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ASSESSMENT OF TUNISIA'S DEVELOPMENT EFFORTS AND AID'S CONTRIBUTION

Agency for International Development
Bureau for Development Support
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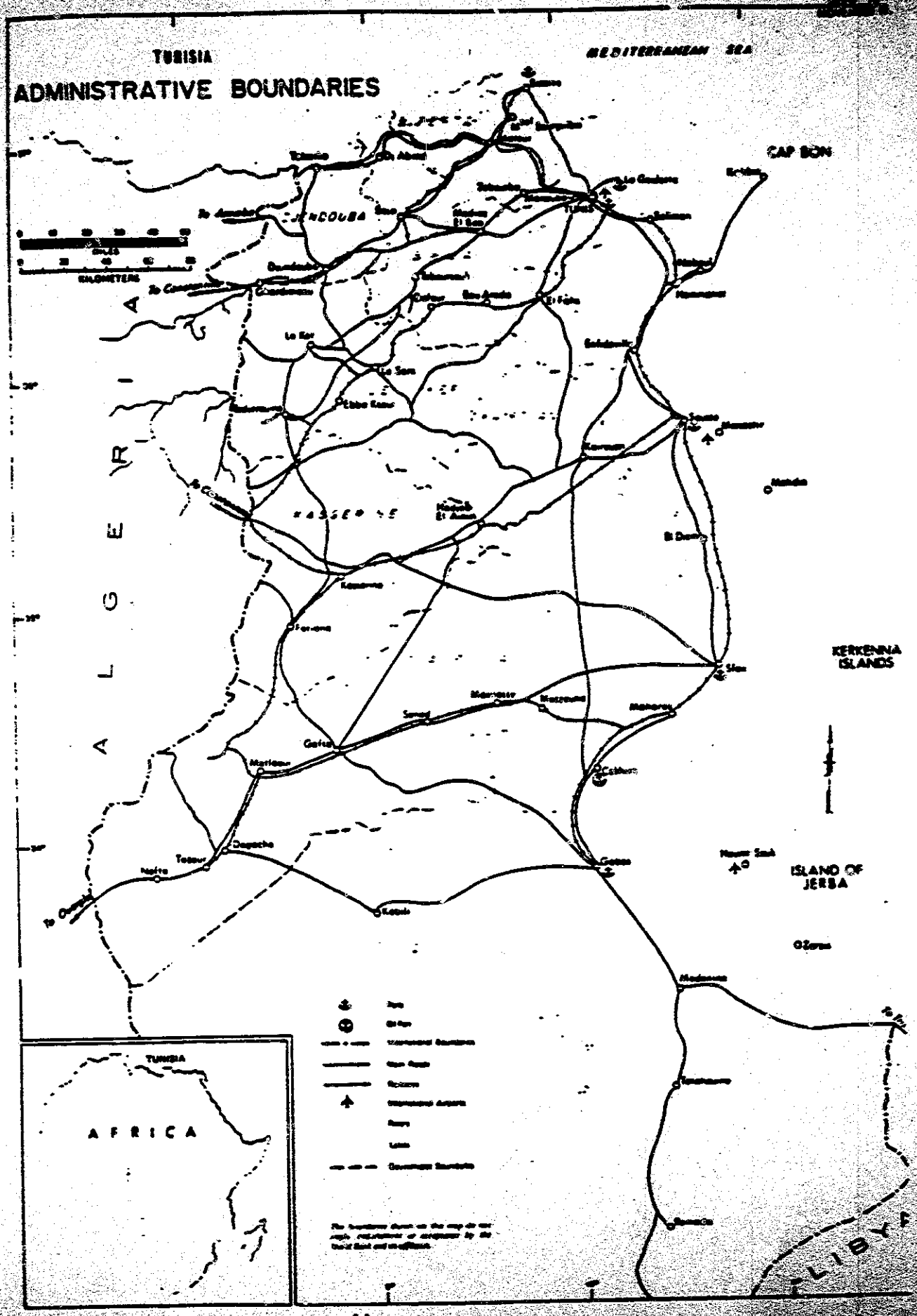
Economic and Social Data Services Division

DS/DIU/ESDS

ASSESSMENT OF TUNISIA'S DEVELOPMENT EFFORTS AND AID'S CONTRIBUTION

Agency for International Development

December 1980


TUNISIA
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TUNISIA
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PREFACE

In the summer of 1979, Mr. Joseph C. Wheeler, then Assistant Administrator for the Near East Bureau, sent a memorandum to the Near East Mission Directors requesting that studies be undertaken that would "look at the total development effort of a country and then consider what AID programs may have contributed to a particular result." The memorandum went on to suggest that broad development progress could be assessed by examining trends in recent decades in major economic and social indicators (e.g., literacy rates, percentage of children in school, infant mortality rates, fertility rates, agricultural production, etc.). Within the context of the overall country performance towards achieving sectoral goals, the role played by AID assistance was to be placed in proper perspective. The studies were to be kept relatively brief, keeping in mind the likely uses would be for Congressional and public information processes.

Additional guidance, prepared by the Project Analysis and Evaluation Staff of NE/DP, stated that the studies should include: (a) evidence of progress and trends in priority social and economic development areas; (b) an analysis of host government policies and other factors, such as cultural and physical environment, that have affected progress in these sectors; and (c) a balanced assessment of the overall effectiveness and contribution of AID's development assistance programs towards achieving these sectoral goals.

It was also decided that Tunisia would be treated as an in-depth case study, because there has been a long history of AID assistance to Tunisia and because overall development performance there since Independence has been remarkably favorable. This case study of Tunisia's development efforts and of AID's contribution was drafted during a three-week TDY to Tunisia in the fall of 1979 and was subsequently revised based upon comments received from Agency staff in the Tunisia AID Mission and in AID/Washington. Although I am indebted to many who shared with me their knowledge and views on the Tunisia AID program, the conclusions and opinions expressed here are my own assessment and do not necessarily represent those of the Agency.

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December 1980

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INTRODUCTION

Soon after Tunisian Independence in 1956, the United States established a development assistance program in Tunisia. During the more than two decades of our involvement, U. S. economic assistance has amounted to nearly $1.0 billion, of which $386 million was in dollar grants and loans, $450 million was in PL-480 food assistance, $113 million was in local currency 104 grants and loans, and $51 million was under the housing guarantee program (see Table 1).[1] The U. S. Agency for International Development has over the years completed more than 200 development projects in Tunisia in sectors such as health, family planning, housing, education, agriculture, industry, tourism and infrastructure.[2]

The U. S. economic assistance program has amounted over the years to a cumulative total of about $160 for every Tunisian alive today. What sort of an impact have we made? The purpose of this paper is to examine the history of Tunisian developmental efforts in various sectors, and to outline AID's physical contributions in these areas. Where possible, an attempt will be made to estimate the number of beneficiaries whose lives were affected by the AID programs. However, given time and space limitations, only a broad overview of programs will be attempted, rather than any detailed evaluations of individual projects.

To organize the discussion, this paper is categorized according to major sectoral goals or objectives shared by the Tunisian Government (GOT) and AID. These broad categories include (i) Improvement in Health and Health-Related Living Conditions; (II) Limitation of Population Growth Through Fertility Decline; (III) Expansion of Access to Education, Basic and Advanced; (IV) Provision of Employment Opportunities; (V) General Economic Growth; and (VI) Agricultural Development.

Within each of these sectoral goals, the discussion will center upon three points:

(a) Tunisia's general progress or trends towards goal achievement in the sector since Independence;

(b) The effectiveness of GOT sector programs in providing widespread and equitable coverage of the target population; and

(c) The contribution of AID in these sectoral programs.

In order to assess performance or progress in goal attainment, this study identifies and examines "impact" indicators. These indicators measure the changes that have occurred since Independence in the socioeconomic

status or behavioral characteristics of the target population. For example, a decline in crude birth rates would be an impact indicator for goal II, whereas an increase in literacy rates of the population would be an indicator for goal III.

For measuring the coverage of GOT sector programs, the paper examines "effectiveness" indicators. These are indicators that measure changes in the access of the target population to sectoral programs and also measure possible bias in access among various sub-groups. For example, the % of women of reproductive age using family planning services would be an effectiveness indicator under goal II and % of school-aged children enrolled would be an effectiveness indicator under goal III. These indicators, when made specific for sub-groups of the target population, (e.g., age, sex, socioeconomic status, rural - urban location) reveal evidence of inequities in program access, utilization, and impact.3/

In addition to looking at the trends over time in these performance (impact and effectiveness) indicators, where possible, these will be compared to achievements in reference countries. Comparisons will be made with the weighted averages of performance indicators of a reference group of countries consisting of Middle Income North Africa and Middle East countries.4/ This may help put Tunisia's development performance and rates of progress in some perspective by showing how other countries in similar situations have done.

The discussion on progress and program effectiveness will also include brief comments regarding the GOT's policies and commitment to the sectoral objective. However, these will be summary rather than exhaustive in nature.

The history of AID's involvement in each of the sectoral programs will be examined. Given the large numbers of AID projects developed over the years in Tunisia, the lack of adequate evaluation materials, and the given scope of this paper, the discussion of AID's contributions can be no more than summary in nature, emphasizing general areas of involvement, major physical results and estimates of beneficiaries reached. There will be no attempt to draw conclusive, scientific evidence of causal relationships between AID project outputs and overall progress made towards achievement of sectoral goals. This would require sophisticated data-collection and evaluative analysis at the project level which as a rule has not yet been done, and which would most clearly be beyond the scope of this paper. However, where appropriate, common sense judgments will be made of AID's contribution to overall GOT program effectiveness and the likely impact this has made upon overall goal achievement.

TABLE 1: U.S. ASSISTANCE TO TUNISIA

From Inception of Program 1957 Thru FY 1979

(In Millions of Dollars)

	GRANTS			LOANS			FOOD ASSISTANCE				LOCAL CURRENCY		
Fiscal Years	Technical Assistance	Program Grants	Disaster Relief	Program Loans	Project Loans	Sector Loans	PL 480 Title I	PL 480 Title II	Sub-Total	Housing Program b/	104 Loans a/	104 Grants a/	GRAND TOTAL
1957	0.5	5.5	-	2.5	-	-	-	7.5	16.0	-	-	-	16.0
1958	2.0	13.3	-	1.0	-	-	-	5.1	21.4	-	-	-	21.4
1959	2.2	19.3	-	-	10.9	-	-	10.2	42.6	-	-	-	42.6
1960	6.0	16.1	-	-	-	-	-	13.4	35.5	-	-	-	35.5
1961	4.9	21.9	-	-	30.4	-	14.3	28.4	99.9	-	-	-	99.9
1962	5.8	10.0	-	-	-	-	5.3	36.9	58.0	-	1.5	5.0	63.3
1963	1.1	-	0.1	24.9	2.2	-	14.6	22.9	65.8	-	4.0	0.8	70.6
1964	0.4	-	-	-	7.2	-	2.9	14.9	25.4	-	17.0	-	42.4
1965	1.0	-	0.2	9.9	10.1	-	14.7	8.1	44.0	-	2.2	0.8	47.0
1966	1.9	-	-	24.6	5.6	-	-	9.4	41.5	(5.0) b/	7.8	-	49.3
1967	2.1	-	-	14.3	0.7	-	26.1	7.5	50.7	-	17.0	-	67.7
1968	2.5	-	-	9.8	6.5	-	20.6	7.6	47.0	-	15.3	0.3	62.6
1969	2.2	-	-	-	6.2	-	13.5	9.8	31.7	-	10.3	0.3	42.3
1970	2.2	-	2.2	9.7	-	-	15.1	9.9	39.1	-	11.6	3.5	54.2
1971	2.7	-	-	9.5	-	-	13.4	9.2	34.8	-	5.6	0.5	40.9
1972	2.8	3.0	-	-	-	10.6	18.8	7.9	43.1	(10.0) b/	1.5	0.3	44.9
1973	2.4	-	0.3	-	-	-	10.4	2.6	15.7	-	3.6	0.3	19.6
1974	2.3	-	-	-	-	-	-	3.6	5.9	-	1.8	0.7	8.4
1975	2.2	-	-	-	-	-	-	3.5	5.7	-	-	0.3	6.0
1976	2.9	-	-	-	-	-	2.8	5.3	11.0	-	-	-	11.0
1977	5.1	-	-	-	6.2	-	8.7	7.7	27.7	(10.0)	-	-	27.7
1978	13.9	-	-	-	9.5	-	11.2	7.7	39.3	(10.4)	-	-	39.3
1979	10.3	-	-	-	5.2	-	12.0	6.8	34.3	(15.3)	-	-	34.3
Cum. Thru FY 1979	76.4	89.1	2.8	106.2	100.7	10.6	204.4	245.9	836.1	(50.7)	99.2	13.6	948.9

a/ $1.00 = TD .400

b/ Non add

SOURCE: USAID MISSION/TUNISIA

I. IMPROVEMENT IN HEALTH AND HEALTH-RELATED LIVING CONDITIONS

(a) Progress Towards Improving Life Expectancy and Health

The reduction of the crude death rate and the lengthening of life expectancies tell a clear story about the improved health and living conditions of the average Tunisian. At the time of Independence, average life expectancy at birth was 41 years in Tunisia. Today, life expectancy has increased to 59 years. Similarly, in 1956 the crude death rate was 20.0 deaths per 1,000 population, but since then it has dropped by more than one-half to a low of 8.0 by 1978. Infant mortality has declined from a high of 200 infant deaths per 1,000 live births at the time of Independence to about 85 today.5/ These indicators of Tunisia's progress in improving the health of the population compare favorably to averages for Tunisia's reference group, Middle Income North Africa and Middle East countries. These countries, on average, have current life expectancies of 54 years and a crude death rate of 13.7 per 1,000 population.6/

Regional mortality information reveals a relatively wide range in crude death rates among the Governorates, with a high of 14.1 and a low of 7.0. In general, life expectancy tends to be higher in the urban, nothern coastal areas and lowest in the rural southern and central regions.7/

(b) Effectiveness of GOT Health-Related Programs

Despite rapid population growth, Tunisia has made great strides since Independence in providing the population with greater access to health infrastructure and personnel, and to health-related requirements such as potable water, good nutrition and adequate shelter. The following paragraphs outline these accomplishments and provide indicators of gains in the population's access to programs since Independence.

