on prevalent market terms. Initially, policy was to focus efforts on providing good quality rental housing for the smallest feasible rent (i.e. without subsidy other than use of Government land). More recently, the spectrum of income groups to be served has expanded upward somewhat. Newer projects offer slightly larger rental flats with higher monthly charges. A first effort at producing houses for sale (30 units in Hlatikulu) proved successful, and a new project for Mbabane, currently under design will include some 40 houses for sale along with 112 rental flats in 14 apartment blocks. Production 1974-78 has averaged almost 100 units annually. Total production since IHC began has been 438 units. The waiting list is said to number 5,000-6,000 applicants.

Other Middle Income Families. This is the group deemed best able to fend for itself on the private market in the judgment of government policy. Housing shortages for this segment of the population have been laid to inadequate supply of plots serviced with water, road access and sanitary facilities, and inadequate mortgage financing. Two projects were initiated by the Ministry of Local Administration to address the sites problem: one, a middle income "sites and services" scheme in Piggs Peak for 76 residential and 16 commercial lots was budgeted for capital expenditure of E290,000 in 1974 and E190,000 in 1975; the other, an 80 plot subdivision in Mbabane in which installations of the infra-structure was to be financed by an 80 percent down-payment by the purchasers of E2,000-3,000 half acre plots. Neither scheme has been completed and their present status is unclear.

In some areas the problem has seemed to be less a matter of too few available plots on the market, but rather too few houses built on lots released for sale and already purchased by individuals. One Government effort to encourage development of such stagnant properties involved a proposal to penalize owners who did not develop within a specified time limit. This was never implemented, however.

As for improving mortgage facilities, the Government increased the liquidity of both the Swaziland Building Society and the Credit and Savings Bank by placing deposits in both institutions. (E 500,000 in the Building Society at 8 3/4 percent and, in the Credit and Savings Bank, funds loaned to the Swaziland Monetary Authority at very low interest by the International Monetary Fund.) In 1973, the name of the Credit and Savings Bank was changed to Swaziland Development and Savings Bank. This is a reflection of Government concern that the institution reorient its external investment practices and play a growing role in the development of Swaziland's economy.

Two new institutions were created as well: an employee social security tax program (P.A.Y.E.) and a national insurance monopoly (the Royal Swaziland Insurance Fund). Both were steps toward mobilizing a pool of domestic funds that could -- once they become well established -- be invested in long term home mortgages.

Some businesses and institutions have helped employees by building or buying individual houses for them in Mbabane or Manzini but the numbers are very small. In one case a parastatal agency has contracted with the Swaziland Development and Savings Bank to guarantee 100 percent mortgages for its employees on terms similar to those for Government employees.

Low Income Families. More has been written about the problems of this group than any other. One planning document, written a few months before Independence, said that 52 percent of Mbabane's residents were living in squatter areas on the fringes of the city. A 1971 survey in Manzini identified seven concentrations of squatters representing

a lesser problem than Mbabane's in terms of numbers of families, perhaps, but with significance obscured to a considerable extent by the presence nearby of extensive traditional settlements which were serving similar housing functions.

Virtually all the literature on this problem in Swaziland--and all the policies and programs--interpret the squatter problem as primarily a problem of poor housing quality. The efforts at solutions have almost without exception been directed toward demonstrating the minimum cost acceptable prototype(s) and substituting them for the urban adaptation of the traditional wattle-and-daub house low income families typically provide for themselves. The approaches to subsidy have varied, but all schemes have involved subsidy and acknowledged the inadequacy of funds to meet the needs thus defined.

One plan for Mbabane diagnoses the squatter problem as resulting from insufficient allocation of land in the city for housing low income families. But the solution proposed there called for removing the squatters and "redeveloping" their area with housing at acceptable standards.

An early squatter area project for Mbabane was sponsored by the Town Planning Office in the Ministry of Works. Professional staff designed a low cost prototype house. Land was plotted and sold for a relatively low price to the families located at that site (Sidwashini). Water standpipes were installed -- one for each six houses. Families were organized in groups of seven to build for themselves -- under supervision of a Clerk of Works from Public Works volunteering his own time, and a Swazi neighbor skilled in bricklaying -- houses according to the prototype design. Costs of materials, bought in bulk by Public Works, were to be reimbursed by the families. Professional participation did not continue the entire duration of the project. But the work did reach completion under direction of the resident bricklayer who was paid by the District Commissioner.

Low cost housing investment under the Second National Development Plan was to be distributed among three types of programs: E 525,000 for construction of simple, rental housing units for transient population of urban migrant workers (assumed, for the most part, to be unaccompanied by their families), E 125,000 for low income sites and services and E 250,000 for family housing in aided self-help projects. The self-help program was directed toward establishment of low-income areas in Mbabane. Together, these totaled E 900,000 or 30 percent of the three-year planned Government investment in the housing sector. Adapting mortgage facilities to meet the needs of lower income families was not discussed in connection with these programs.

Basic housing. An organization known as the National Housing Corporation was formed in fiscal year 1973-74 to produce and manage low cost housing for the general public. The initial program schedule called for construction of 500 dwelling units. Half the projected cost was to be financed under a grant from the German Government; the balance was to come from Swaziland Government matching funds. The entire budget was spent before the program was completed and, supplementary funds being unavailable, the program and NHC itself were terminated in 1976. During the years of its operation NHC took over management of 124 PW-built low cost units in Zakhele, and built another 230 minimal standard units in the same location. Of these, 110 remain unoccupied still. In Siteki they did 40 units, 16 of which stand still-unfinished. The program for Nhlanguano included 54 bedsitter units which were finished and rented and another 80 'coretype' units never finished and occupied. Six units in Mbabane, acquired in the private sector for senior staff housing, were also on the agency's roles. The Ministry of Local Administration handles maintenance and rental collections for the 330 units that are tenanted today.

Subsequent evaluations of this enterprise universally conclude that it was unsuccessful. Observers cite different factors in the failure but on one point there is general agreement: Planning in this program focussed too closely on the building material aspects and entirely too little on critical design, siting, economic feasibility, project management and general administrative matters.

Sites and Services. Six or seven years after the first Sidwashini project, the Ministry of Local Administration surveyed and subdivided more Government-owned land adjacent to the first self-help project site. The objective was to release family building plots for sale and, at the same time, to upgrade the area which had been attracting growing numbers of squatters. The displaced squatters moved to a tract of privately-owned land across the river valley just at the town's southwest boundary, where they pioneered a new squatter development - one which numbers 4,000-5,000 residents today.

In addition to the Sidwashini sites and services scheme, two additional types of low income sites and services schemes were done by the Ministry of Local Administration in Nhlanguano. One involved survey and platting of a squatter area sandwiched between two residential estates, and sale of plots for E 250 to low income families for construction of their own homes. The second was a replatting of a tract allotted earlier to the National Housing Corporation but never developed. Plots which had been laid out on swampy portions of the tract were thus eliminated, and a bit of additional land was added. Moreover, the Ministry intends to sell these plots for small industry now, rather than for residential development. This will mean a much more appropriate land use for the site, since it is adjacent to other industrial workshops and storage areas of the Public Works Department and Swaziland Electricity Board.

Aided Self-Help. The principal ongoing low-income housing project in Swaziland today is one sponsored by the Housing Unit of the Ministry of Local Administration. It is the first undertaking of the Housing Unit--a demonstration effort on a site adjoining Msunduza squatter area of Mbabane.

Following advice of outside experts that aided self-help housing was the best approach for sheltering low income families, the Government of Swaziland requested financial and technical assistance from the United Nations to set up an agency to do such programs. With this aid a Housing Unit was established in the Ministry of Local Administration in 1974. It began construction on this first project in 1975.

Objectives of the project, beside the immediate ones of housing the families who are participating in it, are to demonstrate appropriate design and construction techniques for self-help, low cost housing and to research opportunities for expanded use of locally produced building materials. Five different models of houses were designed, and site layouts were planned which permit efficient installation of infrastructure in hilly ground. Initially programmed to produce 90 houses, the project received budget approval in 1978 to add 12 more. Counting four test units built at the start of the project by direct-hire labor under the MLA, the size of the project will stand at 106 units when it is completed in 1979.

Participants in the project were selected from applications of interested families in the E 40-150 income range. Teams of eight families were assigned to build a group of eight houses simultaneously; and, when finished, they drew lots for the individual houses each family would occupy. Each family was obliged to contract for providing five days' labor each week for the construction period of the house. Usually, this meant a husband and wife worked together on two weekend days and the wives were always on-site as trainer-supervisors while the building was in progress.

Building time averaged 10 to 11 months for a group of units (about 3100 labor hours per house). Each 3.5 hours of self-help labor required an hour of project staff time input.

In order to bring final costs within the ability of the designated income group to afford (at 25 percent of income E 10.01-17.31 per month) a portion of the actual cost of each house was subsidized by Government. (See Appendix 45.) The balance was financed by loans through the Development and Savings Bank on favored terms available to government employees in 1975 (7 percent, 20 years amortization). No down payment was required of the participating families, but each must pay a small monthly charge for mortgage insurance and homeowners' insurance.

Six of the seventeen approved project staff positions were filled by expatriates under contract, all but two of which expired by mid-1978. The post for counterpart to the Housing officer, head of the agency, though advertised, remained unfilled.

An expanded program base on this model -- with some variations -- has been proposed. If funded as outlined the program could create 1,500 to 2,000 new self-help units in the 1978-83 period.

Expenditure by Government

It appears from examination of reports on Government capital expenditures, that annual investment in new housing has been averaging something on the order of E 1 million during this past five-year plan period. Approximately 70-80 percent of this expenditure has come from local Swaziland funds and the balance from donors such as the U.K., Government of Denmark, Government of the Federal Republic of Germany, United Nations, etc.

In addition there have been expenditures from the recurrent budget, for example, the 1977-78 expenses for the Ministry of Works, Power and Communications' line items, construction of buildings and maintenance of buildings. The Government pays the Water and Sewerage Board the user charges for some Government-owned blocks of flats and also the water metered at low income neighborhood standpipes. Expenses of this sort attributable to the shelter sector are estimated to be on the order of E 1 million.

Then there is the subsidy in Government pool housing, incurred through the charge of subeconomic rentals. Assuming 12.5 percent of current market value is an economic rent (the 1971 Weaver Report figure), the difference between that figure and actual rental

charges amounts to a subsidy to civil servants on the order of E 3.2 million annually. (See Table A-13)

There is no adequate basis available at present for calculating the additional subsidy to company housing represented by the tax credit to industries that build the housing, but it should also be considered in an assessment of the overall picture.

Rural Housing

The Second National Development Plan speaks of housing improvements in connection with the Rural Area Development Program. It mentions the potential of the service centers as the foci for residential resettlement and rural family community and social services. Project documents, however do not address rural village development itself or the shelter needs of the families to be resettled (an estimated 2,000 homesteads in the 10 RDA's). No provision is made for assisting them with problems they face in the process of relocation. Social surveys performed in two of the RDA's reveal that problems of this nature weigh heavily in the minds of the resettled families. (See Figure A-7).

One step in the direction of housing assistance to rural families can be seen in the effort of the Ministry of Local Administration. They have initiated a demonstration project in the Southern RDA to produce clay-fired and stabilized mud bricks. Eventually, they plan to offer technical assistance to families in the use of these more durable construction materials. Access to potable water supply for rural families is another basic need which has received the attention and investment of Government. But there has been no evidence during the past plan period that the housing-water-resettlement needs have been brought together in any concerted manner.

Urban Infrastructure. The Second National Development Plan outlined the objectives for water and sewerage investment policy as follows:

1. to place the water and sewerage operation of a self-accounting basis with a view to achieving self-financing of water and sewerage over a ten year period;
2. to effect such revision in the level and structure of tariffs so that consumers of water should pay a tariff which reflects the costs of providing these services and so that the customers of sewerage services pay an increased proportion of the cost of providing the services
3. to effect such alteration in the organization and staffing of the Water Branch of the Ministry of Works, Power and Communications as to ensure that the planned investment programme can be implemented and that water and sewerage services are efficiently operated and maintained;
4. to give first priority in the development and extension of water and sewerage services to low-income high density housing areas.

Items 1 and 2 are general reflection of the serious need to expand water and sewerage systems in the urban areas where growth and densities were posing increasing health hazards, and of the serious shortage of capital resources with which to finance this expansion. The scale of the required investment program was so large that even with loans from the IBRD and other local sources, high user charges have been levied. The effect on consumers, particularly those in lower income ranges who pay their own utility rates is serious. (See Figure A-8) For example, the monthly bill for a typical family today (average water consumption of 1.25 m³ per day) would be E 8.30, 5 to 6 percent of the average urban household income.

Item 3 was implemented in 1974 with the creation of the Water and Sewer Board, a quasi-parastatal agency under the Ministry of Works, Power and Communications.

The priority expressed in Item 4 is in part the rationale for continued designation of very large areas of urban land in low density residential land use--densities low enough to sustain the use of septic or conservancy tanks given local soil conditions.

The urban priorities are reflected in the proposed investment program of E 4.14 million over the five year period, 1973-78. (See Table A-14) Yet in 1975 when additional foreign assistance became available, the Water and Sewer Board created a Rural Water Supply unit to carry out a new program.

Midway through the investment program, IBRD estimated that 36 percent of Swaziland's population was served with treated drinking water supply, about two-thirds of the urban population and one-quarter of the rural. When the current construction program is completed (1983), capacity should be sufficient to serve virtually all the urban population and 40 percent of the rural.

Roads are the responsibility of the Town Councils in Mbabane and Manzini. In other parts of the country they come under the District Roads Boards. Under the Second National Development Plan each district was to have the opportunity each year to designate two roads in its district for proclamation as public roads. One was to be in a sufficiently good state of repair as not to require capital input and the other, could require work that would be financed under the Ministry of Works budget for minor road improvements. For the two Towns, a number of special road, pedestrian and street upgrading projects were financed through earmarked grants.

An annual budget was set for E 50,000 to finance improvements in minor community facilities and services in small towns and another E 200,000 was to be made available for loans to the Town Councils, in recognition of their difficulty in securing loan financing through conventional sources.

The Recurrent Budget and Staffing. Government policy under the Second National Development Plan was to keep the recurrent budget expenditures below the level of recurrent revenues in order to build up a capital development fund. This meant an over all average increase in Government expenditure was to be held to a maximum 6.5 percent per year. Ceilings were established for the Ministries in accordance with priorities they were seen to hold in the tasks of development. The Ministry of Agriculture, for example, had the largest expansion space (10 per cent per year). Education was limited to a 9 per cent annual growth rate; and Commerce and Co-operatives (a new ministry), 8 per cent. Local Administration (where the chief responsibilities for low income housing lay) could increase its recurrent budget by 5 per cent a year. One effect of this limitation was that adequate staffing of new activities was almost impossible to achieve.

B. Housing in the Third National Development Plan, 1978-83

The draft of the Third National Development Plan strikes the themes of economic growth, self-reliance and social justice and stability. The target for economic growth is a 7 percent per annum rise in the Gross Domestic Product, a 6.5 percent per annum rise in the agricultural sector production (led by sugar and forest products) and a 7 percent per annum rise in manufacturing and processing industry (creating 6,299 new jobs in industry). Construction will be a major gainer as Government capital expenditure rises from an annual level of E 25 million over the last plan period to E 84 million in the next five years.

A capital investment program almost ten times that of the previous Plan is posited. Of the E 413 million, between one-fourth and one-fifth (E 96.2) is slated for five major projects scheduled early in the plan period: investment on the Third Sugar Mill and Fairview Dam (E 53.6 million), a new rail link from the existing line of Phuzomoya to Lavumisa at the southern border, the State House at Lozitha, a large coal mine, and a loan to the new national airline.

Breakdown of the proposed capital expenditure by sector is shown in Table 7 below.

In outlining the Government budget over the next five years, economic planners have estimated that only 80-85 percent of the proposed capital expenditure will be made. Annual deficits will run from a high of E 74 million in 1978-79 (when domestic borrowing and changes in Government balances are to be relied on to make up the difference between revenue and expenditure) and a low of E 20 million in 1982-83 (to be made up mainly through foreign borrowing).

A 5 percent ceiling is set on annual increases in the recurrent budget over the plan period. The overall picture is summarized in Table 8.

Table 7. CAPITAL EXPENDITURE
(In millions of Emalangeni, constant 1977-78 prices)

	<u>1978-79</u>	<u>1979-80</u>	<u>1980-81</u>	<u>1981-82</u>	<u>1982-83</u>	<u>Total</u>
General Administration	16.4	3.7	4.2	4.3	4.1	32.7
Law and Order	4.3	5.6	4.6	3.7	4.0	22.2
Community Services	13.5	15.0	10.5	8.5	7.6	60.1
Education	10.3	12.2	10.9	10.7	9.8	53.9
Health	2.9	1.7	1.6	1.2	1.3	8.7
Agriculture	10.6	15.8	8.7	9.4	9.9	54.4
Industry and Mines	24.7	24.7	18.9	13.9	8.7	90.9
Transport and Communications	34.0	13.4	9.7	12.3	15.8	85.2
Other	0.8	3.2	0.3	0.1	0.2	4.6
Total	<u>122.5</u>	<u>95.3</u>	<u>69.4</u>	<u>64.1</u>	<u>61.4</u>	<u>412.7</u>

Source. Economic Planning Office, Draft Third National Development Plan.

Table 8. BUDGET FOR THE THIRD PLAN
(In millions of Emalangení, constant 1977-78 prices)

	<u>1978-79</u>	<u>1979-80</u>	<u>1980-81</u>	<u>1981-82</u>	<u>1982-83</u>
Total Revenue and Grants	<u>84</u>	<u>102</u>	<u>105</u>	<u>92</u>	<u>98</u>
Revenue*	79	96	100	87	92
Grants from Abroad	5	6	5	5	6
Total Expenditure	<u>158</u>	<u>132</u>	<u>124</u>	<u>117</u>	<u>118</u>
Recurrent Expenditure	55	58	62	65	69
Capital Expenditure	103	74	62	52	49
Overall Deficit	<u>-74</u>	<u>-30</u>	<u>-19</u>	<u>-25</u>	<u>-20</u>
Financing					
Foreign	31	25	15	16	18
Domestic Borrowing and Changes in Government Balances	43	5	4	9	2

* In 1977-78 prices assuming 12% inflation.

Source: Economic Planning Office, Draft Third National Development Plan 1978.

The prospective role of housing and urban development in Government capital expenditure over the coming five-year period is indicated below. The increases over investment levels in the last plan period seem to be massive. Yet, the Draft Plan includes no program. Without such a guide it is not possible to tell how much of the increase can be attributed to inflation and how much, to intended expansion of the scale of program activity. It would seem that a Government staff housing effort is programmed for 1 1/2 times its level of recent years -- or more. If "Housing" under the Community Services Budget in the Draft Plan refers to the Housing Unit in the Ministry of Local Administration, then the figures could mean a three-or-fourfold expansion of the program for the plan period just completed.

Table 9. HOUSING AND RELATED ITEMS IN THE DRAFT CAPITAL EXPENDITURE PROGRAM, 1978-83.

	<u>1978-79</u>	<u>1978-80</u>	<u>1980-81</u>	<u>1981-82</u>	<u>1982-83</u>	<u>Total</u>
(Listed under General Administration Budget)						
Government Staff Housing	1,003	1,535	2,037	2,010	1,856	8,441
(Listed under Community Services Budget)						
Water Resources	11,731	7,181	1,180	879	63	21,034
Water and Sewerage	1,729	1,785	1,595	1,635	2,025	8,769
Housing	1,425	2,874	4,680	3,497	3,400	15,876
Urban Services	1,454	1,715	1,535	1,249	1,055	7,008
Physical Planning	-	50	75	150	50	325
Social Development	390	311	294	222	197	1,414
Housing Subtotal	2,428	4,409	6,717	5,507	5,256	24,317

Source: Economic Planning Office, Draft Third National Development Plan, 1978

A listing of capital projects budgeted for the Ministry of Local Administration's Housing Unit in the current year may shed some light on the approach to a five year program this agency, in any event, has in mind. The schedule shows a small number of new units coming into production this current year. Emphasis is on studies preparatory to a significantly expanded future program. These studies would be the first steps toward accomplishing 1,500 new, (see Table 10), and 200-400 improved housing units in the year 1979-83.

Table 10

PROGRAM BUDGET OF THE HOUSING UNIT
MINISTRY OF LOCAL ADMINISTRATION, APPROVED FOR FY 1978-79

<u>Project</u>	<u>Number of Units</u> <u>Possible Construction</u> <u>Period</u>	<u>Capital Budget</u>
1. Extension of the Msunduza Urban Pilot Project	12 Aided Self-Help new 1978-79	E 71,000
2. Planning studies for 9 ha and engineering design for infrastructure on 4 ha-Second Msunduza project.	Stage 1: 150 Stage 2: 50 Aided Self-Help Sites and Services mix, new 1979-82	E 20,000
3. Planning and engineering design for infrastructure on a new Mbabane site of 9 ha	150-200 Aided Self-Help new 1980-82	E 50,000
4. Slum clearance feasibility and redevelopment study Mbabane and Manzini	1,000-1,100 1980-83	E 22,000
5. Southern RDA project-experiment in brick production and socio-economic study	Ultimately 200 units improved 1979-82	E 10,000

According to Housing Unit projections carrying these 1,500 new units through to completion and applying the improved brick building techniques to upgrade 400 units in the Northern and Southern RDA's in the years 1979-83 would require capital investment on the order of E 9.8 million. Infrastructure to serve the specific housing sites is included but not community facilities and services or major expansion of water treatment or sewage treatment plants or urban arterial roads.

The implications for recurrent budget of the new staff needed to carry out a program of this scale would be something on the order of E 590,000 over the five year plan period. This same staff, once in place could handle other projects as well, amounting to an additional E 3.1 million -- perhaps an upgrading scheme for 200 urban units and another 400 units of new housing, in the view of the Housing Unit.

An illustrative program of this sort could add 1,920 new units to the housing stock, say 1,300 in Mbabane and Manzini; 220, in other towns (Piggs Peak, Nhlangano, Stegi) and 400 elsewhere in Swaziland provided none is on land that requires clearance before it can be used. It would also provide for 600 upgraded units, 200 urban and 400 rural. Altogether 2,520 Swazi households would be benefited -- for an average capital outlay of E 4,803 per family and annual recurrent budget cost of less than E 50 per housing unit.

If, however, the new units are intended for land now occupied by housing which must be removed before the new units can be built, the program may not result in any net additions to the existing housing stock. It is not clear which part of this program, if any, addresses the needs of new urban households that can be expected to arrive at, or to form within, the urban areas and which parts will serve urban families already settled, or rural families. Nor is it clear what efforts are to be directed toward the housing needs of each segment of the income spectrum.

The Draft Plan Capital Expenditure Program sets a very small allocation for physical planning relative to the magnitude of planning tasks that so massive a capital works program entails.

Land use planning and community development efforts in support of a large new thrust in the housing field will be important. At the time of this study, however, the contributions needed in these areas have not yet been recognized in the five-year program.

IV. Housing in Swaziland Today

A. The Housing Stock

1. The Traditional Swazi Homestead

More than three-quarters of Swaziland's population is housed in more or less traditional style in her 59,000 rural homesteads. The pattern of settlement over the land is very dispersed. Village clusters have been atypical although they are increasingly emerging as a feature of the rural development area. Extremely low density of development poses problems for improving rural shelter and services that are quite in contrast with the problems of urban areas that occur because the densities are higher. Each commands attention on its own terms.

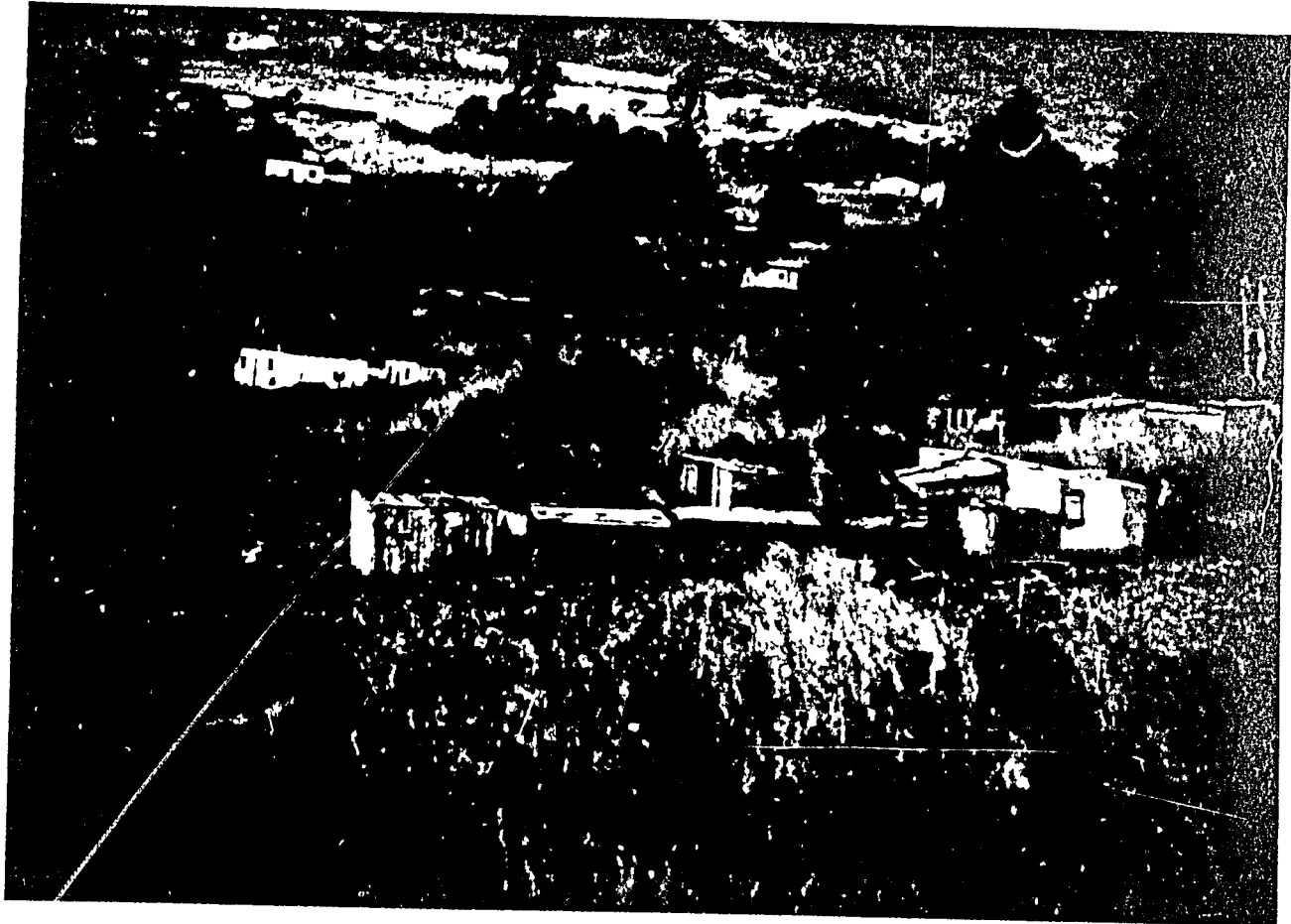
The typical rural homestead is comprised of a number of huts clustered around a heavily fenced cattle kraal. These huts house the members of the homestead unit--typically eight or nine in number, sometimes more, representing extended family relationships. The headman's mother may be in charge of a "great hut", which serves as a shrine dedicated to paternal relatives. In ordinary polygamous homesteads, each wife shares her separate sleeping, cooking and store huts with her own children.

To ensure privacy of the parents, and serve Swazi customs of parental respect, children are generally kept in separate quarters. Children are excluded from participating in conversation with their elders unless specifically invited and they do not eat with their parents. A group of children would be served separately.¹ Unmarried individuals are

1. The Hon. Dr. Sishayi Simon Nxumalo, Our Way of Life, Mbabane (undated).

FIGURE 5

Traditional Style Rural Shelter in the Ezulwini Valley



accommodated with those of their own age and sex. It would be common for young children to sleep with their grandmothers, adolescent girls to live in huts behind their mothers' and boys to occupy barracks at the homestead entrance.

There are several common types of huts and within one homestead it is not unusual to see a mixture of styles. The most predominant is a rondoval with walls of wattle and mud and sometimes stone infill. A detachable pointed roof of thatch sits on top. There are wooden window frames and doorways in the walls. Another style looks like a beehive made of ropes that bind down thatching grass. The entry is low and no special air vents are provided. Square and rectangular huts are also built with wattle, mud and sometimes stone, and iron sheet roofing. Various other found materials also are used on the roof as temporary patches. The floors of most of these huts are stamped earth, often smeared with moistened cow dung. Advantages of these indigenous materials is their general on-site availability, low cost and ease of application with very few tools. They do, however, deteriorate badly in the rainy season and need to be replaced virtually every year. The renewal is generally a cooperative family effort.

Signs of greater affluence can be seen in efforts to improve the homestead units by use of more durable materials or addition of contemporary, suburban-style house among the homestead's huts.

Water supply is usually a nearby stream, spring or well. For the 80 percent of rural homesteads (almost two-thirds of Swaziland's population) that lack a source of treated

drinking water, this means exposure to the debilitating organisms that cause bilharzia, amoebiasis, dysentery and other endemic diseases. Most rural homesteads also lack sanitary facilities for disposal of human wastes and garbage. In the bush where the density of settlement is relatively low, these wastes decompose harmlessly.

The homestead has traditionally been a closed community of kinsmen which is almost self sufficient. However, new economic, cultural, educational and religious attitudes are emerging with reduction in the homestead's size and dispersion of its members.

A family wishing to establish a new or relocated homestead must seek release from obligations to its present chief then negotiate for a homestead site with the chief in the new location if the two are different jurisdictions. This may involve payment of a fee, work for the chief or both. Initiative in relocating family homesteads has been known to come from the chief instead--in cases where families have fallen into disfavor or where chiefs have decided to reallocate lands under their control. Under the Rural Area Development Program, the schemes for achieving more rational land use patterns in relation to land capabilities often involve rearrangement of the homestead settlements. When it comes time to implement the family relocation aspects, it is the chiefs who play the key role in giving orders to move and allotting new family sites.

2. Urban Housing

a. Low Income Settlements - Informal Sector Shelter

A variety of attractions has drawn Swazis from the rural homestead to urban areas but the principal one has been

work opportunity. Most, but by no means all, of the low income urban dwellers are recent migrants. Some were born and grew up in the urban neighborhoods called "locations" such as Msunduzi and Sidwashini on the fringe of Mbabane or "Old" Zakhele in Manzini.

Land Tenure

Indeed, some of these long time citizens are not squatters but own their own land freehold. They may have built shelter in traditional form and materials, and under "traditional" living conditions i.e. without graded access roads, drainage, water supply or sanitary provisions for human wastes.

Other families are not technically squatters, but "temporary occupants" on Government-owned land living in traditional style housing built by themselves. This group pays E 2 per year to the District Commissioner for a permit to occupy a small plot of ground, the terms of which preclude building structures other than temporary ones of nondurable materials.

Another major group have yet a different status-- that of occupants of peri-urban Swazi Nation Land enjoying tenure at the pleasure of the local chief. These families also tend to provide shelter for themselves in traditional style.

Then there are the true squatters who have no lawful claim, traditional or temporary, on the land they occupy.

Regardless of tenure status all these low income urban families share many aspects of physical living conditions in common. These conditions affect close to half of Swaziland's urban population.

Shelter Alternatives

A newly arrived urban migrant may come from school or directly from the rural homestead to seek work. If he is not in a company town where employee housing is available he would normally stay an extended time with relatives and friends until he can find a place to live of his own.

There are several choices open. If he has a Government job he can apply for pool housing. The waiting list means he has no chance of getting a place quickly. A non-Government worker who can afford about E 50-60 per month can apply for an Industrial Housing Company flat. Here, too, the waiting list is long and the production of new flats, small, in relation to the demand. Private sector rental housing is expensive, but even for households of more than average means, scarce. There is almost no housing to be found for sale, new or formerly occupied, at any price.

What choices does the shelter-seeker have?

If he is unmarried or has left his family behind in the rural homestead he may rent or sublet a room from an established household in one of the low income settlements. The rental would be E 5-8 per month.

Those who wish to establish their own households, however, must be prepared to perform the developer-builder function on their own. They must locate and acquire a site, plan their construction and secure the necessary approvals for what they wish to build, prepare the ground and erect the shelter, including the borrowing of needed funds and such provision for infrastructure or its substitute as they are able to make.

A family able to afford a quarter or half-acre lot for E 2,000 to 3,000 and a house for E 20,000 to E 30,000 will be able to turn to the formal sector for an architect-designed and contractor-built house. Others must resort to the informal sector for their shelter.

Informal Building Process

Choice of site is confined to one of the low income "squatter-type" areas. The newcomer can hope to find a place on the edge, or perhaps, to buy out the place of someone who wishes to move. On Swazi Nation Land he must see the chief about allocation of a plot, which may require payment of a fee. Assignment of a plot is said to require good "connections" and a fee of something like E 15. In some places owners of individual tenure land assign plots in similar manner. On Government land, securing a temporary site requires a visit to the District Commissioner and payment of an E 2 fee for the occupancy permit. The permit must be renewed annually, each time for E 2. Or, there may be a squatter settlement on privately owned land -- where chiefs may have moved in to establish jurisdiction over land distribution. In such a case the procedure would be similar to Swazi Nation Land. There may be other places where enforcement of private property rights is not pursued and the plot-seeker can simply move in and start his foundation.

Next step is to erect a temporary shack and begin preparing the plot for the first hut. In a very steep area (typical for Mbabane) this will involve clearing the land of rocks, perhaps trees as well and carving out a flat place. There is some evidence that mechanized grading equipment has been

FIGURE 6

Informal Shelter - Building Process



1. Framing with poles cut at site



House undergoing expansion

2. In-fill with balls of hardened mud

3. External finish of plastered mud, corrugated iron roof



Upgraded version of informal shelter - with manufactured windows, doors.



Rainy weather damage makes restoration of the shelter a necessary repetitive part of the building process - a process without end

introduced to prepare several plots at one time -- a significant labor and time-saving measure. Then materials are gathered: mud from the excavation, stones, sand and gravel from nearby roads, poles and sticks, and water. When the plot is graded and smoothed the corner poles are set. Framing consists of two faces of horizontal poles bound by cord or wire or nailed together. Dried mud balls or stones are placed within the frame and mud is applied to exterior and interior faces. The walls of the house are topped off with a course of firmer mud and poles are set for the roof. The corrugated iron sheet roof is then secured with wire, nails or heavy objects: large rocks, old tires, cement block, etc. Interior walls may be treated with cow dung and then painted. The floor may be stamped earth or concrete (made by mixing the gathered sand and gravel with processed cement bought in sacks.)

Sometimes work, such as cement flooring, is done by hired Swazi construction workers in their off-hours or between jobs. A small informal builder of this sort might charge E 100 for doing the walls, E 30 for the floor, and E 30 for installing a roof, usually the biggest cash outlay item in such a house. Only occasionally would a thatched roof be found in an urban area. The whole building process, even for a person working alone, takes 2-5 months.

There are other types of building to be found in informal housing areas, ranging from mud and wattle rondovals to make-shift shacks and lean-tos of beaten-out metal drums to very substantial, though unlawful, concrete block and plastered houses in the conventional middle-class style of the towns.

The house-builder may borrow from relatives to help finance cash purchases, or enlist their aid in the construction process.

Interior

The informal shelter is subdivided internally. In a typical two-room house, parents would sleep in the bedroom; children, in the living room/kitchen. Furnishings would include conventional purchased tables, chairs, beds, dressers etc. Cooking and heating appliances, where found, are small and gas or wood-fueled. Most families cook outdoors over an open fire.

Neighborhood Densities

Swazi culture dictates clear demarcation of a family's territory and preference or custom tends toward low density patterns of settlement. This applies to lower income families, particularly, as they would be likely to keep animals on their land, plant fruit trees or vegetables or maintain some sort of informal sector business activity at home. As Figure 6 indicates, densities of low income urban settlements may be as low as 4-8 dwellings per acre (Kwaluseni, Nkwalini, Fonteyn). Msunduza and Mangwaneni, both old established areas at the eastern and southern periphery of Mbabane (the first Government and freehold land; the second, Swazi Nation Land) are the most dense, with 13-14 units per acre.

Infrastructure

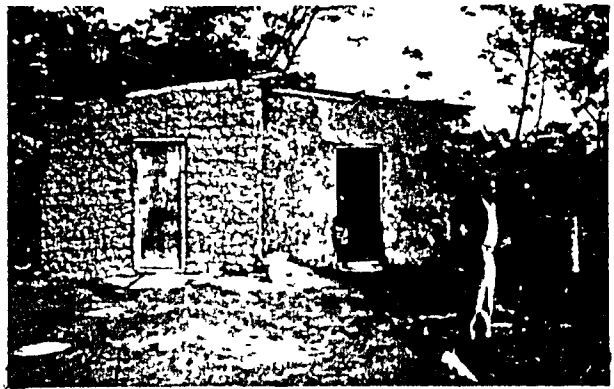
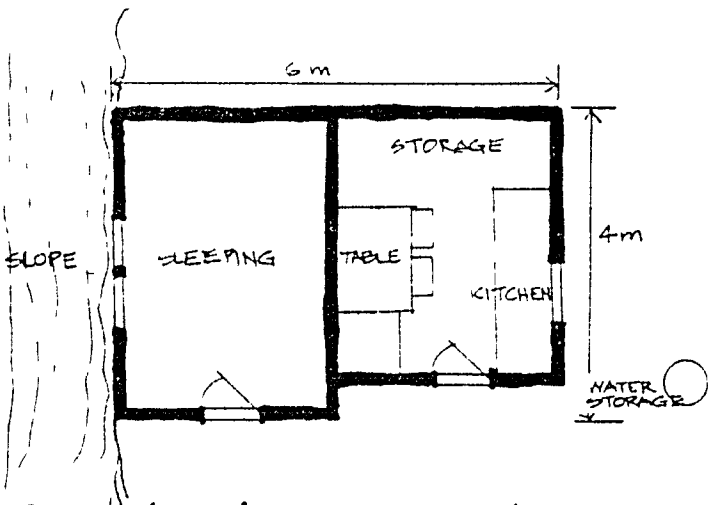
In the older low income settlements, Government has made an effort to provide standpipes, one for 10-20 dwellings, so that potable water is available. The newer, recently growing areas such as Nkwalini outside Mbabane and Moneni outside Manzini do not yet have such facilities. These communities, as well as Fonteyn, Kamanzana, and Envatshini draw their water from streams.

FIGURE 7
Nkwalini Living



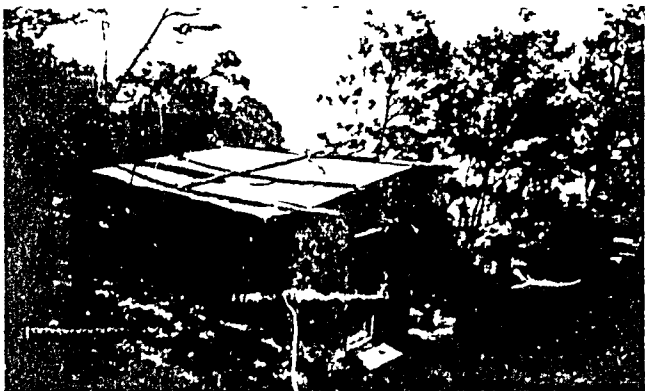
Mud for the house was carved out of this hillside.

The closest neighbor is 2.5 m. away; the pit latrine is 30 m.; the water source is a well 1 km down hill and serves around 300 people



Owner bought one-room house for E150 and built an addition for about E120.

Metal drum used for water storage. Owner pays neighbors E2 to refill.



Wired poles secure the iron roof sheeting against heavy storms. One room is normally subdivided for sleeping, eating and sitting.



Heating is by paraffin stove. Bottled gas fuel for cooking - A battery-powered radio.

Residents in one area near Manzini reported having been assessed by the Chief for some community improvement but, by and large, it seems that costs of the installation are born by the Ministry of Local Administration under its social welfare or community development responsibilities. The user charges on water flowing through the standpipes is similarly subsidized.

Where there is an effort to make disposal of human wastes more sanitary, the means are a pit latrine dug 20-30 feet from the house. Most are fenced off from the rest of the lot and, given appropriate soils and proper excavation, can last a family three to four years.

Provision for solid waste disposal such as the concrete block receptacles at Msunduza is infrequently found. The service is provided by the Towns to tax-paying neighborhoods. Usually disposal is achieved by placement of material beside a road or in a wooded area. Junked automobiles, acquired for scavenging parts, are a major problem in low income areas. At Msunduza, they are thrown into a deep ravine for fill.

Electric lines have been installed in the areas where public sector housing projects have been undertaken: Msunduza, Sidwashini, Zakhele. Where the E 2 annual permit is obtained for use of Government land, the E 2 fee does not nearly cover the cost of public services provided.

Roads to and through the squatter areas are well graded, but unpaved. They become impassable when rains are heavy.

Although some of the peri-urban squatter areas are relatively far from the central employment, industrial and commerce

areas, they are well served by private buses. This service is extremely important in allowing people the mobility they need to function albeit at a relatively expensive price for many of them. In-town areas such as Msunduza and Nkwalini are very well located with respect to the center of Mbabane and the industrial area. Residents are able to walk to work. Sidwashini has been far from most jobs but location of the Training Center nearby and the site for a new industrial area will bring the jobs closer.

Community Life

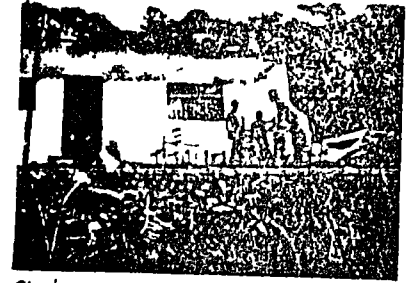
Markets and shops are an integral part of most low income areas. Market stalls have been set up at major crossroads. Here women cluster to sell fruits and vegetables and meat they have butchered. Informal sector activity can be seen scattered throughout the settlement: shoe repair, baking, home-brewing of beer, furniture making and a variety of crafts. There is no zoning constraint against mixed land uses of this sort in residential areas so long as the residents have secured the appropriate vendors' licenses, and build no "permanent" structures. Services are also offered, such as carrying water from the source to fill a family's storage drum.

Neighbors may be consulted on such matters of mutual concern as siting of pit latrines or setting out footpaths through the community. But proximity does not necessarily make for close relationships among Swazis. To illustrate a man newly settled in one of the self-help houses at Msunduza was asked who his next door neighbor was. Having worked together with his immediate neighbors and their wives for almost a year to build their group of houses, the man replied that he didn't know who was living next door to him.

FIGURE 8
Community Services in the Informal Neighborhood



Improvised plastic pipe carries water from a stream near the top of Nkwalini to a neighborhood collection point



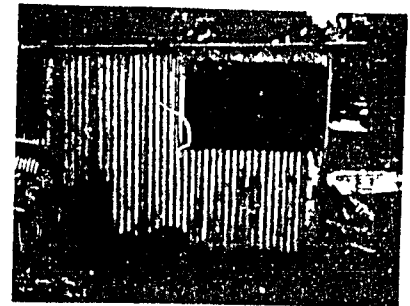
Chairmaker at Msunduza



Meat and poultry processors and vendors - Msunduza



Nkwalini fruit and vegetable market



Msunduza shop



Private bus service connects Nkwali and other lower income areas with employment, shopping and Mbabane center



Town receptacle for solid waste - Msunduza

Upward Mobility

Over time a family's income may increase, with advancement of the head's career or additional members of the household entering the labor force. If they are able to buy a lot in a different neighborhood, they will stay in place for many years while they save funds for building the new, permanent house through formal sector processes. Some families who cannot find a lot, or do not wish to wait until sufficient funds have accumulated for formal shelter, or who achieve gains of smaller magnitude may attempt to upgrade their informal shelter. This may involve adding structures on the plot. Or as one may see in some places, putting up concrete block walls with manufactured window frames outside the walls of the informal dwelling, then dismantling the original mud and stone structure, no longer needed.

Years of prolonged housing urban housing shortage and the very wide step that must be made in moving from informal to formal shelter have resulted in bulging low-income settlements populated by residents whose incomes are, by no means, all in the lowest ranges. Surveys in these settlements² have revealed a significant number of people in managerial, technical, skilled crafts and other occupations which imply considerable levels of education and training and above-average incomes.

2. Rural-urban migration survey conducted in low income settlements in and around Mbabane and Manzini, summer 1977 by students of the University of Botswana and Swaziland.

