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**Annex A
ANGOLA**

A Report to the Congress on

**DEVELOPMENT NEEDS
and OPPORTUNITIES for
COOPERATION in
SOUTHERN AFRICA**



ANGOLA

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I. Introduction and Summary

A. Introduction

Angola officially gained its independence from Portugal on November 11, 1975. Independence both preceded and followed an intensive, two-year civil war, which, to date, has not been definitively resolved. The present Government of Angola is under the control of the Popular Movement for the Liberation of Angola, the MPLA, a left-leaning, nationalist organization, which, to a certain extent, relies on the presence of Cuban military for the maintenance of its power. In light of the Cuban involvement, the United States has withheld formal diplomatic recognition of the People's Republic of Angola.

Because of independent Angola's short and turbulent history as well as its comparatively restricted contacts with the West, detailed information on the country's development status is generally unavailable, inconsistent, or incomplete. This constraint constitutes a major difficulty in any attempt to analyze the nature of Angola's development problems or prospects, which is the purpose of this paper.

It is hoped that, in the pages that follow, the reader will be able to obtain a better comprehension of the present Angolan situation. In recent years, Angola's image before the general American public has almost consistently been clouded by major power, East-West, global political considerations. While international involvement clearly is a significant aspect, it

is not the only issue, and is better understood within the total Angola context.

B. Summary

Angola, is, without doubt, an underdeveloped country. Poverty is widespread. Since the departure of the European population (mostly Portuguese), shortly after independence, there is virtually no middle or upper class. Both the birth and death rates are uncommonly high. The Physical Quality of Life Index, recently developed by the Overseas Development Council to weigh such elements as life expectancy, literacy, and infant mortality on a scale of 1 to 100, rates Angola at a low score of 15 (Zaire rates 28, Botswana 45, India 43, the Phillipines 71, and Bolivia 43).

Poverty was primarily the product of colonial neglect of the country's basic development needs. Little or nothing was done to educate the people or to train them in essential vocational skills. Health services to non-Europeans were minimal. Little effort was made to improve traditional agricultural practices or to enhance the supply and marketing of food commodities. Development that did occur, for the most part, was directed at the exploitation of Angola's wealth of resources, especially minerals and petroleum. Most of the profits and benefits from such activities benefitted neither Angola nor Angolans. Nevertheless, it is the established existence of such wealth that provides substantial cause for optimism for

the future development of the country.

Equitable, participatory development appears to be the cornerstone of the program of the Government of Angola. In this program, first priority is given to increased agricultural production and primary and literacy education.

At the present time, the major constraints faced by the country are dramatic production losses in all sectors, due in part to the civil war and the lack of trained and experienced managerial and skilled manpower. Even though Angola is not yet fully at peace, development activities are apparently being aggressively pursued. From one perspective, the government views the development effort and the consequent improved standard of living as the basis for national cohesion and unity.

Government planning documents indicate that foreign assistance will play an essential role in the fulfillment of the development plan. Initially, Angola has neither the financial nor the human resources it will require to achieve a self-sustaining momentum in development. Nevertheless, the government has explicitly stated its intention of repaying all donors, once the country is on a more stable economic footing, for assistance they provide. Such optimism is, in part, justified by the virtual certainty of the income producing capacity of the nation's mineral reserves. Additionally, the prospects for achieving self-sufficiency in food supply and basic industrial consumer needs are also good. The most significant aspect of the

"repayment" policy is that it demonstrates the government's commitment to and belief in the nation's development, as well as its desire to stand independent of foreign obligations.

Little detail is available on the role of foreign assistance to date. Information indicates that most of the aid received has been for relief or reconstruction. However, there are indications that this phase is beginning to pass and that future assistance will be more directed toward longer-term development considerations. Because of the political differences between the governments of the United States and Angola, as well as legislative restrictions imposed by the U.S. Congress, there has been no bilateral American assistance program. It is not possible to estimate when diplomatic relationships will be established, although the two governments have, during the past year, held useful consultations on matters of common interest. When relations are eventually normalized, a bilateral development program will likely be an important aspect of the new relationship.

The Government of Angola has consistently referred to its foreign policy as being one of independent nonalignment. In this context, participation in development by a variety of donors is a rational objective. Angola's development goals of equity, popular participation, and an improved

standard of living for the poorest are in complete accord with the Congressional Mandate of the Foreign Assistance Act. Thus, the ultimate elaboration of an American aid program (once diplomatic issues are resolved) in support of Government of Angola development priorities should pose no obstacle to either party.

Finally, Angola will have both important political and economic roles to fulfill in the future development of the southern African region. Already, Angola has constructively participated in attempts to bring about the peaceful resolution of conflicts in Namibia and Zimbabwe (Rhodesia). When peace is eventually established in the region, Angola's resources in energy (both petroleum and electricity), transport (rail and sea), and minerals (potential for large-scale fertilizer production), will provide important inputs to the economic development of its neighboring countries.

Table I

Information Summary
Country Profile

Total Land Area: 481,351 square miles
Population Total (1975): 6,353,000
Urban Population: 15%
Rural Population: 85%
Population Density (1970): 11.8 per square mile
Per Capita GNP (1976 Estimate): \$330
Capital City: Luanda
National Language: Portuguese
Date of Independence: November 11, 1975
President: Agostinho Neto
Miles of Paved Road: 5,300
Principal Foreign Exchange Sources: Petroleum, Coffee,
Diamonds, Rail Transit
Literacy Rate: 15%

II. General Background

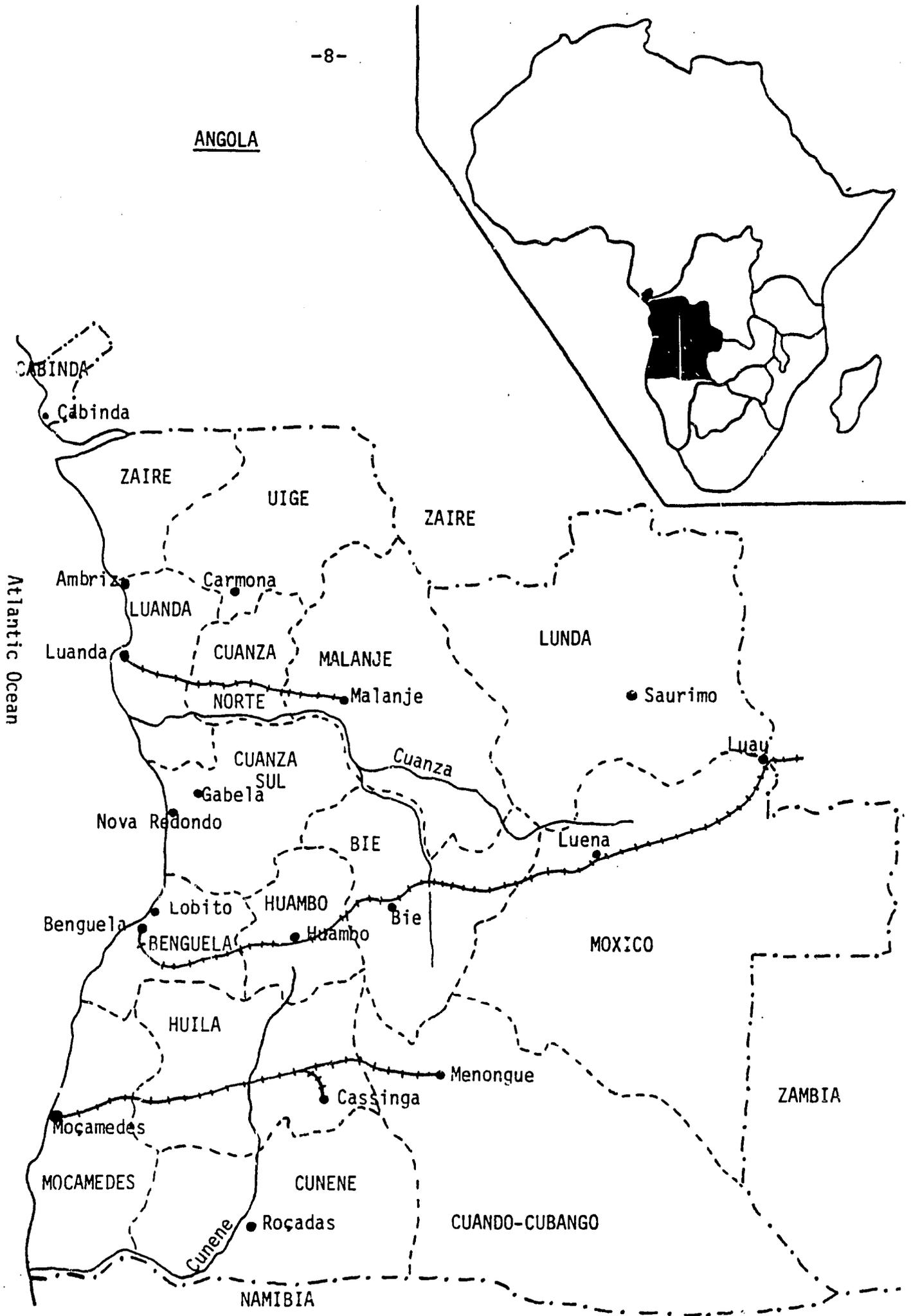
A. Physical Features

Almost twice the size of Texas, Angola occupies 481,351 square miles of land on the west coast of southern Africa. The country's land mass is divided into two parts: the main body, which lies below the Congo River and shares borders with Zaire to the north, Zambia to the east, and Namibia (South-West Africa) to the south; and an enclave, Cabinda, located to the north of the Congo River, bounded by Congo (Brazzaville) and a narrow strip of Zaire, which separates the province from the rest of Angola. The capital city and main population center of Angola is Luanda.

The country's major topographical feature is an escarpment, which runs from north to south approximately one hundred miles inland from the Atlantic coastline. This elevation, which ranges from 3,000 to 7,000 feet in height, is a major factor in the delineation of demographic, economic, and ethnic patterns. Angolan terrain varies from generally flat, coastal plains to rugged hills in the interior. Most of the remaining portion of is characterized by a rolling, high plateau.

Several major river systems drain the plateaus. Rivers of note are the Cassai and the Congo/Zaire Rivers in the northeast, the Cuando and Cubango in the southeast, and the Cunene in the south. These waterways represent important resources for power, irrigation and, to a lesser extent, transportation.

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Angola's long coastline has a number of good, natural harbors. The most notable of these are located at Cabinda, Luanda, Lobito and Moçamedes . Each of these harbors has relatively modern port facilities and linkages with freight carrying railroads.

The climate of Angola is largely tropical. The regions to the south of Luanda tend to be increasingly arid, in direct proportion with proximity to the Mocamedes Desert. Provinces in the north have two seasons: May to October, which is cool and dry, and November to April, which is rainy, hot, and humid. Three-fifths of Angola is covered by forest or woodland, although vegetation differs in accordance with elevation and rainfall.

The Angolan Ministry of Agriculture has calculated that approximately 6.4% of the national territory, i.e., 19.7 million acres, is arable. Of this amount, only about 23%* is actually under cultivation. Angola's soils are generally regarded to be of limited use for agricultural purposes, due to their low fertility and moisture holding capacity. The country's most fertile soils are located on the western half of the interior plateau. Coffee is the principal crop of this region. Other crops grown here include cassava, cotton, tobacco, peanuts, and garden vegetables. The drier, sandy coastal plain supports the

*All data concerning the current situation in Angola is, at best, tenuous. Independence and war have severely disrupted (permanently or temporarily) traditional social and economic patterns, as well as the means for gathering reliable statistics. Unless otherwise noted, data cited in this paper is the most recent available, and is generally no older than 1975.

cultivation of sugarcane, sisal, and bananas, as well as the subsistence crops cassava and palm oil. Cattle raising is limited to the arid lands of the central and southwestern portions of the country. Most of the northern area is rendered unsuitable for this purpose as a consequence of tsetse fly infestation.

Of vital significance is that Angola is rich in commercially exploitable mineral resources. Most notable of these are oil and diamonds. The country's largest oil producing region (under concession to the Gulf Oil Company) is the Cabinda enclave, although there are several other locales already in production and/or which have good potential for additional new discoveries. The most important diamond mining region is situated in the northeastern district of Lunda Norte. In 1973, Angola exported 2.1 million carats of diamonds, 75% of which were of gem quality. Other exploitable minerals include iron, fluorspar, zinc, lead, manganese, phosphates, gold, bauxite, and uranium.

B. Demography

One estimate of Angola's population in 1975 is 6,353,000. For the same year, the World Bank indicates a population of 5,470,000. War, the exodus of the European population, and a two-way flow of refugees across Angola's borders make precise demographic calculations virtually impossible. Accordingly, available data show conflicting annual growth rates of from 1.7% to 2.2%.

Population density in 1970 averaged 11.8 persons per square mile. However, this average is relatively meaningless as settlement around the country is rather uneven. Density in the more populated districts is 10 to 15 times greater than that in the least densely inhabited zones. Historically, the greatest population concentration has been on the coast or in the more fertile interior regions. Over 70% of the Angolan people reside in the northern and western portions of the country. The areas of least density are in the far eastern part of the nation.

At present, the population of Angola is estimated to be 85% rural. However, a shift toward urban settlement gained momentum in the 1950's and accelerated in the 1960's and early 1970's. The main urban centers are Luanda (population 500,000), Huambo (population 50,000), and Lobito (population 40,000). Available information indicates that the most typical urban migrants are males between the ages of 15 and 40 years. It is apparent that the trend toward urban growth, since 1975, has markedly decreased, or may have even ceased entirely. This phenomenon is the result of the wars which caused the exodus of much of the European (Portuguese) population from the country and the return of large numbers of rural migrants to their villages.

It was estimated that Angola's 1974 white European population was 350,000. Most of these individuals fled the country in

the latter part of 1975, and only about 40,000 remain. In addition, an undetermined number of assimilados, black or racially mixed individuals who, culturally, are more Portuguese than African in style, have also departed. The loss of these groups of people has left Angola critically short of skilled personnel in nearly every field of specialization.