(1) Improved access to health infrastructure and personnel:

Expenditures for health services are the second most important social expenditure in the GOT budget. Real per capita expenditures on public health services have been rising rapidly from 1.7 dinars in 1955 to 6.0 dinars in 1978 (in constant 1972 prices).8/

Expansion of the Tunisian population's access to health infrastructure and personnel has occurred in spite of a rapidly growing population. In fact, it was the rapid health improvements that caused population growth to accelerate in the first place. The ratio of population per physician in Tunisia was at a high level of 11,500 in 1956, but the ratio has since then progressively declined to a more favorable ratio of one physician for every 4,100 Tunisians. The ratio of population per hospital bed has shown a similar decline from about 650 in 1956 to 470 today.9/ These indicators of Tunisia's health infrastructure and personnel availability

to the population compare relatively favorably to the weighted averages of Tunisia's reference group of countries. Middle Income North Africa and Middle East countries averaged 4,689 people per physician and 636 people per hospital bed.10/

Although overall progress in providing health services to the Tunisian population has been relatively good, there remain substantial regional disparities in access to health services. Regional data shows a distribution of health infrastructure and personnel strongly favoring the urban and coastal areas in the east and northeast. For example, the ratio of population per hosptial bed is nearly five times as large in rural areas as compared to urban areas. Similarly, the population per hospital bed ratio varies greatly among the Governorates, with the lowest ratio in Tunis (187) and the highest ratio in Sidi Bouzid (3,994).11/ Although there is no data on the socioeconomic status of health services recipients, the regional statistics on the availability of health services appear to be strongly correlated to the per capita incomes of the various regions.

The major problems with Tunisia's health system have been its emphasis upon the curative approach rather than preventive care, and upon the creation of district and regional hospitals to the detriment of primary public health care. During the Fourth Plan (1973-76) only about 9% of budgeted expenditures in the health sector were allocated to preventive measures compared to 63% of the budget that went to medical infrastructure and equipment. The ineffectiveness and inequity of such health system priorities can be seen in the contrasting statistics of severe congestion at the primary clinic level and the under-utilization at the district and regional hospitals. Improved access of the population to health services, particularly the poor living in isolated rural areas, requires a redirection of health expenditures to the basic services and preventive measures.12/

(2) Improved access to safe water supply:

Despite the constraints of water scarcity and a widely dispersed and rapidly growing population, the GOT has increased Tunisians' access to potable water remarkably in recent years. At Independence it is estimated that under 30% of the population had access to "safe" drinking water, whereas today an estimated 70% of the population has such access. This compares favorably to other Middle Income Middle East and North African countries where the average access of the population to safe water is 63%.13/

Most of Tunisia's safe water is supplied by the government-owned company SONEDE, which is responsible for the public piped water system. The expansion of the public piped water system has been impressive in the past, but further expansion may be limited as the investment per beneficiary becomes prohibitive. In 1976, 61% of the total population of Tunisia was served by the SONEDE public water supply system, compared to about 28% at Independence. Access is better in urban areas with about 98% of the urban population and 27% of the rural population being served by the SONEDE public piped water system. Of these, some 70% of the urban population and 12% of the rural population have house connections while the remainder have access to public standpipes.14/

However, today there are still about 2.2 million Tunisians (36% of the total population), most of whom live in rural, isolated locations, that must depend on other water sources, such as shallow wells, cisterns and springs. Although the government attempts to supervise the quality of these water sources, many infectious diseases in Tunisia are still transmitted through unsafe water sources. It is questionable how much further SONEDE could or should expand the public piped water system to these people, given the high per beneficiary costs involved.15/ Two other agencies that are active in improving the water supply in these isolated rural areas are GENIE-RURAL of the Ministry of Agriculture Engineering Services and CARE-Medico. Both are involved in low-cost technologies such as drilling and renovating shallow wells. However, both agencies suffer from insitutional problems. Neither is as well organized as SONEDE, nor do they have the same technical expertise. A recent evaluation of the CARE-Medico water projects cast doubt upon the extent to which water quality was actually increased and pointed to problems of poor maintenance, disrepair of equipment and contamination of the water sources.16/

(3) Improved access to nutrition requirements:

Although plagued during the 1960s with poor weather, low agricultural production and rapid population growth, the GOT managed to help maintain the caloric requirements of poor families by providing PL-480-assisted supplementary feeding programs and large-scale food for work programs. Thus, despite actual declines in per capita food production during the 1960s, per capita food consumption improved. Shortly after Independence, the average per capita calorie consumption is estimated to have been about 2,000 calories. By the end of the 1960s the average per capita calorie consumption was over 2,200 calories and today the average daily intake has surpassed 2,540 calories per person.

Tunisia's overall nutrition situation has been improving as the per capita supply of calories as a percentage of FAO minimum acceptable requirements increased from 80% in 1960 to 117% in 1975 and that of protein from 50 grams in 1960 to 72 grams per day in 1975 (46 grams being the acceptable minimum).17/ This compares favorably with the nutrition levels for reference Middle Income North African and Middle East countries, which average 104% of FAO minimum caloric requirements and 70 grams daily of protein.18/

However, these overall figures again hide substantial disparities by region. Data for 1975 on the rural-urban disparities in nutrient intake reveal that the average per capita daily intake of calories is better in rural areas (2,652) than in urban areas (2,432) or in large cities (2,416).

In addition, there are the customary deficiencies of certain population groups like lactating women, pre-school children and others, especially in certain Governorates.

The share of the population unable to cover its minimum nutritional requirements is decreasing, but still remains prominent. The percentage of the population below minimum caloric intake decreased from 30% in 1966

to 14% in 1975. For urban areas this percentage decreased from 25% to 18% and in rural areas from 12% to 9% over the time period.19/ Nevertheless, the magnitude of the problem remains large with nearly 840 thousand Tunisians having a caloric intake below the minimum requirements.20/ A study by the National Institute of Nutrition and Food Technology on malnutrition among children one to four years old estimates over one-half show signs of malnutrition. The relatively high infant mortality still found in Tunisia is primarily attributable to malnutrition problems.

GOT policies which affect nutrition status of the population include school-feeding programs and general food price subsidies. About 28% of all primary students nation-wide participate in the school-feeding program, 19% of urban pupils and 55% of rural ones. The higher incidence of the nutrition problem in urban areas suggests a need to extend the program towards urban areas. The Government also maintains price controls on basic foodstuffs, subsidized by the Price Equalization Fund. However, the National Institute of Nutrition proposes that introduction of food rationing (food stamps) for the needy (target group) should replace the current food subsidy system which is benefiting all income groups indiscriminately at great cost. Also, the Institute stresses the need for greater nutrition education, stressing the intake of nutritious foods.21/

(4) Improved access to adequate shelter:

There has also been progress in providing better housing conditions, with more amenities and reduced crowding. A comparison of housing data from the last two censuses, 1966 and 1975, shows a decline in the percentage of population living in inadequate, "temporary" shelters from 44% in 1966 to 25% in 1975. The percentage of Tunisian dwellings with various amenities increased over the inter-census period; e.g., the percentage of houses with electricity increased from 24% to 34% and the percentage of houses with piped water increased from 15% to 26%. A decrease in crowding can be seen by examining the decline in houses with only one room from 61% in 1966 to 41% in 1975, or by comparing the average number of persons per room, from 3.2 in 1966 to 2.9 in 1975.22/ Comparison of these housing indicators for Tunisia with comparable data for the reference group of countries reveals that Tunisia's performance in the shelter sector is below norm. For example, whereas in Tunisia the average number of persons per room is 2.9, the average for other reference countries is 1.9. Similarly, while the % of dwellings with electricity is 34% for Tunisia, the average is about 47% in reference countries.23/

Rural housing conditions tend to be considerably worse than urban housing conditions. For example, 58% of the rural houses consist of only one room whereas 20% of the urban houses are only one room in 1975. Rural housing is more crowded on average, with 3.3 persons per room compared to 2.3 persons per room in urban areas. Amenities are far scarcer in rural dwellings; 6% of rural houses have access to electricity compared to 68% of urban houses and 3% of rural houses have access to piped water compared to 55% of urban houses.24/

Thus, despite some improvements in the housing situation in Tunisia, there continues to be a chronic housing shortage. An estimated 1.5 million Tunisians currently live in inadequately constructed structures such as tents, mud huts and squatter settlements.25/ About 600,000 people are officially estimated to live around urban areas in uncontrolled squatter settlements which lack access to social services and facilities.26/ These poor housing conditions in Tunisia have been shown to be an important cause of the high incidence of pulmonary and otolaryngolistic diseases rampant in Tunisia.

There are two aspects to the housing problem in Tunsia that have aggravated the housing shortage. On the technical side, inappropriately high construction standards have prevented the building of houses with relatively inexpensive materials. State subsidized housing accounted for 64% of all new housing units built in 1979; however, they generally did not benefit the poor. Even the most economical urban public housing unit remained too expensive to be affordable to the poorest half of the urban population.27/ Furthermore, the rural population has not even been considered in these public housing schemes. The second problem is institutional. The GOT controls and finances most of the formal housing market in Tunisia via three major banking institutions. Because of the low interest rates set by the Government, there is little incentive for savings to be deposited and thus funds for housing construction are not readily available from the private sector, but must be publicly subsidized instead. Whereas the GOT may have been well-intentioned in subsidizing relatively high-standard houses to some groups, the possibility of achieving housing programs of widespread coverage of the poor will not be possible unless a more realistic self-financing institutional framework is achieved.

(5) Distribution issues:

Although the life span and living conditions of the average Tunisian have undoubtedly improved since Independence in 1956 as a result of the GOT's social development efforts, access of the population to these programs and services has not always been equitable. Regional data breakdowns show a general bias in the access to health services, potable water supplies and adequate housing in favor of the urban and northeastern coastal population over the rural, interior population. An exception to this general rule is in the nutrition field where the rural population, with access to home grown foods, tends to fare better than their urban counterparts.

These inequities reflect the realities of the unequal physical distribution of water and other productive resources and are also the result of colonial legacies and historical development patterns. However, government policies have also aggravated disparities in some cases.

It is a geographic fact that most of the nation's productive land, water resources and population centers are located in the northern part of

Tunisia. In contrast, the interior central and southern regions are arid areas troubled with erosion, poor soils and water scarcity, whose population is for the most part widely scattered in isolated family clusters. Such diverse conditions imply that the cost of reaching the isolated rural groups tends to be far higher on a per beneficiary basis than is true for servicing urban groups, assuming a constant standard of services. Thus, one can hardly blame the GOT for continuing to provide services first in urban areas where per capita costs have been lower. On the other hand, an overemphasis upon servicing urban needs may tend to compound the problem in the longer term by encouraging rural to urban migration rates.

Another factor that appears to have limited the progress made in servicing the health-related needs of the rural population has been the previous lack of GOT acceptance of available, low unit cost solutions that could be afforded and adopted on a wide scale. This can be explained by the Tunisian inheritance from the French system of insisting upon "high standards" of services not necessarily appropriate for a relatively resource-poor country. Evidence of the GOT's traditional adherence to such high standards is visible in the health services, where historically emphasis has been upon training highly specialized physicians and constructing modern hospitals, as opposed to emphasizing the training of paramedicals and the development of a basic rural community health system. Another instance of adherence to inappropriate high standards is in public housing construction projects, where the high quality construction standards have resulted in expensive unit costs and a consequently small spread of benefits compared to the size of the population in need of improved shelter. As a final example, in the area of potable water facilities development, the major institutional priority has traditionally gone to support SONEDE which is responsible for installation of high standard piped water systems, inappropriate on a per capita cost basis for small rural communities. GENIE-RURAL, the public agency responsible for improving the water supply in these isolated rural areas, has not received the same level of institutional support SONEDE has enjoyed.

It is understandable and perhaps even admirable that the GOT would wish to provide a high standard of services to its population comparable to standards in France or other industrial countries. This has been possible to extend at a reasonable cost per beneficiary in the urban areas, but appears impossible to extend widely in rural areas because of far higher costs per beneficiary. Tunisia is currently entering the stage of development where urban needs for health-related services have been fairly well met, and further progress in improving general population access will require new emphasis upon low cost, rural outreach programs. This will involve GOT adoption of innovative programs, searches for alternative low unit cost technologies, and some relaxing of previous "high standards". The GOT appears to be on the verge of a transition in the health-related sectors, showing an increasing receptiveness towards exploring and implementing new low cost, rural-oriented programs. For example, the Ministry of Health is now putting new priority upon the establishment of a community-based rural health system and upon broadening the functions of paramedical staff.

