

Report No. 274a-TUN

The Economic Development of Tunisia

Volume III: Annex—Tourism and Infrastructure

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EMENA Region
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CURRENCY EQUIVALENTS

Currency Unit = Dinar = 1000 millimes

With effect from 1955

US \$1.00 - 0.42 Dinar
Dinar 1.00 = US \$2.381

With effect from September 28, 1964

US \$1.00 - 0.52 Dinar
Dinar 1.00 - US \$1.90

With effect from December 20, 1971

US \$1.00 - 0.48 Dinar
Dinar 1.00 - US \$2.08

With effect from February 1973

US \$1.00 - 0.44 Dinar
Dinar 1.00 - US \$2.27

UNITS AND WEIGHTS AND MEASURES: METRIC

British/U.S. Equivalents

1 m	=	3.28 ft.	1 m ton	=	0.981 g. ton
				=	1.1 US sh. ton
1 m ²	=	10.76 sq. ft.	1 kg	=	2.2 lb.
1 km	=	0.62 mi.	1 litre	=	0.22 gal.
1 km ²	=	0.386 sq. mi.		=	0.26 US liq.gallon
1 hectare	=	2.5 acres	1 m ³	=	1.31 cubic yards

THE ECONOMIC DEVELOPMENT OF TUNISIA

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16. THE TRANSPORT SECTOR: STRUCTURE, PROBLEMS AND PROSPECTS

A. The Transport Infrastructure

16.1 On becoming independent in 1956, Tunisia inherited a relatively well developed transport system. Few additions were made until 1968-1969, when major improvements to ports, railways, highways and airports were undertaken in the light of the recommendations of a transport survey carried out in 1968 with the assistance of the United Nations Development Programme (UNDP).

(i) Ports

16.2 With about 1200 km of coast, the country has four major commercial ports (Tunis-La Goulette, Bizerte, Sousse, and Sfax). A fifth port is under construction at Gabes for exports of phosphates and chemicals. Owing to recent improvements, which IBRD helped to finance, the present capacity of the Tunisian ports is adequate for the next five to ten years, except for the port of Sfax, which is approaching capacity. However, some redistribution of traffic between Sfax and Gabes might provide medium-term relief.

(ii) Highways

16.3 There are about 16,000 km of roads, two thirds of which are surfaced. The road network is most developed in the north, where the bulk of economic activity is concentrated. Although the road network is generally adequate, the most heavily travelled highways need major improvements, and there is a need for more feeder roads to stimulate agricultural production. Under the first highway project, partly financed by IBRD in 1971, the maintenance shortcomings were remedied on a number of road sections. However, recent traffic surveys show that traffic is growing faster than expected and there is a need for further major improvements, particularly in access roads to large cities. In the long run, new traffic patterns are likely to arise as the result of a more balanced regional development policy.

(iii) Railways

16.4 The railway network consists of 479 route-km of standard gauge in the north and about 1520 route-km of narrow gauge linking Tunis and Gabes and serving the phosphate and iron mines of the interior. The two systems meet in Tunis. Because emphasis has been chiefly on the renewal of old equipment and the acquisition of new rolling stock, the condition of the track is poor, and major improvements are required. In 1969 the Societe Nationale des Chemins de Fer Tunisiens (SNCF), the Government agency which owns and operates the railways, began to carry out a rehabilitation program which is still under way, and which IBRD is helping to finance.

(iv) Airports

16.5 There are three international airports (Tunis-Carthage, Sousse-Monastir and Djerba-Mellita), to serve the tourism demand. The domestic airports, with the exception of those at Sfax and Gabes, are not equipped for

use by commercial aircraft. The three international airports have recently been expanded to accommodate jet services (Boeing 707 type). However, the aircraft parking and ground facilities of Tunis-Carthage Airport will have to be expanded further to meet the 1975-76 demand. There is also a need for improvement of existing domestic airports, particularly in the south, to restore domestic services.

B. Performance

(i) Investments

16.6 From 1962 to 1971 total investment in the transport sector amounted to D 127 million and accounted for about 10 percent of total gross investment over the same period. Of this total, public investment by the Government and its enterprises accounted for D 114 million, and private investment for D 13.0 million.

