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**TUNISIA**  
**STUDY OF MANPOWER NEEDS, EDUCATIONAL CAPABILITIES**  
**AND OVERSEAS STUDY**

**Report Number 8**

**Study Committee on  
Manpower Needs and  
Educational Capabilities  
in Africa**

**August 2, 1965**

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## TUNISIA

### Report Number 8

#### FOREWORD

#### Frame of Reference for this Report

This report, based on a survey of Tunisia made during the fall and winter of 1964-65, is submitted in partial fulfillment of USAID Contract AID/afr-198 dated June 2, 1964.<sup>1</sup> The study, undertaken at the request of AID, includes the following: (1) an assessment of available data concerning high-level manpower needs,<sup>2</sup> (2) an appraisal of the capabilities of indigenous African educational institutions to meet those manpower needs, and (3) a survey of opportunities for study overseas as they relate to high-level manpower needs.

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<sup>1</sup>This report is one of nine country studies, including Ethiopia, Guinea, Kenya, Liberia, Nigeria, Sudan, Tanzania, Tunisia, and Uganda. In addition, a summary report containing general conclusions and recommendations based on the individual country reports is being submitted to AID.

In December 1964 a three-man team, called the Long-Range Assistance Strategy Team, made a comprehensive study of the Tunisian economy and of human resource development in Tunisia. Parts of their report were available to Education and World Affairs and were used in the following country report. The conclusions reached by the EWA study committee are generally consistent with those of the earlier report.

<sup>2</sup>The term "high-level manpower" has been given different meanings. As used in this report, it includes (continued)

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The data and conclusions from this study are intended to provide information and guidance useful to the Bureau for Africa in the programming of technical and economic assistance, particularly with regard to institutional development. Although in general the study committee concludes that it is more important to proceed on the basis of information at hand rather than to conduct further studies, in countries like Tunisia, where the United States has a major commitment, the committee is convinced that USAID must concentrate additional effort on the formulation of its own overall strategy for the development of human resources.

The study director and members of the study committee are grateful to the many individuals in Tunisia and elsewhere who gave generously of their time, sharing their experience and providing advice and guidance. They particularly wish to thank members of the EWA staff who assisted directly in the preparation of this report: Sally V. Allen, Eugene Burgess, Patricia Mulvey, and Rhoda Pauley.

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two categories: (1) cadres supérieurs (or Class A) occupations, which are those requiring a university education or its equivalent and (2) cadres moyens (or Class B) occupations, which require two or three years of post-secondary training or its equivalent. Other categories which require less training were not examined closely, although some attention was given to middle-level cadres de base (or Class C) occupations, which require secondary school education or the equivalent.

## **INTRODUCTION**

### **Population Statistics and the Labor Force**

Tunisia, under French influence since 1881, gained its independence in 1956. It is the smallest country in North Africa, with an area of 48,300 square miles and a population of 4.5 million, according to a 1964 estimate.

This population is unevenly distributed in the country. There is a high concentration of people in the coastal areas, where the density varies from 100 to 150 inhabitants per square kilometer, while the inland regions of the south have only 5 inhabitants per square kilometer. The population growth rate is now officially estimated at 2.3 per cent per year, although 2.5 per cent (or higher) is probably a more realistic figure. Half of Tunisia's present population is 20 years old or younger, and 42 per cent are less than 14 years old. Consequently, its population is one of the youngest in the world.

The country's labor force includes only one-third of its total population, and this one-third carries the burden of supporting the rest.

The Exodus of Expatriate Residents. Europeans have played the most important role in developing Tunisia's modern sectors of agriculture and industry; but it is estimated that of the 255,000 Europeans residing in the country at the time of its independence, more than 75 per cent have since left, and only 55,000 now remain. As a result of nationalization policies -- including the Bizerte incident of July 1961, the sudden expropriation of foreign-owned agricultural properties in May 1964, and employment restrictions placed on foreigners -- there has been a constant exodus of Italians, Frenchmen, and other Europeans, Tunisian Jews, and a sizeable number of Tunisian Moslems who had dual citizenship and sought employment outside the country.

Planning authorities believe that another 7,000 Europeans will leave by 1971, and that the number of European residents will drop to 45,000 before rising through natural increase.

The Progress of Tunisification. While this large exodus has been taking place, many persons from neighboring countries -- primarily Algeria, Libya, and Morocco -- have emigrated to Tunisia. Attracted by the government's Tunisification policies, these people have resettled and filled most of the vacuum of numbers created by the heavy emigration of Europeans. In some cases, however, Moroccans and Algerians have been fired in the process of

**Tunisification.** Tunisians have now replaced almost all of the 15,000 Frenchmen formerly employed by the government, except for teaching positions where the number of Frenchmen has actually increased. Tunisification is almost complete in two other parts of the public sector: railroads and the electric power industry. Nonetheless, the mass exodus of Europeans dealt Tunisia a blow from which it has not yet recovered because the Europeans accounted for most of the highly skilled manpower in the country.

### Tunisia's Economy

Agriculture is the major economic activity in Tunisia, employing about 70 per cent of the labor force. But agriculture contributes only about 35 per cent of the national income, and in bad weather this contribution is reduced to less than 25 per cent. Public utilities, mining, and industry employ about 10 per cent of the labor force, and only half of these workers are in the modern sector.

Industry and construction combined account for 20 per cent of the national income, but almost all of their output is destined for local consumption. Mining contributes about 20 per cent of all exports; most of this percentage is phosphates.

The third sector of the economy employs about 9 per cent of the labor force and contributes about 45 per cent of the national income -- 30 per cent from commerce and finance, 8 per cent from administration, and 7 per cent from transportation and communication. Thus, the largest contribution to the national income comes from the sector that employs the smallest percentage of the nation's labor force.

## NATIONAL AND HUMAN RESOURCE DEVELOPMENT

### Development Planning

In January 1961, Tunisia formally established a general planning office, called the Secrétariat d'Etat au Plan et Aux Finances, to coordinate and assist development efforts. Shortly afterward the government prepared a ten-year development plan for 1962 to 1971. This ten-year plan included general long-range strategy. Specific projects and targets are given in two shorter-range plans, covering the periods 1962 to 1964, and 1965 to 1968.

The ten-year plan establishes justified priorities in the crucial sectors of the economy and launches bold social and economic experiments to test their value and costs. The three-year plan for 1962-64 and the four-year plan for 1965-68 (to be published within the next six months), are the instruments for applying this ten-year strategy.

#### Problems that Jeopardize Continued Growth

Under the three-year plan, which is now ending, the Tunisian economy has grown at a satisfactory rate. There are, however, four disturbing developments that have accompanied this expansion: (1) a disproportionately large part of this growth has taken place in the service industries; (2) many investments are not profitable and therefore too much of the growth over the past four years is simply the result of accelerated spending rather than of increased productive capacity; (3) the domestic savings ratio has not increased, and hence there has been considerable recourse to inflationary financing; and (4) Tunisia has lost much of its external reserves and is now in the midst of a balance of payments crisis. All of these developments, and particularly the insufficient increase in domestic savings, have contributed to this balance of payments crisis which could jeopardize further growth.

#### Manpower Needs Outlined in the Ten-Year Plan

The government's estimates of skilled manpower needs for the period 1962 to 1970 are given in the ten-year development plan. There are three principal skill categories, which are based on different levels of education. The first category is Class A, called cadres supérieurs in the plan. This category requires a post-secondary education. Class B, signifying cadres moyens, requires the baccalauréat or an equivalent diploma; and Class C, the cadres de base, requires some professional training in addition to primary schooling.

It is not clear whether the needs spelled out in the plan were those needs that the educational planners decided could be met over the ten-year period or were rational estimates based on figures from the 1956 census or even revised census figures. In any event, at this writing the government estimates are still considered valid and are accepted for the purposes of this report.

The following table summarizes the manpower requirements given in the plan for all three categories over the ten-year period.