(c) AID's Contributions to Improved Health

AID has contributed significantly towards the health-related development efforts aimed at increasing life spans and improving living conditions for Tunisians. Far from being merely nominal gestures, AID-financed projects have frequently had widespread impact affecting a large percentage of the target population in need. AID has also taken a lead in encouraging a GOT policy reorientation towards adoption of more appropriate low cost technologies that will enable greater widespread rural access to services. Some of the highlights of AID's accomplishments in health-related services are outlined below:28/

(1) Improved access to health infrastructure and personnel:

AID's role in the provision of health services in Tunisia has been limited until recently by the basic philosophical differences with the GOT concerning what comprised an appropriate standard of health services. Although AID declined to become involved in the construction of hospitals, an important AID contribution was made to improve health via support of the preventive anti-malaria campaigns in Tunisia, protecting thousands of Tunisians. AID involvement in training of health personnel has included training courses for over 150 paramedicals and considerable assistance in the establishment of the Faculty of Medicine at the University of Tunis, from which an estimated 1,000 physicians have graduated since 1970.29/ More recently, in 1976-77 AID undertook a study reviewing the health services in Tunisia and subsequently completed a successful dialogue with the Ministry of Health that has resulted in a basic reorientation of health service policy based upon the AID study's recommendations. A resulting AID project, now beginning its implementation stage, will establish an integrated rural primary health care system in two of Tunisia's poorest rural Governorates. Although unfortunate delays have occurred in contracting arrangements, it is still hoped that this project may serve as a model from which the Tunisians can draw lessons and replicate on a nation-wide scale. The direct beneficiaries of this project are estimated to be about 200 thousand rural people from the two poor interior Governorates included in the project area.30/

(2) Improved access to safe water supply:

Over twenty AID projects have been completed since 1956 that have increased population access to domestic water supply by constructing urban and village water distribution systems and by constructing and renovating rural wells and cisterns for isolated rural families. During the 1960s a number of AID water projects provided improved water supplies to Tunis, Sfax and smaller urban centers while others were aimed primarily at development of minor water sources for use by small villages and communities in rural areas. In the 1970s, AID continued to pursue the goal of improving water supplies to the rural, isolated areas of Tunisia outside of SONEDE'S general mandated area. In a series of projects, AID has financed CARE-Medico/Peace Corps in the implementation of construction and rehabilitation of wells benefiting about 100,000

people. These projects have also generally included an integrated approach providing health education concerning the proper care, handling and storage of water and other hygiene practices and providing inspection teams that maintain and disinfect the established water sources. A recent AID evaluation of four of these CARE water projects found serious maintenance problems, including equipment in need of repair, water contamination, and little change in the health awareness of the populations.[31]

A rough, conservative estimate of the number of Tunisians benefiting from all AID-assisted water supply facilities is about 800 thousand, or about 20% of those Tunisians currenty having access to safe water supplies.[32]

(3) Improved access to nutrition requirements:

AID has contributed to the objective of improving Tunisians' nutrition intake in a great variety of ways. AID has promoted better nutrition through support of numerous agricultural projects aimed at improving food production; these activities will be examined later in the discussion of AID agricultural development projects. The U.S. has also assisted Tunisia directly in meeting food shortages during the years of poor domestic harvests in the 1960s by selling PL-480 food under Title I. It is largely because of these massive food aid imports under the U.S. PL-480 program (amounting to $204 million in value) that per capita food consumption actually increased during the 1960s, despite decreases in per capita domestic food production. In addition, PL-480 Title II food donations, totalling $246 million in value, were used to combat malnutrition among Tunisia's poor, especially among unemployed families and needy children. Under the Food for Work program an estimated annual average of 100 thousand otherwise unemployed workers received PL-480 wheat in payment for work during 1958 to 1973 (i.e., about 40% to 50% of the total unemployed labor force). It was estimated that these Food for Work laborers could through their cash and in-kind wages easily satisfy the caloric requirements of their families, assuming an average of five persons per family. Thus, an estimated 500 thousand poor people benefited annually from this program, receiving food adequate to satisfy their nutrition requirements.[33] Two supplementary feeding programs, for pre-school and primary-school-aged children, have been utilizing PL-480 Title II food donations continuously since the beginning of the 1960s for combating malnutrition in children. Although the number of child beneficiaries was larger in the past, a still significant number (450,000) of children currently receive nutrition supplements under these programs. Through the recipient selection process, it is assured that these Title II foods are distributed mostly to children from the poorest families. By comparing the number of children benefiting from these programs with the estimated number of Tunisian children suffering some malnutrition (roughly estimated at 650 thousand), one estimates that these feeding programs are effectively serving approximately 70% of the total target children in critical need of nutritional supplements.[34] Other AID projects have aimed at improving nutrition planning, coordination and education in Tunisia by assisting in the establishment of an Institute of Nutrition and Food Technology, and in the experimentation with food fortifications and nutrition education approaches.[35]

(4) Improved access to adequate shelter:

AID has been active since the 1960s in providing primarily low cost housing for poor Tunisians. AID has completed five projects directed at low income beneficiaries which have constructed or upgraded nearly 18 thousand dwelling units benefiting an estimated 130 thousand poor people. Another project still in the design stage will construct an additional 16 thousand low income units benefiting an estimated 100 thousand poor people. When this project is completed, AID-assisted low income units will have contributed to filling about 15% of the current housing shortage.[36] In addition to construction of housing units, the AID Office of Housing has also provided an advisory role, encouraging the GOT to lessen control of the money markets so that more funds can be mobilized to meet housing demand and reduce needs for public subsidies. Furthermore, AID policy advisors have continued to emphasize low cost housing approaches with widespread replicability that are financially feasible for Tunisia's poor.[37]

II. LIMITATION OF POPULATION GROWTH THROUGH FERTILITY DECLINE

(a) Progress Towards Fertility Decline

Because of the negative impacts that rapid population growth has upon economic and social development efforts, reduction in fertility rates is a priority GOT goal. Quantitative indicators point to the significant progress being made in Tunisia towards the objective of fertility decline and a slower rate of population growth, especially in the years since the establishment of the Office of National Family Planning and Population (ONPFP). As a result of the family planning program, in combination with various socioeconomic and political factors encouraging smaller families, Tunisia's crude birth rate (births per 1,000 population) has fallen from about 46 in 1956 to 34 in 1978. A look at other indicators of fertility (e.g., the general fertility rate or the gross reproduction rate) points to the same conclusion of substantial recent decline in fertility. This in turn has had favorable impact upon the population's growth rate. Whereas the annual natural population growth rate was about 2.6% at the time of Independence, rapid increases in survival rates due to health improvements resulted in acceleration of population growth during the early 1960s. In 1966 the annual natural rate of population growth reached a high of 3.0% and then began to decline once again. By 1978 the natural rate of population growth was brought down to 2.6%, despite continuing improvments in survival rates, through an impressive decline in fertility.[38/] Tunisia's performance in the area of fertility is very favorable compared to average fertility indicators for reference countries. For example, the crude birth rates for Middle Income North Africa and Middle East countries average 41.6 per 1,000 population.[39/] Tunisia's performance is exemplary for the developing world, having demonstrated significant success in reducing fertility in a traditional society.

Nevertheless, progress in reducing fertility is still slow in rural, isolated areas of Tunis. Regional information on crude birth rates reveals large variations in fertility levels among Governorates, with a low of 30 in Tunis and a high of 45 in Sidi Bouzid and Medenine. Fertility rates are about one-third higher in rural areas than in urban areas.[40/]

(b) Effectiveness of GOT Family Planning Programs

The Tunisian family planning program began as a small pilot project in 1964, and has developed since then into one of the largest family planning programs in North Africa and the Middle East. In 1973 the Office of National Family Planning and Population was established and given the responsibility for planning, coordinating and implementing family planning activities in Tunisia. Free contraceptive services and education in family planning are provided at approximately 617 hospitals, family planning clinics, MCH centers, dispensaries and mobile units throughout Tunisia. The program has enjoyed broad political, popular and even religious support. Important legislation reforms have been enacted encouraging small family size and permitting comprehensive family planning services.

In 1973, the year ONPFP was established, the percent of married women (ages 15 to 49) protected by contraceptives was estimated to be 8.5%. By 1979 this percentage had jumped to 21.3% of the target group. Nevertheless, there still remain approximately 668 thousand women of reproductive age not using contraceptives. Whereas in 1973 there were 309 family planning service centers (one for every 2,432 married women of reproductive age), by 1977 there were twice that number (617, or one for every 1,330 married women of reproductive age).41/

Despite this very real progress, there continues to be a large disparity between rural and urban (and coastal and interior) availability of family planning services. Rural women currently represent only 12% of all new acceptors, whereas they represent 53% of the target group (married women of reproductive age). In addition, there seems to be a bias in the sense that family planning services appear to reach mostly middle and upper income groups. However, this is not too surprising given that acceptability of family planning is strongly associated with education and income levels. A current priority objective of the ONPFP is to extend family planning services to rural areas which have not yet been adequately covered. As in the delivery of other social services, future progress in family planning effectiveness will depend upon experimentation with and adoption of cost-effective, rural outreach programs. ONPFP is developing plans to use mobile units to reach the rural target groups and to use mass media and schools to educate people about family planning and to overcome traditionalism.42/

(c) AID's Contributions to Family Planning

AID involvement in the Tunisian family planning program began in the late 1960s. AID assistance was instrumental (1) in construction and renovation of the infrastructure (centers), (2) in the provision of commodities, (3) in the training of professional personnel, and (4) in the development of an institutional capability within ONPFP. The direct beneficiaries of AID's family planning assistance in Tunisia are those women of reproductive age who are currently protected by contraceptives from ONPFP. In 1979 an estimated 137,400 women, or 16.2% of married women of reproductive age, were using publicly-supplied (ONPFP) contraceptive methods. An estimate of the number of women protected by contraceptive methods from all sources (public and private) in 1979 was 180,900 or 21.3% of married women of reproductive age. AID also finances contraceptives sold through private pharmacies. Although the direct beneficiaries of AID's family planning assistance are the women receiving contraceptive services, indirectly their families and all of Tunisian society will benefit from the diminished population pressures on scarce economic and social resources.

The primary purpose of AID's current family planning project is to assist the ONPFP's expansion of family planning services into rural areas. Project activities include testing of various pilot activities to discover cost-effective contraceptive distribution approaches in isolated rural areas.43/

III. EXPANSION OF ACCESS TO EDUCATION: BASIC AND ADVANCED

(a) Progress Towards Improving Education

The expansion of access to basic education since Independence is clearly reflected in the impressive growth of literacy among Tunisians from 15% (of the population aged 10 years and above) in 1956 to 45% in 1975. The improvements in literacy rates gained by women were even more impressive, increasing from just 4% in 1956 to 32% by 1975. The size of the literate population grew from 388,000 at Independence to 1,745,000 by 1975, or at an impressive average annual rate of growth of over 8%. Unfortunately, because of the rapid rate of population growth experienced during this time period, the total number of illiterates only declined very slightly since Independence, remaining at a level of about 2.1 million.[44/] The World Bank estimates that currently 55% of the Tunisian population aged 15 years and above is literate, compared to an average literacy rate of 40% for reference countries (Middle Income North Africa and Middle East).[45/]

(b) Effectiveness of GOT Education Programs

The GOT has always placed emphasis upon providing education to the Tunisian population. This is reflected in the Government budget where education expenditures rank as the most important social service item, accounting for some 60% of the total. Average real expenditure per student increased substantially from 46.3 dinars in 1962 to 61.5 dinars in 1978 (in constant 1972 prices).[46/] Education is free and cash stipends and learning materials are frequently provided.

Tunisian enrollments at the primary school level have increased at an average annual growth rate of nearly 7% since Independence. Secondary enrollments grew even faster at nearly 11% per year.[47/] However, because of rapid growth of the school age population, primary enrollment ratios did not increase substantially. Total primary enrollments increased from 67% in 1962 to 68% in 1978; female primary enrollments increased from 32% to 41% during this period. Enrollment ratios at the higher levels have been growing more substantially, from 12% in 1962 to 18.5% in 1978 at the secondary level and from 0.2% to 4% at the university level. The quality of primary education is improving with better endowment of teachers and schools. The primary pupil-teacher ratio decreased from 61 in 1962 to 39 in 1978.[48/]

Overall, the data seem to indicate successful quantitative performance, especially if viewed together with other reference countries in the general area. However, questions remain about whether the education system is equitable and whether it is relevant to employment and increases productivity.

As with the other social services, Tunisian performance in the provision of education has been greater in the urban areas than in the rural. Whereas in 1975 the literacy rate among the urban population (ages 10 and above) was 59%, among the rural population literacy was only 31%. Available data on the regional distribution of education support the

notion that the rural poor do not participate equitably in the education system. Regional data on the enrollment of school age children aged 6-14 years show that the poorest, most rural governorates have the lowest enrollments.[49] Reasons for this pattern include (a) lack of classroom facilities, (b) reluctance of teachers to teach in remote areas, (c) higher dropout rates possibly related to poverty or socioeconomic status. One issue facing the GOT in its attempts to improve equity in this sector is the cost-effectiveness of providing educational services to the children of widely scattered rural families.