Table 16.1: TRANSPORT INVESTMENT 1962-71

	<u>D Million</u>	<u>%</u>
Government	29.3	23.0
Enterprises		
Public	84.8	66.7
Private	<u>13.0</u>	<u>10.3</u>
Subtotal	97.8	77.0
Grand Total	127.1	100.0

Although there are no general rules to determine what share of GDP or of total investment should go to transport, it appears that, at least until 1969-1970, investment in transport in Tunisia was relatively much less than in other countries at a similar stage of development, although this was partly due to the relatively extensive transport system already existing in 1962.

16.7 Until the end of the 1960s investment was allocated among the various branches of transport on an ad hoc basis as and when the need arose. Priority was given to road transport (equipment), which consistently received more than the planned allocations. The share of transport in gross investment rose to about 14 percent in 1970 and 21 percent in 1971. Investment in inland transport, including automotive equipment, accounted for 65.5 percent of total investment, the remainder being divided between air transport (16.5 percent) and maritime transport (18 percent). Except for ports, the emphasis was on equipment which, over the 1962-69 period, accounted for 60 percent of total investment. This was particularly true of maritime and air transport, in which Tunisia wanted to take a larger share of the traffic. The distribution of investment changed after 1968-69, following the recommendation of the transport survey, and large infrastructure projects (airport, railway and road rehabilitation) became preponderant.

16.8 Capital-output ratios ^{1/} in the transport sector averaged 5.1 over the period, which is comparable to the average for the entire economy. Ratios by mode varied widely from 6 for maritime transport to 3.5 for air transport. These figures should be regarded with caution, however, as the nature of investment in individual modes varies.

16.9 Infrastructure has been largely financed by multilateral and bilateral external loans and credits. IBRD has made four loans and credits since 1964 to improve ports and port handling facilities and rehabilitate rail and road infrastructure. The new airport (Tunis-Carthage) was financed by Eximbank and the port of Gabes by an Italian loan. Foreign assistance also helped to finance expansion of the locomotives and rolling stock fleet of the SNCFT. Tunis Air and CTN mainly used suppliers' credits to finance their fleet. The financial difficulties of the SRTs and SNT have compelled them to use suppliers' credits and short-term bank loans and, more recently, bank overdrafts to finance their fleet. The consequence has been heavy short-term indebtedness and a deteriorating financial position.

(ii) Supply and Demand

16.10 Apart from the haulage of mining products from the interior to the coast, traffic flows are influenced by the concentration of economic and administrative activities in the Tunis area. Most of the long-haul freight traffic (mining products excepted) originates from or terminates in Tunis. Port and airport congestion in the Tunis area is likely to become worse if Tunis is to retain its relative importance. While little can be done to bypass Tunis by rail, because of the different gauges in the northern and south-central areas, direct trunk roads could be constructed to link the agricultural areas of the north with the south. More use could be made of the ports of Sousse, Sfax and Gabes for supplying the south, although there is not much indication at present that this is being considered. The growing problem of communication between the capital and main urban centers calls for a reconsideration of current infrastructure projects in the light of a more coherent approach to regional development.

16.11 There is no evidence that transport shortages have presented an obstacle to development over the last decade. However, the demand for passenger transport (rail and road) and urban transport can only be met by overloading buses and rail cars, and the railways have had some difficulty in providing adequate capacity to carry building material and cereals. Despite the construction of a new airport terminal at Tunis-Carthage, airport facilities in Tunis are overcrowded during the peak summer season. Traffic on the main roads and at the approaches to large cities has increased, and some sections are approaching capacity. These problems should be eased as the large infrastructure projects proposed for the Fourth Plan period are completed. It is likely, however, that a new road improvement program will have to be started before 1976, and that the railways will have to continue to modernize their

^{1/} Expressed in terms of total investment divided by incremental value added at current prices.

equipment so as to improve their competitiveness. There are indications that such programs are being prepared. TPH is studying the upgrading of about 400 km of main roads and SNCFT is about to make a study of the limited use of containerization. However, there is no coordination between these efforts, and no in-depth study has been made of their impact on regional development. The Ministry of National Economy (DT), as well as the Ministry of Planning, which should provide guidelines for transport development, are not sufficiently staffed to coordinate programs and operational problems at the same time.