Another significant component is the refugee population both in and outside of Angola. One source indicates that there may be almost one million Angolans living temporarily outside of the country, of whom 600,000 are in Zaire. In addition, as many as 250,000 refugees from Zaire's Shaba Province are estimated to have entered eastern Angola in the past two years; however, many of these (perhaps 50,000) have begun to return to their own country.

For 1975, crude birth and death rates are estimated at 47 and 25, respectively. Life expectancy at birth is 38 years. Available data indicate that in 1975, 52.4% of the population of Angola was under the age of 20. If a population growth rate of 2.5% is assumed, the number of years required for Angola's population to double is 28.6.

C. Culture

Native Angolans are almost entirely Bantu of various tribal groupings. Three quarters of the total population are included in one of four major ethnic tribal groups. The largest of these, known as the Ovimbundu, live in the central and southern regions of the country. Almost 40% of Angola's population is Ovimbundu. Another tribe, the Bacongo comprise an additional 13%

of the population and live in the northwest, extending over into adjacent areas of the Congo and Cabinda. The Kimbundu, who occupy the area inland from Luanda, are culturally, but not ethnically, related to the Bacongo. Representing 23% of the population, they are among the more detribalized of the indigenous Angolan ethnic groups. The fourth major tribal grouping encompasses 8% of the population and is known as the Chokwe. The Chokwe live in the eastern portion of Angola and are a comparatively less developed people.

Ninety-eight percent of the tribal Angolans speak languages of the Bantu family which, while related, are not mutually intelligible. Prior to colonization, the different ethnic groups were rather flexible, with individuals being able to learn new cultural patterns with relative ease. However, Portuguese colonial rule assured that such fluidity did not exist. Administrative policies tended to rigidify tribal differences, thus bringing about greater isolation and lack of communication between indigenous tribal groups. This enhanced the separation of tribal identities, later a significant factor in internal Angolan politics of the 1970's.

Eighty-four percent of the population is of animist religious beliefs and follow traditional customs. Other religions practiced in the country include Roman Catholicism (12%) and Protestantism (4%). Prior to independence, the latter two religious groups operated a number of missionary schools, which

have since largely gone out of existence as the government has assumed all educational responsibilities.

D. Historical/Political Profile

Angola was discovered by the Portuguese explorer Diogo Cao in 1483. Cao found the land under the rule of two African monarchs, Manicongo and Ngola (from whose name Angola was derived). In 1540, the Portuguese sent a small fleet of ships carrying priests, skilled workers, and tools to Manicongo, who received the mission warmly and accepted Christianity. By the 16th century, however, slaving led to the deterioration of relationships between the Portuguese and their African hosts. During the 19th century, Angola served as the major source of supply for Brazilian plantation slave labor. It has been estimated that over 3 million Angolans were sent to North and South America during three centuries of slave trading activity.

Angola's boundaries were firmly established by the Berlin West Africa Congress of 1884-85, in which France, Germany, and Portugal won recognition of the borders of their colonies with the Congo. A separate agreement in 1905 established the border between Angola and what is now Zambia. Portuguese settlement in Angola did not begin in earnest until the 1930's, and continued through the 1960's.

The present Government of the People's Republic of Angola is dominated by the Popular Movement for the Liberation of Angola, the MPLA. The MPLA defines itself as a nonaligned,

multi-racial, socialist party. Discontent with Portuguese colonial rule led to the formulation of the MPLA and two other significant liberation parties, the FNLA (The National Front for the Liberation of Angola) and UNITA (the National Union for the Total Independence of Angola)* Two unsuccessful wars for independence were waged in 1961 and a third in the latter part of the 1960's. However, the 1974 military coup in Portugal brought about the decision to grant independence to all the African territories, including Angola. An interim government with MPLA, FNLA, UNITA, and Portuguese participation was a distinct failure. A civil war ensued with Western support for UNITA and the FNLA and Soviet and Cuban support for the MPLA. While its victory has never been complete, the MPLA declared itself the government of Angola on the day of the country's independence, November 11, 1975, and has since been trying to consolidate its authority.

Tribal identifications have tended to link the MPLA with the Kimbundu of the region surrounding Luanda, the FNLA with the Bacongo tribal groupings of the north, and UNITA with the Ovimbundu to the south. While the MPLA is more racially mixed and explicitly non-ethnic in its policies and ideologies, cultural appeals made by UNITA and the FNLA have demonstrated the significant role of tribal considerations in Angolan politics. Tribal influence has been a vital factor in continued

*A number of other pro-liberation organizations were also founded at the same time. However, these, for the most part, were either ineffectual or absorbed by the three major parties. A fourth major group, FLEC (The Front for the Liberation of the Enclave of Cabinda) is still somewhat active and favors the separation of oil and mineral rich Cabinda from the rest of Angola.

guerilla warfare and economic disruptions in Angola. It is unlikely that the FNLA or UNITA, the stronger of the two opposition groups, will be able to depose the MPLA government. However, because of the ethnic solidarity behind the insurgency campaigns, their presence will continue to hinder Angola's progress as a nation. The Government's present policy calls for the integration of all elements of the population into the governing and development process, but does not include negotiation with the insurgent groups. How long it will take to resolve the internal conflicts remains uncertain.

On-site Cuban support for the MPLA government continues to be a vital factor in 1978. Not only do Cuban troops help defend against the guerilla attacks of the FNLA and UNITA, but technicians from the Caribbean nation are also playing an essential role in national reconstruction. Cuban health personnel are training Angolan nationals and are helping to staff key medical posts. Teams of Cuban engineers are aiding in the rebuilding of important roads, railways, and linkages that are necessary for Angola's continued economic survival. Additional Cuban technicians are assisting in such other areas as agriculture and education.

E. Geopolitics: Angola's Role in Southern Africa

An interesting perspective from which Angolan history of the 1970's may be politically analyzed is to view the four distinct sets of political circumstances that the MPLA has had to confront. The first two of these concern independence from the Portuguese and the conflict between the internal tribal and political factions. The third category encompasses global

relationships with Russia, Cuba, and the United States. Finally, the fourth set of factors involves the complicated geopolitics of southern Africa.

Angola's Benguela railroad provides an important outlet for the products of Zambia and Zaire. This railroad was closed as the result of the civil war in 1975. At that time, the railroad carried more than 40% of the trade of Zaire and Zambia. The continued unavailability of the Benguela outlet has recently (October 1978) forced landlocked Zambia to open partially its borders with Southern Rhodesia, in violation of the official United Nations economic blockade of that country.

Proximity to Western-oriented Zaire's Shaba province has resulted in two invasions (1977 and 1978) by Katangans who have found refuge in the northern region of Angola. The presence of a potential threat of continued invasions of Shaba has encouraged a political reconciliation between the mutually distrusting governments of Angola and Zaire.

To the south, the existence of a border with Namibia (South-West Africa) has provided Angola with an opportunity to play a significant role in the evolution of the independence of that United Nations trust territory from South Africa. The MPLA Government of Angola has consistently given its support to the South-West Africa People's Organization (SWAPO). As a result, SWAPO military actions against the troops of South Africa have often originated from bases within Angola.

Over the past year, the Government of Angola has played an important role in working with the United Nations and the West in seeking the peaceful independence of Namibia.

In addition to transport and politics, Angola potentially possesses one other vital aspect critical to the destiny of the region: energy. As mentioned, the country has vast petroleum reserves. Existing plans for the exploitation of these resources (including natural gas), as well as further exploration, seem to be well-defined and, to a significant extent, already operational. However, perhaps even more important to the region, is Angola's impressive potential for hydroelectric development. A Portuguese report indicates that Angola's estimated fully developed hydroelectric generating capacity is 72,000 million Kwh, an amount unquestionably in excess of the country's own needs for the foreseeable future. Thus, the availability of exportable quantities of energy could give Angola an important additional role to play in the economic development of the southern Africa region.

F. Relationship with the United States

As of December 1978, the United States and Angola do not have diplomatic relations. A principal obstacle to official mutual recognition is the continued presence of large numbers of Cuban military troops in Angola. It is the U.S. position that an acceptable Angolan government must possess a broad base of support among the nation's people and should not have to rely on

foreign military forces for its existence.

Notwithstanding the lack of an official relationship, the U.S. has not discouraged American firms from working in Angola. The Gulf Oil Company continues to hold the major drilling concession in Cabinda. During 1978, it is estimated that this operation will provide from 60% to 80% of the Government of Angola's revenues. Another major oil concession is held by the Texaco Corporation. At the present time, other U.S. oil firms are in the process of negotiating for exploration rights from the Angolan government.

The Boeing Company recently sold three 737 jet aircraft to Angola and is involved in the modernization of air traffic control systems in 6 major civilian airports. Other U.S. commercial enterprises are showing increasing interest in doing business in Angola.

To a certain extent, it can be said that good relations with the United States are essential if the Angolan Government is to honestly achieve its avowed goal of nonalignment. Angola does, in fact, seem to be making a concerted effort to broaden its diplomatic and economic ties with the West.

III. Macro-Economic Profile

A. Gross National Product

The World Bank estimates per capita Angola GNP (in current U.S. \$) in 1976 to be \$330. However, very poor data render this statistic highly questionable. At best, it can be said with certainty that per capita GNP has dropped precipitously since 1974 (for which the World Bank estimate was \$390). Factors in the decline include the flight of resources (human, capital, and financial) from the country with the exodus of the Portuguese and agricultural and industrial disruption due to ongoing civil turbulence. In addition, per capita GNP data do not reflect the substantial income gap that existed between Europeans and native Angolans.

Angola's estimated GNP in 1976 was US \$1.83 billion (US \$2.34 billion in 1974). Annual average GNP growth between 1965 and 1974 was approximately 6.5 percent. Because of poor data and the uncertainties which face the new Angolan Government, the future growth of GNP is difficult to predict. Nevertheless, it can be said that, if a reasonable degree of peace can be achieved, the potential for vastly increased earnings from mineral and energy exploitation as well as from transport fees (i.e., rail and port operations) is great. Thus, given the natural wealth of the country and its relatively low rate of population growth, the former can be expected to continue to exceed the latter.

There is no reliable data available on Angola's balance of payments since 1974. For the most part, between 1964 and 1974 the trade balance was positive. In declining order of importance, principal exports were: crude petroleum, coffee, diamonds, and sisal. Angola's principal trading partners in 1976 were Portugal, Brazil, the Soviet Union, and Yugoslavia.

It is the intention of the Government of Angola to have a fully state-operated banking system (controlled by the Banco Nacional de Angola). However, this plan has not yet been completely implemented. In January of 1977, the national currency, the Angolan escudo, which had been maintained on a par value with the Portuguese escudo, was withdrawn. Issued in its place was the Kwanza (kw), one of which equals 100 Lwei (lw). While it is not a convertible currency and does not circulate outside of Angola, US \$1 is worth approximately kw 30.

Inflation, between 1971 and 1974, was 145 percent. This accelerated rate reflected worldwide inflation at the time as well as severe exchange controls that were in effect. Price data, since independence is unavailable; nevertheless, it is likely that prices will continue to rise as a consequence of war-related low productivity, especially in diamonds, coffee, and domestic food supplies, as well as the increased demand for financial resources for reconstruction.

B. Employment

Estimates indicate that between 75 and 85 percent of the

economically active population is engaged in agriculture. In 1971-72, there were 1,199,000 traditional farms and 8,000 commercial farms. Thus, given the predominantly subsistence agriculture profile of the economy, unemployment per se is not a problem; what does preoccupy the Government is underemployment. Both the civil war and the departure of Portuguese technicians have severely limited activities in mining, manufacturing, and transport, three sectors responsible for significant amounts of relatively high productive employment. While it is expected that destroyed facilities can be replaced and disruption from continued warfare will steadily decrease, the absence of trained and experienced managerial and technical personnel will not easily be overcome. Accordingly, Government plans to increase the productivity of labor, in the short-run, may be limited to the expansion of the State system of farm cooperatives (see discussion in Section V,B,6).

Generally speaking, Angolans have not migrated to nearby countries (e.g., South Africa) in search of employment. While there are exceptions to this observation, they are not statistically important. Nevertheless, compared to other countries in southern Africa, Angola has practically no economic relationships with South Africa.

C. Wages

As with other economic data, there is relatively little information available on wages. Under Portuguese rule, in 1968, unskilled Angolan labor earned approximately US \$0.09 per hour.

The wage scale improved substantially for assimilados and Europeans. The daily 1970 rate for laborers in commercial agriculture was reported to be approximately US \$0.44.

After independence, the MPLA declared wages a prerogative of the state. Wage studies were ordered, but have not been fully completed. Information available for fisheries and construction indicates that unskilled workers earn approximately US \$0.26 per hour (US \$11.23 for the standard 44 hour work week). Six job categories had been identified for agricultural activities; however, other than the information that the standard 44 hour work week would apply, no pay scales were available. In any case, only agricultural labor involved in organized activities (e.g. state-owned or mixed enterprises) would be subject to the official wage rates. Published policy states that remuneration would be based on the quantity and quality of work done.

D. Membership in World Organizations

At this writing, Angola belongs to neither the International Monetary Fund nor the World Bank (IBRD), and available information indicates no desire on the part of the government to join either organization. Angola became the 146th member of the United Nations in December 1976 and also belongs to the Organization of African Unity, as well as the African Development Bank. Although eligible, Angola has not applied for ACP (Africa, Carribean, Pacific) country status with the EEC, although observers have been sent to the Lome II negotiations.

IV. Major Characteristics of the Government

A. General Philosophy

The President of Angola and leader of the MPLA is Dr. Agostinho Neto, a Portuguese-educated Kimbundu physician. Relative to the other two political parties, the MPLA's leadership is more urban, intellectual, and racially mixed.

At independence, Dr. Neto stated: "Angola is an underdeveloped country. We must be profoundly aware of the significance and consequences of this fact. The indexes traditionally used to define underdevelopment are fully confirmed in Angola. They present the image of the Angolan people's profound poverty. In effect, equitable social and economic development are considered both the cornerstone of MPLA policy and the most effective means of consolidating political authority over the national territory."

The Government seeks to implement a fully planned, socialist economy. Nevertheless, its pragmatic approach has been to encourage private sector participation, where such involvement would logically be most effective.

The Government also seeks to eliminate in Angolan society all forms of exploitation of man by man. Published policies indicate the objective of redistributing national income in the manner which will most optimally serve the interest of the majority of the country's citizens..