Another issue is that of the relevance and productivity of the current education system. A survey is available which found that the lifetime earnings of a Tunisian worker were not affected by having completed primary education. Also, data on unemployment by education level in Tunisia indicate that employment rates in 1975 are better among those without any education (12% unemployed) than among those with a primary education (24% unemployed). Aspirations of the young, educated job seekers frequently are out of line with the realities of the Tunisian job market. These data indicate that the low productivity of education in Tunisia and the high opportunity cost of attending conspire to keep the poorer socioeconomic groups out of school. Efforts need to be made to increase the effectiveness of education, particularly providing more relevant vocational training.[50]

(c) AID's Contribution to Education

AID's contribution to the development of Tunisia's education system has been substantial and has covered all levels: primary, secondary, and higher education. Highlights of AID's accomplishments follow:[51]

(1) Primary and secondary classroom construction:

During the 1960s AID contributed funds for the construction of 2,700 primary classrooms. An estimated 95 thousand primary students annually utilize these classrooms; that is, about 10% of all current primary school enrollments in Tunisia benefit from AID's contribution.[52]

AID was also very active during the 1960s in the construction, expansion and equipping of secondary schools throughout Tunisia. In twelve separate projects, AID funded the construction or expansion of over 100 secondary schools, or nearly one-half of all secondary institutions in existence in Tunisia today. In these projects AID financed the building or significant expansion of about 3,300 secondary classrooms, benefiting roughly 100 thousand secondary students each year; i.e., about 50% of all secondary enrollments.[53] Many of these AID-assisted secondary institutions were technical, vocational, agricultural or teacher training schools. For example, it is estimated that about 25% of all Tunisian teachers were trained in schools receiving AID assistance.[54]

(2) Assistance to the University of Tunis:

AID assistance in the establishment of the University of Tunis, Tunisia's major university, has also been substantial. AID contributed to the GOT's planning for the university in the late 1950s by providing the services of a team of consultants. Via a number of other projects, AID assisted in the construction and equipping of various university facilities, most notably for the Faculty of Law, Economics and Political Science, the Faculty of Medicine and the Faculty of Science. AID has also sought to upgrade the faculty at the University of Tunis and to introduce more modern curricula by educating selected faculty (particularly in the social sciences, e.g., law, economics, political science and business management) in the United States. The direct beneficiaries of these projects are the students receiving higher education at the University of Tunis (currently about 18,000 enrolled annually)[55/], but more indirectly all of Tunisian society will benefit as these highly trained persons graduate, enter the labor force and contribute to development efforts.

(3) Participant training:

AID has also sought to fill specific human resource requirement gaps via projects providing Tunisians with opportunities for participant training in the United States and third countries. By now, a cumulative total of over 1,900 participants have returned to Tunisia from AID-sponsored training programs abroad in a variety of fields of study (including agriculture and natural resources, industry and mining, transportation, labor, education and business administration, public administration, public safety, nutrition, health education and family planning).[56]

(4) Other educational projects:

Other areas in which AID has contributed to Tunisia's educational and human resource development efforts include (a) distribution of about 2.4 million textbooks, (b) provision of technical assistance to the GOT in areas of technical or professional personnel shortages and (c) provision of audio-visual and communications equipment and supplies to various GOT agencies involved in educational programs for the public.

IV. PROVISION OF EMPLOYMENT OPPORTUNITIES

(a) Progress Towards Employment Goals

Unemployment has continued to be one of Tunisia's major development problems since Independence. Census data indicate that the open unemployment rate has hovered around 15% since 1956 without much improvement. The number of unemployed in Tunisia has been of the order of 200,000 to 250,000 since Independence, although rising higher in the bad draught years. At the time of the last census in 1975, there were 255 thousand unemployed, or 16% of the labor force. Unemployment was highest among the rural labor force at 18% compared to 13% in the urban areas. Male unemployment was reported higher (16%) than female unemployment (14%), although female unemployment is probably greatly under-reported in Tunisia. Unemployment rates vary greatly among the governorates, ranging from a low of 9% in Mahdia to a high of 33% in Jendouba. In general, the rural poorest governorates with high percentages of population living in isolated areas are those with the highest unemployment rates.

In addition to the outright unemployment, Tunisia suffers from significant underemployment (less than full time employment). Underemployment in agriculture, where seasonality is high, is estimated to affect some 40% of the agricultural labor force and underemployment is also visible in non-agricultural service sectors. There has been some improvement in overall underemployment, which is estimated to have decreased from a high of 35% in the late 1960s to about 25% by 1976.57/

The factors contributing to Tunisia's long-term and current unemployment problems are numerous. Historically, Tunisia developed an unemployment crisis immediately following Independence. The French had been predominant in most economic sectors in Tunisia and consequently the sudden departure of 90,000 foreign adminitrators and technicians left the country economically disorganized, causing a decline in economic activity and overall employment. Foreign capital was also withdrawn and investment came to a standstill for several years. In addition, a number of prolonged droughts hit Tunisia in the 1960s, further adding to the unemployment problem. Much of Tunisian agriculture, which has traditionally employed the majority of the labor force, is based upon dryland farming and is thus dependent upon irregular rainfall.

More recently, Tunisia's unemployment problems stem from a combination of causes including (a) rapid population growth, (b) increased entrance of women into the labor market, (c) return of emigrants from abroad, (d) an increasingly young and educated labor force seeking non-agricultural employment, and (e) development policies that encourage capital-intensive technologies.

Population growth peaked in the 1960s at an average annual rate of 3.0% due to rapid improvements in infant and child survival rates. This impact is only now becoming felt in high labor force growth rates. Whereas the labor force had grown by under 2.0% per year during 1956-1966, from 1966 to 1975 the rate accelerated to 2.8% per year. The

labor force growth rate is now peaking at 3.2% and it will be another decade before the impact of fertility decline is felt on work-age cohorts.

Another contributing factor to labor force growth is the rapid expansion of women into the labor markets. From 1966 to 1975 the female labor force expanded at an average annual rate of 5.5%, the result of vigorous official campaigns and legal reforms improving women's status and educational access. Women as a percentage of the total labor force increased from 6% in 1966 to 19% in 1975.

Emigration has been an important safety valve for Tunisian unemployment. Between 1966 and 1975 an estimated 155 thousand workers left Tunisia for employment abroad, mostly to France, Libya and Germany. Such emigration reduced the increase in the domestic labor force during that period by 20%. However, the option of emigration to Europe declined by the mid-1970s and many began returning. Although emigration opportunities to Libya remain, this market is proving unstable. Thus, in the three years 1976 to 1978, net emigration fluctuated widely from -19,200 to 34,800 to 13,000 with destabilizing impact upon unemployment levels in Tunisia.58/

Structural changes have been occurring recently in the labor force, changing the nature of the unemployment problem. A comparison of the 1966 and 1975 census data shows that the young are increasingly seeking employment. While the 15-19 years old group accounted for 10% of the labor force in 1966, by 1975 they accounted for 18%. These young have great difficulties finding work; in 1975 they accounted for almost half of total unemployment compared with 25% in 1965. Another characteristic is an increasingly educated labor force. However, basic education does not necessarily have an impact on employment in Tunisia. Statistics for 1975 reveal that unemployment among the labor force having completed primary education was higher (24%) than among those with no education (12%). While the unemployment problem at Independence was primarily one of illiterate farmers, today the unemployed tend to be young, educated people seeking non-agricultural jobs. This has been encouraged by a widening income gap between agricultural and non-agricultural employment, resulting from the heavy investment priority in industrialization.

(b) Effectiveness of Employment Policies and Programs

As discussed above, Tunisia's unemployment problem has been aggravated by factors such as the sudden withdrawal of the French, the prolonged droughts of the 1960s, the rapid rate of population and labor force growth, the unreliability of emigration opportunities, and the changing structure of unemployment to young, educated job seekers.

The Government of Tunisia has been committed to addressing these unemployment problems and undertook a series of actions constituting an employment policy. These measures included: (1) the establishment of employment exchanges, (2) expanding vocational training, (3) establishment of large-scale work relief programs, and (4) heavy investments in industrialization to provide non-agricultural employment

opportunities. Unfortunately, while these policies may have helped alleviate the worst aspects of unemployment, they have not "solved" the problem. The following discussion assesses the major limitations of the GOT's approach.

(1) The establishment of employment exchanges:

In 1960 the GOT attempted to introduce some organization into the labor market by creating an employment bureau that was to match job seekers to job vacancies. This was incorporated in 1967 into the Office of Vocational Training, Migration and Employment (OFPE). The placement bureau within the OFPE registered unemployed at local offices and occasionally found them local jobs, usually relief work. Mostly, however, the offices were engaged in processing workers for overseas employment. Whereas the OFPE served a useful function of facilitating labor emigration, its effectiveness as a domestic placement bureau was limited. Experience has proven that labor exchanges do not work well in labor surplus situations, because there are far more job seekers than job placements. The general lack of jobs and the reluctance of employers to use the system eventually resulted in discouragement of the job seekers until they no longer bothered to register.

(2) Expanding vocational training:

A more successful function of OFPE has been as a vocational training institution; about 67,000 people have been trained during 1973-76 in industrial skills in 17 adult training centers. One problem facing the effectiveness of these vocational training centers in Tunisia is the general reluctance of students to enter "blue collar" occupations. Despite the fact that the costs per student are higher in the vocational training centers than in the formal education system and that more job opportunities await graduates, these centers tend to attract only the dropouts from the formal system.

(3) Establishment of large-scale work relief programs:

Another major aspect of the GOT's approach to unemployment problems in the late 1950s and 1960s was the establishment of a large-scale "food for work" program providing emergency relief for the unemployed. Supported by large volumes of wheat assistance from the United States' PL-480 Title II program, the GOT established their work relief program (known as the LCSD program) which paid otherwise unemployed workers in cash and in kind to work on forestry, water and soil conservation and other civil works projects throughout the country. These work relief programs employed an average of 100,000 laborers and kept the unemployment rate in Tunisia below 15% of the labor force, which would otherwise have ranged around 30% during the 1960s. Despite the program's success in alleviating the material needs of Tunisia's unemployed, the LCSD program suffered from low productivity and was greatly reduced in the early 1970s. The program had from the beginning been seen as a "temporary" emergency measure to sustain the unemployed until the economy was able to absorb them again.

Furthermore, the program was a heavy burden on the GOT budget which could not be tolerated for an indefinite period, especially given its marginal economic development impact.59/

Today a similar approach is being implemented by the GOT to deal with the rising social unrest among the young, educated unemployed by creating a National Work Corps. All unemployed male Tunisians between 18 and 30 years old can be enlisted in the Corps for 12 months where they will receive on-the-job training and work in priority sectors and regions suffering from labor shortages. However, this type of approach is at best another stop-gap measure and not a permanent solution to the existing unemployment problem.

(4) Development policies that encourage capital-intensive technologies:

The GOT historically placed over-riding emphasis on the role of the industrial sector as the primary source of rapid economic growth and of employment for Tunisia's surplus labor. However, in retrospect, many of the policies pursued had negative implications for employment creation. During 1966 to 1975, Tunisia had high investment levels by international standards, averaging 22% of GDP. However, most of this was investment in public enterprises, such as large infrastructure projects or highly capital-intensive industries. These did not create jobs in the numbers required by the rapidly growing labor force, despite what appeared to be a policy of employing larger quantities of labor than required by the technology. This practice resulted in large capital-to-output and labor-to-output ratios in the public sector. The financial position of some state-owned enterprises has been consequently weak, requiring budgetary transfers.

The private sector only emerged as a strong factor in Tunisia in the 1970s, but here too GOT policies tended to encourage choice of capital-intensive technologies inappropriate given the realities of Tunisia's resource base and high unemployment.

The incentive system developed tended to reward capital investment rather than employment creation. Tariff protection, import licensing, exchange rate policy and domestic price policy also encouraged capital-intensive technologies. Interest rates were kept artificially low to stimulate investment. The resulting scarcities in capital and foreign exchange, however, led to rationing and licensing systems which tended to favor the larger enterprises. Legal minimum wages were increased by decrees more rapidly than increases in labor productivity. These policies combined to seriously distort factor prices in the Tunisian economy, favoring use of capital while discouraging use of labor.

Tunisian public investment priorities have tended to favor allocations to industry located in the major urban centers on the coast at the expense of agriculture, the most labor intensive sector. Furthermore, within the agricultural sector GOT policies, such as the cooperative movement in the late 1960s and the low producer prices for agricultural products, have been disincentives for farmers and artificially limited employment

opportunities in the rural sectors. This has had particularly severe effects upon those unskilled people in the poorest governorates whose only possible livelihood is agricultural work. It has also contributed to rural-urban migration and the growing number of young job seekers who cannot find employment in any sector.[60]

Evidence of the growing capital-intensity of the Tunisian economy despite high levels of unemployment can be seen by comparing the rates of capital formation with employment creation. GDP grew at an average annual rate of 7.8% during 1966-76 and gross domestic capital formation grew at 16% (in constant 1972 prices).[61] Comparing this to the average annual employment growth rate of 2.7% implies a growing capital-intensity of the economy despite widespread unemployment.

The GOT is beginning to reorient these past policies. The 1970s have seen a greater liberalization of the economy and greater encouragement to small-scale private enterprise. The GOT has recently provided special incentives and investment funds for investors in projects with high labor intensity, in order to improve future employment absorption in the industrial sector. However, many of the market-distorting policies set up in the 1960s still remain to be dismantled.

(5) Other GOT policies indirectly affecting employment:

In addition to these GOT policies aimed at affecting employment opportunities, there are of course numerous policies, some desirable for other reasons, which may have had either positive or negative side effects upon employment opportunities. For example:

* Perhaps one of the most significant GOT activities that will eventually help solve the unemployment problem is the family planning program. Within a decade the impact of declining fertility rates should begin to be evident in a slower labor force growth rate.

* The GOT health and health-related program, discussed under Section I, improved survival rates and accelerated population growth and labor force growth.

* The GOT's desirable campaign to improve the status and education of women has increased their participation in the labor force.

* The GOT's efforts to educate the population may have temporarily aggravated the open unemployment problem as educated job-seekers wait for non-agricultural employment opportunities.

* The GOT's drive for national independence temporarily increased unemployment as the French withdrew their capital and management from all major economic sectors.

(c) AID's Contribution Towards Employment Goals

AID assisted the GOT throughout the 1960s in the instutionalization of manpower planning and employment services. By providing American technical advisors and participant training for Tunisian staff, AID helped the GOT establish the early employment offices and later the OFPE. AID's emphasis in the second project was improving OFPE's capability for data collection, and manpower supply and demand analysis. Success was partially limited by lack of qualified Tunisian counterparts and high turnover rate among the Office's staff.

AID also supported Tunisia's work relief program (LCSD) by providing work clothing for the relief workers, and by funding some of the costs required for hiring supervisory personnel and for the purchase or rent of materials and equipment used in the work projects.