16.12 The share of Tunis Air has reached almost 50 percent of regular air passenger traffic but has remained low, 15 to 20 percent, in charter traffic, although this has not handicapped the development of the tourism sector. Tunis Air is planning to capture a larger share of charter traffic, possibly through the creation of a charter subsidiary. While this would increase foreign exchange earnings from tourism, it would require a strong infrastructure abroad which it would take some time to create. The development of tourism and of industry in the south have created a demand for improved communications between the large towns. Because of good road coverage and relatively short distances the demand has so far been satisfied by buses or private cars, in preference to rail which is slow and somewhat unreliable. Domestic air services were discontinued in the late 1960s because of inadequate infrastructure and demand. Tunis Air is at present considering the possibility of restoring air connections between Tunis and the south to promote Saharan tourism. While there is no evidence that regular domestic services would be justified, there is a need for some type of "on request" connections, which could be provided by an air-taxi service without need for much improvement of existing facilities.

16.13 Because of a progressive development plan, port capacity is generally adequate for some years to come without major improvements. The Compagnie Tunisienne de Navigation's (CTN's) share of maritime traffic has remained low; 5 percent of this share is carried by its own fleet and 10 percent by chartered vessels. CTN plans to expand its operations and acquire more vessels so as to increase its share in export (phosphate, chemicals, oil and agricultural products) and passenger (car ferry) traffic.

(iii) Costs and Tariffs

16.14 Air transport tariffs are fixed by international rules, and shipping rates depend on international market conditions and/or conference agreements. So far Tunis Air has remained competitive without loss of financial viability despite the use of promotional tariffs to improve its load factor. CTN has been less successful and, though profitable, has not been able to generate enough cash to finance its projected expansion.

16.15 The Government considers that inland transport should be operated in the public interest. Transport agencies are not autonomous and their operation and tariff policies are controlled by the Government. It is also accepted that transport agencies should only be concerned with operations and that the Government should finance at least part of their infrastructure. The Tunisian and French attitudes towards transport are very much alike, and have the same characteristics.

16.16 While the Government has followed these rules for road and rail transport, it has deviated from them for ports and airports by creating two autonomous agencies: Office des Ports Nationaux Tunisiens (OPNT) and Office des Ports Aeriens Tunisiens (OPAT) which, so far, are financially viable. SNCFT and the road transport companies, which are under direct Government control, are not authorized to adjust their tariffs to rising costs, and have to apply preferential rates, without compensation, to certain commodities to promote exports or to keep the cost of living down. The result has been continuous financial problems and physical deterioration.

16.17 While the Government's wish to subsidize certain commodities, as an element of social policy, is understandable, this should not be done at the expense of the transport agencies, which cannot be expected to provide a reliable and efficient service while denied the means to do so. The present situation does not offer any incentive to improve management and productivity. In order to improve their financial situation, the following measures could be examined: (i) compensate transport companies for losses incurred through charging rates intended to subsidize particular goods or services, (ii) allow transport companies to revalue their assets periodically to take account of rising equipment costs, and (iii) allow periodic tariff increases when justified by rising costs. There is also a need for the agencies to improve their accounting systems so as to provide a better basis for calculating rates. The same applies to road and airport infrastructure, where user charges bear little relationship to costs.

16.18 Some of these problems were identified by the "Commission Sectorielle des Transports" (CST) during the preparation of the Fourth Plan, and the draft plan indicates that in the future tariffs should be adjusted to costs, without indicating, however, how or when this would be achieved.

(iv) Employment

16.19 Over the decade the number of employees in the transport sector grew at an average rate of 8.8 percent p.a. from 9,700 to 22,450. The largest increase was in road and air transport. Except in road transport, where some companies are under local pressure to increase their staff, there is no evidence of overstaffing or of Government pressure to increase employment. This is evidenced by the decline in number of SNCFT's staff.