A major objective is to raise the national standard of living. The Government views the achievement of this goal as being dependent on its success in increasing production and productivity. Thus, especially during the phase of reconstruction, there will

be a need to curtail "superfluous" consumption. In this context, needless imports will be identified and eliminated or reduced. Those imported goods for which the country has an ongoing need, to the extent possible, will be produced nationally.

Below is a partial list of Angola's development objectives taken from the MPLA's December 1977 Congress on the subject of national development planning:

- Guarantee the existing level of supply of foodstuffs and the daily necessities to the urban areas.
- Give priority to the distribution of consumer goods in rural areas.
- Gradually increase the population's general consumption level as national production is increased.
- Assure the balance between the population's money income and the availability of consumer goods, thus fighting inflation.
- Achieve stability in the people's real income through measures aimed at national income redistribution and the development of social consumption funds, especially for health, education, and social welfare.
- Promote an increase in the real income of the lowest income population segments.
- Achieve the systematic integration of the peasantry into the mercantile economy, assuring a growing exchange of

products between the cities and the rural areas.

- Establish a national uniform price policy for essential consumer goods; fix prices so as to make sure that price formation will bring consumer goods within reach of the entire population, and raise prices on superfluous products and services.
- Begin to improve the urban population's housing and health conditions.
- Progressively enlarge the country's health network, giving priority to aspects relating to preventive medicine.
- Expand the education system throughout the country, giving priority to primary education; and develop a literacy training drive with a view to wiping out illiteracy among young people and the active population in the country's principal urban centers.
- Improve urban and intercity transportation services, with the essential objective of guaranteeing the transportation of workers to their places of employment.

Angola's highest immediate priority is in agriculture.

Calendar year 1978 has been officially declared "The Year of Agriculture". During this year, the primary goals are to increase domestic food availability (thus decreasing dependence on foreign sources and also saving foreign exchange for other priorities) and to return to pre-independence production levels of such vital export crops as coffee.

While the Government of Angola's commitment to equity, popular participation, and overall development is clear, it is difficult to assess its record on human rights. Since independence in November 1975, Angola has not known peace from civil war.

As a consequence of initial U.S. support for the MPLA's opponents, as well as the politically sensitive involvement of Cuban military, information available in this country often may be influenced by the partisan opinions of the observers. Thus, it is difficult to ascertain what is truly happening inside Angola -- especially with regard to a subject as sensitive as human rights.

B. Institutional Capacity

As inferred above, the MPLA's ability to govern Angola is somewhat limited by what is essentially an unresolved civil war. Economic sabotage is a major weapon of the Government's opponents. The reconstruction of roads, railways, and bridges has been somewhat slowed by periodic guerilla attacks. Even those facilities already in operation are under the continual threat of violence. Because of the vast geographic size of Angola, it is impossible for Government troops (and their Cuban supporters) to protect everything at all times. In this context, it is notable that the strictest security measures in the country guard the Gulf Oil facilities in Cabinda.

A related problem in agriculture is that many peasants still have not returned to the fields from their places of refuge. To a certain extent, the reason for this delay has been fear; however, another important motive has been that the tribal loyalties of many of the farmers (Ovimbundu and Bacongo) are with UNITA or the FNLA. In this context, a return to production is viewed as an act of disloyalty not to be committed.

Disillusionment and mixed loyalties have also caused the Government some difficulties with urban workers. Strikes (e.g. among dock workers) marked the first year or two of the new regime. Some workers had expected that the advent of a socialist government would make each of them as wealthy as the recently departed Portuguese colonialists.

To some extent, the above also reflects certain basic administrative obstacles that must be overcome by the MPLA. Initially, the MPLA did not have a detailed concept of what its governing priorities were. Thus, it neither understood which resources it commanded, nor which it required. The passage of time and diligent effort have resolved many of these inadequacies. A more serious problem is a widespread lack of experience and skills. As colonizers, the Portuguese gave little responsibility or training to native Angolans. In government, industry, and agriculture there were few non-Europeans in any but the lowest skilled occupations. With independence and the subsequent flight of the

Portuguese population in Angola, it became virtually impossible to maintain the nation's economy as well as essential government services.

A top priority for the Government in practically every development sector is the training of qualified manpower. However, even under optimal circumstances, adequate training is a time consuming process; and conditions in Angola are not optimal. Aside from the disruptive nature of the continuing civil war, few individuals have the educational prerequisites to qualify for or assimilate rapidly what available opportunities for specialized training there are. This critical manpower shortage, thus, for at least four to eight years, will have a negative impact on the Government's ability to plan and implement development programs.

Nevertheless, there are services now being offered to the Angolan people that were largely non-existent prior to independence. Most significant among these are in the areas of education and health. A large-scale literacy campaign has been initiated and more Angolans are now in primary and secondary schools than ever before in history (see Section V,D). Furthermore, Government sponsored health services are available in locales never served by the Portuguese (see Section V,C).

In summary, while the Angolan Government does face many serious constraints in its administration of development programs, it has demonstrated its dedication to social and economic progress. The present climate for national reconstruction in Angola is favorable. A goal has been set to restore economic production levels to pre-1974 levels by 1980. Although full achievement of this goal is improbable, some progress is being made. To date, however, only the production of crude oil, Angola's most lucrative export, is being produced at pre-independence levels.

V. Profile of Development Sectors and Constraints

A. Introduction

1. Background

Political stability (i.e. survival) is the MPLA's logical first priority. Social and economic development are considered to be essential factors in the achievement of this priority. At the present juncture of Angola's history, reconstruction is an integral element of the total development process. Reconstruction refers not only to the repair of damage inflicted by the ongoing civil wars, but also to the recuperation of skills and vital equipment lost with the departure of the Portuguese.

While no data is available on income distribution, it can be safely assumed that the poor encompass in excess of 95 percent of Angola's population. Most of the country's wealth, prior to independence, was held by foreigners, i.e. the Portuguese. The main sources of wealth were mining (e.g. oil, diamonds, iron) and commercial agriculture (e.g. coffee, sisal, cotton). Industry had begun to grow in the 1960's, but, with the exception of transport (ports and railroads), was never an important part of the nation's economy.

Since independence, most of Angola's income producing activity is controlled by the Government. While it is the MPLA's intent to create a beneficial socialist society, socialism has not and, probably, will not be achieved at the cost of inefficiency. Initial expropriation

of agricultural and industrial enterprises has principally occurred only where property has been abandoned for a significant period of time by its former owners. To date, the Government's relationship with the foreign private sector has been excellent so long as both parties share the goal of rapidly increasing production and productivity. In this context, the MPLA seeks "to fight against the economic dependence and against the underdevelopment which was inherited from colonialism."

Agriculture is the basis for development. This is viewed as essential, since 85 percent of the country's population lives in the rural areas, and since those areas produce most of the foodstuff necessary for the population's subsistence, raw materials for industry, and goods for export.

Equity is to be the guiding principle in the development process. The people (eventually including the present opposition groups) are to participate regularly in the decision making process. Likewise, all will share equally in the distribution of benefits.

2. Planning

The Government has repeatedly stressed the need for centralized planning of the economy. However, unsettled political conditions, the absence of data, and the lack of experienced, skilled personnel have precluded the preparation of a formal plan. It is the Government's desire to have such a plan completed by 1980. To this end, a National Planning

Commission has been appointed and each ministry will ultimately include a separate planning department.

In lieu of a definitive plan, basic decisions were made on major development issues and sector programs at the December 1977 MPLA-Labor Party Congress*. The principal targets defined included: the expansion of cooperative farming, the extension of primary schooling and literacy training to all people in the country, the increase of worker participation in the operation of production units, the provision of free health and medical services to all citizens, and the reduction of inequities between urban and rural areas.

Measures have also been taken to remedy the absence of statistics. Through a national Directorate of Statistics, statistical departments are being set up in each of the ministries. In addition, regional statistical offices are being established in some locales; these will be functioning in close collaboration with planning commissions that will be operating in each region. A principal obstacle in the gathering and processing of statistics is the lack of qualified, experienced manpower.

The Government stresses the importance of planning for a number of reasons. Most significant of these is the need to maximize the efficient utilization of the country's

* At this Congress, the MPLA formally changed its name to the MPLA-Labor Party.

resources. Resources are defined to encompass raw materials, labor, and installed industrial and agricultural capacity. Illustrative sub-objectives include the prioritization of manpower training (both domestically and internationally), the directing of agricultural and industrial activity to produce only commodities essential to national necessities, the channeling of investment (on a priority basis) to the recuperation of existing enterprises, and the application of human resources to minimize under- and unemployment.

The complete realization of these goals for an equitable, centrally planned economy will almost certainly never be achieved. Statements made by the Government (and pragmatic actions already taken by them) indicate that such a reality is generally recognized. Nevertheless, the importance of maintaining high visibility for the ideal is that it provides an important indicator of the direction that Angolian society is expected to take. In this context, the widespread participation that the full population is to have in the determination of social and economic plans will be guided by clear, basic principles.

3. Cross-Sectoral Constraints to Development

There are several constraints to the development progress of Angola that are common to most, if not all, sectors. These are summarized below.

a. Lack of trained and experienced manpower.

Portuguese colonial rule, in general, provided neither education nor vocational training for native

Angolans. In addition, positions of technical and managerial responsibility were largely held by Europeans. The reconstruction and development of independent Angola will be notably limited by shortages of qualified personnel.

b. The continuation of civil disturbances.

UNITA and FNLA forces continue activity to oppose the MPLA Government. Guerilla attacks and acts of sabotage on transportation and industrial infrastructure are not uncommon. Because of Angola's physical vastness a complete defense against such actions appears to be impossible. Furthermore, tribal loyalties to the dissident factions affect the availability of labor for agriculture, industry, and mining, thus limiting the recovery of production. Finally, the continued fighting causes a drain on finances and government managerial skills that might otherwise be directed at development.

c. Poor availability of information and data.

The turmoil of the past four years has prevented the regular collection of the basic information inputs essential to development planning. Because the Government places a high priority on development and central planning, it is quite sensitive to the importance of this problem, and, assumedly, will be taking steps shortly to correct it.

B. Agriculture

1. Pre-Independence Structure

Despite its great mineral wealth, Angola is predominantly an agricultural nation. The Government estimates that 85 percent of the population is located in rural areas.

Table II
Information Summary
Agriculture

Percentage of Rural Population: 85%

Principal Subsistence Crops: Maize, Cassava, Beans

Principal Commercial Crops: Coffee, Sugar, Sisal, Cotton

Percentage of Total Territory that is Arable: 6.4%

Percentage of Arable Land Under Cultivation: 23%

During the colonial period, agriculture was divided into two major types: traditional and commercial. Traditional agriculture generally involved low technology, small-scale (2 hectares), largely subsistence production on loosely held tribal lands. The term "commercial" agriculture basically referred to farming done by Portuguese on larger-scale, often highly capitalized, units.

An estimate for 1971-72 indicates that there were approximately 1,200,000 traditional farm holdings in Angola. The principal crops grown by the traditional sector included: maize, cassava, coffee, cotton, peanuts, and potatoes. One source estimates that 86 percent of the traditional farms grew maize, 69 percent cassava, and 48 percent beans. These three crops comprised the most important staples in the Angolan diet. In 1971-72, it was estimated that only 14 percent of the traditional sector made use of animal labor, while 86 percent relied only on human labor.

While most traditional farming units operated principally for the subsistence of the family (just prior to independence), many also produced modest surpluses for cash or barter sales. Crops offered for sale most frequently were maize, coffee, and cotton. In addition, it was estimated that, in 1971-2, over one-third of the traditional farmers also worked at other occupations or on other farms.

For the most part, crops grown by the commercial sector were the same as those of the traditional sector. Production included wheat, rice, maize, beans, potatoes, cotton, peanuts, palm-oil, bananas, and coffee. Other crops were sisal, sugarcane, tobacco and, pineapples.

It was estimated that there were approximately 8,000 commercial agricultural enterprises in Angola in 1971-72. Some of these were large plantations, such as the 17,500 hectare Boa Entrada coffee plantation. Others were small and medium sized farms granted to settlers by the Portuguese Government.

The technology applied on commercial farms varied greatly. Some were modern, mechanized operations which employed the use of fertilizers and insecticides; others used few, if any, modern inputs and produced largely for home consumption. The main distinctions between traditional and commercial agriculture were 1) land tenure (tribal as opposed to private ownership), and 2) whether the farmer was native Angolan or European.

2. Principal Cash Crops

Coffee is Angola's most important cash crop. Prior to its replacement by oil in the early 1970's, coffee earned more foreign exchange than any other export. At that time, Angola was the fourth largest producer of coffee in the world.

Coffee is principally produced in the northern provinces of Cuanza Sul, Cuanza Norte, Zaire, Luanda, and Uige. Historically, the crop has been grown both by commercial producers (70 percent) and traditional farmers (30 percent). One calculation indicates that between 200,000 and 300,000 people were employed in coffee production.

United States Department of Agriculture data indicates that average annual Angolan coffee production during the decade 1968-78 was 199,000 tons. Subsequently, this amount was reduced to 192,000 tons in 1973, 180,000 tons in 1974, and 72,000 tons in 1975. The dramatic decline was attributable both to the exodus of Portuguese plantation owners and the disruptions of war, which vastly reduced the availability of necessary internal migratory labor. The decline in production continued in 1975; but special efforts by the Government in 1976 and 1977 are said to have restored production to 84,000 tons. The Angolan Coffee Institute expects a return to annual production levels of 200,000 tons may take from five to ten more years.

Annual sugar production reached 80,000 tons in 1974-75. In two years, this quantity was decreased by 37,000 tons. Some recovery was expected in 1978, with current projections estimating a production of 54,000 tons.

Production of other cash crops, such as sisal and cotton, has also been dramatically reduced in the past 2-3 years. It can be stated unequivocally, however, that Government productivity programs are now having a positive impact. While pre-independence production outputs will probably not be attained prior to the official 1980 goal, a constant improvement can reasonably be expected.