Of course, the United States' major contribution to the Tunisian work relief program was in the form of PL-480 Title II food deliveries from 1958 to 1973 for the payment of wages in kind. The value of the U. S. wheat contribution from 1966 - 1973 totalled $30 million, or approximately one-quarter of the total costs of the LCSD program.

During 1958 to 1973, nearly 700 thousand metric tons of semolina (wheat) were distributed as part of wage payment, providing a cumulative total of nearly 1.9 million man years of employment under the LCSD program. By supporting the LCSD program, the United States assisted the GOT in providing work relief to an annual average of 100 thousand persons, or approximately 40% of the nation's unemployed during the years 1958-1973.[62]

V. GENERAL ECONOMIC GROWTH

(a) Progress Towards Economic Growth

In this section, Tunisia's performance in general economic development will be examined. Major indicators of economic progress include rates of economic growth, trends in savings and investment, and distribution measures.

(1) Economic growth rates:

Tunisia has experienced reasonable economic growth since Independence and remarkably rapid growth in the 1970s. Per capita GNP more than doubled in real terms from 1961 to 1978, increasing from $430 to $950 (in constant 1976 prices) at an average annual growth rate of 4.8%. During the 1970s, Tunisia's per capita GNP growth rate averaged 7%, making Tunisia one of the few countries in the world whose per capita GNP increased by more than 6% during the 1970s.63/

Tunisian national accounts data available from the World Bank indicate real growth in GDP was relatively slow during the 1960s, averaging only 4.6% per year, but then accelerated to 7.9% during the 1970s. Data on growth rates of the major sectors reveal that the agricultural sector tended to lag behind the rest of the economy while industry tended to lead. Average annual growth rates of production during 1961-70 were 2.0, 8.7 and 4.2 and during 1970-78 were 5.6, 8.1 and 8.7 respectively for the agriculture, industry and services sectors.

Tunisia's economic growth rate performance during the 1970s compares quite favorably with other Middle Income countries which averaged a GDP growth rate of about 5.7% per year compared to Tunisia's 7.9% growth rate.

(2) Savings and investment:

Rapid economic growth in Tunisia has been largely due to the GOT emphasis given to increasing investment. Investment grew at an average annual growth rate of 4.5% during the 1960s and accelerated to 11.9% during the 1970s. Thus, Tunisia's performance during the 1970s compares very favorably to the average growth rate of investment attained by reference Middle Income countries of about 7.2%.

The attainment of a high ratio of gross capital formation in Tunisia in the early 1960s was a remarkable achievement, for during the years immediately following Independence, the investment ratio was as low as 10% of GDP and domestic savings were much lower. In 1956, the year of Independence, the savings ratio was negative. Investment as a share of GDP has increased from 17% in 1961 to a high rate of 30% in 1978. The average investment ratio for reference Middle Income countries is currently 25% of GDP. Tunisia's investment ratio increase is due to improvements in the gross domestic savings ratio, which increased from 7% of GDP in 1961 to 20% in 1978. Investment financed by external sources remained constant at the high level of 10% of GDP. Thus, Tunisia continues to rely heavily on foreign investment as a source of economic

growth. Tunisia's current gross domestic savings ratio of 20% is somewhat low when compared to the average of 22% for other Middle Income countries, but nevertheless represents substantial progress from the low ratio of 7% experienced in 1961.64/

The sectoral distribution of investment reveals the continuing priority placed by the GOT on the industrial sector. During the 1970s, the average annual growth rate of investment was only 5.8% in agriculture, 11.5% in services and 20.8% in industry.65/

(3) Balance of payments and external debt:

Indicators of Tunisia's performance with regard to balance of payments and the external debt situation show recent improvement, but still illustrate relatively serious problems. Tunisia's debt service as a percentage of GNP improved from 4.5% in 1970 to 3.5% by 1978. However, compared to the current average debt service ratio of reference Middle Income countries of 2.9%, this is still high. External public debt (outstanding and disbursed) as a percentage of GNP is another measure of the seriousness of the situation. Tunisia's position on this indicator worsened from 38.8% in 1970 to 40.5% in 1978. Tunisia's debt situation is thus far worse than the average external public debt situation in reference Middle Income countries, which is 17.6% of GNP. This situation has resulted from Tunisia's continued heavy dependence upon foreign investments and upon counter-productive "import-substitution" policies aimed at increasing the rate of economic growth. The impact is lessened somewhat by Tunisia's impressive export growth, which increased from 4.1% during the 1960s to 21.1% during 1970-78, compared to a current average export growth rate of 5.8% for reference Middle Income countries.66/

(4) Absolute poverty:

The worst aspects of poverty are declining on Tunisia. Whereas in 1966 about 23% of the population lived in absolute poverty, by 1975 the percentage in poverty declined to about 17%. In urban areas the percentage in absolute poverty decreased from 27% in 1966 to 20% in 1975 and in rural areas the percentage decreased from 20% in 1966 to 15% in 1975.67/ These percentages in absolute poverty compare favorably with current levels of absolute poverty found in reference countries. For example, on average about 22% of the urban population and 33% of the rural population live in absolute poverty in the reference Middle Income North African and Middle East countries.68/

In terms of magnitude of the poverty problem in Tunisia, there was a decline from 1,029 thousand absolute poor in 1966 to 971 thousand in 1975. In urban areas, due to urban migration, the number of absolute poor actually increased from 473 thousand in 1966 to 532 thousand in 1975.

Most of the poor in Tunisia are likely to be unskilled seasonal workers in agriculture and industry, small farmers, artisans and petty traders. As noted above, the incidence of poverty is relatively higher in urban areas than in rural areas. The incidence of absolute poverty appears to be highest in the North West, where approximately one-third of this target

group are located, and in the South. Whereas poverty in the South is fairly universal and can largely be explained in terms of lack of a natural resource base, poverty in the North West is the result of highly unequal distribution of resources.69/

(5) Distribution issues:

Rough estimates of income distribution in 1959 show the poorest 20% of the population receiving 4% of the income and the richest 5% receiving 26% of the income in Tunisia. Comparing this to the situation in 1975, income distribution has improved. However, in the more recent past, income distribution has worsened somewhat. Based upon the two household expenditure and consumption surveys of 1966 and 1975, interpersonal distribution is quite uneven and worsening in Tunisia. Whereas in 1966 the poorest 20% of the population spent 6% of the total consumption expenditure, in 1975 their share declined to 5%. The share spent by the richest 5%, on the other hand, increased from 18% to 22% from 1966 to 1975. Thus, the richest group of the population accumulated shares at the expense of the rest of the population during this time period. In terms of the Gini coefficient, there was a slight rise from .40 in 1966 to .44 in 1975.70/ These results are corroborated by data that show the shares of wages and salaries in value added have been falling since 1965, while profits and capital shares have been increasing. The wage share in value added decreased from 43% in 1965 to 40% in 1975.

The worsening of income (expenditure) distribution during a period of rapid economic growth is not surprising and is in fact generally observed in the development process of other countries.71/ Moreover, the current income distribution in Tunisia still compares favorably to the distribution in reference Middle Income countries (averaging 4% of income received by poorest 20% and 52% of income received by top 5%).72/

Interregional distribution is also quite skewed in Tunisia with the differential between the regions widening. Inequalities remain strongest in large cities, but are rising most rapidly in rural areas. The worsening of income distribution in both rural and urban areas is reflected in rising Gini coefficients during the 1966-75 period, from .34 to .39 in rural areas, from .36 to .40 in urban areas and from .39 to .43 in big cities. Data on the average annual expenditures per person by location show an increase of 53% in big cities (from 152 to 233 dinars in constant 1975 prices); an increase of 65% in other urban areas (from 92 to 152 dinars) and an increase of 41% in rural areas (from 75 to 106 dinars) compared to an increase of 56% in nationwide annual spending (from 94 to 147 dinars).73/

(b) Effectiveness of GOT Economic Growth Policies

Tunisia's record of overall economic progress has thus been very good; especially in the 1970s growth has been rapid. Growth in the agricultural sector has tended to lag behind the rest of the economy and was responsible for limiting overall growth, particularly in the 1960s.

Although unfavorable weather was largely the cause of this constraint, other factors including GOT policies and program priorities also affected these trends (Section VI gives details of agricultural sector performance).

Whereas recent GOT economic policies have been obviously effective in spurring rapid economic growth, it is more questionable whether this high growth rate will be sustainable. The rapid economic growth has also not benefited Tunisians equitably. The economic growth has been unable to absorb rising unemployment and income distribution has worsened. The shortcomings of the GOT economic growth policies will be examined below.

(1) Industrialization policies:

Since Independence, the GOT has pursued a vigorous policy of industrialization as the key to economic growth. The approach, during the late 1950s and throughout the 1960s and early 1970s, has been the typical import-substitution model adopted in much of the developing world. To some extent this approach had been successful in encouraging industrialization, but shortcomings were becoming obvious by the 1970s and some GOT policy reorientation and liberalization have taken place recently.

During the 1960s, the GOT placed large emphasis upon establishing state and cooperative industrial enterprises. Public-sector projects accounted for over 80% of total 1961-70 investment in manufacturing. The Government focused on projects in relatively capital-intensive basic industries which the private sector was not in a position to undertake, e.g., mining, petroleum, water and electricity and large-scale manufacturing enterprises. Unfortunately, many of these state enterprises suffered from relatively low investment return, due to the often inadequate technical and economic feasibility analysis and to the inexperience of management. The scarcity of skilled labor, after the departure of the French, meant low productivity with high operation costs. The strategy did at least create an industrial base and a pool of trained labor upon which future growth could build. However, too large a share of resources was allocated to projects which not only failed to yield immediate economic and financial returns, but have only doubtful prospects of long-run viability.

In addition to state enterprises and cooperatives, the GOT introduced in the early 1960s a system of restrictions and controls on external and domestic trade, foreign exchange, prices, investment and credit. While some control of imports and foreign exchange was probably unavoidable given Tunisia's balance of payments difficulties, the impact was to discourage private investment, already low, in most sectors. Moreover, the excessive protection and monopolistic privileges conferred by the system on the state-controlled and on certain private enterprises reduced incentives to efficiency.

The private investor in Tunisia was discouraged by a series of constraints, delays and expenses. An enterprise required initial investment approval and was subject to controls governing (a) access to

credit, import equipment and raw materials; (b) transfer of profits and dividends; (c) costs of inputs; and (d) price regulations affecting profit margins.

On the other hand, those few (generally large-scale) private industrial enterprises that were favored by the systems enjoyed, along with the state enterprises, the privileges of an oligopolistic and protected Tunisian market. Although protection of infant industries is useful in getting industry started, it tends in the longer term to encourage inefficiencies and misallocations of resources. For example, the subsidization of capital and foreign exchange to a few privileged enterprises in Tunisia resulted in the distortion of factor prices and tended to encourage adoption of capital-intensive (and import-intensive) technologies despite Tunisia's large-scale unemployment.

By 1970, the limitations of this industrial strategy were becoming evident in various trends and indicators, such as the high capital-output ratio of 4.2 in manufacturing during the 1960s, and the high cost of creating additional employment in that sector ($100,000 per new job in constant 1966 prices). Tunisia's rate of unemployment did not improve during the 1960s and the industrial sector's absorption of surplus labor was only modest. Small-scale enterprise, which tends to be most labor-intensive, grew only slowly, due to the commitment of investment policy to large-scale operations, the exclusive "growth" orientation and the absence of vigorous stimulation of the private sector. This situation led to a shortage of capital, especially foreign exchange, and made access to imported machinery and equipment difficult. By the early 1970s, the potential for import substitution had been exhausted and further growth depended upon winning foreign markets for exports. The need to increase competitiveness and productivity via liberalization of import and other economic controls had become clear.

The limited achievements of these economic policies during the 1960s led the GOT to reorient its strategy in the early 1970s. New emphasis was placed upon the private sector and foreign private investors. Direct government involvement, via the state enterprises and system of economic controls, was reduced during the 1970s. The share of public investment declined from over 80% in the 1960s to less than half in the 1970s. A series of legal, administrative and insticutional steps has been taken during the 1970s to reduce progressively protections and controls and to set up machinery and incentives to promote competition and private initiative in industry, with special reference to exports. The continued shift in policy orientation from a controlled towards a market economy, the drive towards more competitive industrial development and increased export orientation have proved highly beneficial for Tunisia. These policy shifts, in combination with other factors such as favorable weather conditions and improved terms of trade, were responsible for Tunisia's outstanding economic growth performance in the 1970s.[74]

(2) Tourism development:

The rate of growth of tourism in Tunisia since 1960 has been one of the highest in the world. In relation to GDP its contribution rose from 0.5%

in 1962 to a current 4%. Tourism development slacked off somewhat during the mid-1970s due to exogenous factors, such as the energy crisis, European recession and cases of cholera in Tunisia, and endogenous factors, such as inadequate development of infrastructure, recreational facilities, trained manpower and marketing. The GOT plans to reduce these internal constraints and places high priority on this sector, which is the most significant source of foreign exchange earnings for Tunisia. However, since tourist services require substantial imported inputs, net foreign exchange earnings are less than the gross earnings. Due to expansion of domestic production to meet the tourism demand, the ratio of net to gross foreign exchange earnings has been increasing substantially in recent years. The GOT offers various incentives to investment in tourism and has also assisted investors to obtain hotel sites.

During the 1960s the organization responsible for tourism was at first a semi-government agency, then a ministry and since 1970, an autonomous body (ONIT), responsible for developing tourism policy, promoting development of tourism zones, organizing tourism training and organizing tourism publicity. Credit for hotel construction was provided first by the STB and later by the SNI and COFITOUR.