TABLE I

MANPOWER REQUIREMENTS 1962-1970  
ACCORDING TO THE TEN-YEAR PLAN

Occupation	Class A	Class B	Class C	Totals
<b>Government:</b>				
Teachers (except agricultural)	5,900	13,300	...	19,200
Administrative Personnel	540	1,000	2,600	4,140
Agricultural Teachers, Engineers, & Agents	940	1,640	7,000	9,580
Professional, Technical, & Operational Personnel	<u>550</u>	<u>2,650</u>	<u>4,300</u>	<u>7,500</u>
<b>TOTAL: GOVERNMENT</b>	<b>7,930</b>	<b>18,590</b>	<b>13,900</b>	<b>40,420</b>
<b>Industry:</b>				
Engineers & Technicians	2,000	...	...	2,000
Doctors, Nurses, & Others	150	...	...	150
Lawyers	150	...	...	150
Accountants, Bankers, & Others	500	...	...	500
Artisans	...	1,000	10,000	11,000
Supervisors	...	11,000	...	11,000
Office Workers	...	5,900	20,800	26,700
Other Skilled Workers	<u>...</u>	<u>11,900</u>	<u>52,700</u>	<u>64,600</u>
<b>TOTAL: INDUSTRY AND COMMERCE</b>	<b>2,800</b>	<b>29,800</b>	<b>83,500</b>	<b>115,100</b>
<b>TOTAL REQUIREMENT</b>	<b><u>10,730</u></b>	<b><u>48,390</u></b>	<b><u>97,400</u></b>	<b><u>156,520</u></b>
Average Annual Needs	1,073	4,839	9,740	15,652

The statistics for the regular government ministries and permanent agencies in Class A are presumed to be fairly accurate. The figures for agriculture, commerce, and industry are less reliable in view of the large emigration of Europeans over the past five years, and the nationalization of public utilities, some foreign-owned enterprises, and all foreign-owned lands. Even the government has not been able to piece together the amount of its holdings or the number of management personnel in its commercial and industrial operations.

### Criticisms of the Plan's Manpower Estimates

#### Proposed Revision of Estimates for Agricultural Personnel.

Agricultural planners apparently feel that the manpower needs in agriculture have been grossly understated because the ten-year plan did not foresee the drain on agricultural manpower which was caused by the emigration of colons that followed nationalization. The ten-year plan estimated a total requirement of 940 agricultural personnel, of whom 220 were teachers and 720 were engineers. By April 1964, however, a report on higher agricultural education indicated only 152 agricultural personnel classified as cadres supérieurs were serving in the Ministry of Agriculture, and 57 of these were expatriates. Only 18 persons, of whom 11 were expatriates, were listed in higher-level agricultural schools. The same report placed the needs of Class A agricultural manpower between 1966 and 1971 at 1,850, or almost twice the number originally suggested for the ten-year plan period. Of this 1,850, some 470 will be needed as instructors in the various post-primary agricultural schools. And yet these same planners calculate that only 285 instructors will be available by 1972, which means that there will be a shortage of over 1,500. They estimate that this shortage will continue for at least 10 -- and perhaps 15 -- more years.

If this tentative revision of the number of cadres supérieurs needed in agriculture is adopted in the goals of the four-year plan, then the total manpower requirements for Class A must be raised from 10,720 to approximately 11,700 -- or 10 per cent more than was envisioned by the three-year plan in 1962. The estimated manpower requirements for Classes B and C would not need to be revised, according to the report cited above. However, the agricultural planners who authored this report expressed their doubt that the agricultural manpower needs of these classes listed in the ten-year plan can be filled in the allotted time.

The Loss of Expatriate Manpower. Another criticism of the ten-year plan is its failure to foresee that Tunisia's loss of qualified manpower through the departure of many expatriates over the past two years has been very high and that recent events are increasing such departures. The post-independence emigration deprived whole sections of the government, the educational system, industry, and commerce of their most capable and experienced personnel. Many key professionals in scientific, engineering, and technical fields, in addition to skilled and semi-skilled personnel in industry, found their environment less and less attractive and departed. The people who left made up one-third of the country's labor force that was engaged in nonagricultural work and supplied most of the high-level manpower needed in fields other than agriculture.

There is no apparent recognition of this void in manpower supply in the development plans published to date. And yet this void must be filled either by training Tunisian manpower in high-level institutions at home or abroad or else by inducing a new influx of expatriates. Such an influx would depend upon changes in economic policies. Certainly such policies as the September 1964 devaluation that resulted in a 25 per cent loss in purchasing power and the imposition of a wage freeze at the same time, make residence in Tunisia unattractive, although many expatriates are employed by external sources, like the IBRD and the FAO, and so are not affected. On the other hand, it may be argued that the employment of large numbers of expatriates, at least in the public sector, places a strain on the government budget. It is evident that Tunisia's need to continue employing a large number of expatriate teachers places a great burden on its education budget, a burden that cannot be shifted for some time.

#### Personnel for Industry and Commerce

Tunisian industry and commerce apparently do not need university-trained manpower as much as lower-level personnel. According to the administrative director of the Tunisian Union of Industry, Commerce and Trades, there is a great demand for the lower-level cadres moyens and higher-level cadres de base, but no need for university-trained persons. Other sources indicate, however, that business school graduates are badly needed and that professional economists and bookkeepers are not.

Manpower Supply

Size and Distribution of the Labor Force. The ten-year plan based its estimates of the present and future manpower supply on a total population in 1956 of 3,782,000 and a 2.1 per cent growth rate that was to taper off to 1.7 per cent for the last four years, 1968 to 1971. Studies in 1963-64 in preparation for the four-year plan (1965-68) suggest that the population is growing at a minimum of 2.3 per cent. Others suggest that 2.7 per cent would be a more realistic rate, and the experts privately adopt a midpoint of 2.5 per cent in their forecasts. Consequently, the plan supply figures may be slightly underestimated. The plan calculated that the active labor force was 33 per cent of the total population, and that the work force would total 1,390,000 in 1964 and 1,750,000 in 1971.

The distribution of skilled employees in Tunisia's non-agricultural sectors is higher than generally found in an under-developed country: 5.5 per cent of the total employees are in the cadres supérieurs, 20 per cent are in the cadres moyens, and the balance are semiskilled and manual laborers in the cadres de base. Here again is reflected the atypical nature of the Tunisian non-agricultural economy -- both before and after independence.

Manpower Distribution in the Three Sectors. In preparation for determining the parameters of the four-year plan (1965-68), Dr. E .L. Gosse, a manpower expert from the ILO assigned to the Tunisian government, verbally reported the manpower pool in June 1964 as:

Commerce and Industry.....	415,000 <sup>1</sup>
Agriculture (based on 1962 sampling).....	547,342 <sup>2</sup>
Government.....	<u>34,415</u>
<b>TOTAL.....</b>	<b>996,757</b>

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<sup>1</sup>Foreigners included in the private sector number 12,330. The number of females is estimated at 27,000.

<sup>2</sup>Included in the private sector are 911 foreigners.

Dr. Gosse gave the following breakdown of the agricultural sector:

Owners.....	165,963
Unpaid Family Workers.....	269,637
Paid Farm Workers.....	<u>111,742</u>
TOTAL.....	547,342

Similarly, the government total of 34,415 carries the following interesting detail:

Government Functionaries:

Class A ( <u>cadres supérieurs</u> ).....	2,645	and a shortfall of	666
Class B ( <u>cadres moyens</u> ).....	14,843	and a shortfall of	3,507
Class C ( <u>cadres de base</u> ).....	8,659	and a shortfall of	1,822
Class D (clerical).....	5,987	and a shortfall of	492
TOTAL <u>Cadres</u> ,.....	32,134	and a shortfall of	6,487

Grades 1-3.....	838	with a shortfall of	179
Grades 4-7.....	1,267	with a shortfall of	128
Grades 8-10.....	176	with a shortfall of	<u>48</u>
TOTAL.....	2,281	with a shortfall of	355

OVERALL TOTALS.....34,415 with a shortfall of 6,842

The shortfall figures represent current openings for which no qualified personnel are available.

The overall manpower picture is subject to wide variations, depending on who does the analysis and current population estimates and projections. It would appear that in the commerce and industry sector skilled personnel number about 60,000, roughly divided as follows: 14,000 in administrative and office work; 18,000 in technical, skilled, and crafts categories; and some 28,000 in the other skilled and semi-skilled categories. Apparently the four-year plan for 1965 to 1968 will forecast a 10 per cent annual increase in demand for employees in this sector, based on an expansion rate of 7 per cent and a 3 per cent replacement rate -- a growth rate not too high in view of economic measures that are envisioned.