3. Food Crop Production

Angolan Government information indicates that, in 1973, the last year of relatively normal conditions, the country had to import no more than 10 percent of its food requirements. In 1978, it is estimated that imports accounted for almost 50 percent of the market sales of staples. As a consequence, President Agostinho Neto has designated 1978 as the Year of Agriculture. Accordingly, the armed forces were to contribute, to the extent possible, to the development of agricultural and livestock self-sufficiency.

To achieve its goals, the Government will have to bring farmers back into the national market economy. Many farmers have fled from their traditional plots to more remote areas that offer greater security from warfare. Also, much of the old marketing system was controlled by Portuguese traders, who have since left the country. Furthermore, many fleeing Portuguese left with trucks and other means of transporting farm products to urban and other markets. Thus, traditional farmers, who once may have produced a marketable

surplus, now supply only the subsistence needs of their own families.

To implement the agricultural development program, the Government has detailed a number of measures and guidelines that will be necessary to restore the sector's material and technical base. These include: 1) step up work intensity and make greater use of animal traction; 2) organize a supply system so that the necessary tools, seeds, fertilizers, pesticides, etc. are available on a timely basis; 3) encourage the use of improved seeds, especially adapted for the climate and of determined germination capacity; 4) encourage the use of mineral fertilizers; 5) develop the utilization of the country's water resources for agricultural purposes; 6) improve livestock breeding animals; 7) strengthen the management of farm machinery in the rural areas; and 8) expand and improve veterinary services.

Another important source of domestic food supply was the Portuguese plantations and farms, many of which were hastily abandoned by their owners. In as short a time possible, the Government must organize to return these units to production.

4. Animal Production

Cattle raising has always been limited in Angola, partially as a consequence of tsetse fly infestation in the northern half of the country. One estimate indicates that more than 90 percent of the nation's cattle were in the herds of traditional African pastoralists. Often, these individuals did not consider cattle as a source of income, but rather held

them as evidence of prestige and wealth, to be used for such things as the payment of dowries or debts. Warfare in the southern portion of the country in the mid-1970s did substantial damage to cattle raising activities as the result of the slaughter of animals for food or for the destruction of their value to opposing forces. President Neto announced, in 1976, that it would probably take seven to ten years before the national herd could be restored to pre-independence size.

Government plans indicate that a priority will be given to poultry and hog raising. These animals, and their by-products, constitute an important source of protein for the population. The FAO estimated Angola's total poultry population to be 4.9 million in 1975. In addition to this amount, the Netherlands donated 1.2 million chicks in 1976-77.

Other livestock raised in Angola include sheep and goats. Goats are common attractions in rural family compounds. They are valued both for their meat and milk. The heaviest concentration of sheep raising occurs on the central plateau. Before independence, about half the nation's sheep were raised on commercial farms. Recent information on goat and sheep raising is unavailable.

5. Fishing

The Government has designated fishing as one of the Angolan economy's "short-term activity priming sectors." The main task of the fishing industry during the next several years will be to achieve a substantial rise in catch volume so as to meet the population's food needs and to prevent the heavy expenditure of foreign exchange on imports of dried fish and other foodstuffs. Ocean fishing was a major industry during Portuguese colonial rule. The waters of the cool Benguela Current, which runs near to the Angolan coastline, are rich in the nutrients that favor fish propagation. Commonly available species include horse-mackerel, sardine, pilchard, tuna, and hake. Most of the fish caught in Angolan waters were processed for export as fishmeal or as dried, frozen, or canned fish, thus depriving citizens of an inexpensive, available source of needed protein. The total Portuguese fish catch in Angola, in 1972, was 600,000 tons. In the same year, the catch volume of the international fleet fishing in Angolan waters exceeded one million tons. Independence, the civil wars, and the consequent Portuguese exodus resulted in the departure of most of the skilled personnel in the country's commercial fish industry, as well as the loss or destruction of a large percentage of the fishing fleet (See Section V, I, 3.).

Historically, approximately 70 percent of the fish consumed nationally has been in dried form. In part, this is a factor of insufficient refrigeration and a poor marketing structure. Most fish has been consumed in the coastal regions. Because the typical Angolan diet is deficient in protein, a major cause of child malnutrition, the improved nationwide availability of fish would clearly enhance the standard of living, a primary objective of the Government.

To improve fishing, the Government has established the following objectives:

- 1) restore inoperable vessels;
- 2) increase the national boat building capacity;
- 3) purchase new and used fishing vessels from abroad;
- 4) increase the national catch to 800,000 tons by 1980 (the bulk of which will be for domestic consumption);
- 5) guarantee the availability of trained crews to man the fishing fleets;
- 6) speed up the recovery of the national fish processing industries (Fishmeal, which was primarily produced for export, is not included within this priority.);
- and 7) improve the fish storage and transportation network.

The Government also places an equal emphasis on support for small-scale fishing, a part of the sector generally ignored by the Portuguese. It is intended to improve the standard of living of small-scale fishing communities, while also increasing their production, especially

for local consumption. An important part of this effort will focus on organizing fishermen into cooperatives. Training and support will be provided for the improvement of boats, nets, fishing techniques, and fish handling and processing.

6. Timber

Approximately three-fourths of Angola is covered by forests or woodland. Its most notable resources consist of tropical hardwoods from the Cabinda enclave and eucalyptus trees from the drier central regions. Portuguese exploitation of timber resources, mainly from Cabinda, totaled roughly 110,500 tons in 1974. Eucalyptus pulp exports accounted for 18,300 tons. Many of the eucalyptus forests are situated along railroad routes; thus, this wood has also been a primary source of fuel where old-style locomotives have been in use, especially on the Benguela and Luanda lines.

MPLA development objectives include the efficient, rational exploitation of the nation's forestry resources. Civil war disruptions have also substantially slowed tree cutting. The Government is seeking to restore production primarily to satisfy domestic demand for lumber, and, secondarily, to reinstitute the export of processed products. Studies have been initiated to investigate the present and potential capacities of the nation's sawmills as well as other wood processing industries. Timber exploitation plans include provisions for reforestation. The Government insists on maintaining a strict natural resources conservation program in all areas to guarantee the country's ecological equilibrium.

7. Agriculture in 1978

Angolan agriculture in 1978 can still be divided into two major sectors of endeavor; however, these are now the traditional and the state cooperative. The Government has no plan or desire to disrupt traditional farming. In fact, it is official policy that small farmers are to be supported in whatever way possible so that they may increase their productivity in benefit of themselves and of the society (i.e. the market) as a whole. Programs in literacy, primary education, provision of inputs, and marketing are among those which should provide needed assistance to the traditional farmer.

The Government has confiscated farm units abandoned by previous commercial sector owners. A program initiated in 1976 will turn these units into state operated farms or cooperatives. In 1978, approximately 175,000 persons were employed on 450 such enterprises. Of 6,250 abandoned commercial units, however, only about 1,500 have been returned to production. The primary reason for this relatively low number has been the difficulties encountered by the Government in locating qualified technical personnel and management as well as the unavailability of adequate funding. In addition, to overcome a certain amount of peasant resistance to cooperative farming, the Government has formed peasant associations, which, among other roles, will increase the understanding and acceptance of the people to the concept of collective production.

8. Summary of Agriculture Sector Constraints

a. Rural peasants are generally not producing in excess of their own consumption needs. There are several causes underlying this constraint. The exodus of Portuguese traders and the decreased availability of vehicle transport have removed the basis of the rural marketing structure that existed prior to independence. Also, tribal loyalties to the FNLA and UNITA as well as fear of war-related violence have kept traditional farmers from returning to their previous growing areas and production patterns. Finally, peasants will have to be "educated" to work on the Government sponsored cooperatives and farms that are to replace the previous commercial sector. Such labor is necessary to return the land to production so that farm goods can be more available both for the domestic and export markets.

b. There is a lack of research on appropriate crop varieties, seeds, fertilizers, etc. The Government would like to improve farm productivity by the application of minimal cost technology inputs. Basic food crop research during the colonial era was minimal. Adaptive research could be carried out expeditiously. However, beyond the new system of state farms and cooperatives, it may be difficult to transmit information and materials to small farmers.

c. There are not sufficient quantities of skilled and experienced management and technical personnel

for the state farms and cooperatives. Government assumption of previous commercial sector activities requires a variety of human agricultural resources in short supply in Angola. This obstacle may be the most significant in terms of the possibilities for succeeding in national food self-sufficiency. Moreover, as Angola also looks to the agriculture sector as a major source of foreign exchange earnings, the ability to operate the state farms and co-ops has an even broader significance for the achievement of national development goals.

d. Tsetse fly infestation and a shortage of veterinary services limit livestock production capacity.

Meat and animal products are important elements in alleviating nutritional protein deficiency problems. It is unlikely that tsetse fly infestation in the northern regions of the country can be corrected in the near future. However, improved quality and availability of veterinary services can contribute to the greater production of sheep, goats, swine, and poultry. Basic research on livestock improvement can also make an important contribution.

e. Neglect has lessened the productivity of coffee trees. Coffee was once Angola's leading export. War-caused neglect to the coffee plantations as well as the departure of the knowledgeable European technicians have brought about a sharp decline in production. Some experts believe that, because of plant deterioration, a return to full tree productivity cannot be expected. However, rapid

attention to this matter can reduce the size of unrecoverable losses. Aside from particular problems with coffee trees, this situation also reflects the lack of available labor and skills.

f. Farm machinery is often in disrepair and poorly utilized. A management system must be established and mechanics must be trained and made available for equipment maintenance in the rural areas. Spare parts are also needed.

g. Commercial and small scale fishing catches are vastly reduced. Many boats were taken from the country or sabotaged after independence. The fishing fleet must be modernized and expanded. Training of management and technical personnel is essential. Modern storage and marketing facilities are necessary. Small scale fishing must be upgraded by improved methods and equipment. Small fisherman must be given incentives to increase their catches so as to better feed their own communities. Fish processing industries are not producing at full capacity. Their production must be geared to domestic needs.

h. Workers and management are in short supply for timber cutting. Production areas are often not secure. Some training is also required.

C. Health

1. Nutrition

As discussed in the previous section, per capita food production greatly decreased during the first half of the 1970's. In addition, the high cost of fuel and the disruption

Table III

Information Summary
Health and Population

Total Population (1975): 6,353,000

Population Growth Rate: 1.7%-2.2%

Crude Birth Rate: 47 (births per 1,000 population)

Crude Death Rate: 25 (deaths per 100 population)

Life Expectancy: 38 years

Average Daily Caloric Intake: 2,200

Hospital Beds Per Population (1978 est.): 1/569

of normal marketing patterns have also aggravated food supply problems. During the peak of the civil war, food shortages became so acute in some regions that starvation posed a genuine threat.

The above represents the extraordinary food consumption problems of Angola. Even in non-stressful times, the food situation is not good. Food is sold in open markets and often may be unsanitary (subject to dirt, flies, etc.) or spoiled. Storage and refrigeration facilities are either inadequate or unavailable. Beyond this, many counter-productive food traditions are still observed by the people. An illustrative example among some tribes is to

limit the food intake of pregnant women so as to facilitate childbirth. Nutritional deprivation of the fetus during its development can have a lasting negative impact on the newborn's health.

Widespread malnutrition is a major health problem in Angola. Its impact is most serious among children under the age of six years and pregnant women. The daily average per capita caloric intake in Angola is 2,200 (the U.S. average is 3,160). The principal dietary staples are cassava, corn, bananas, coffee, and sugar. These account for the preponderance of carbohydrates in the diet. Protein is relatively limited due both to the scarcity and religious significance of cattle. Some protein, minerals, and vitamins

are gained, however, from the ingestion of four commonly consumed species of insects.

Nutritional deficiencies most commonly observed in Angola are kwashiorkor (lack of protein and calories), xerophthalmia (blindness due to vitamin A deficiency), nutritional anemia (lack of iron), pellagra (niacin deficiency), and beriberi (B vitamin deficiency). In addition, malnutrition heightens susceptibility to other endemic diseases such as tuberculosis, tetanus, and intestinal infections.

Many of the country's nutritional problems are closely linked to the restoration of agricultural production and markets. In this context, it has been recommended that the Government integrate nutritional considerations into its agricultural planning process. Furthermore, it has been suggested that nutrition education be included in basic health education programs, especially those directed at pregnant women.

2. Health Status

The health standard in Angola is among the lowest in Africa. While good data is also unavailable for this sector, it is clear that both birth and death rates are increasing.

The most prevalent diseases include dysenteries (and other enteric infections), tuberculosis, encephalitis, malaria, tetanus (including neonatal tetanus), hepatitis, leprosy, venereal disease, schistosomiasis, yellow fever,

and a variety of childhood diseases. Another major health problem requiring immediate attention is the wounded, both from Angola's own wars and those of its neighbors (e.g. Zaire and Namibia). Death is principally caused by tuberculosis, hepatitis, meningococcal infections, malaria, and childhood diseases.

The spread of food, water, and insect borne diseases frequently results from inadequate sewerage disposal and food and water contamination. The prevalence of schistosomiasis is one of the highest in Africa. With the exception of the arid regions of the south, malaria is present throughout the country. Parasites constitute an especially serious problem.

For the most part, the diseases which threaten Angola are preventable. The main obstacles to prevention are the necessary human and financial resources. To a certain extent, Angola can expect foreign assistance to reduce these constraints.

During the colonial period, the Portuguese provided little health care to Angola's non-European population. Major hospital facilities were located in the urban areas and major interior towns. In 1971, it was estimated that Angola had one hospital bed per 323 population. By comparison, the ratios for some neighboring countries were: Congo (1972)-1/180, Namibia (1973)-1/100, and Zaire (1973)-1/330.

Most of the trained medical personnel were European. Virtually all of these have left the country since independence. During the pre-independence armed struggle, the MPLA forces had their own medical service, known by its initials SAM (Medical Assistance Service). Beginning in 1963, SAM provided medical treatment both for the MPLA guerillas and the citizens of the regions occupied by the MPLA. In addition to first aid, the services provided included vaccination and health education programs. The SAM experience formed a basis for what is emerging as Angola's national health policy and program.

In addition to the limited modern medical services, traditional tribal practitioners also play an important role in rural areas. These individuals use amulets, incantations, and herbs which are often effective in bringing about cures. To a certain degree, among the tribes in the more remote areas, there appear to be some religious objections to disease control programs and other modern medical procedures.