FIGURE 9

SEGMENTS OF THE HOUSING STOCK		TYPICAL URBAN DENSITY		OCCUPANCY STANDARDS				MONTHLY INCOME	
		PER ACRE	PER HECTARE	HABITABLE RMS PER DU*	FAMILY SIZE	PERSONS PER HABITABLE ROOM	% OF OWNERS THAT RENT OUT ROOMS	**	
								PER H*HLD	PER CAPITA
INFORMAL									
TRADITIONAL RURAL HOMESTEAD		NA	NA	1-2	6-4	3	0	54	8
LOW INCOME URBAN SETTLEMENTS									
MBABANE									
	Fonteyn	6	15	1-4	55	3	0	NA	NA
	Mangwaneni	13	33	1-4	6	35	20%	NA	NA
	Msunduza	14	35	1-4	46	33	33%	55	12
	Myakwelitshe	10	25	1-4	78	45	50%	NA	NA
	Nkwalini	8	20	1-4	5	29	NA	NA	NA
	Sidwashini	12	30	1-4	66	3	20%	NA	NA
MANZINI									
	Khoza's Area	7	18	1-4	52	26	5%	96	19
	Kwaluseni	4	10	1-4	59	3	50%	NA	NA
	Moneni	6	15	1-4	4	2	0	110	27
	Sicelwini	11	28	1-4	6	34	NA	NA	NA
	Zakhele	12	31	1-4	38	22	20%	75	20
FORMAL									
PRIVATE HOUSING SECTOR									
	Houses (Kent Rock)	25	6	3-6	5	15	0	400-600	
	Flats (Central Mbabane)	13	32	1-2	25	15	0	200-400	
PUBLIC AND QUASI PUBLIC									
	Senior Qtrs (West Ridge Park)	25	6	4-5	6	15	0	200	33
	Junior Qtrs (Sandla)	4	9	2-3	4	15	0	175	44
	Flats (Yukukentele)	20	48	1-2	25	15	0		
	Bedsitters (Highland View)	20	48	1	15	15	0	100	66
	Labour Qtrs (Stegi)	3	7	1	1	1	0	40	40
	Self Help -(Msunduza)	13	32	2-5	6	2	80%	50-150	8-25

*DU IS AN ABBREVIATION FOR A HOUSEHOLD UNIT WHICH FOR THIS STUDY IS EQUIVALENT TO THE CENSUS DESIGNATION "HOMESTEAD" AND IS USED INTERCHANGEABLY IN THE TEXT

** SOURCE UBS RURAL-URBAN MIGRATION STUDY (SEE APPENDIX TABLE A-41)

FIGURE 10

LAND TENURE AND STRUCTURAL STANDARDS		TENURE STATUS					CODE	
		SWAZI NATION LAND	GOV'T OWNED OR RENTED PROPERTY	FREEHOLD	RENTAL OR TEMP PERMIT ON GOVT LAND	UNLAWFUL OCCUPANCY SQUATTING	CODE OR EQUIVALENT SPECS FOR PERMANENT CONSTRUCTION	
							YES	NO
INFORMAL								
TRADITIONAL RURAL HOMESTEAD		<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>
LOW INCOME URBAN SETTLEMENTS								
MBABANE								
	FORTEYN			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
	MANGWANENI	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>
	MSUNDUZA		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	MYAKWELITSHE		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
	NKWALINI			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
	SIDWASHINI		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MANZINI								
	KHOZA'S AREA	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>
	KWALUSENI	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>
	MONENI							<input checked="" type="checkbox"/>
	SICELWINI	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>
	ZAKHELE		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
FORMAL								
PRIVATE HOUSING SECTOR								
	HOUSES (KENT ROCK)			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
	FLATS (CENTRAL MBABANE)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
PUBLIC AND QUASI PUBLIC								
	SENIOR QTRS (WEST RIDGE PARK)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
	JUNIOR QTRS (YANDLA)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
	FLATS (YUKUKENTELE)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
	BEDSITTERS (HIGHLAND VIEW)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
	LABOUR QTRS (STEGI)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
	SELF HELP -(MSUNDUZA)		<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>

FIGURE 11

BUILDING PROCESSES COSTS AND LABOUR		DESIGN			CONSTRUCTION			COST PER UNIT E/3 ² *	LABOUR		
		CUSTOM	STANDARDIZED PROTOTYPE	SELF	CONTRACTOR	GOVERNMENT DIRECT LABOUR	SELF BUILT		LABOUR/MATERIAL MIX	SKILL MIX UNSKILL/SKILL	TIME MONTH/UNIT
INFORMAL											
TRADITIONAL RURAL HOMESTEAD				●			●	0-80	90/10	100/0	2-4
LOW INCOME URBAN SETTLEMENTS											
MBABANE	INFORMAL URBAN-(IN GENERAL)							0-80	90/10	90/10	2-5
	FONTEYN			●	○		●				
	MANGWANANI			●	○		●				
	MSUNDUZA	○	●	●	○	○	●				
	MVAKWELITSHE			●	○		●				
	NKWALINI			●	○		●				
	SIDWASHINI	○	●	●	○	○	○				
MANZINI											
	KHOZA'S AREA			●	○		●				
	KWALUSENI	○		●	○		●				
	MONENI			●	○		●				
	SICELWINI			●	○		●				
	ZAKHELE		●	○	●	○	○		↓	↓	↓
FORMAL											
PRIVATE HOUSING SECTOR											
	HOUSES (KENT ROCK)	●			●			150	40/60	30/70	3-5
	FLATS (CENTRAL MBABANE)	○	●		●			120	40/60	30/70	2-3
PUBLIC AND QUASI PUBLIC											
	SENIOR QTRS (WEST RIDGE PARK)		●		○	○		140	50/50	30/70	4-6
	JUNIOR QTRS (SANDLA)		●		○	○		120	50/50	30/70	3-4
	FLATS (YUKUKENTELE)		●		○	○		100	50/50	30/70	18
	BEDSITTERS (HIGHLAND VIEW)		●		○	○		100	50/50	30/70	15
	LABOUR QTRS (STEGI)		●		○	○		80	40/50	30/70	3-4
	SELF HELP -(MSUNDUZA)		●		○	○		80-120	35/65	20/80	18

* Estimates based on interviews and project documents, include costs for land, construction labor and materials, infrastructure on plot and in-tract for development as a whole and open space where it is an integral part of the project. Data for 1976-77 are escalated to 1978 values by an average inflation rate of 12 per cent per annum (see Appendix 4-5)

FIGURE 12

INFRASTRUCTURE		WATER		ROADS			HUMAN WASTES			SOLID WASTES			ELEC		
		INTERIOR TAP	STAND PIPE	UNTREATED STREAM or WELL	HARD SURFACE ALL WEATHER	STABILIZED DIRT	UN STABILIZED DIRT	WATER CLOSET	PIT LATRINE	OTHER	INDIVIDUAL PICK-UP	COMMUNAL PICK-UP or BURIAL	NO PROVISION	JUNK CAR PROBLEM	HOUSEHOLD	STREET LIGHTS
INFORMAL															
TRADITIONAL RURAL HOMESTEAD				⊗			⊗			⊗			⊗		
LOW INCOME URBAN SETTLEMENTS															
MBABANE															
	FONTEYN			⊗			⊗			⊗	⊗		⊗		
	MANGWANENI		⊗	⊗			⊗			⊗		⊗			
	MSUNDUZA	⊗	⊗	⊗			⊗		⊗	⊗	⊗	⊗	⊗	⊗	⊗
	MYAKWELTSHE		⊗				⊗			⊗			⊗		
	NKWALINI			⊗			⊗			⊗	⊗		⊗		
	SIDWASHINI	⊗	⊗	⊗			⊗			⊗	⊗		⊗		⊗
MANZINI															
	KHOZA'S AREA		⊗				⊗			⊗			⊗		
	KWALUSENI	⊗	⊗	⊗			⊗		⊗	⊗		⊗	⊗		
	MONENI			⊗			⊗			⊗			⊗		
	SICELWINI		⊗				⊗			⊗			⊗		
	ZAKHELE	⊗	⊗				⊗			⊗			⊗		⊗
FORMAL															
PRIVATE HOUSING SECTOR															
	HOUSES (KENT ROCK)	⊗					⊗	⊗				⊗			⊗
	FLATS (CENTRAL MBABANE)	⊗					⊗				⊗			⊗	⊗
PUBLIC AND QUASI PUBLIC															
	SENIOR QTRS (WEST RIDGE PARK)	⊗					⊗	⊗				⊗			⊗
	JUNIOR QTRS (SANDLA)	⊗					⊗	⊗				⊗			⊗
	FLATS (VUKUKENTELE)	⊗					⊗	⊗				⊗			⊗
	BEDSITTERS (HIGHLAND VIEW)	⊗					⊗	⊗				⊗			⊗
	LABOUR QTRS (STEGI)		⊗				⊗	⊗				⊗			⊗
	SELF HELP -(MSUNDUZA)	⊗					⊗	⊗				⊗			⊗

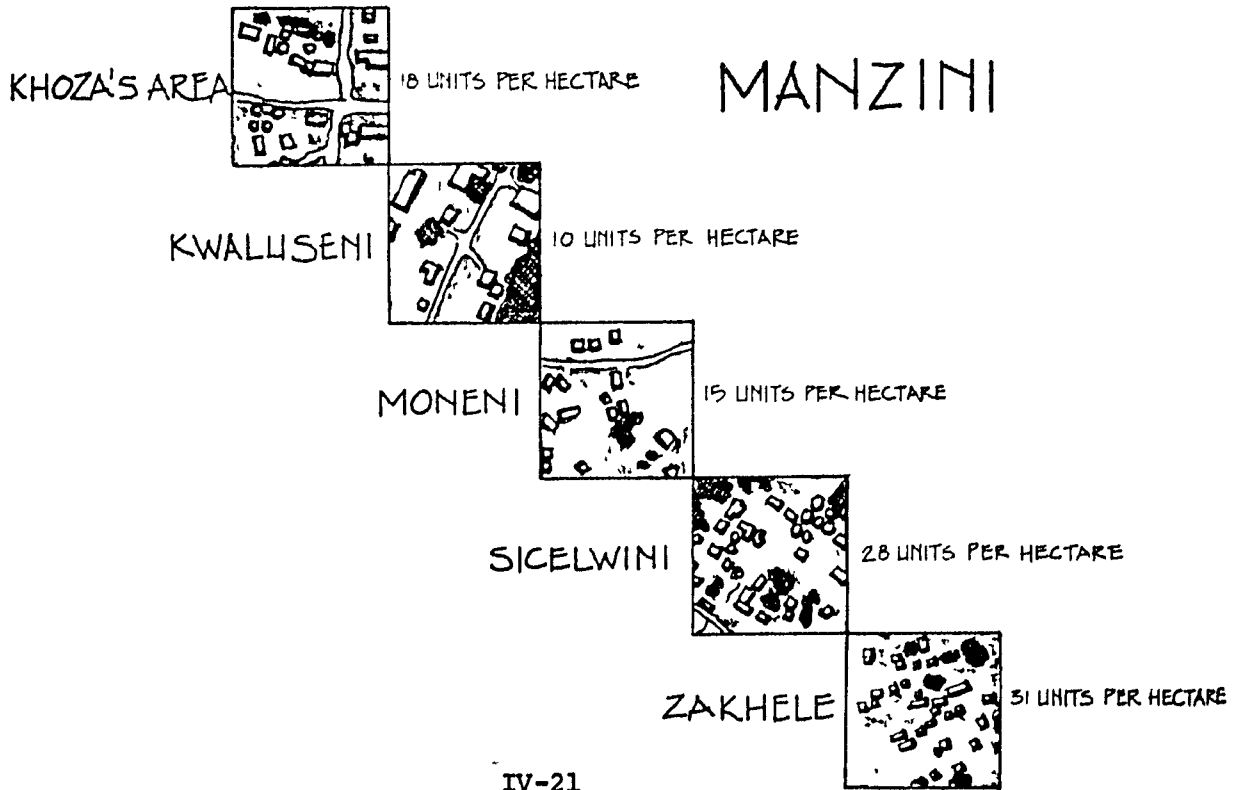
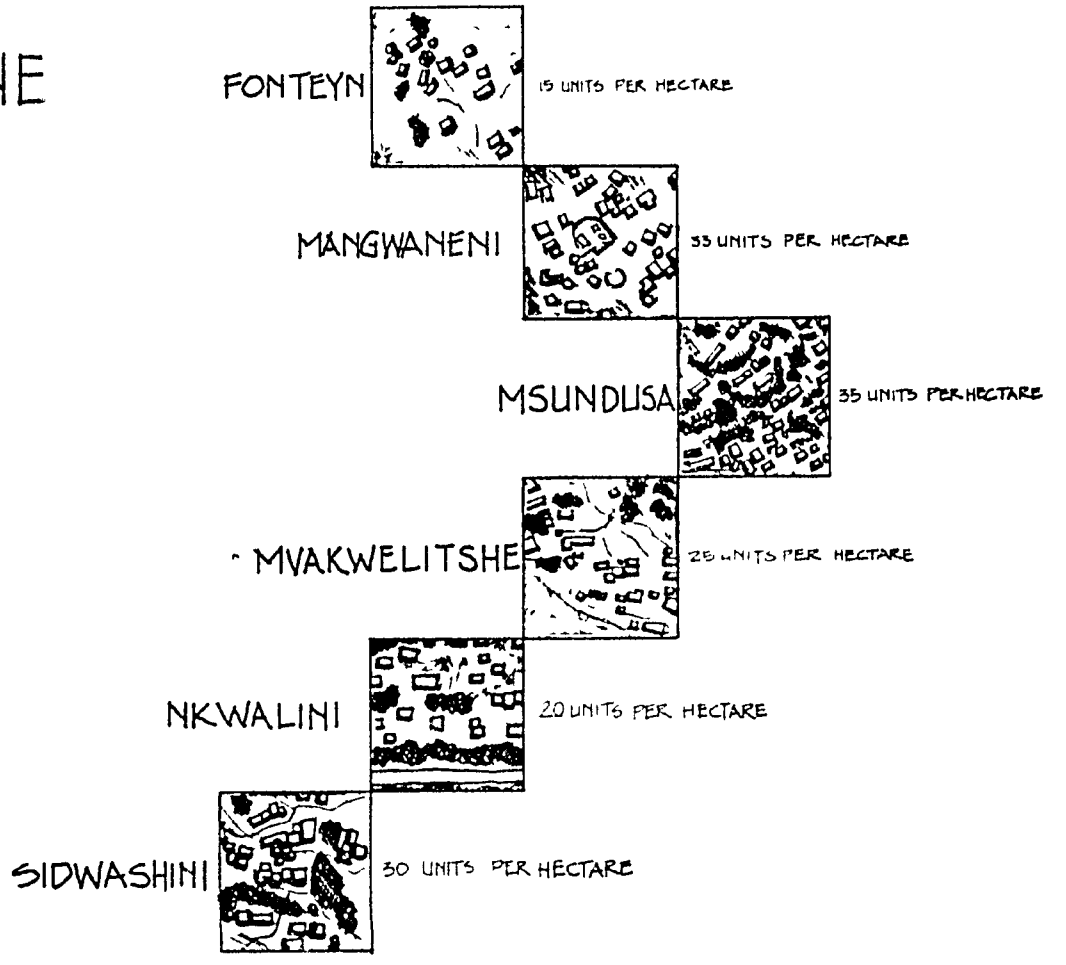
FIGURE 13

COMMUNITY - FACILITIES AND ACCESS		WORK		MARKET AND SHOPS		HOSPITAL		RECREATION FACILITIES		BUS
		WITHIN NEIGHBORHOOD AND/OR WALKING DISTANCE	DISTANCE IN km	WITHIN NEIGHBORHOOD AND/OR WALKING DISTANCE	DISTANCE IN km	WITHIN WALKING DISTANCE	DISTANCE IN km	WITHIN NEIGHBORHOOD AND/OR WALKING DISTANCE	DISTANCE IN km	WITHIN WALKING DISTANCE FROM BUS STOP
INFORMAL										
TRADITIONAL RURAL HOMESTEAD		●		-	-	-	-	-	-	-
LOW INCOME URBAN SETTLEMENTS										
MBABANE										
	Fonteyn	-	4-5	-	3-4	-	6	-	-	-
	Mangwaneni		2-3	●	2-4	●	15	-	-	●
	Msunduzi	●	1-3	●	0-3	●	1-4	●	0-1	●
	Myakwelitshe	●	2-3	●	2-4	●	1	-	-	●
	Nkwalini	-	4-8	●	0-8	-	356	●	0-1	●
	Sidwashini	●*	1*-6	●**	1*6	-	6	-	-	●
MANZINI										
	Khoza's Area	●	2-6	●	0-3	●	1-2	●	1-2	●
	Kwaluseni	●	6-2	●	0-6	-	5	●	1	●
	Moneni	●	2-9	●	2-3	-	4	-	-	●
	Sicelwini	●	2-6	●	0-3	●	1-2	●	1-3	●
	Zakele	●	1-7	●	1-2	●	05-1	●	1-2	●
MANZINI ↗ ↖ MATSAPA										
FORMAL										
PRIVATE HOUSING SECTOR										
	Houses (Kent Rock)	●	2	-	3	-	3-4	●	1-2	-
	Flats (Central Mbabane)	●	1	●	1	●	15	●	1-15	●
PUBLIC AND QUASI PUBLIC										
	Senior Qtrs (West Ridge Park)	●	2	-	2-3	-	25	-	3-4	●
	Junior Qtrs (Sandla)	-	35	-	2.5	-	4	-	3-4	●
	Flats (Vukukentele)	●	1-3	●	1-2	●	2-5	●	1	●
	Bedsitters (Highland View)	●	1-2	●	2	●	15	-	-	●
	Labour Qtrs (Stegi)	●								
	Self Help -(Msunduzi)	●	2-3	●	1-3	-	4	●	1	●

* POTENTIAL NEW INDUSTRIAL AREA
 ** NEW MARKET IN SIDWASHINI SOUTH

FIGURE 14
INFORMAL SHELTER DENSITIES AND SITE USE PATTERNS

MBABANE



b. Formal Sector Housing

Formal sector shelter is the housing produced by government and parastatal agencies, companies and private builders for the segment of the population each undertakes to serve. Altogether, the formal housing stock accommodates somewhat over a third of Swaziland's urban households. It occupies most of the developed land area in Swaziland's towns and is distinguished from informal sector housing by its intended permanence.

This permanence is reflected in:

- * the durability of construction materials used
- * complement of available infrastructure services
- * official recognition of conformance with building standards (as conveyed through a process of inspection and approval of both plans and finished structure)
- * ownership of the property either by private individual or Government
- * involvement of the formal construction industry including professionals, technicians and skilled craftsmen, and
- * participation of formal institutions in the funding or finance of the buildings.

These, and other comparisons are summarized in the charts preceding this section.

Existing Housing Stock

The variety of housing types ranges from mid-rise flats in blocks of eights, to bedsitters, maisonettes, and terrace houses, to semi-detached and single family detached units with two to five bedrooms and servants' quarters. Maximum height is not more than two or three stories. Most detached housing is single storey.

Corresponding densities range from 20 per acre for the flats down to 1 or 2.5 for the more expensive single family detached units. The low density areas designated for large lots require septic tanks for individual houses. Where a lot is unsuitable for such on-site disposal of wastes, a package unit may be installed to serve a group of houses.

Most units are contemporary, "international" style, built in concrete block with plaster finish. Occasionally fired brick or hollow clay block is used. A reinforced concrete slab floor is common, as is IBR or corrugated iron roofing.

Virtually all hardwood, glass, ceiling board, flooring, fasteners, metal window and door frames, doors, sanitary fixtures, pipe, mechanical and electrical equipment is imported from or through South Africa. Occasionally, local wood is used for ceilings, floors, moldings or window frames. Locally produced cement block is used when it is available. Standardized measurements and materials specifications are based on South Africa's criteria.

Some adaptations to Swazi culture can be seen in designs of the Msunduza aided self-help units and in the flats built by the Industrial Housing Company. Both provide an exterior entrance to the water closet (a hallway in the case of the flats) rather than entrance through an interior room. Both arrange access to the kitchen area such that children can be fed and otherwise cared for without entering a living room where adults might be sitting. The self-help project also varies the placement of bedroom windows so that no house looks out upon the sanitary facilities are of any other.

Another adaptation provided in the IHC flats is the monthly meeting of tenants to discuss problems and resolve conflicts or disputes. This is a substitute for the function served by the chiefs or ndunas in the more informal urban settlements and in the rural areas.

Building Codes

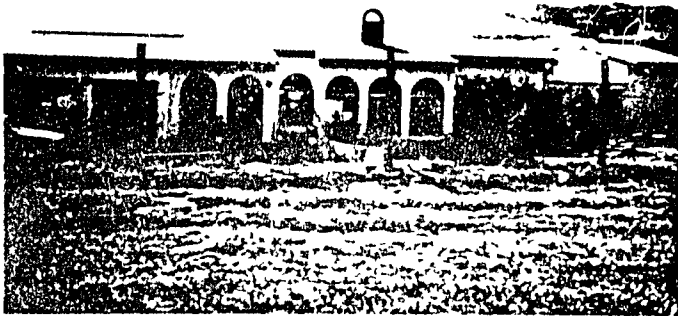
Swaziland's Building Act of 1968 incorporates specifications of the South African Bureau of Standards and South African Standard Building Regulations.

The regulations apply in towns and municipalities, except that Public Works construction is exempt. The regulations are based on performance standards, addressing, for example: adequacy of space for residential functions of the numbers of occupants intended to use the dwelling, adequacy of latrine and washing facilities, protection against flooding and other harmful matter, safe access, structural strength, reduction of potential fire hazard, ventilation and insulation, lighting, weather and moisture resistance and waste removal.

There appears to be a considerable degree of flexibility allowed for experimental structures, and in permitting different provisions for different categories of building. Moreover, local authorities are enabled to permit builders to use materials or construction technology different from what is specified in the regulations if they (the authorities) are satisfied that the building will not, as a result, be unhealthy or dangerous.

FIGURE 15
 FORMAL SHELTER DENSITIES AND SITE USE PATTERNS

PRIVATE HOUSING SECTOR



A LUXURY HOUSE IN DALRAIGH



6 UNITS PER HA

SINGLE FAMILY HOUSES
 KENT ROCK

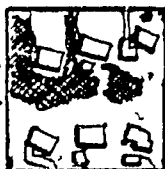


32 UNITS PER HA

FLATS
 CENTRAL MBABANE

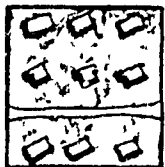
PUBLIC AND QUASI PUBLIC HOUSING SECTOR

SENIOR OFFICERS QUARTERS
 WEST RIDGE PARK



6 UNITS PER HA

JUNIOR OFFICERS QUARTERS
 SANDLA



9 UNITS PER HA



GOVERNMENT POOL HOUSING - MSUNDUZA

For sanitation requirements, a variety of provisions are specifically allowed: aqua-privies, chemical closets, bucket latrines, pit latrines and borehole latrines providing that none of these are less than 30.5 meters from a water source.

Private Sector Housing

A middle to upper family seeking shelter in Swaziland's urban areas faces a situation similar in nature to the lower income family. There are the waiting lists for Government housing and Industrial Housing Company flats, and very few rental flats and houses that are privately owned. Virtually no already-built houses are available for purchase. Rental housing in the private sector is expanding only very slowly.

The family now in Government housing who wishes to have a home of their own are obliged to build a new one. This entails purchase of a plot. Of the limited number available, a fully-serviced urban plot would cost on the order of E 5,000 for a quarter to half acre, depending on location, and a quarter to half acre site without sewer would cost E 2,000 to 3,000. When the Government has subdivided land and released plots for sale, demand so exceeds the supply that, it is said, advance information or good "connections" are a significant advantage to a potential buyer.

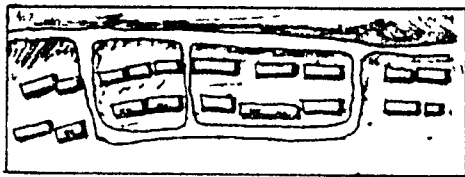
If the plot is in a private township the township developer might be engaged to build the house. Costs for the house would range E 20,000 to 25,000 or more. Or, more likely, the family would arrange with an architect to design their individual house and would have to go through the process of securing approval of the design from the Town Council

FIGURE 16
FORMAL SECTOR RENTAL HOUSING

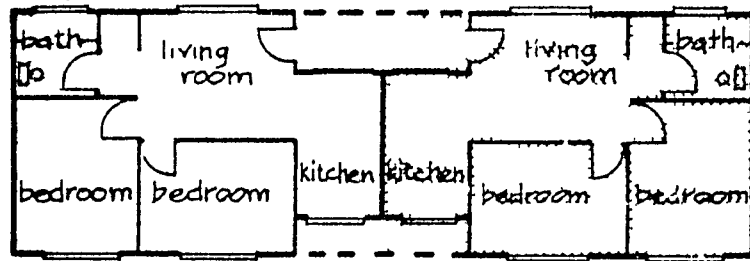
INDUSTRIAL
HOUSING COMPANY



MIDDLE INCOME RENTAL FLATS , MBABANE

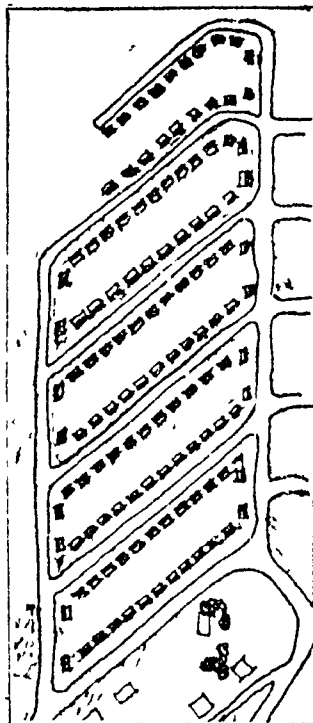


DENSITY 48 UNITS PER HA
SITE LAYOUT IHC SCHEME,
YUKUKENTELE

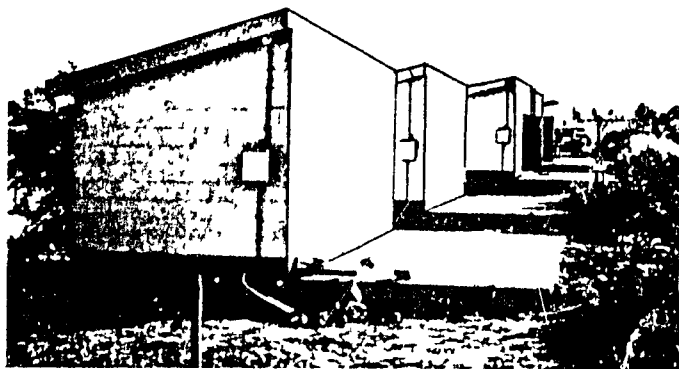


UNIT INTERIOR 58 m²
TYPICAL FLOOR PLAN

NATIONAL HOUSING
CORPORATION.



DENSITY 30 UNITS PER HA
SITE LAYOUT
NHC SCHEME
ZAKHELE



LOW INCOME RENTAL UNITS AT
ZAKHELE, ON SLABS INTENDED FOR
EVENTUAL EXPANSION

and from the lending institution from which they are seeking financing.

The next step would be to secure a loan, engage a contractor approved by the bank and to proceed with construction. The work-in-progress must be inspected by a representative of the lending institution at various stages before funds are released for materials and labor to proceed with the stages following. The town's building inspector must also make an inspection. On completion of the house, a final inspection and approval of both the bank and the Town Building Inspector are required. The process is lengthy and time-consuming, particularly considering that it must be repeated for each house, one at a time.

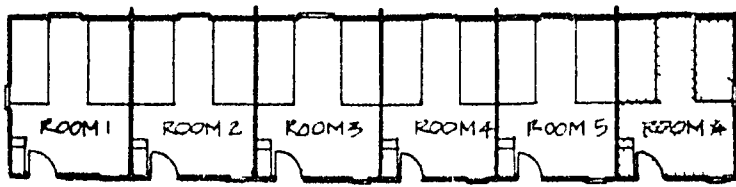
Larger-scale Shelter Production Efforts

Mass housing production as done by the Industrial Housing Company, the Public Works Building Branch or the Housing Unit of the Ministry of Local Administration, achieves substantial savings in processing time as well as construction costs. By securing approvals in advance for multiple units or by using prototype designs, inspections of multiple units on a single visit of the inspector and efficiencies in the scheduling of labor, it is possible to achieve considerably lower costs for each unit produced.

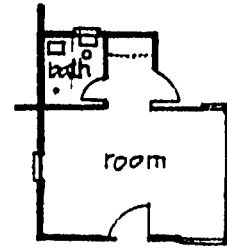
Construction Costs and Affordability

Table 11 summarizes the costs of producing various examples of housing available in Mbabane and Manzini at present, together with the income a household would require to be able to afford each type under market terms. It also shows the proportion of urban households that would be in

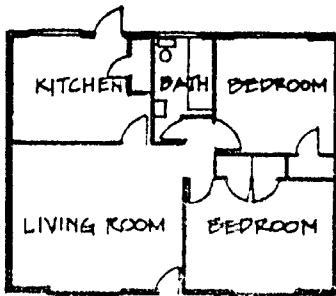
FIGURE 17
GOVERNMENT HOUSING PROTOTYPES



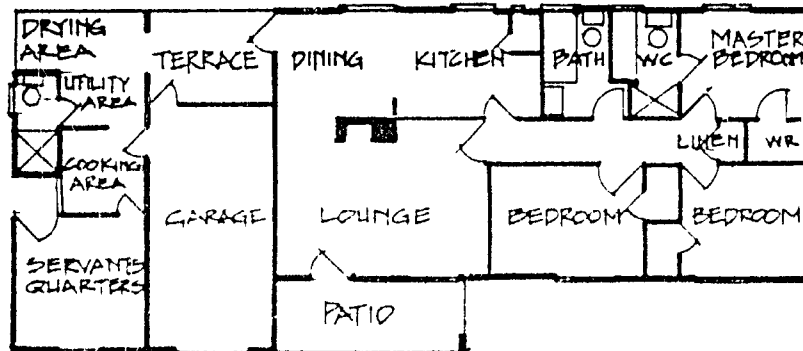
LABOUR QUARTERS - SLEEPING FACILITIES ONLY - 12 m² per ROOM



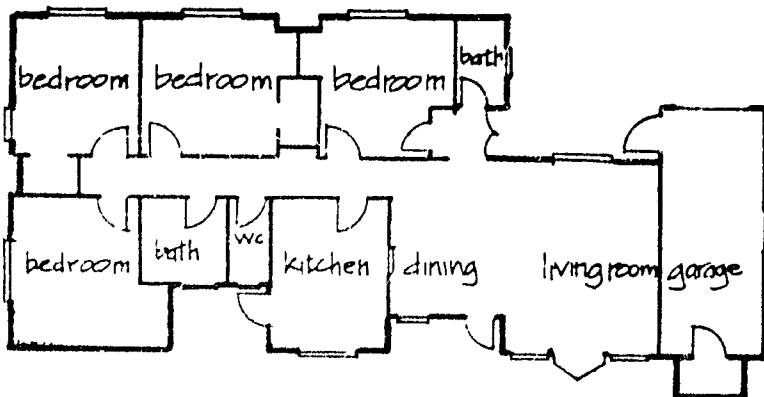
INDIVIDUAL LABOUR QUARTER WITHOUT KITCHEN - 174 m²



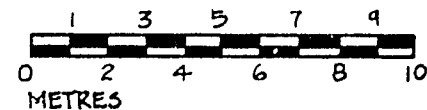
STANDARD 2-BEDROOM JUNIOR HOUSE - 66 m²



STANDARD SENIOR OFFICERS 3 BEDROOM HOUSE - 152 m² WITH GARAGE AND SERVANTS QUARTERS (100 m² WITHOUT)



STANDARD SENIOR OFFICERS 4-BEDROOM : 153 m²



a position to afford such housing. The top two grades of Government housing can be considered comparable with private sector single family detached units -- accessible to less than 10 percent of urban families. The IHC flats would not quite reach down to the median income population if land costs were included as shown. (Existing units are on Government-owned land not accounted as an asset of the IHC. They do serve a somewhat wider spectrum of incomes.)

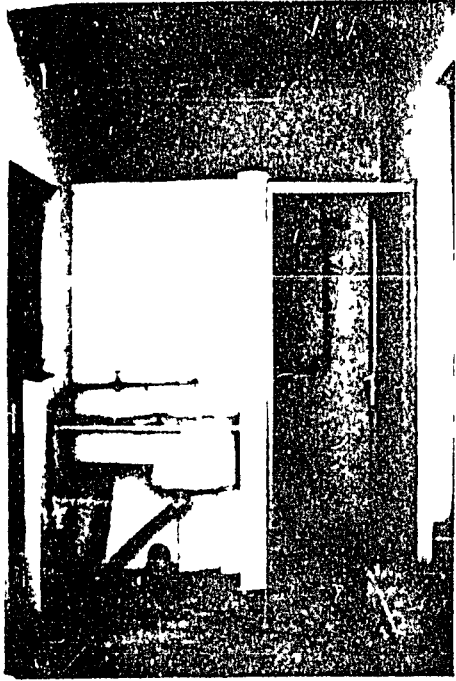
The Housing Unit's low-cost housing project could be afforded without subsidy by families above the lowest 30 percent on the income scale. It would take subsidies in the form of exemption from down payment, below-market financing terms or infrastructure costs to serve a wider spread. If the government or another nonprofit entity were to build similar units with paid direct-hire labor the unit costs might be on the order of 10 percent more expensive overall. Although the self-help labor of the project participants reduces labor costs substantially (an estimated 25-30 percent) the costs of materials and operations appear to rise due to materials' wastage, labor costs of supervisor-trainers for the participant families and the extended length of the construction period.

The chief rationale for self-help thus remains the present and foreseeable shortage of skilled construction labor. Should the government's policy shift to one which places emphasis on larger scale projects, greater speed of output and stimulation of employment, the paid labor approach might be reconsidered.

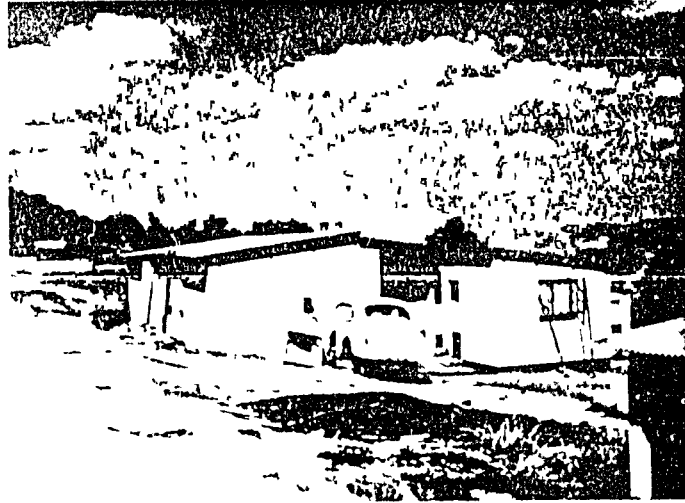
Operating costs are another factor to consider in the question of lower income home ownership. Since piped water usage in the squatter areas is now subsidized by government, the

FIGURE 18

Aided Self-Help Project at Msunduzi



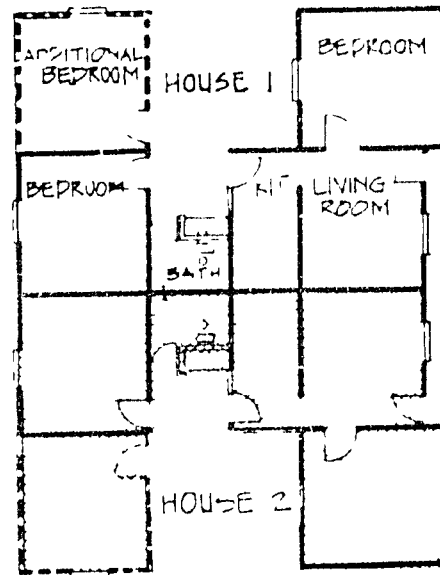
Sanitary Core



Exterior View

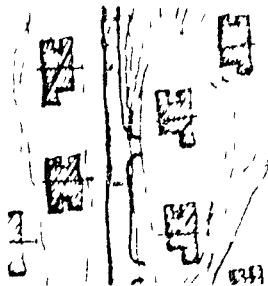


Trained Supervisor Overseeing Layout of House Plot



Floor Plan

AS PHOTO 25m
SCALE 1:1000



Staggered Siding of Houses on Steep Terrain Saves Costs by Reducing Length of Water and Sewer Lines and Number of Connections at Trunks



Table 11
1978 Housing Production Costs and Income Levels Served
 (Assuming home ownership and Swaziland Development and Savings Bank
 financing on market terms)*

	Total Cost (incl. land)	Down Payment	Monthly Mort- gage Payment	Re- quired Monthly Income	Urban Percen- tile Served
	E	E	E	E	est. %
<u>Government Housing</u> (if sold unfurnished)					
3 BR, garage, 140M ² , 3.9/acre.	22,350	2,235	200	660	3%
3 BR, carport, 100M ² , 10/acre	16,900	1,690	150	500	6%
2 BR, 66M ² , 12 1/2/acre..	9,200	920	81	271	25%
1 BR apt. 40M ² , 27/acre.....	6,070	607	54	179	40%
Bedsitter, 20M ² 40/acre.	2,835	284	25	84	not app.
<u>Industrial Housing Co.</u>					
Apartments, 59M ² , 30/acre.....	6,037	604	53	178	40%
<u>Low Cost Housing Pro- ject (aided self-help scheme)**</u>					
3 BR, 59M ² , 12.8/acre.	5,310	531	47	157	48%
2 BR, 52M ² , 12 8/acre.	4,940	494	44	145	54%
1 BR, 37M ² , 12 3/acre	4,140	414	37	123	65%
San. Core, K, LR, 28M ² , 12.8/acre.	3,790	379	34	112	70%
San. Core, K, LR, 25M ² , 12.8/acre.. . . .	3,532	353	31	104	72%
<u>Squatter House</u>					
24M ² , inc value labor	250	not financeable			

* Development Bank Market financing terms are 10% down, 11% interest and up to 25 years (25 years assumed here) Debt service can be up to 30% of family income

** December 1976 costs for the first group of Msunduza self-help units are escalated here by 15% per annum inflation index for 1976-78 Total cost includes in addition to land infrastructure, materials and paid skilled labor costs, mortgage insurance and homeowners' insurance costs which are currently folded into the total mortgage amount in the self-help scheme, but not any imputed value of the self-help labor inputs

individual meter a family acquires when it makes the step to its own home entails a considerable new regular expenditure. An E8.30 water bill would amount to more than 9 percent of the monthly budget of a median income squatter family. Sewer charges would be in addition to that.

The Industrial Housing Company reports that water charges per rental unit exceed 12 percent of the rental charge paid by their tenant families. There seems to be no arrangement available at present whereby some relief for lower income users can be achieved, such as bulk rate charges. This will need to be addressed in any future effort to expand high standards of service to lower income households.

3. Company Housing

Company housing is an important component of shelter supply in Swaziland produced by the formal sector. Although some company housing exists in Mbabane and Manzini, the principal locations are elsewhere in the core region and in outlying towns which are centers for mineral and agricultural processing. While Mbabane and Manzini evidence relatively diverse sources of shelter production, companies and government appear to be the primary producers of formal sector housing in these other communities.

The urbanized areas in which large corporation employment is significant are identified below with their 1976 population:

	<u>1976 Population</u>
<u>Core Region</u>	
Bhunya-Mhlambanyati (pulp)	5,330
Malkerns (canning)	2,200
<u>Hhohho</u>	
Havelock (iron ore)	4,840
Piggs Peak (asbestos)	5,210
<u>Lubombo</u>	
Tshaneni	2,810
Mhlume	14,840
Big Bend	6,630
<u>Shiselwini</u>	
Hlatikulu	1,180
Nhlangano	2,100

Swaziland law requires all firms with more than 25 employees to provide housing. To some degree production of corporate housing has been in response to this law. However, compliance difficulties by moderate sized companies in Mbabane and Manzini helped lead to creation of the Industrial Housing Corporation as a vehicle for worker housing production. Outside the two cities, the large companies have had to provide large amounts of shelter--regardless of the law--simply because no other supply of housing, infrastructure and services was available.

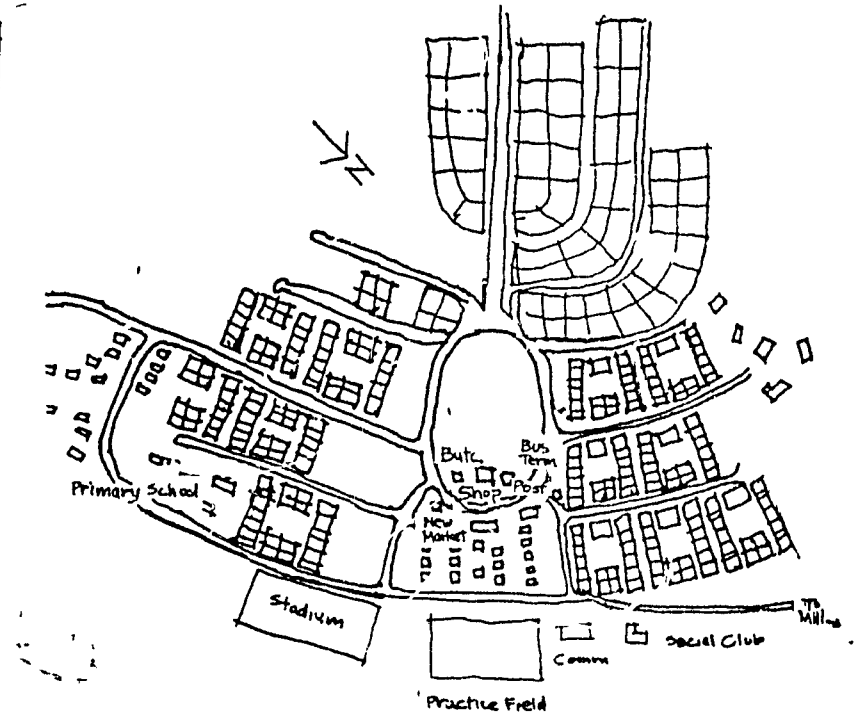
Because it is such a large component of shelter supply, the scale, character, and financing of company housing merits attention in any overall housing policy review.

Currently, little assembled data on these matters exist, and no estimate of the total number of units. Within the limited time framework of the shelter sector study, it was not possible to close this information gap. To illustrate both the opportunities and issues inherent in company housing, however, an investigation was made of two major enterprises within the core region. The Usutu Pulp Mill at Bhunya-Mhlambanyati and Libby's cannery at Malkerns. Information and assessments are presented below and are indicative of matters worthy of greater attention as the government proceeds to formulate a national housing policy. A discussion of development potential in this portion of the core region is in Appendix 15.

FIGURE 19
Usuto Pulp Mill - Company Housing



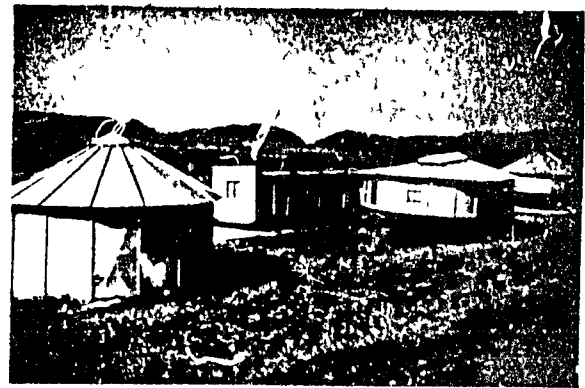
Bhunya is a company town with about 400 units of low density housing, shops, school, sports facilities, restaurant and community open space



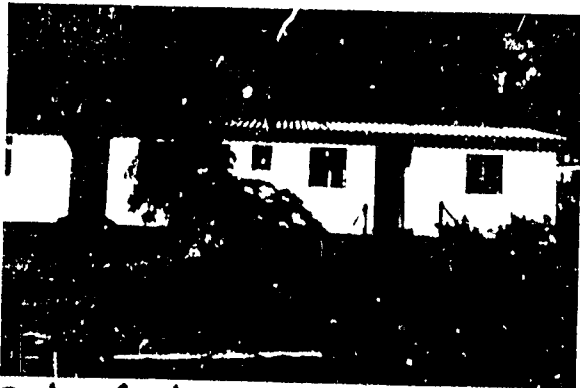
Plan of Core Area, Bhunya



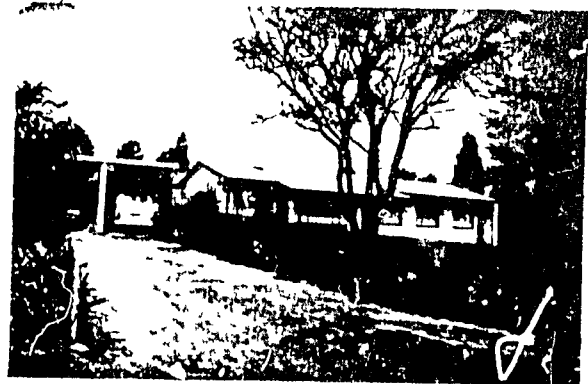
Workers' housing area, 2 BR. units



Temporary housing for single workers



Duplex family unit



Executive housing, Mhlambanyati

Usutu Pulp Company Housing

The 200,000 acre Usutu forest is the largest "man-made" forest on the African Continent. Planting of pine trees began only after World War II and actual pulp production less than 20 years ago. Development of the forest and production enterprise began with assistance from the Commonwealth Development Corporation. Principal ownership of the operation is British, although the company is now negotiating with the Swazi Government for a joint ownership arrangement. Processed pulp is a major Swaziland export and is brought by truck to the rail line in Manzini where it is sent to the Mozambique port of Maputo for shipment abroad.

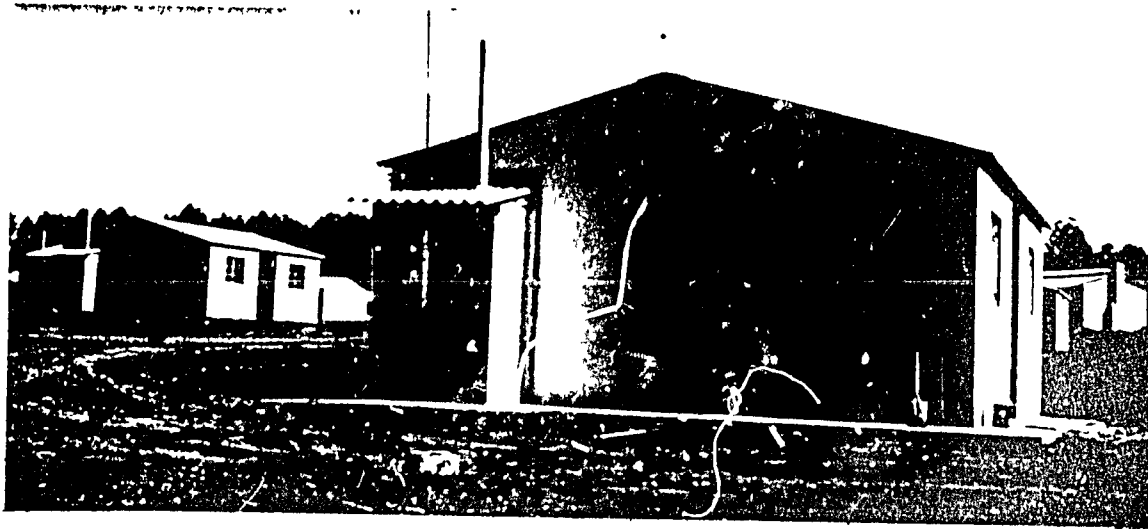
Production in 1973 was 130,000 tons with a value of \$21.9 million.

Before the pulp company, no settled areas were in the region, other than individual homesteads. Now there are two towns, Bhunya primarily a workers settlement directly adjoining the plant and Mhlambanyati, primarily an executive town 16 km to the north, both created and owned by the company. In addition, the company has several "villages" for forest workers in the forest itself.

In the past, Usutu had an explicit policy to house all of its workers at high standards of shelter and services and on a heavily subsidized basis. In the last two years, however, the company has suffered serious losses attributable to two factors: a drop in the market price for its product and occasional closure by Mozambique authorities of the port facilities. This latter has forced the company to truck pulp all the way to Durban, South Africa for shipment, thus incurring higher transportation costs. Although company officials expect the profit picture to improve by 1980, the losses have forced a cut back in company expenditures. Housing, because of the manner in which it is financed, has been an area for reduction.