Agricultural Manpower. The decline in manpower in the agricultural sector, caused in part by the exodus of expatriates, is dramatically illustrated below:

TABLE 2  
AGRICULTURE LABOR FORCE

Category	Work Force 1956	Employed 1962	Difference
Independent Farmers	251,000	166,000	--85,000
Family Workers	474,000	270,000	-204,000
Paid Farm Workers	<u>180,000</u>	<u>112,000</u>	<u>- 68,000</u>
TOTAL	905,000	548,000	-357,000

The large drop in farmers and paid farm workers of 153,000 cannot be explained by emigration and must be mostly due to government "LCSD" (Lutte Contre Sous-Développement) projects, which are similar to WPA activities of the early New Deal era in the United States. In other words, these male workers were counted out of the agricultural work force. The drop in unpaid family workers is attributed to the high enrollments of farm girls in the schools, but a more likely explanation is the decision not to count anyone under 20 as being in the work force. In 1962 the government estimated total unemployment for the country as 316,000 and included all workers on LCSD projects. Sharp drops have taken place in the number of these workers as projects are completed and funds for continuing old ones or mounting new ones have about run out.

Manpower Planning

Inadequate Data Available. The manpower situation in Tunisia has been studied by many experts, but existing manpower data is inadequate and detailed manpower data is lacking. Currently, graduates of any of the vocational and technical schools appear to encounter no difficulty in obtaining jobs; and for this reason the administration has given little thought to establishing procedures for gauging accurately the forces influencing the supply and demand of workers.

Lack of Coordination in Planning. There is no unified or coordinated approach to the manpower situation. The central government in Tunis, whether in education or manpower services, fails to distinguish between its responsibilities that require centralized machinery -- such as policy formulation, program development, technical services, evaluation, and appraisal -- and those functions which can only be carried out effectively on a decentralized basis -- such as operations, performance, and local coordination. Responsibility for manpower training, utilization, and employment is scattered among the Ministries of Agriculture, Commerce and Industry, Youth, Sports and Social Affairs, and Public Works. Such spreading of concern for manpower problems is probably healthy and should not be checked. It is important, however, that these various efforts be coordinated for effectiveness.

Within the Ministry of Plans and Finance, which exerts considerable financial influence, there are several units involved in manpower planning. These are linked together to a considerable extent, but they do not now operate in a positive fashion to plan or pass on plans to operating ministries. In normal planning efforts, the Ministry of Youth, Sports and Social Affairs, the Ministry of Education, or other departments propose projects, and the Ministry of Plans and Finance reviews the budget with a veto power. But the overall organization functions negatively; planning is in response to specific proposals rather than by initiative on a higher comprehensive level.

Planning problems are aggravated by the fact that within the Ministry of Youth, Sports and Social Affairs, inadequate emphasis and support have been given to manpower services. The Manpower Service Administration in the Social Affairs Ministry has a central role in the implementation of manpower program action but does not evidence sufficient recognition of the important role to be allocated to the Employment Service in efforts to improve the utilization of Tunisia's human resources. Moreover, in the central administrative offices in Tunis, and in the regional and local areas, there are inadequate staff resources, both quantitatively and qualitatively, to provide the labor market services -- such as employment counseling, job testing, recruitment, and placement -- which are essential to effective manpower development and utilization. This situation may arise from the failure to accord the necessary prestige to manpower services within the ministry. It may also result from improper understanding of the role of public machinery for manpower services as an instrument for advancing economic growth.

External Efforts to Assist Manpower Planning. USAID, the Ford Foundation, and the International Labor Organization are all interested in trying to develop a consensus on the manpower planning question, but specific programs have not yet been worked out. AID proposes an orderly and progressive increase in the number of local offices of the Tunisian Employment Service. The Ford Foundation is sponsoring two Danish technical assistants in the social affairs section of the Ministry of Youth, Sports and Social Affairs to help provide labor market services and to improve knowledge about Tunisia's manpower requirements before the educational system expands further.

## EDUCATIONAL CAPABILITIES

### Educational Planning

The ten-year plan for education predated the general economic plan by two years. The educational plan assumes that the country will have to devote the necessary resources to education or see development hamstrung by an insufficient number of qualified workers and supervisors. It is particularly noteworthy that the educational plan takes first rank within the general development plan. The planning office of the Ministry of Education is intimately tied into the General Planning Office through representation on all committees at all levels and by the government's recognition that the success of all economic planning is directly dependent on the results obtained by the educational system. In 1964, 26 per cent of the national budget was allocated to education.

The Reform of Tunisia's Educational System. The educational plan aimed for a complete reform of the educational system in order to make it conform to national aspirations, traditions, and current ideals after independence. The previous system had six different schools at the primary level and three at the secondary level. All were inspired by or simply transplanted from the French educational system, as were the language, methods, and even the manuals. The reform did not aim at diminishing French influence; it did "re-rationalize" it and added courses that reflected the best in Arab culture and Islamic thought.

More important, however, was the notion that the reform should follow a plan whereby the new system would not only increase enrollments at every level but would do so in accordance with the economic, social, and cultural needs of the country. There were three main objectives:

1. Creation of a unified school system with a distinct

national character.

2. Assurance of educational opportunities to all young Tunisians and, for the best students, continuation to the top educational level in order to provide the nation with adequately trained cadres.

3. Permanent adaptation of the system to the variety of national economic, social, and cultural development needs.

Primary schools were to have a six-year program similar for all children. Intermediate schools were to offer a three-year course combining general education with vocational training for students at the secondary level who did not intend to have further formal education. General secondary schools offered a six-year course, the second and third years of which had three options: general, industrial and commercial, and economics; the last three years were to be spent in more highly specialized areas of study. The aim was to prepare selected students for the technical and nontechnical cadres needed by the nation and to prepare those with the highest aptitudes for post-secondary education and higher cadres. At the post-secondary level efforts were to be made to have the highest competence in teaching and to contribute to scientific development and research.

Enrollment in the New System

The balance sheet of the educational system as of January 1, 1964, indicated a total enrollment of 691,918 students out of a total population of 4,500,000. The distribution of enrollments at the various levels was as follows:

TABLE 3  
SCHOOL ENROLLMENTS, 1964

Level of School	Education Ministry	Other Ministries	Foreign Schools	Free Schools	Total	Per Cent
Primary	593,059	...	8,524	9,371	610,954	88.2%
Intermediate	18,731	4,568	494	3,374	27,167	3.9%
Secondary	40,207	1,086	6,222	2,217	49,732	7.3%
Post-secondary <sup>a</sup>	<u>3,884</u>	<u>181</u>	<u>...</u>	<u>...</u>	<u>4,065</u>	<u>0.6%</u>
TOTAL	655,881	5,835	15,240	14,972	691,918	100.0%

<sup>a</sup>This excludes students on foreign scholarships.

The primary schools, as shown on previous page, account for 88.2 per cent of all enrollments, the intermediate for 4 per cent, the secondary for 7.3 per cent, and the post-secondary for 0.6 per cent.

Primary School Enrollment. If the present rate of growth of the primary school system is maintained, enrollments should reach the ten-year goals by 1966 or 1967. In 1957-58 enrollments totaled 310,000, in 1963-64 the total was 611,000, which means that there has been an annual increase of 50,000. The percentage of school-age population enrolled (ages 6-14) has increased from 41 per cent in 1958-59 to 88.2 per cent in 1964-65.

Problems Hindering Increased Enrollment. Certain problems are becoming more critical, such as the size of some schools in urban areas, and in other areas the long-distance travel required to reach higher grade levels. The enrollment of girls is still far from satisfactory, but the increase has been more rapid than that for boys. About one-third of all students are girls, and over 79 per cent of all schools are mixed. The number of women teachers is very low -- 632 out of 8,562, or 8 per cent. Although the question of mixed schools is a delicate subject in Arab countries, the problem has been slightly alleviated in Tunisia because of the recognition that separate educational opportunities for boys and girls would be unequal due to the low percentage of women teachers.

Progress Toward Universal Primary Education. Tunisia shows substantial progress toward the goal of universal elementary education, although the 100 per cent enrollment target date has been moved from 1966-67 to 1968 and may have to be further postponed because by 1971 school-age population will be 10 to 20 per cent more than originally envisaged. The basic obstacles preventing achievement of the universal enrollment goal are an inadequate teacher supply and diversion of increasing proportions of the education budget for teachers' salaries and construction costs.

#### Secondary Schools: The Collèges Moyens

The 1958 educational reform created collèges moyens designed to give a more rounded education to older primary school graduates who would go into craftsmanship or practice the basic technical skills. All primary school-leavers between 14 and 16 years old who pass a certain examination are directed to the collèges moyens.