Shortly after independence, a National Health Service Law was passed. This law: 1) abolished private medical practice and established the principle of free health care for all; 2) set up a polio inoculation program; 3) established training centers for health workers; and 4) set up the Luanda University Hospital Center. Subsequently, the following objectives were established for the years 1978-80:

1) extend the country's health network to the rural areas and suburban zones; 2) make the best possible use of available personnel, and develop an intensive training program; 3) rationalize the procurement of medications; 4) improve the distribution of medications; 5) provide incentives for the national production of the most essential pharmaceuticals; and 6) conduct health education programs.

The emphasis of the new health program is to be on preventive medicine. The program will be structured on a referral system, with lightly trained, village-level health promoters being the most regular and accessible contact with the people, and large, fully staffed and equipped urban hospitals available for the most serious problems. Village programs will be coordinated through local unions which will be a part of the agricultural cooperative system.

At present, most of Angola's well-trained medical personnel are Cuban, although there are a small number of Angolan physicians. There is, at present, a medical school operating in Luanda which has 250 students, and plans for a new school to open in 1981 in Huambo. Training for nurses, medical assistants, and other personnel is taking place in each of the provinces. These educational facilities can accommodate up to 5,000 persons. Six to twelve week courses are given for local health promoters at irregular intervals.

It is not possible to determine the percentage of Angola's budgetary resources that is devoted to health. While health is an avowed priority, it is one which is considered less critical than those in agriculture and education. Thus, it is reasonable to expect that, while the resolution of health problems will receive attention, for the next several years health's priority for funding will be somewhat restricted.

3. Potable Water

There is a clear relationship between the diseases most prevalent in the country and problems of water. Thus, the qualitative and quantitative improvement of the water supply system has important implications for public health status.

Adequate water is generally available throughout most of Angola through surface and ground sources. Before the civil war, at least eight cities had partial municipal water systems. For these, treatment was by chlorination. In other areas, water is supplied by wells, waterholes, and dammed streams. A number of these were destroyed during the various phases of fighting. In the arid southwest, water is collected and stored for use during the dry season.

Contamination of drinking water is not uncommon. Pollution by human and animal waste, seepage, and back siphonage render most public water systems unpotable.

Water supply is the concern of four governmental ministries: Industry, Construction, Health, and Agriculture. Because of this, there has been some difficulty in organizing programs for the improvement of potable water. Recently, Angolan government officials have been discussing rural water supply programs with both UNICEF and the World Health Organization.

4. Family Planning

No information is available on family planning in Angola. Extremely low population densities (11.8 persons per square mile at independence) and a growth rate estimated at only 1.7 percent per year do not indicate that population pressures constitute an especially vital problem for the Government. Given the natural wealth of the country, GNP growth will almost certainly exceed population growth for the foreseeable future. Consequently, population growth does not appear to pose a significant obstacle to national development, except to the extent that low densities will hinder the growth of domestic markets for consumer goods and raise the cost of distributing social welfare evenly throughout the country.

5. Summary of Health Sector Constraints

a. Reduced farm output and availability of food has a negative impact on nutritional status. Population that cannot provide its own subsistence is especially at risk. Interim solutions to this constraint involve the importation

of large quantities of food. Such imports are a drain on limited foreign exchange resources which are essential to the resolution of other development problems. (For a further discussion of this constraint, see Section V, B on agriculture.)

b. Food habits and traditions contribute to malnutrition. Better information on nutritional patterns is necessary. Once this is available, the Government can consider implementing a nutrition education program.

c. Sanitation is poor and is a major cause of disease. Sewerage treatment and disposal are only available in the once European residential areas. Market system handling of farm products exposes food to contamination from dirt, insects, and spoilage. The consequences are intestinal and other diseases.

d. Safe, potable water is generally unavailable. Water-borne diseases are very common. It is unlikely that there is much the Government can do in the short-run to resolve this problem. However, to a certain extent, this and other health issues can (and probably will) be treated in a planned health education program.

e. Insufficient quantities of health supplies, facilities, and trained personnel are available. The Portuguese provided vastly inadequate health services to Angola's non-European population. A new, state operated health system is being established. All levels of health workers must be trained. Angola plans to manufacture the most essential pharmaceuticals. Overall Government budget availabilities for health are restricted.

f. Health data is very incomplete. To ensure proper training is given and the most necessary purchase and distribution of commodities (e.g. drugs) is made, detailed information on the health sector is essential. Government resources for this purpose, both human and financial, are limited.

g. There is some resistance by tribal groups to modern medicine. This problem could be lessened by culturally sensitive health education. Furthermore, study of traditional medicine could reveal applicable methods and practices that could be used in conjunction with the modern system.

D. Education

1. Nature of the Problem

In virtually all of its development sectors, Angola's major constraint is the insufficient availability of adequately trained manpower. The basis of the problem is twofold, and each element has its origins in the colonial practices of the Portuguese Government.

General education for native Angolans was largely neglected by the Portuguese. What education services that did exist during the colonial era were offered by a variety of Christian missionary organizations. Thus, education was largely a side benefit of the proselytization process. Literacy was estimated to be only 15 percent. Technical-vocational education was virtually non-existent. Although

Portuguese was and will continue to be the country's official language, only the more educated spoke other than the indigenous tribal tongues. Thus, the pool of human resources that the new government had at its disposal was quite small. As a result, inherited conditions limited the availability of persons who have the preconditions to receive specialized skills training.

The second factor influencing manpower problems is that the Portuguese rarely placed Angolans either in positions of authority or where critical skills could be developed. Shortly after independence, all but approximately 40,000 Europeans fled the country. Thus, what industry was left intact (there was a notable amount of sabotage), could not operate efficiently or at all because of the absence of qualified personnel. Not only was there a deficit of industrial skills, but vital gaps were also opened in essential service skills. Administrators, health professionals, and even educators were left in short supply.

Thus, in its basic plans, the Government has designated literacy training, primary education, and skills training to be among its highest priorities

2. Literacy Training and Primary Education

Shortly after independence, the Government announced the nationalization of all education services and the declared objective of free universal education. The government's

strategy is to link education with production and the development of a national consciousness.

Literacy training is the first among the educational priorities. In 1976-77, Governmental data indicates that 400,000 illiterates were given training. Of these, 70,000 adults have already successfully completed the course. Specific initial targets for the literacy program are the armed forces, industrial workers, and agricultural workers. Both tribal languages and Portuguese will be used in the classes. "Postgraduate" literacy training will be integrated with vocational education materials.

Primary school enrollment in 1971-72 was 516,131 pupils. Of this amount, approximately 64 percent was European. Information presented at the MPLA Congress, in December 1977, indicated that, at that time, more than one million students were registered in primary schools.

However, the rapid expansion of primary education has exacerbated a number of problems. There is a great shortage of school facilities, forcing the use of makeshift structures which detract from educational efficiency. In addition, many of the existing school facilities were in great need of repair before the further demand put upon them subsequent to independence. A shortage of teaching materials, especially books, exists. Pre-independence texts do not deal with the culture, history, or pragmatic realities of Angola.

Consequently, new reading materials must be written, produced, and distributed.

A critical shortage of qualified teachers is a major factor which will continue to constrain the achievement of national education goals. Government estimates indicate that there are 25,000 primary school teachers (thus, a teacher/student ratio of 1:40), of whom only 7 percent are considered qualified to teach. Consequently, teacher training is also considered an important objective. It is the intent of the Government to train 1,000 teachers and open eight normal schools by 1980.

Other goals for primary education include a special effort to extend classes into the rural areas. In addition to the principle of equity, such a focus is necessary to improve the methods and techniques of agriculture and for organizing production in the rural areas. School curricula are to be related to the needs of the community. It is also the Government's intent, by 1980, to increase the primary education program from four to eight years duration.

3. Secondary Education

There is relatively little information available on secondary education. In 1971-72, secondary enrollment was 74,625 students, of whom almost 69 percent were European. Current government estimates show an enrollment of 100,000 secondary students at the close of 1977. Policy statements indicate that curriculum emphasis at this level will be progressively vocational in nature.

4. University Education

The University of Angola, the nation's first institution of higher learning, was established in 1964. It has faculties located in Luanda, Huambo, and Cubango. An Institute of Scientific Research also existed but, since independence, has been made a part of the University.

University enrollment, in 1975, was almost 4,000. Of this amount, less than 5 percent were black Africans. After independence, only 400 students remained; however, a special recruitment program which lowered university admittance requirements raised the number to 1,400 for the 1975-76 school year. Virtually all of the university students also serve as teachers in the secondary schools. For the future, the government will seek to increase university enrollment, giving special priority to students from the working and peasant classes.

As the University lost almost all of its faculty with the European exodus, replacements had to be found. Most

of the new faculty members are also professionals who hold jobs in industry or government.

Subjects taught at the University presently include: agronomy, veterinary sciences, letters, law, science, technology, and medicine. While a specific plan for higher education is not available, it appears logical to expect that curricular offerings will be modified to place academic emphasis (and resources) in those areas considered most vital and pragmatic to the nation's development. Accordingly, the Government has urged that special attention be given to development of science and engineering courses.

5. Vocational Training

In MPLA discussions of development needs for virtually all sectors, mention is made of the urgent need for skills (i.e. vocational) training. It is stated that, to a large extent, Angola may have to depend on foreign assistance to help in this effort. Nevertheless, a comprehensive vocational training plan does not seem to exist. The Ministry of Education has been directed by the Party to collaborate with the other ministries to coordinate activities in this area.

6. Summary of Education Sector Constraints

a. There is no established school-going tradition in Angola. The Portuguese did little to promote public education, especially in the rural areas. Education may not be a popularly perceived need. Although the Government places

a high priority on education and literacy, it may be difficult to get people to go or send their children to school.

b. There is an overwhelming shortage of qualified teachers at all educational levels. This, too, is reflective of Portuguese colonial policy. Only 20 percent of the present group of primary teachers is considered to be qualified. Thus, new teachers must be trained and existing teachers upgraded. To some extent, this need will require external assistance.

c. Teachers are poorly distributed throughout the country. Qualified teachers tend to be clustered in the more urban areas, with the result that rural education receives less of the quality that is required.

d. Educational materials are in inadequate supply and do not reflect the realities or the educational necessities of Angola. The number of adequate schools in the country is markedly insufficient for the present projected demand. Old Portuguese textbooks do not focus on the pragmatic needs (e.g. agriculture, health) of Angola, nor do they reflect local history or customs.

e. Many projected and actual secondary and higher education programs that are new suffer from a lack of qualified students and teachers and incomplete curriculum development. These are constraints that may require time, training, and technical assistance to resolve. The best qualified faculty left the country after independence. New

faculty are often higher level students or individuals whose primary professional concern is not education. Student admission standards, in many instances, have been lowered to increase enrollment.

f. Vocational training appears to be somewhat disorganized. Manpower training, both managerial and technical, is possibly Angola's greatest need. If domestic and foreign training resources are to be most productively used, a centralized prioritization of needs is essential. This responsibility has been designated to the Ministry of Education.

E. Shelter and Other Construction

1. Housing

Typical rural housing consists of a structure of poles interwoven with slender branches, twigs, or reeds, and daub houses grouped together in family compounds. Rural dwellings in which Europeans resided were often stucco bungalows with tile roofs.

Urban residences for Europeans were mainly Portuguese-style houses and apartment buildings. The Angolan sectors of the cities consisted of traditional dwellings and tin shacks.

Further information on housing is unavailable. However, the above description, when combined with knowledge on the general unavailability of potable water and sewage disposal, leads to the conclusion that

the absence of minimally acceptable human shelter in Angola constitutes a major deficit in any accounting of the country's standard of living and quality of life.

Government housing priorities

place first priority on construction of residence facilities for members of agricultural cooperatives. To the extent possible, housing construction is to be standardized. Furthermore, the government will seek to stimulate and support individual housing construction efforts, especially in the rural areas.

2. General Construction

There is very little information on Angola's construction capacity. A building boom, related to increased European investment, occurred in the late 1960's and early 1970's. Government information indicates that with the flight of Europeans that resulted from the civil war, Angola lost most of those skilled in the construction industries and trades, leading to the virtual paralysis of all construction activities. Without doubt, the revival of this sector is vital to the country's economic revival.

All construction has been placed under the central control of a Ministry of Construction. The role of this organization is to coordinate all construction activities, the purchase and maintenance of equipment and materials, and the training and utilization of personnel. Construction priorities

include infrastructure projects (repair of roads, bridges, railroads, ports, and airports), housing projects, water supply and sanitation facilities, social services and commercial facilities (schools, health centers, stores, and warehouses), and agricultural and industrial building projects.

3. Summary of Shelter and Construction Sector Constraints

a. Inadequate housing constitutes a constraint to the government's goal of an improved standard of living.

b. Information on shelter is virtually nonexistent. More details on shelter patterns and necessities are necessary for the government to affect meaningful interventions in this sector. This is especially true if an emphasis is to be placed on self-help. For instance, would/could people use more modern building materials if they were available; would improved self-built housing provide for better sanitation or is some education on this matter also necessary?

c. The Portuguese exodus left the country with inadequate technical and managerial construction skills. There may be insufficient domestic training resources. A construction capacity is essential to the recovery of the industrial, transportation, and mining sectors. Thus, a priority for training in construction must hold a high place among vocational needs.

F. Industry

1. Pre-Independence

Industrial development led Angola's economic growth in the 1960's. During that time, the Portuguese government eased

restrictions that prohibited the creation of manufacturing capacity that would compete with its own domestic interests.

At independence, Angola possessed a wide range of industries. Most of these industries were geared toward production for the local market, with manufactured goods accounting for only 7% of the nation's exports in 1973, while total industrial output for the same year was 18% to 20% of Gross Domestic Product.

Most industry was located in the western part of the country, so as to be near to transport, inexpensive electricity, and the centers of consumption. Luanda had the largest number of industries, but there was also significant development in areas such as Huambo and Lubango.

In 1973, 36% of Angola's gross industrial production value was in food processing. The main products produced included flour, sugar, animal oils and fats, baked goods, canned fish, and preserves. Textiles, chiefly cotton cloth and thread, ranked second in production value; and in third place was the production of beer and soft drinks. Other industries included the manufacture of clothing, tobacco products, cement, pesticides, paints, paper, furniture, matches, soap, footwear, fishmeal, plastic goods, tires, and leather goods. In 1973, there was also motor vehicle assembly, machine building, and bicycle production.