(c) AID's Contribution to General Economic Growth

U. S. economic aid has consisted of dollar and hard currency program grants totaling $89.1 million since the inception of the program. In addition, a total of $100.7 million in project loans have been made for specific interventions such as (1) construction of the Nebana River Dam, of the Tunis Airport, of the Kasserine Pulp Plant and of the University of Tunis, (2) the establishment of loan funds in the industrial and agricultural development banks, (3) for railroad rolling stock and agricultural and road equipment, (4) irrigation projects, and (5) enlarging electricity distributing facilities. Several program and sector loans amounting to $116.8 million have been made for import of such commodities as petroleum products, sugar, steel bars, textiles, and agricultural machinery and for financing commercial imports by the private sector.

Also, the U. S. has sold the GOT surplus agricultural commodities under Title I of PL-480, totalling $204.4 million. Until recently, payment was made in Tunisian dinars, and of the proceeds a significant percentage was granted or loaned back to the GOT (104 local currency grants and loans totalling $112.8 million). In addition there was a practice of establishing counterpart accounts in which the GOT deposited local currency of an amount equivalent to U. S. dollar and hard currency grants for commodity imports and certain program loans. Funds from these counterpart accounts were released for mutually approved development projects.

The following paragraphs highlight specific AID projects that have contributed to the development of industry, tourism, infrastructure (transportation, communication and electrification) and the banking system in Tunisia.[75]

(1) Industrial development:

In the late 1950s and early 1960s AID undertook several projects that assisted in the establishment of industries. Loans were provided to establish plant facilities for a pulp mill in Kasserine, for a demonstration ceramics factory in Nabeul, for a salt production facility at Sfax and other sites and for a millwork plant. In addition, more than 200 businesses were financially assisted by the AID Special Revolving Loan Fund of the Societe Tunisienne de Banque which provided sub-loans for industrial and commerical development. Technical assistance was also provided in the form of U. S. advisors and participant training in business and management. For example, one project provided two investment experts to advise the Societe Tunisienne de Banque on procedures for processing business loan applications. Another project provided technical assistance to the GOT by appraising industrial priorities and potential in Tunisia and by undertaking feasibility studies for selected industries. Short-term business and industrial training was provided for several hundred Tunisians and longer-term training for business careers was also provided for some to help fill the gap created at Independence by the departure of French business and financial elites.

(2) Tourism development:

Valued for its ability to generate foreign exchange and to create employment, development of the tourism sector has been favored by the GOT and by AID. Growth of tourism was helped greatly by AID's assistance in the transportation field, especially in the construction of the Tunis/Carthage airport. Tourism development in the Monastir area was promoted by AID assistance in the expansion of roads and hotel facilities construction. Another project provided counterpart funds to COFITOUR which provided loans and equity participation for the construction and operation of hotel facilities and tourist-related projects.

(3) Transportation development:

About a dozen AID projects were aimed at improvements in air, railroad, port and road transportation systems in Tunisia. Four projects assisted the GOT in the development of the Tunis/Carthage International Airport, by financing construction of runways, taxiways and ramps, lighting and power, and radio and electronics; procurement of fire/crash rescue and service equipment; and development of a modern passenger terminal. Also substantial technical assistance and training were provided in all phases of airport construction and operation. AID also undertook a port improvement project at Mahdia and several railroad development projects. Technical and financial aid was provided for the construction of a new foundry for the manufacture of railroad equipment, cars and spare parts. Technical assistance was also provided to the Tunisian National Railroad in the establishment of railroad repair shop training programs and in organizing repair centers. Another four AID projects were directed at improving construction and maintenance of Tunisia's highways and roads. Loans were provided: (a) for grading, resurfacing, widening and otherwise improving existing roads;

(b) for construction of new roads and bridges; and (c) for acquisition of highway maintenance and construction equipment. Also technical assistance teams and on-the-job training were provided in the area of road construction and maintenance.

(4) Communication development:

Three AID projects assisted in the improvement of telephone communications in Tunis, Sousse, Sfax, Sbeitla, Mednine, Zarzis, Djerba, Zaghouan and several isolated rural areas.

(5) Electrification:

Via several projects, AID assisted the GOT in the rehabilitation and expansion of the electrical distribution system throughout the country. Two large dollar loans amounting to $13.6 million were provided to finance procurement of U. S. electrical equipment and additional counterpart funds were used to extend electric distribution lines to numerous cities and towns.

(6) Financial institutions:

Two other important AID activities were assistance to Societe Tunisienne de Banque (STB), a bank newly created in 1957 which became the foundation of development banking in Tunisia, and to Bank Nationale Tunisienne (BNT). AID initially allocated 1,260,000 dinars to STB's revolving fund, and subsequent allocation brought the total to 4,392,000 dinars. This activity and parallel agricultural finance activities, in connection with BNT, were critical factors in growth performance in Tunisia.

VI. AGRICULTURAL DEVELOPMENT

(a) Progress Towards Agricultural Development Goals

Narrowly defined, progress towards agricultural development might be measured by examining trends in agricultural production. More broadly, an assessment of agricultural development performance should also look at related objectives such as achievement of food self-sufficiency, prevention of environmental degradation and promotion of equity within the sector. The following paragraphs outline Tunisian performance in these areas since Independence.

(1) Agricultural and food production:

Although agricultural production statistics for Tunisia vary from source to source, there is general agreement that agricultural production grew very slowly during the 1960s and improved considerably during the 1970s. FAO estimates indicate that agricultural production in Tunisia grew by an average annual rate of 1.4% during the 1960s and by 6.4% during 1970-76. Food production growth performed similarly, growing at an average annual rate of 1.3% during the 1960s and 6.5% during 1970-76. Production of cereals, influenced more heavily than other crops by the poor rainfall of the 1960s, actually declined by 1.0% per year during the 1960s but then improved remarkably by an average annual growth rate of 7.9% during the 1970s.

The combination of rapid population growth and poor production performance during the 1960s resulted in average annual declines in per capita production of 0.6%, 0.7% and 3.0% for agriculture, food and cereals respectively. Per capita production during the 1970-76 period improved considerably, growing at annual average rates of 4.0, 4.1 and 5.5% for agriculture, food and cereals respectively.76/

Tunisia's recent performance in per capita food production compares favorably with other reference countries. For example, Tunisia's index of food production per capita (1969-71=100) for 1978 was 126 compared to an average index of 93.5 for other Middle Income North Africa and Middle East countries.77/

The slow progress made in agricultural production during the 1960s and the rapid recovery of the 1970s was due in large part to climatic causes. During the 1960s droughts and floods occurred in Tunisia with unusual severity, adversely affecting production, whereas weather during the 1970s has been exceptionally favorable.

(2) Environmental protection:

A major problem in Tunisian agriculture is the steady degradation of productive land due to erosive heavy rains, occasional sandstorms and overgrazing. FAO statistics on land utilization show an increase in unproductive (desert) land area from 7,206 thousand ha. in 1961-65 to 7,361 in 1978. This confirms a World Bank estimate that desert

encroachment during the last two decades has continued at an alarming rate of about 10,000 ha. per year, despite large-scale GOT prevention programs.78/

(3) Distribution issues:

Disparities between the agricultural and non-agricultural sectors of Tunisia are significant. The 1975 consumption survey indicated that average per capita expenditures in the agricultural sector were only 108 dinars, compared to the national average of 147 dinars.

Within the agricultural sector inequities in land distribution are equally striking. The number of small farmers and their share in total land holdings have been declining. Land has become increasingly concentrated into large land holdings; whereas in 1962 about 22.1% of the total land area and 1.4% of the farms were over 100 ha. in size, by 1976 farms over 100 ha. in size accounted for 34.6% of the total land area and 1.9% of the farms. The Gini coefficient of land distribution increased from 0.4 to 0.6 during 1962-1976.79/

Not surprisingly, surveys on the utilization of modern farm inputs show a progressive increase in the proportion of farmers using fertilizer and mechanical traction as farm size increases. All farms over 100 ha. reported using these inputs. Nevertheless, small farmers also appeared progressive in the use of these modern inputs, with the major constraint being lack of credit. Small farmers were found to be less ready in their adoption of high yielding wheat varieties, particularly in soft wheat, because of the increased risks involved in planting these varieties. Small farmer access to agriculural credit in Tunisia has been limited by factors such as lack of clear title to land, by poor repayment rates that make such credit programs inefficient, and by policies which favor large farms. These trends support the statistics showing a relative worsening of income distribution in rural areas.

(b) Effectiveness of GOT Agricultural Development Efforts

This section examines the effectiveness of various GOT agricultural programs and policies in meeting agricultural production and equity objectives. Major areas of government intervention have included: (1) agrarian reforms; (2) public investment policies, including development of irrigation systems; (3) policies and incentives for private investment, including credit policies; (4) price and marketing policies; and (5) government agricultural services such as research, extension and education.80/

(1) Agrarian reforms:

Agricultural production and also possibly equity objectives suffered from the sweeping institutional reforms of the 1960s. The early 1960s saw the acquisition of foreign-owned lands and subsequent formation of state-cooperative farms. The immediate effect of the nationalization of the large colonial holdings was a drop in production as the foreign farm managerial and technical staff departed. While controlling some of the best agricultural land in Tunisia, these state and cooperative farms

suffered inefficiencies caused by lack of qualified managerial and technical staff and from an overly centralized management structure that failed to consider local conditions and incentives. As a result, agricultural production on these farms was disappointing and even required heavy GOT subsidies.

Despite these negative experiences, a program to further accelerate the formation of cooperatives extending to private land holdings began in 1969. Over a four-month period, cooperatized land increased by 60%, reaching maximum when nearly one-third of all agricultural land (including virtually all land suitable for cultivation) had been cooperatized. However, there was a sharp adverse reaction from private farmers to this new policy; there was significant livestock and equipment liquidation as farmers resisted bringing their assets into the cooperative structure. Indeed, the resistance was so severe that the GOT reversed their policy in September 1969, allowing former private farmers to withdraw their land from the cooperatives; the land area cooperatized declined by 66% as a result. The impact of the cooperative movement upon production was adverse because of the large scale capital disinvestments, livestock reductions, and reduced sense of security among farmers. It also appears to have had a negative affect upon equity as many small farmers who lost their production capital were forced to rent or sell their land to larger farm operators.

Nevertheless, the GOT learned from this experience and in the 1970s there has been a resurgence of the private sector supported by new government policies, and agricultural production has revived. As part of the policy reorientation, the government has divested various land holdings by sale to individuals and the role of the public sector in agriculture is greatly reduced in the 1970s.

(2) Public investments:

Public investments in agriculture have been made in areas such as water development and irrigation, machinery purchases, reforestation and erosion control, drainage facilities, tree plantings and livestock improvement. Unfortunately, some of these public investments have suffered from marginal or much delayed productivity.

The land area equipped for irrigation has increased in Tunisia from some 65,000 ha. at Independence to a current 144,000 ha. or 5% of total land area. Of this, some 59,000 ha. or 41% was developed by the state (referred to as Public Irrigation Perimeters or PPIs). However, the actual area irrigated is less than the area equipped for irrigation and evidence suggests that utilization is far lower in the public irrigated perimeters (50% utilization) than in the privately irrigated areas (80% utilization). Reasons for the lower utilization in the PPIs include (a) high salinity content of the water, (b) unsatisfactory on-farm development and maintenance of irrigation and drainage works, (c) lack of experience of the farmers in producing irrigated crops and (d) unsettled land tenure questions limiting access to credit and inputs.

Large-scale public investments were also made during the 1960s in

reforestation and erosion control as part of the LCSD Food for Work program. While these programs were successful in their objective of alleviating unemployment, they suffered from low productivity. Poor choice of tree varieties, lack of soil testing and improper care of young trees led to a high failure rate among the trees planted in the program. Also many were lost as the local population used them for livestock feed or firewood. Similarly, problems such as low quality construction, lack of maintenance and lack of cooperation from the local population limited the impact of the terracing, contouring and other erosion control programs.

Public investments were also made in large-scale plantings of olive and fruit trees during the 1960s. These investments were by their nature not immediately productive; they are only now beginning to mature and produce.

(3) Policies and incentives for private investment:

The structure of the Tunisian agricultural credit system is complex with several Government and quasi-government sources of credit to farmers. Medium and long-term credit for equipment, cattle and machinery has been extended by special agricultural funds financed through the GOT budget or foreign aid (notably AID funds) and administered by the National Bank of Tunisia (BNT, formerly the BNA). Access to these subsidized credit sources was historically limited to the cooperatives or larger private farmers. By 1975 only about 15% of all farmers had access to institutional credit. However, since 1976 the GOT and BNT have initiated new credit policy measures that will increase credit servicing to small farmers. Short-term or seasonal credit to farmers has been provided by local Mutual Credit Banks (CLCMs). Special short-term or in kind credit programs have also been available from various agencies, such as the Office of Oils, the Cereals Board, the Office for the Development of the Lower Medjerda Valley (ONVVM), the Livestock Office, the Bureau of State and Land Managemernt and others. Small farmers have tended to have better access to these types of credit. A major shortcoming of many of these credit programs in Tunisia has been poor loan recovery rates that have required continued GOT underwriting. The situation may become less burdensome as a result of recent rationalization of credit policies, such as increases in the interest rate and more emphasis upon supervised credit.