FIGURE 20

Forest Workers Village , JABUVU



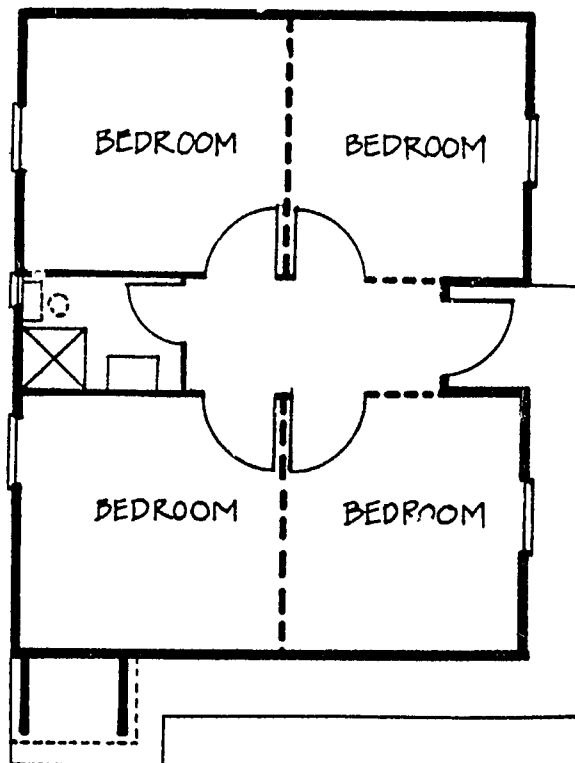
Originally 120 of these prototypes were planned, but only 20 were built before budget cuts halted the program. Unit cost was E4,000, exclusive of land, and density is low at 3 units per acre.

Internal size is 52 sq. meters. Construction has concrete pad, block walls, asbestos roof, internal water source and shower.

External - enclosed pit latrines for each two units.

A separate cookhouse and recreation hall for entire development.

Note the flexible floor plan of four sleeping rooms for 2 workers each that can be converted to a family unit.



The company has sharply cut back plans to increase housing supply. Housing expenditures have been financed completely out of annual operating budgets, not through any long term capital budget or loan mechanism. Because of the heavy capital outlays required under such a system, shelter expenditures are prime for cutbacks during periods of financial loss. Yet shelter needs will continue, and already (see below) shortages are severe. This situation has caused the company to consider other options although no definitive action has yet been taken.

a. The Housing Supply. Bhunya is a company town which currently houses about 80 percent of the plant's operating employees. Bhunya has about 400 houses and additional facilities with about 150 single rooms. About 750 workers are housed, of whom about 500 are with families and about 200 are single individuals.

The houses represent both detached and semi-detached (two to a structure) units ranging from two rooms plus kitchen up to three bedrooms with a living room, kitchen, and interior plumbing. All told, about one quarter of the houses have interior sanitary facilities, with the remainder and most of the single accommodations having access to enclosed pit latrines.

All units have water and electricity except for some temporary single worker accommodations.

Because of the slowdown in housing production, accommodations at Bhunya are crowded. About 190 of the families share units and there is some sharing of family accommodation with single individuals. The shortage is so intense that residents have taken up a collection for construction, by the company, of housing for teachers at the primary school who have been sharing quarters with the workers. Those plant workers who do not have accommodations in Bhunya live for the most part in homesteads near the plant.

Bhunya housing is constructed of concrete block except for the few metal units used as temporary shelter. Initially, the company hired contractors at Bhunya and its other facilities, but for some years has employed its own construction crews for both plant and community development.

Overall density at Bhunya is relatively low (about 7 per acre).

In addition to shelter, the company has created a complete service and recreational center, with markets, shops, restaurants, a health and welfare center, stadium, practice field, etc., and has made a considerable effort to landscape both the residential and communal areas. The health center is currently the locus of the present limited efforts to establish a weaving and textile operation using wives of the workers.

Management of Bhunya is under a town clerk who is employed by the company.

Although detailed information on the size of existing units was not available, the company had begun--before its closure on housing construction--to develop a new area using "expandable" prototypes. Basic house sizes were to range from approximately 60-80 square meters and would include from two to three bedrooms, kitchens and interior plumbing. Each prototype would be expandable to about twice the initial module. Only a few of these units have actually been built. One for the town clerk, represented an expanded unit of about 140 square meters and had a construction cost (excluding land) of about E18,000. The "new Bhunya" units appear to be considerably larger than those built over past years.

A second company town is at Mhlambanyati, about 16 km to the north. This is built for executives and supervisory employees, originally only for expatriates but now about 20 percent of the units are occupied by Swazis. Mhlambanyati is an extremely modern community built along the lines of an English suburb. It contains bachelor and garden apartments as well as three bedroom houses at densities of about 4-6 per acre and sized from about 120-160 square meters. Although conditions here are tight as well, all of the executive employees are housed.

The town contains a shopping center and bank as well as a club and sports facilities. Children go to a local primary school and are either bussed to secondary facilities in Mbabane or sent to boarding school for the upper grades. The most recent three bedroom unit was constructed at a cost of about E18,000 and represented an effort to achieve economies. Units built in the early 1970's were then on the order of E27,000.

In addition to these towns, the company has tried to house most of its forest workers (about 1,000 out of 1,500) in villages or clusters of units within the forest. These workers are often temporary, in that they return to their original homesteads for planting and harvesting, and only 300 of the 1,000 accommodations are available for families.

Prior to its termination of housing investment, the company undertook to provide more modern facilities for its forest workers and developed an innovative, highly cost-effective prototype for this effort. Only 20 of the 120 unit first cluster planned have actually been built, at the forest village of Jabavu. The unit (see plan and photograph) is a simple cement block (fabricated in the company's own plant) structure of 52 square meters set on a concrete pad and connected with

a nearby company water line. It has corrugated asbestos roof and an inside shower and wash basin. The unit has been divided into four rooms, each to sleep two workers. However, the interior walls are movable and the structure is adaptable for family accommodations. Sanitation facilities are external pit latrines, fully enclosed, with one for every two units. There is a central cooking, eating, and recreation building recently completed to serve the development.

Construction cost for the prototype has been E4,000, or E 77 per square meter. This includes site preparation and water installation. There is no electricity. Land costs have not been considered because the site is part of the 200,000 acre company preserve. Resultant density (3 units per acre) is quite low.

The low base construction cost and the internal flexibility of the structure suggests potential for a far wider applicability if housing construction can be recommenced.

b. Wages, Rents, and Subsidies. Company policy is to subsidize heavily the housing for both workers and executives. Indeed, the subsidy levels employed are probably higher than for those in government pool housing.

Minimum wage at the plant is E101 per month and in the forest is E89 per month.

For those workers who earn E2,000/annum or less, rents in Bhunya are E2 per month for family or single worker accommodation down to zero for shared accommodations. Workers earning over E2,000/annum pay from E2 to E8 per month exclusive of electricity which is also heavily subsidized. A rental of single quarters, including furniture and utilities, is about E4 per month.

At Mhlambanyati, the executive village, the rent range for a 3 bedroom house is from E9 to E16 per month, with an additional E 5 per month for furniture.

Forest workers have rent free accommodations in the villages

Although cost figures on the workers' housing in Bhunya were not available, the measure of subsidy may be seen in comparing an imputed economic rent for a house in Mhlambanyati (12 percent per annum) with actual levels. At a 12 percent level, annual rental for the recently built E18,000 unit would be E2,160, compared with the maximum current rental of E192.

According to company officials, housing subsidies are the principal factor in their conclusion that, for a low income worker, total company support costs are the equivalent of 1.7 times the actual salary paid out.

c. Concerns and Prospects. The company appears deeply concerned about the future of its housing effort. Additional units must be constructed both to relieve the present overcrowding and to allow for some expansion. Maintenance and replacement are also concerns, particularly in one of the older forest workers' villages where severe sanitation problems and structural deterioration have set in. They look to the prospective partnership with the Swazi government as a potential means of bringing government resources to bear on the shelter question.

One of the areas in which they believe government could assist is the establishment of financial mechanisms through which long term mortgage financing could be secured for company built units-- instead of continuing reliance on the annual budget method of finance.

The extent of subsidy is also an issue; and management believes that over the long run wages must be raised and subsidies reduced at all levels; although no commitments in this direction have yet been made.

Perhaps the strongest direction of current thinking is towards home ownership. Management is concerned that both the workers and the growing number of Swazi technical and supervisory personnel have no stake in their housing³. There appears to be an interest in home ownership among people who intend to make a permanent career at the plant. One idea has been to expand Bhunya with a new area on which plots are leased to workers and opportunities provided for mortgage financing of dwellings. A second has been to consider some form of joint new-town or large subdivision development with Libby's who (see below) has been concerned with the same issues.

At the present time, however, the company knows it is at a crossroad in its housing program, but no firm sense of direction yet exists.

3. Expatriate technical and supervisory personnel are being replaced by trained Swazis. The earlier component of 300 expatriates is now down to 170.

Libby's

Shelter at the Libby's Cannery and Farm represents some similar and some different issues from that at the pulp mill.

Libby's, operating at Malkerns, processes 28,000 tons of pineapple and 15,000 tons of citrus annually. The pineapples are grown on its own farm, and the citrus primarily brought in from other areas of Swaziland during the off season. At peak production, the company employs about 1,850 and has an average annual employment of 1,450. Some 650 of these are farm workers and the rest in the cannery.

a. Housing Supply. Libby's houses a considerably lower proportion of its employees than the pulp mill. All told, it operates about 500 units, of which some 350 are in barracks. Although executives and many supervisory personnel are housed in company facilities, only 60 of the 265 permanent factory employees have company quarters. Many of the office staff commute from Manzini (and indeed have expressed a preference for living in the town rather than near the plant). The company runs a commuter bus from Manzini. A number of artisans and engineers live in Industrial Housing Company flats at Matsapa.

Aside from the core factory staff, Libby's employment is highly seasonal with many women farm workers. Many of the laborers are temporary. For them and the permanent staff who are not otherwise housing options are extremely limited. Near the cannery is a large squatter area which apparently houses several hundred families and single workers. This area, called Mangosini, is under private ownership and plots are rented for E5-9 per month. On these plots, which are but a few meters square, individuals erect their own units, many no more than rudimentary shacks. According to plant officials, the area has serious sanitation problems. Densities appear to be much higher than even the urban squatter areas at Msunduza and Manzini.

b. Concerns and Prospects. Libby's management is concerned to provide more worker housing and has taken some initial steps towards an innovative solution.

For the current stock of units, the company is committing E80,000 during 1978 for installation of kitchens, hot water, and sewage treatment facilities.

To expand the supply, the company has embarked on a home ownership program. Under this scheme workers with a salary level of E200 or higher who have been employed for more than one year will receive company assistance in financing a house to be built on company-owned land near the cannery.

The company will provide a loan comprised of the following:

- one year salary equivalent interest free
- one-half year salary equivalent at 5 percent
- additional funds required at the current bank rate.
These funds will be arranged as a loan by Barclays
and or Standard Bank and will be guaranteed by Libby's.

Currently, the company has commissioned the design of a prototype 50 square meter unit as the basis for the program, to be constructed for about E7,000 exclusive of land. Five of these will be constructed during 1978.

In developing this program, Libby's is faced with the basic problem which appears to confront most housing efforts in Swaziland: Lack of sufficient scale. The current land allocation for the initial phase is 16 acres, of which 12 will be a net of roads and open space. At a density of 6 units per acre, this produces a yield of only 72 houses. Currently, only 58 of the company employees meet the eligibility requirements for the program, although within 18 months the number is expected

to grow to 120. The program does not meet the needs of the large number of workers, not housed in company facilities, who fall below the required income levels.

Recognizing this issue, Libby's has opened discussion with the Usutu Pulp Company to explore some form of larger scale solution to mutual housing needs. But as yet, no definitive strategy has been forthcoming.

B. Urban Land

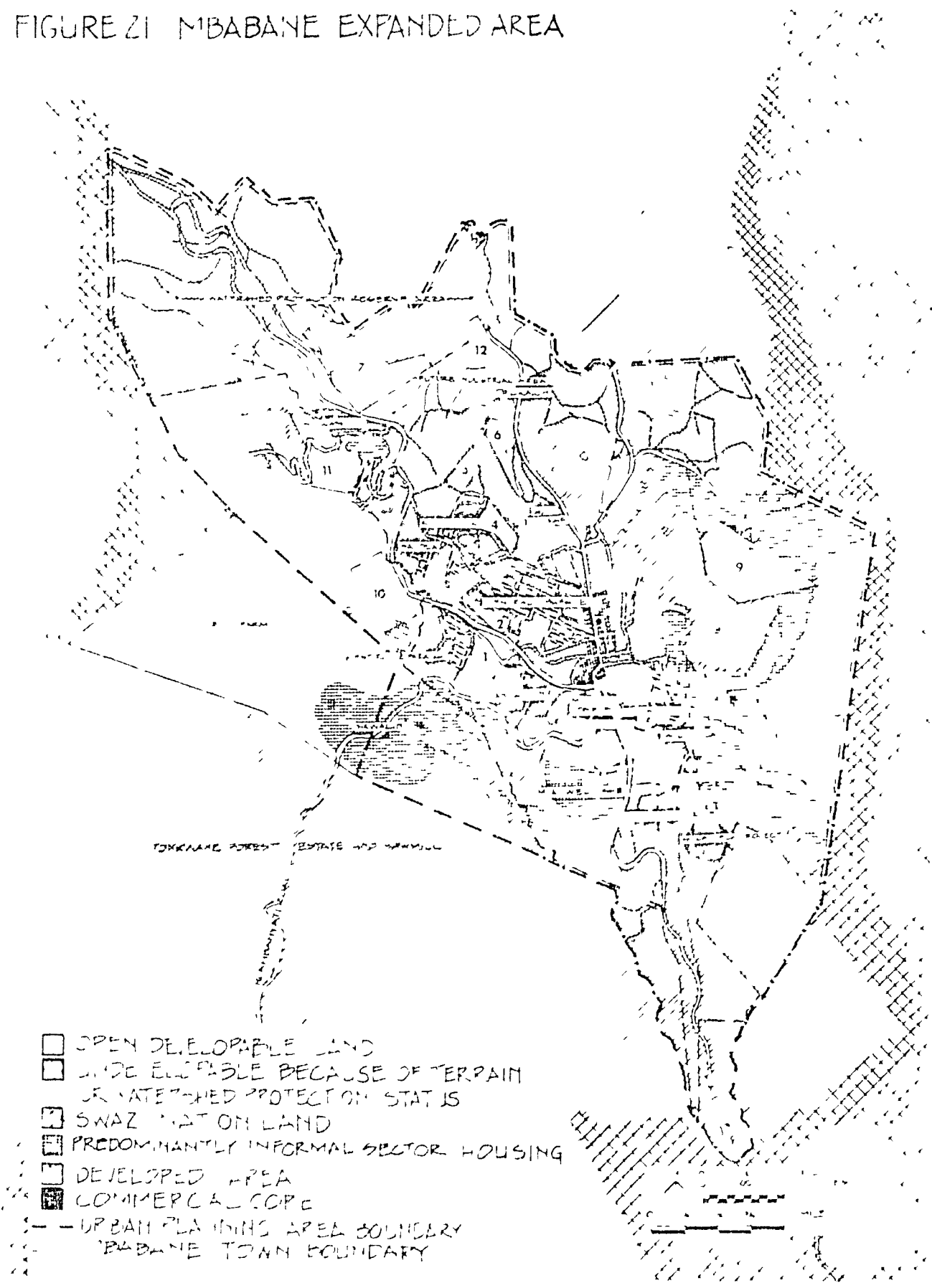
Under the conditions of rapid growth over the past decade, Mbabane and Manzini have been filling up. There is still land available in both towns which can be developed for housing as indicated on the maps in Figures 21 and 22.

With intensified population pressure and a stepped-up program of Government housing investment in prospect, it will be necessary to plan very carefully for the future of these tracts of ground. How shall they be made available for development, at what densities and when? Which locations are best suited for each of the groups of families to be housed, for example, with respect to distance from public transportation and walk to work? Under what circumstances and where should expansion of the urban boundaries be considered in view of the size of foreseeable needs? What infrastructure extensions and additional community facilities must be provided for along with the allocations of sites for new housing?

While many of these issues have been addressed in the past, they need to be reviewed now, in light of new insights into future need. How long will this present supply of land last before it is filled up? If development is suppressed to hold back development in the towns where will the new families go, and with what implications for services and living conditions? The regulatory tools of Government can be utilized to encourage development in places where it is desirable, discourage it elsewhere. But such efforts can only be successful when they are based on realistic allocations and a combination of consistent Government policy and action.

Mbabane is clearly very restricted as to its possibilities for physical growth. Within the Urban Planning Area boundary there are somewhat over 400 hectares of developable open

FIGURE 21 MBABANE EXPANDED AREA



land, 28 percent of it in Government ownership and the rest, private. The principal opportunity for expansion appears to be at the southwest of the town. A single privately-owned tract of a little over 900 hectares lies in that direction and, indeed, the informal sector has advanced the urbanization there already with the fastest-growing settlement around Mbabane, Nkwalini.

Manzini's situation is a little different. Available land for housing amounts to somewhat over 200 hectares, three-quarters of it owned by Government or the Town Council. There are, however, several private townships which have not yet been fully built out. Quite a substantial number of plots are reported to be held by individual families. No survey of these owners who have not yet built is available at present, but some investigation of the reasons for their delay might help point the way to means for helping them. Pigg's Peak is another area where subdivided land is not being brought under development at a rate fast enough to relieve housing shortage or make infrastructure investment economically feasible. Manzini is different also in that the Matsapa-Kwaluseni area is a second major focus of jobs and housing. In between, the Swazi Nation Land has absorbed a great deal of the population that would, by virtue of their employment, be urban households. But the town boundaries cannot be expanded to encompass Swazi Nation Lands.

Planning for a large, new planned community at Kwaluseni adjacent to the Matsapa Industrial Estate has been announced by Tisuka. At this early stage it is possible to say only that this project could become an important example of a role for certain strategically located Swazi Nation Lands

in satisfying urban housing needs. It can also serve to demonstrate the techniques of large-scale development, unprecedented so far, in Swaziland.

One question to consider is whether the emerging Bhunya-Mhlambanyati area could become a third major urban focus in the core region, to absorb a larger share of future growth and relieve Mbabane and Manzini from pressures they may not be able to handle. Housing location policy could play an important role in achieving such a distribution over the long run. (See Appendix 15).

For the short term there is enough land that can be allocated for housing needs in Mbabane and Manzini. The procedures and basis of decision, however, are oriented to a slower pace and different style of growth than Swaziland faces now. The extensive squatter or low income informal shelter areas on the maps have developed in a period when new households were forming at a rate of 300 per year. This only hints at what the future holds as the rate of household formation in the towns doubles. If land is not designated officially in advance it will be appropriated by the newcomers unofficially, and without the amenities of water, footpaths, roads and sanitation. These facilities are more difficult and costly to install after the settlers establish themselves than before.

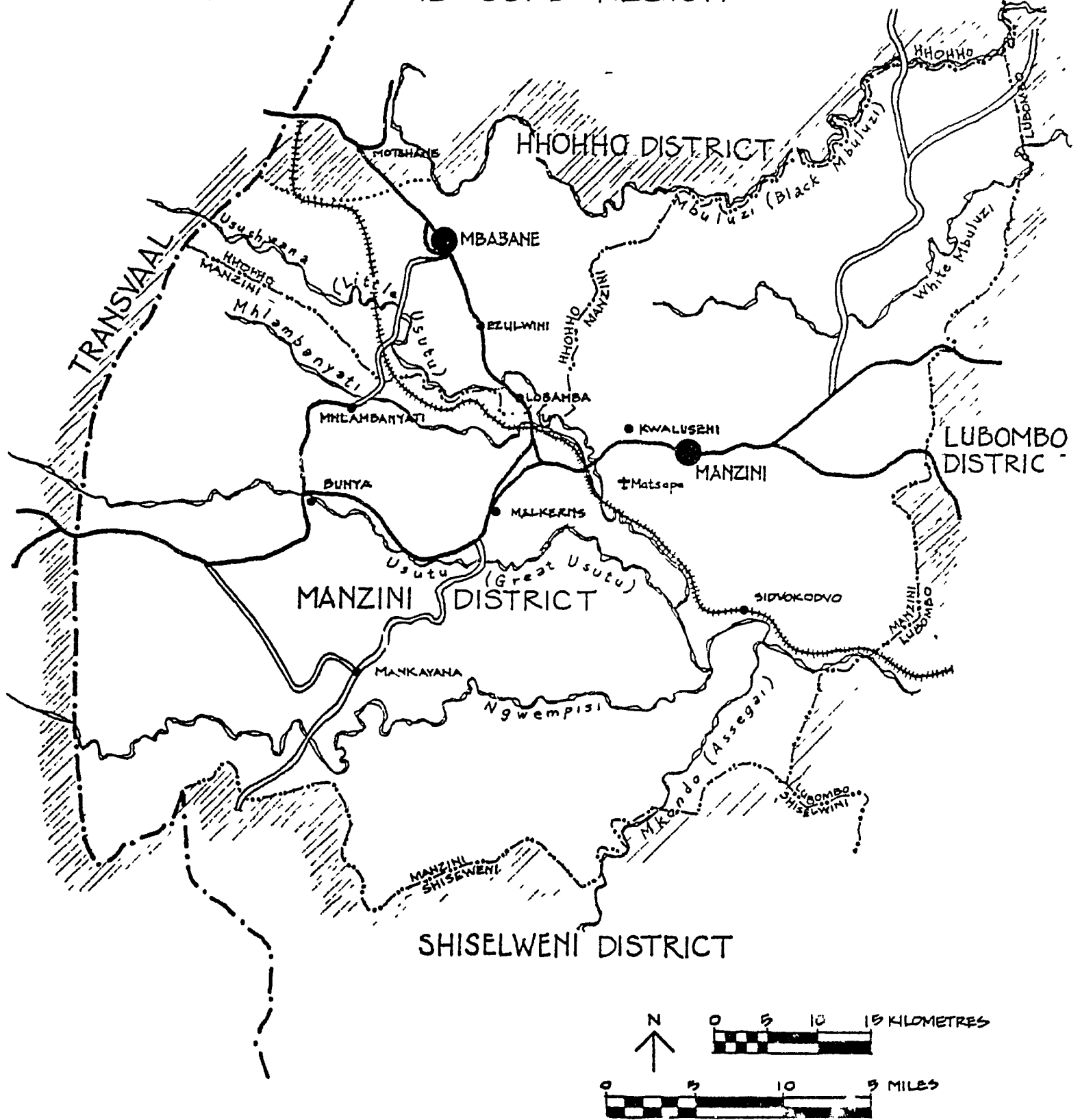
Table 12

UNDEVELOPED URBAN LAND, MBABANE AND MANZINI

<u>Location</u>	<u>Area (ha)</u>	<u>Ownership</u>
<u>MBABANE</u>		
1. West of Mbabane Clinic	3	Government
2. Adjoining Featherstone Street	4.5	Government
3. Extension 4	12	Government
4. SCOT (Remainder of Farm 1117)	18	Government
5. North of Golf Course	16	Government
6. Sidwashini, East Side of Main Road	65	Government
7. Part of Farm No. 2 Fonteyn	0.75	Government
Subtotal	119.25	Government
8. Fonteyn	100	Private
9. Kelly's Farm	32	Private
10. Between Sidwashini South and Waterford School	31	Private
11. Private Townships	140	Private
Subtotal	303	Private
Total (Mbabane)	422.25	Government and Private
<u>MANZINI</u>		
1. Extension 6	19	Government
2. Extension 7	30	Government
3. Farm 277 (Quarantine Station)	21	Government
4. Pumuleni, Farm 849	56	Government
5. Fairview North	35	Town Council
Subtotal	161	Government
6. Farm Portions 266 and 313	30	Private
7. Plot 16/281	8.5	Private
8. Portion of 272 and Part of Remaining 273	40	Private
Subtotal	51.5	Private
Total (Manzini)	212.5	Government and Private

FIGURE 23

THE CORE REGION



C. Institutional Framework

Formal Sector

In any rapidly developing, urbanizing society a number of formal institutions must be involved in the production and management of shelter. The more complex and urbanized a society becomes, the more complex are the institutions and their relationships. The nature of formal sector institutions, and the manner in which they perform their responsibilities can tell a great deal about a nation's capacity to provide sufficient shelter for all levels of its population.

Earlier sections of this study have identified and discussed several of the institutions operating in Swaziland. Here we attempt to array all the individual elements by the functions they perform in order to depict the current institutional framework for shelter within the country.

In the rural areas of Swaziland relationships have been simple and direct. Once a local chief, or nduna, has allocated a piece of Swazi Nation Land to a head of a household for a homestead site, the family or group of families proceeds to build their shelter in a traditional manner with the wattle, mud and thatch collected on or near the site. Yet even in rural areas relationships are becoming more involved, as the Rural Development Agency of the Ministry of Agriculture and Central Rural Development Board intervene to improve the rural living standard. Besides offering training in agricultural methods, they work to consolidate areas of settlement, relocate families, improve road access and satisfy other basic needs. Local chiefs in the Rural Development Areas must allocate land for housing with these efforts in view.

The more urban the setting, the more numerous are the formal institutions involved, and the more complex their relationships. In Swaziland, there is no single oversight or coordinating institution for all elements of shelter provision and several have complementary or overlapping activities. In addition to many institutions of government, parastatal and non-profit institutions have a place in the framework, as do certain elements of the traditional sector, the private sector, and financial agencies which may have both governmental and private components.

Below commentary is provided on the institutional responsibilities, by function, as they currently exist. Our basic conclusion is that Swaziland possesses a wide array of formal shelter-related institutions, adequate to meet its current and foreseeable needs. The principal issues are how effectively they perform and how adequate are their resources (both financial and human), not whether a sufficient array of agencies is available to perform the functions.

Urban housing produced by the informal sector--e.g. squatters--now provides, on an annual basis, more shelter units than does formal sector construction. It operates within quite a different institutional framework addressed in Chapter IV.

The accompanying chart presents the array of institutions involved in shelter production and management and identifies the range of functions they perform. The nine functions are

1. Planning Planning can occur at several levels: the overall allocation of resources to shelter related activity, the physical plans of towns and settlement areas the advance planning of individual projects
2. Land Selection and Acquisition: This is the function which relates to the choice and assembly of sites for shelter.
3. Finance This is the function which releases financial resources for shelter and which provides the funding for specific projects and units.
4. Infra-structure Provision and Operation: This is the function which provides the roads, water, sewer, electricity to areas and sites and operates ongoing services.
5. Development and Construction. This is the actual subdivision of land, organization of the design elements, financing and approvals and building of the housing units.
6. Regulation: This is the function which establishes and administers the regulations under which housing is built--codes, ordinances, environmental standards, etc.
7. Management and Services. This is the function which provides the range of supporting services to built shelter: maintenance, operation and rent collection in the case of rental accommodations, organization of community and welfare activity, etc.
8. Training This is the function which provides the flow of skilled personnel for institutions which perform various tasks in shelter production and management.
9. Legislative Drafting This is the function which will provide new legislation for consideration by the government.

Figure 15

INSTITUTIONAL FRAMEWORK, FORMAL SHELTER DEVELOPMENT

<u>INSTITUTIONS</u>		<u>FUNCTIONS</u>								
		Planning	Land Selection, Acquisition	Finance	Infra-Structure Provision & Operation	Construction & Development	Regulation	Management & Services	Training	Legislative Drafting
<u>GOVERNMENT</u>	Prime Minister	•								
	Economic Planning Office									
	Dept. of Establishments & Training									
	Swaziland College of Technology									
	Housing Allocation Committee								•	
	Ministry of Finance	•		•						
	Ministry of Local Administration									
	Land Allocation Committee		•							
	Physical Planning Office	•	•					•		
	Housing Unit	•	•							
	Community Development Office	•	•		•	•			•	•
	District Commissioners		•						•	•
	Town Councils		•		•	•		•		
	Ministry of Works									
	Building Section	•					•			
Roads Section										
Surveyor General	•									
Water Resources	•						•			
Ministry of Agriculture										
Rural Development Agency	•	•						•		
Valuation Officer										
Attorney General									•	
<u>PARASTATAL AND NON-PROFIT</u>	Water and Sewage Board	•								
	Electricity Board (SEB)	•			•					
	Industrial Housing Co	•	•			•			•	
	Small Enterprise Devel. Co. (SEDCO)									•
<u>TRADITION-AL SECTOR</u>	Local Chiefs and Ndunas		•							
	Land Speculation Committee									
	Tibiyo Taka Ngwane	•	•							
	Tisuka Taka Ngwane	•	•	•		•			•	
	Central Rural Development Board	•	•	•		•			•	
<u>PRIVATE SECTOR</u>	Company Housing Offices	•								
	Private Development Companies	•	•		•				•	
	Arch. & Engineering Firms	•	•			•			•	
	Importers/Suppliers					•				
	Contractors					•				
<u>FINANCIAL PUBLIC/PRIV.</u>	Swaziland Devel. & Savings Bank			•						
	Swaziland Building Society			•						
	The Provident Fund			•						
	Commercial Banks			•						

Government

1. The Prime Ministry

a. Economic Planning Office of the Prime Ministry

This newly created office is responsible for preparing the five year development plans and for providing review and advice on long term development strategies to the highest level of Swazi Government. Formerly, the function was lodged with the Ministry of Finance. This office currently is charged with proposing the allocation of governmental resources to shelter and supporting infra-structure and relating these to other elements of governmental priorities. Although it has considerable potential as an instrument for formulating shelter policy, neither this office nor any other within the government is currently charged with review or planning for shelter development as a whole.

b. Department of Establishments and Training

The charge of this department is to control the size and rates of pay of the public service and to improve its overall quality through providing necessary training for public servants and ensuring the flow of adequate trained personnel for public service needs. They are also responsible for administrative and support services to Government agencies.

In connection with the objective of training local persons for skilled trades, the Office of the Deputy Prime Minister has an Industrial Training and Testing Branch. They operate the Swaziland College of Technology (SCOT) and the Regional Testing Center, and supervise the apprenticeship program of private industry as well. Two new District Vocational Training Centers are in the process of organization.

Building trades and technical skills for construction are among the fields in which training is offered.

The Housing Allocation Committee is part of the machinery for Government personnel support. They allocate government pool housing to agencies and individuals (1,800 units throughout Swaziland) and set the rental rate structure. This, in effect, determines the level of subsidy such housing represents. As indicated elsewhere in this report, the Government is in process of bringing rental charges in line with economic rents.

2. Ministry of Finance

In its responsibility for the annual budget, the Ministry makes the annual allocation of governmental resources to housing and related infrastructure.

3. Ministry of Local Administration

This Ministry is the key one in any shelter effort by the Swazi Government, although it does not have sole or central responsibility for the sector. The Ministry holds jurisdiction over the organization and management of town government (through the Town Planning and Urban Government Acts) as well as physical planning, land use regulation, a limited housing production, and a wide variety of community services ranging from adult literacy and libraries to nursery schools, religious facilities and recreation. It is responsible for the administration of land owned by the Government. It can undertake land assembly and development for housing and other urban activities, although it is not exercising this power. Principal components of the Ministry respecting shelter are:

a. The Land Allocation Committee

This committee makes recommendations and decisions on the use of government owned lands.

b. The Physical Planning Office

This office is responsible for preparing all urban area plans under the Town Planning Act and functions as an adviser, when requested, to other ministries and agencies. As with most other institutions dealing with shelter production, the Planning Office has an extremely small staff and has not been able to reach its full potential in influencing public decisions.

c. The Housing Unit

This office was established in 1975, with U.N. support, to conduct a limited (100 unit) self-help housing demonstration program and to provide recommendations on long and short term housing policy. It has planned, constructed and operated the self-help project effectively, and has trained the participants in construction. It has submitted proposals for several additional self-help efforts in both urban and rural areas and appears to be a principal generator of housing policy ideas in the government. The Housing Unit has considerably greater potential as a residential design and building arm of the ministry.

d. The Community Development Office

This provides support--primarily to the Rural Development Agency--throughout the country in organizing rural self-help efforts. It is responsible for recommending levels of funding to the government on specific infrastructure and services projects which supplement local efforts. The Community Development Office provided staff to the Housing Unit to assist in conducting socio-economic surveys and serve as a link between Housing Unit technical staff and self-help project participants. Although its small staff is heavily committed, the office itself has considerable potential for leadership in any squatter area upgrading or sites and services programs which may be undertaken.

e. The District Commissioners

Although primarily administrators, the Commissioners of the four districts within Swaziland have responsibility for approving use of Government lands outside of the towns and can establish conditions on the use. They and their staff maintain continuing contact with the Chiefs and communities in the rural areas. They also chair the monthly meetings of their respective District Teams, groups comprised of representatives from the Electricity Board, Public Works, Water and Sewerage Board, and the various other line ministries to discuss problems which require coordination on joint action. The authority of the District Commissioners holds potential for expanded coordinating functions, particularly outside the two largest Towns, but increased staff and budget support would be needed to effect major forward-looking activity.

f. The Town Councils

The Councils have broad responsibilities for management of services and infrastructure within town boundaries, for administering building codes, and regulating land use in accordance with master plans. They can, although do not, develop council housing for their residents. In practice, much of their planning and land use responsibility is carried out by the Planning Office.

4. Ministry of Works

a. Building Section

The Building Section of the Ministry is responsible for planning, building, and maintaining each year's component of government pool housing, as well as outstation facilities, office buildings, clinics, laboratories, schools (other than self-help) et al.

b. Roads Section

The Roads Section has responsibility for designing, building and maintaining major roads and bridges throughout the country, except in Mbabane and Manzini.

c. The Surveyor General

The Surveyor General is responsible for all mapping throughout the country, including cadastral surveys and aerial photography. This is the prime source of site data for any residential, infrastructure or industrial development project.

d. The Water Resources Division

This agency is responsible for maintaining water quality and thus can influence the scale and location of settlement. Under its charge to limit pollution of rivers and ensure fair apportionment of water among users, it is effectively the principal environmental protection agency of Swaziland. In this regard, the Division, through the Minister of Public Works, has recently proscribed all development in a 17 km. corridor extending north from the currently developed area of Mbabane -- the Black Umbuluzi River watershed -- because of pollution dangers. Approval of any undertaking in this area, including intensive agriculture, will require detailed site and operational plan review by the Ministry. This is the first application of the 1967 law permitting such land conservancy by the Ministry.

5. Ministry of Agriculture

a. Rural Development Agency (RDA)

The Rural Development Agency is the principal governmental force in whatever planning of shelter development occurs within rural areas in Swaziland. The agency's charge is to improve and consolidate rural settlement and agricultural patterns. From two original project areas the program has expanded to four; and now an expansion into ten additional areas is under planning. (See Appendix Figure A-7).

The Agency has been heavily supported by external technical and financial assistance. Its chief roles in shelter production are: to bring potable water supply and farm-to-market roads to rural settlements; to draw underutilized freehold land into active production; to consolidate scattered homesteads and their grazing and agricultural lands; to resettle homesteads on new sites so that lands best suited for crops and for grazing are released for their most productive respective uses.

The RDA's do not provide shelter or shelter finance and, although their mission includes the provision of potable water supply for rural families, the program has not yet been integrated with family resettlement in a systematic or extensive manner.

b. The Valuation Officer

The Valuation Officer sets the price of private lands which are to be acquired for public purposes, including housing and infrastructure.

6. The Attorney General

The Attorney General is the interpreter of laws currently in existence governing planning and housing. His office would be responsible for drafting any new legislation in the field which may be enacted by the government.

Parastatal and Non-Profit Agencies

Parastatal agencies are important in the provision of infrastructure the actual production of housing, and in the support of local Swazi contractor capacity and training.

1. The Water and Sewerage Board

The Board was formed in 1974 within the Ministry of Works, Power and Communications to build and operate water supply and distribution systems and sewerage facilities on a self-sustaining basis mainly for urban centers. Its water program is operating in about 15 towns (various phases of construction or planning) and it is developing sewerage systems in Mbabane, Manzini, Matsapa and Piggs Peak. Its construction program is funded largely by IBRD loans. A more recent rural water supply program receives Canadian assistance and focuses on school, clinics, police and border post stations and their nearby settlements.

2. The Electricity Board

The Electricity Board is an autonomous authority established in 1963 to construct a nationwide power grid and a distribution system, on a self-liquidating basis. It operates hydro-electric facilities in Swaziland but imports some power from South Africa. Although both the Water and Electricity Boards operate throughout the country, many of the company towns have their own systems to serve both plants and residential areas.

3. The Industrial Housing Company (Pty) Ltd.

Created in 1974 and beginning operations with a grant from the Sugar Association, the IHC has grown to be a principal mechanism for providing modest cost rental flats for workers outside the civil service. Most of its activity has been at Mbabane and Matsapa. This is a non-profit organization that plans projects,⁴ contracts out the building and then manages the properties once developed. (except for 30 of its production of 438 units, which were sold). The IHC is initiating further efforts towards producing housing for sale. The organization works efficiently at an annual volume of E 500,000 (100 units) but has administrative capacity to double that.

4. SEDCO

The Small Enterprise Development Company was begun in 1970 to provide technical assistance and some financing to small, Swazi owned enterprises. Most of its efforts are in the manufacturing area and in services. It does however, provide both training to about 30 small building contractors, and financial assistance to about one dozen construction firms.

The Traditional Sector

1. Local Chiefs and Ndunas

Within the rural areas, the chiefs are responsible for allocating lands and granting occupancy to individual families. This is a role which they have carried into squatter settlements and are thus extremely powerful agents of informal settlement in the peri-urban areas.

-
4. Although IHC has no technical (design and engineering) personnel, their consultant architect serves much as if he were regular staff, assisting in the selection of consultants, working out project programs, site layouts et al, and shepherding them through the approval processes and necessary liaison activity while the financial staff develops feasibility on the business end. Architect and engineer consultants hired to prepare construction drawings, supervise contractor bids and the actual building process.

2. Land Speculation Committee

The Land Speculation Committee of the Swazi Nation Council must review and approve sales of land by foreigners (for housing estates as well as agricultural purposes) to determine that the Swazi people are not being exploited. They are thus able to control the price of many land transfers.

3. Tibiyo Taka Ngwane and Tisuka Taka Ngwane

Each of these is a powerful investment and development arm of the Swazi Nation. Neither has had prior experience in shelter production, but each is committed in some fashion to move more directly into housing.

Tibiyo has made investments in a variety of enterprises from sugar plants to the Swazi National Airline and has undertaken some non-profit projects as well. It is a major participant in the Royal Swazi Sugar Company at Uvombo near Big Bend, where the company is building an additional 70-80 units of worker housing to add to the 360 now in place. Tibiyo itself has contracted for construction units for its own staff near the main Mbabane-Manzini Highway. It is willing to consider a greater level of housing involvement in forthcoming years.

Tisuka, on the other hand, is committed to the largest scale of shelter enterprise ever undertaken in Swaziland--an 8,500 person (approximately 2,000 units of various types) residential estate at Kwaluseni. The site practically adjoins the Matsapa Industrial Park. Partial financing has been secured, and the project is in the design stage. An effort of this scale could make a major contribution to meeting shelter needs in the Manzini area.

4. Central Rural Development Board

The Board was created in 1954 to oversee all activities on Swazi Nation lands on behalf of the Swazi Nation Council. Its membership includes important chiefs and leaders in the traditional sector and it reports directly to the King. All proposals and plans for rural development schemes must be reviewed and approved by the Board before implementation -- at the early conceptual planning stages and when detailed plans for specific areas have been prepared -- and afterward as the implementation progresses. The CRDB makes the appointments of the Rural Development Officers (7) who represent them in the work of the RDA program, i.e. preparation and presentation of plans, shepherding the plans through necessary approvals and monitoring their effectuation.

Private Sector

1. Company Housing

The large industrial, agricultural, and mining companies are the most integrated housing production and management operations in Swaziland (see section on company housing). On their own land, they design, locate, build, manage and regulate housing for their employees and provide financing--apparently out of operating budgets.

2. Private Developers

There are very few private development companies in Swaziland. Those which do exist (such as the Township Development Company) operate much in the same manner as land developers elsewhere-- assembling parcels of private land in the towns (primarily Mbabane and Manzini), obtaining permission to subdivide from the Ministry of Local Administration (the Private Townships Act) and selling to individuals serviced or unserviced lots. There are no large scale builders in Swaziland and most formal sector private construction is on an individual unit basis.

3. Architects and Engineering Firms

These provide site planning and building design services to government, companies, and to private builders. As of July 1978, about 30 enterprises offering a wide range of skills were registered with the Surveyor General for operations in Swaziland. The detailed master planning for Manzini and a transportation study for Mbabane have been performed outside the country by Danish consultants on contract to the MLA.

4. Importers/Suppliers

The flow of construction materials (see construction section) comes from local producers of concrete block, brick, and cement and importers of cement and most fabricated materials.

5. Contractors

With the exception of some company housing, most shelter in the formal sector is contractor built (see construction section). As of July 1978, over 100 contracting firms were registered for operations in Swaziland with the Ministry of Works, many of these headquartered in South Africa.

Financial Institutions

The two principal sources of mortgage financing in Swaziland are the Swaziland Development and Savings Bank and the Swaziland Building Society. These institutions, their lending practices and impact on the building process are described in the following section along with the other principal financial institutions in Swaziland.

D. Shelter Finance

Direct Lenders for Shelter

Swaziland has two financial institutions which are the principal sources of direct mortgage lending. In addition to providing means for housing finance, these institutions have administrative requirements which influence the character of the private building process.

1. The Swaziland Development and Savings Bank

This institution was chartered in 1965 as a credit and savings bank, and directed by the King in 1973 to place an emphasis on development. Housing is the largest area of lending, with E6.2 million of home mortgages out of a total of E 12 million in loans outstanding. Most mortgage lending has been urban. New loans average E15-20,000 and clearly serve middle to upper income housing production. The bank has 802 single family mortgages outstanding, with an average balance of E7,770. The bank also has 19 commercial (including multi-family residential) mortgages totaling E288,000, for an average of E15,150.

This bank offers particularly favorable terms for civil servants (see below) which have allowed many to leave government pool housing and become home owners. It can also enter into agreements with parastatal organizations which permit their employees to borrow at the same terms as civil servants. Such an agreement has been reached with the Electricity Board. The board has agreed to guarantee to the bank for an equivalent amount, but no deposits are required on this guarantee. The SEB has agreed to deposit with the bank at 5 percent any surplus funds, and repayment on mortgages of its employees will be deducted from salaries in order to reduce administrative costs. Below is the schedule of lending terms established by the bank.

Table 13. SCHEDULE OF SWAZILAND DEVELOPMENT AND SAVINGS BANK HOME MORTGAGE TERMS

	<u>Bank Employees</u>	<u>Government Employees</u>	<u>Other Applicants</u>
Interest	4½%	9 %	11%-12%
Down Payment	none	none	10%-20% down
Terms	up to 25 yrs. but not longer than 65th birthday		
Monthly Pymnt Limit	25% of income	25% of income	30% of income
Maximum Mortgage	4 x salary E25,000 max.	3 x salary E25,000 max.	2½ x salary E30,000 max.

Sources of funds include E5,000,000 interest free from the government of Swaziland, E669,000 from U.S. AID, E613,000 from British aid; E1.5 million (as of July 3, 1978) from Tibiyo, and E17.1 million from 45,000 savings accounts averaging E380 per account. These are maintained in five branches in the main cities.

The bank owns 11 houses in Mbabane plus a house for the manager in each of four other towns as well as flats for other employees, but does not provide housing for all employees.

A new general manager was appointed in 1978 who has begun to emphasize agricultural programs, particularly an advisory credit service similar to the U.S. Farm Home Loan Administration.

2. Swaziland Building Society

Started in 1962, the Building Society received no financing from the Government until 1973 when the Government deposited E500,000 at 8-8½% interest. Additional deposits are received occasionally from the Monetary Authority, the Provident Fund and, recently, Tibiyo.

The bank is primarily financed by customer deposits of E1.9 million, with other capital sources totaling E1.8 million. Ordinary savings accounts pay 5 percent, and longer term deposits pay 7-9½ percent. Interest up to E2,000 per year is tax free if earned at the Building

Society. A lower exemption applies at the banks. All interest earned on 7 percent accounts is completely tax free.

Most loans in the past have been for single family units, although in the past year the Building Society started placing money in flats. Single family mortgages are extended at 11 1/2 percent for 15 years with a E 20,000 maximum. A 25 percent deposit is required. Special Ministry of Finance approval can be obtained to permit loans up to E 30,000. Total secured loans outstanding as of March 31, 1978 was E 2.8 million. This includes about 250 home mortgages.

Loans on flats or commercial properties are at 13 1/2 percent for 10 years. Loans on vacant land are for 11 1/2 percent for 3 years. The average loan is E10,000. No loans are made for infra-structure, though land and infra-structure can be included in the mortgage amount.

Lending rates are forced to be high by reserve and take-down requirements as follows: When the Building Society makes a mortgage commitment, it must draw down its source of funds immediately at 9 1/2 percent interest. Twenty percent of this borrowing goes to liquid assets at 7-8 1/2 percent while it has the power to lend at mortgage rates (e.g. 11 1/2 percent) 80 percent, but these funds may be drawn down slowly as construction progresses. The Building Society therefore must charge 7 1/2 percent interest on a standby basis for all funds committed, while loan take-downs then earn interest at an additional rate of 4 percent until take-down is complete when the total 11 1/2 percent interest rate applies. The Development Bank does not require the 7 1/2 percent standby rate, but charges on the daily balance.

The Building Society anticipates dropping its single family mortgage rate to 11 percent when it has enough commercial business at 13 1/2 percent to subsidize single family residential. The Manager of the Building Society indicated that a key problem is that large lot sizes dictated by master plan requirements (1/3 to 1/2 acre) force lot prices to be high (e.g. E 3,500). Lot sizes of 1/5 acre or less would be more easily affordable by the potential market for Building Society lending.

He also indicated a desire to make 90 percent loans, and felt that this could be augmented by a 10 percent guarantee by the employer, thus enabling the bank to offer 100 percent financing for single family purposes. The employer would presumably make a deposit to guarantee the 10 percent portion.

The Building Society has 15 employees. No housing is provided for them, but the Board of Directors can agree to lend any individual employee funds at the lowest interest rate paid by the bank.

The Building Society is the only institution which makes mortgages available to non-Swaziland citizens.

3. Commercial Banks

The Standard Bank of Swaziland Limited is 60 percent owned by the Charter Group of London and 40 percent owned by the Swazi Government. It has been in business for 50 years, and includes an administrative office, a main bank, and four branches. Current customer deposits total E 26.1 million, liquid assets total E 11.3 million, and total assets E 37.1 million.

The bank has 120-130 employees, but does not provide housing. Employees can take advantage of a special employee mortgage lending offer requiring 5 percent down, 3 percent interest for as long as 30 years (must be paid off before retirement). The maximum loan is 6 times salary. Debt service on this and all other loans may not exceed 25 percent of take home pay (including that of a working wife). Only a handful of employees have taken advantage of this, perhaps three or four.

Barclay's also operates in the commercial area, with branches in several communities. It has E 38.3 million in customer deposits, E 10.0 million of liquid assets, and E 48.7 million in total assets.

Each of these institutions has apparently agreed to participate in mortgage lending in a limited fashion -- with employees of the Libby's cannery, under loans guaranteed by the company. (See section on company housing).

The Bank of Commerce and Credit, is currently in the process of organization. This will be a new "merchant bank".

Other Domestic Sources of Long-Term Investment Capital

1. Swaziland National Provident Fund

The Provident Fund was formed in 1975 as the major pension institution. There are about 1,400 employers in Swaziland, of which all with 25 or more employees are required to participate. This includes about 450 firms employing 45,000 people. Each is required to pay 10 percent of an employee's contribution. The payments have an upper limit of E 10 per month, and an employee can begin withdrawal as early as age 45 if he elects retirement.