There they have a limited choice among three separate courses of study: general, commercial, or industrial. Ideally, enrollments should be distributed in accordance with the needs of the economy -- with 20 per cent in general courses, 20 per cent in commercial studies, and 60 per cent in industrial courses. The enrollments do not now conform exactly to the percentages sought by the plan; they are 37 per cent in general, 16 per cent in commercial, and 47 per cent in industrial courses. As of January 1, 1964, there were 66 collèges moyens with 547 classes and 16,140 students (of whom 4,280 were girls). The wastage rate has been rather high: over 50 per cent of the students fail in their final examinations. Perhaps three years is too short a period for this level of education; some recognition of this possibility is seen by the addition of a fourth year for some specialized subject areas.

This type of short course at the secondary level would seem to be of real value to the Tunisian economy and might well have wider use in other underdeveloped countries. For qualified students who by age are not thought suitable for longer secondary courses, such schools should feed into the economy sorely needed manpower. However, until more data has been gathered from employers of the graduates, no evaluation of the efficiency of collèges moyens training can be complete.

#### Other Secondary Schools

The full six-year secondary educational system is comprised of four distinct types of schools unified by structure and program:

1. Collèges secondaires du premier cycle, which offer three years of special preparation for the second three-year period in a lycée. These schools are set up on a regional basis to facilitate access.
2. Lycées modernes, which offer a full six years of study.
3. Lycées techniques, which offer a five-year course of specialized teacher training.
4. Ecoles normales, which offer the last three years of secondary schooling plus one year of teaching training.

Expansion of the Secondary System. In order to expand the secondary schools in some measured pace with the primary enrollments, the Tunisian government has held fast to its schedule of expansion. As of January 1964 there were 66 collèges moyens, with 127 more to be opened by 1971, and 42 lycées and normal schools, with 40 more to be built -- all in accordance with a planned geographical distribution based on the estimated population distribution in the year 2000.

The rate of growth at the secondary level has been fairly consistent, from a total of 34,661 students in 1959-60 to 58,936 in 1963-64. The growth, however, has not been the same for all four schools, as shown in the following table.

TABLE 4  
SCHOOL ENROLLMENTS, 1959-1963

Types of Schools	1959-1960	1962-1963	1963-1964	1963-1964 Per Cent
Collèges Moyens	9,579	16,486	18,731	31.7%
Collèges Secondaires and Lycées Modernes	14,752	28,042	33,307	56.5%
Lycées Techniques	3,634	4,079	4,660	7.8%
Ecoles Normales	1,067	1,271	1,314	2.2%
Collèges Zeitouniens	5,629	1,655	928	1.5%
TOTALS	34,661	51,533	58,938	100.0%

It should be noted that the low number of students in the écoles normales does not indicate the number of students in teacher training. In 1963-64 there were an additional 1,403 students following normal courses given in the lycées modernes.

The Slow Growth of Enrollments in Technical Fields. The division of students between the collèges moyens -- which enroll one-third of the total -- and the lycées and écoles normales -- which enroll the remaining two-thirds -- is approximately in accordance with the educational plan. The slow growth of enrollments in the lycées techniques, however, is of great concern to the government.

Fewer girls continue their education through secondary schools. Whereas girls accounted for 33 per cent of primary enrollments, they made up only 24 per cent of secondary enrollments. Most girls are enrolled in the lycées, and only 16 per cent of the total female enrollment are in the teaching schools or teaching sections of the lycées.

The disparity between manpower needs and actual enrollments discussed previously under collèges moyens is even greater in other secondary schools. The plan suggested that 60 per cent of lycée enrollment should be in general, 20 per cent in commercial, and 20 per cent in industrial courses. The actual distribution of lycée enrollment in 1964 was 75.2 per cent in general studies, 13.4 per cent in commercial fields, and 14.1 per cent in industrial studies. Evidently, in both the collèges moyens and the lycées, most students are enrolled in general courses. Much of the difficulty in raising enrollments in industrial fields is due to a shortage of qualified specialized teachers and lack of professional practice. Almost three-fourths of the students in general and commercial courses are preparing for post-secondary schooling. Others are preparing for immediate entry into the economy. The plan foresaw that 20 per cent of the students should be preparing for the teaching profession, and this goal apparently is being carried out.

Facilities for technical training also include three grandes lycées at Tunis, Sfax, and Sousse, and a collège technique for girls at Tunis. The distribution of technical students by specialties is shown in the following table.

TABLE 5

DISTRIBUTION OF TECHNICAL STUDENTS

Specialties	Number of Students	Percentage	Number of Sections
Technical Mathematicians	440	24%	3
Electrical Technicians	228	12%	3
Electrical Engineers	99	6%	2
Mechanics	399	22%	3
Assistant Chemists	62	3%	3 <sup>a</sup>
Apparatus Attendants	39	2%	1 <sup>b</sup>
Technical Assistants	127	7%	1
Public Works Personnel	335	19%	2
Construction Personnel	17	1%	3
Textiles Personnel	<u>64</u>	<u>4%</u>	<u>2</u>
TOTALS	1,810	100%	24

<sup>a</sup>In all three lycées but not distributed equally by years.  
<sup>b</sup>Only at Sousse.

Only the mathematics section prepares students for post-secondary schooling and the largest concentration of students is found here.

Under the Tunisian secondary education system the schools are well distributed and the disciplines quite diversified. Schooling is provided for both sexes, and an effort is being made to respond to future manpower needs.

It remains to be determined whether: (1) graduates meet the needs of employers; (2) the collèges moyens can turn out future foremen and qualified workers; (3) the technical lycées can produce graduates for supervisory and technical positions; (4) those who fall by the wayside have enough education to be of some use; and (5) costs are reasonable.

### Post-Secondary Education

Technical Training. The International Labor Organization began assistance in 1963 to Rades Institute, which is now training vocational education instructors and management representatives in techniques for increasing productivity.

Agriculture. The Chott Maria Agricultural College near Sousse, begun in 1961 with the assistance of USAID, is an educational institution patterned on U. S. land grant colleges. Its ultimate objective is to establish a full college-level program leading to the equivalent of a B.S. degree, and it plans to have an enrollment of 1,000 by 1971-72. The completion of construction and the equipping of facilities for 500 students is planned for the beginning of the 1966-67 school year. The college is now operating at a collège moyen level. After it is fully equipped and staffed, the college will offer resident instruction in farming, extension programs, and short in-service training for farmers, government workers, and others. It will also offer training in applied agricultural research and will conduct studies on the organization and operation of cooperatives. It plans to prepare college-level graduates for positions requiring sufficient technical knowledge and skill to diagram agricultural problems, review agricultural research, plan and carry out agricultural development projects, and serve as extension supervisors.

Teacher Training. Secondary school teachers are trained in three places in Tunisia. Middle school teachers attend the Secondary School Teacher Training Institute, begun in 1964 under UNESCO sponsorship which will end in 1968. Plans call for the expansion of the institute so that it can also train teachers for secondary schools. It is expected that to some extent this institute will meet the need for middle school teachers in all subjects except technical ones. Regular secondary teachers receive upper-level training at the Ecole Normale Supérieure. There is, however, a quantitative gap, and the school is lagging behind in its preparation of teachers.

Teacher training for vocational schools under the Ministry of Social Affairs is conducted through the Rades Institute, mentioned above.

### The University of Tunis

The University of Tunis was formed in 1960 by incorporating numerous higher schools and research centers. The Zitouma University and the Institute of Higher Studies formed the basic faculties in the new university and contributed over two-thirds of its students in the first year. There are at present five faculties: letters, law, science, theology, and medicine; the latter was just inaugurated this year.

Affiliated Schools and Research Centers. In addition, there are five other higher schools joined to the university: the Ecole Normale Supérieure, the Ecole Normale des Professeurs Adjoints, the Ecole Supérieure des Etudes Commerciales, the Institut Bourguiba des Langues Vivantes, and the Ecole Supérieure de Droit. Also under university jurisdiction are four research centers: the Centre d'Etudes et de Recherches Economiques et Sociales, the Centre de Recherches sur les Problèmes de la Zone Aride, the Institut de Physique Atomique, and the Centre Didactique Audio-Visuel. The Ecole des Beaux-Arts was originally joined but was dropped in October 1962 for reasons that are not too clear. Apparently, its standards were not high enough to merit university-level rating.