2. Since Independence

Much of the domestic market for Angolan manufactureds was the resident European population. With the Portuguese exodus

in 1975 went much of the industrial management and technical staffs. Production in 1975-76 declined by almost 75%. Utilization of installed capacity in 1977 was reported at 40%.

Ownership of many industries passed to the Angolan government in 1974 and 1975, as the result of nationalization policies being carried out in Portugal during that time. Since independence, additional takeovers have occurred, although most of the industries involved had previously been abandoned by their owners. Of 504 enterprises classified as "heavy" industries in late 1976, only 70 had been nationalized. Nevertheless, the government has expressed the long-term objective of nationalizing over 80% of this sector, although no target date has been set.

3. Future Industrial Plans

The MPLA is attempting to restore industrial production to its 1973 level by 1980. Most observers believe such an attainment to be a virtual impossibility. The most imposing obstacle is the lack of trained and experienced manpower. It is not uncommon for machine breakdowns to halt a factory's production for several days. Repairs, when possible, are rarely achieved in a routine manner. A note of optimism is that, in mid-1978, following the completion of economic and technical agreements between Presidents Eanes and Neto, a number of "refugees" from Portugal will be returning to Angola. It can be assumed that among the members of this group, which may total several thousand, are many who have skills vital to the restoration of industrial production.

Rehabilitation of the industrial sector will be in accord with the established principles that production priorities are to be given to essential commodities that meet the needs of the people, use domestically produced raw materials (especially agricultural), reduce imports, and take into consideration the country's medium-level technical capacity. Industry should further develop the linkages between urban and rural areas. Light industries identified by the government as meeting these criteria are: food, textiles, ready-made clothing, shoes, soap, pharmaceuticals, and packaging (containers of plastic, metal, and glass). For heavy duty industry (not including those that are petroleum or mining based), priorities are given to the production of producer goods (primarily for agriculture) and those products which earn large amounts of foreign exchange. Illustrative of the first group of industries are agricultural tool production, steel, shipbuilding, and chemical plants which turn out "basic products" (e.g., fertilizer). An example of an industry which meets government foreign exchange earning criteria is cellulose.

Foreign assistance, primarily from the Eastern bloc nations and Cuba, is considered to be an important element in the achievement of Angola's ambitious industrial development goals. It also can be expected that the Government of Portugal will also participate in this process. If successful, Angola's industries could again employ in excess of 100,000 persons, as

they did in 1973.

4. Summary of Industry Sector Constraints

a. Acts related to civil turmoil and independence have resulted in the damage and destruction of a number of industrial facilities. Repair of existing infrastructure on a selective basis is a primary tenet of the government reconstruction plan.

b. Most of the skilled industrial managerial and technical personnel left the country after independence. New personnel must be trained as quickly as possible, if production goals are to be met. Maintenance capacity is especially critical. Many skills training resources must be acquired through external assistance.

c. Many of the manufactured goods produced prior to independence were consumed by the expatriate community. Current market size may be inadequate for the installed capacities of some industries. The government is sensitive to this problem, and, through its plans, seeks to match supply with present consumer need.

d. For some industries, linkages with previous sources of raw materials supply are weak or nonexistent. The best example of this is the Mocamedes Steel Plant which depended on the Cassinga Iron Mines that have been closed since 1975. Problems also exist in most food processing industries. Angola cannot afford to import raw materials for its factories.

G. Mining

1. General Aspects

In the view of some geologists, Angola may eventually prove to be one of southern Africa's most mineral rich countries. Prior to independence, however, major mineral exploitation was limited to diamonds and iron ore.*

According to the government, there has never been a systematic study of the nation's mineral resources. Exploration in the past was largely carried out by private, foreign firms, who may or may not have in their possession detailed insights on the nation's mineral wealth. Minerals that are known to be present in exploitable quantities include fluorspar, lead, zinc, manganese, phosphates, and copper. Other potentially exploitable minerals include gold, bauxite, semi-precious stones, thorium, uranium, cobalt, titanium, asphalt, gypsum, granite, and marble.

2. Diamonds

Angola's principal diamond mining zone is Lunda Norte Province in the regions near Dunda Chitato, Lucapa, and Cuango, although discoveries also have been made in some northern and eastern districts. Prior to independence, mining employed approximately 18,000 workers. Until 1920, diamonds provided Angola's major source of export earnings. At that time, diamonds were supplanted as the leading export by coffee, which was displaced by oil in 1971. Diamond production, in 1973, totaled

*Petroleum, although a mineral, will be discussed in a separate section.

2.3 million carats, of which approximately 75% were of gem quality. Angola's total diamond reserves have been estimated to be up to 100 million carats (approximately 5% of the world totals).

Until 1971, the Companhia de Diamantes de Angola (DIAMANG), a consortium of Portuguese, British, Belgian, American, and South African interests, held a monopoly on diamond production. All sales of Angolan diamonds were handled through the de Beers Central Marketing Organization.

Diamond production dropped in 1975 to less than 750,000 carats, a third of the 1973 level. The decline was partially attributable to the departure of many of DIAMANG's European technical and managerial staff. In addition, segments of the company's work force supported rival factions in Angola's internal struggle. The result was work slowdowns, smuggling, and illicit mining. Official production in 1976 fell to a level of 339,000 carats.

A partial nationalization of the DIAMANG concession gave the Government of Angola a 61% share in the diamond mining industry. Some 20 foreign corporations (including those of the United States) own the remaining 39%.

Mine productivity has continued to be low. Security problems prevent the return of the needed technical staff and labor force. Another possible problem is that newly operating diamond mines in Botswana and South Africa may make Angola's

re-entry into the tightly controlled world market more difficult. Nevertheless, the restoration of pre-independence diamond export levels is a highly ranked objective of the Angolan government.

3. Iron Ore

Iron ore deposits were mined in the Huambo and Bie central highland districts in the 1950's. In 1961, mining operations began at Cassinga, which is Angola's richest known iron deposit, with reserves estimated to be up to 5 billion tons. In 1973, exports of iron ore were 6.1 million tons, and were the fourth most valuable earner of foreign exchange. Japan and West Germany received most of Angola's iron.

As a result of war-inflicted damage, the Cassinga Mine ceased operation in August 1975. A lack of repair, technicians, and miners has prevented its reopening. A factor which enhances the security problem in the Cassinga area is the presence of SWAPO guerrilla bases, which are subject to the threat of South African raids.

Because of the foreign exchange earning potential, the Government of Angola is quite interested in renewing iron ore production. To this end, feasibility studies have been contracted or discussed with several European firms and the American consulting firm of Arthur D. Little. Attractive incentives for iron ore mining are good rail and port facilities, a potentially inexpensive and abundant supply of hydroelectric power, and an existing steel mill in Luanda, which may be modernized by an Italian firm.

4. Summary of Mining Sector Constraints

a. A complete geological survey of Angola's mineral resources has never been undertaken. Thus, existing government plans

for mineral exploitation are based upon incomplete data. The most rational and, therefore, the most desirable plan, would yield a maximum of wealth and best utilize Angola's scarce mining resources.

b. Many of those individuals who had the necessary skills and experience in mining operations have fled the country. Training in a variety of skills is necessary to revitalize the mining sector.

c. Poor security is a constraint to the increased production of diamonds. The presence of insurgent activities in the diamond mining zone is a deterrent to the return of the normal work-force complement and poses a constant threat of robbery and/or sabotage of production facilities.

d. Increased production in other nations may limit Angola's ability to re-enter the world diamond market at its previous level of output. Much of the slack in Angola's diamond production has been (or soon will be) taken up by new mine facilities in South Africa and Botswana. In addition, a recent price increase (30%) by de Beers may affect demand. Because the worldwide marketing of diamonds is very strictly controlled, Angola may encounter difficulty in selling all of its diamonds. Such a loss would have serious foreign exchange implications.

e. The mining of iron ore ceased completely in 1975 as the result of war damage in Cassinga. Repairs must be made and security firmly re-established. New energy resources that may be available from the Cunene project would make the mining of iron ore in Cassinga especially attractive.

H. Energy

1. Petroleum

Without a doubt, Angola's greatest asset in achieving its development goals is its vast reserves of oil. Oil was first discovered in commercial amounts in 1955. Since that time, oil fields have been identified in a number of areas around the country. In 1976, Angola's proven oil reserves were 1.321 billion barrels. An oil refinery was built in Luanda in 1950. Its initial size has been expanded several times to its present one million ton capacity. Another modern refinery has also been opened in Cabinda.

Oil became Angola's dominant export in 1971. The principal focus of oil production has been in the northern enclave province of Cabinda and has been operated by Cabinda Gulf, a subsidiary of the U.S. corporation. Production in Cabinda reached 140,000 barrels per day of good quality, low-sulphur content oil in 1973. Warfare in Cabinda temporarily stopped drilling operations from December 1975 to March 1976. Annual oil production which dropped sharply in 1975-76 had, by 1978, returned almost to pre-independence levels. Relationships between the Angolan Government and the Gulf Oil Corporation appeared to be excellent, despite differences between the Governments of the United States and Angola. Receipts from Cabinda Gulf were estimated in mid-1978 to be 60% to 80% of total government revenues. Another firm, PETRANGOL, which includes the participation of the U.S. Texaco Corporation, is also actively

producing oil in Angola.

In 1976, the government created a public enterprise, SONANGOL (Sociedade Nacional de Combustiveis de Angola) to supervise all aspects of petroleum and other hydrocarbon exploration, refining, and distribution, as well as to manage the shares held by the state in any such activities. SONANGOL also was to produce gasoline and other domestic petroleum needs. Nevertheless, because of the sophistication of the industry, Angola still can be expected to continue its reliance on foreign development of its petroleum resources for the foreseeable future.

Related to its oil resources, Angola also has substantial reserves of natural gas. In 1975-76, PETRANGOL sales of natural gas were reported to be 9.1 million cubic meters. Proven reserves of this resource in 1976 totaled 1.483 trillion cubic feet.

2. Electricity

Portuguese development of Angola's power resources began in the 1950's, and continued through the 60's and early '70's. In 1973, total power production was 984.3 million kilowatt hours, while consumption was 914.5 million kilowatt hours. Most cities had electricity, but such service was generally limited to Portuguese residential areas. Some smaller towns had gasoline-powered generators which were only sufficient to provide a few hours of light each night.

In 1974, three-quarters of Angola's power generating capacity was hydroelectric. Because of the many large rivers that drain the mountains and high plateau, the country has substantial unfulfilled hydro-energy potential. Prior to independence, Portugal had entered into a joint venture with the Government of South Africa to provide hydroelectricity and water for irrigation for Angola and Namibia from the development of the Cunene River basin. The project which was to consist of 12 to 13 dams and 11 power generating facilities, was under way when the 1975-76 Angolan civil conflict severely disrupted work. Several of the facilities were near completion. However, although there has been a lessening of hostilities, MPLA support for the South-West Africa People's Organization (SWAPO) and mutual distrust between the governments of Pretoria and Luanda have prevented further progress on the Cunene project. It can be assumed that, once Namibian independence is firmly established, completion of the Cunene facilities will be a high priority of both governments - if there is an availability of the requisite manpower skills and financing. It is said that South African investment in Cunene may already exceed US\$71 million.

At its December 1977 meeting, the Angolan government detailed the following objectives to be achieved, by 1980, for its energy development program: 1) establish an adequate management structure for the electric power sector, combining existing production, transportation, and distribution units; 2) increase

maintenance and conservation measures for the existing production and distribution systems; and establish efficient utilization of human and material maintenance resources; 3) review the agreements and plans for the utilization of the hydroelectric resources on the Cunene River, devoting particular attention to those facilities which enable the development of the low-grade iron ore reserves at Cassinga; 4) expand the Matala Dam complex on the Cunene River; 5) complete the Luanda and Mocamedes thermoelectric power plants; 6) convert the Cabinda thermoelectric power plant to natural gas; 7) begin the electrification of Uige Province and the Dembos region; 8) expand the hydroelectric utilization of the middle Cuanza and upper Catumbela rivers; and 9) construct an interconnecting grid for the North-Central power systems as an initial step toward the interconnection of the three existing systems.

In summary, Angola has a vast energy potential. This resource will be used to improve directly the standard of living of the country's preponderance of poor as well as to increase industrial and mineral production so that these activities can begin to earn the foreign exchange required for long-range development needs.

3. Summary of Energy Sector Constraints

a. A deficit of manpower skills severely limits greater Angolan control of its petroleum industry.

Manpower training programs in all aspects of the industry are required.

b. Probable rich deposits of oil are not in production. Concessions to foreign companies are being negotiated. Such concessions will also include provisions for additional exploration.

c. Political problems with South Africa are an obstacle to the completion of hydroelectric and irrigation development in the Cunene River Basin. It is probable that these difficulties will not be resolved until Namibia is granted full independence. At that time, however, South Africa's willingness to participate in the project may no longer exist. If this is so, Cunene development will require some other major source of foreign financing. The arrangements for such a source could possibly cause additional delays.

d. Skilled management and maintenance personnel for electrical generating facilities are in inadequate supply. Training is required.

e. Angola's electrical network is currently divided into three major sections. Interconnection would be more efficient, and, ultimately, less costly. However, at the present time, Angola has neither the skills nor the financing necessary for such a task.

f. Urban residential electrification is incomplete and rural electrification is largely non-existent. The absence of a reliable source of electricity in many places lowers both productivity and living standards, both important goals of the Government. Nevertheless, it is unlikely that a large scale electrification program could be implemented within the near future.

I. Transport

1. Roads and Vehicles

In 1974, Angola had over 5,300 miles of paved roads reaching every provincial capital. Over 17,000 miles were of improved gravel or dirt surfaces, and a remaining 22,800 miles, approximately half the total, were rough dirt roads or trails, which were often impossible during the rainy season. Development of a good road network was viewed by the Portuguese as a worthwhile investment both for economic and military purposes. However, during the civil turmoil that has lasted since 1975, many roads and bridges have been damaged or destroyed. Their rapid repair is one of the MPLA's most urgent tasks. External assistance, primarily from Cuba, is helping to resolve this problem.