The fund presently maintains 68,000 records, accommodating people moving in and out of the labor force. As some 900 employers with 1-24 workers are enrolled, an additional 5-10,000 workers will be covered.

Collections began in 1976 and have accumulated to E5 million. This year's contributions are expected to total E2.5 million. The government seeded the fund with a E100,000 grant and a loan of E120,000.

Most of the Fund's investments are with the Monetary Authority (E3.7 million) at 10-10½ percent. Other funds are invested in the Building Society, the Industrial Housing Company, and a private Mbabane shopping center. The fund plans to make additional investments in IHC, the Development and Savings Bank, and in commercial projects.

Although the Fund does not expect to invest directly in home mortgages, its resources placed in the housing finance and development institutions can lead to a greater supply of money for shelter activity in the future.

2. Swaziland Royal Insurance Fund

The insurance company was started in 1974. It is the only insurance company in Swaziland, with a monopoly imposed by law. Ownership is 51 percent by the Government and 49 percent by insurance interests outside Swaziland. It was begun with E 500,000 paid in capital. Its assets are now E 3.5 million and growing very slowly. Slow growth results from limited success in marketing life insurance due to the small market in Swaziland. It invests in government stocks and banking deposits earning 9 1/2 - 10 percent. The Fund purchased E 1.1 million of the recent E 14 million government bond issue. The bank indicated readiness to invest further in the Building Society as funds become available.

3. Monetary Authority

The Monetary Authority is the standby facility from which other financial institutions (except the Building Society) borrow. The Monetary Authority also is the major vehicle for investments made outside of Swaziland. External investments are strongly discouraged by government policy for any institution other than the Monetary Authority.

The Deputy Governor indicates there is excessive liquidity in the banking system at present, but this is rapidly being used up by major capital investments presently being undertaken in Swaziland. These include a new national airline, three ships, a dam, and airport, a railroad to Durban in South Africa, the third sugar mill, and the new royal palace.

4. Individual Family Savings

There may be considerable potential to mobilize funds for housing through increased individual family savings deposits. While it is important to recognize this resource, there are at present no data on which to base an estimate of its extent.

Interest Rates

Interest rates in Swaziland and in South Africa are shown below. While these rates may seem modest, it should be remembered that relative to U.S. rates they are made higher by the decreasing value of the rand versus the dollar through recent devaluations.

Table 14. BASIC INTEREST RATES, MARCH 1978

	<u>Swaziland</u>	<u>So. Africa</u>
Discount Rate (bank borrowing rate)	9 %	9 %
Pay on Bank Deposits: Passbook Savings	4 %	
31 days	7½%	8 %
12 months	9 %	9½%
Prime Lending Rate	10½%	12½%

Measures of Financial Capacity for Increased Home Mortgage Lending

The two major sources of mortgage loans have only E 9.0 million in home mortgages outstanding. The small size of the existing mortgage inventory is attributable to the emphasis on Government and company housing, shortage of building plots and difficulties of organizing the construction process for individual families -- all of which factors have acted to constrain the demand for loans. Should Government effect a major shift toward financing housing production and encouraging home ownership through the lending institutions, there appears to be no serious administrative constraint in so far as the institutions are concerned.

As a measure of the capacity of the credit institutions to increase home mortgage lending, total bank loans and advances for all forms of lending (e.g. personal, commercial and industrial, agricultural, as well as home mortgages) among the three major banks -- Swaziland Development and Savings, Standard and Barclays' -- increased by E 4-E 14 annually with a high level of sugar and pulp profits in 1973, 1974 and 1975. Increases in 1976 and 1977 were only E 2-E 3 million annually. These data understate somewhat the growth in credit capacity as excessive liquidity was built up during this period, but together with the list of major capital projects being undertaken at present, it does point to limitations on the amount of internal funds that can be available for expanded home mortgage credit.

Impact of Shelter Lending Practice on the Shelter Production Process

The administrative arrangements of the two lending institutions affect the home building process and limit the range of tenure options. Any home to be financed must be built on a lot owned freehold, must be designed by an architect and must survive an intensive inspection process during construction.

The freehold limitation effectively prevents a land-lease arrangement that might enable a wider use of government-owned land in shelter provision. In addition to inspection by the Town Council and the health inspector, the Development Bank has its own building inspection staff which is used whenever an architect is not supervising the unit construction.

If a man chooses to build his own houses, he must be qualified as a builder and must produce a certificate as proof. Very few people qualify in this regard. If he cannot qualify, he also may hire a qualified foreman and thus participate in the building of his house. He is required to use all funds on the project and to accept the responsibility of preventing theft. No funds are released until the foundation and slab are completed and pass inspection, and subsequent construction advances are not made unless the portion of construction for which they are intended is completed and inspected satisfactorily. Thus, the contractor may need to use his own funds to purchase materials and pay labor during the construction process. On the other hand, if the contractor can manage to buy materials on credit and build fast and carefully, he may be able to build without use of his own funds. There are very few contractors of this capacity working on single family housing construction, perhaps only 2-3.

E. Construction Industry

Contributions of the construction sector to Swaziland's gross domestic product have been small over the past ten years, growth in the industry notwithstanding. In 1969-70 the gross construction output of E 3.9 million⁵ accounted for but 2.2 percent of the GDP. By 1972 the gross volume more than doubled (to E 7.5 million), and an estimated E 9.9 million was reached in 1974-75.⁶ Construction's share in the GDP was 3.6 percent and 4.1 percent in those years, respectively.

By measures of labor productivity, e.g., output per worker, construction shows up less well than industry as a whole or manufacturing industry in particular. (See Figure A-9 and Table A-16.) But when the issue centers on creating employment, then the converse measure, e.g., level of investment required to support a job puts the industry into a light altogether more favorable. Table A-17 illustrates this point with examples from Swaziland.

Employment. As of June 1976, recorded formal (i.e., paid) employment in the construction industry was 3,075--1,250 in the public sector and 1,825 in private sector jobs. Ninety-eight percent of these jobs were held by men. The percentage of Swazis in the construction work force was 87.3 (down from a 1974 high of 92.2 percent, reflecting a general drop in construction employment over the two-year period. Nevertheless this represents some progress toward the goal of "localization" (i.e. substituting Swazis for expatriate labor) since 1966-67. When only 75 percent of construction workers were Swazis.

5. In constant 1977-78 prices.

6. Christopher Colclough and Peter Wingfield Digby, Skills for the Future, Ministry of Finance and Economic Planning, Mbabane, May 1978, pp 156-157.

Reported job vacancies were in 1976, four in the public sector and 59 in the private.

Distribution of construction jobs by skill level, average earnings and sex is shown in Table A-18.

The number of construction industry establishments was small, only 26 in 1976, compared with the 20 firms reported in 1966. Growing volumes of construction in recent years have clearly favored the larger firms as indicated by the data in Table 15.

Table 15. NUMBER OF PAID EMPLOYEES IN PRIVATE SECTOR CONSTRUCTION INDUSTRY, BY SIZE OF ESTABLISHMENT, JUNE 1976

<u>Size of Establishment</u> (Total Personnel)	<u>Number of</u> <u>Units</u>	<u>Number of Employees</u>
1 - 4	3	9
5 - 9	3	24
10 - 19	8	115
20 - 49	3	110
50 - 99	4	290
<u>100 - 499</u>	<u>5</u>	<u>1,277</u>
All Establishments	26	1,825

Source: Central Statistical Office, Employment and Wages 1976.

Contractor Capacity. A tally of listings in the March 1978 Register of approved building contractors for Government tenders indicates a larger number of establishments than the 26 enumerated in June 1976. The numbers of firms, status, construction specialties and graded capacities are summarized in Table A-20.

Approved contractors may be considered for works estimated to cost up to 50 percent above the amount for which they are graded. Alternatively contractors may tender for works on one site comprising more than one building, the total estimated cost of which does not exceed twice the value of their respective grades, provided no single building on the site is estimated to cost more than the amount for which the contractor is graded.

There are 28 consultant firms listed on the July 1978 Register of Consultants for Building Works. Their numbers and respective specialties are shown in Table A-22.

There is, in addition a major private sector developer-builder employing a staff of 200 or so. They develop private townships, build single family houses and flats and manage their own rental properties.

The Buildings Branch of the Ministry of Power and Communications maintains a staff of 109 for construction and 37 for property maintenance. Salary budgets were for 1977-78 about E 195,000 and E 659,000. Table A-23 gives an indication of the volume of construction handled by the Buildings Branch, even though the data are limited to work done by direct labor in Mbabane and Manzini only.

Expansion of the Construction Activity.

The Government's massive capital expenditure programmed for the Third Plan period is projected to raise construction volume to the order of E 24 million by 1982-83, a real growth of approximately 12.5 percent per year over 1974/75.⁷ (See Table A-4)

7. Colclough and Digby projections were modified as indicated in notes on Footnotes to Table A-24 in light of somewhat smaller capital expenditure program foreseen now, than when their study was made.

This would mean expansion of the construction labor force to a level of 5,400 by 1982/83, an increase of somewhat more than 2,300 jobs over the 1976 levels.⁸ Of these jobs, perhaps 60 to 70 percent would be the "unskilled" category. The balance would require skilled and educated workers.

A study of Swaziland's future skilled manpower needs, recently published by the Ministry of Finance and Economic Planning, analyzes the demand for workers in a broad cross-section of occupational categories. For the individual sectors of the economy they caution readers about the likely range of error in the projections, and about the need to validate the material before placing heavy reliance on it. Nevertheless the estimates of future demand for selected categories of workers in the construction sector are helpful and the conclusions about training bear on this shelter sector analysis.

Table A-26 outlines these projected needs on the basis of annual additions to the labor force in each of the selected categories. The numbers reflect manpower requirements to fill newly created jobs and to "localize" (i.e., substitute Swazi workers for expatriates) existing positions as well.

The study breaks the long-term manpower needs down into annual increments of new workers required. (See Table A-30)

Training. On analyzing the training requirements for Swazis to fill new positions and existing positions held by expatriates, the researchers have concluded that:

8. Colclough and Digby, Skills for the Future, p. 4. See Tables A-25, 26, 27, 28 and 29 in the Appendix.

1. It should be possible to fill the needs for university-trained workers given current and expanded enrollments at the University of Botswana and Swaziland and some foreign study in curricula not available at UBS. It will be necessary, in general, to increase the emphasis on basic science studies, however.

2. In respect to technical training, the current programs at Swaziland College of Technology (SCOT) that admits 120 trainees per year is generally in line with anticipated needs for graduates until the early 1980s when expansion of the program will be necessary. Artisan foremen who require several years of on-the-job-training outside of formal educational institutions will be important for the construction industry.

3. The most serious shortfalls--now and future--are in the trained craftsmen categories. The annual numbers of entrants at SCOT and two proposed new District Vocational Training Centers may, together, be yielding fewer than 150 workers per year for all crafts occupations. (See Tables A-31 and 32) Projected requirements exceed 260 trained workers per year. More than three-quarters of the need is in the construction sector, about half of it for government and half for private sector and parastatal employment.

An important additional source of skilled workers to fill gap lies in the training obligation of contractors approved for Public Works. As a condition of their listing on the official Register, firms whose graded capacity is over E 25,000 per year are required to train Swazis. The companies may either sponsor apprentices or students in approved courses of instruction, or enter into contracts for services with individuals that provide for advancement on the passing of trade tests or educational examinations.

A minimum number of trainees per company has been established: two for firms with annual capacity of E 25,000-100,000; four for firms in the E 100,001-500,000 class, and eight for firms in the E 500,001 and over class. The organization, supervision and enforcement of this training program is under the Principal of SCOT in the Deputy Prime Minister's Office. The authors of the manpower needs study recommend that the Labor Department and Controller of Apprentices also become involved in ensuring that this private sector training program is carried out effectively.

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10. These employee-trainees are not entirely a net addition to the numbers under instruction at SCOT since some contractors fulfill their training obligations by sending their employees to that institution.

Building Materials

Swaziland has adequate supplies of sand and gravel for its construction needs, asbestos, clay and wood. Among the basic building materials, lime is lacking, however, as well as high-grade timber. The small size of the domestic market and distance from major regional market centers outside have hampered the development of local building materials production. Consequently most of Swaziland's building materials are imported from-- or through--the Republic of South Africa. Until recently clinker came from Mozambique to a Swaziland firm that was making cement block.

Table A-34 gives an idea of the role of construction materials in Swaziland's import program over the past. (3.2-5.4 percent, 1972-75)

In 1977 the National Industrial Development Corporation of Swaziland contracted with Bergman, Colquhoun and Norgaard, Consulting Engineers, to study the possibilities for manufacturing industrial products domestically. Their objectives were to find channels for expanding the local economic base and also to reduce dependence on imports from South Africa.

Among the conclusions of the study which followed are recommendations concerning ten items which could be produced in Swaziland as import substitutes:

1. Laminated board and chip board. Swaziland is at present producing 144,000 square meters of laminated board representing a turnover of E 533,736. Over 85 percent of this production is exported to RSA. With a current recession in the building industry in Southern Africa, it is unlikely that further market penetration can be achieved. There should be export opportunities to Mozambique when economic recovery sets in. Swaziland's total import bill for wooden manufactures, except furniture, was E229,000 in 1975, consisting of chip board, ceiling boards, cork insulation boards, and other specialized products. The chip board is all imported from the factory at Piet Retief in South Africa. Its proximity and low local demand does not warrant establishment of a factory.

2. Interior woodwork (e.g. doors, moldings, etc.). Swaziland has several joinery firms and some appear to be considerably more successful than others. No firms at present exclusively produce standardized items for the building industry such as doors and door frames, windows and frames, standard roof trusses and so on. Swaziland builders make extensive use of steel door frames and window units which probably account for the greater part of the E 220,000 import bill for finished structural steel. These are relatively cheap and much easier to install than wooden frames. Local pine is not suitable for manufacture of door and window frames. There appears to be greater scope for manufacture of wooden pine base doors and standard type wood roof trusses. Long-term planning and steady growth would assist the establishment of joinery firms of this type.

3. "Wood wool" insulation panels.⁹ If "wood wool" panel were to displace other types of insulating materials, if an export figure in excess of 50,000 square meters could be achieved and if other local applications of this material could be developed, this industry could be economically viable. Swaziland has the resources but the material is not widely used now.

4. Prefabricated wooden houses. Swaziland has the resources, but the consultants indicate, "There could be a negative job creation effect if the prefabricated houses are used to replace the current block and mortar houses. The net effect on balance of payments could be high because of savings on imports related to materials used in the present building industry." Still, the prospects for a skilled labor shortage are serious and if craftsmen can achieve high productivity with this type of housing it could be worth some experimental investigations. Careful attention to preparing wood against termite damage and hazards of dampness would of course be required.

5. Paints. There is a good local market for paints, as can be seen by the fact that a small plant producing FVA and enamel paints has already been established in Swaziland. Local production of paints makes sense

9. Fine pine shavings.

because of the high transportation costs involved in the shipment of bulky, low value paints. Never the less, the consultants point out that paints probably accounted for a large portion of the E 500,000 importation during 1973-75 of paints, dyes, varnish, putty and printing inks. "This may mean that there is scope for expanded domestic production or alternatively, that the imported paints are of different non-PVA kinds which would be uneconomical to make in Swaziland."

6. Wood chemicals. For turpentine, particularly, the value added is high because the raw material is currently allowed to go to waste. During the pulping of wood chips it is possible to extract turpentine by centrifuging the hot wastes. This process is suitable for employment at the Usutu Pulp Mill. Installation of suitable plant would cost around E 100,000. The employment opportunities created would be minimal, however.

7. Bricks and clay products. There are clay deposits at Mpaka and Bethany Farm. A further deposit of apparently good quality clay for brick-making has recently been located at Lozitha. Total annual import of brick and clay products is not more than E 53,075. The present Swaziland market is estimated at about 25,000 bricks per week. As in most other developing countries in Africa, the traditional building material has become the cement block which requires less labor, less time and less skill to lay. The local market in the Mbabane-Manzini area was in 1974, estimated at E 300,000. There have been small concrete block factories in Swaziland absorbing the market but recent reports indicate that production has been interrupted due to unavailability of a necessary component that had been coming from Mozambique. Today there may be a shortage of good quality block. In any event the price of imported block tripled during the Spring of 1974. The consultants suggest that if there were a centralized brick factory in the Mbabane-Manzini area it might have some potential, and especially if it were to manufacture special types of higher-cost bricks, tiles, pipe and pipe products.

8. Cement. The existing Matola Cement Factory produces between 3,000-6,000 tons of cement per month using imported clinker from Mozambique. The capacity of the plant is 6,800 tons per month. Present average

demand is approximately 4,000 tons. The imported clinker varies greatly in quality and reliability of supply and it is often necessary to import cement from South Africa to avoid disruption in the construction industry. The maximum retail price is controlled by the Government at E 42.20 and E 43.80, respectively, for local and imported cement.

The construction industry in Swaziland is expanding. An increased demand for cement of 15 percent per annum is anticipated. The industry will become increasingly vulnerable to variations in the supply of clinker. It therefore becomes prudent to contemplate the expansion of production in conjunction with local manufacture of clinker based on imported lime from Mozambique. The mining of the lime should then preferably be controlled by the cement factory at Matola. Other alternatives are to increase the capacity of the existing operation with a large reserve to allow stockpiling, or to rely on imported cement supplied in bulk.

9. Foundries. Swaziland already has a small foundry in Manzini. It is capable of producing grey cast iron and non-ferrous castings. An expanded factory capability would typically produce heavy cast iron products such as manhole covers and drains. They are heavy articles and transportation costs from Johannesburg serve to protect the local industry. Other products suitable for local manufacture include cast iron cooking pots, brake blocks for the railways and wood or coal-fire stoves for domestic use. Door knobs, window latches and fixtures and plumbing fittings could be made, as well as pump and irrigation equipment components. Raw materials are cast iron, brass scrap and coke. These materials are all locally available.

10. Reinforcing steel. Evidently, this is currently imported from South Africa, but the consultants say rolled steel sections could be imported and then fabricated in Swaziland. Links of such an industry with the building industry could expand into manufacture of various kinds of bars, guard rails, fire escape ladders and other minor structural products required in construction. In 1975 new buildings completed in Swaziland under the heading of industrial, commercial and other, amounted to a volume of just over E 1,000,000. The 1977

figure should be substantially greater. At a later stage it would be feasible to expand to mass production of window frames and steel door frames for export to other African countries.

Construction Costs

The over all inflation rate for construction has been running about 12 percent per year, with prices for equipment and materials rising faster than those for labor. Against a June 1970 base of 100, April 1978 indices were as follows:

Labor	209.0
Equipment	247.8
Materials	251.5

V. Shelter Needs, 1978-83

A. Scale of the Need, Location and Components

Population growth and movement within Swaziland has had a dramatic impact on urban shelter needs. In the Core Region, 790 new urban and peri-urban households¹ were added each year between 1966 and 1976--295 in the Mbabane area, 300 in the Manzini-Kwaluseni-Matsapa area, and the balance in communities between.

Elsewhere in Swaziland, too, the number of new urban households exceeded the rural. This was due partly to the smaller household size in the towns and villages and largely to the attraction of new job opportunities. Table V-1 illustrates the average annual increment of households for several of Swaziland's urban areas. In many respects this dispersion of urban growth is fortunate. Although squatter conditions have developed in a number of places, they do not constitute so massive and intractable a problem as they might were they concentrated in a single urban center.

Situation of Needs Outpacing Housing Production. Annual production of housing through the formal sector has simply not kept pace with the rate of urban household formation. The shortage of formal housing affects families at all levels of the income scale.

Households in Mbabane and Manzini had been increasing at average rates of 300 per year, respectively, quite steadily for half a decade before combined efforts of the private sector, the government worker pool housing program, and other housing organizations such as the Industrial Housing Company (Pty) Ltd., the National Housing Corporation and the Ministry of Local Administration Low Income Housing unit began to

1. Calculated from population increase and average household sizes prevailing in 1976.

raise annual production levels to anything approaching the annual need. (See Tables V-1 and V-2).

Informal Sector Bridges the Gap. Meanwhile the new families who could not be accommodated in these new units or in others already existing, found sites for themselves on Swazi Nation land, temporary occupancy Government land or unlawfully occupied squatter areas and provided shelter informally for themselves.

The informal, low-income settlements of shelters built of mud, stones and poles represent the backlog of need unmet by the formal sector of Mbabane and Manzini, and indeed, virtually every other urbanized community in Swaziland. A measure of the prevalence of urban squatter conditions is depicted in Tables V-3, V-4 and V-5. (Data for individual towns are in Table A-35.)

Swaziland had, at the time of the 1976 Census, 14,600 urban homesteads (or household units) built of non-durable materials wholly or partially. Of this number 10,450 or 72 per cent were in the Core Region, about equally distributed between the Hhohho portion and the Manzini portion.

This type of structure is quite typical for Swaziland. Indeed, self-built homesteads in urban areas comprise but 20 per cent of the total for this type of dwelling across the whole of Swaziland. Over and above the basic need to upgrade housing conditions throughout the country, urban self-built housing presents special problems more serious than simple numbers alone reveal. The densities at which these dwellings are built in urban areas create particular health hazards since they characteristically lack sanitary facilities for disposal of human wastes. The problems are compounded by accumulation of other wastes amidst the confined living area. Footpaths are dangerous, uneven and steep, winding circuitously among the houses set helter-skelter.

TABLE V-1. ANNUAL INCREASE IN URBAN HOUSEHOLDS, 1966-76

ILLUSTRATIVE EXAMPLES

<u>URBANIZED AREA</u>	<u>NUMBER OF NEW HOUSEHOLDS PER YEAR 1966-1976**</u>
Mbabane Area	295
Manzini-Kwaluseni-Matsapa	300
Pigg's Peak Area	160
Hlatikulu	50
Nhlangano	120
Stegi	125
Big Bend Area	475
Mhlume Area	410
Tshaneni Area	415

**Calculation based on the average urban household size prevailing in 1976: 4.2. Average rural household size was 6.7, average for urban and rural combined, 5.7. These figures differ somewhat from household sizes reported by the Census due to definition of urban area here which includes both a town or village and the surrounding area of concentrated settlement. These represent an implied rate of increase in numbers of dwelling units based on need rather than an actual count. Housing data for 1966 comparable with the 1976 Census tallies are not available. Thus, the number of units actually built during the 1966-76 decade is not known precisely. The relative proportions of informal and formal sector production are not known either.

TABLE V-2. ESTIMATE OF FORMAL HOUSING CONSTRUCTION
ACTIVITY MBABANE AND MANZINI, 1971-78

<u>DEVELOPER</u>	<u>ANNUAL AVERAGE PRODUCTION</u> <u>(NO. OF UNITS) DURING</u> <u>PERIOD OF OPERATION</u>		
	<u>PERIOD</u> <u>OF OPERATION</u>	<u>MBABANE</u>	<u>MANZINI-</u> <u>MATSAPA</u>
Private Sector* (Including Housing for company and parastatal employees)	1974-1978	120	50
Public Works (Government Pool Housing)	1971-1978	80	56
Industrial Housing Company (Pty) Ltd.	1973-1978	48	34
Ministry of Local Administration-Low Income Housing Unit	1975-1978	35	
National Housing Corporation	1974-1976		75
Peak Year Productior (1975-76)		283	215

*Estimates based on review of building permit applications and final inspection reports for the two towns.

Table V-3

CONDITION OF HOMESTEADS, 1976:
DURABILITY OF CONSTRUCTION MATERIAL*

	Durable**		Partially Durable		Non - Durable		TOTAL
	No. of Home-steads	% of Nation Total	No. of Home-steads	% of Nation Total	No. of Home-steads	% of Nation Total	
Core Region	8,250	44.0	10,900	32.6	12,900	37.2	32,050
<u>Urban:</u>							
Hhohho	3,000	16.0	1,050	3.1	4,050	11.7	8,100
Manzini....	3,600	19.2	1,750	5.2	3,600	10.4	8,950
<u>Rural:</u>	1,650	8.8	8,100	24.2	5,250	15.1	15,000
Northern Hhohho Dist.	1,950	10.4	6,250	18.7	8,900	25.7	17,100
<u>Urban:</u>	500	2.7	1,300	3.9	650	1.9	2,450
<u>Rural:</u>	1,450	7.7	4,950	14.8	8,250	23.8	14,650
Shiselweni District...	2,000	10.7	8,900	26.6	6,850	19.8	17,750
<u>Urban:</u>	550	2.9	100	.3	200	.6	850
<u>Rural:</u>	1,450	7.7	8,800	26.3	6,650	19.2	16,900
Lubombo District...	6,500	34.7	7,400	22.2	6,000	17.3	19,950
<u>Urban:</u>	5,400	28.8	400	1.1	1,550	4.5	7,350
<u>Rural:</u>	1,100	5.9	7,050	21.1	4,450	12.8	12,600
SWAZILAND TOTAL.....	18,750	100.0	33,450	100.0	34,650	100.0	86,850
<u>Urban:</u>	13,100	69.9	4,550	13.6	10,050	29.0	27,700
<u>Rural:</u>	5,650	30.1	28,900	86.4	24,600	71.0	59,150

* Numbers do not add in all cases due to rounding. See Appendix Table C for detail breakdown.

** Durable corresponds to the 1976 Census designation "permanent" and it refers to wall construction in cement block, stone or stabilized brick. Partially durable corresponds to "mixed" in the census and means a portion of a structure or at least one structure in a group that constitute a homestead (family compound) is built of durable materials. Non-durable corresponds with "temporary" and refers to buildings of unstabilized mud, poles and unmortared stone.

Table V-4

CONDITION OF HOMESTEADS, 1976: SOURCE OF WATER

	TAP IN HOUSE		TAP OR STANDPIPE OUTSIDE HOUSE		OTHER		TOTAL	
	No. of Home- steads	%	No. of Home- steads	%	No. of Home- steads	%	No. of Home- steads	100%
Core Region	6,400	20.0	7,750	24.2	17,900	55.8	32,050	
<u>Urban:</u>								
Hhohho	2,600	31.9	3,400	41.7	2,150	26.4	8,100	
Manzini.....	3,150	35.4	3,500	39.3	2,250	25.3	8,900	
<u>Rural:</u>	700	4.6	900	6.0	13,500	89.4	15,000	
Northern Hhohho.	1,500	8.8	2,750	16.1	12,850	75.1	17,100	100%
<u>Urban:</u>	850	34.7	1,400	57.1	200	8.2	2,450	
<u>Rural:</u>	650	4.4	1,350	9.2	12,650	86.3	14,650	
Shiselweni District.	650	3.7	1,350	7.6	15,750	88.7	17,750	100%
<u>Urban:</u>	450	52.9	350	41.2	50	5.9	850	
<u>Rural:</u>	200	1.1	1,000	5.9	15,700	92.9	16,900	
Lubombo District.	3,250	16.3	5,350	26.8	11,350	56.9	19,950	100%
<u>Urban:</u>	3,000	40.8	3,850	52.4	500	6.8	7,350	
<u>Rural:</u>	250	2.0	1,500	11.9	10,850	86.1	12,600	
SWAZILAND	11,800	13.6	17,250	19.9	57,800	66.5	86,850	100%
<u>Urban:</u>	10,000	36.1	12,550	45.3	5,150	18.6	27,700	
<u>Rural:</u>	1,750	3.0	4,700	7.9	52,650	89.1	59,150	

* Numbers do not always add due to rounding.

Table V-5

CONDITION OF HOMESTEADS, 1976: SANITARY FACILITIES

	WATER CLOSET*		PIT LATRINE		OTHER		TOTAL	
	No. of Home-steads	%	No. of Home-steads	%	No. of Home-steads	%	No. of Home-steads	100%
Core Region	8 150	25.4	8,500	26.5	15,450	48.1	32,050	
<u>Urban:</u>								
Hhohho.....	3,000	37.0	3,650	45.1	1,450	17.9	8,100	
Manzini.....	4,200	47.2	2,750	30.9	1,950	21.9	8,900	
<u>Rural:</u>	900	6.0	2,050	13.7	12,050	80.3	15,000	
Northern Hhohho.	2,600	15.2	2,650	15.5	11,800	69.2	17,100	
<u>Urban:</u>	1,800	73.5	450	18.4	200	8.1	2,450	
<u>Rural:</u>	850	5.8	2,200	15.0	11,600	79.2	14,650	
Shiselweni District.	700	3.9	2,250	12.7	14,800	83.4	17,750	
<u>Urban:</u>	500	58.8	250	29.4	100	11.8	850	
<u>Rural:</u>	200	1.2	2,000	11.8	14,700	87.0	16,900	
Lubombo District.	5,950	29.8	2,600	13.0	11,400	57.2	19,950	
<u>Urban:</u>	5,100	69.4	1,500	20.4	750	10.2	7,350	
<u>Rural:</u>	850	6.7	1,100	8.7	10,650	84.5	12,600	
SWAZILAND	17,400	20.0	16,000	18.4	53,450	61.5	86,850	
<u>Urban:</u>	14,600	52.7	8,600	31.0	4,500	16.2	27,700	
<u>Rural:</u>	2,800	4.7	7,350	12.4	48,950	82.8	59,150	

* Numbers do not always add due to rounding

** These figures should be used only with great caution because census tabulations indicate, among other inconsistencies, more homesteads with "water closets" than there are homesteads with indoor sources of water.

Most serious, however, is that 19 percent of Swaziland's urban households are without such sources of safe drinking water. This situation continues in spite of a concerted effort by government to provide treated water via standpipes serving several dwelling units or taps within individual homes. Informal settlement is spreading into new areas faster than the water supply is being extended.

The drinking water problem is even more severe in Swaziland's rural areas, where 89 percent of the households lack a source of treated water supply.

New Urban Households on the Way. Projections of Swaziland's population and its geographical distribution are shown in Table V-6. If the overall growth rate observed in the 1966-76 decade (28%) continues, Swaziland will approach the one million mark at the turn of the century.

By then 40 percent of the nation's population will be living in urban areas. National average household size will be 5.3 (down from today's level of 5.7) because the smaller urban households will represent a larger share of the total than they do at present.

The Core Region will still be the most heavily populated, but-- assuming efforts to maintain a dispersed pattern of growth are successful-- will still have less than half the population.

Urban households will increase by an average of 2,200 per year through 1988 and over 3,900 per year the following decade. Annual need for sheltering new urban families in the Core Region alone will amount to 1,680 over the next ten years and 3,140 units in the ten years following.

Table V-6
Distribution of Population and Households 1976, 1978^a and Projected 1978, 1988, 1998

<u>Core Region^b</u> (Manzini District plus Mbabane Expanded Area, Lobamba, and Ezulwini)	<u>1976</u>			<u>1978</u>			<u>1988</u>			<u>1998</u>		
	<u>Urban^c</u>	<u>Rural^d</u>	<u>Total</u>	<u>Urban</u>	<u>Rural</u>	<u>Total</u>	<u>Urban</u>	<u>Rural</u>	<u>Total</u>	<u>Urban</u>	<u>Rural</u>	<u>Total</u>
Population	71,770	101,040	172,810	81,590	105,330	186,920	151,880	125,650	277,530	283,870	150,190	434,060
Households ^e	17,033	15,024	32,057	19,430	15,720	35,150	36,160	18,750	54,910	67,590	22,420	90,010
Persons/Household	4.2	6.7	5.4									
<u>Northern "hohho District</u>												
Population	11,290	88,930	100,220	11,660	92,850	104,510	14,520	111,380	125,900	19,300	133,610	152,910
Households	2,461	14,632	17,093	2,530	15,220	17,750	3,160	18,260	21,420	4,200	21,900	26,100
Persons/Household	4.6	6.1	5.9									
<u>Shiselwini District</u>												
Population	4,045	113,125	117,170	4,270	117,460	121,730	6,960	140,400	147,360	9,760	167,820	177,580
Households	845	16,899	17,753	910	17,530	18,440	1,480	20,960	22,440	2,080	25,050	27,130
Persons/Household	4.7	6.7	6.6									
<u>Lubombo District</u>												
Population	27,740	76,590	104,330	30,270	79,380	109,650	45,440	94,880	140,320	69,030	113,410	182,440
Households	7,363	12,581	19,944	7,970	13,010	20,980	11,960	15,550	27,510	18,170	18,590	36,760
Persons/Household	3.8	6.1	5.2									
<u>Swaziland Total</u>												
Population	114,845	379,685	494,530	127,790	395,020	522,810	216,800	472,310	691,110	381,960	565,030	946,990
Households	27,711	59,136	86,847	30,830	61,520	92,320	52,760	73,520	126,280	92,040	87,960	180,000
Persons/Household	4.1	6.4	5.7			5.7			5.5	4.1	6.4	5.3

FOOTNOTES TO TABLE ON DISTRIBUTION OF POPULATION AND HOUSEHOLDS (V-6)

- * Population estimates for 1978 are based on projections for individual communities and the residual rural population for each district. Assumptions applied in the community projections are explained in Appendix Table A.
- ** "Core Region" encompasses the Manzini District plus the following portions of Hhohho District: Mbabane Expanded Area, Lobamba and Ezulwini.
- *** "Urban" includes the communities listed below. The 1966 and 1976 Census tallies show urban population of 50,800 and 80,600 respectively. They do not include as urban the squatter settlements on the outskirts of Mbabane, the communities of Malkerns, Mankayana, Lobamba, Ezu'wini, Sidvokodvo, Motshane or the concentrations of population settled around Pigg's Peak, Stegi, Big Bend or Mhlume. Because infrastructure investments and settlement in these areas may be the basis for future growth, depending on employment policy and opportunities, we include them in this analysis.

Core Region

Mbabane Expanded Area (Enum. Dist.'s 5001-31, 1528)	
Manzini Expanded Area	(6001-23)
Bhunya-Mhlambanyati	(2503,2553)
Malkerns	(2301,2310)
Mankayana	(2527)
Lobamba	(1537)
Ezulwini	(1531,1538)
Sidvokodvo	(2341)

Balance of Hhohho District

Motshane-Ngwenya	(1539,1514)
Pigg's Peak Expanded Area	(1218-19)
Havelock	(1220)

Shiselweni District

Hlatikulu	(3242)
Nhlangano	(3347)
Lavumisa	(3536)

Lubombo District

Stegi Expanded Area	(4322,4324)
Big Bend Expanded Area	(4407-8,4413,4420,4423, 4440-2,4340)
Mhlume Expanded Area	(4201,4204-7,4215,4249)
Tshaneni	(4202-3)

- *** "Rural" includes the balance of population in each district.
- **** Numbers of households are a composite of 1976 Census count of homesteads and estimates for three of the individual communities. Details are shown in Appendix Table B.
- ***** Household estimates for 1978, 1988 and 1998 are based on household sizes prevailing in 1976. Numbers may not add due to rounding.
- ***** Reduction in average household size for Swaziland as a whole occurs over time because the smaller urban household units are projected growing at a faster rate than the rural households. Consequently they constitute an increasing proportion of the total.

The distribution of projected household growth by individual urban areas is presented in Table A-36. The rate of flow to the Mbabane and Manzini areas is seen to be double that of the past decade.

Recapitulation of Shelter Needs. Urban shelter needs over the next five years may be divided into two component parts: needs of people who have already settled in and around the towns, and needs of the families yet to come. Census data on living conditions set the scale of the problems of the first group:

- * 5,150 urban homesteads without a source of treated drinking water
- * 4,500 urban homesteads without toilet or sanitary pit latrine
- * 14,600 urban homesteads in residential structures of nondurable or partially durable materials (which is only partially an indication of inability to afford lasting materials and much more significantly an indication of inability to secure tenure on the land so as to build a mortgageable house.)

The three types of problem generally occur in combination, but there are almost 10,000 of these urban dwellings where water and sanitation problems are not a critical health hazard. For the families in these households the crucial need is to secure tenure on a piece of land so they have the basis for improving the quality of their housing over time.

To the foregoing measures of urban need must be added the needs of new households in the urban areas:

* 2,200 urban families per year (700 per year in the Mbabane and 600 in the Manzini urbanized areas)

*11,000 over the five years 1978-83 who will need water, sanitation, land tenure and housing

Rural needs force a somewhat different set of priorities.

There are:

*52,600 rural families lacking a source of treated drinking water

*49,000 rural homesteads without sanitary facility for human waste

*45,000 rural homesteads where nondurability of building materials is a problem at least for some of the structures

* 1,200 new rural homesteads forming each year or

* 6,000 new homesteads for which water supply will be the first order of need, 1978-83.

To these figures, both urban and rural, must be added the needs for shelter and relocation of any families displaced by urban redevelopment, public works projects or rural development area resettlement programs.

B. Household Income and Housing Affordability

There are no well developed data on household income in Swaziland, but because of their importance to this analysis, estimates of average and median income and income distribution have been made based on a variety of sources. This analysis required considerable judgment by the research team. Therefore, the tables should be used as planning estimates, not as actual data. They should be revised when better survey data becomes available.²

Average monthly income for urban families is estimated to be E190 (\$218.00) per household in 1978. As estimated 47 percent of urban households cannot afford to live in shelter produced by the formal sector and therefore are most likely to be living under squatter conditions. Their incomes average about E95 per month.

High, medium and low income ranges are roughly defined on the basis of housing affordability. Low income families are those with 1978 monthly cash incomes in the E135-160 range. That is the level generally required to afford the one-bedroom prototype house of the Housing Unit at 1978 prices and market terms if monthly payments are held at 25% of monthly income. (This assumes unsubsidized units replicated in a new self-help project with costs for mortgage and homeowners' insurance folded into the mortgage total as in the Msunduza project.) To illustrate the relationship of this breakpoint for housing affordability to occupation and earnings scales, families at the top of this E160 group might include those headed by private sector male clerical workers or public sector male skilled workers. (See Table A-38.)

2. The MLA Housing Unit has commissioned a study of housing quality and family incomes in the poorer sections of Mbabane and Manzini. Data forthcoming from this survey will be more definitive.

The breakpoint between middle and high income families occurs at E350 per month. This would place in the high income category most male public and private sector administrative and managerial and male private sector professional and technical occupations. Some male private sector skilled workers might be included as well. Civil service grades 11 and up would be high income.

Based on these definitions a distribution of urban income levels was created. It is presented in summary below.

TABLE V-7. SUMMARY OF INCOME DISTRIBUTION ESTIMATES

	<u>Urban Non-Squatter Households</u>	<u>Urban Squatter Households</u>	<u>Total Urban Households</u>
	(53%)	(47%)	(100%)
High Income (E 350+)	24%		13%
Middle Income (E 160-350)	55%	10%	34%
Low Income (E160 and under)	<u>21%</u>	<u>90%</u>	<u>53%</u>
Total	100%	100%	100%
Mean (E/month)	E 280	E 95	E 190
Median (E/month)	230	90	150

Note: Authoritative information on incomes is not available for any year since 1976. Economic Planning Office suggests in the Draft Third Plan that 1976-78 wage gains have not kept pace with rises in the preceding years (14% in 1975 and 24% in 1976), that the increases have been considerably less in the public sector than in the private and that cost of living has been catching up with the increases. In order to test the effect on housing affordability, alternative assumptions on 1976-78 household income growth are shown below. For the purpose of creating the income distribution an annual growth rate of 12% for those years was assumed.

Urban Household Category	1976 Mean Income Per Month	1978 Mean Income if 1976-78 Annual Increase is		
		8%	10%	12%
Non-Squatter	E223	E260	E270	E280
Squatter	E 76	E 89	E 92	E 95
All Categories	E152	E177	E184	E190

Housing prototypes have been defined on the basis of existing models, standards, and costs. A contractor-built one bedroom house with sanitary core, kitchen, and living room with 37 M² of gross building area at density 12.8 per acre can be built for E4,596 in 1978. If available, and if financed at market terms (SDSB) this unit would require E460 down and E41 monthly (plus utilities) and would be affordable by an estimated 65 percent of urban households (assuming 30 percent of total household income went for mortgage payments at 11 percent interest for 25 years). Table V-8 presents estimates on key data for the "minimal one bedroom house", two levels of standards for sites and services, and squatter upgrading.

Table V-8 distributes 1978 households (with particular focus on low income households) across the prototypes in accordance with shelter affordability on market terms. Although this establishes a context for program planning, it does not deal with policy decisions or recommendations about the rate at which the current housing situation should be improved.

Table V-8

ESTIMATED HOUSING NEED AND AFFORDABILITY^a - 1978

(Based on planning assumptions, not empirical data. Footnotes appear on following page.)

	Swaziland Urban Families		Core Region Urban Families		Swaziland Urban Families in Informal Sector Housing		Core Region Urban Families in Informal Sector Housing	
	Number	%	Number	%	Estimated Number	%	Estimated Number	%
Total Families	30,830	100%	19,430	100%	14,500	100%	9,200	100%
<u>Income Distribution (1)</u>								
High Income (E 350+)	4,000	13%	2,530	13%	--	--	--	--
Medium Income (E 160-350)	10,480	34%	6,600	34%	1,500	10%	900	10%
Low Income (under E 160)	16,350	53%	10,300	53%	13,000	90%	8,300	90%
<u>Shelter Affordability by Low Income Families (2)</u>								
Total Low Income Families	16,350	100%	10,300	100%	13,000	100%	8,300	100%
Can Afford One Bedroom House ^b (E 4140) at 25% of Income (E 135-160 monthly income)	3,400	21%	2,140	21%	1,600	12%	1,010	12%
Can Afford Full Sites and Services ^c (E 3000) at 25% of Income (E 110-135 monthly income)	3,420	21%	2,160	21%	2,250	17%	1,430	17%
Can Afford Basic Sites and Services ^d (E 1500) at 20% of Income (E 75 - 100 monthly income)	4,390	27%	2,760	27%	4,000	31%	2,560	31%
Can Afford Squatter Upgrading ^e (E 400) at 10% of Income (E 45-75 monthly income)	3,100	19%	1,950	19%	3,100	24%	1,990	24%
Cannot Afford Economic Housing (less than E 45 monthly)	2,040	12%	1,290	12%	2,050	16%	1,310	16%

Footnotes to Table V-8

Housing Prototypes - Illustrative Standards and Costs

- a. Market Level Financing Terms at Swaziland Development and Savings Bank. 10% down, 11% interest, 25 year term for repayment (not past 25th birthday) 11.8% constant payment per year, maximum 30% of income for debt service.
- b. One Bedroom Expandable Unit. One bedroom plus sanitary core, kitchen and living room with 37 M² gross building area at 12.8 per acre. Aided self-help unit. Mortgage includes insurance costs.
Total Cost = E 4140
Down Payment 414 (10%)
Mortgage E 3726 x 11.8%/year = E 37/month debt service
25% of income requires E 149 per month of household income
30% of income requires E 123 per month of household income.
- c. Fully Served Sites and Services. Individual water tap for each dwelling unit, sewerage, sanitary core, 330 M² plots (6 per acre), no electricity.
Total Cost = E 3000 including land, infrastructure, and materials for house
Down Payment 300 (10%)
Financing E 2700 x 12.4%/year (20 year term) = E 28/month debt service
25% of income requires E 110 per month of household income.
- d. Basic Sites and Services. Water standpipe for each 4 dwelling units, individual pit latrine, lots @ 12/acre.
Total Cost = E 1,500 including land, infrastructure, and materials for home
Down Payment 150 (10%)
Financing E 1,350 x 13.6%/year (15 year term) = E 15/month debt service
20% of income requires E 75 per month of household income.
25% of income would require E 60 per month of household income.
- e. Squatter Upgrading. Pit latrines, footpaths, etc. as called for in individual projects.
Total Cost = E 400 including infrastructure only
Financing E 400 x 13.6%/year (15 year term) = E 4.50/month debt service
10% of income requires E 45 per month of household income
25% of income would require E 18 per month of household income.

C. Motivation for Home Ownership

Swazi families who value home ownership are readily willing to spend 25 to 30 percent or more of their income on debt service for their homes. However, the history of heavily subsidized rental housing provided by government and by companies has made home ownership relatively less attractive. A few families who could afford to own their own homes on very favorable financing terms (9 percent mortgages for government employees) have taken advantage of these terms to build houses and rent them out rather than give up their government-subsidized rental units. This abuse, the carrying of two housing subsidies in one family, is being brought under control with increased scrutiny by government authorities.

Families selected for the first stage of the aided self-help project had incomes ranging from E40-E150 monthly³, clearly within the category of low income by the definitions used in this report. This was possible due to subsidies on both costs and financing. Approximately 70 percent of the cost of completed units was passed on to the participant purchasing families. The remaining 30 percent was a subsidy by the government and U.N. grant assistance covering the infrastructure portion and costs of staff.⁴ Financing was arranged through SDSB at 7 percent interest for 20 years with no down payment on the E200 plot. Current market rates are 11 percent interest for 25 years and 10 percent down payment is required.

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3. Source of this information is the Housing Unit of MLA.
 4. A valid argument could be made that staff costs are part of the government's Housing Unit recurrent budget and therefore should not be counted as project overhead. From another viewpoint, however, the need to escalate the scale of shelter programs substantially implies a need for expanded Housing Unit staff resources. In the face of tight government controls over growth in the recurrent budget, there are advantages to an accounting procedure which classifies staff costs as project overhead. In this way they become part of the dwelling unit cost included in the mortgage and recoverable from the ultimate home occupants.

Squatter families typically "own" their own units, though they lack assured tenure to the land. Squatter units typically cost about E250: E115 for materials (roof, window, door and two bags concrete for the floor) plus E135 for the value of their labor in constructing it (500 hours @ E.27 per hour).

About 20 percent of squatter units are rented, typically at E5 to E12 per month. This would be 10-20 percent of family income in squatter areas of Mbabane and about 6-13 percent of family income in Manzini.

Water has been provided at standpipe locations at about one for every ten to twenty families at certain squatter areas. There is no charge to the residents for either the initial cost or the continuing water usage, over and above the E2 annual fee for temporary occupancy of government-owned land, if applicable.

Mobilizing Personal Income for a Shelter Program. Household income of urban families is one resource in Swaziland that appears not to have been tapped to its potential in providing shelter. Some families are capable of paying considerably more for their accommodations than they are paying now, if 25 percent of income is the criterion.

The foregoing affordability analysis "matches up" portions of the spectrum of urban household with packages of shelter services, i.e. the prototype accommodations each income group can afford without severe strain. Actually mobilizing resources of this sort, however, requires that there be programs which produce the facilities, and that mechanisms be created whereby individual families can assume the responsibility for paying off the costs of the shelter they occupy. The 1977 rural-urban migration study in the low income settlements of Mbabane and Manzini indicated that quite a number of families maintain savings accounts in a bank.

Some claim to be saving to purchase cattle. Others tell of housing aspirations. Yet shelter as an object of savings appears to be less competitive--not only because interest rates are relatively low (4 to 7 percent) and taxable--but also because shelter takes so very long to materialize.