University Facilities and Course Offerings. The university provides instruction up to the Bachelor of Arts or the Master of Arts in economics, law, liberal arts, medicine, political science, religion, sciences, and teacher education. The university is still building facilities which should be completed by 1971. At that time the university should be able to turn out most of the high-level manpower the country needs. The Tunisian government is moving ahead rapidly to select a new building site and to construct necessary classrooms, laboratories, and student housing facilities. USAID is aiding the expansion of the law faculty with a \$1,800,000 loan for the construction, equipment, and staffing of a complex which will include law, economics, and business administration. Plans predict that this expansion will enable the university to produce ultimately 200 top-level and 300 middle-level graduates a year with a student enrollment of 1,800 by 1970. Other countries assisting in the university's expansion are France, which is concentrating on the School of Sciences, and the USSR, which is aiding development of a School of Engineering that is not yet in operation.

Enrollment. The 1964-65 university enrollment totals 5,158 students, over 1,000 more than the 1963-64 post-secondary enrollment. Of this 5,158, 514 are foreigners, enrolled primarily in the letters, law, and science faculties. The current total enrollment is almost double that of 1960-61, the first year of the university's operation. At the present time 3,166 students are enrolled in the letters, law, and science faculties, and 467 (of whom only 8 are working for the almiya or diploma) are in the faculty of theology. Total enrollment is expected to reach a peak of 12,000 by 1971. A comparison of the 1963-64 and 1964-65 figures with the educational plan provisions, however, indicates that actual enrollments are exceeding expectations by more than one-third. The increase of students in letters, law, and the sciences, and in the new medical faculty has been continuous. It would also appear that the number of students following teaching careers is progressing in accord with the expansion of the primary and secondary school systems, although the quality of replacements for expatriates may be questionable.

The University's Faculty. The faculty of the university numbers 127, of whom 57 are Tunisians, 64 are Frenchmen, and 6 are other expatriates. Almost half of these instructors are in the faculty of sciences. There is no intention of reducing the number of expatriate teachers. In fact, the expansion plans of the university anticipate an increase in this number, although the number of Tunisians teaching at lower levels is expected to increase.

#### Agricultural Education at the University Level

At the time the university was founded, the Ecole Supérieure d'Agriculture, operating under the jurisdiction of the Ministry of Agriculture since 1898, was expected to join the university. For various reasons it did not, and it remains outside the jurisdiction of the Ministry of National Education. To date, this school has concentrated on preparing students for positions in the higher echelons of the Ministry of Agriculture. Its output is small and its teaching staff very thin because it has relied on borrowed faculty rather than on a regular staff of its own. It has a total of five faculty members, of whom only two are Tunisians.

The school offers three cycles: (1) one-year preparatory, (2) three years leading to a diploma of State Public Works or Engineering, and (3) two more years of specialization leading to the diploma of Principal Engineer.

The school has an enrollment of about 160 students spread over a three-year period. It has had great difficulty in attracting students, because most want to enter the University of Tunis or go overseas. Recruitment has been particularly difficult in the veterinary field.

Agricultural planners suggest that a faculty of 80 will be required if the school is to produce needed Class A and Class B manpower by 1980. Given the present small faculty and student body, the school's output of agricultural engineers will continue to be small, and yet most of these graduates will be needed as teachers rather than engineers to prepare the agricultural personnel that will be required by 1980.

#### Post-Secondary Graduates

The ten-year plan projected some 8,000 graduates from the post-secondary schools or about 800 per year. At the same time, the plan noted needs of an additional 200 graduates annually. The total number of graduates during the three years from 1961 through 1963, however, was only 152,226, or 341 each year, which is far below the annual requirements suggested by the plan. Of course, these figures do not reflect the high number of students on scholarships abroad and among whom the rate of graduation should be relatively higher than the 10 to 12 per cent ratio of graduates to total enrollments in the local system. Based on terminal class enrollment, the success rate in the Tunisian post-secondary system is much higher. And university authorities suggest that even a 12 per cent success rate of total indigenous enrollment will produce more than the required number of Class A personnel by the end of the plan period.

#### Training of Employed Manpower

It is essential that Tunisian manpower be utilized at its highest skills and capabilities. For this reason, proper orientation and counseling services must be provided to channel students toward academic schooling or vocational education at the correct time, to guide school-leavers in employment orientation, and to channel employed manpower into training and in-service courses when they are available and useful.

The ten-year and three-year plans emphasized the need to develop additional special training institutions to meet specialized skill needs. Many of these institutions might serve to train already employed or previously employed manpower.

Among those existing institutions listed by the plans were skill improvement centers, an electrical technicians school, a public health school, a civil aviation school, and a business and accounting school. In addition, a hotel school, a cooperatives personnel school, and a commerce and industry school with secretarial and skilled trades courses are planned but not yet established.

The National School of Administration. The National School of Administration is an example of a special training institution. Now in its first year of operation, the school is expected to play an important role in recruiting government personnel at all three levels, particularly by upgrading the existing service corps. There is an admissions examination at three levels of entry to the school. The least qualified entrants are recruited after the second baccalauréat, and they also must be admitted to the university. The top level of entrants is very small in number and is restricted to those who have completed the licence. These students are given three years of additional training and then are destined for top administrative positions working with the governors of the provinces. By 1968 it is expected that the entering group at the lower level will total 200, at the middle level 90, and at the highest level 10.

The faculty consists of four or five expatriates, some Tunisian administrators on a part-time basis, and short-term lecturers from other countries. USAID is assisting with help in English classes.

### Scholarship Administration

Selection Machinery. An interministerial Commission des Bourses, which meets annually for six weeks in the summer, reviews all applications for both internal and external scholarships. The commission selects candidates in so far as possible on the basis of (1) the supply of persons with second degree specialization and (2) the needs of employers and the ministries. When a student enters training, he is registered for employment in a given area. If a student goes abroad, he is bonded for a ten-year period on his return; the period of bondage is probably less (about five years) for recipients of internal scholarships. The bond no longer applies if a student relinquishes his scholarship. A prospective employer may reimburse the government for the scholarship costs after five years of bondage have been completed, and then the bond no longer applies. At the University of Tunis about 20 to 25 per cent of the students are nonsponsored. Almost all of the students abroad, however, are sponsored.

Registry of Students. There is a registry of students. The records, kept by the Chef de Service des Bourses in the Ministry of Education, are thought to be quite complete reports on students, their field of specialization, place of study, and expected date of graduation.

External Financial Assistance to Students. A variety of international scholarships are offered to Tunisians for study abroad. These include: (1) 600 to 700 French scholarships for education (mainly at universities) and technical training; (2) 28 Yugoslavian training scholarships, 12 of which are in agriculture, made available on a grant basis; (3) educational scholarships in Belgium; (4) Dutch support for 400 persons to be trained in livestock husbandry in the Netherlands; (5) Italian support for 80 to 100 university and technical scholarships -- the latter concentrate on agricultural mechanics, hotel management, and agriculture; (6) participant training in the Polish textile industry; (7) the United States AID participant training program; and (8) the ASPAU program in the United States.

Tunisian Financial Assistance to Students. Most post-secondary students studying in Tunisia are either on full scholarship or are eligible for loans called prêts d'honneur. The ten-year plan directed that both these loans and government scholarships be strictly controlled, so that there will be a proper balance among enrollments in the various faculties and the various higher schools. Possession of a baccalauréat is not to be the entry card to any course of study at the post-secondary level. Emphasis is given to the sciences, economics, medicine, engineering, agronomy, and veterinary practice.

A 1957 law provided for Higher School National Scholarships (bourses nationales d'enseignement supérieur) and empowered the Ministry of National Education to grant whatever number of scholarships in particular fields appeared desirable in order to meet Tunisia's needs for high-level manpower. A special commission in the Ministry of Education nominates the students on the recommendation of the various ministries concerned with the recruitment of Class A manpower in particular. A student, of course, must qualify by having his full baccalauréat and passing an entrance examination. He must further follow a prescribed course of study and is bound to serve his nominating ministry for five to ten years following termination of his studies. No student will be authorized to go abroad on a scholarship for which courses are available in Tunisia. The scholarships are given for one year and

are renewable. Also there are special scholarships available for those going into teaching.

The prêts d'honneur, which cover all basic costs and carry no interest, must be repaid over a fifteen-year period, beginning ten years after termination of study. Such loans are valid for study abroad as well as in Tunisia but are subject to the same limitations as scholarships with regard to fields and country of study. If students receiving such loans agree to teach in the national schools, all repayments are cancelled .

## OVERSEAS STUDY

### The Number of Tunisian Students Abroad

There were an estimated 3,062 Tunisians studying in 19 countries during 1963-64, but most of these students were in France, which had 80 per cent of the total, and Belgium, which had 5 per cent. The number of government scholarships was 2,835. There were more than three-fourths as many students abroad as were enrolled in Tunisian post-secondary schools in January 1964. Of the students abroad, 1,123 were in technical fields, 800 were in teacher training, 492 were in medicine, 415 in law and economics, 111 in cultural fields, and 121 in other disciplines. The estimated yearly average of Tunisians who will study abroad during the years 1965-68 is 490.