Fleeing Portuguese took with them or sabotaged almost two-thirds of the country's cars, trucks, and buses during the civil war. Government information indicates that of 28,000 heavy vehicles that were in the country in 1973, only 6,000 are now running and another 4,000 can be repaired.

A major problem in 1978 was a lack of trained mechanics and spare parts. Between July 1976 and June 1977, 12,209 civilian transport vehicles were imported into Angola. The majority of these were cargo and public transportation vehicles, and were imported from Brazil, Sweden, West and East Germany, Czechoslovakia, Italy and Romania (whose governments provided grant or loan financing).

Government priorities for road transport include:

- 1) the restoration of all transportation equipment, roads, and bridges;
- 2) the collection of abandoned vehicles;
- 3) the organization of repair shops and training of qualified mechanics;
- 4) the importation of spare parts and accessories;
- 5) the improvement of inter-and intra-city public transport (i.e. more buses and taxis), and
- 6) the drafting of a vehicle import and distribution plan.

2. Railroads

At the time of independence, Angola had a small (1,625 mile), but important, railway system. The system consisted of three unconnected main lines, running almost parallel inland from the ports of Luanda, Lobito, and Mocamedes. A small, narrow gauge, fourth line ran from Porto Amboim to Gabela. Each of these railroads had (and should continue to have) an important role in the nation's economy.

The Luanda Railway is a vital link with the mining, agricultural (cotton, sugar, and coffee), and petroleum industries of the Luanda, Cuanza Norte, and Malange provinces.

The Mocamedes Railway provides transport for agricultural goods and people in the south of the country. When the Cassinga Iron Mines were operating, the Mocamedes Railway transported up to 7 million tons of ore per year to the coast. The small Porto Amboim Railway carried coffee from plantations in Gabela.

The most lucrative and, thus, strategic line of the system is the Benguela Railroad. Unlike the other railroads, Benguela carries international as well as domestic cargos, providing an important export outlet for the mineral industries of Zambia and Zaire, as well as a major foreign exchange resource for Angola. Freight carried along the Benguela route, which passes from the port of Lobito through Benguela, Huambo, Bie, and Luao (where it connects with the Zaire system) includes: agricultural and mining products of Angola; copper, cobalt and zinc from Zaire; and copper and zinc from Zambia. In addition to exports, this artery also carries imports vital to the two neighboring countries; these include drugs, petroleum products, chemicals, building materials, and machinery. Although both Zaire and Zambia have alternative means on which to ship their products, none is as convenient or efficient as the Angolan railway.

Thus, the closing of the Benguela Railway in August 1975, as the result of war-caused damage and destruction to track and bridges, has created substantial hardships for the Governments of Zaire and Zambia. Recent economic pressures

in Zambia, caused by inefficient rail and port facilities in Tanzania, have forced that country, despite the U.N. sponsored economic blockade, to ship its goods through Rhodesia to ports in Mozambique and South Africa.

The Benguela Railroad's owners, Tanganyika Concessions, a Bahama based firm, recently reported that, in November 1978, partial operation of the line had already been restored and that full service could perhaps be expected by the beginning of 1979. The line still remains vulnerable to UNITA attacks. In addition, it is not known if the railway will ever fully recover the traffic load lost over the past several years. There is speculation that once Zimbabwe (Rhodesia) achieves uncontested majority rule, the Benguela Railroad could lose some of the attraction that it had before 1975, although this is unlikely, given overall transport demand and expected efficiencies in Zimbabwe and Mozambique.

Once the Government of Angola has succeeded in restoring its rail network into full service operation, there are a number of other improvements to be made. Most important is the need to train personnel and implement a regular program of track and equipment maintenance. Furthermore, the Government wishes to upgrade much of its antiquated rolling stock. (on several lines, wood burning engines are still in use).

3. Maritime Transportation

Angola's principal port facilities are located in Luanda, Cabinda, Lobito, and Mocamedes. In 1973, Cabinda, which handled 7.412 million tons of cargo (mostly petroleum exports) was the country's most active port. Mocamedes, which had been the second most busy facility, and Lobito, which had been third, are no longer considered to be as important in 1978, as a consequence of the termination of iron mining activities at Cassinga and the shutdown of the Benguela Railroad, respectively. Luanda handled 1.7 million tons of cargo in 1973, and serves as the country's principal port of entry for domestic imports as well as for the export of coffee. Ports of lesser significance include Amboim, Ngunza, Porto Alexandre, and Bahia dos Tigres.

Even before the civil disruptions of 1975-76, port facilities constituted a major bottleneck in Angola's rail-sea linkages to the world economy. Prior to independence, plans had been prepared and some work initiated on modernizing and expanding the major ports.

Improvement of management and organization are particular objectives of the MPLA. More efficient utilization of existing facilities must be achieved so as to limit unneeded expenditures on new infrastructure. The Government also plans to upgrade and expand warehouse storage capacity.

Angola's pre-independence maritime activities were international trade oriented. Relatively little domestic trade was conducted between the nation's ports. Service that did exist was sporadic and costly. As a consequence, businessmen in one part of Angola often found it less expensive to import goods from South Africa and Europe than to pay the exorbitant fees charged for domestic shipping. Because of the international nature of the country's maritime trade, few of the ships it now has are suitable for inter-coastal shipping.

In 1978, the Government of Angola established a national merchant marine (ANGNAVE). Three separate state enterprises were formed, one to handle maritime shipping, another to provide coastal passenger and freight service, and a third to act as agent in domestic ports for both Angolan and foreign ships (i.e. a port authority).

As discussed earlier, the revitalization and redirection of maritime fishing is of great interest to the Government. Only one-third of the approximately 800 larger fishing vessels present in Angola prior to independence are currently operational. Of the remainder, roughly half were taken by fleeing Europeans, and the others were idled because of needed repairs or the lack of crews. Small-scale marine fishing is accomplished with canoes and small inboard power boats, of which there are approximately 2,500 and 200,

respectively. Expansion, improvement, and modernization of the fishing fleet are imperative to increasing the supply of fish for domestic consumption as well as for exchange earning export.

4. Air Service

Angola's large and topographically diverse territory virtually necessitates the existence of adequate freight and passenger air service. A major international airport is in full operation at Luanda. Additionally, each provincial capital, as well as three other economic centers, possess developed airfields; and it is estimated that there are 170 smaller airstrips scattered throughout the country.

Since independence, the Government of Angola received control of a private airline that had been a Portuguese concession in the country. This company, now known as TAAG-Transportes Aereas de Angola, provides domestic and international passenger and cargo service. It is reported that, in 1978, TAAG had a fleet of three Boeing 737s, three 707s, five Fairchild F-22s, and five YAK-4Ds (a short-haul Russian aircraft).

A Government program to upgrade the quality of domestic airports has employed the services of the U.S. Boeing Company. In addition to the development of new infrastructure, the Government also has stated a priority for maintaining existing facilities - aircraft as well as airports.

5. Summary of Transport Sector Constraints

a. Many roads and bridges are destroyed or damaged as a result of the civil war. This interferes with the transport of goods, people, and services and is a negative factor in the recovery of the economy and in the standard of living of the people (who cannot market food, receive services, etc.). Government action, to date, has resolved much of this problem, and it can be expected that repair work will continue at an accelerated pace.

b. Many cars, trucks, and buses necessary to national commerce were taken from the country or destroyed by departing Europeans. New vehicles must be imported and, to the extent possible, damaged vehicles repaired. Typically, there is a shortage of persons with mechanical skills and a need for spare parts.

c. War damage destroyed railway tracks and bridges. Much of this damage has already been repaired. Foreign assistance played a crucial role in this process. Security from guerilla attacks continues to be a consideration.

d. Much of the country's railroad equipment is out of date and inadequate for the tasks required of it. An undetermined amount of rolling stock should be replaced. In addition, some narrow-gauge railways should be widened for greater efficiency. Again, technical and managerial skills are in short supply.

e. Existing railroad lines do not connect and only run from east to west to coastal ports. Linkage of Angola's rail-

ways would be a great economic asset to the country. However, such a project would be costly, and can only be considered a long-term possibility.

f. Some port facilities are damaged as the result of the civil war. All the ports are operational. Most repairs have already been completed. Some port operations are limited because of personnel needs. Training is required.

g. Port expansion and modernization is necessary in a number of locales. Detailed studies of this matter are required. In fact, investment should be delayed until the direction of the Angolan economy is more certain, so as not to provide capacity that may not be used.

h. Angola does not have an established system of inter-coastal trade. The Portuguese colonial economy was primarily outward directed. Port facilities and shipping must be adapted to accommodate internal trade and stimulate local production.

i. Departing Europeans took with them or sabotaged much of Angola's merchant and fishing fleet. Available ships are inadequate for the country's needs. New boats must be acquired and repairs made on currently disabled vessels, where possible. There is also a shortage of maritime crews and maintenance personnel. Vocational training programs are indicated.

j. Air transport suffers from a lack of qualified crews and maintenance personnel. Government plans call for the establishment of training programs.

J. Communications

In its December 1977 ~~Congress~~ to define national development objectives, the MPLA observed the following: "In a country as vast as the Peoples Republic of Angola, it is indispensable to have an efficient communications network which permits the establishment of permanent and steady contacts between the regions." Thus, there is no doubt that improved communications will be receiving a significant amount of Government attention within the foreseeable future.

Nevertheless, detailed current information on this subject is generally unavailable. Prior to independence, Angola had four radio stations, all located in Luanda. Although there were plans for the introduction of television broadcasts in 1976, it is unlikely that these have been implemented. However, a recent agreement with an Italian firm, ITALCABLE, will make Rome the transit point for telephone, telegraph, and telex traffic.

One daily, state-controlled newspaper is published, the Journal de Angola, and there is also a state-owned magazine, Novembro, which appears monthly. The Government assumed control over all news media by a decree issued in May 1976.

Pre-independence telephone service was provided by an assortment of tenuously connected, local urban systems. These systems are thought to have largely served the needs of the resident Portuguese community. Contact with rural areas was accomplished by short-wave radio transmission. Postal service

was also, for the most part, organized for the needs of the urban-based European population.

The Angolan Government, in the future, will seek to strengthen both postal and telecommunications services. In addition to the inadequacies of pre-independence infrastructure, much damage was inflicted on the existing facilities during the 1975-76 civil war. Special attention will be given to improving linkages with the rural areas and Cabinda. The Ministry of Communications has been directed to draft a program for the installation and utilization of micro-wave equipment. As in plans for most other sectors, the Government will be taking steps to train personnel in maintenance and organization of postal and telecommunications systems.

VI. Foreign Donor Assistance

A. Overview

Because of the recentness of Angola's independence, the continuing (though diminished) violent nature of partisan civil conflict, and the absence of American recognition of the MPLA Government, it is difficult to ascertain, with any degree of detail, the nature and extent of foreign assistance to Angola. Partial, disjointed information does exist and, from this, several conclusions can be reached.

1. Angola requires and wants foreign development assistance. With the possible exception of the last 10 to 15 years, Portugal did little to improve the standard of living for Angola's non-European population. As a result, Angolans received little of the education and experience necessary to efficiently run their country in all of its aspects. The exit of the Portuguese population after independence took with it many of the physical and human resources essential to the nation's economic survival. Moreover, the 1975/76 civil war, between the MPLA, FNLA, UNITA, and smaller partisan groups, led to the destruction and disruption of much of what remained of the country's economic base. It is recognized that full recovery cannot be achieved in international isolation.

2. Although avowedly socialist and Eastern block-oriented at this early stage of its history, the Government of Angola appears sincere in its attempts to broaden foreign contacts in accordance with its stated objective of political

non-alignment. The MPLA, and other groups in the country, fought against the Portuguese for national independence for more than a decade. Government documents express clearly that colonial "oppression" has not been forgotten in the post independence aftermath of civil war. Angola is very sensitive to the possibility of trading de jure colonialism for de facto. Because of this, the Government appears to be receptive to the concept of a wide variety of development assistance donors. In this way, dependency, as such, will be spread over a more balanced spectrum of international interests. A partial

listing of foreign donors to Angolan development since independence includes: the United Nations (through a number of its agencies, e.g., UNHCR, World Food Program, UNICEF), the Arab League, West Germany, Brazil, Denmark, Sweden, Switzerland, Norway, Great Britain, Saudi Arabia, East Germany, Bulgaria, Algeria, the Soviet Union, and Cuba (see item 4, below). Much of this assistance has been in the form of food, commodity procurement loans and grants, and technical assistance.

3. In accord with its desire to maintain independence, the Government of Angola has expressed its determination to pay the costs of national development and to repay foreign donors for any assistance they may render. Because of the country's wealth of resources, the Government is confident of its long-term ability to finance development internally, and will accept international aid only in forms that are consistent with national pride and self-respect. Such pronouncements are further indications of the sincerity of Government commitment to development,

and increase the probability that foreign assistance accepted by the country is of priority importance and will be well utilized.

4. Without doubt, the primary development aid donor to Angola is Cuba. Even though Cuban military troops may be the most visible element of that country's involvement in Angola in 1978, doctors, nurses, paramedics, construction personnel, agricultural technicians etc., are the persons most helping the / ^{development aspirations} of the MPLA. At this stage of history, the main task of the Government is to win the confidence and support of the people. Available political documents indicate that the strategy for the accomplishment of this end involves food, health care, employment, and other elements that can be combined to improve the standard of living. It appears evident that both the MPLA and their Cuban allies believe that the ultimate defeat of the FNLA and UNITA will entail more than military dominance. Victory will be the result of the people of Angola believing that their government is working for the well-being of every citizen and that the continuation of resistance is counter-productive to their own self-interests.

B. Illustrative Examples of Donor Programs

Because complete information is unavailable, it is not possible to present a table which shows, by year, the contribution of the various international donors to Angolan development since independence. Moreover, time and space do not permit a narrative relation of the assistance programs that are known.

What follows below is a partial description of some of the known program efforts of the major donors.

1. The United Nations

UNICEF has a wide variety of programs. Areas of intervention include the furnishing of drugs and medical supplies for rural health programs; vaccines and supplies for immunization programs; foods, vitamins, and drugs for mother/child care and nutrition programs; and technical assistance, equipment, and the financing of local costs for a potable water supply program.