D. Capital Requirements

If the 11,000 new households expected in Swaziland's urban areas over the next five years were to be provided shelter at standards related to their capacity to afford it so that no new squatting occurs, the capital requirement would be on the order of E20 million annually.⁵ This estimate does not make a distinction between what portion would be with or without a subsidy. Nor does it imply any assumptions about which institutions should be responsible for satisfying any portion of the need. Nor does it include any provision for slum clearance or otherwise upgrading shelter for households living in the urban areas now. The E20 million would be an initial capital outlay for housing, land and on-site infrastructure. It does not include major infrastructure such as trunk line sewers or major roads and it does not include community facilities such as schools, sports fields or parks.

Certainly, a substantial part of such an investment could be channeled in the form of loans which would be repaid, possibly into a revolving fund for shelter reinvestment.⁶

The figure is not meant to imply a particular program outline, but rather to establish the order of magnitude of foreseeable needs. It sets a context within which alternative program proposals may be debated and priorities set.

5. See Appendix A-44.

6. By contrast, it should be considered that the combined total of all outstanding bank loans for home mortgages today at the Development and Savings Bank and the Swaziland Building Society is E9.0 million.

VI. Opportunities and Constraints

A Setting for Shelter Policy and Programs: The Analysis of Opportunities and Constraints

Previous sections have identified the dimensions of shelter need in Swaziland along with the nature of shelter-production, both formal and informal, and those who play roles in the process. Here, we will try to analyze what this all means for the future of shelter in the country. Is the country equipped to deal with its shelter problems? What are the strengths in present systems and relationships? What are the weaknesses to be overcome? The analysis will take the following form:

Opportunities: Present conditions in Swaziland afford key opportunities for a comprehensive approach to shelter provision. These opportunities are highlighted and discussed.

Constraints: Present conditions in Swaziland afford serious constraints to a comprehensive approach to shelter provision. These constraints are also highlighted and discussed.

The opportunities and constraints associated with shelter cut across many aspects of society: institutions, policy, geographic patterns, financial resources, social controls, law, etc. The most important conclusion which any analyst--or national government--can draw is that a comprehensive approach to shelter provision, one which will, indeed, lead towards solution of housing problems, must address the full range of relevant issues.

A. Opportunities

1. The Geographic Pattern of Communities and Resources

In Swaziland, economic resources and urban centers are well distributed across the nation. No single development center dominates the national economy. No single urbanizing area acts as a focus for rural-urban migration, creating a geographic imbalance impossible to alter. For Swaziland's population size, the country has a number of well-distributed towns and cities, reflecting distribution of minerals, high-value agriculture, industry, and government. Even the core region has several centers with opportunity for diversified development. This pattern provides a logical basis for controlling the future pace of urbanization and staging the supply of infrastructure and housing (nationally and for each town)--an opportunity not available in many other developing countries.

2. The Traditional System Maintaining Primacy of Rural Homesteads and Rural Loyalties

Despite economic advances which, in other countries, have tended to break down traditional values and accelerate rural migration, Swaziland has maintained strong traditional values and loyalties. Rural incomes are low, but the traditional sector has reinforced ties between the people and the land. Means continue to be found to provide homestead sites and avoid a "landless peasantry" on territory which the Swazi Nation holds in trust for its people. Difficult though this task will be with a high birth rate, thus far the traditional system has been able to retard migration from the land to the cities. For many who do move, the sense of land and loyalty is still strong enough to consider the homestead as their primary place of settlement. Here, the dispersed pattern of migration opportunities, the road transport system, and the country's small size have helped. These contribute to maintaining the relatively small household sizes in the towns--with frequent commuting to rural homesteads.

thus preventing overcrowding in squatter areas. Such overcrowding would occur more, if more transfers of extended families from the homesteads were made.

3. Priorities for Rural Development Activity

Combined with the strength of rural tradition, the government has placed priority on rural development programs; programs to establish more economic patterns of settlement, to bring potable water supply, farm-to-market roads, and community services to the homesteads. This formal recognition of rural needs contributes to retarding the migration flows.

4. Employment in Urban Centers

Swaziland's urban centers appear to have relatively high employment, providing their economically capable labor force--both migrants and longer term residents--with financial resources to purchase, or provide for themselves, shelter. Under-employment and unemployment are problems and the job gap widens with migration. But today, Swaziland does not have an indigent urban "under class" of any significant scale.

5. Land Ownership by the Swazi Government and the Swazi Nation

Both the Swazi Government and the Swazi Nation own large areas of land adjoining--and in some cases within--the country's developed urban areas. This provides an extraordinary opportunity to direct and control future urban development; to stage the flow of land for housing and related services, to program the supply of water, sewer, roads, and other infrastructure in advance of need, and to aggregate parcels of adequate scale and in adequate locations for urban growth requirements. One important example of rational development is the present Tisuka program for a major residential estate at Kwaluseni on Swazi Nation Land near the Matsapa Industrial Estate.

6. The Complement of Urban Development, Housing, and Related Institutions

Swaziland has a full array of governmental, traditional sector, and private institutions to undertake an accelerated housing effort. For example, the Ministry of Local Administration has the legislation, authority (and to some extent, experience) to become an effective urban development, land use control, and housing production agency. The Industrial Housing Company has background in development and property management, with capacity to increase its output. Agencies which can produce infrastructure are established. The large industrial companies have gained experience in developing and managing workers housing. The Swazi Nation, with its entrepreneurial arms of Tibiyo and Tisuka has resources and a growing interest in the shelter field--as evidenced by their housing projects and recent acquisition of financial interests in large construction companies.

The same may be said for the financial institutions (Development Bank, Building Society, Commercial Banks, etc.) which have charters and some experience in mobilizing funds for housing.

Although small in scale compared with present and future demands, the shelter delivery system has until recent years generally provided adequate urban housing to meet Swaziland's needs. A repository of design, construction, and management experience exists.

While the country may one day need new institutions in the housing field, the present shelter delivery system--its component agencies and functions--can be adapted in the short run to fill the need for substantially expanded production.

7. Adaptable, Flexible Building Construction Standards

Swaziland has building codes and standards which allow for experimentation to meet a broad range of housing needs. Unlike many countries whose codes are so rigid as to permit only the most costly of construction, Swaziland has instituted performance-type standards which allow flexibility in materials and techniques.

8. Availability of Prototypes to Meet Shelter Demands

Swaziland has already, through experimentation and testing, developed plans and specifications for prototype units which can be immediately mobilized to meet large segments of shelter demand. One of these is the expandable dwelling utilized in the U.N. sponsored self-help program, adaptable for much wider use in both self-help and contractor built situations. A second is the prototype house designed for forest workers at the Usutu Pulp Company. Other units in the experience of government pool housing and the large companies can probably be replicated for a wide range of incomes. While more experimentation is desirable, particularly in the substitution of local materials for imports, Swaziland has a "kit of tools" already tested and available for deployment in meeting shelter needs.

9. The Energies of Migrants Able to Produce "Self-Built" Housing

The fact remains that formal sector efforts have not produced in scale with the demand, particularly in urban areas. Migrants have themselves built shelter, basically in traditional fashion, but in many cases incorporating modern materials and sophisticated methods. They have stepped in to organize, build, and service their own settlements. This energy is a resource for the country. The capability must be appreciated and considered in any future comprehensive approach to shelter provision.

10. Priority in the Third Five-Year Plan

By emphasizing shelter needs in the draft plan and by allocating resources to housing, the government accepts a priority for this field. This acceptance must stand as a commitment to seek out improved approaches to close the housing gap.

B. Constraints

Balanced against these opportunities are the following constraints:

1. Lack of Spatial Development Policy

The government does not have any explicit spatial development policy. Within the framework of the five-year plans, no regional growth targets or population and economic objectives are formulated at the level of individual regions or urban areas. But prospects for accelerated rural-urban migration are real. Swaziland's fortunate urban and economic distribution pattern cannot be expected to continue without direct policy guidance on the location of investment actions by the Swazi Government and Swazi Nation.

The Mbabane-Manzini corridor is outstripping the rest of the nation in population growth and could become a primate city, with all the frustrations of inadequate shelter and services such a situation entails. Other communities, even within the core region, could have greater prospects for economic development and for population absorption than are presently being realized. Neither of these matters, nor the implications they hold for shelter provision, can be handled effectively without some form of geographically sensitive development policy.

2. Inadequate Scale to Shelter Efforts

Despite an adequate array of institutions, efforts by these institutions to produce shelter have been small in scale, far too small for the level of need. Most governmental and private projects represent a few units each and take many months or years to erect. The IHC, for example, has built about 440 flats and houses in four years, about 100 per year. The Housing Unit has successfully produced 100 self-help units, but at an extremely slow pace. Private builders rarely add more than 1 or 2 units at a time to the housing stock. Meanwhile, the need accelerates at many times the level of formal sector production and is met only through overcrowding and squatter settlement.

The informal efforts of squatters can produce far more shelter at a much faster pace than the formal system. Until the formal system is capable of creating hundreds of units annually--at least in Mbabane and Manzini--conditions will worsen at all levels of income.

Company housing in the outlying towns has, in some cases, been more in pace with requirements but financial difficulties may slow these efforts. The 2,000-unit, 8,500 person residential estate being planned by Tisuka at Kwaluseni is the first undertaking by either government or the traditional sector to set a meaningful scale of development.

While Kwaluseni is a step forward, there should be opportunities for other undertakings--contractor-built, sites-and-services, self-help--at a scale of over 100 units each on an annual basis.

Scale is important for more reasons than merely expanding supply. Swaziland is extremely dependent on imported building materials. If a market is to be created for locally produced products (and for lower-priced imports) the economies inherent only in large scale production are significant.

Construction is, moreover, an excellent source of urban jobs--both at the entry level into the modern sector and for skilled artisans and contractors. As Swaziland faces a future in which wage sector employment must be expanded ever more rapidly, residential construction must be seen in light of the very important stimulus it can provide. The influence of shelter production extends beyond the construction industry alone. Markets for building materials, home furnishings, maintenance skills and many other related products and services are also affected. Expanding the scale of residential building will generate new employment opportunities throughout this network of economically-linked industries.

3. Inadequate Supply of Land for Housing in Appropriate Locations and at Appropriate Densities to Serve Every Segment of the Urban Housing Market.

Housing in Swaziland is "tight" at all levels of income. Even the well-to-do and the middle class have few options--unlike some other countries where vacancies exist at higher levels of income and the primary need is among the urban poor. In Swaziland the situation is best illustrated by the presence of well-built contemporary housing and automobiles in squatter areas. One roadblock to increasing the scale and supply of housing is the lack of serviced urban land at appropriate densities.

There is no absolute shortage of land. For example, today within the actual town boundaries of Mbabane and Manzini over 500 hectares of land (some private, some, government ownership) are deemed "developable" for residential purposes by the Planning Office. This land cannot be brought into production for middle to low income housing. At a reasonable overall density of 10 units per hectare (allowing both single units and flats) this land could yield housing for up to 5,000 families. The reasons for its immobility vary--from lack of infrastructure and services at the site, to cloudy title, to low scheduled densities (e.g. 1 to 2 units per acre) that make development uneconomical. Each parcel of land has its own issues. But in the absence of governmental priority for increasing the availability of urban land for housing, the issues cannot be addressed and means for expediting the release for development cannot be applied.

4. Inadequate Tenure Arrangements

Swaziland does not have land tenure arrangements suitable to deal with its shelter problems. Lending institutions will provide mortgages only for freehold land. But within urban areas relatively little private land is available for residential development (and that mainly for high-cost housing). Thus, there are only two alternatives for increasing housing supply other than tacit acceptance of unlawful

settlement. Both of these options are probably infeasible: for government (or parastatal organizations with contracts on government land) to build, own and manage most housing production; or for government to sell some of its holdings to the private sector. The first places a tremendous burden on government's capacity for shelter production, and the second amounts to loss of control. An even more sensitive concern pertains to developable Swazi Nation Land near urbanizing areas. Already, Tisuka is facing the tenure issue in its proposed 2,000-unit project at Kwaluseni.

A land lease system is the only reasonable tenure basis for major urban and housing expansion. Under such a system, the government or the Swazi Nation would maintain ownership of land but would execute a long term plot lease with individuals or corporations. The individual or corporation would own the structure which, with the land lease, would be transferable. Mortgages could be issued on the value of the structure. Such a system would be applicable to every level of construction undertaking--from sites-and-services at lower income levels to rental or condominium flats.

The leasing of government land is possible under existing law, but is not generally practiced. Recognizing the importance of the issue, Tisuka's legal advisors are presently preparing such an instrument for pilot application at the Kwaluseni project.

5. Inadequate Planning Concepts and Instruments

Physical planning is required to guide the release of land for housing, the location of infrastructure and services, and the incorporation of expansion areas into the towns. Currently Swaziland has physical planning instruments (the Town Planning Law of 1971) unsuited to rapidly expanding urban areas and employs density concepts that do not maximize the efficiency of land. Moreover, the principal recent town planning activity (for Mbabane and Manzini) is being conducted

outside of the country by international consultants. There is no day-to-day contact with Swazi institutions essential to responsive development guidance.

The Town Planning Act is based on pre-World War II British legislation. Highly specific in its requirements for land layout, street and utility systems, etc. it does not allow for a staged, flexible planning process to identify land use and services requirements well in advance of need. It does not encourage generation and discussion of alternative land patterns for a community. It does not emphasize planning as a coordination mechanism for capital works expenditures by public and private sector institutions. Nor does it stipulate planning frameworks that extend beyond the statutory boundaries of a town, so that all areas which realistically require integration with utilities and transportation systems may be considered. Authorities in Mbabane and Manzini have expanded planning boundaries beyond the town limits, but even this expanded territory falls short of the actual urbanizing area.

Substantively, the density levels for much of the registered urban land are quite low. They are suitable to higher income, suburban-type housing but not to the requirements of middle or lower income families. If adequate land and efficient servicing are ever to be established for the bulk of urban migrants, densities of 10-20 units per hectare or higher will need to be a starting point for planning. This density concept is currently being employed in areas far too limited to accommodate present and foreseeable needs.

6. Subsidy Dependence

The government and many parastatal organizations and private companies continue to subsidize heavily the rentals of housing units under their sponsorship. While this practice contributes to the well-being of those in the units, it limits resources which can be placed into expansion of the supply. The Weaver Report of 1971 recommended

elimination of government subsidy. Considerable strides have been made in reducing the subsidy and in encouraging home ownership among civil servants. Nevertheless, continuation of the practice, especially for families at the higher levels of income, will hamper formal sector efforts in the face of extreme housing shortages.

7. Company Shelter Financing Practice

While some of the large companies have been successful at providing shelter for their workers, the means of finance may limit supply and is extremely vulnerable to the rise and fall of profits. Apparently one company, Libby's, has begun to explore with commercial banks, the establishment of mortgage credit to workers based on company guarantees. If the general practice of financing new units out of current operating budgets is relied on as in the past, any long term housing program will not be possible to plan or to sustain.

8. Low Bank Savings Interest Rates

Current interest rates on savings range from four to seven percent and are taxable. Low savings rates combined with high inflation in building costs and the slow pace of formal housing construction hamper savings as a vehicle for accumulating a down payment for shelter. Among employed lower income households where a savings capacity does exist, cattle or other nontaxable investments are more competitive than savings for home ownership.

9. Insufficient Governmental Response to the Gap Between Supply and Demand in Urban Housing

The Government of Swaziland is keenly aware that a housing problem exists. Prior to the assembly of data for this study, however, no comprehensive quantitative measure had been placed on the nation's housing needs. Even the material here must be considered preliminary and subject to considerable refinement. It is a start towards measurement, however. Lacking any quantitative sense of need, and available resources the government has been too optimistic about

conventional solutions to the problem. It has addressed the housing problem largely in terms of shelter quality. In addition to limited scale efforts in housing for civil servants, approaches towards low income needs have been coupled with slum clearance--leading to little net increase in supply.

The data and estimates indicate that the informal sector is providing, and will continue to provide, many times the number of units produced by formal institutions. With attention to issues of scale, tenure, land availability, and finance, the output of the formal sector can be considerably increased. For the time being, however, the concept that squatter or slum clearance will have any effectiveness in improving housing conditions needs to be set aside. It is entirely possible that for each unit cleared, another two will be erected illegally somewhere else, merely pushing the problem to other locations. Rather than clearance, a more realistic commitment to work with the informal sector (improving and regularizing its contribution to the settlement pattern) will become essential. Recommendations directed to this approach, along with means of removing other constraints, are formulated below.

10 Lack of a Clear Housing Component in Rural Development Activity.

The RDA Program is extremely important in maintaining rural urban balance. Families are resettled and sometimes water supply is brought to the new sites. However, the families are left on their own to provide new shelter in the traditional fashion. Thus far, there has been no direct support for them in the shelter building process-- e.g. loans for materials to improve the quality of their shelter, technical assistance in home construction, etc. Given the long term pressure of population on the land which will accelerate with population growth, the lack of priority assistance to rural housing improvement per se may have serious consequences.

11. Insufficient Trained Manpower

Even with a larger commitment to shelter provision, the lack of trained personnel in all phases of the production process will hamper the nation's ability to produce. This observation pertains to planning, construction, community services, and management. For example: the Planning Office, with nationwide responsibilities, has an expatriate director on a short-term contract and one Swazi planner currently being trained abroad. The Community Development staff of the Ministry of Local Administration is fully committed on rural projects and lacks personnel available to work with squatters if an upgrading program is undertaken. The Housing Unit does not have Swazi staff to carry-out its proposed increase in self-help projects. There is currently no township engineer to supervise regional or urban infrastructure and services. Lack of trained personnel affects many sectors of the Swazi economy; but if housing is to have a real priority, the present limited supply of competent people will be a serious deterrent. Even if a more extensive international technical assistance effort were undertaken, without Swazi counterparts to work with and train, the benefits could be lost.

12. Recurrent Budget Ceilings

Within the government, certain agencies have been designated for growth in personnel and operating budgets. Others have been held to small, incremental annual increases. The Ministry of Local Administration, the Ministry of Public Works and other shelter related institutions are in the category of sharply constrained agencies. Even if a priority were established to train manpower for these agencies, staff could not be absorbed unless the ceilings were removed or modified.

These limitations have far reaching implications. For example: the MLA pays the water user charges for low income areas, such as Msunduza, where town councils have placed standpipes. A major squatter upgrading effort would result in increased water usage,

probably more than 5 percent (the MLA recurrent budget ceiling) above present levels. Unless MLA could increase its level of funding or reduce other expenditures sharply, the low income families would have to bear the water costs--or the Water and Sewerage Board would have to reconsider present pricing policies and institute some form of differential pricing based on income.

13. The Summary Issue, Absence of Housing Policy

Taken together the array of constraints demonstrate that no comprehensive policy exists to guide Swazi efforts in the shelter field. Thus far, individual institutions or agencies have made isolated attempts at performing in this field, without a framework in which these attempts can be related to each other or the needs which they address. Lacking a means of monitoring results, government has not known what progress has been achieved. Lacking detailed analyses of issues, it has not been possible for the government to establish reasonable objectives for either the public or private sector. Lacking objectives, weaknesses in such matters as the land tenure system, the scale of production, the manpower supply cannot be reasonably debated or realistically addressed. Without policy guidance at the highest levels of government, the informal sector continues to solve shelter problems on its own terms endangering both public health, and the orderly development of urban areas.

VII. Recommendations to the Government of Swaziland

This chapter contains recommendations to the Government of Swaziland based on the information and analysis of the shelter sector study.

The following principles are emphasized in the proposals:

1. Recommendations are directed towards capitalizing on the "opportunities" in Swaziland for broader provision of housing and towards removing major "constraints".

2. Recommendations are directed towards more effective use of existing institutions. As indicated above, Swaziland has an array of institutions--governmental, parastatal, traditional sector, and private--with responsibilities in one or more areas related to shelter. These institutions have capabilities which can be applied more extensively and more effectively in shelter provision. The process of national response to development needs is an evolutionary one. As changes take place over time in the nature and extent of shelter need, Swaziland may well wish to create new or different organizations or consolidate elements of the present institutional structure. For the immediate future, however, the present structure is adequate. Emphasis should be placed on policy, program, staff, finance and coordination to help this array of bodies work more effectively. No new institutions are proposed.

3. Recommendations are directed towards both policy formulation and programs. They deal with a long term framework for improvements to urban development and housing, and with immediately implementable measures. The two go hand in hand.
 - a. Policy. Housing and urban development issues are now so complex that explicit policy guidance by the government of Swaziland is essential. It is essential to provide some order to activities of the various institutions and to sanction advance planning, which does not now occur. Policy formulation

at the highest levels is the only means to resolve certain constraints which inhibit housing production (e.g. the subsidy issue, utilities pricing and user charges, budget ceilings on key agencies which limit staff expansion). Without explicit policy towards housing and urban development, moreover, it will be difficult for Swaziland to obtain the full measure of international technical and financial assistance that may be available to supplement the country's own efforts.

b. Program. The shelter survey also concludes that housing and urban development are now matters of considerable urgency. Certain directions for effort are quite clear even before a policy formation process begins. Indeed, some immediately implementable measures can improve the well-being of the Swazi people, validly, in whatever policy framework is ultimately established. Swaziland can today initiate actions to benefit the shelter situation, over and above presently committed activities.

Thus, the shelter study team has concluded that policy formulation can proceed simultaneously with new initiatives in shelter provision. Neither should wait on the other. The recommendations which follow illustrate how the two can proceed on parallel tracks.

Recommendations on Policy Formulations

A. A Spatial Development Policy for Swaziland

A geographically organized population and investment policy is a desirable component of overall national planning. It is particularly applicable to Swaziland because:

1. The nation has, through historical accident and natural endowments, demonstrated a decentralized pattern of regional and urban economic growth.
2. Estimates indicate that at the present growth rate of 2.8 percent annually, population pressure will continue to mount along with the prospects of rural-urban migration.

The fundamental question to be answered is will the present pattern of regional and urban decentralization continue--or will population flows accelerate disproportionately to the main Mbabane-Manzini urban corridor, creating a "primate city" for Swaziland? Based on experience elsewhere in the world, despite the concentration of job opportunities and investments in primate cities, issues of public health, shelter, unemployment, and social services become beyond a nation's ability to control. Swaziland has the opportunity, however, to direct the flow of people and investments through early attention to formulating a spatial development policy.

A spatial policy would include the following:

- by region (e.g. District) short and long term estimates of rural and urban population growth.
- by urbanized areas within each region, short and long term targets of population to be absorbed.
- investment packages (governmental, Swazi Nation, private) for each region geared to maintain rural/urban balance in keeping with the targets. These packages would identify targets for job creation and incomes improvement.

Priorities would be set as to the type and level of investments for application. Although Mbabane and Manzini, as the chief cities, would draw significant attention, other communities might be designated as special growth centers. These would become foci of special efforts to diversify their present economic base (for example, the Bhunya-Malkerns area within the core region). Special incentives might be identified, including priorities for public investment in a shelter program or infra-structure, as a means of drawing new economic activity and population to these locations.

A spatial development policy can become an important underpinning for the nation's efforts in shelter and in other sectors. For example: with officially recognized targets by place for population growth, it will then become more feasible to determine housing needs and to allocate resources for shelter, water supply, sewer, and other infra-structure and community services. Conversely, the impacts on communities and districts of major investments can then be evaluated once a geographic framework to their organization is established and monitoring of performance is undertaken.

Several countries have formulated spatial policies as part of their national planning activity; among them Turkey, Venezuela, and Malaysia. Malaysia is particularly relevant to Swaziland because it sensed, after initial efforts at overall five-year planning, the inherent potential of its dispersed resources and urban pattern. Current national planning in Malaysia has a strong spatial component, directed towards regional development and towards modulating migration flows to the chief cities.

A spatial development policy must be based on the collection and evaluation of data (population, migration, capital works, incomes, etc.) on a geographic basis. Much of the material in this shelter sector study is relevant in this regard; and the 20-year population estimates by district and urban areas, based on present trends, provide a building block for evaluation.

Responsibility: The Office of Economic Planning of the Prime Ministry is charged with formulation of the national five-year plans. It is the appropriate agency for directing a spatial policy process. In addition to consulting with governmental bodies, the investment implications of such a policy suggest that the Office hold discussions with Tibiyo and Tisuka and with the major private companies and parastatal organizations who have development activities across the countries.

A professional staff should be allocated to the assignment and an initial target of one year established for preparation of a draft policy document.

B. A National Housing Policy

A national housing policy is needed to set realistic targets for shelter provision, to determine the level of resources (from all sectors) available for meeting shelter needs, to assess the capabilities of the various institutions involved in shelter production, and to promulgate new ideas and programs. Above all, a national housing policy is needed to provide a framework in which activities of participants in the shelter field can be related to one another in the pursuit of housing objectives.

A national housing policy will be based on information about shelter requirements and production, much of which has been assembled and presented in this shelter sector study. Although, given the brief duration of the study, data gaps still exist, and there is a need for more regularized information gathering.

A national housing policy will be related to the objectives and investment requirements of the five-year plans--although it will consider resources available in the private and traditional sectors and applicable to shelter provision as well as government investments.

As spatial development policy is formulated, housing objectives and investment targets will reflect geographic distribution objectives as well.

A national policy will be periodically revised, in light of monitoring results in urban and rural areas.

1. Responsibility

Formulation of a housing policy will cut across many agencies and interests, both within and outside of government. Various organizational mechanisms could be established to bring together these interests. The one proposed here is creation of an intergovernmental task force directly responsible to the Prime Minister and

chaired by the Office of Economic Planning. Principal membership would be drawn from policy levels of the Ministries of Finance, Local Administration, Industry, Works, and Agriculture. Beyond government itself, participation should be established with Tibiyo and Tisuka from the traditional sector (possible through governmental members of their boards), representatives of the large industrial/mining/agricultural companies, and other private building interests.

The task force should have a professional staff seconded from the participating agencies. While policy formulation may prove to be a continuing process, a 9-12 month period should be set for preparation of draft recommendations to the Prime Minister.

2. Content of Policy Formulation

Formulation of a national housing policy will be concerned with the full range of questions identified in this shelter sector analysis. The first order of business would be for staff to prepare an agenda of matters for review. Deliberations should begin with a verification of the data base upon which housing need is predicated, proceed with an assessment of capital requirements, and then move into those issues of coordination, management, and finance which act as constraints and require resolution.

Below is an illustrative listing of matters to be raised in the policy review on which policy determinations would be made.

- a. Verification of Need by Income Levels and Areas. This shelter assessment has quantified housing needs in Swaziland for the period 1978-83 and has made longer term estimates of population and household growth. These estimates can be reviewed or modified, and formally ratified requirements for shelter provision established as the objectives of housing policy.

b. Identification of Capital Requirements and Sector Roles

This shelter assessment has estimated annual capital requirements to meet housing needs for the 1978-83 period. In addition to reviewing that estimate, a policy group would recognize that this level (E20 million) is greater than the current ability of the economy to support. In the course of analysis and debate, along with an assessment of infra-structure and services costs to support housing production, attainable levels of capital would be set.

How these capital requirements would be allocated--as between government and parastatal institutions, Swazi Nation development bodies, large companies, and other elements of the private sector-- would be a principal subject for policy formation. With a guide to needs, resources, and responsibilities agencies such as the Ministry of Works (government pool housing), the Industrial Housing Company and the Housing Unit can begin to frame 3-5 year advance planning for their contributions, and can thus help to shape annual budget allocations.

Once there is an explicit awareness of the scale of capital resources and limitations, a more reasonable assessment can be made of informal sector housing efforts and the degree to which these must be relied upon to meet shelter needs. An appropriate level for sites and services programs, squatter upgrading, self-help activity and government support to the informal sector can then be established.

c. The Subsidy Question. The subsidy issue is an example of one that can be properly addressed through policy formulation. With an understanding of needs and resources, the task force should be able to recommend revisions in subsidy policies; revisions in scale, the timing of reduction, and in alternatives such as increased efforts at home ownership among civil servants.

In addition to government subsidies, the policies of the large companies should also be scrutinized and alternatives considered. Since at least some of the companies are beginning to question continuation of their present practices. Techniques might be examined such as company guarantees of loans to workers through the Development Bank; establishment of a special loan pool, with government participation, in the Bank that would be available to all company employees; experimentation with prototypes for both government and company-sponsored building programs at a scale that may reduce costs; establishment of government-assisted sites and services programs for low-income workers, etc.

d. The Water Pricing Question. The full impact of water service pricing on efforts to aid lower income groups is another example of an issue for task force review. Current policy to charge full costs for water supply to all customers makes potable water a disproportionately high component of shelter costs at lower income levels. This can serve to defeat a wider application of squatter upgrading, sites and services, and prototype contractor-built housing. Unless viewed in context of overall shelter policy, it will be difficult to formulate alternatives to present practice...such as a differential pricing system based on unit type, income levels, etc.

e. Methods and Levels of Finance to Expand Availability of Housing at all Levels of Income. The subsidy and pricing questions are not the only elements of finance to be assessed. Performance of the existing lending institutions, their interest rates and other requirements such as freehold land ownership and continual inspection would be reviewed. If, for example, the sites and services approach--for which an individual can not obtain financing under current institutional arrangements--appeared promising, the policy process would formulate recommendations.

Such recommendations could include earmarking of special loans for this purpose, establishment of a government supported revolving fund administered by the Development Bank, etc.

f. Methods to Increase Availability of Urban Land for Housing at all Levels. The use and disposition of land owned by the government and the Swazi Nation is among the most sensitive issues pertaining to shelter, especially because this land is the primary resource for long-run urban expansion. The short term recommendations below spell out some immediate steps for consideration (e.g. increased use of leasehold tenure) but the matter warrants considerable discussion and the formulation of long term policies to guide development efforts.

Other matters for discussion relating to land availability would include prevailing density concepts which limit both the availability of land and the efficiency of water, sewer, and other utilities.

g. The Role of Direct Housing Investment in Rural Development. Although emphasis on providing sources of potable water and roads exists in the RDA programs, thus far resources have not been directly committed to shelter provision. Is this a policy which should be maintained over the long-run, or should adjustments be made in priorities and resource commitments? Two self-help projects have been proposed in RDA's. Should this activity be supported and broadened? Are there other possible avenues as well, such as loans for building materials to improve the quality of rural housing, experimentation with "rural" prototype units, etc? Shelter policy should have a rural component.

h. Institutional and Legislative Changes. The shelter sector assessment does not suggest formation of new governmental institutions, or any re-distribution of existing functions. As

indicated below, work can be expanded with the existing array of entities. Upon the in-depth examination of the task force, however, policies may well be formulated to include new institutions, formalized coordinating arrangements between ministries and agencies, or new pieces of legislation to expand institutional responsibility.

One institutional issue definitely is the province of a policy task force; the present limitation in the recurrent budget on the staff size and operating cost expansion of certain governmental agencies. Unless this limitation is removed from key agencies such as the Ministry of Local Administration, it will be impossible to provide the skilled technical personnel to guide expanded shelter efforts. While governmental economy continues as an important concern, recognition that shelter is a new area of priority needs to be reflected in the personnel capacity of the participating agencies and their ability to conduct more extensive activities.

1. The Role of External Assistance. An array of external agencies and governments is providing, or is interested in providing, various forms of assistance which bear on shelter: technical assistance, training, loans, loan guarantees, grants. The opportunities inherent in these sources to supplement Swaziland's own efforts could be assessed in context of national housing objectives. Strategies could be formulated to guide the level and mix of external assistance which can be absorbed.

C. External Assistance in Policy Formulation

Each of the two policy formulation tasks are ones where several international agencies and national assistance programs have had considerable technical support experience. They are each areas in which this experience can be extremely helpful to Swaziland. Long and short term advisors could well be requested for the duration of the policy formulation effort.

Recommendations on Early Start Activity

Based on projections of this shelter study, Swaziland must deal with a need for about 2,100 new urban housing units annually, over and above any replacement. Of this number, about 1,600 or 77 percent will be in the core region; 1,300 of them in the urbanized areas of Mbabane and Manzini. During the past several years, all of the formal sources of shelter combined have not produced more than about 500 units annually in these two centers. Thus, without immediate major expansion in capacity and performance, about 800 units annually (or 60 percent of the need) will be built by the informal sector lacking guidance and services.

The scale of development and development capability at all levels require early expansion. Recommendations for early start activity by the government and other formal institutions are directed towards this end. They fall into the following categories:

Category I. Increase the Options Available to the Urban Population, Particularly in the Core Region.

At present, most moderate and low-income families in urban areas have two choices. They may qualify for government pool, parastatal, or company housing if units are available and they are employed by the relevant entity. Most likely they will have to build or rent their own shelter as squatters. Indeed, even higher income families, with businesses and automobiles, are often forced into the squatter mode.

Other choices could be available with immediate government help. Estimates indicate that good quality housing is affordable by the majority of the urban population. Up to 65 percent of households could afford the prototype house employed in the Msunduzi low-cost housing project, if financed on current market terms available at the Development and Savings Bank and built by a contractor.

Most people do not know of these possibilities, however, and do not have access to the land and financing that would make them real.

A. Land should be mobilized rapidly for a major expansion of formal-sector produced, low to moderate income housing. Specifically the Ministry of Local Administration, through its Planning Office, should place high priority on actions to release the 500-old hectares within Mbabane and Manzini that are deemed "developable" but are idle. The inventory of sites should be reviewed and a diagnosis made about the constraints on each parcel (e.g. too low density, lack of access or water, unclear title). Steps should be taken to correct the deficiencies, encourage development schemes, and process applications rapidly.

B. Since much of this and other urban land is government-owned, immediate priority should be given to establishing a land lease/structure ownership instrument applicable to individual purchases and multi-family developers. That instrument should allow for transferability of title and of the leasehold.

Parallel with this effort, the lending regulations of both the Development and Savings Bank and the Building Society should be revised to allow for mortgage lending on leasehold land.

Relevant work is being accomplished now on the leasehold matter. The Tisuka-planned residential estate at Kwaluseni is to be on Swazi Nation Land. In order to permit home ownership, Tisuka's legal advisor is preparing a land lease, structure ownership instrument which will be mortgagable. This instrument should be adaptable to government-owned land as well.

While of direct concern to the MLA as administrator of government lands, this issue should be brought to the Attorney General. It is unclear whether entirely new legislation for leaseholds is needed,

or whether the lack of present mechanisms is the result of custom rather than legal obstacles.

Once the legality of land leasing has been established and lending conditions changed, the Ministry might well consider instituting a requirement--similar to that being employed in Botswana--that any leasehold occupier has a two year maximum on which to erect a permanent structure. Otherwise the property reverts back to the government. This will be a means of expediting the actual flow of housing.

C. The remaining units of the former National Housing Corporation's production at Mbabane and Manzini should be rehabilitated and sold to individuals, with financing available from the lending institutions Over 100 core units exist and are unoccupied. Although seriously deficient in concept and siting, these units are capable of conversion to habitable shelter. They could be made ready within a year or two. This task should be an expanded responsibility of the Housing Unit of the MLA.

D. Under the leadership of the MLA, a formal (through news media and community development workers) and "informal" (through word of mouth) effort should be undertaken to publicize the shelter opportunities produced by the above actions, once they have been taken. With the successful experience of the self-help project as a guide, it should be possible to organize groups of people to build many units simultaneously on released land, thus sharing both efficiencies and cost reduction. Self-help, direct labor or contractor-built approaches that are economically appropriate should all be publicized as well as a variety of several housing types (detached, semi-detached, flats). Since IHC rental or sales housing may be suitable for some of the land, these opportunities should

be made known as well. A concomitant campaign should be mounted, encouraging families to increase their savings for housing and informing them of the institutions through which they can do it. Information on organizing cooperatives to produce or manage shelter should be part of this major public awareness effort.

If the land lease system is made operable, the cooperative form of organization might be attempted for single family or multiple dwelling units. Here the Ministry of Cooperatives, which has thus far not participated in the shelter sector, could be enlisted to work with the MLA on organization. If special legislation is needed for housing cooperatives, this can be prepared by the Attorney General. Cooperatives could also be considered as a mortgageable basis for rural housing loans in the RDA resettlement program.

An important prerequisite of early start expansion of housing in the main urban areas would be to capture the expertise available from more limited activities in the past. The Msunduza self-help housing project is one example where many trained workers, especially women, will no longer be active in construction once their individual units have been completed. One approach to utilizing these skills in training others would be for the MLA and the financial institution to allow credits against mortgage payments to present self-help participants who would aid in training workers...or themselves act as laborers...on subsequent projects.

Responsibility: The basic coordinating responsibility for these activities should be that of the Ministry of Local Administration.

Category II. Accept the Inevitability of Self-Built Housing as the Predominant Form of Urban Growth for the Immediate Future.

Rather than a recommendation for immediate action, this is a proposal for a modulation of attitudes on the part of key institutions

and officials. Adequate understanding of shelter "realities" is a necessary prerequisite both to policy formulation and to adjustments in present programs. For even with an effort to increase formal sector housing production to double its present level, over the next few years self-built, informal sector housing will be the only means of shelter for many. Once this reality is accepted and its implications understood, government can:

A. Begin to plan sites and services programs to provide organized plots, water supply, and sanitation in advance of settlement; and to devise methods of secure tenure and financing for this mode of housing.

B. Consider upgrading of existing squatter areas with utilities and services a higher immediate priority than further assessment of major squatter clearance projects until spread of new squatter settlement is brought under control.

C. Discuss scales of effort in the core region that might involve annual levels of 500 or more units each for sites and services and squatter upgrading.

Category III. As an Early Start Effort in the Financial Arena, Ease the Requirements which Hamper Effectiveness of the Swaziland Building Society in Making Mortgage Loans for Housing.

Current review of Building Society regulations is expected to relax reserve requirements and reduce down payments from 25 percent to 10 percent. Attention should also be given to:

- ensuring that adequate standby facility is available.
- enabling the timing of its loan take-down requirements to approximate its need for funds, and
- generally seeking to provide it with comparable ability with the Development Bank in providing housing funds.

It is unclear whether responsibility for these actions would be the province of the Bank's Board of Directors, the Monetary Authority, or both.

Category IV. Establish at Least One Major Urban Action Program for a Specific Area that can Make the Present Institutional Structure for Housing Work Together Effectively and at an Appropriate Scale.

Perhaps the most important early start actions which the country can take are to designate areas within which the existing shelter institutions could perform together and at a far larger scale than past individual projects.

In fact, two areas are possible, one at Nkwalini which adjoins Mbabane, the second at Kwaluseni which adjoins Matsapa industrial park at Manzini. Each demonstrates a different array of opportunities.

A. Nkwalini and the Kelly Farm. The 900 hectare Kelly Farm is currently in private ownership. It should be purchased by the Swazi Government and developed under the leadership and coordination of the Ministry of Local Administration.

The Rationale for Choice

1. On the Kelly Farm today is the largest and fastest growing squatter settlement in the country. Begun after the displacement of squatters from Sidwashini almost a decade ago, Nkwalini houses over 5,000 people. The organization of this building process by the informal sector is extraordinary--from the presence of internal roads, shops and businesses, and a private bus network to the rapid clearance of tree cover and site development.
2. The present owners of the land have asked the government to purchase it and the price is currently under negotiation.
3. Although topography on much of the land is difficult, there is a large amount of undeveloped acreage. This acreage is suitable for a wide range of housing activity, but will inevitably be absorbed in the squatter areas unless immediate steps are taken.

4. Location of the tract is ideal within the region. It is close to the ministry buildings and the houses of high government officials, thus suitable for "show case" efforts. It straddles the main road to Bhunya which is scheduled for hard surfacing and will become a main regional transportation spine. Its most northerly section is close to the new Mbabane industrial park, adding to the excellent job access.

5. The tract is partly within and largely outside the present town boundaries of Mbabane. Its formal establishment as a government-sponsored development area can serve as a test for peri-urban incorporation within town planning areas.

6. There is a sense of urgency about the tract. Squatter house production is proceeding so rapidly without adequate land planning and services that the ultimate prospects of a massive slum as a collar to Mbabane are serious indeed.

7. There is a sense of opportunity as well. For despite the serious difficulties involved, the community organization displayed and the quality of many dwellings suggests presence of energies and resources.

Steps in Mobilization

The following steps should be considered in bringing a "new town" program for Nkwalini to fruition.

1. Purchase: The government should proceed to purchase the Kelly Farm at a negotiated price.

2. Responsibility: Responsibility for developing the project should be vested in the Ministry of Local Administration. A project coordinator should be appointed directly responsible to the Permanent Secretary, with a small technical staff.

The coordinator--who must have demonstrable leadership ability--

would be able to deploy agencies of the Ministry on various tasks (see below). He would also be able to allocate parcels of land within the project to other agencies (e.g. IHC, government pool housing) and would have responsibility for coordinating infra-structure and service provision with other ministries and institutions.

3. Inventory: A first order of business would be for the Surveyor General to prepare topographic and land use maps of the site at appropriate scales for planning. Given the large present population, prior to any plan preparation the Ministry should conduct inventories of land uses, structures, existing services and commission an interview sampling survey on socio-economic characteristics of the present population.

4. Planning: The Planning Office of the Ministry, possibly with external technical assistance, should then be responsible for preparing a development plan for the property. This plan would deal not only with uses and densities, but would provide detailed staging of housing and infra-structure, and would allocate parcels to governmental, parastatal and private agencies for ultimate development.

5. Program: The project coordinator would direct program preparation, with the housing unit of the ministry and other participating agencies. This, too, could be prepared with international technical assistance and would extend to identifying sources of finance for each component of the project. This would include Tibiyo and Tisuka, who could become interested in particular building sites, and international lending institutions. Given the nature of Nkwalini, the program could serve as:

- the principal focus for a squatter upgrading effort to include provision of water, waste disposal, other services including commercial and community development.
- the principal testing ground for sites and services efforts that might be initiated by the Housing Unit of the Ministry well in advance of absorption of the land by squatters.
- a vehicle for allocating roles for Industrial Housing Company Flats, government pool housing, self-help, contractor-built units for individual middle income families, etc.

The tract is so large, with so much diversity, that this full spectrum of housing types and income levels could be accommodated.

6. Organization: The sensitivity of squatter upgrading and sites and services suggests a major organizing role for the Community Development Office of the Ministry in implementation of the program. Given the high level of social and building organization which apparently exists in Nkwaleni today, it appears entirely appropriate for the Ministry to initiate discussions with chiefs or other leaders to gain their formal participation in the effort.

7. Tenure: Since the property would come under government ownership, the Nkwaleni project could represent an excellent opportunity to apply leasehold land and home ownership principles on a large scale, from sites and service plots to multi-family flats.

Timing

The steps outlined above represent a complex but attainable outcome. If purchase is initiated during 1978, it should be possible to begin sites and services allocation within an 18 month period while other elements of the project are under design. A three year period for planning and programming of the entire effort would be desirable.

B. Kwaluseni

A second unusual opportunity for large scale development is at Kwaluseni. This project is at a different stage of conception. It represents a different type of land in a different location. That the two areas can be developed in similar time frames is generally due to different potential markets and different sponsoring institutions.

Kwaluseni is a large tract of Swazi Nation Land adjoining the Matsapa industrial park and near the airport. It is as ideally located in relation to the Manzini urbanizing area as Nkwadini to Mbabane. The tract is entirely vacant today.

Tisuka, a development arm of the Swazi Nation will be the developer of the site for which some feasibility and design analysis has already been made, along with a commitment for partial financing by a construction organization. It is at Kwaluseni that the land lease/home ownership instrument is being prepared.

The present program calls for construction of about 2,000 housing units for 8,500 people; along with a shopping center, offices, cinema and recreational facilities at an estimated cost of E23,150,000.

The anticipated income mix at Kwaluseni is not clear, but indications from preliminary feasibility studies are that a middle to higher income population is the market target. Some units are scheduled for costs of E6,500. Given the market demand at all levels, it would be highly desirable if the final program could reach down to include a larger proportion of the lower income groups.

The fact remains, however, that both Kwaluseni and a more broadly based development at Nkwadini could be readily absorbed by the housing market over the next five-eight years. One would represent coordination by the Swazi Nation and one by the Swazi Government

although areas for joint participation in each (along with, for example, IHC units) are entirely probable.

Each should be encouraged, and if successfully executed would together represent a quantum jump in Swaziland's capability to deal with its shelter problems.

Category V. Reconstitute the Responsibilities and Expand the Staff of the Physical Planning Office of the Ministry of Local Administration so that Office can Provide Effective Guidance in Housing Site Selection and Urban Development.

If Swaziland is to institute the required changes and the greater scale of housing production, increases in government staff capability will be needed in several agencies. Of particular urgency, however, is the Planning Office from which guidance must be forthcoming on early start expanded shelter efforts. The Ministry of Local Administration should consider the following priorities.

A. Increase the office staff with both Swazi and technical aid personnel. To perform present responsibilities, along with the broadened role proposed in the shelter sector analysis, this office requires a minimal staff of 20 professional and technical people (about 10 times the present level). It could thus absorb a number of foreign technical advisors to be resident in Swaziland, each of whom would have a Swazi counterpart to train. The training role is essential, since planning is a function which should definitely be performed by skilled Swazis as early as possible with minimal reliance on long term expatriate help. To achieve the desirable staff level, an early exception to the present governmental employment ceilings will be needed.

B. Provide the Planning Office with responsibility to consult well in advance of site selection with government, parastatal organizations

and companies intending to produce housing; along with the responsibility to approve final locations wherever possible.

C. As indicated above, initiate an immediate study of ways to mobilize vacant sites in Mbabane and Manzini and--once the Nkwalini project has been established, provide this office with responsibility for its planning.

D. Once the office has an increased resident staff, return the responsibility for preparation of long term plans for Mbabane and Manzini to that body from overseas consultants.

E. Once the office has increased staff, encourage it to work with the officials of Usutu Pulp Company and Libby's cannery in preparing a plan for shelter provision and urban development in the Malkerns-Mhlambanyati corridor. This also is a project that might be attractive for international technical assistance.

F. Amend the existing Town Planning Act to include peri-urban areas outside of town boundaries in plan preparation. Amend the act to encourage explicitly the preparation of urbanized area guide plans well in advance of detailed site and street planning to serve as the basis for urban policy review and the programming of infrastructure. The Attorney General would prepare the necessary legislative changes.

Category VI. Launch a Major Effort to Train Swazi Professionals and Technicians in the Fields of Housing and Urban Development to Assume Increased Roles as Institutional Responsibilities Expand.

The Office of Establishments and Training should be responsible for developing a personnel need and training plan in the shelter field. Other training plans and programs have been prepared. Some (as with the present construction skill training program at SCOT) touch

on the shelter field. But the personnel needs of the sector have not been assessed as a whole; and without a significant expansion over the next five years it will be extremely difficult to bring an expanded housing output into fruition. Unless the field is viewed as a whole the array of quite different but complementary skills will not be perceived: planners, architects, civil engineers, draftsmen, quantity surveyors, economists and financial analysts, community development specialists, construction supervisors as well as artisans, housing project managers and maintenance supervisors. The effort to prepare an assessment of need and a training plan is also one which merits consideration for external technical assistance.