Because enrollments at the University of Tunis are running so high and because the university will probably be able to fill most of the country's high-level manpower needs within seven years, a drastic cutback is to be made in the number of students going overseas. It is probable that in the future not more than 150 students per year will study outside Tunisia. These students will be only those who are unable to pursue their fields of study in Tunisia and whose fields relate to Tunisian needs. Most of these students will probably be studying agronomy, engineering, or medicine.

### U.S. Sponsorship of Students

There were 53 Tunisians studying in the United States during 1963-64, of whom 18 were in engineering and 12 were in agriculture. There were 16 graduate and 7 special students among these, and 33 were sponsored by the U.S. government. Only one Tunisian has studied

in the United States under the ASPAU program, and he was recently repatriated. Although ASPAU has been interested in sponsoring Tunisian students, procedural reasons have made it impossible to increase the program. No Tunisians have studied in the United States under the auspices of AFGRAD.

The AID participant training program sponsored 158 Tunisians for study in the United States and in third countries during FY 1963 and 118 during FY 1964. Sixty-four of the 70 Tunisians studying exclusively in third countries during FY 1963 were receiving agricultural training in France, Italy, Morocco, and the Netherlands. During FY 1964, however, only 18 students were receiving agricultural training, and they were enrolled in the United States; 38 others were in education and 23 in public safety. Most training has been done at the request of the Ministry of Planning, the Investment Bank (SNI), or the University of Tunis, and participants are being trained for definite employment with the requesting organizations. Only four Fulbright awards were made in 1963: two for university teaching and two for advanced work in economics. Five out of fifteen applicants were selected for 1964-65. All candidates, however, are for advanced work in English and economics.

#### Students in the United Kingdom

During 1963-64 only three Tunisians were enrolled for full-time study or research in U.K. universities; all of these were at the undergraduate level. One was studying the arts, and two, social sciences. The total number of Tunisians in the United Kingdom for 1963-64, including those at post-secondary institutions, was 18.

#### Students in West Germany

During the summer semester of 1963, 87 Tunisians studied in West Germany; 24 of these were in medicine. During the winter semester of 1963-64, 98 Tunisians studied in West Germany, and 30 of these were in medicine.

### MANPOWER BALANCE SHEET

#### The Manpower Supply-Demand Equation

On the basis of the manpower demand figures developed earlier for Class A and without reference to the special agricultural situation, the supply side of the equation for high-level personnel is considered to be well over 40 per cent ahead of schedule.

The Tunisian planning office offers the following calculations which are a summary of the table found in Appendix.

	<u>Average Annual</u> <u>Target,</u> <u>1962-1971</u>	<u>Average Annual</u> <u>Production,</u> <u>1965-1968</u>	<u>Difference</u>
Class A	1,073	1,525	+ 452
Class B	4,839	3,438	- 1,445
Class C	9,890	4,745	- 5,145

It is obvious that the Class A potential output is in excess of the planned needs. In fact, steps will have to be taken so as not to unduly drain the number of secondary school graduates who should go into the Class B category. On the other hand, there will be serious shortages of Class A personnel in certain specific areas. At least four groups of occupations requiring high-level educational attainment have been especially affected by the emigration of non-Tunisians: medical and health care occupations, teaching, engineering, and business management. Education and training in these fields is seriously hampered by the lack of teachers.

#### Shortfall in Agriculture

In addition, the shortfall in agriculture at the highest level is almost catastrophic. The nationalization of foreign-owned lands in May 1964 deprived Tunisia of a large part of its trained personnel in the modern agricultural sector. While the ten-year plan suggested that the Ecole Supérieure Nationale d'Agriculture de Tunis could produce 235 graduates over the next ten years, this number could be increased to 540 with forced draft and growth of faculty and equipment. Even this total, however, is still far short of the 1,850 now considered necessary for Class A agricultural manpower.

#### Greatest Needs at the Middle Level

The need for major across-the-board increases in Class B and C personnel -- both in numbers and quality -- is evident. The shortages in middle-level manpower and skilled worker classifications are very serious. The problem of replacing expatriates in these categories, who continue to emigrate, adds to the gravity of the situation.

Serious shortages impeding economic expansion are found in the subprofessional occupations: laboratory, medical, dental, and nursing technicians, as well as engineering aides and technicians. Perhaps the most immediate occupational shortages related to industrial development are in the middle management group -- which lacks supervisors and foremen. Recommendations for priorities in USAID programming are discussed in the following pages.

## CONCLUSIONS

### The Need to Establish Priorities

The Education and World Affairs study committee's recommendations, listed on the following pages, are based on recognition of the need to establish development priorities within an integrated framework. Such a framework is necessary to provide an overall strategy of human resource development and to insure an effective AID assistance program in Tunisia. Instead of a piecemeal approach to national development and assistance in response to individual requests, AID should plan its own development strategy for Tunisia so that its supplementary assistance will be based on the appropriate selection of important sectors, programs, and institutions. The Agency must work out its own priorities as an external donor and be firm in its commitment to these priorities.

### Assumptions

The development priorities established by the committee are based upon the following assumptions:

1. That continuous consultation with appropriate agencies of the Tunisian government will be necessary to insure that USAID's strategy is closely geared to Tunisia's changing needs.

2. That the report of the Long-Range Assistance Strategy Team, which made an intensive study of the Tunisian economy and Tunisian human resource development in December 1964, will be carefully considered by USAID. The conclusions reached by the EWA study committee are generally consistent with those of the LAS report.

3. That the loss of skilled, technical, and professional manpower in other fields besides education through the continuing exodus of foreign residents has been tremendous, and that it has not been possible to replace this personnel adequately.

### Priorities in Manpower Development

The greatest shortage in any single category of Tunisian manpower is in agricultural personnel. In a published report agricultural planners have estimated that by 1972 there will still be a shortage of 1,500 Class A (high-level) agricultural personnel, and that it will take 10 to 15 years to overcome this shortage. According to these planners, it is also improbable that the Class B

(middle-level) and Class C (lower-level) agricultural manpower needs set forth in the Tunisian government's ten-year plan can be met during the target time.

The greatest need in all categories is for middle-level personnel. The civil service, and industry and commerce no longer need large numbers of university-trained personnel. The greatest demand in these sectors of the economy is for Class B and the higher level of Class C personnel. There are serious shortages in the following subprofessional occupations: laboratory, medical, dental, and nursing technicians; and engineering aides and technicians. The most immediate occupational shortages affecting industrial development are in the middle management groups, which lack supervisors and foremen. Much of the responsibility for developing middle-level personnel will have to be assumed by the employing institutions.

Lower priority should be assigned to university-trained personnel, except for those in agriculture, business management, engineering, medicine, and teaching.

#### Educational Capabilities

The least adequate aspect of the Tunisian educational system has been the secondary level, especially in its technical education. At present the secondary schools do not supply enough students both to fill the university's seats and to meet the country's need for middle-level skills. Any improvement in the quality of secondary education will depend on quality at the primary level. Emphasis on quality at both levels would mean a slower rate of expansion than that presently planned, but it would probably reduce wastage at all levels. The quality of teaching at these lower levels needs to be improved through ~~more~~ teacher training and greater use of teaching aids.

Inadequate facilities for in-service training and adult and extension education exist at present, including facilities of employing institutions. Better facilities are needed to upgrade employed manpower for the lower- and middle-skill echelons. The government should shift part of its burden for this training to private industry.

The most highly developed educational facilities, as planned, are at the university level. The University of Tunis has extensive facilities, a growing enrollment, and a promising staff. By 1971

the university should be able to provide most of the high-level manpower that the country needs except in engineering, medicine, and a few other specialized categories.

### Recommendations

#### 1. Further Concentration on Sector Studies

The committee recommends that USAID, where appropriate, assist Tunisian efforts to improve planning procedures and to establish development priorities. Further studies for the next several years should concentrate on key sectors, such as industry, and should reassess earlier targets for agricultural manpower development.

#### 2. Concentration on the Development of Middle-Level Manpower

The committee recommends that AID accord first priority to the development of middle-level manpower in Tunisia rather than to high-level manpower. Primary consideration should be given to upgrading employed manpower. Attention to higher-level educational institutions should not be allowed to work against the need to produce more of the Class B manpower that is needed.