The High Commissioner for Refugees (UNHCR) has provided food, medicines, and other commodities for both Angolan and Namibian refugees. It is estimated that Angola's refugee population (250,000) is the largest in southern Africa.

WHO assistance includes technical services both in health administration and practice. Other activities of this organization are aiding in the important tasks of collecting and making available information and data on the Angolan health sector.

2. Sweden

The Government of Sweden provided approximately U.S. \$2.1 million in humanitarian assistance aid to the MPLA between 1970 and 1975. For its fiscal years 1978 and 1979, Sweden has earmarked an additional U.S.\$26.8 million for Angola. Swedish aid has purchased transport vehicles (cars, buses and trucks), ferries, flotation bridges, food, medicines, and educational and medical equipment. Intensive studies for technical

assistance in health, nutrition, and fisheries were undertaken in the first half of 1978. It can be anticipated that the emphasis of Swedish aid will be shifting from a war relief orientation to programming that is more directed to the longer-term development needs of Angola.

3. Brazil

The Brazilian Government, in 1976, signed an agreement with the Government of Angola to provide U.S. \$1.5 million worth of cars and buses. Furthermore, Brazil has made available a U.S. \$8 million credit for the purchase of fishing boats and freighters, hospital equipment, and rice.

4. Cuba and the Eastern Bloc Nations

As discussed in the previous section (V, A,4) Cuban development aid is perhaps of equal importance to the military support that it provides to Angola and the MPLA. There is little detail available on the assistance furnished by the Eastern bloc nations. The Soviet Union has delivered a number of merchant and fishing vessels to the Government of Angola, as well as assisting in the recuperation of several industries. Yugoslavia has agreed to assist in the execution of a study on the mining of iron ore.

5. The United States

The United States has not given formal recognition to the Government of the MPLA; thus, there has been no bilateral assistance program between the two countries.

C. Absorptive Capacity

Because of the lack of data and experience as well as the extraordinary circumstances of Angola since its independence, observations on the country's absorptive capacity for foreign development assistance can only be based on informed conjecture.

Angola has a broad expanse of priority development needs. However, colonialism left the country critically short of the numbers of trained and experienced manpower required to carry out the many tasks that must be accomplished. Because of this constraint, Angola's capacity to absorb foreign development assistance will be limited for the foreseeable future. Thus, development interventions will have to be carefully planned and prioritized if they are to provide a lasting contribution.

Foreign donors can be reasonably assured of close host country collaboration in project planning and implementation. Both Government interest and motivation to lead in the national development process are strong. Although there is no evidence at the present time of the existence of a central coordinating body or mechanism for foreign donor programming, prevailing Government attitudes indicate that such a function probably does take place.

VII. Development Strategy Options

A. Introduction

In its December 1977 congress, the MPLA expressed, albeit often in general terms, Angola's development objectives for 1980 and beyond. The task is an imposing one with many urgencies. While the Government recognizes that every need that is identified cannot receive an immediate priority, the temptation to undertake too many things at one time is great.

The governments of most lesser developed countries are staffed with insufficient numbers of inadequately trained personnel. As discussed in the previous section, this is especially true for Angola. Accordingly, the development administration and absorption capacities of the Government are limited.

Maintained and fortified independence is a basic principle of Government policy. A strong, national economy which supports an ever-improving standard of living for the people is viewed as a means of enhancing independence. Thus, real, rather than symbolic or ephemeral, development is what is basic to the strength of the nation. In this context, "real" development is a factor of institutionalization, that is, full absorption into the society and utilization of whatever training or capacity that is added during the development process.

For Angola to proceed with an institutionalizing development program, expanding its limited absorptive capacity should be a prominent consideration. The government must carefully analyze

not only what specific needs are, but also how the fulfillment of these needs combines with other needs or aspects of the society. In effect, attention must be given to maximizing development multipliers.

Below in this section is a limited hypothetical development program strategy for Angola. The purpose of this strategy is to serve as a stimulant to the discussion of Angola and its prospects for socio-economic development. In many aspects, the strategy is similar to the one already being pursued by the Government. Presentation of this option is not intended to second-guess or criticize the MPLA's present program, nor is it in any way intended to be prescriptive.

The below strategy places Angola's development program requirements into two relatively distinct categories: reconstruction from war damage and sabotage (for the initial time period only) and immediate actions aimed at longer term needs. These categories are considered, by sector, in two prioritizing time sequences, 1979-81 and 1982-86.

B. Proposed Strategy Option

1. Time Period 1979-81

a. Agriculture

1) Reconstruction

a) Re-establish an agricultural marketing system, so as to assure the means for food to reach the

entire population. This element includes the restoration of farm-to-market transport.

b) Establish price/market incentives for small, traditional farmers to produce in excess of their subsistence needs, as they did prior to independence.

c) Provide training for farm cooperative managers and technicians so that ex-commercial sector lands can be put back into food production. Cooperative farms will also require a to-be-determined amount of start-up financing.

d) Study and implement measures to re-establish pre-independence coffee production levels.

2) Longer-Term Needs

a) Undertake adaptive food crop research at the national university. Taking advantage of existing technologies will be both quicker and less costly to implement.

b) Establish domestic fish marketing infrastructure; restore productivity of the fish processing industry.

c) Establish training priorities and train planning personnel and technicians in the Ministry of Agriculture.

d) Upgrade vocational and university-level agricultural education. Assure the relevancy of the programs to national development needs.

e) Develop and implement a program for improving small scale fishing and fish preservation techniques.

b. Education

1) Reconstruction

a) Improve and enlarge teacher training capacity for primary and literacy education programs.

b) Develop Angola need-oriented textbooks and teaching materials. Produce and distribute these.

c) Provide incentives for teachers to work in rural areas.

d) Undertake a word-of-mouth campaign to encourage the rural indigenous population to actively seek education.

e) Survey school construction needs and establish priorities.

2) Longer-term needs

a) Analyze the needs and prepare a comprehensive plan for vocational manpower development. Implement the plan.

b) Improve and enlarge the secondary teacher training capacity.

c) Further develop secondary and university level curricula and materials.

d) Evaluate and enhance the "relevance" factor of the literacy training program.

c. Health

1) Reconstruction

a) Establish the most necessary health services in rural areas on a prioritized basis.

b) With a defined realm of practicality, continue the intensive training of all levels of health personnel.

c) Re-establish the functioning of pre-independence water supply systems. Evaluate their effectiveness and potential for expansion.

d) Provide better health services for refugees and the wounded.

e) Establish a control, purchase, and distribution system for pharmaceuticals.

2) Long-term Needs

a) Establish and train personnel for a health/nutrition education program to include school and literacy teachers. Include these elements in existing curricula.

b) Conduct nutrition and health sector assessments.

c) Continue to plan and carry out the most necessary vaccination programs. Evaluate the impact of earlier vaccination programs.

d. Shelter and Construction

1) Reconstruction

a) Survey post-independence construction capacity. Plan a carefully prioritized use of this capacity.

b) Briefly survey shelter needs. Establish the relative development priority of shelter programs.

2) Long-term

a) Develop a shelter strategy linked to a spatial urban plan.

b) Train management and skilled construction industry personnel. Plan their utilization.

e. Industry

1) Reconstruction

a) Continue the priority reconstruction of the domestic supply food processing industry. This will improve food availability and stimulate agricultural production.

b) Develop and implement priorities for manpower training needs.

2) Long-term Needs

a) Resolve which pre-independence industries are either of low relevance to the country's present needs or are a potentially undesirable drain of

already inadequate national financial and human resources.

b) Re-establish full production in clothing, shoes, and other industries to vital basic needs consumption.

c) Establish priorities for raw material utilization.

d) Review the existing marketing structure and affect only the most essential improvements.

f. Mining

1) Reconstruction

a) Provide security for diamond mining.
b) Resolve the short-run desirability of recommencing Cassinga iron ore mining operations.

2) Longer-term Needs

a) Obtain a full-scale study of the country's mineral resources.

g. Energy

1) Reconstruction

a) Repair war damage to existing electrical generating and distribution facilities.

2) Longer-term Needs

a) With prudence, grant additional oil exploration and exploitation concessions to foreign firms.

b) Train manpower for SONANGOL.

c) Prepare a comprehensive plan for the completion of unfinished hydroelectric generating facilities.

d) Develop a comprehensive plan for a rural and extended urban electrification.

h. Transport

1) Reconstruction

a) Complete the repair of all road, rail, harbor, and air transport facilities and equipment and train personnel for their operation and management.

b) Acquire and repair the necessary vehicles for the delivery of goods and services and the transport of people.

c) Repair and expand the fishing fleet.

2) Longer-Term Needs

a) Conduct a transport sector assessment and prepare a comprehensive sector development plan (to include investment prioritization).

b) Complete the repair and expansion of the fishing fleet. (This relates to improving the availability of inexpensive dietary protein.)

i. Communications

1) Reconstruction

a) Complete the repair of the existing telephone, telex, and mail systems.

b) Implement a program for improving national mail service.

2) Longer-term Needs

a) Conduct a communications sector assessment.

b) If radio transmissions are not national, install such a capacity.

2. Time Period 1982-86*

a. Agriculture

1) Study the tsetse fly problem in the north and calculate the cost-effectiveness of an eradication program. Discuss a regional program with neighboring countries.

2) Study the desirability of, and, if indicated, develop and implement a program for reinitiating sugar, cotton, and sisal production and processing.

3) Plan and implement a strategy for the development and promotion of agricultural exports.

4) Expand the base of agricultural research to include potential export crops.

5) Develop a system for the dissemination of agricultural research findings to independent small farmers. The transfer of information to state farms can be made through Ministry channels.

6) Upgrade and expand training in veterinary medicine.

*This section assumes the continuation of many of the programs suggested for the 1979-81 time period.

7) Establish a plan for the management and maintenance of farm machinery.

8) Develop and implement a plan for the expansion of fishing activities. Such a plan will include the promotion of fish exports.

b. Education

1) Strengthen the vocational educational content of primary and secondary education programs.

2) Undertake a school construction program in accord with priorities established in the 1979-81 study.

3) Undertake a full reassessment of the country's manpower training needs, and revise the existing programs accordingly.

4) Evaluate the quality and relevance of the country's educational programs, making changes where indicated.

c. Health

1) Evaluate the existing health delivery program and expand the quantitative and qualitative scope of the rural health service, in accordance with assessed needs.

2) Evaluate pharmaceutical needs and production capacity. Plan and implement a program for revitalizing the domestic pharmaceutical industry.

3) Plan and implement an expansion of the urban and rural potable water delivery systems.

4) Investigate the desirability and feasibility of nutritionally fortifying selected domestically processed foods.

5) Plan a prioritized sewerage disposal program.

d. Shelter and Construction

1) Plan and implement a government supported, self-help, rural housing program.

e. Industry

1) Evaluate the nation's industrial export capacity. Expand export-oriented industries. Place special emphasis on southern Africa regional needs.

2) Develop a selective plan for industrial modernization.

3) Plan and execute further improvements in the domestic marketing system.

f. Mining

1) Develop a program for mining identified deposits of commercially exploitable minerals. Such a program should be closely coordinated with activities in manpower training, industry, and transport.

g. Energy

1) Expand the urban and rural electrification program.

2) Conduct a study of energy sector potential. Prepare a ten-year energy development plan.

3) Conduct a benefit-cost study of the possibility of linking the country's major electrical generating systems.

h. Transport

1) Undertake a benefit cost analysis of linking the country's three major railroads.

2) Plan a program for upgrading and expanding the national road network.

3) Plan and implement a program for improving coastal shipping.

i. Communications

1) Expand and upgrade the telephone and telegraph systems. Consider the installation of microwave facilities.

2) Expand the cultural content of the print and broadcast media.

3) Develop (if one does not exist) a modest-scale motion picture industry.

4) Expand the book publishing industry.

VIII. Angola's Role in the Development of the Southern African Region

Angola's own internal development problems are extremely pressing and require urgent attention. Nevertheless, the country does have an important role to play in the economic (and, consequently, political) development of its neighbors in the southern Africa region. Moreover, in all of the presently apparent possibilities, the activities to be undertaken are of benefit to all of the participating countries.

The list of joint development activities that follows below is rather short. The first two items represent undertakings that are already in progress. However, once the political turmoil of southern Africa is resolved, it can be expected that there will be an increase in the planning of mutually beneficial development projects between Angola and its neighbors.

1. Provide a reliable, efficient transport corridor for the imports and exports of Zambia and Zaire. Efforts are already being undertaken to re-open full service on the Benguela Railroad. This artery, which begins at Angola's port of Lobito connects directly with the Zaire national railway, which, in turn, has a link with the Zambia railroad (for greater details see map and Section V, I, 2). If Zaire's and Zambia's use of the Beneguella route returns to pre-1975 levels, an expansion and modernization of the port

at Lobito will be essential.

2. Supply abundant, inexpensive electricity and irrigation water to Namibia. The Cuene River Basin Project was initially undertaken by the Governments of Portugal and South Africa (see Section V, H, 2). Work on the project, for the most part, has been suspended since the beginning of the 1975-76 civil war in Angola. Continuation will probably depend on the resolution of Namibian independence. Future financing of the project must also be resolved.

3. Provide a land use/water control program and hydroelectric power for the development of the Okavango Basin in Botswana. Angola's Cubango and Cuito Rivers are major contributors to sparsely settled areas of Botswana's Okavango Swamps. Many feel that the area has significant agricultural development potential. However, before a project could begin, negotiations would be necessary between the Governments of Angola, Botswana and Namibia. Development of the region would also have to give careful consideration to the ecological implications of any proposed changes.

4. Angola's relative potential wealth of natural infrastructure resources can be developed in a manner which will benefit regional as well as domestic development.

Phosphate deposits could be exploited to provide an inexpensive supply of fertilizers for the agricultural needs

of neighboring countries. Additionally, basic consumer goods industries (e.g., shoes, textiles) could be developed to satisfy regional demands. In fact, a regional market may be necessary to restore these industries to a position of financial viability. Finally, rail and port infrastructure could be utilized to fortify interregional trade, thus, to a certain extent, reducing existing dependencies on the Republic of South Africa.

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