Concluding Note

The shelter sector study was conducted while the next five-year plan was under preparation, and draft materials on the housing components and certain other sectors were made available. It is recognized that the plan was in a preliminary stage and that some of the recommendations contained in this report may be incorporated into its final materials. These recommendations are basically compatible with the drafts reviewed and are intended to supplement the proposals. Certain major differences do exist, however, and are cited below:

1. Responsibility for preparation of a national spatial policy is proposed for the Economic Planning Office rather than the Planning Office of the Ministry of Local Administration.
2. Formulation of a comprehensive long term housing policy is proposed as a mission for cabinet level task force.
3. Major efforts are proposed to expand the use of existing prototypes for self-help and contractor built housing and mortgage financing along with a recognition of the importance of informal sector housing production.

4. A major urban development project, utilizing the full resources of existing institutions in a variety of ways is proposed for the Kelly Farm in the Mbabane area.

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Figure A-1. MAJOR ECOLOGICAL REGIONS OF SWAZILAND

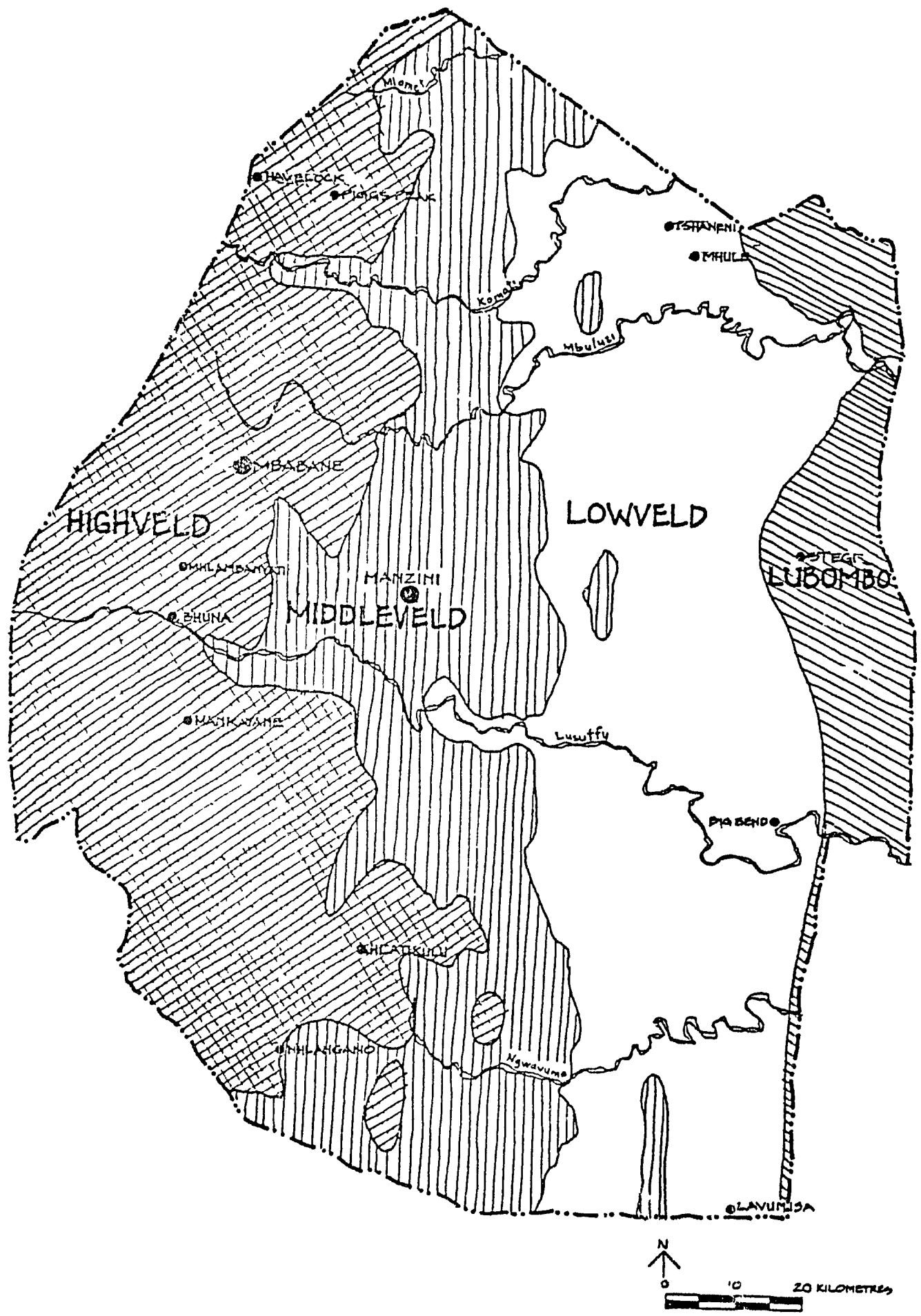


Table A-1

Features of Swaziland's Regions

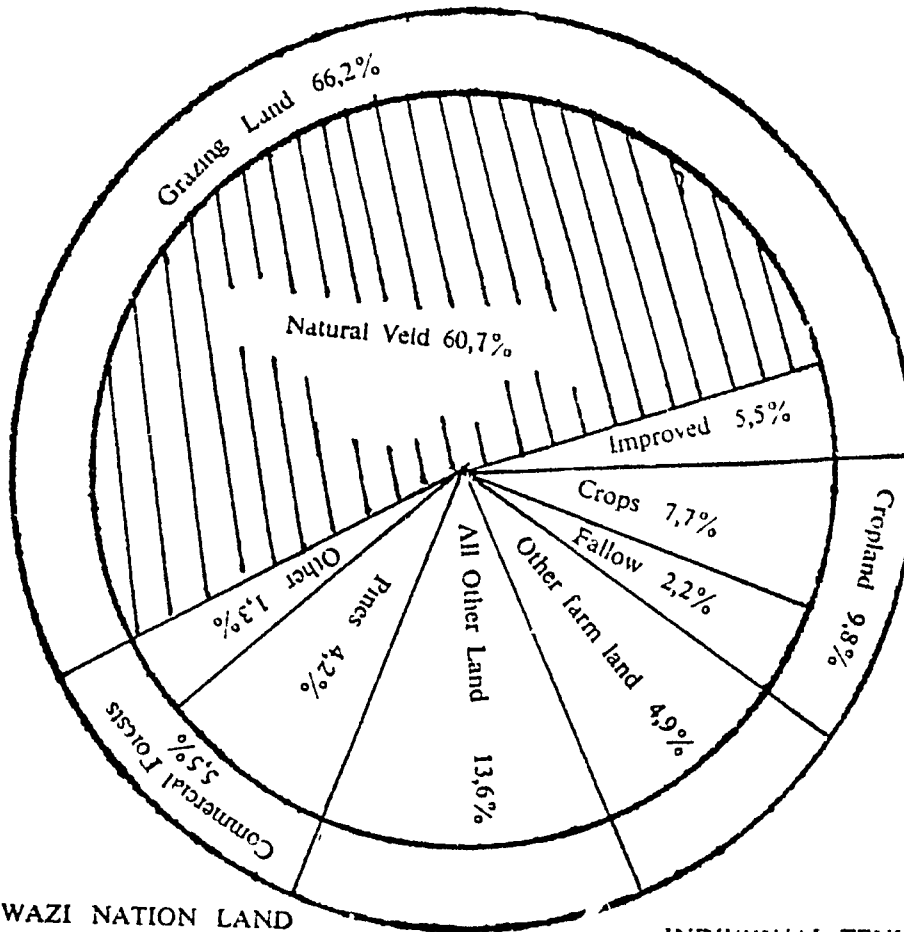
	<u>Highveld</u>	<u>Middleveld</u>	<u>Lowveld</u>	<u>Lubombo</u>	<u>Swaziland</u>
<u>Area</u> (km ²)	5,029.5	4,597.5	6,416.2	1,321.2	17,364.4
(mi ²)	1,942	1,775	2,477	510	6,704
<u>Altitude</u> (m)	1,100-1,400	350-1,100	150-300	550-650	
Average (m)	1,300	700	200	600	
<u>Climate</u>	Temperate, Heavy rain- fall mainly in summer	Subtrop- ical	Semi-arid hot	Subtrop- ical	
<u>Annual Rainfall</u> (mm)	1,000-2,300	750,1,150	500-900	650-1,000	
(inches)	40-90	25-45	20-35	25-45	
% of summers with less than 20 inches	1%	20-40%	40-60%	20-40%	
<u>Temperature</u>					
Mean Min.-Max (C)	10.8 -22.6	11.8 -26.2	14.9 -29.6	11.8 -26.2	
Mean Min.-Max (F)	50 -75	53 -80	59 -85	53 -80	
<u>Land Use</u> (km ²)					
Swazi Nation Land	1,882.4-37%	3,085.5-67%	3,562.0-55%	603.0-45%	52%
Freehold Farms	3,083.1-61%	1,491.6-32%	2,888.6-45%	711.0-54%	47%
Subtotal Rural	4,965.5-98%	4,577.1-99%	6,450.6-100%	1,314.0-99%	99%
Urban	64.0- 2%	20.4- 1%	1.6- --	7.2- 1%	1%
<u>Est. Population on Swazi Nation Land</u> ^a	78,400	172,000	84,500	21,100	356,000

a. Based on 1976 Census definition and count for rural population, apportioned according to their respective shares of Swazi Nation Land holdings as reported in the Annual Statistical Bulletin 1976. The latter document shows the number of Swazi Nation Land holdings as 39,000 in 1971/72. Census counts 49,000 holdings in 1976, an increase of 25% over the five-year period.

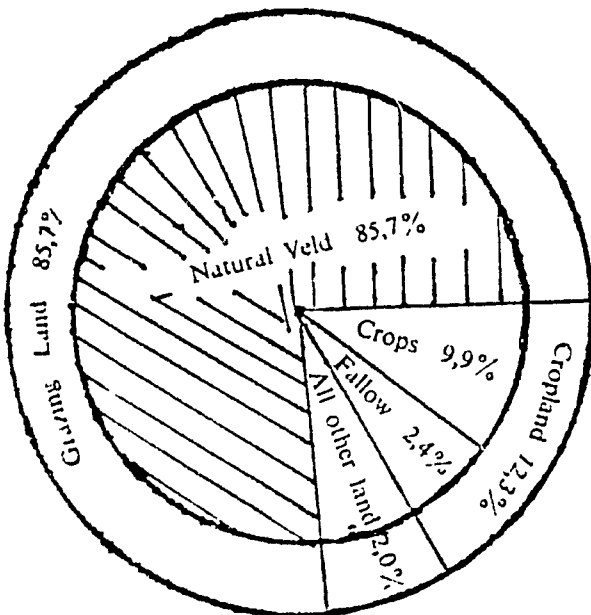
Figure A-2

LAND USE 1974-75

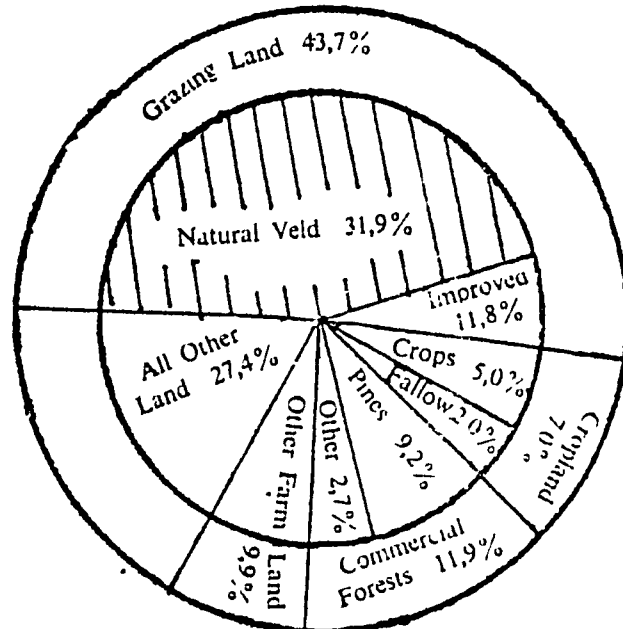
SWAZILAND



SWAZI NATION LAND



INDIVIDUAL TENURE FARMS



Source: Central Statistical Office, Annual Statistical Bulletin, 1976
p. 23, Mbabane, Swaziland

Table A-2
LAND USE IN SWAZILAND, 1975

<i>Land-Use Category</i>	Hectare		
	<i>Whole Country</i> ¹	<i>Swazi Nation Land</i> ²	<i>Individual Tenure Farms</i>
Cropland	169 747	113 344	56 403
<i>of which:</i>			
Crops	132 230	91 634	40 596
Fallow	37 517	21 710	15 807
Grazing land	1 143 112	791 734³	351 378
<i>of which:</i>			
Natural veld	1 048 616	791 734	256 882
Improved	94 496	—	94 496
Commercial forests	95 590	—	95 590
<i>of which</i>			
Pines	73 671	—	73 671
Others	21 919	—	21 919
Other Farm Land⁴	84 444	4 608	79 836
All Other Land	234 223	13 943⁵	220 280⁶
Total Land	1 727 116	923 629	803 487

SOURCE: *Central Statistical Office*

¹Excludes urban areas of approximately 9,3 thousand hectares.

²Including Siboya Swazi Nation Sugar Project.

³Includes all unallotted communal grazing land and mountains and hills on Swazi Nation Land

⁴Includes areas of farms buildings and services and unused land.

⁵Includes Purchase-land for RDA's and other SNL resettlement schemes.

⁶Includes mining license areas and land of which the use is not known.

The agricultural economy of Swaziland has a marked dualistic structure. Just over half of the country's area is vested in the Ngwenyama (the King) in trust for the Swazi Nation, and parts of it are allocated by chiefs to individual Swazi families for their use. This sector is known as *Swazi Nation Land*. The agriculture in this sector is mainly subsistence in character. The rest of the rural land is known as *Individual Tenure Farms*, and is owned on freehold or concessionary title mostly by individuals of European origin, and includes commercial forests as well as farms, estates and ranches. This sector also includes land owned by the Swaziland Government. The agriculture and forestry of the Individual Tenure Farms sector is highly modernised and most of the country's cash production is derived from it.

Statistics of Swazi Nation Land are collected by an annual sample survey, and Statistics of farming and forestry on title deed land by three postal questionnaires, namely —

- (i) Census of Individual Tenure Farms,
- (ii) Census of Timber Plantations, and
- (iii) Census of Wood and Wood Products.

A summary of the results of these surveys, together with Statistics from other sources, is given here. Reports providing detailed results are published annually.

Unless otherwise stated figures in this section relate to the agricultural year from September to August.

Source: Central Statistical Office, Annual Statistical Bulletin, 1976, p. 22. Mbabane, Swaziland

Figure A-3

EXISTING AND POTENTIAL MINES - DECEMBER 1977

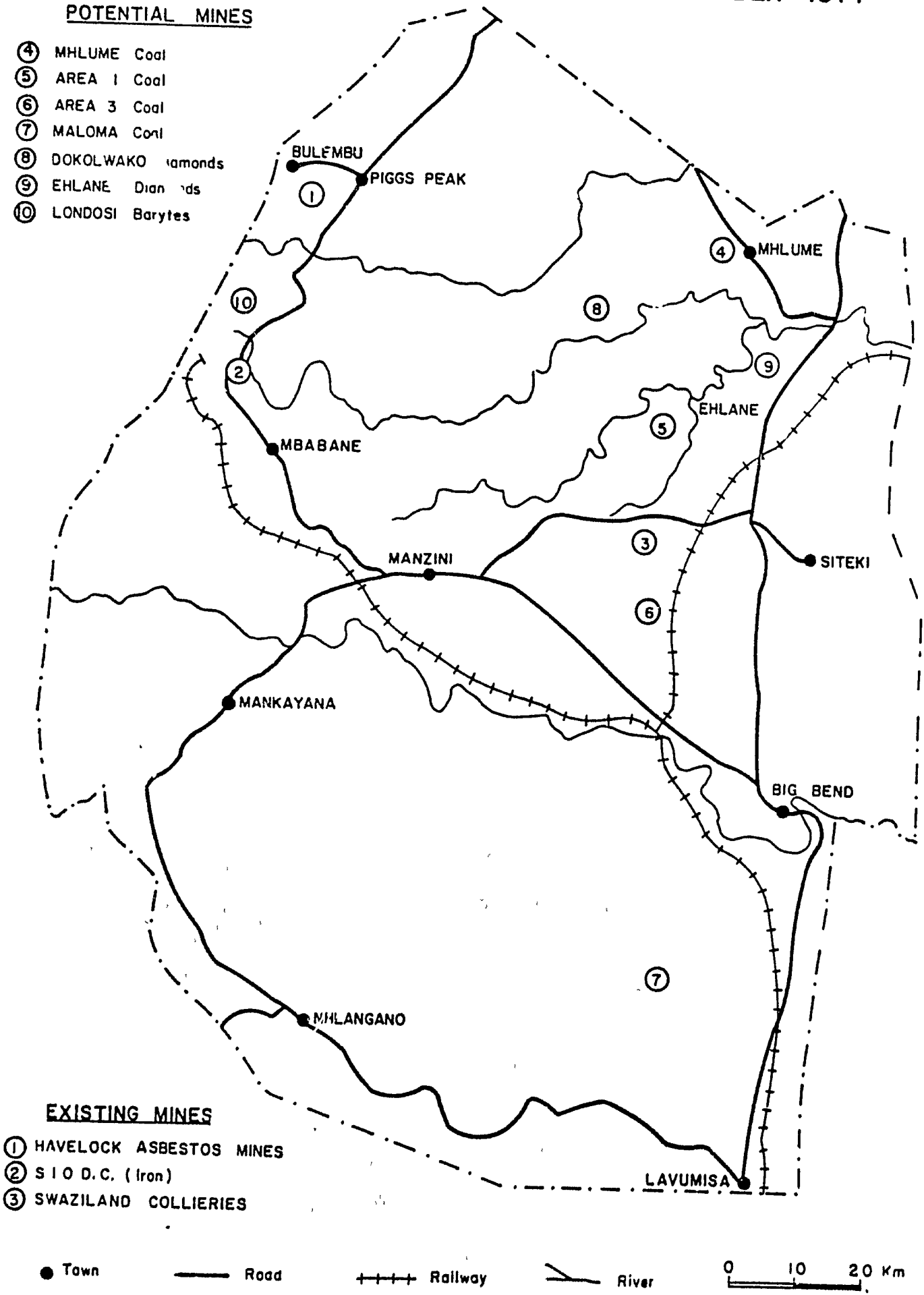


Figure A-4

MINING AND PROSPECTING RIGHTS-DECEMBER 1977

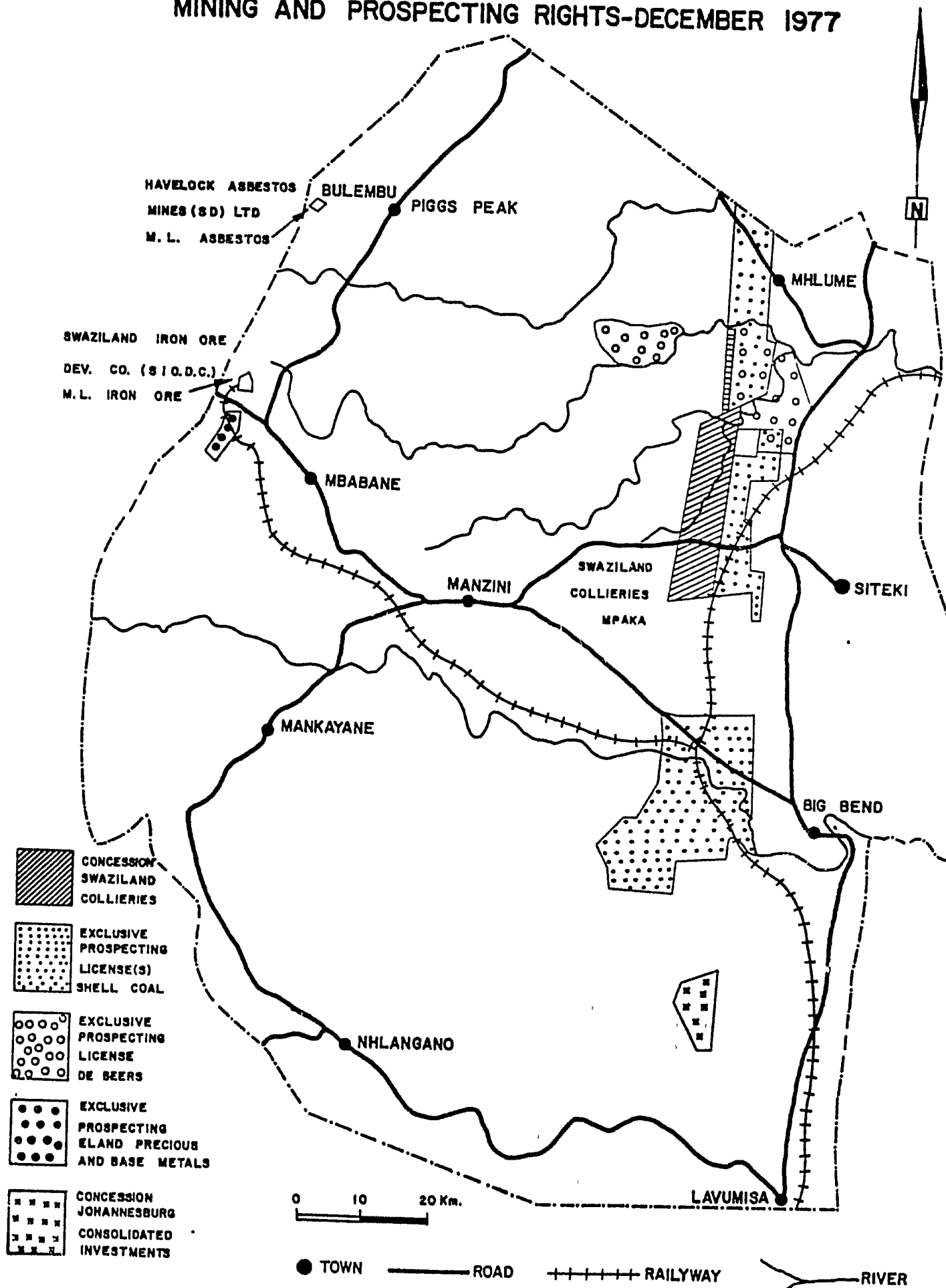


Figure A-5

ELECTRICITY NETWORK

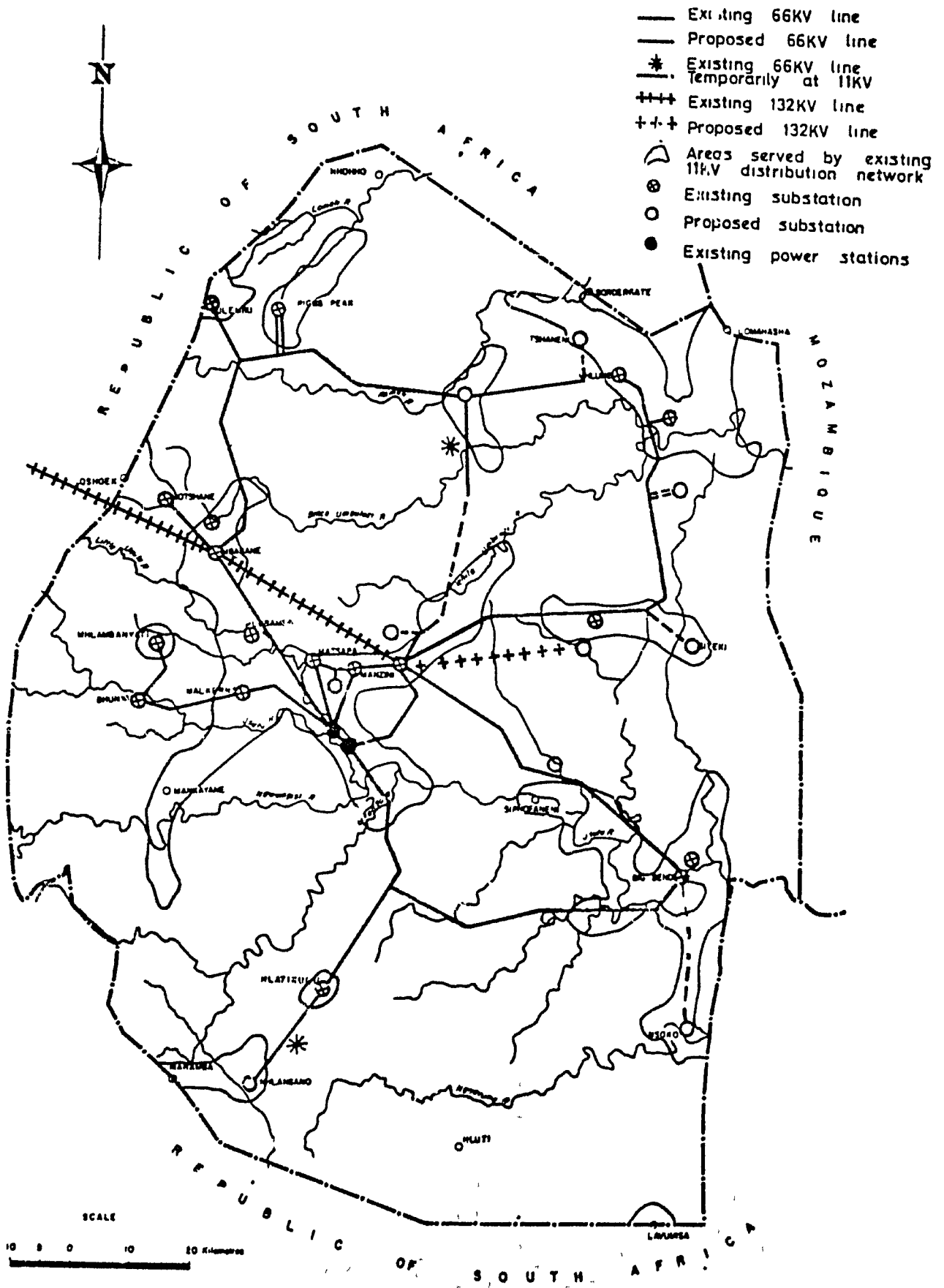


Table A-3

GRASS DOMESTIC PRODUCT, 1972-73 to 1976-77

(In millions of Emalangeni, E 1 = \$ 1.15)

	<u>1972/73</u> ⁽¹⁾	<u>1973/74</u> ⁽²⁾	<u>1974/75</u> ⁽²⁾	<u>1975/76</u> ⁽²⁾	<u>1976/77</u>
Agriculture	31,6	38,6	50,0	61,1	75,5
Mining	2,4	5,9	7,4	8,5	9,9
Manufacturing	21,6	26,5	34,6	42,3	52,5
Construction	3,7	4,8	6,7	8,8	11,7
Community and Other Services	16,8	20,6	26,9	32,7	40,2
Other Sectors	24,0	28,6	36,2	44,4	55,2
GDP at Current Factor Cost	<u>100,1</u>	<u>125,0</u>	<u>161,8</u>	<u>197,8</u>	<u>245,0</u>
GDP at Constant 1977/78 Factor Cost	<u>202,3</u>	<u>222,5</u>	<u>239,2</u>	<u>255,0</u>	<u>272,1</u>

Source: (1) Central Statistical Office, Annual Statistical Bulletin 1975

(2) Ministry of Finance and Economic Planning Estimates

Table A-4

Paid Employees By Industry Group, Private and Public
Sectors, September 1972-75 and June 1976

<u>Industry Group</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
Agriculture & Forestry	24,332	23,655	28,069	28,407	28,520
Mining and Quarrying	2,950	2,924	3,020	3,079	3,076
Manufacturing	6,512	7,360	7,547	8,998	8,216
Electricity and Water	541	592	546	405	799
Construction	3,629	3,950	4,421	3,341	3,075
Distribution, etc.	3,842	4,002	4,414	4,519	5,093
Transport etc.	2,280	2,688	2,483	2,540	2,566
Finance, etc.	580	581	772	1,187	1,147
Social Services	9,190	11,280	10,828	11,929	13,723
TOTAL ALL INDUSTRIES	53,856	57,032	62,061	64,405	66,215

Source: Central Statistical Office, Employment and Wages, 1976.

Table A-5

Estimated Total Employment, Private and Public Sectors
September 1972-75 and June 1976

	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
Private Sector	53,263	54,264	58,760	60,130	60,399
Paid Employees	43,767	44,285	48,627	50,361	49,672
Self Employed	869	937	1,580	765	1,216
Unpaid Family Workers	1,042	1,093	553	904	1,241
Small Swazi Traders	1,090	1,399	1,500	1,600	1,770
Employ. by Private Home-	6,500	6,500	6,500	6,500	6,500
Public Sector	10,039	12,747	13,434	14,044	16,543
TOTAL EMPLOYMENT	63,357	67,011	72,194	74,174	76,942

Source: Central Statistical Office, Employment and Wages, 1976.

Table A-6

Balance of Payments Summary, 1968-76

(In millions of Emalangeni at current prices)

Visible Balance of Trade

<u>Year</u>	<u>Imports*</u>	<u>Domestic Exports</u>	<u>Re-exports</u>	<u>Total Exports</u>	<u>Balance Of Trade</u>
1960	34.1	39.3	-	39.3	5.2
1969	37.4	44.5	-	44.5	7.1
1970	42.7	50.3	0.5	50.8	8.1
1971	47.8	55.1	0.6	55.7	7.9
1972	53.3	61.8	1.2	63.0	9.7
1973	66.6	72.8	1.4	74.2	7.6
1974	93.4	119.6	1.9	121.5	28.1
1975	131.6	143.7	2.0	145.7	14.1
1976	174.1	166.4	2.0	168.4	- 5.7

* The import figures are c.i.f. including customs duties, excise, and sales taxes.

Value of Imports by Commodity

<u>Year</u>	<u>Food, Live Animals and Oils</u>	<u>Beverages and Tobacco</u>	<u>Chemical Products and Crude Materials</u>	<u>Mineral Fuels and Lubricants</u>	<u>Manufactures and Commodities not Classified by Kind</u>	<u>Total</u>
1968	4.3	1.6	3.5	2.9	21.7	34.0
1969	5.2	1.8	3.9	3.1	23.4	37.4
1970	5.0	2.4	4.1	3.5	27.7	42.7
1971	4.8	2.6	4.9	3.9	31.6	47.8
1972	5.0	2.7	6.4	4.3	34.9	53.3
1973	6.1	4.4	7.6	5.8	42.7	66.6
1974	7.9	3.8	10.7	10.8	60.2	93.4
1975	12.0	6.5	12.7	13.3	87.1	131.6
1976	15.2	8.0	14.1	18.9	117.9	174.1

Value of Domestic Exports

<u>Year</u>	<u>Sugar</u>	<u>Wood Pulp</u>	<u>Iron Ore</u>	<u>Asbestos</u>	<u>Citrus Fruit</u>	<u>Canned Fruit</u>	<u>Meat & Meat Prod.</u>	<u>Other</u>	<u>Total</u>
1968	9.1	5.5	9.0	6.0	1.8	0.6	2.3	5.0	39.3
1969	10.5	7.1	9.6	6.2	3.5	0.8	1.3	5.5	44.5
1970	11.8	9.6	11.0	5.2	3.6	0.9	1.7	6.5	50.3
1971	11.5	9.6	12.1	5.9	4.3	1.1	2.1	8.5	55.1
1972	19.2	11.1	9.3	4.6	3.5	1.7	2.2	10.2	61.8
1973	18.9	15.3	7.9	6.7	3.9	2.8	3.7	13.6	72.8
1974	46.3	31.3	12.3	5.7	4.5	2.7	3.0	13.8	119.6
1975	80.0	12.4	11.9	9.5	4.5	3.6	1.8	19.9	143.6
1976*	54.5	39.6	12.1	13.8	4.5	5.0	5.0	31.9	166.4

*Provisional data

Source: Central Statistical Office

Table A-7

EXTERNAL PUBLIC DEBT FOR FINANCIAL YEARS ENDED MARCH 1974 — 1976

Currency	Original Amount of Debts			Principal Repayments Year Ended 31st March			Interest Paid Year Ended 31st March			Total Payments Year Ended 31st March			Amount Outstanding As at 31st March		
	1974	1975	1976	1974	1975	1976	1974	1975	1976	1974	1975	1976	1974	1975	1976
Pound Sterling	9 552 330	11 247 441	11 288 301	302 681	339 052	157 049	135 074	129 731	111 760	437 755	462 783	258 809	7 748 139	9 104 244	9 988 058
U.S. Dollars	23 319 500	28 319 500	28 319 500	341 000	356 000	394 750	7 069	6 634	6 199	318 069	362 634	400 949	21 477 500	26 121 500	25 726 750
Rand	13 439 277	11 439 277	3 403 106	2 552 705	2 666 621	104 621	82 700	61 365	43 114	2 635 405	2 727 986	147 735	4 749 626	2 666 621	2 562 000
Units of Account ¹	1 500 000	3 350 000	4 220 000	—	—	—	—	—	—	—	—	—	1 500 000	3 350 000	4 220 000
Danish Krone	25 000 000	25 000 000	25 000 000	—	—	—	—	—	—	—	—	—	25 000 000	25 000 000	25 000 000

SOURCE: *Central Statistical Office.*¹African Development Bank Units of Account.

Rates of exchange as at 31st March 1976: E1 = £0.60

E1 = U.S. \$1.15

E1 = R1

E1 = U.A. 0.96

E1 = Danish K6.91

Source: Central Statistical Office, Annual Statistical Bulletin 1976, Table N19, p. 111.

Figure A-6. POPULATION PYRAMID, 1976

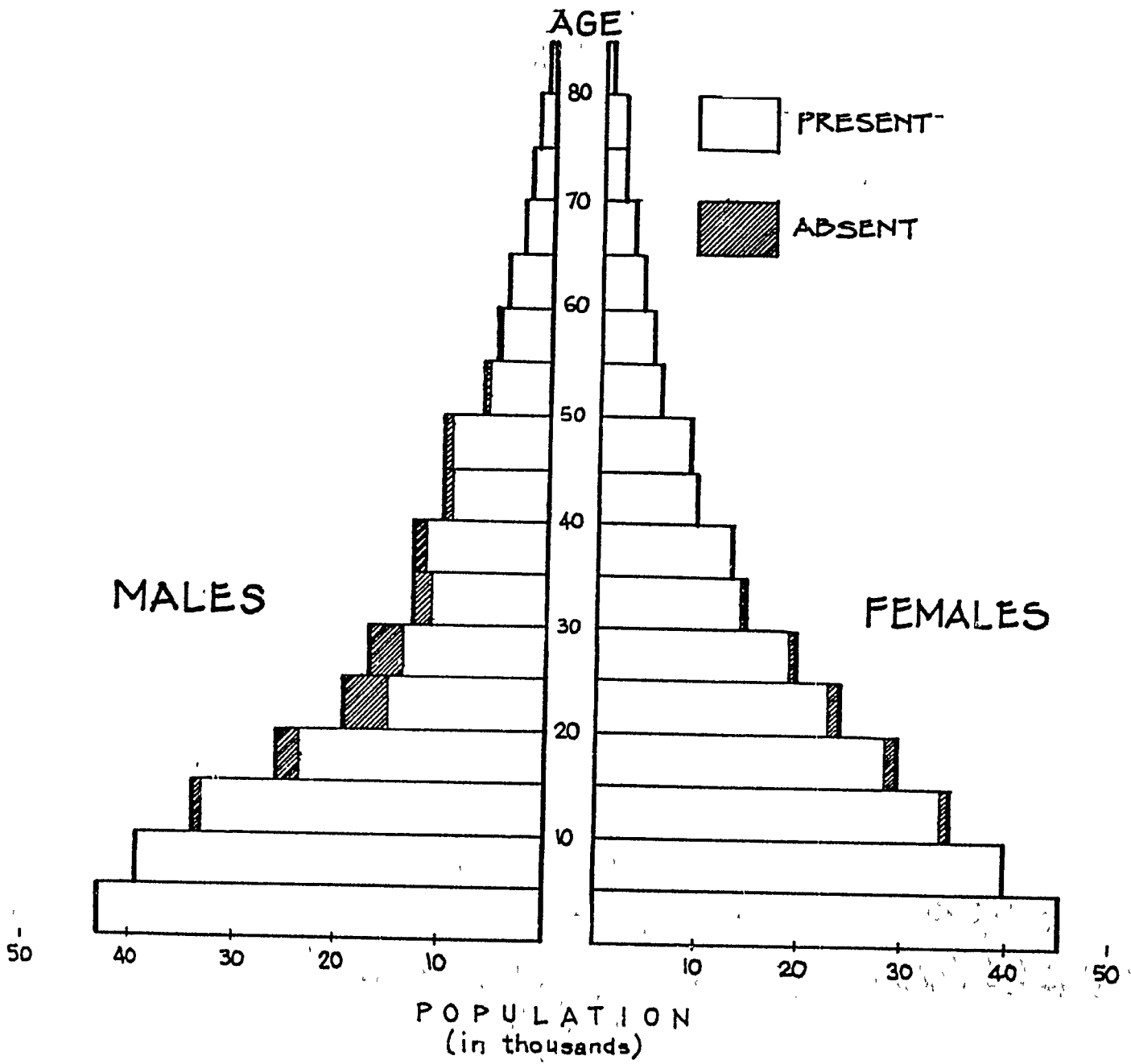


Table A-8
Geographical Distribution of the Population 1976,
1978 and Projected, 1988 and 1998
(Footnotes on following page)

	1966-76		1978	1988	1998
	1976	Annual Growth Rate			
Core Region Total	171,910		186,920	277,530	434,060
Mbabane-Town	23,100	5.3%	25,600		
Mbabane Expanded Area	26,660	7.0%	29,750	58,520	115,120
Ezulwini	3,960 ^a	7.3%	4,560	9,220	18,660
Lobamba	2,650	6.7%	3,020	5,780	11,050
Manzini Town	10,020	5.1%	11,100		
Manzini Expanded Area	28,840	6.0%	32,550	58,290	104,390
Bhunya-Mhlambanyati	5,330	6.1%	6,000	10,850	19,610
Malkerns	2,200	22.0% ^b	3,300	5,380	8,760
Mankayana	600	1.8%	700	840	1,000
Sidvokodvo	1,530	5.8%	1,710	3,000	5,280
Rural Manzini District	101,040	2.3%	105,120 ^c	125,650	150,190
Northern Hhohho District	100,220		104,510	125,900	152,910
Motshane	1,240	2.9%	1,310	1,740	2,320
Pigg's Peak	2,190	4.5%	2,390		
Pigg's Peak Expanded Area	5,210	1.4%	5,360	6,930 ^d	10,130
Havelock	4,840	1.6%	4,990	5,850	6,850
Rural Hhohho District (excluding Mbabane Exp. Area, Ezulwini and Lobamba)	88,930	2.4%	92,850 ^e	111,380	133,610
Shiselwini District Total	117,170		121,730	147,360	177,580
Hlatikulu	1,180	1.9%	1,220 ^f	1,470	1,780
Nhlangano	2,100	2.8%	2,230	4,390	6,500
Lavumisa	765	-	820 ^g	1,100	1,480
Rural Shiselwini Dist.	113,125	2.0%	117,460 ^h	140,400	167,820
Lubombo District Total	104,330		109,650	140,320	182,440
Stegi	1,360	-.7%	1,360 ⁱ		
Stegi Expanded Area	3,460	9.0%	4,110	7,360 ⁱ	13,180
Big Bend	2,080	-3.0%	2,080 ^j		
Big Bend Expanded Area	6,630	3.7%	7,130	10,250	14,740
Mhlume	3,920	6.0%	4,400		
Mhlume Expanded	14,840	3.4%	15,870	22,170	30,970
Tshaneni	2,810	10.0%	3,160 ^k	5,660	10,140
Rural Lubombo	76,590	1.8%	79,380	94,880	113,410
Swaziland Total	494,530		522,810	691,110	946,990

Footnotes to Appendix Table A-8: Geographical Distribution of the Population 1976 and 1978, and Projected 1988 and 1998

- a. Population for Ezulwini cited here excludes about 1,000 guests and resident employees of the hotels that were developed in the 1966-76 decade.
- b. Malkerns' growth spurt, 39.2% per year between 1966 and 1972 (according to John P. Lea's report on a 1972 sample survey, The Journal of Modern African Studies, 11, 2 (1973), p. 216) occurred in conjunction with the opening of a new pineapple processing industry. For this study, we assume the initial rate of growth diminished between 1972 and 1976 and, from 1978 onward, the growth approaches a regular 5% annual growth rate more typical for a small urbanizing area.
- c. Manzini District rural growth was 2.3% per year between 1966 and 1976. We project here a slowing trend (2.1% annually for 1976-78 and 1.8% per year beyond 1978) in view of expanding modern sector employment activities in the vicinity.
- d. Pigg's Peak growth is projected at 1966-76 rates through 1980, when a new Holiday Inn-Casino development is scheduled for construction, the Water and Sewerage Board of Swaziland estimates this project will stimulate growth at a 7.0% annual rate after 1980.
- e. Rural area growth is projected at declining rates as in the case of Manzini above (c) under the assumption that the urbanizing area will extend over some land now classified as rural and urban sector employment will attract increasing numbers of the population.
- f. Nhlanguano growth rate is projected at 3% per year for the years 1976-78, 7% per year for 1978-88, and 4% per year between 1988 and 1998, following Water and Sewerage Board estimates of the impacts of a new hotel-casino and a teacher training college, both scheduled to open in the 1978-82 period.
- g. Lavumisa experienced virtually no growth between 1966 and 1976. Construction of the new rail line through this town and associated economic activity are likely to stimulate some new growth. A rate of 3% per year is projected here for 1976-98.
- h. Rural rates of growth estimated here are 1.9% per year for 1976-78, and 1.8% per year for the remainder of the period.
- i. In view of the 1976 Census figures showing Stegi's population remaining about the same through the previous decade, no growth is projected for the town itself. The greater Stegi area showed growth exceeding rates for other areas of comparable size. The growth could continue provided new employment opportunities develop. A rate of 6% per year, approaching the overall Swaziland rate for urban area growth is projected for 1978-98.

Footnotes to Appendix Table A-8 Continued

- j. Big Bend is shown here remaining stable in size for a reason similar to that of Stegi (i). The area around Big Bend, however, is projected to continue growing at its 1966-76 annual rate. As in the former case, new employment opportunities could change the prospect.
- k. Tshaneni's 10% annual growth rate for 1966-76 is not expected to continue unless major new stimuli occur there. Therefore, the growth rate projected is 6% per year for the years 1978-98--a rate closer to the overall average for Swaziland urban areas.

Appendix A-9

DERIVATION OF TABLE 3

ECONOMIC PROFILE OF THE POPULATION OF SWAZILAND

Sources of data are as follows:

1. Resident population and number of homesteads are shown as reported in the 1976 Census.
2. Resident persons per homestead is computed from the Census figures cited above. The urban area figure of 3.1 is probably understated due to inclusion of institutional quarters (e.g. military barracks, hospitals, etc.). A broader definition of urban area (including peri-urban enumeration districts which showed significant population concentrations) resulted in a calculated average for Swaziland of 4.1 persons per urban homestead. The "Mbabane-Manzini Rural-Urban Migration Study" undertaken in 1977 by the Department of Economics at the University of Botswana and Swaziland indicates an average of 5.0 residents in the urban squatter homestead.
3. The rural homestead size of 6.8 resident members excludes absent workers, estimated to number 1.5 per homestead, on the average. According to Fion deVletter (The Rural Homestead as an Economic Unit, July 1978, p. 8) 43 percent of these absent members are in Swaziland urban areas, 32 percent in Swaziland rural areas and 25 percent in South Africa.
4. Labor force participation. The ILO (Swaziland Migration Report, August 1977, p. 11) reports a participation rate in urban areas of 53.2 percent for 1974. A somewhat lower figure of 50 percent is estimated here for 1976. For rural areas 39 percent participation is estimated in view of the larger proportions of elderly, child and female household members.
5. Labor force. Total 1976 labor force for Swaziland is estimated by USAID to be 202,000. (Transition in Southern Africa: Swaziland, February 1977, p. II-7.) This figure appears from its context to include the 25,000 absentee workers employed outside Swaziland for at least part of the year. Their contributions to cash income are correspondingly included in the cash income estimates.
6. Monthly cash income estimates are based on numbers of employees and average monthly cash income per worker as shown in the following table. Income from capital is not included

Appendix A-9, Continued

<u>Employment Category</u>	<u>No. of Workers</u>	<u>Average Monthly Cash Income</u>	<u>Total Cash Income Earned</u>
Agriculture-Paid ^a	23,153	E 43	E1,004,700
Public Sector ^a	16,543	121	2,008,900
Other Paid ^a	26,519	110	2,920,500
Self-Employed ^b	1,216	100	121,600
Unpaid Family Wkrs ^b	1,241	-	
Small Swazi Traders ^b	1,770	30	53,100
Private Homesteads ^b	6,500	30	195,000
So. African Mine Wkrs. ^c	12,000	106	1,272,000
Other Absentees	13,000		
Other Traditional Sector	100,058	3	300,000
Total	202,000	E 36	E7,200,000

- a. Source: Central Statistical Office, Employment and Wages, 1976. Urban-rural split was based on the assumption that 15 percent of the urban homestead income is sent back to the rural homestead, a figure supported by the "Mbabane-Manzini Rural-Urban Migration Study."
- b. Source: Central Statistical Office, with warning that figures are subject to a wide margin of error.
- c. Swazi workers in the South African mines numbered 20,743 in 1976, according to the Central Statistical Office, Employment and Wages, 1976. If they average 7 months' work outside of Swaziland, their number is effectively, 12,000 (7/12 x 20,743). Take home wages are estimates based on unpublished observations of researchers in Swaziland.

Appendix A-9 Continued

7. Allocations between urban and rural families were based on the following assumptions:
- a. All agricultural paid employment is rural.
 - b. Public sector employment is 82 percent urban and 18 percent rural. The urban monthly salary is E131, of which 15 percent is remitted to the rural homestead. The rural public sector wage averages E70 per month.
 - c. For "Other Paid Employment" the urban rural split is 82 percent-18 percent. Average monthly incomes are E119 and E70, respectively and 15 percent of the urban-earned salary goes back to the rural homestead.
 - d. All self-employed workers are in the urban sector.
 - e. Unpaid family workers are assigned to the urban sector.
 - f. Small Swazi traders are assumed to be urban.
 - g. Private homestead employees are allocated 8 percent urban and 92 percent rural with monthly salaries averaging E50 and E28 respectively.
 - h. South African mine workers are all assumed to be rural-based, as are "Other Emigrated Workers" (assumed remit no money to their homesteads in Swaziland, however).
 - i. "Other Traditional Sector" are all assumed to be rural.
8. The incomes of urban and rural households, thus computed, are summarized in the following table.