Employment incentives must also be considered in attracting middle-level manpower to nongovernmental fields. Incentives already exist -- with an overall detrimental effect -- in the government, where remuneration for employees depends on educational achievement. Salary scales are fixed in such a manner that higher education is attractive, especially when free education is available to all. Every effort should be made to modify these salary scales -- which unduly favor employees with the highest degrees -- so that policies to channel manpower into areas of greatest need can be more effective.

Information about employment opportunities for Class B manpower should be made available in secondary schools. This may help to reduce the imbalance between the actual overenrollments in general studies as compared to the target enrollments envisaged in the ten-year plan.

#### 3. Support for Secondary Education

The committee recommends that USAID concentrate its efforts in secondary education on teacher training and the development of a well-balanced curriculum providing both for immediate entry into middle-level occupations and for continuation in advanced training. Greater attention should be paid to the teaching of English as

a second language, and AID should consider developing in Tunisia a model for techniques of English language teaching.

4. Continued Support for Agricultural Training

The committee recommends that AID continue its support for the Chott Maria Agricultural College. If present plans to increase the college's enrollment by approximately 250 per cent by 1967-68 succeed, the gap between supply and need for high-level agricultural manpower will be greatly reduced. French-speaking personnel should be added to the faculty wherever possible.

The supply of agricultural manpower could also be increased through more rational organization of responsibility for training. The obvious difficulties of the agriculture ministry's efforts to build a viable university-level faculty indicate that AID should use its good offices to solve the jurisdictional conflicts which have prevented a sound relationship of the agricultural school to the university.

5. Upgrading Employed Manpower Through More In-Service and Adult Training

The committee recommends that USAID make every effort to place greater emphasis on upgrading employed manpower through in-service training programs sponsored by the Tunisian government or employing industry. Government expense for manpower development would be lowered if industrial and commercial enterprises were required to initiate or expand training geared to national needs in the lower- and middle-skill echelons. This should enable the government to assume greater responsibility for adult education in other fields. This sharing of responsibilities would also make it possible for the government to convert existing post-primary and post-secondary training centers into training institutes linked with in-service and on-the-job training, as well as with extension education.

USAID should make every effort to encourage liaison between the many training activities of the various ministries.

6. Fulfillment of Present Commitments to the University of Tunis

Current USAID assistance to the University of Tunis appears to be soundly based on the university's greatest needs. The USAID commitment to develop physical facilities for the law, economics,

and business administration complex will help to create an adequate plant. AID should be concerned that there are enough teachers for these new fields.

Because the business sector in Tunisia is basically French in traditions and practice, considerable thought should be given to the kind of business administration curricula to be established at the university. Actually, the needs in this area would fall most closely under the field of applied economics. Training should concentrate on the development of the tools of economic analysis, statistics, and accounting. Courses should also lead to a familiarity with Tunisian economics in the larger framework of Maghreb community and international relationships. The program should be initiated at the advanced management level and then expanded to include lower levels. The choice of curricula and staff -- including the recruitment of qualified personnel in France -- should, therefore, be carefully considered.

The committee recommends that AID be prepared to consider staffing help if it proves to be needed at the University of Tunis. However, the major focus of AID assistance should be at the pre-university level.

#### 7. Emphasis on Postgraduate Overseas Study

The committee recommends that AID continue its participant training program for Tunisians. Consideration might be given to increasing assistance for agricultural training, particularly as it relates to research and the provision of teachers. USAID's use of third country resources should be carefully reevaluated, since proficiency in the French language is essential for teaching or counterpart training.

The committee recommends that AID give greater priority to graduate study in key fields. AID should provide some financial support to Tunisians for advanced study in the United States or elsewhere in high priority fields, such as education, medicine, engineering, and agriculture.

## SELECTED BIBLIOGRAPHY

This study has been based principally on information obtained through personal observations and interviews and upon documentary information not available for distribution. The following bibliography is limited to items that are particularly relevant to the terms of reference of this study. Those items marked by an asterisk (\*) are available in the library of Education and World Affairs, 522 Fifth Avenue, New York City.

### National Development

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\_\_\_\_\_. Secrétariat d'Etat au Plan et aux Finances. L'Economie de la Tunisie en Chiffres, 1963. Tunis, Tunisia: Imp. S.T.A.G., 1963. 31 p.\*

A statistical summary; includes figures for population, school enrollments, health services, agriculture, industry, finance, and commerce.

\_\_\_\_\_. Secrétariat d'Etat au Plan et aux Finances. Division des Affaires Sociales et de la Formation des Cadres. Services des Statistiques. "La Population de la Tunisie, Mai 1964." Tunis, Tunisia: 1964. 48 p. (Mimeographed.)\*

A statistical summary of data on the Tunisian population, including birth and mortality rates, growth projections, and breakdowns by religion and age.

Manpower Studies

Long-Range Assistance Strategy Team. "Manpower Resources and Economic Growth in Tunisia." Prepared by Louis Levine. Tunis, Tunisia: December 11, 1964. 52 p. (Mimeographed.)\*  
Discusses human resource development from Tunisian independence through the three-year plan period and outlines the major problems in manpower utilization and development from 1964-71, including unemployment, inadequate manpower data, insufficient education and vocational training, and loss of skilled foreign nationals. Proposes a course of action, including better planning methods in manpower programs for the unemployed, improvement of the school system, and expansion of teacher training. A strategy for U.S. assistance to manpower development is also discussed.

Tunisia. Gouvernorat de Tunis et Banlieue. Bureau Public de Placement. Dourse du Travail. "Statistiques de la Main-d'Oeuvre Etrangère Arrêtées le 18 Septembre 1961." Tunis, Tunisia: Gouvernorat de Tunis et Banlieue, 1961. Annexe No. 3. 2 p. Annexe No. 4. 1 p. (Mimeographed.)\*

A list of foreigners who left Tunisia in September 1961, broken down by occupation and by nationality.

\_\_\_\_\_. Ministère d'Agriculture. "Elaboration du Plan Quadriennal: L'Enseignement Agricole, Enseignement Secondaire et Moyen, Plan du Travail." Tunis, Tunisia: 1964. 20 p. (Mimeographed.)\*

A discussion of the agricultural needs according to the four-year plan and recommended courses of action to expand and improve agricultural education.

\_\_\_\_\_. Ministère d'Agriculture. Sous Comité de l'Enseignement Agricole. "Rapport du Groupe de l'Enseignement Supérieur Agricole." Tunis, Tunisia: 1964. 5 p. (Mimeographed.)\*

A discussion of the formation of agricultural cadres in 1964 with projections for increasing agricultural manpower in 1965-68.

\_\_\_\_\_. Présidence du Conseil. Service Tunisien des Statistiques. "Recensement des Entreprises de Plus de 50 Salariés, Situation au 1er Avril, 1955." Information obtained from the Ministry of Social Affairs (Service de la Main-d'Oeuvre). Tunis, Tunisia: 1955. 9 p. (Mimeographed.)\*

A series of tables showing the distribution of manpower in Tunisian business firms with more than 50 employees.

\_\_\_\_\_. Secrétariat d'Etat au Plan et aux Finances. "Circulaire No. 6, Concernant les Perspectives d'Emploi dans le Plan Quadriennal, 1965-1968." Tunis, Tunisia: 1964. 4 p. (Mimeographed.)\*

An examination of employment problems. Includes the summary of employment by sector as projected in the four-year plan for 1965-68.

\_\_\_\_\_. Secrétariat d'Etat au Plan et aux Finances. "Besoins en Cadres et en Main d'Oeuvre Qualifié dans 5 Grandes Activités Economiques (Plan Quadriennal, 1965-68)." Tunis, Tunisia: 1964. 4 p. (Mimeographed.)\*

These tables outline the manpower needs under the four-year plan by cadres and economic activity.

United Nations Educational, Scientific and Cultural Organization. Mission to Tunisia, 1961. "Formation Technique at Développement Economique en Tunisie" extracts from A discussion of employment perspectives from 1961 to 1966 in Tunisia. \*

United States. Agency for International Development. Mission to Tunisia. Support Papers on Manpower and Educational Planning in Tunisia Prepared for the LAS Team. "Support Paper Number I: The Role of Manpower in the Economic Life of the Nation." "Support Paper Number II: Population and Work Force Development in Tunisia." "Support Paper Number III: Education and Training." "Support Paper Number IV: Inventory of Current and Proposed Programs of Assistance to Manpower Development." Tunis, Tunisia: USAID/Tunis, 1964. (Mimeographed.)