(4) Price and marketing policies:

In addition to the encouragement of agricultural production by providing farmers with low-cost credit from public sources, the GOT has also heavily subsidized the bulk of agricultural inputs and imports by direct price measures. The price of chemical fertilizers, pesticides, herbicides, high-yield variety seeds, machinery, and other inputs is held down to some extent by subsidies which represent a large financial burden to the GOT budget. Unfortunately, many of these investment incentives are undercut by the GOT's control of agricultural product prices. For major commodities, including cereals, olives and grapes, producers prices are fixed, reflecting the GOT's concern with stabilizing the urban cost

of living in spite of the disincentives these policies may have in discouraging growth of the agricultural sector. The price equalization fund, used to subsidize margins between prices at the level of production and retail and to subsidize some farm inputs, has represented a drain of 37.6 million dinars in 1975 and 30.4 million dinars in 1976. In light of the price trends (of increasing input prices and fixed product prices) it is surprising that agricultural production performance has been so good in the 1970s. This suggests increases in productivity, perhaps due to adoption of new cereal varieties and to favorable weather conditions.

(5) Research, extension and education:

Having already invested heavily in production infrastructure, the GOT must now turn increasing attention to strengthening education, research and extension to improve peformance and productivity in agriculture.

Agricultural education, the responsibility of the Ministry of Agriculture, takes place at four levels: academic, semi-academic, secondary and vocational. While performance in terms of quantities of graduates has been impressive, basic questions remain about its effectiveness. Problems in these agricultural schools include: (1) curricula that are too academic and theoretical in approach; (2) a low quality of students attracted to agriculture as a career; and (3) particularly at the vocational level, a high level (70-80%) of graduate unemployment.

The role of agricultural research is the development of "extendable" technological packages that will increase the productivity and diversity of both commercial and subsistence farmers. The role of the extension service is to ensure that the research, credit and marketing information is utilized by the farmers. Most agricultural research takes place at the National Institute of Agronomic Research (INRAT) and the specialized forestry and engineering institutes attached to it, but numerous other agences and institutions are involved in specialized branches of research. There is a need for greater emphasis upon applied research that addresses actual problems facing Tunisian farmers and tied to development priorities. The only specialized extension agency in Tunisia is the Extension Division of the Agricultural Production Directorate in the Ministry of Agriculture. However, there are a large number of other agencies providing extension services, including the Cereals Board, OMVVM and PPI, the Livestock Board and the OTD. Hence, the ministries' extension services cover most agricultural areas, but rather sparsely, with an average ratio of one agent to 1,200 farmers.

(c) AID's Contribution to Agricultural Development

AID's largest and most sustained efforts in Tunisia have been in the area of agricultural development and environmental protection.[81/] Through a number of agricultural program loans, AID provided Tunisians with the foreign exchange required for importing agricultural equipment, machinery and other agricultural inputs. Important technical and financial assistance was also provided for the establishment of the agricultural credit system in Tunisia in the late 1950s, administered by a National

Bank of Agriculture (BNA; today the BNT). AID's financial assistance in support of agricultural credit throughout the 1960s amounted to nearly $20 million; i.e., approximately 50% of Tunisia's available BNA agricultural credit. Over 200 thousand people are estimated to have received agricultural loans from the AID financed agricultural credit funds. However, the activities of the BNA and the AID mission were not geared to small farmers but rather to the goal of increased agricultural output. The BNA loan policies excluded farmers with small holdings or those who lacked approved title to land. In a current project, AID is assisting in the implementation of a supervised credit program aimed especially at small farmers.

Assistance under the PL-480 Title II program provided payment in kind for an average of 125,000 laborers during the 1960s and early 1970s under the Food for Work program; many of the GOT's efforts in soil conservation and reforestation programs were carried out by this labor pool. Unfortunately, most studies conclude that the productivity of these programs was low because of poor planning and maintenance and because of lack of local population support for the programs.

In addition to these programs, AID also assisted agricultural development by financing a series of agricultural and related environmental improvement projects.

Highlights of the contributions made by completed AID projects include:

(1) Reforestation - 6 projects were undertaken to assist the GOT Forestry Service in the reforestation of about 500,000 ha. and in the establishment of forest nursery centers.

(2) Flood Control and Relief - 6 projects provided flood protection measures for urban areas and 4 other projects provided assistance to flood victims and emergency reconstruction of flood damage.

(3) Land Reclamation - 7 projects assisted in the construction of draining systems and another 6 projects assisted in soil conservation measures such as terracing, contour cultivation, windbreaks and tree plantings. In total, well over 500,000 ha. of land were reclaimed by these projects.

(4) Irrigation - 20 projects provided for the construction of irrigation systems and ground water resources development throughout Tunisia. These AID projects were responsible for increasing irrigable lands in Tunisia by roughly 40,000 ha. (i.e., more than one-quarter of all irrigable land).

(5) Water and Soil Surveys - 5 projects assisted the GOT in completing detailed hydraulic and geologic surveys and studies assessing agricultural potential throughout Tunisia.

(6) Poultry and Livestock Production - 4 projects assisted the GOT in efforts to improve poultry and livestock production by providing technical assistance and participant training, establishing demonstration and production centers and purchasing equipment, breeding stocks and commodities.

(7) Crop Production - 7 projects assisted the GOT in efforts to improve crop yields and diversify cropping patterns. Most notably, these projects aimed at increasing the adoption of high-yield varieties of soft wheat and at improving the practices and production of irrigation crops such as vegetables, fruits, and other tree crops.

(8) Agricultural Education and Extension - 4 projects assisted in the construction of 26 secondary level agricultural schools and another project was designed to strengthen the establishment and development of the agricultural extension system in Tunisia.

CONCLUSIONS

Tunisia has made very impressive gains towards several development goals since Independence. Economic growth has been rapid, particularly in the 1970s. Social progress has been substantial, leaving the average Tunisian much better off today, in terms of living conditions and access to social services, than he was in 1956. Measures of social progress enjoyed by the average Tunisian also compare favorably to those of reference countries in the region at a similar stage of development (see Table 2).

TABLE 2: Illustrative Measures of Development Progress in Tunisia

	Tunisia		Weighted Average for Reference Countries
	Independence	Most Recent Estimate	Most Recent Estimate
I. Improvement in Health and Health-Related Living Conditions			
life expectancy at birth (years)	41	59	54
crude death rate per 1000 population	20	8	13
child (ages 1-4) mortality rate	29	15	18
population per hospital bed	650	470	636
% of population with access to safe water	30	70	63
per capita supply of calories as % requirements	80	117	104
II. Limitation of Population Growth Through Fertility Decline			
crude birth rate per 1000 population	46	34	42
gross reproduction rate	3.1	2.2	2.9
family planning users as % married women	-	18	16
III. Expansion of Access to Education: Basic and Advanced			
Adjusted primary enrollment ratio - total	66	100	76
adjusted primary enrollment ratio - female	43	81	60
adjusted secondary enrollment ratio - total	12	22	33
adjusted secondary enrollment ratio - female	5	15	24
adult literacy rate (%) (ages 15+)	16	55	40

TABLE 2: Illustrative Measures of Development Progress in Tunisia (cont.)

	Tunisia		Weighted Average for Reference Countries
	Independence	Most Recent Estimate	Most Recent Estimate
IV. Provisions of Employment Opportunities			
unemployment rate (%)	15	16	-
economic dependency ratio	1.4	1.8	1.9
V. General Economic Growth			
% population below absolute poverty - urban	-	20	22
% population below absolute poverty - rural	-	15	33
% income received by poorest 20% of population	4	5	4
% income received by richest 5% of population	26	22	52
VI. Agricultural Development			
index of food production per capita (1969-71=100)	97	126	94
% of land area in farms over 100 ha.	22.1	34.6	-
% of farms over 100 ha.	1.4	1.9	-

While significant, this progress should not hide the magnitude of the problems that remain nor the inequities in the distribution of the benefits of development. Table 3 is illustrative of the size of target populations still without basic human needs in Tunisia.

TABLE 3: Size of Target Population in Need
(most recent estimates)

Estimated Number of Tunisians	In Thousands
*living in absolute poverty	971
*unemployed labor force	255
*living in inadequate housing	1,500
*without access to safe water	1,800
*below minimum caloric requirement	840
*illiterate	2,184
*school age (6-14 years) not enrolled	560
*women of reproductive age not using family planning	668

Data on the distribution of assets, such as income and land, show a trend of growing inequality in Tunisia over the last decade. Table 4 provides social indicators by governorate, revealing the marked disparities in levels of progress achieved in the various regions. The most rural, isolated governorates of the South and Northeast tend to have the poorest living conditions and least access to social services.

The assessment of GOT economic and social policies outlined in this study has attempted to explain the shortcomings in policy directions that have hampered the equitable distribution of benefits of development progress. Although rapid economic growth has been achieved by the "import substitution" strategy chosen by the GOT, the sustainability of continued rapid growth without further liberalization is questionable, and the rapid growth strategy has been at the expense of very high levels of unemployment. The GOT economic policies favored capital-intensive industrialization in the urban, coastal areas at the expense of the rural and agricultural sectors. GOT policies with regard to social services have similarly tended to favor the urban, coastal populations. Continued adherence to "high standards" for social services has frequently resulted in such high costs per beneficiary that only a percentage of those requiring services have benefited from GOT social programs.

Table 4: Social Indicators by Governorate in Tunisia (Most Recent Estimate)

Governorate	rural pop. as % of total (1975)	% pop living in isolated areas (1975)	crude death rate per 1000 pop. (1976)	pop. per physician (1979)	pop. per paramedical (1979)
Tunis	7.5	4.2	6.8	1,483	289
Zaghouan	78.0	55.9	7.9	13,711	1,625
Bizerte	47.7	25.2	9.4	4,375	572
Beja	74.8	30.5	8.4	7,007	767
Jendouba	85.2	42.0	8.4	9,807	1,105
Le Kef	76.7	44.4	8.7	6,059	833
Kasserine	79.3	76.3	11.1	11,195	1,094
Medenine	59.9	43.2	9.7	6,605	935
Gabes	63.4	26.7	10.5	5,963	658
Gafsa	43.2	27.4	9.2	6,683	558
Sidi Bouzid	93.9	85.3	9.6	25,646	1,665
Kairouan	78.4	56.3	12.2	10,131	741
Sousse	29.5	12.5	9.2	2,188	356
Sfax	40.3	29.0	7.4	4,253	549
Nabeul	52.0	38.0	8.2	5,187	800
Monastir	23.1	7.9	7.5	4,855	541
Mahdia	66.8	49.2	8.7	10,687	834
Siliana	84.3	60.4	8.5	18,046	1,539
Tunisia	52.5	34.3		3,966	574

Table 4: Social Indicators by Governorate in Tunisia (Most Recent Estimate)

Governorate	pop. per hospital bed (1976)	% of pop. served by public piped water system (1978)	% of housing considered temporary (1975)	% of housing w/ electricity (1975)	% of housing w/ running water (1975)
Tunis	187	100.0	9.7	78.0	70.8
Zaghouan	2,495	73.1	43.5	18.6	14.3
Bizerte	376	61.5	32.8	36.0	27.7
Beja	566	44.2	46.2	17.0	15.8
Jendouba	723	33.8	44.8	12.7	13.7
Le Kef	390	35.0	21.9	16.9	15.5
Kasserine	1,388	29.9	29.6	8.8	9.4
Medenine	739	48.8	23.3	17.9	11.6
Gabes	613	53.4	26.2	23.6	21.5
Gafsa	473	42.6	8.8	40.1	29.4
Sidi Bouzid	3,994	11.6	34.7	4.8	2.4
Kairouan	693	36.2	49.6	13.3	11.2
Sousse	328	88.2	14.9	48.4	35.8
Sfax	501	73.9	15.2	49.0	26.3
Nabeul	528	69.8	16.1	39.3	20.6
Monastir	650	92.2	10.0	51.5	36.5
Mahdia	1,006	55.5	28.6	18.7	9.1
Siliana	1,557	29.2	29.9	8.1	8.9
Tunisia	440	61.2	25.0	34.2	26.4

Table 4: Social Indicators by Governorate in Tunisia (Most Recent Estimate)

Governorate	% of housing with sewerage (1975)	crude birth rate (1976)	% of pop. (age 10+) literate (1975)	% of children 6-14 yrs. old enrolled (1975)	Unemployment rate (%) (1975)	% employed in primary sector (1975)
Tunis	65.1	30.2	72.1	78.9	12.9	6.2
Zaghouan	10.1	36.9	52.9	66.5	15.3	61.7
Bizerte	37.1	33.5	53.5	68.7	20.0	47.5
Beja	17.3	32.5	47.0	57.8	18.5	56.1
Jendouba	13.6	33.9	45.7	55.3	32.8	44.1
Le Kef	12.3	32.6	54.4	61.6	20.6	50.5
Kasserine	1.7	43.5	49.7	49.7	15.5	65.6
Medenine	0.9	44.6	57.7	70.5	9.7	45.0
Gabes	8.9	40.1	57.1	63.9	16.0	39.2
Gafsa	7.4	42.6	58.0	66.6	17.1	53.2
Sidi Bouzid	1.5	44.3	47.7	47.0	16.6	66.6
Kairouan	10.0	42.7	41.7	51.5	21.3	55.7
Sousse	26.5	37.2	63.0	71.6	12.4	29.2
Sfax	12.1	33.2	67.2	68.9	11.5	36.0
Nabeul	26.8	34.8	56.1	70.8	9.8	54.3
Monastir	13.4	34.5	65.5	77.7	12.6	19.8
Mahdia	5.6	35.7	52.9	62.7	8.7	63.2
Siliana	6.6	37.3	48.2	56.4	25.7	63.1
Tunisia	20.7	36.1	57.7	65.9	15.7	41.1

AID assistance programs have contributed significantly to Tunisian development efforts since Independence. Estimates of the number of Tunisians benefiting annually from some of the major AID programs are illustrated below. AID beneficiaries are taken as a percentage of the relevant target group still in need today, for comparison purposes.