Employment Category	URBAN		RURAL	
	No. of Workers	Monthly Cash Income	No. of Workers	Monthly Cash Income
Agriculture-Paid			23,153	E1,004,700
Public Sector	13,893	1,549,900	2,650	459,000
Other-Paid	21,749	2,198,600	4,770	721,900
Self-employed	1,216	121,600		
Unpaid Family Workers	1,241			
Small Swazi Traders	1,770	53,100		
Private Homesteads	500	25,000	6,000	170,000
So. African Mine Workers			12,000	636,000
Other Emigrated Workers			13,000	
Other Traditional Sector			100,058	300,000
Total	40,000	E3,900,000	162,000	E3,300,000

Table A-10

Average Basic Monthly Earnings (Emalangen) of Skilled Workers by Sector, Occupation Group and Citizenship

Occupation Group	Private and Parastatal		Government		Total	
	Swazi	Non-Swazi	Swazi	Non-Swazi	Swazi	Non-Swazi
Professional & Technical	119	362	180	419	134	370
Administrative & Managerial	337	685	574	660	411	685
Clerical & Related	152	341	122	262	139	334
Sales Workers	130	414	•	•	130	416
Service Workers	120	392	83	129	93	362
Agriculture, Forestry & Related	155	452	129	•	150	449
Production, Transport & Related	157	423	119	200	143	410
All Skilled Workers	140	425	134	363	138	419

Source: Manpower Survey 1977
 Colclough and Digby, Skills for the Future, Ministry of Finance and Economic Planning,
 May 1978, p. 33.

Table A-11

Projections of the Active Resident African Labour Force in Swaziland, 1975 to 1990

	1975	1980	1985	1990
Active Labour Force: Males	94 300	116 700	140 000	168 400
Females	66 800	78 900	93 000	110 400
Total	161 100	195 600	233 000	278 800
Increase in Labour Force between each year shown	34 500	37 400	45 800	
Average annual increase	6 900	7 480	9 160	
Average annual rate of growth	4,0%	3,6%	3,6%	

Note: Projections for 1980-1990 assume:

- (a) that the number of temporary absentees observed in the 1976 Census will remain constant throughout the period;
- (b) that their age structure will remain unchanged, i.e. that approximately 17 000 males and 5 000 females over the age of 15 years will be absent throughout the period;
- (c) that the participation of persons aged 15 years or more in the domestic labour force will be the same as observed in 1966, i.e. 83 per cent for males, and 50 per cent for females.

Source: Report on the 1966 Swaziland Population Census, by H.M. Jones, Mbabane, 1968 Tables 41A and 41B. Colclough and Digby, Skills for the Future, Ministry of Finance and Economic Planning, Mbabane, May 1978, p 2.

Appendix 12

MINIMUM INCOME FOR BASIC NUTRITIONAL NEEDS

A Nutritive Daily Diet of 2,200 Calories for Swaziland

<u>Food</u>	<u>Dietary Requirements in Grams</u>	<u>Price/Kg in 1976 Cents</u>	<u>Total Cost in 1976 Cents</u>
Mealie Meal	300	11	3.3
Bread	200	14	2.8
Meat	30	120	3.6
Fish	15	60	0.9
Milk	100	32	3.2
Vegetables	150	20	3.0
Beans	50	70	3.5
Fruits	50	20	1.0
Daily Total Cost Per Person			21.3
Annual Cost Per Person			E77.75
Percentage of Urban Household Income Going for Food			
Urban			67%
Rural (includes value of what is produced at the homestead for family consumption)			75%

Source: ILO, Reducing Dependency: A Strategy for Productive Employment and Development in Swaziland, 1977, p. 44.

Annual cost for urban household of 4.1 members (1976 prices) E319

Annual cost for rural household of 6.4 members (1976 prices) E498

Monthly household case expenditure required to satisfy basic food needs, 1976

Urban	E 44
Rural (assuming family produces at the homestead 40 percent of the food and drink they consume.)	E 25

Table A-13

Estimated Cost of Government Pool Housing Subsidy
(1978)

Unit Type	# of Units	Value	Economic	Actual Monthly Rent		Estimated Annual
		Per Unit	Monthly Rent	Range	Midpoint	Subsidy Cost
		E	E	E	E	E (000's)
<u>Four Bedroom</u>						
A	15	29,000	300	109-150	130	31
B	<u>7</u> 22	26,500	275	99-138	120	<u>13</u> 44
<u>Three Bedroom</u>						
C	43	24,000	250	80-125	102	76
D	238	21,500	225	72-112	92	380
E	<u>645</u> 926	19,000	200	62-100	80	<u>929</u> 1,385
<u>Two Bedroom</u>						
F	228	16,500	170	43- 85	64	290
G	34	14,000	145	38- 73	56	36
H	<u>1,515</u> 1,777	11,500	120	34- 60	47	<u>1,327</u> 1,653
<u>One Bedroom</u>						
J	23	9,000	95	30- 48	39	15
K	<u>186</u> 209	6,500	70	26- 35	30	<u>89</u> 104
<u>Bedsitter</u>						
L	176	4,000	40	20	20	42
TOTAL	3,110					3,228

Notes:

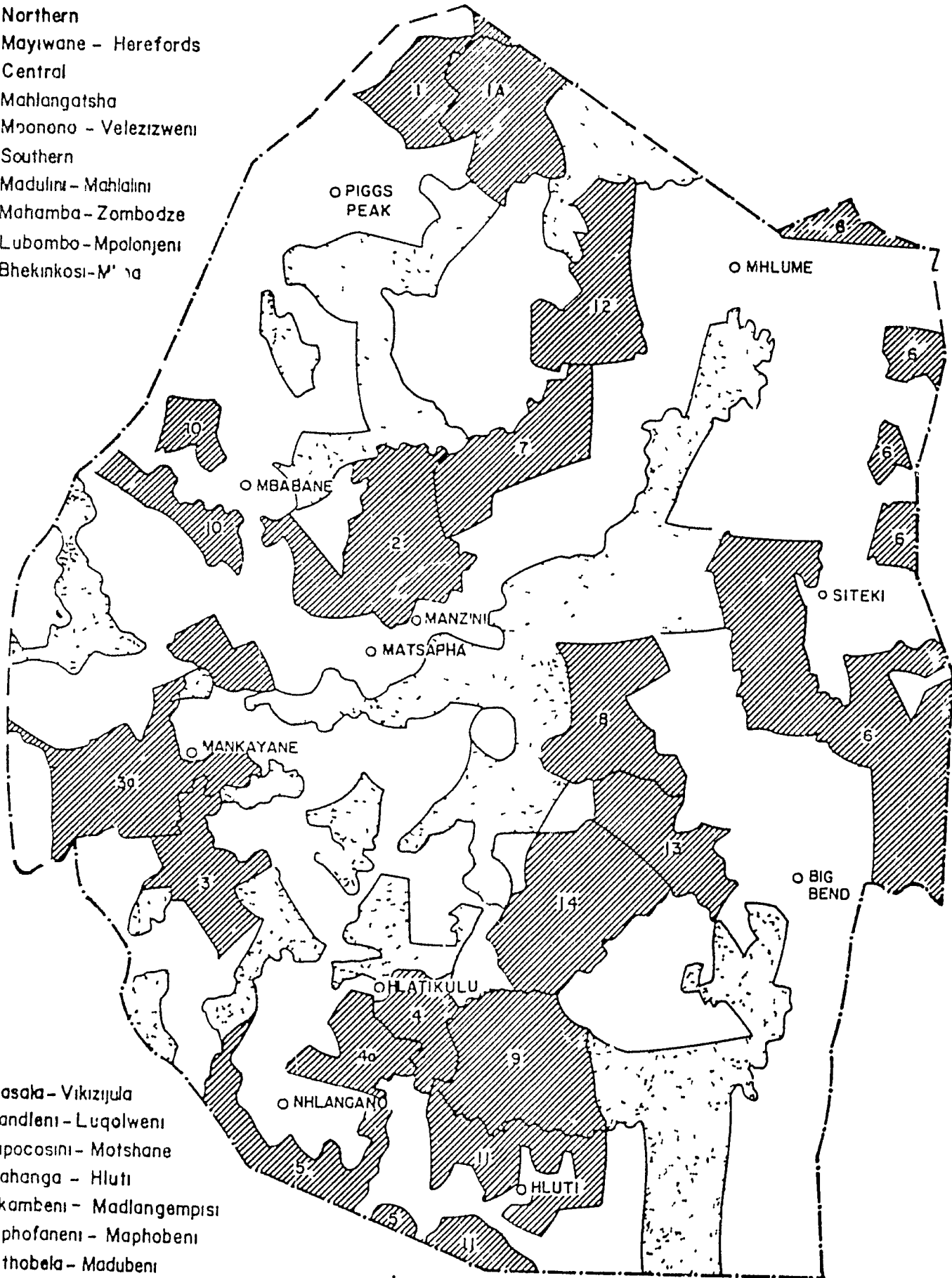
- Unit values include furnishings.
- This analysis assumes economic rent at 12.5% of current market value and assumes that average actual rent is at the midpoint of the actual rent range. Total economic rent is approximately E5,368,000 vs. actual rent of E2,140,000 (40%).
- Units charged at flat rate are included with the appropriate unit type.
- Utilities are paid by the government at a cost on the order of E 1 million annually. This represents additional subsidy for a total estimated subsidy of E 4.2 million annually.

Source: Department of Establishments and Training, Prime Minister's Office.

Figure A-7

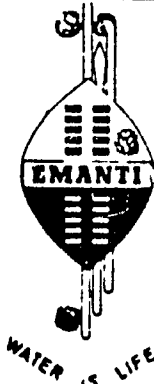
RURAL DEVELOPMENT AREAS

- 1 Northern
- 1a Mayiwane - Herefords
- 2 Central
- 3 Mahlangatsha
- 3a Mponono - Velezizweni
- 4 Southern
- 4a Madulini - Mahlalini
- 5 Mahamba - Zombodze
- 6 Lubombo - Mpolonjeni
- 7 Bhekinkosi - M'ona



- 8 Masaka - Vikizijula
- 9 Sandleni - Luqolweni
- 10 Sipocosini - Motshane
- 11 Mahanga - Hluti
- 12 Nkambeni - Madlangempisi
- 13 Siphofaneni - Maphobeni
- 14 Sithobela - Madubeni

Rural Development Areas
 Swazi Nation Communal Land not covered by R.D.A. Programme



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The changes in rates and fees are as follows -

WATER

RESIDENTIAL USERS CONSUMERS		<u>Existing</u>	<u>New</u>
0 - 20 cu m		15 ct cu m	17 ct/cu m.
Over 20 cu m		25 ct cu m	28 ct/cu.m
Minimum charge		E1.50 month	E1 70 month

NON-RESIDENTIAL (INDUSTRIAL AND COMMERCIAL) USERS CONSUMERS			
Unlimited quantity		25 ct cu m	28 ct cu m
Minimum charge		E5 00 month	E6 00 month

CONNECTION, DISCONNECTIONS, AND RECONNECTION
 Residential and non residential (industrial and commercial) users consumers

For providing and laying a connection water supply pipe which shall not exceed 30.5 meter (100 feet)

Exceeding that distance at cost to be fixed by the Board

Upto 12mm (1/2 inch) in diameter	E40 00	Abandoned
Upto 18mm (3/4 inch) in diameter	E50 00	E90 00

Exceeding 18 mm in diameter at cost to be fixed by the Board

For testing a meter where it is found that the meter is not in error of more than 2 1/2% either way	E5 00	E6 00
---	-------	-------

Fee will be refunded if meter is in error more than 2 1/2% either way - refundable amount	E4.50	E6 00
---	-------	-------

For reconnecting	}	
(a) after disconnection at the request of the consumer		E4 00
(b) after change of tenancy		E5 00
(c) transfer and connection same day		

RECONNECTION AFTER NON-PAYMENT OF ACCOUNT

Residential	E4 00	-	E15 00
Non-Residential	E4 00	-	E50 00
Reconnection after illegal connection by users consumers			
Residential			- E150 00
Non-Residential			- E500 00

DEPOSIT

Payable by new consumer in addition to connection fee. The deposit is refundable when consumer requests disconnection and is not a debtor of the Board

Residential	E15 00	E20 00
Non Residential	two months estimate consumption	
Minimum	E25 00	E50 00

CHARGES PAYABLE BY OWNER OF URBAN PROPERTIES

Every developed or undeveloped erf of lot capable of being provided with a water system and if not connected to the water system shall be charged at the rate of

E25 annum E2 50 month

SEWERAGE

RESIDENTIAL USERS CONSUMERS

Per cu m. consumed water

Minimum charge

C O D above 500 mg l

(see below)

15 ct. cu m 17ct cu. m.
E1.50 month E1.70 month.

NON RESIDENTIAL (INDUSTRIAL) AND COMMERCIAL) USERS CONSUMERS

Per cu m consumed water

Minimum charge

C O D above 500 mg l

15 ct./cu m 17 ct cu m
E5 00 month E6 00 month

Now

500 - 700 6.5 ct cu m

700 - 900 13 ct cu m

900 - 1100 19.5 ct cu m

1100 - 1300 26 ct cu m

(Proposed)

C O D - 500 x 20 ct cu m
500

CONNECTION

Upto 100mm (4 inches) in diameter

Upto 150 mm (6 inches) in diameter

Above 150 mm (6 inches) to be fixed at cost by the Board

E150 00

E175.00

Abandoned

E300.00

CHARGES PAYABLE BY OWNER OF URBAN PROPERTIES

Every developed or undeveloped erf lot capable of being provided with a sewer system and if not connected to the sewer system shall be charged at the rate of

E25.00 annum E2.50 month

Yours faithfully,

THE WATER AND SEWERAGE BOARD

Mbabane 1st July, 1978

B3346-6 7 21 28July.

Table A-14

WATER AND SEWERAGE: SUMMARY OF INVESTMENT PROGRAMME

	1973/74	1974/75	1975/76	1976/77	1977/78
Manzini Sewerage	14 797	50 000	—	120 000	110 000
Manzini Water	108 000	50 000	50 000	—	150 000
Mbabane Sewerage	268 395	470 300	200 800	136 700	69 200
Mbabane Water	301 400	558 000	191 000	53 000	—
Kwaluseni-Matsapa Water	—	75 000	75 000	50 000	20 000
Kwaluseni-Matsapa Sewerage	—	145 000	115 000	40 000	40 000
Pigg's Peak Water	109 500	—	—	—	—
Nhlangano Water	10 000	40 000	50 000	—	—
Hlatikulu Water	20 000	30 000	75 000	75 000	—
Siteka Water	20 000	30 000	100 000	100 000	—
General Water Reticulation	20 000	20 000	20 000	25 000	25 000
General Sewerage Reticulation	60 000	20 000	20 000	20 000	20 000
Construction Unit	50 000	20 000	—	—	—
	702 033	1 488 300	896 800	619 700	434 200

Source: Government of Swaziland, Second National Development Plan, 1973-78

Appendix 15

SIGNIFICANCE OF THE MANZINI-MALKERNS-BHUNYA-MHLAMBANYATI-MBABANE CORRIDOR

Both the Libby's operation and the Usutu Pulp Mill are located along a highway corridor serving as a secondary linkage between Manzini and Mbabane. This corridor extends from Lobamba essentially east-west through Malkerns to Bhunya (25 km), then south-north (35 km) through Mhlambanyati to Mbabane. This highway is a paved, two-lane all weather road to Mhlambanyati, and becomes a dirt road of varying quality for approximately 15 km to the capital. In the course of examining housing matters at the two companies, the development significance of this corridor, both to the country and the core region, became abundantly clear.

1. Resources. The corridor serves two of Swaziland's most important resources (the Usutu forest and the Malkerns pineapple fields) and the production facilities for these raw materials.
2. Population. Present population in the corridor is probably 10,000-25,000.
3. Road Network. The reconstruction and surfacing of the remaining dirt segment is currently underway. When completed within the next 2-3 years, it will allow for rapid communication between the three towns (Malkerns, Bhunya, Mhlambanyati) and the capital. Under present conditions, none of the three is more than 45 minutes by vehicle from either Manzini or Mbabane.
4. Diversification Potential. Because of the two large enterprises and the concentration of population, the corridor has already undergone some economic diversification and may have considerable potential for more. For example, the Usutu Pulp Mill has spun off one by-product operation (a tall-oil plant) in partnership with SEDCO. Two transportation companies have been organized to bring logs to the plant and processed pulp to the rail line at Manzini. An inn and restaurant operates as a popular tourist attraction within the forest, and a small mushroom growing enterprise has begun in the forest.

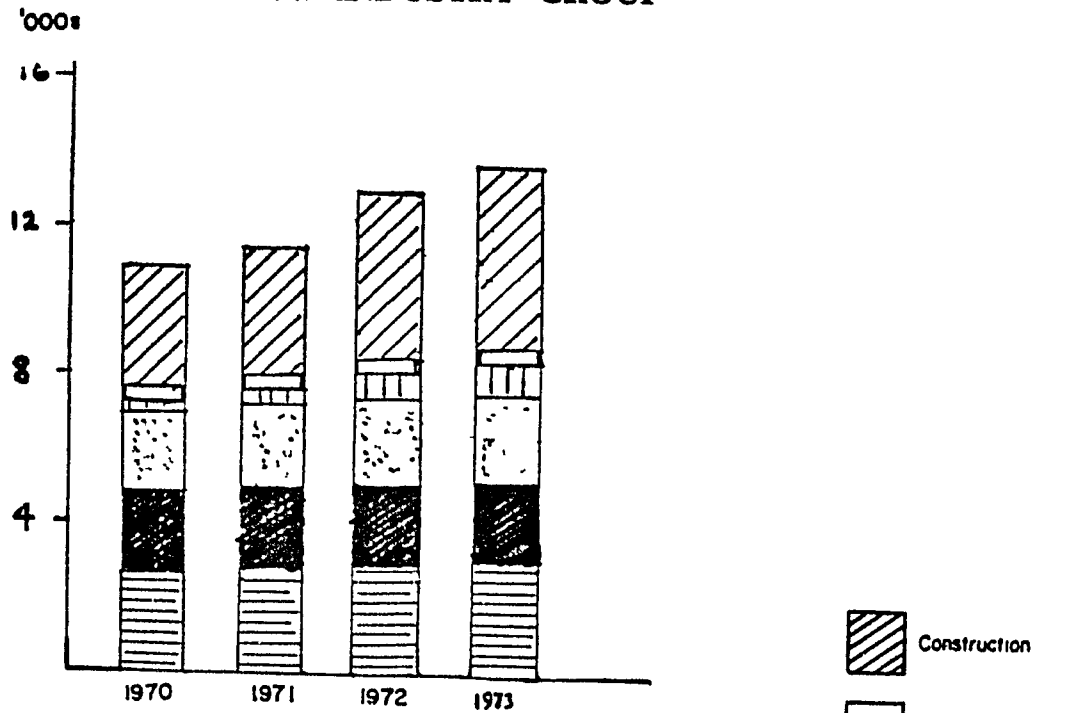
The company towns have privately managed shops and commercial services with expansion potential. The Pulp Company has begun to organize "cottage" industries for the wives of employees who have demonstrated talent in weaving and sewing. In this regard they have requested SEDCO assistance to establish the program on a sustained basis.

There are two small but indicative measures of the growing inter-dependency between this corridor and the principal cities. Swazi television has considered the population important in economically justifying its TV service, beamed primarily to Manzini and Mbabane, and many employees (both executive and worker) commute to the Libby operation from residences in Manzini.

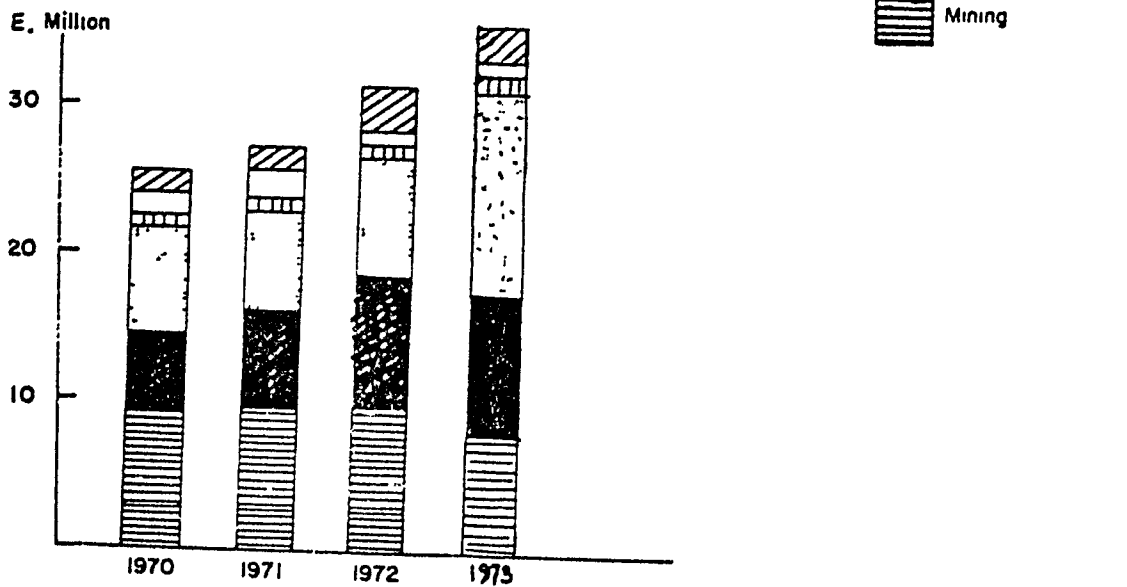
Most of the materials reviewed for the shelter sector study recognized the significance of the main Mbabane-Manzini concentration to both national development and the country's urbanization pattern. We suggest that this recognition be expanded to include the secondary corridor as well, and that future efforts to plan for a "core region" consider as integral, relationships between Mbabane-Manzini and the other two segments of the urbanizing "triangle".

Figure A-9. CONTRIBUTIONS OF CONSTRUCTION AND OTHER SECTORS TO SWAZILAND'S ECONOMY, 1970-73

NUMBERS EMPLOYED BY INDUSTRY GROUP



CONTRIBUTION TO NET OUTPUT AT CURRENT PRICES BY DIFFERENT SECTORS



Source: Central Statistical Office, Annual Statistical Bulletin 1975, p. 94.

Table A-16

**INDUSTRY AND CONSTRUCTION: PERCENTAGE DISTRIBUTION OF NUMBERS
EMPLOYED AND NET OUTPUT**

	1969/70		1970/71		1971/72		1972/73	
	<i>Number Employed</i>	<i>Net Output E'000</i>	<i>Number Employed</i>	<i>Net Output E'000</i>	<i>Number Employed</i>	<i>Net Output E'000</i>	<i>Number Employed</i>	<i>Net Output E'000</i>
Total	10 853	25 567	11 679	27 259	13 147†	30 924	13 514	38 721

Per cent

Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Mining	26,8	36,5	25,1	35,5	22,4†	31,7†	20,9	19,5
Manufacturing								
1. Food and Beverages	21,3	19,7	23,1	23,7	20,3†	26,0†	21,9	21,6
2. Wood and Wood Products	24,5	28,8	23,1	25,2	10,0†	3,5†	9,5	3,2
3. Paper and Paper Products	..	..	...	...	10,3†	22,7†	9,5	36,5
4. Clothing and Textiles	..	..	...	..	2,4†	0,8†	4,6	2,0
5. All other Manufacturing	3,8	3,0	4,3	3,1	2,6†	1,4†	2,6	1,7
Total manufacturing	49,5	51,5	50,5	52,0	45,6†	54,4†	48,1	65,0
Electricity and Water	4,7	5,9	4,4	5,9	4,1†	3,6†	4,0	5,5
Construction	19,0	6,1	20,0	6,6	27,9†	10,3†	27,0	10,7

SOURCE: *Central Statistical Office. Annual Statistical Bulletin 1975, p. 95*

Table A-17 . EMPLOYMENT AND GROSS VALUE OF PRODUCTION IN
CONSTRUCTION AND ALL INDUSTRIAL SECTORS, 1967/68 to 1972/73

<u>Industry</u>	<u>Year^a</u>							
	1967/68	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76
<u>Construction</u>								
Persons employed	3,461	2,061	2,341	3,660	3,646	3,950	4,421	3,341
Gross value of production (E 000)	6,500	3,333	3,586	6,670	8,201		9,900 ^b	
Gross output per employee	E1,482	E1,617	E1,532	E1,823	E2,249		E2,279	
<u>All Industrial Sectors</u>								
Persons employed	11,297	10,853	11,679	13,147	13,514			
Gross value of production (E 000)	43,825	51,126	56,134	68,404	83,526			
Gross output per employee	E3,879	E4,711	E4,806	E5,203	E6181			

Source: Central Statistical Office, Annual Statistical Bulletin, 1976.

a. Figures for 1967/68 through 1972/73 represent annual average employment. Figures 1973/74 through 1975/76 are for September in each respective year.

b. Colclough and Digby, Op. Cit., p. 156.

Table A-18. EMPLOYMENT AND AVERAGE MONTHLY EARNINGS IN THE CONSTRUCTION
FIELD BY SKILL CLASSIFICATION AND SEX, JUNE 1976

	<u>Professional & Technical</u>		<u>Administrative & Managerial</u>		<u>Clerical</u>		<u>Skilled</u>		<u>Semi- Skilled</u>		<u>Unskilled</u>	
	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>
<u>Public Sector</u>	20	--	4	--	14	16	36	--	338	2	819	1
Monthly Earnings	E402		--		E76	E59	E211		E 90		E63	
<u>Private Sector</u>	36	--	30	--	--	31	350	--	283	--	1093	
Monthly Earnings	E518		E437		E136	E130	E264		E108		E52	E39
<u>Total Public</u>	56		34		14	47	386		621		1914	
<u>and Private Sectors</u>	E476		E437		E76	E106	E259		E98		E57	E39

Source: Central Statistical Office, Employment and Wages, 1976.

Table A-19

MINIMUM WAGES IN THE BUILDING AND CONSTRUCTION INDUSTRY

<i>Occupation</i>	<i>from 1/10/73</i>	<i>from 3/10/75</i>
General Labourer Grade I	13 cents/hour	18 cents/hour
General Labourer Grade II	12 cents/hour	18 cents/hour
Watchman	14 cents/hour	19 cents/hour
Driver (Light vehicle) ¹	E60/month	E72,00/month
Driver (Heavy vehicle)	E85/month	E102,00/month
Clerk (with no certificate)	E28/month	E40,00/month
Clerk (with junior certificate)	E32/month	E50,00/month
Clerk (with senior certificate)	E38/month	E65,00/month
General Tradesman*		
Grade III trade tested	27 cents/hour	33 cents/hour
Grade II trade tested	45 cents/hour	54 cents/hour
Grade I trade tested	72 cents/hour	87 cents/hour
Grade 1A trade tested	100 cents/hour	120 cents/hour
Mechanic and Fitter		
Grade III trade tested	27 cents/hour	33 cents/hour
Grade II trade tested	45 cents/hour	54 cents/hour
Grade I trade tested	72 cents/hour	87 cents/hour

SOURCE: *Department of Labour and Legal Notice No. 68 of 1973.*

¹Over 5 tons unloaded

*Bricklayer/contractor, plasterer/tile, carpenter, painter/glazer, plumber, drainlayer, wireman, joiner/cabinet maker.

TABLE A-20 PROFILE OF THE CONSTRUCTION INDUSTRY
IN SWAZILAND, MARCH 1978

<u>Approved Contractors Listed on the Public Works Register</u>		<u>Maximum Capacity^d (Annual Volume)</u>
Swazi ^a		
Buildings	14	E 180,200
Specialties	4	E 235,000
Local ^b		
Buildings	30	E 9.5 - 11 million and up
Civil Engineering	6	E 5 million and up
Specialties	37	E 9.6 million and up
External ^c		
Buildings	12	E 7 million and up
Civil Engineering	14	E 12 million and up
Specialties	7	E 6 million and up
Total		
Buildings	56	E 16.7 - 19.4 million and up
Civil Engineering	20	E 17 million and up
Specialties	48	E 15.8 million and up

-
- a. Swazi means companies or firms with more than 60 percent Swazi held shares or capital and with the majority of Directors being Swazi nationals, established minimum of 12 months before registration, or companies under the sponsorship of the National Industrial Development Corporation.
- b. Locally established companies or firms not qualified for registration as "Swazi".
- c. Companies or firms established outside Swaziland, principally in South Africa.
- d. Computed according to the maximum volume for the respective grade. (See Appendix for derivation).

Appendix A-21

SUMMARY OF LISTINGS IN REGISTER OF APPROVED
BUILDING CONTRACTORS FOR GOVERNMENT TENDERS MARCH 1978

<u>Type of Construction</u>	Number of Firms by Capacity (E 000)					
	501- Unlimited	100-500	25-100	10-25	5-10	Up to 10
	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<u>Building</u>						
Swazi				4	8	2
Local	6	7	14	3		
External	7	4	1			
<u>Civil Engineering</u>						
Local	4	2				
External	12	2				
<u>Specialist-Electrical</u>						
Swazi			1			1
Local	1	1	6	1		3
External	4					
<u>Specialist-Refrig. & AirCond.</u>						
Local		2	1	2		
External			1			
<u>Specialist-Steelwork</u>						
Local		2	3	1		
External			1			
<u>Specialist-Prefabrication</u>						
Local			2			
<u>Specialist-Plumbing</u>						
External	1					
<u>Earth moving</u>						
Local	1	1				
<u>Fencing</u>						
Swazi			1	1		
Local		1	1			
<u>Miscellaneous</u>						
Local		3	1	4		

Source: Building Branch, Ministry of Works, Power and Communications

Note: "Swazi" means firms with more than 60% Swazi-held shares of capital and with the majority of Directors being Swazi nationals established at least 12 months before registration; or companies under the sponsorship of National Industrial Development Corporation of Swaziland. "Local" firms are established in Swaziland but not able to qualify as "Swazi". "External" firms are based outside Swaziland, principally in the Republic of South Africa.

TABLE A-22 CONSULTANTS ON THE REGISTER FOR BUILDING
WORKS, JULY 1978

<u>Consultant Specialty</u>	<u>Number of Firms</u>
<u>Multi-Discipline (Architecture, Structure, Civil, Electrical, Mechanical, Etc.</u>	
Local	6
External	4
<u>Heating and Ventilation</u>	
External	1
<u>Electrical</u>	
Local	1
<u>Quantity Survey</u>	
Local	5
External	1
<u>Architecture & Town Planning</u>	
Local	1
<u>Architecture</u>	
Local	6
<u>Landscape Architecture</u>	
External	1
<u>Interior Design</u>	
External	1
<u>Structure-Mechanical</u>	
Local	<u>-1</u>
Total	28
Local	20
External	8

Table A-23

**EXPENDITURE ON BUILDINGS ERECTED BY THE MINISTRY OF WORKS, POWER
AND COMMUNICATION CLASSIFIED BY NATURE OF BUILDING 1971/72 — 1975/76¹**

E'000

<i>Type of Building²</i>	<i>1971/72</i>	<i>1972/73</i>	<i>1973/74</i>	<i>1974/75</i>	<i>1975/76</i>
Residential Buildings Total	825,9	595,2	818,6	623,6	1 447,7
<i>of which:</i> Mbabane	370,7	219,0	628,5	286,7	444,4
Manzini	58,2	153,2	94,9	277,3	117,8
Schools Total	93,8	168,6	332,8	268,0	286,4
<i>of which:</i> Mbabane	10,0	84,5	205,1	223,8	7,0
Manzini	24,2	24,1	32,8	39,2	—
Hospitals Total	125,8	114,5	134,5	263,4	106,7
<i>of which:</i> Mbabane	13,1	53,0	3,6	151,6	3,7
Manzini	2,1	—	34,9	31,5	—
Office Total	163,8	180,5	276,8	1 231,4	570,7
<i>of which:</i> Mbabane	70,0	124,4	232,0	889,1	493,3
Manzini	0,6	14,1	17,9	262,9	37,4
Others Total	56,7	200,3	309,8	340,1	1 362,2
<i>of which:</i> Mbabane	26,8	95,6	57,3	147,5	334,9
Manzini	—	79,3	—	56,7	18,8
Total	1 265,4	1 259,1	1 872,4	2 726,6	3 773,7

SOURCE: *Ministry of Works, Power and Communication.*¹Years relate financial years, April to March.²Excludes buildings erected by sub-contractors for Government.Source: Central Statistical Office, Annual Statistical Bulletin 1976, p.90.

Table A-24

The Growth in GDP 1969/70 to 1971/75, and Projections to 1982/83 and 1989/90
(in millions of Emlungeni, Constant 1977/78 Prices)

Sector	1969/70	69-72 Growth P.a. %	1972/73	72-74 Growth P.a. %	1974/75	74-82 Growth P.a. %	1982/83	Low Growth		High Growth	
								82-89 Growth P.a. %	1989/90	82-89 Growth P.a. %	1989/90
Agriculture and Forestry	52,8	6,6	63,9	7,6	74,0	6½	124	4	163	7	200
Individual Tenure Farms	(23,9)	(10,3)	(37,1)	(13,5)	(41,3)	(9)	(82)	(5)	(116)	(8)	(143)
Swazi Nation Land	(24,5)	(1,1)	(-5,5)	(1,8)	(26,2)	(2½)	(32)	(1½)	(35)	(4)	(42)
Forestry	(4,4)	(13,9)	(6,5)	(-)	(6,5)	(5½)	(10)	(2)	(12)	(6)	(15)
Mining & Quarrying	20,6	-	10,1	3,9	10,9	-	11	2	13	4	14
Manufacturing	22,1	25,0	43,7	8,1	51,1	7	82	4	116	9	160
Construction	3,0	-7,8	7,5	14,9	9,9	15	32	5	44	9	58
Commerce and Other Services	29,5	1,2	31,0	8,3	39,9	6	64	4	84	7	102
Other Sectors	35,6	10,9	48,5	5,0	53,5	7	92	4	121	8	170
GDP (Factor Cost)	164,5	8,1	207,7	7,3	239,3	7	411	4	541	8	704

- Notes
1. 1969-1972 figures are actuals. Earlier GDP estimates are unreliable.
 2. 1974 figures are estimates, based upon IMF calculations.
 3. All later figures are estimates, calculated as explained in the accompanying text.
 4. Constant 1977/78 price estimates obtained by using deflators based upon the South African wholesale price index.

- Sources:
- National Accounts 1973, C.S.O., December 1975, Table 3.
 - Swaziland - Recent Economic Developments, IMF, Washington, March 1976, Table 2 & pps 1-17.
 - South African Wholesale Price Index.
 - Projections of Government Revenue and Expenditure, 1977/78-1982/83, Ministry of Finance & Economic Planning 1977.
 - Economic Memorandum on Swaziland IERD, November 1975.
 - Projections calculated as explained in text.

Colclough and Digby, Skills for the Future, Ministry of Finance and Economic Planning, Mbabane, May 1978, p. 157. See following page for derivation of the projections.

Footnotes to Table A-24. The Growth in GDP 1969/70 to 1974/75, and Projections to 1982/83 and 1989/90
(In millions of Emalangeni, Constant 1977/78 Prices; E = U.S. \$ 1.15)

Construction

The output of the construction industry will increase very considerably over the next five years under the influence of a much expanded public sector investment programme. Under the Second Plan capital expenditure by Government was E123 millions in 1977/78 prices, or an average of E25 millions per year. Under the new Plan, this average will rise to some E95 millions per year, representing a very considerable increase in public investment. The effects of this expansion upon the output of the construction industry have been estimated as follows (all money values at 1977/78 prices).

- (a) In 1972/73 Government fixed capital formation was E12,1 millions, compared to a total of E30,6 millions for the economy as a whole - i.e. GCF by Government represented some 30 per cent of the total for the whole economy (source National Accounts).
- (b) Government capital expenditure in 1972/73 is estimated to have been some E17,8 millions. Thus, GCF by Government represented some 67 per cent of total Government capital expenditure.
- (c) In 1972/73 gross output in construction was E9,1 millions, and value added E3,4 millions (source National Accounts). Thus, value added in construction was equivalent to some 9 per cent of the total GCF of E39,6 millions.
- (d) Average capital expenditure under the Third Plan is expected to approximate E96 millions per annum. Thus, from (b) above, GCF by Government may be E65 millions per annum. (E 64.2 per 1978 prices)
- (e) Assuming that the proportion of Government GCF to total GCF remains constant at 30 per cent, total GCF would be E217 millions. (E 190)
- (f) Further, assuming a normal growth pattern, this average would apply to the middle years of the Plan period 1979-1981. GCF can be expected to be smaller in the earlier years, greater in the later ones.
- (g) Value added in construction in 1970/80 is estimated, from (c) above, to be $E217 \times 0.09 = E19,5$ millions. (E 190 - 0.09 = E 17.1)
- (h) Thus the growth rate of construction output between 1972/73 and 1979/80 is estimated to be $19,5 - 9,1 = 2,0$. This implies an annual real rate of growth of about 15 per cent per year. $171 - 75 = 2,3$
- (i) Finally, the interpolated estimate for construction output in 1974/75 becomes E9,9 millions by applying this growth rate, and the short-term projection to the end of the Plan period becomes E24 millions. (E 24 millions)

Keep this assumption

Source: Colclough and Digby, Skills for the Future, Ministry of Finance and Economic Planning, Mbabane, May 1978 p. 156.

Table A-25

Formal Employment by Industrial Grouping, 1972 and 1976, and Projections to 1982^a

	1972	1976	1982 ^c
Agriculture and Forestry ^b	24 332	28 520	35 000
Mining and Quarrying	2 950	3 076	3 000
Manufacturing	6 512	8 216	10 600
Electricity and Water	541	799	1 000
Construction	3 629	3 075	5 400
Trade and Hotels	3 842	5 093	6 800
Transport and Communications	2 280	2 566	3 200
Finance and Business Services	580	1 147	1 500
Social and Personal Services	9 190	13 723	18 500
Total	53 856	66 215	85 000

General Note: The data in this table are not comparable with the employment totals given by the manpower survey, shown in subsequent chapters, owing to differences in the sectoral definitions used, and to the exclusion of seasonal employees in agriculture from the manpower survey totals. See Appendix B, Section 9.

- Notes: a. The data for 1972 relate to September; those for 1976 and 1982 relate to June.
 b. Employment in agriculture here includes about 9 000 workers who are employed for only a part of the year.
 c. These projections are rough estimates. See text, and Appendix D.

Sources: Employment and Wages 1972 and 1976, Central Statistical Office, Mbabane.
 Manpower Survey 1977.

Colclough and Digby, Skills for the Future, Ministry of Finance and Economic Planning, Mbabane, May 1978, p.4.

Table A-26. PROJECTED DEMAND FOR SELECTED CATEGORIES OF SKILLED AND
EDUCATED WORKERS IN THE CONSTRUCTION SECTOR 1982/83 AND 1989/90

Projected Demand for Workers

Occupational Category	<u>1982/83</u>			<u>1989/90</u>		
	Public Sector	Private Sector & Parastatal	Total	Public Sector	Private Sector & Parastatal	Total
Engineers	30	123	153	45-51	161-209	205-260
Architects & Surveyors	34	44	78	51-59	55-70	106-129
Draftsmen	68	56	124	102-117	70-92	171-209
Bricklayers, Carpenters & Related	406	730	1,136	609-700	1,018-1,305	1,624-2,005
Total Skilled Workers	538	953	1,491	807-927	1,304-1,676	2,106-2,603

Source: Colclough and Digby, Skills for the Future, Ministry of Finance and Economic Planning, Mbabane, May 1978, pp. 98-100.

Table A-27

Demand for Skilled and Educated Workers in 1982/83 and 1989/90 by Level of Required Education and 40 Occupations

Government Sector

Com-puter Code	Occupational Category	Projections to 1982/83							Projections to 1989/90 (High Growth)							Possible % Downward Variation (-%)		
		Std 5	Form 1	Form 3	Form 5	Part I UBS, A-Level	Degree	Post-Grad	Total	Std 5	Form 1	Form 3	Form 5	Part I UBS, A-Level	Degree		Post-Grad	Total
01	Physicists, Chemists & Geologists	-	-	2	2	-	16	-	20	-	-	3	3	-	24	-	30	10
02	Engineers	-	-	-	2	2	26	-	30	-	-	3	3	-	45	-	51	12
03	Architects & Surveyors	-	-	-	1	14	19	-	34	-	-	-	-	3	-	-	59	14
04	Draughtsmen	-	-	3	34	24	7	-	68	-	-	2	2	24	33	-	59	14
05	Technicians	11	-	133	41	77	6	-	268	18	-	6	59	40	12	-	117	13
06	Life Scientists	-	-	8	30	56	22	-	124	-	-	226	71	134	10	-	459	13
07	Doctors, Dentists & Veterinarians	-	3	4	-	4	50	-	61	-	-	16	66	96	38	-	216	12
08	Medical, Dental & Vet. Assistants	3	-	402	6	34	-	-	445	5	5	8	-	8	86	-	107	13
09	Pharmacists & Related Technicians	-	-	4	27	61	5	-	97	-	-	10	59	-	-	-	761	12
10	Nurses & Midwives	6	-	58	423	9	-	-	496	10	-	8	45	106	11	-	170	13
11	Nursing & Midwifery Auxiliaries	31	1	1	16	-	-	-	49	53	3	3	28	-	-	-	845	12
12	Statisticians & Related Technicians	-	-	-	2	16	17	-	35	-	-	-	-	-	-	-	67	15
13	Economists	-	-	1	-	3	31	-	35	-	-	-	6	28	32	-	66	14
14	Accountants	-	-	196	28	-	7	-	231	-	-	3	-	6	55	-	64	14
15	Lawyers, Judges & Jurists	-	-	-	5	11	26	-	42	-	-	330	40	-	13	-	383	13
16	University & Higher Education Teachers	-	-	-	1	1	1	-	3	-	-	-	7	15	37	-	59	12
17	Secondary Education Teachers	-	-	-	-	-	-	-	-	-	-	-	2	2	1	-	5	0
18	Primary Education Teachers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Other Teachers	3	-	1	28	38	13	-	83	4	-	3	48	65	22	-	142	14
20	Librarians, Archivists & Curators	-	-	5	3	3	2	-	13	-	-	9	4	5	5	-	23	22
21	Personnel & Occupational Specialists	-	-	40	3	9	-	-	52	-	-	60	6	13	-	-	79	15
22	Professional & Technical Workers n.e.c.	1	-	70	20	21	4	-	116	-	-	113	29	36	8	-	188	12
23	Administrative & Managerial Workers	12	-	23	71	14	30	-	150	17	-	40	115	26	49	-	247	13
24	Clerical Workers & Government Executive Officials	321	1	881	183	35	31	-	1452	528	3	1448	299	53	47	-	2378	13
25	Typists, Book-keepers, & Related Workers	4	-	670	126	3	-	-	803	6	-	1114	198	5	-	-	1323	12
26	Transport & Communication Supervisors	-	-	114	6	9	3	-	132	-	-	196	12	15	6	-	229	13
27	Managers & Proprietors (Wholesale & Retail)	-	-	-	2	2	3	-	2	-	-	-	3	-	-	-	3	0
28	Sales Workers n.e.c.	2	-	8	2	-	-	-	2	-	-	-	3	-	-	-	3	0
29	Managers & Proprietors (Catering & Hotels)	-	-	-	2	2	3	-	17	3	-	15	3	3	5	-	29	10
30	Service Workers n.e.c.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	Agricultural & Related Workers	1538	-	40	11	-	-	-	1589	-	-	-	-	-	-	-	-	-
32	Production Supervisors & General Foremen	33	-	20	3	13	4	-	73	2332	-	68	19	-	-	-	2419	13
33	Miners, Metal, Wood & Chemical Processors	1	-	11	-	-	1	-	13	3	-	20	-	-	2	-	25	12
34	Spinners, Tanners, Tailors & Related	8	-	4	1	-	-	-	13	11	-	5	2	-	-	-	18	17
35	Food Processors	9	-	3	-	-	-	-	12	15	-	6	-	-	-	-	21	14
36	Blacksmiths, Fitters & Assemblers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	Production Workers n.e.c.	265	-	41	-	3	-	-	309	452	-	73	-	6	-	-	531	12
38	Bricklayers, Carpenters & Related	319	2	15	-	-	-	-	336	547	3	25	-	-	-	-	575	13
39	Transport Operators & Drivers	369	-	36	-	1	-	-	406	635	-	62	-	3	-	-	700	13
40	Labourers n.e.c.	472	-	16	-	-	-	-	488	796	-	30	-	-	-	-	826	13
		21	-	9	-	-	-	-	30	36	-	15	-	-	-	-	51	12
Total Skilled Workers		3429	7	2819	1085	463	324	-	8127	5524	14	4726	1806	788	549	-	13407	13

Notes a. The final column is the difference between the 1989/90 high and low growth projections, for each line total.
 b. n.e.c. = Not Elsewhere Classified.

Source Manpower Survey 1977, and projections of skilled and educated manpower.
 Colclough and Digby, Skills for the Future, p. 99.

Table A-28

Demand for Skilled and Educated Workers in 1982/83 and 1989/90 by Level of Required Education and 40 Occupations.