These four papers were prepared to provide background information for the Long-Range Assistance Strategy Team that visited Tunisia under AID auspices in December 1964. The papers are comprehensive and give a clear picture of Tunisian economic, manpower, and educational developments.

### Educational Capabilities

#### General:

American Universities Field Staff. Reports Service. North African Problems and Prospects; Part III: Language and Identity, by Charles F. Gallagher. North Africa Series, Vol. X, No. 5 (June, 1964). 20 p.\*

A discussion of the language problems in the Tunisian educational system, with specific reference to teaching.

Micaud, Charles A. "Tunisia: Education and Integration." Paper prepared for the University of Denver Centennial Celebration, 1964. Denver, Colorado: University of Denver, 1964. 10 p. (Mimeographed.)\*

Deals with the relationship of social opportunity to the educational system. Micaud proposes, among other things, that social science instead of philosophy be included in the secondary curriculum.

Tunisia. Secretary of State for National Education (Secrétariat d'Etat à l'Education Nationale). "A Ten Year Prospect of School Attendance." Translated from "Perspective Décennale de Scolarisation (1959-60 - 1968-69)" by the education division, USOM/Tunis, July, 1959.

A summary of the Tunisian government's ten-year projection for school enrollments during the period 1959-69.

\_\_\_\_\_. Secrétariat d'Etat au Plan et aux Finances. "Statistiques de l'Enseignement en Tunisie, Année 1962-63." Tunis, Tunisia: 1962. 39 p. (Mimeographed.)\*

A statistical summary of school enrollments at all levels; includes breakdowns of Tunisian and foreign students, urban and rural school enrollments, and wastage rates.

#### University Education:

Tunisia. Secretary of State for National Education (Secrétariat d'Etat à l'Education Nationale). "Study of the Creation of the Tunisian University. Translation by the education division, USOM/Tunis, July, 1959. 26 p. (Mimeographed.)\*

A summary of the higher educational institutions existing in Tunisia in 1959 and the proposal for the development of the national university.

\_\_\_\_\_. University of Tunis. "Statistiques, 1964-65." Tunis, Tunisia: University of Tunis, 1964. 3 p. (Mimeographed.)\*

\_\_\_\_\_. University of Tunis. "Statistiques, 1963-64." Tunis, Tunisia: University of Tunis, 1963. 5 p. (Mimeographed.)\*

Enrollment data for the various faculties of the university, with breakdowns showing number of Tunisian and foreign students. 1963-64 statistics also include breakdown of instructional staff and certificates awarded in 1962-63.

Overseas Study

Potter, Dalton. An Evaluation of the Agency for International Development Participant Training Program in Tunisia, Final Report. Tunis, Tunisia: AID/Tunis, April, 1964. 35 p. + appendix.

A survey of the participant training program, 1957-1962, based on interviews with 454 returned participants. The report shows that most participants returned to jobs planned for them beforehand, used their training, and were satisfied with their training. However, the report listed specific criticisms of the participant training program and is apparently quite controversial.

Institute of International Education. Open Doors, 1965: Report on International Exchange. New York, New York: Institute of International Education, June, 1965. (Issued annually.)\*

The most recent statistics on foreign students in the United States. Annual reports from 1960-65 were used in this study.

United States Agency for International Development. Mission to Tunisia. "AID Participants Receiving Academic Instruction in the United States as of May 30, 1964." Tunis, Tunisia: USAID/Tunis, 1964. 2 p. (Mimeographed.)\*

A list of participant trainees in the United States, their fields, places of study, and degree expected.

APPENDIX

Post-Elementary Enrollments 1963-64 by Field and Level, with Estimated Annual Graduates, 1965-68

<u>Middle Schools</u>	<u>Duration (Years)</u>	<u>Enrollment</u>	<u>Estimated Average Annual Output</u>	<u>% of Success Estimated</u>
General	3	6,486	713	33
Commercial	3	3,034	334	33
Industrial	3	<u>9,211</u>	<u>1,013</u>	33
Total		13,731	2,060	
<u>Secondary</u>				
Teacher Training	6	6,335	478	40
Letters, S.M.	6	20,908	1,464	40
Economic	6	5,629	394	40
Technical	6	<u>6,335</u>	<u>478</u>	40
Total		40,207	2,814	
<u>Higher (U.Tunis)</u>				
Letters	4	765	153	50
Law & Economics	4	792	153	50
Science	4	764	153	50
Theology	4	467	93	50
Teacher Training	4	292	58	50
Commercial	4	83	17	50
Middle School Teacher Training	2	<u>721</u>	<u>233</u>	50
Total		3,384	920	
<u>Abroad</u>				
Technical	5	1,123	190	80
Medical	6	492	50	60
Teacher Training	4	900	160	80
Cultural	4	111	13	30
Law & Economics	4	415	84	30
Other	4	<u>121</u>	<u>18</u>	60
Total		3,062	490	

**APPENDIX**  
(continued)

<u>Public Health</u> (Class B-level)	<u>Duration</u> (Years)	<u>Enrollment</u>	<u>Estimated</u> <u>Average</u> <u>Annual Output</u>	<u>% of</u> <u>Success</u> <u>Estimated</u>
Nursing	2	171	77	90
Public Health				
Nurses	1	141	123	90
Midwives	1	113	12	90
Social Workers	3	7	5	90
Anesthetists	1	7	6	90
Pharmaceutical				
Assts.	1	7	6	90
Lab Assts.	2	<u>17</u>	<u>7</u>	90
Total B		373	236	
(Class C-level)				
Social Assts.	1	31	28	90
Kindergarten				
Teachers	1	29	26	
Nurses Aides	2	<u>312</u>	<u>140</u>	
Total C		382	194	
Total B & C		755	430	
<u>Middle Schools</u>				
<u>Agriculture</u>				
Higher	4	135	27	50
Secondary	3	244	64	30
Middle	3	1,670	224	40
Trades	2	1,250	375	60
Abroad	4	<u>263</u>	<u>50</u>	30
Total		3,562	740	
<u>Physical Education</u>				
<u>Teachers</u>	1	100	30	30
<u>Civil Aviation</u>				
Class B				
Technicians	1	58	35	60
Class C				
Technicians	1	<u>35</u>	<u>20</u>	60
Total B & C		93	55	

APPENDIX  
(continued)

<u>Public Administration</u>	<u>Duration (Years)</u>	<u>Enrollment</u>	<u>Estimated Average Annual Output</u>	<u>% of Success Estimated</u>
Higher	3	9	3	100
Middle	4	76	16	80
Elementary	2	<u>87</u>	<u>27</u>	60
Total		172	46	
<u>Business &amp; Accounting</u>				
Secretarial	2	51	23	90
Asst. Accountant	2	<u>63</u>	<u>30</u>	90
Total		114	53	
<u>Cooperative Management</u>				
Managers	2	46	20	90
Asst. Managers	1	48	44	90
Ag. Coop. Managers	1	<u>60</u>	<u>54</u>	90
Total		154	113	
<u>Public Works Technicians</u>				
Bridges & Roads	1	17	16	90
Construction	1	20	13	90
Hydraulics & Ag. Machinery	1	21	19	90
Surveyors	1	23	20	90
Transportation	1	<u>13</u>	<u>12</u>	90
Total		94	35	
<u>Trades Training</u>				
<u>FPA</u>				
Shoemakers	1	30	30	100
Tailors	1	60	60	100
General <sup>a</sup>	1	60	55	90
<u>CPA</u>				
Auto Mechanics	1	60	55	90
Railway Maintenance	1	46	42	90
Electrical	1	<u>75</u>	<u>70</u>	90
Total		331	362	

<sup>a</sup>Annual production does not take into account new centers to be opened or opened in 1964 (e.g. Menzel Bourguiba, Sousse, Le Kef, and the like).

APPENDIX  
(continued)

<u>Middle Schools</u>	<u>Duration (Years)</u>	<u>Enrollment</u>	<u>Estimated Average Annual Output</u>	<u>% of Success Estimated</u>
Pre-Apprentice	1	630	620	90
Apprenticeship	0.5	<u>620</u>	<u>600</u>	90
Total		<u>1,300</u>	<u>1,220</u>	
Total Trades Training		1,631	1,582	

<u>Summary</u>	<u>Average Annual Output 1962-71</u>	<u>Average Output 1965-68</u>	<u>Difference</u>
Class A	1,073	1,525	+ 452
Class B	4,839	3,438	- 1,445
Class C	9,390	4,745	- 5,145