AID Program	Estimated Number of Tunisians Benefiting (in thousands)	As % of the Current Target Group in Need
*Food for work program	100	40% of unemployed labor force
*Child feeding program	450	70% of malnourished children
*Housing projects	230	15% of inadequately housed population
*Water supply projects	800	44% of population without safe water
*Family planning projects	180	27% of women of reproductive age not using family planning
*School construction projects	195	35% of school age children not enrolled

If there is a criticism to be mounted about AID's approach to development assistance in Tunisia, it is the general episodic, or "fire fighting", approach that was undertaken. There was rarely an overall assistance plan that recognized the long-run problems and that was agreed upon by AID and the Tunisians. However, in the 1960s this lack of a comprehensive, long-range development assistance strategy was due to the different economic philosophies of the Tunisians and the U. S., a difference that narrowed in the 1970s but by no means closed. In the absence of an agreed development strategy, AID could do little but assist selected programs sporadically in sectors where its own special interests and those of the GOT coincided. During the 1970s, Tunisian policy reorientations towards greater economc liberalization and towards rural outreach of social services linked their interests and AID's closer together. However, by then AID began "phase-out" policies which hampered attempts to develop a comprehensive, forward-looking assistance plan for Tunisia.

Another critical conclusion that emerges has to do with the limitations of this type of "comprehensive" country-level evaluation study. To do anything more than an impressionistic assessment of a country's development progress and the government policies responsible requires a level of effort of far more than a few person-weeks. There are also serious limitations in attempting to assess the contributions to development made by AID based solely on secondary evidence such as mission-initiated reports and AID staff "memory". Yet, when the objective is to cover a long history of AID contributions (over 200 projects in the Tunisia case), how much time can be devoted to direct observation of projects in the field, or even to careful reading of project files? Matters were complicated by the "retiring" of project files older than 1974 and by the lack of any special "project evaluation" files. In Tunisia, the only file of use to this exercise was the "project completion reports"; but the evaluative information contained on these project reports was far from what was needed, often containing only one or two sentences stating that the project had been "generally successful". Efforts to gain a complete picture of AID's contributions were also hampered by the relative lack of an AID "memory" among staff: with the exception of several local-hire professionals, most of the AID mission staff had been in Tunisia for less than two years. This is not to conclude that this type of a study, which attempts to get a comprehensive picture of a country's development progress and AID's contribution, should not be attempted again. It is only to point out the relative magnitude of the task involved and to warn the researchers of the gaps in knowledge they are likely to encounter.

FOOTNOTES

1/ Cumulative assistance from FY1975 to FY1979; Program Office, USAID/Tunis files.

2/ Estimate includes foreign exchange and local currency financed projects; based upon USAID/Tunis "Project Completion Reports" file.

3/ For further discussion of the evaluation concepts of "impact" and "effectiveness" indicators, see Howard E. Freeman, Peter H. Rossi and Sonia R. Wright, Evaluating Social Projects in Developing Countries, OECD Development Centre, Paris, 1979.

4/ The weighted averages for this reference group of countries are calculated by the World Bank in their publication, Social Indicators Data Sheet, April 1980. This group (Middle Income North African and Middle East) consists of Algeria, Bahrain, Egypt, Jordan, Lebanon, Morocco, Syrian Arab Republic, Tunisia, Yemen Arab Republic and Yemen People's Democratic Republic.

5/ Source of vital statistics for Tunisia is the Ministry of Planning, Institute of National Statistics (INS). See for example the Annuaire statistique de la Tunisie.

6/ World Bank, Social Indicators Data Sheet, April 1980.

7/ Crude birth rates for 1975 by Governorate are found in INS, Annuaire statistique de la Tunisie, Vol. 23, 1976-77, p. 48.

8/ Source: Ministry of Planning. See World Bank, Tunisia: Social Aspects of Development, June 18, 1980.

9/ Source: Ministry of Public Health.

10/ World Bank, Social Indicators Data Sheet, April 1980.

11/ INS, Annuaire statistique de la Tunisie, Vol. 23, 1976-77, Section 4: Public Health, p. 140.

12/ See World Bank, Tunisia: Social Aspects of Development, June 18, 1980.

13/ The estimates of the population's access to "safe" water in Tunisia are from World Bank reports. See in particular, World Bank, Social Indicators Data Sheet, April 1980.

14/ See National Society for the Exploitation and Distribution of Water (SONEDE), Service des statistiques, annual report 1976.

15/ An AID report estimates on average, the cost per beneficiary in towns of 10,000 inhabitants is about $40, whereas in towns of 500 inhabitants the cost per beneficiary is $175 or more. The cost per isolated family unit would be far more and thus probably prohibitive.

16/ See Ross Bigelow, et al, Tunisia: CARE Water Projects, AID Project Impact Evaluation Report No. 10, 1980.

17/ See the INS Household Budgets and Consumption Surveys of 1966 and 1975; La consommation et les depenses des menages en Tunisie 1965-68, Tunis 1968, and Enguete nationale sur le budget et la consummation des menages 1975, Tunis 1978.

18/ World Bank, Social Indicators Data Sheet, April 1980.

19/ INS Household Budgets and Consumption Surveys of 1966 and 1975.

20/ Estimated as 14% of 6 million Tunisians.

21/ World Bank, Tunis: Social Aspects of Development, June 18, 1980.

22/ INS, Recensement general de la population et des logements du 3 mai 1966, Vol. IV, ch. ix: logements and Recensement general de la population et des logements 8 mai 1975, Vol. I: logements.

23/ World Bank, Social Indicators Data Sheet, 1979.

24/ INS, Recensement general de la population et des logements 8 mai 1975, Vol. I: logements.

25/ Estimated at 20% of 6 million Tunisians.

26/ World Bank, Tunisia: Social Aspects of Development, June 18, 1980.

27/ Ibid.

28/ Information on AID projects related to health improvement in Tunisia was obtained via discussions with AID staff and through assessment of the Mission's project files.

29/ Estimated from INS Annuaire statistique de la Tunisie.

30/ See Catherine Fort and Pamela Johnson, Background and Analysis of Proposed Health Sector Activity in Central Tunisia, 1980.

31/ See Ross Bigelow et al, Tunisia: CARE Water Projects, AID Project Impact Evaluation Report No. 10, 1980.

32/ The 800,000 beneficiaries are a rough estimate based upon data from AID Statistics and Reports Division, Physical Accomplishments under AID Programs, Selected Data as of June 1965, P. 14, and upon the Mission's Project Completion Reports for water projects. An estimated 4.2 million (70% of total 6 million Tunisians) have access to "safe" water according to World Bank estimates.

33/ For more information see AIRGRAM TOAID A-595, Task Force Report: "The PL-480, Title II 'Food for Work' (LCSD) Program in Tunisia,

1966-1969," Oct. 1965; AID, "PL-480 Title II - Food for Work Project Appraisal Report," Aug. 1976; and Abdessatar Grissa, Agricultural Policies and Employment: Case Study of Tunisia, OECD, 1973.

34/ Information on the Title II child feeding programs in Tunisia was obtained from files of the USAID/Tunis Food for Peace Office. A rough estimate of the number of children in Tunisia suffering from malnutrition was made assuming about 25% of Tunisian children ages 0 to 14 years (43% of 6 million) suffer from malnutrition. A study for the Institute of Nutrition and Food Technology estimates that over one-half of children ages 0 to 4 years suffer from malnutrition, so this estimate may be conservative.

35/ For a full account of the Institute's activities, see Ministry of Public Health, Bilan d'activites de l'Institut de nutrition et de technology alimentaire 1970-77, Tunis 1978 and the Annual Reports 1978 and 1979 of the Institute.

36/ Estimates of beneficiaries obtained from the Mission's Completed Project Reports files on housing projects and from discussions with the AID/Tunis Office of Housing staff. A rough estimate of the current housing shortage was obtained assuming about 20% of the Tunisian population of 6 million, or 1.2 million, currently live in inadequate, temporary shelters.

37/ For further information see AID Mission, Office of Housing, Tunisia Shelter Sector Assessment, January 1979.

38/ Data on fertility and demographic trends are found in INS Annuaire statistique de la Tunisie, 1976-1977, and National Office of Family Planning and Population (ONPFP), Statistiques de planning familial, 1978.

39/ World Bank, Social Indicators Data Sheet, April 1980.

40/ Regional data on fertility is available in INS, Annuaire statistique de la Tunisie, 1976-77, p. 48.

41/ Data on family planning facilities and effectiveness are available in ONPFP, Statistiques de planning familial, 1978.

42/ World Bank, Tunisia: Social Aspects of Development, June 18, 1980.

43/ For more information see the AID Mission's Mid-Project Evaluation of the Family Planning Project, 1980.

44/ INS, Recensement general de la population et de logements du 3 mai 1966, Vol. III, Ch. vi and Recensement general de la population et de logements 8 Mai 1975, Vol. IV (education characteristics).

45/ World Bank, Social Indicators Data Sheet, April 1980.

46/ World Bank, Tunisia: Social Aspects of Development, June 18, 1980.

47/ Calculated from enrollment data in INS, Annuaire statistique de la Tunisie, various annual volumes.

48/ World Bank, Tunisia: Social Aspects of Development, June 18, 1980.

49/ INS, Recensement general de la population et de logements, 8 mai 1975, Vol. IV.

50/ World Bank, Tunisia: Social Aspects of Development, June 18, 1980.

51/ Information on AID education projects in Tunisia was obtained from Mission Project Completion Reports.

52/ This assumes that all AID-constructed primary classrooms are still maintained and utilized at an average rate of 35 students per classroom (the national average). An estimated 950 thousand primary students are enrolled in Tunisian public schools according to INS statistics.

53/ This assumes that all AID-constructed or expanded secondary classrooms are still being maintained and utilized by an average of 30 students per classroom. There are currently an estimated 200 thousand secondary students enrolled in Tunisian public schools.

54/ AID, Physicial Accomplishmnts Under AID Programs, Selected Data - FY1962 to FY1970.

55/ INS, Annuaire statistique de la Tunisie.

56/ Estimate prepared by AID/Tunis, "Returned Participants Followup Activities Report," FY 1979.

57/ Unemployment data are available from the 1975 housing and population census, which included a survey on employment. See INS, Recensement de la population 1975, Tunis 1978. Some historical data are available from the previous censuses (1956 and 1966).

58/ World Bank, Tunisia: Social Aspects of Development, June 18, 1980.

59/ See Abdessatar Grissa, Agricultural Policies and Employment: Case Study of Tunisia, OECD Development Centre, Paris, 1973.

60/ See World Bank, Tunisia: Social Aspects of Development, June 18, 1980.

61/ Calculated from data in World Bank, World Tables 1980, Johns Hopkins, 1980.

62/ Sources of information on AID's employment-related projects include the Mission's Project Completion Reports; AIRGRAM TOAID A-595, Task

Force Report: "The PL-480 Title II Food for Work (LCSD) Program in Tunisia, 1966-1969," Oct. 1969; and the "PL-480 Title II Food for Work Project Appraisal Report," Aug. 1976.

63/ World Bank, World Development Report 1980, Aug. 1980.

64/ World Bank, World Development Report 1980, Aug. 1980. The reference group used here, "Middle-Income Countries" consists of all developing countries with per capita GNP from U.S. $360 to $3,500.

65/ World Bank, Tunisia: Economic Position and Prospects of Tunisia: Review of the Fifth Development Plan, 1977-1981, May 1977. Growth rates are for 1973-76 period.

66/ World Bank, World Development Report 1980, Aug. 1980.

67/ The definition of absolute poverty used here is that developed by the World Bank. The methodology estimates the cost of a nutritionally adequate diet plus essential non-food expenditures. The World Bank analysts based their calculations for Tunisia upon data reported in the INS Household Expenditure and Consumption surveys of 1966 and 1975. See World Bank, Tunisia: Social Aspects of Development, June 1980.

68/ World Bank, Social Indicators Data Sheet, April 1980.

69/ World Bank, Tunisia: Social Aspects of Development, June 1980.

70/ The income distribution data for 1959 was constructed by Tunisian planners without recourse to a comprehensive survey and are therefore likely to be weak. The data from the 1966 and 1975 INS household expenditure and consumption surveys, on the other hand, are quite reliable, based upon representative sample surveys. See World Bank, Tunisia: Social Aspects of Development, June 1980.

71/ Known as the "Kuznets Effect", see S. Kuznets, "Economic Growth and Income Inequality," American Economic Review, Vol. 45, 1975.

72/ World Bank, Social Indicators Data Sheet, 1979.

73/ World Bank, Tunisia: Social Aspects of Development, June 1980.

74/ Selected World Bank and IMF economic reports on Tunisia.

75/ The discussion of AID's contribution to Tunisia's economic growth is based upon Mission "Project Completion Reports" and other program files and upon discussions with AID staff.

76/ FAO, The Fourth World Food Survey 1977, Rome 1977.

77/ World Bank, Social Indicators Data Sheet, April 1980.

78/ FAO, Annual Production Yearbook, 1979, Vol. 33 and World Bank, The Economic Development of Tunisia, Vol. 1: Annex-Agriculture, Dec. 1974.

79/ World Bank, Tunisia: Social Aspects of Development, June 16, 1980.

80/ Information on government policies in agriculture is found in World Bank, The Economic Development of Tunisia, Vol. 1; Annex-Agriculture, Dec. 1974; William Johnson, Agriculture Sector Paper, AID/Tunis, Feb. 1972; Herman Van Wersch and Thomas Daves, Retrospective of Tunisian Agriculture 1962-1971, University of Minnesota, June 1972; and Abdessatar Grissa, Agricultural Policies and Employment: Case Study of Tunisia, OECD, 1973.

81/ Information on AID's involvement in Tunisian agricultural development and environmental control found in AID project files, especially project completion reports, in the AID publication, Physical Accomplishments Under AID Programs, and through discussions with AID staff.