Private and Public Sector (Including Education)

Code of Occupational Category	Projections to 1982/83								Projections to 1989/90 (High Growth)								Possible % Downward Variation (-b)
	Std 5	Form 1	Form 3	Form 5	Part I UES, A- Level	Degree	Post- Grad	Total	Std 5	Form 1	Form 3	Form 5	Part I UES, A- Level	Degree	Post- Grad	Total	
01 Physicist, Chemists & Geologists	-	-	-	5	2	11	2	20	-	-	-	9	3	14	3	29	17
02 Engineer	-	4	8	18	11	77	5	123	-	7	14	31	20	129	8	209	23
03 Assistant Surveyor	6	5	12	18	4	9	-	44	10	8	3	29	6	14	-	70	21
04 Draftsman	-	3	12	24	12	5	-	56	-	4	20	41	19	8	-	92	24
05 Technician	9	1	5	101	7	17	4	221	14	24	115	164	11	27	6	361	27
06 Life Scientist	-	2	-	4	3	12	12	33	-	3	-	7	5	20	19	54	20
07 Botanist, Pathologist & Veterinarians	-	-	-	3	-	23	16	43	-	-	2	5	-	37	26	70	19
08 Veterinary, Dental & Vet Assistant	-	-	4	6	11	-	3	24	-	7	10	17	-	-	5	39	21
09 Health & Related Technicians	-	1	3	9	-	12	-	25	-	2	5	14	-	19	-	40	20
10 Nurse & Midwives	-	4	87	97	7	2	-	198	-	7	141	160	11	3	-	322	20
11 Nursing & Midwifery Auxiliaries	-	3	17	22	-	-	-	22	-	5	27	3	-	-	-	35	20
12 Stationery & Related Technicians	-	-	5	5	3	-	2	15	-	-	8	8	5	-	3	24	25
13 Front Office	2	2	2	2	-	14	4	26	3	3	3	3	5	-	3	42	24
14 Accountant	3	2	20	118	73	47	2	265	5	3	34	199	124	78	3	446	23
15 Lawyer, Judges & Jurists	-	-	-	-	3	21	2	26	-	-	-	-	5	36	3	44	23
16 University & Higher Education Teachers	1	5	21	79	33	88	108	336	2	9	31	114	47	125	154	482	7
17 Secondary Education Teachers	1	-	37	940	3	344	2	1327	2	-	53	1326	4	485	3	1873	5
18 Primary Education Teachers	1	-	4171	11	-	4	-	3187	2	-	4469	15	-	6	-	4492	5
19 Other Teacher	2	-	542	82	3	32	5	666	3	-	766	117	5	45	8	944	5
20 Librarian, Archivists & Curators	-	-	1	11	-	6	6	24	-	-	2	15	-	10	9	36	6
21 Personnel & Occupational Specialists	2	1	22	25	2	13	1	66	3	1	36	43	3	20	2	108	23
22 Professional & Technical Workers n.e.c.	95	10	41	27	8	11	7	199	159	15	64	44	13	17	11	324	19
23 Administrative & Managerial Workers	48	48	135	290	147	142	22	832	79	82	230	504	253	245	35	1428	23
24 Clerical Workers & Government Executive Official	64	185	591	347	31	10	3	1431	107	312	1333	585	51	16	5	2409	22
25 Typists, Book-keepers & Related workers	39	145	780	842	69	21	2	1898	66	245	1315	1429	119	35	3	3212	22
26 Transport & Communication Supervisors	2	-	12	2	-	-	-	16	3	-	20	3	-	-	-	26	23
27 Manager, Proprietor (Wholesale & Retail)	90	66	235	152	67	32	3	645	153	113	402	261	115	54	5	1103	23
28 Sales Worker n.e.c.	234	283	304	55	26	5	-	907	399	484	525	94	45	8	-	1555	23
29 Manager & Proprietor (Catering & Hotels)	15	22	36	32	12	8	3	128	26	38	61	54	20	13	5	217	23
30 Service Worker n.e.c.	119	202	274	59	6	-	-	660	199	340	449	90	9	-	-	1087	20
31 Agricultural & Related Workers	128	52	269	152	120	96	21	838	216	88	455	256	204	163	36	1418	18
32 Production Supervisors & General Foremen	143	78	199	162	45	19	2	648	222	132	337	274	78	32	3	1078	23
33 Miners, Metal, Wood & Chemical Processors	1	12	37	33	-	-	-	99	30	21	63	53	-	-	-	167	23
34 Spinners, Tanners, Tailors & Related	81	19	22	2	2	-	-	126	145	33	36	3	3	-	-	220	27
35 Food Processors	19	12	45	5	-	-	-	101	65	20	79	8	-	-	-	172	24
36 Blacksmiths, Fitters & Assemblers	115	191	697	190	23	13	-	1229	190	331	1202	327	40	22	-	2115	24
37 Production Workers n.e.c.	142	105	277	51	-	6	-	581	247	181	471	88	-	9	-	996	23
38 Bricklayers, Carpenters & Related	239	70	288	33	-	1	-	730	614	124	508	57	-	2	-	1305	22
39 Transport Operators & Drivers	84	78	68	16	2	-	-	248	140	135	116	27	3	-	-	421	22
40 Labourers n.e.c.	38	3	9	-	-	-	-	50	65	5	16	-	-	-	-	86	23
Total Skilled Workers	1858	1632	8515	4016	724	1101	237	18113	3169	2786	13421	6477	1221	1715	362	29151	18

Notes a. The final column is the difference between the 1989/90 high and low growth projections, for each line total.
b. n.e.c. = Not Elsewhere Classified.

Source: Manpower Survey 1977, and projections of skilled and educated manpower.

Colclough and Digby, Skills for the Future, p. 98.

Table A-29

Demand for skilled and educated workers in 1982/83 and 1989/90, by Level of Required Education and 40 Occupations

All Sectors

Com-puter Code	Occupational Category	PROJECTIONS TO 1982/83							PROJECTIONS TO 1989/90 (HIGH GROWTH)							Possible % Downward Variation (-%)		
		Std 5	Form 1	Form 3	Form 5	Part I UBS, A-Level	Post-Grad Degree	Total	Std 5	Form 1	Form 3	Form 5	Part I UBS, A-Level	Post-Grad Degree	Total			
01	Physicists, Chemists & Geologists	-	-	2	7	2	27	2	40	-	-	3	12	3	38	3	59	14
02	Engineers	-	4	8	20	13	103	5	153	-	7	14	34	23	174	8	260	21
03	Architects & Surveyors	6	5	2	19	18	28	-	78	10	8	3	31	30	47	-	129	18
04	Draughtsmen	-	3	15	58	36	12	-	124	-	4	26	100	59	20	-	209	18
05	Technicians	20	14	202	142	84	23	4	489	32	24	341	235	145	37	6	820	17
06	Life Scientists	-	2	8	42	59	34	12	157	-	3	16	73	101	58	19	270	14
07	Doctors, Dentists & Vets	-	3	5	3	4	73	16	104	-	5	10	5	8	123	26	177	15
08	Medical, Dental & Vet Assistants	3	4	408	17	34	-	3	469	5	7	697	27	59	-	5	800	13
09	Pharmacists & Related Technicians	-	1	7	36	61	17	-	122	-	2	13	59	106	30	-	210	14
10	Nurses & Midwives	6	4	145	521	16	2	-	694	10	7	240	881	26	3	-	1167	14
11	Nursing & Midwifery Auxiliaries	31	4	18	18	-	-	-	71	53	8	30	31	-	-	-	122	16
12	Statisticians & Related Technicians	-	2	5	7	19	17	2	50	-	-	8	14	33	32	3	90	17
13	Economists	2	-	3	2	3	45	4	61	3	3	6	3	6	78	7	106	19
14	Accountants	3	2	216	146	73	54	2	496	5	3	364	239	124	91	3	829	18
15	Lawyers, Judges & Jurists	-	-	-	5	14	47	2	68	-	-	-	7	20	73	3	103	16
16	University & Higher Education Teachers	1	6	21	80	34	89	108	339	2	9	31	116	49	126	154	487	7
17	Secondary Education Teachers	1	-	37	940	3	344	2	1327	2	-	53	1326	4	485	3	1873	5
18	Primary Education Teachers	1	-	3171	11	-	4	-	3187	2	-	4469	15	-	6	-	4492	5
19	Other Teachers	5	-	543	110	41	45	5	749	7	-	769	165	70	67	8	1086	6
20	Librarians, Archivists & Curators	-	-	6	14	3	8	6	37	-	-	11	19	5	15	9	59	12
21	Personnel & Occupational Specialists	2	1	62	28	11	13	1	118	3	1	96	49	16	20	2	187	20
22	Professional & Technical Workers n.e.c.	96	10	111	47	29	15	7	315	161	16	177	73	49	25	11	512	17
23	Administrative & Managerial Workers	60	48	158	361	161	172	22	982	96	82	270	619	279	294	35	1675	22
24	Clerical Workers & Government Executive Officials	385	186	1672	530	66	41	3	2883	635	315	2781	884	104	63	5	4787	18
25	Typists, Book-keepers, & Related Workers	43	145	1450	968	72	21	2	2701	72	245	2429	1627	124	35	3	4535	19
26	Transport & Communication Supervisors	2	-	126	6	9	3	-	148	3	-	216	15	15	6	-	255	14
27	Managers & Proprietors (Wholesale & Retail)	90	66	235	154	67	32	3	647	153	113	402	264	115	54	5	1106	23
28	Sales Workers n.e.c.	236	283	312	57	28	8	-	924	402	484	540	97	48	13	-	1584	23
29	Managers & Proprietors (Catering & Hotels)	15	22	36	32	12	8	3	128	26	38	61	54	20	13	5	217	23
30	Service Workers n.e.c.	1657	202	314	70	6	-	-	2249	2531	340	517	109	9	-	-	3506	15
31	Agricultural & Related Workers	161	52	289	155	133	100	21	911	267	88	490	261	226	171	36	1539	18
32	Production Supervisors & General Foremen	144	78	210	162	45	20	2	661	225	132	357	274	78	34	3	1103	22
33	Miners, Metal, Wood & Chemical Processors	25	12	41	34	-	-	-	112	41	21	68	55	-	-	-	185	23
34	Spinners, Tanners, Tailors & Related	90	19	25	2	2	-	-	138	160	33	42	3	3	-	-	241	26
35	Food Processors	39	12	45	5	-	-	-	101	65	20	79	8	-	-	-	172	24
36	Blacksmiths, Fitters & Assemblers	380	191	738	190	26	13	-	1538	642	334	1275	327	46	22	-	2646	21
37	Production Workers n.e.c.	461	107	292	51	-	6	-	917	794	184	496	88	-	9	-	1571	19
38	Bricklayers, Carpenters & Related	707	70	324	33	1	1	-	1136	1249	124	570	57	3	2	-	2005	19
39	Transport & Equipment Operators	556	78	84	16	2	-	-	736	936	135	146	27	3	-	-	1247	16
40	Labourers n.e.c.	59	3	18	-	-	-	-	80	101	5	31	-	-	-	-	137	19
Total Skilled Workers		5287	1639	11364	5101	1187	1425	237	26240	8693	2800	18147	8283	2009	2264	362	42558	16

Note a. The final column is the difference between the 1989/90 high and low growth projections, for each line total.
b. n.e.c. - Not Elsewhere Classified.

Source Manpower Survey 1977, and projections of skilled and educated manpower.

Colclough and Digby, Skills for the Future, p. 100

Table A-30. REQUIRED ANNUAL OUTPUTS OF EDUCATIONAL AND
TRAINING INSTITUTIONS TO MEET NEEDS FOR SELECTED CATEGORIES
OF WORKERS IN THE CONSTRUCTION SECTOR, 1977-89

Average Annual Requirement for
Training New Workers, 1977-89

<u>Category</u>	<u>Public Sector</u>	<u>Private Sector & Parastatal</u>	<u>Total</u>
<u>University Trained Professionals</u>			
Engineers	4	11	15
Architects & Surveyors	3	1	4
<u>Technical Occupations</u>			
Draftsmen ^a	8	6	14
<u>Craft Occupations</u>			
Bricklayers, Carpenters	49	39	88
Painters	28	7	35
Plumbers	10	17	27
Electricians & Electrical Fitters	11	38	49

Source: Colclough and Digby, Skills for the Future, pp. 42, 46 and 48.

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- a. Assumes all jobs in this category are localized by 1989-90. Other technicians, stenographers, accountants, etc. not counted here would be needed for administrative, managerial and other support functions in the construction sector.
- b. All government craftsmen are assumed to require training. For the private and parastatal sector, a training requirement is projected only for those entering jobs which according to employers, call for Form 3 education plus at least one year of vocational training. An equal number of workers are assumed to be able to enter jobs without such training.

Table A-31

Swaziland College of Technology (SCOT), Projected Outputs 1975-1985^a

Course	Duration & Entry Level	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Craft	2 years - Post Form 3	104	90	68	63	60	60	60	60	60	60	60
Copy Typists	9 months - Post Form 3	20	60	40	20	20	20	20	20	20	20	20
Technicians	1½/2/3 years - Post Form 5	87	72	113	133	120	120	120	120	120	120	120
Shorthand Typists	1½ years - Post Form 5	-	30	20	20	20	20	20	20	20	20	20
Book-keepers	1½ years - "	-	19	17	-	20	20	20	20	20	20	20
Technical Teachers	2 years - "	5	4	2	4	10	10	10	10	10	10	10
Commercial Teachers	2 years - "	19	-	-	-	15	-	15	-	15	-	15

Note: a. The outputs to 1978 are based upon SCOT's own data. The projections assume that outputs at each level will remain constant from 1978 onwards at their 1975/76 level for both craft and technician courses.

Source: Swaziland College of Technology.

Colclough and Digby, Skills for the Future, p. 116.

Table A-32

District Vocational Training Centres (Two Centres). Projected Enrolments 1979 to 1983

Subject	Year of Study	1979	1980	1981	1982	1983
Agriculture	1	60		60		60
	2		60		60	
Farm Machinery	1	40		40		40
	2		40		40	
Metalwork	1	40		40		40
	2		40		40	
Building/Construction	1	40		40		40
	2		40		40	
Total outputs			180		180	

Note: This is a two-year, post-JC, programme. There will be a new intake every two years.

Source: Report on the Survey of Training Needs and for the Design of District Vocational Training Centres in Swaziland, Organisation for Rehabilitation through Training, Geneva, October 1977.

Colclough and Digby, Skills for the Future, p. 117.

Table A-33

SAZILAND COLLEGE OF TECHNOLOGY.
TRAINING OUTPUT FOR THE YEAR 1975-1978

	(Scheduled)			
<u>CRAFT LEVEL COURSES (JC ENTRY)</u>	1975	1976	1977	1978
<u>AUTOMOTIVE DEPARTMENT</u>				
Mechanics	12	11	12	19
Electricians	-	10	-	-
Panel Beaters	10	-	-	-
<u>MECHANICAL ENGINEERING DEPARTMENT:</u>				
Turners & Fitters	28	13	13	13
Sheet Metal Workers	-	12	-	1
<u>ELECTRICAL ENGINEERING DEPARTMENT</u>				
Electricians	15	13	13	-
Basic Electronics	-	-	14	-
<u>CONSTRUCTION DEPARTMENT</u>				
Blocklayers & Concreters	15	19	19	16
Plumbers	12	-	-	-
Painters	-	9	-	-
Carpenters	12	15	11	14
<u>COMMERCIAL DEPARTMENT</u>				
Copy Typists	20	60	40	40
<hr/>				
<u>TECHNICIAN LEVEL COURSES</u> <u>CAMBRIDGE SCHOOL CERTIFICATE ENTRY</u>	1975	1976	1977	1978
<u>MECHANICAL ENGINEERING DEPARTMENT</u>				
Ordinary Technician Diploma	9	-	7	11
Mechanical Eng. Tech. Part I	9	9	13	16
Mechanical Eng. Tech. Part II	5	14	-	13
<u>MOTOR VEHICLE DEPARTMENT</u>				
Motor Vehicle Technicians Part I	11	-	-	-
Motor Vehicle Technicians Part II	10	-	11	-
Advanced Motor Vehicle Mechanics	-	-	14	-
Agricultural Mechanics	-	-	9	-
<u>ELECTRICAL ENGINEERING DEPARTMENT</u>				
Electrical Engineering Tech. Part I	15	7	12	14
Electrical Engineering Tech. Part II	6	-	-	14
Telecommunication Technician Part I	-	9	-	-
Electronics Instrumentation	-	10	-	-
<u>CONSTRUCTION DEPARTMENT</u>				
Construction Technician Part I	14	16	-	13
Construction Technician Part II	-	-	13	-
Water Works Technicians	-	-	12	12
<u>TECHNICAL SERVICES DEPARTMENT</u>				
Technical Draughtmen	8	-	-	-
Cartographers	-	7	10	-
Survey Diploma	-	-	-	12
Laboratory Technician	-	-	-	16
Librarianship	-	-	12	12
Technical Teachers	5	4	5	20
Commercial Teachers	19	-	-	19
<u>COMMERCIAL DEPARTMENT:</u>				
Shorthand/Typists	-	38	20	20
Bookkeepers	-	19	17	-

Table A-34

VALUE OF IMPORTS, SELECTED CONSTRUCTION MATERIALS, 1972-73
(In thousands of Emalangeni)

<u>Material</u>	<u>Year</u>			
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
Wood in the round or roughly shaped	80	106	192	294
Lumber, sawn, planed etc.	231	216	133	197
Lime	102	103	48	87
Cement	555	842	1,023	786
Worked Bldg. Stone	21	36	10	47
Wood and cork manufactures except furniture	1,258	179	236	229
Other fabricated building material except glass and clay	87	66	116	65
Bricks and other clay building materials	81	76	214	53
Glass except glassware	106	74	106	140
Corrugated iron sheets	107	257	365	542
Finished structural parts of steel	253	206	445	220
Wire products except electric	74	181	484	198
Nails, screws, nuts, bolts etc.	154	228	272	340
Hand tools and machine tools	386	440	323	501
Plumbing, heating and lighting fittings except electrical parts	363	321	606	549
Total	2,858	3,331	4,573	4,248
Total Imports	53,309	66,624	93,443	131,099
Construction and related materials as percentage of Total Imports	5.4%	5.0%	4.9%	3.2%

Table A-35

CONDITIONS IN HOMESTEADS, 1976

(Footnotes on following page)

	Durability of Structural Materials				Source of Water			Sanitary Facility		
	In Durably Built Homesteads	In Partially Durable Homesteads	In Non-Durable Homesteads	Total	Tap Inside Dwelling	Standpipe Outside Dwelling	Other	Toilet	Pit Latrine	Other
Core Region	8,264	10,881	12,912	32,057	6,405	7,754	17,898	8,129	8,475	
Urban	6,619	2,770	7,644	17,033	5,729	6,877	4,427	7,707	6,446	3,300
Hhohho Portion	3,024	1,048	4,047	8,119	2,579	3,386	2,154	3,016	3,671	1,432
Mbabane Expanded	2,804	613	3,612	7,029	2,404	2,911	1,714	2,841	3,196	992
Ezulwini	50	205 ^c	205 ^c	460	75 ^c	175 ^c	210 ^c	75 ^c	175 ^c	210 ^c
Lobamba	170	230 ^c	230 ^c	630	100 ^c	300 ^c	230 ^c	100 ^c	300 ^c	230 ^c
Manzini Portion	3,595	1,722	3,597	8,914	3,150	3,491	2,273	4,191	2,775	1,948
Manzini Expanded	2,203	1,428	2,840	6,471	2,096	2,330	2,045	2,489	2,336	1,446
Bhunya-Mhlambanyati	1,124	76	148	1,348	659	645	44	1,105	183	60
Malkerns	40 ^d	200 ^d	160 ^d	400	30 ^c	210 ^c	160 ^c	30 ^c	170 ^c	200 ^c
Mankayana	51	3	97	157	49	97	11	74	56	27
Sidvokodvo	177	9	352	538	316	209	13	493	30	15
Manzini Rural	1,645	8,111	5,268	15,024	676	877	13,471	922	2,029	12,073
Northern Hhohho District	1,956	6,242	8,895	17,093	1,495	2,757	12,841	2,616	2,673	11,804
Urban	522	1,279	600	2,461	869	1,407	185	1,777 ^b	464	220
Motshane-Ngwenya	88	7	146	241	103	112	26	156 ^b	67	18
Pigg's Peak Expanded	310	283	480	1,073	278	648	147	488	396	189
Havelock	124	989	34	1,147	488	647	12	1,133 ^b	1	13
Hhohho Rural	1,434	4,963	8,235	14,632	626	1,350	12,656	839	2,209	11,584
Shiselwini District	2,021	8,903	6,829	17,753	649	1,369	15,735	699	2,251	14,800
Urban	555	104	195	854	439	374	41	500	231	116
Hlatikulu	134	22	63	219	122	66	31	152 ^b	23	38
Nhlangano	384	75	40	499	291	199	9	320	156	23
Lavumisa	37	7	92	136	26	109	1	28	53	55
Shiselwini Rural	1,466	8,799	6,634	16,899	210	995	15,694	199 ^b	2,016	14,684
Lubombo District	6,524	7,410	6,010	19,944	3,238	5,370	11,336	5,966	2,581	11,327
Urban	5,438	379	1,546	7,363	2,981	3,871	511	5,119	1,475	769
Steqi Expanded	564	53	358	975	477 ^d	426	72	518 ^d	376	81
Big Bend Expanded	1,522	213	217	1,952	383	1,212	357	1,006 ^b	477	469
Mhlume Expanded	2,522	107	894	3,523	1,463	1,984	76	2,741 ^b	590	192
Tshaneni	830	6	77	913	658	249	6	854 ^b	32	27
Lubombo Rural	1,086	7,031	4,464	12,581	257	1,499	10,825	847	1,106	10,628
Swaziland Total	18,765	33,436	34,646	86,847	11,787	17,250	57,810	17,410	15,983	53,454
Urban	13,134	4,532	10,045	27,711	10,018	12,529	5,164	14,603	8,623	4,485
Rural	5,631	28,904	24,601	59,136	1,769	4,721	52,646	2,807	7,360	48,969

Footnotes to Appendix Table A-35: Conditions in Homesteads, 1976

- a. "Durable" corresponds with 1976 census designation "permanent", "partially durable", with "mixed", and "non-durable", with "temporary".
- b. The 1976 census reports more W.C.'s than homesteads with inside sources of water. These figures should be used with great caution.
- c. Estimates and adjustments have been made in these figures to correct for obvious discrepancies. They must be used, however, only with great caution.

Table A-36
 GEOGRAPHICAL DISTRIBUTION OF PROJECTED GROWTH
 IN NUMBERS OF HOUSEHOLDS PER ANNUM, 1978 TO 1988 AND 1998

	Annual Increase in Numbers of Households	
	<u>1978-88</u>	<u>1988-98</u>
Core Region Total	1,980	3,510
Mbabane Expanded Area	690	1,350
Ezulwini	110	225
Lobamba	70	125
Manzini Expanded Area	610	1,100
Bhunya-Mhlambanyati	120	210
Malkerns	50	80
Mankayana	3	4
Sidvokodvo	30	50
Rural Manzini District	300	370
Northern Hhohho District	370	470
Motshane	10	10
Pigg's Peak Expanded Area	40	80
Havelock	20	20
Rural Hhohho District (excluding Mbabane Exp. Area, Ezulwini and Lobamba)	300	360
Shiselwini District Total	400	470
Hlatikulu	5	10
Nhlangano	50	50
Lavumisa	5	10
Rural Shiselwini Dist.	340	400
Lubombo District Total	650	920
Stegi Expanded Area	80	150
Big Bend Expanded Area	80	115
Mhlume Expanded	160	220
Tshaneni	60	115
Rural Lubombo	270	320
Swaziland Total	3,400	5,370
Urban	2,190	3,930
Rural	1,200	1,440

Source: Population projections, Appendix Table A-8.

Table A-37
Geographical Distribution of Households
1976 and 1976-88 Increases^a

	No. of Households 1976		% of Urban Total in Region	New Households, 1976-88	
				Total	% of ^b Urban Total in Region
<u>Core Region</u>	<u>32,057</u>			<u>22,853</u>	
Urban	17,033		100.0	19,127	100.0
Hhohho Portion	8,119		47.7	9,257	48.4
Mbabane Expanded	7,029		41.3	7,364	38.5
Ezulwini	460		2.7	1,166	6.1
Lobamba ^c	630		3.7	727	3.8
Manzini Portion	8,914		52.3	9,870	51.6
Manzini Expanded	6,471		38.0	7,345	38.4
Bhunya-Mhlambanyati	1,348		7.9	1,358	7.1
Malkerns	400		2.3	669	3.5
Mankayana ^d	157		.9	115	.6
Sidvokodvo	538		3.2	383	2.0
Manzini Rural	15,024			3,726	
<u>Northern Hhohho District</u>	<u>17,093</u>			<u>4,327</u>	
Northern Hhohho Urban	2,461	2,461	100.0	699	100.0
Motshane-Ngwenya	241		9.8	84	12.0
Pigg's Peak Expanded	1,073		43.6	333	47.7
Havelock	1,147		46.6	282	40.3
Hhohho Rural	14,632			3,628	
<u>Shiselwini District</u>	<u>17,753</u>	<u>17,153</u>		<u>4,687</u>	
Shiselwini Urban	854		100.0	626	100.0
Hlatikulu	219		25.7	132	21.1
Nhlangano	499		58.4	395	63.1
Lavumisa	136		15.9	99	15.8
Shiselwini Rural	16,899			4,061	
<u>Lubombo District</u>	<u>19,944</u>			<u>7,566</u>	
Lubombo Urban	7,363		100.0	4,597	100.0
Stegi Expanded	384		5.7	745	16.2
Big Bend Expanded	1,952		28.8	1,039	22.6
Mhlume Expanded	3,523		52.0	2,243	48.8
Tshaneni	913		13.5	570	12.4
Lubombo Rural	12,581			2,969	
<u>Swaziland Total</u>	<u>86,847</u>			<u>39,433</u>	
Urban	27,711			25,049	
Rural	59,136			14,384	

Footnotes to Appendix Table A : Geographical Distribution of Households
1976 and 1976-88 Increases^a

- a. Based on household projections in Table V-6. "Households" here is equivalent to census term, "homestead".
- b. Based on population projections, Appendix Table A-
- c. Estimate based on Hoff & Overgaard, Structure Plan for the Mbabane-Manzini Region, 1974, and not the 1976 census.
- d. Estimate based on report on a 1972 special survey.

Table A-38

Estimated Distribution of Homesteads by Income Level
 (Based on Non-Agricultural Wage Employment in 1976)

	<u># Males</u>	<u>Cum. # Males</u>	<u>Cum. % Males</u>	<u>Average Monthly Wage For Males</u>	<u>Avg. Wage Income Per Homestead</u>	<u>Homestead Inc. Adj. for Cash Sent to Rural Areas</u>
Private Sector Prof. & Tech.	569	33,366	1.000	581	726	617
Private Sector Adm. & Mngerial	623	32,797	.983	531	664	564
Public Sector Adm. & Mngerial	436	32,174	.964	378	473	402
Private Sector Skilled Workers	1,416	31,174	.951	315	394	335
A-55 Public Sector Prof. & Tech.	2,766	30,322	.909	196	245	203
Private Sector Cler. & Related	1,073	27,556	.826	162	202	172
Public Sector Skilled Workers	865	26,483	.794	158	198	168
Public Sector Cler. & Related	698	25,618	.768	113	141	120
Private Sector Semi-Skilled	3,487	24,920	.747	103	129	110
Public Sector Semi-Skilled	1,880	21,433	.642	87	109	93
Public Sector Unskilled Wrker.	5,784	19,553	.586	56	70	60
Private Sector Unskilled Wrker	<u>13,769</u>	<u>13,769</u>	<u>.413</u>	<u>51</u>	<u>64</u>	<u>54</u>
	33,366			112	141	120

Note: Expatriates are included above, but that portion of expatriate income which comes from foreign donor sources is not included.

Table A-39

ESTIMATED DISTRIBUTION OF INCOME FOR URBAN FAMILIES IN SWAZILAND
(1978 TERMS)

	<u>% Total Families</u>			<u>Distribution</u>			<u>Cumulative Distribution</u>		
	<u>Non Squatter</u>	<u>Squatter</u>	<u>Urban Total</u>	<u>Non Squatter</u>	<u>Squatter</u>	<u>Urban Total</u>	<u>Non Squatter</u>	<u>Squatter</u>	<u>Urban Total</u>
<u>High Income</u>									
E350+	13.0%	--	13.0%	24.5%	--	13.0%	24.5%	--	13.0%
<u>Middle Income</u>									
E160-350	29.0%	5.0%	34.0%	54.7%	10.6%	34.0%	79.2%	10.6%	47.0%
<u>Low Income</u>									
E135-160	5.9%	5.1%	11.0%	11.1%	10.9%	11.0%	90.3%	21.5%	58.0%
E110-135	3.9%	7.2%	11.1%	7.4%	15.4%	11.1%	97.7%	36.9%	69.1%
E75-110	1.2%	13.0%	14.2%	2.3%	27.6%	14.2%	100.0%	64.5%	83.3%
E60-75	--	5.3%	5.3%	--	11.3%	5.3%	--	75.8%	88.6%
E45-60	--	4.8%	4.8%	--	10.1%	4.8%	--	85.9%	93.4%
E18-45	--	5.5%	5.5%	--	11.8%	5.5%	--	97.7%	98.9%
E0-18	--	1.1%	1.1%	--	2.3%	1.1%	--	100.0%	100.0%
Subtotal Low Income	11.0%	42.0%	53.0%	20.8%	89.4%	53.0%			
Total	53.0%	47.0%	100.0%	100.0%	100.0%	100.0%			

Note: These estimates are based on Employment and Wages - 1976, the Establishments Register - 77/78, and the 1977 urban-rural migration survey. As these sources are based on different segments of the labor force, and no source of household income data covers all population segments, considerable judgement has been exercised by the researchers in interpolating these estimates from the data. These estimates should be replaced as soon as better data becomes available. Also, it should be remembered that these income estimates exclude expatriate income earned from abroad.

Table A-40

Derivation of the Household Income Distribution of Swaziland
1976 and 1978

This table is derived primarily from information on wages manipulated through the methodology described on the next page. There probably is a skewing of this data downward from the nature of the source data. For example, expatriates are included but that portion of expatriate income which comes from foreign donor sources is not included.

Avg. Monthly Cash Income		<u>Total</u> <u>Homesteads</u>	<u>Urban</u> <u>Homesteads</u>	<u>Rural</u> <u>Homesteads</u>
<u>1976</u>	1978 (+ 12%/year)			
E540+	500+	1,000+	1,000+	
400	500	640	640	
350	440	700	700	
300	375	1,000	1,000	
250	310	1,300	1,300	
200	250	2,210	2,000	210
150	190	6,000	3,000	3,000
100	125	22,000	10,000	12,000
50	60	21,200	5,200	16,000
25	30	30,800	800	30,000
Total Homesteads		86,850	25,640	61,210
Total Monthly Cash Income (1976)		7,200,000	3,900,000	2,200,000

Notes:

1. 1E = \$1.15
2. Wages increased by 12 percent in 1975 and 23 percent in 1976 according to the Central Statistical Office', Employment and Wages, 1976. Projection to 1978 assumes the lower rate of 12 percent which is about equal to increases in the cost of living.

Continued on next page.

Footnotes to Table A-40, Continued

3. In the absence of actual data assumptions were made concerning general indicators of the distribution of homestead income. The approach outlined below should be validated or replaced by empirical data as soon as survey reports become available:
 - a. Average monthly wages for non-agricultural male wage earners by skill level for both public and private sectors were taken from the Central Statistical Office', Employment and Wages, 1976. This represented a distribution of male wage earners into twelve income levels ranging from E51/month for private sector, unskilled workers to E581/month for private sector professional and technical employees. These were assumed to be heads of homesteads. (See Table A-38.)
 - b. Male wages earned were increased by 25 percent to reflect additional homestead income produced by wage earning women (assumed to be wives). This was regarded as homestead income.
 - c. Homestead income was reduced by 15 percent to adjust for money sent to the rural homesteads.
 - d. A distribution curve of these twelve cells of assumed levels of homestead income was made, reasonable income intervals were marked off and the numbers of homesteads within them were counted.
 - e. Allocation of some of these wage earning homesteads was made to rural areas as guided by employment in forestry, mining, and quarrying.
 - f. Non-wage earning rural homesteads were distributed by income based on de Vletter, The Rural Homestead as an Economic Unit, July 1978, p. 23.

Table A-41
Distribution of Income
In Urban Squatter Areas
(1977 "Urban-Rural Migration Survey")

<u>Household Income Range</u>	<u>Average Household Income</u>	<u># Households</u>	<u>% Households</u>
E180+	E200	10	5%
130-180	150	28	14%
80-130	100	60	30%
30- 80	50	88	45%
0- 30	10	<u>11</u>	<u>6%</u>
		197	100%

This data was gathered in August 1977 in the UBS "Urban-Rural Migration Study" under the direction of Fion de Yletter. Data on 285 urban households were initially tabulated by the Rivkin team, but only 197 questionnaires were judged to report income reasonably completely. Biases may exist in this data stemming from many reasons, including pride of the respondent (overstatement) and fear of assessments or crime (understatement). Income includes all cash income as reported in the survey including rental income from portions of the homestead.

Table A-42
Distribution of Government Wages
 (1977/78)

<u>Annual Salary Level</u>	<u>Estimated # of Employees</u>	<u>% of Distribution</u>
10,000+	20	--
8-10,000	54	--
6- 8,000	270	3.0%
4- 6,000	426	4.5%
3- 4,000	684	7.0%
2- 3,000	1,878	20.0%
1- 2,000	5,038	53.0%
Under 1,000	<u>1,103</u>	<u>12.5%</u>
	9,473	100.0%

Average salary = E2,100 est. per year (E175/mo.)

Median Salary = E1,600 est. per year (E133/mo.)

Source: Tabulation of data reported in the Establishments Register:
 The midpoint of salary ranges was used to represent each job. Government employees related to Defense were not listed in the Register. Total public sector employment is reported at 16,543 in Employment and Wages, 1976, A publication of the Central Statistical Office.

Table A-43

Trends in Average Monthly Wages
Public and Private Sector Combined

	<u>Male</u>	<u>Female</u>	<u>Total</u>
1974	70	45	65
1975	80 (+14%)	50 (+11%)	73 (+12%)
1976	99 (+24%)	66 (+32%)	90 (+23%)

Averages annual increases are 19% per year for males and 18% for males and females combined.

Source: Employment and Wages Reports from various years from the Central Statistical Office.

APPENDIX 44

BASIS FOR ESTIMATE OF CAPITAL REQUIREMENTS
FOR URBAN SHELTER IN SWAZILAND, 1978-83

Assumptions

1. Expansion of the squatter problem can be arrested if all new urban households have a better shelter alternative.
2. The income distribution of the new urban families will follow a pattern similar to that of present urban families. Consequently the range of shelter geared to the income levels of the new families would be similar to the prototypes listed in Table V-8.
3. The criterion of affordability is 25-30 percent of income as a maximum monthly mortgage or loan repayment under terms explained in Footnotes to Table V-8.
4. Investment implications of the preceding assumption are:

<u>Income Category</u>	<u>Average Shelter Investment Affordable at 25-30% of Household Income</u>	<u>No. of New Urban Households 1978-83</u>	<u>Total Investment Required 1978-83 (E 000)</u>
High	E 25,000	1,430	35,750
Middle	15,000	3,740	56,100
Low	4,600	1,210	5,566
Low	3,000	1,221	3,663
Low	1,500*	3,399	5,098
<hr/>			
Total 1978-83		11,000	E 106,177
Total Per Year, 1978-83		2,200	21,235

* Note: See Assumption 6 below.

5. Some of this shelter might be provided by individual families, some, by industrial enterprises in company towns, some by Government or parastatal agencies. How responsibilities might be divided is a matter for policy decision.

6. As indicated in Assumption 3, some of the need includes families who could not afford to repay loans for even the minimal site and services type of shelter. Some form of subsidy would clearly be called for in these cases, should a general squatment-avoidance policy be adopted. Whether additional subsidies might be created, and in what form, are questions of policy not addressed here.
7. This suggests that almost 98 percent of an initial capital outlay could be repaid over a 15-25 year period by the beneficiary households without undue strain -- provided mechanisms were available through which they could assume such obligation.
8. Clearly capital outlays on the order of magnitude of E 20 million per year are not within the capacity of Swaziland to make, even if they were to be repaid eventually. Moreover Swaziland has not yet had experience with shelter programs at a scale so massive as 2,200 units per year. Even with external assistance it does not appear that the problem of squatter living conditions can be wholly solved within the next five years. Still, the problem can be reduced by significant measure, should the nation undertake to set such a policy course.

APPENDIX 45

SUBSIDY IN THE AIDED SELF-HELP LOW COST HOUSING PROJECT

As of fall 1978, the MLA Housing Unit reports that the subsidy involved in their expanded (106 unit) aided self-help project amounts to 30 percent of the total cost (i.e. the difference between total government investment in materials, labor, land and infrastructure and the proceeds of mortgages with the Swaziland Development and Savings Bank).

An earlier report by the Housing Unit's Quantity Surveyor gives the following breakdown of subsidized costs for 85 units as of 21 June 1978. They are based on December 1976 costs for the first group of self-help units completed. Overall figures include land, infrastructure, construction labor and materials (but not value of the self-help participants' labor inputs).

Item	Cost by House Type				
	A ₁ (Core)	A ₂ (1 BR)	A ₃ (3 BR)	B ₁ (Core)	B ₂ (2 BR)
Trainees	E 19	E 25	E 38	E 22	E 34
Instructors & Site Supervisors*	140	189	282	161	253
Asst. Social Worker	8	10	15	8	13
Storage Facility (Construction)	5	7	11	6	10
Operation of Vehicles (fuel only)	23	31	47	27	42
Infrastructure (roads, water, sewerage, stormwater and earthwork)	1074	1074	1074	1074	1074
Total Subsidized Items	E1269	E1336	E1467	E1298	E1426
Total Cost of Unit**	E2569	E3020	E3881	E2765	E3608
Subsidized Items as Percent of Total Cost	49%	44%	38%	47%	40%
Number of Units built as of 6/21/78	5	17	24	18	21
Weighted average subsidy for the 85 units: 42%					

* The instructors and site supervisors were posts held by expatriate U.N. staff and therefore not paid from Government of Swaziland funds. The "costs" shown here reflect rates that would have been paid were local Swazi staff employed. (pp. 75 and 76 of 21 June 1978 report cited above.)

** December 1976 per m² costs for the respective units were reported at E103.67, E81.42, E65.48, E98.05 and E68.87 (Op.Cit. p. 80). If materials and paid labor alone are counted, the range of m² costs is E32-E38 and the average is E37.

Table A-45

Aided Self-Help Housing Project Cost Data*

(December 1976 Prices)

Rooms	<u>A₁</u>	<u>B₁</u>	<u>A₂</u>	<u>B₂</u>	<u>A₃</u>
	San. Core, K, LR	San. Core, K, LR	San. Core, K, LR, 1BR	San. Core K, LR, 2BR	San. Core, K, LR, 3BR
Gross Area	25m ²	28m ²	37m ²	52m ²	59m ²
No. Built May 76-Sept. 77	2	5	4	7	6
Cost of Materials (12/76 prices)	E860	E990	E1160	E1550	E1730
Cost of Paid Skilled Labor (12/76 prices)	<u>81</u>	<u>94</u>	<u>109</u>	<u>146</u>	<u>163</u>
A. Subtotal Mtls. & Skilled Labor Only	E941	E1084	E1269	E1696	E1893
Per m ²	38	34	32	38	32
Trainees	19	22	25	34	38
Foreman	64	74	87	116	130
Instructors/Site Supervisor	140	161	189	253	282
Storekeeper, Driver, Watch- man	61	70	82	110	123
Asst. Social Worker	8	8	10	13	15
Tools, equip., concrete mixers	32	37	43	57	64
Storage Facility Constr.	5	6	7	10	11
Operation of Concrete Mixers		2	3	3	4
Vehicle Op. Cost-Fuel Only	23	27	31	42	47
Infrastructure (roads, water reticulation, sewerage, storm drainage, grading)	1074	1074	1074	1074	1074
Land Cost	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
B. Subtotal Land, Infra- structure and Misc. Project Costs	E1628	E1681	E1751	E1912	E1988
Total House Cost (A&B)	2569	2765	3020	3608	3881
Per m ²	103	99	81	69	66
Mortgage Insurance	103	109	123	145	159
Homeowner's Ins.	<u>45</u>	<u>45</u>	<u>45</u>	<u>45</u>	<u>45</u>
C. Subtotal Ins.	E 148	E 154	E 168	E 190	E 204
Total Mortgage (Charged to Owner)	E1278	E1374	E1618	E2060	E2309
Monthly Payment	E10.01	E10.75	E12.65	E15.45	E17.31

Source. Stig Andersson, Quantity Surveyor, Low Cost Housing Unit, Ministry of Local Administration, P Report and Case Study, Self-Help Scheme, Msunduza I, Mbabane, Swaziland, 1978 06 21, pp. 78-81. Costs are based on groups of 24 houses built between May 8, 1976 and September 19, 1977, adjusted to mean date construction December 1976. No imputed value of self-help labor is included here, but it has been estimated elsewhere in this citation as ranging from E 316 in the smallest house to E635 in the largest.

APPENDIX 46

RURAL-URBAN MIGRATION STUDY

In the summer of 1977, students at the University of Botswana and Swaziland* conducted a survey in a number of the low income, informal shelter settlements of Mbabane and Manzini. The questionnaire attached to this appendix was administered to approximately 300 respondents. They were distributed among the settlements as follows:

<u>Low Income (Migrant) Housing Area</u>	<u>No. of Survey Interviews</u>
<u>Mbabane and Vicinity</u>	<u>94</u>
Fonteyn	13
Mangwaneni Corporation	19
Msunduza	12
Mvakwelitshe	27
Sidwashini	4
	19
<u>Manzini and Vicinity</u>	<u>206</u>
Khoza's Area	94
Kwaluseni	9
Moneni	51
Zakhele	29
Kamanzana	3
Sitandeni	20

Students were instructed to interview at every third house (not a randomly selected sample) and to go on to the neighboring house if they found no one at home or a respondent unwilling to be interviewed.

The questionnaires were coded and tabulated for selected questions in July 1978 by the Rivkin Associates' team. After being culled to remove obviously invalid or inconsistent questionnaires, there were approximately 285 questionnaires remaining in the sample. Not all questions were answered in each case so the sample size for individual questions varies. In the case of monthly income data reported in Figure 9, p.IV-16, for example, the weighted average figures for households reporting income from all sources (e.g. salaries of all household members, room rentals, informal sector enterprises, et al) was computed. Other information presented in the Figures 9-13 of Chapter IV was checked against enumeration district tallies from the 1976 Census (e.g. shelter occupancy) or the Rivkin team's observations from field visits and a limited number of interviews.

* Under the supervision of Fion de Vletter.

The survey was designed with objectives other than strictly gaining data on which to base the planning of shelter. Therefore, much information that would be crucial to a housing program (e.g. current savings practices, expenditure patterns and the capacity of various income strata to save) is not systematically obtained. Nor is comparability with other available data easily established.

Income information for families who applied to participate in the Msunduzi aided self-help housing project shows a monthly average of E76 in 1978. The difference between this level and the E55 of the UBS survey could be attributable to sampling error, inflation between 1977 and 1978 and possibly even a bias because the lowest income families of Msunduzi would not be applying for the Housing Unit project. Even while this shelter sector study is being completed, a survey of housing quality and incomes in the low income areas of Mbabane and Manzini is in process for the Housing Unit. The new survey may be expected to reveal a more definitive picture. Thus, the Rivkin team has urged that income estimates in this shelter sector study be regarded as judgmental and indicative only.

For the purpose of designing a shelter program such as this study outlines in its recommendations, the Government of Swaziland will need proper survey data for the low income population of all the towns and significant settlements in urbanizing areas. It will be important to gain knowledge of the resources and income potential of the families who will be migrating to the urbanizing areas over the coming years as well as the families who have already arrived. An inventory of shelter conditions, costs, production levels, and availability in the smaller towns will also be necessary for the planning of appropriate program components.

Mbabane-Manzini Rural-Urban Migration Study

Department of Economics,
University College of Swaziland

Do
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Name of Interviewer _____ Date _____

Area of Interview _____ Household Number
(If possible) _____

Description of Premises

Sex of Respondent Male Female Position in Household _____

Background/Motivations/Achievements

1. How old are you? _____

2. What level of education have you attained? _____

3. Where is your "home"? (i.e. place which could be considered a family base)
(Specify area by name, district and nearest town)

4a. When did you leave your home area? _____

b. Why did you leave your home area?

2
~~3~~

5d. Are you satisfied with your present form of employment? _____

If YES: How long were you in this area before obtaining satisfactory work?

If NO: Why not?

Family Structure

6a. Who did you stay with when you first arrived in this area?

b. How long did you stay with them? _____

c. Did you stay in any other households before moving into this house? _____

If YES: Who did you stay with and for what periods of time?

c. Where did you go and what did you do from the time you left your home area to moving to this area? (Ask respondent to indicate all places lived in and all employment activities engaged in during that time)

d. What would you have done if you had remained in your home area?

5a. What attracted you to come to this area?

b. What type of employment did you expect to obtain on moving to this area? (Ask respondent to indicate what he realistically expected to do as opposed to what he/she wanted to do)

c. What type of work have you done since arriving in this area? (Ask respondent to indicate all forms of income generating activities engaged in)

7. Who lives in this household presently? (Ask respondent to specify relationship and age of each inhabitant including all non-family members)

8. Do you or any of your family own a rural homestead? (Explain)

If YES: Who lives in rural homestead? (Ask respondent to specify relationship and age of each inhabitant to the best of his/her knowledge)

9. How many people do you support with your income? (Explain)

Income Flows

10a. What types of activities/employment are you presently earning income from?

b. How much do you earn per month from these activities/employment?(approximation) (Break down by activity if possible)

103. Who else in your household earns income? (Specify who, what type of work and approximate monthly income)

1. Do you receive food or any goods from your rural homestead? _____

If YES: What types of food/goods and what quantities per month (approximately)?

Expenditure Patterns

12. What do you consider your main items of expenditure are? (list in order of importance if possible)

13. Do you send money or goods to your rural homestead? _____

If YES: Approximately what value, how often?

14. Do you plan to buy cattle with your earnings? (Explain)

15. Do you save or plan to save any of your earnings in a bank or its equivalent? (Explain)

Housing

16a. Do you own or rent your house?

b. Who owns the land that you live on?

c. If respondent rents house/land ask: How much do you pay per month
for: i/ house
ii/ land

17. Do you rent out or sub-let any rooms in your house?

If YES: How much do you earn from rent per month?

18. What payments do you or did you make to: i/ municipality/govt.
(Explain in each case)
ii/ local chief
iii/ other (Explain)

19. Have you already or do you plan to spend much money on household improvements or expansion?

If YES: ask respondent to give details.

If NO: Why not?

20a. What do you feel are the main problems of housing in this area?

b. What problems do you believe require immediate attention?

Services

21. Have any members of this household fallen seriously ill or died?

If YES: ask respondent to specify the age of those afflicted and from what illness or disease if known.

a. When ill what medical facilities would you use? (Tick appropriate category (ies) and ask respondent to elaborate if possible)

- Government Clinic
- Government Hospital
- Private Clinic
- Mission Clinic/Hospital
- Private Practitioner
- Swazi Traditional Doctor
- Other (Specify)

b. What do you feel are the main problems of the medical facilities provided for this area?

23a. How far away is your nearest suitable water supply?

b. How is it fetched?

- stream
- stand pipe
- household plumbing

24. How are your wastes disposed of? (Ask respondent to indicate separately for human waste and rubbish)

25a. How many members of this household go to school?

b. If there are any members of the household who are eligible to go to school but do not, why don't they?

Attitudes

6. Would you be willing to consider manual work in any of the following areas? (Ask respondent to explain why/why not for each case)

i/ South African mines (only if respondent is male)

ii/ Farming or forestry in South Africa

iii/ Manufacturing sector in South Africa

iv/ Mining in Swaziland

v/ Citrus plantations in Swaziland

vi/ Sugar estates in Swaziland

vii/ Forestry in Swaziland

viii/ Other commercial farming in Swaziland

27. Do you think you will ever leave this area and return to your home area for any period exceeding one year? _____

Why/why not?

28. If respondent does not have his/her own rural homestead ask:

a. If you were given land for your own homestead would you return to the land? (Explain)

b. Do you think you will ever have your own land for a homestead?

If YES: When?

If No: Why not?

29. Do you return to your rural home area during the year?

If YES: a/ When?

b/ About how often?

c/ For what purposes?

30. Do you feel that your absence from your home area has affected the agricultural production of your family's rural homestead? (Explain)

31a. What do think about the services and facilities the government has provided for this area?

b. What in your mind requires urgent attention by government?

31a. Do you think traditional values or customs have changed significantly in this area compared to those of your home area? (Explain)

32b. If respondent feels that they have changed ask how they have changed in respect to the following:

i/ marriage

ii/ kinship ties / extended family relations

iii/ respect for elders in family

iv/ respect for traditional authority e.g. chiefs

33a) What aspects of life in this area do you like in relation to living in rural area?

b. | What aspect of life in this area do you dislike in relation to rural area?

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