C. Transport Policy

16.20 Since 1962, the Government has controlled the transport sector either directly or indirectly. This is particularly true of rail and road transport, where the Government approves tariffs, licenses routes, and allocates traffic. Government intervention in air transport and shipping has been limited to efforts to increase the share of the Tunisian airline (Tunis Air) and shipping company (Compagnie Tunisienne de Navigation-CTN) in total traffic.

16.21 The Government's inland transport policy has not brought about the expected results. Despite regulatory measures favoring rail at the expense of road traffic, the financial situation of SNCFT has remained poor, because

of the preferential tariffs enjoyed by certain goods, and a reluctance to approve long overdue tariff increases. There are, however, indications that the Government is changing its attitude in these matters.

16.22 Since 1964, entry into the trucking industry and passenger bus service has been tightly controlled. In practice, private operators are limited to the transport of their own goods, while public transport (freight and passenger) is controlled by large public transport companies: Societe de Transport de Marchandise (STM), Societe Nationale de Transport (SNT), and a number of mixed (semi-public) companies, the Societes Regionales de Transport (SRTs). Because of poor management and inadequate tariffs the financial situation of these companies has deteriorated and some of them can hardly be considered as viable in the future. A reorganization of road transport (freight and passenger) is under consideration.

16.23 During the preparation of the Fourth Plan (1973-1976), emphasis was given to the potential role of transport as a means of opening up undeveloped areas, particularly in the south. It was suggested that large infrastructure projects, while not likely to be viable in the near future, would create development potential. These projects would be initiated and financed by the Government and would be integrated into regional development plans. If it is true that transport infrastructure projects could encourage regional development and decentralization, then to be justified they should also be based on an analysis of the resources and development prospects of the area, and form part of a regional development plan.

16.24 Over the past decade the responsibility for investment planning and transport coordination has been shared by several ministries. While the Ministry of Planning was responsible for the overall development of the transport sector, insufficient coordination between the Ministry and the other Government agencies resulted in an unsystematic selection of projects.

16.25 These deficiencies were identified in the 1968 transport survey, which recommended:

- (i) The re-establishment of the "Conseil National des Transports" a consultative body to provide guidance in the formulation of transport policy;
- (ii) The creation of a transport coordination commission;
- (iii) The reorganization of the existing "Direction des Transports" (DT) to improve coordination between the various ministries and transport agencies and to improve investment planning;
- (iv) The reorganization of certain existing agencies; and
- (v) The creation new ones to deal with specific modes (air transport).

16.26 The "Conseil National des Transports" was in fact reactivated, and DT was transferred to the Ministry of Economy and made responsible for, inter alia: (i) transport coordination, (ii) control of publicly owned transport agencies, and (iii) investment planning. The responsibility of the DT extends to the entire sector with the exception of infrastructure, which remained the responsibility of the Ministry of Works (TPH). As a consequence of this decision and in the absence of a clear definition of the responsibilities of each body, conflicts of jurisdiction have arisen between DT and TPH, and it has become evident that the changes, as implemented, are inadequate to solve all the problems of the sector. A recent analysis carried out by the "Commission Sectorielle des Transports" 1/ concluded that reunification of the agencies dealing with transport under a single authority was urgently needed.

16.27 The following institutional problems can be discerned:

- (i) The existing division of responsibilities between ministries ignores the need to separate policy formulation, sector administration, and project design, execution and supervision.
- (ii) No agency is specifically responsible for intermodal coordination.
- (iii) The present procedure imposed on semi-public, mixed-capital transport companies (SRTGs), which requires Government approval for their operating and capital budgets, limits their independence and makes investment planning extremely difficult.
- (iv) There is a general shortage of qualified staff at middle and upper managerial levels, which is made worse by a rapid turnover. This is particularly true of the administration, where salaries are well known to be low compared with those in the private sector. A part of the staff of the Direction des Transports, for example, consists of officials seconded for limited periods by transport agencies, which continue to pay them.

16.28 The recommendations of the CST, which include the creation of a single executive body to undertake the organizational and administrative reform of the sector have not yet been finalized. The importance of a consistent policy for inland transport appears to justify the establishment of a Ministry of Transport and Communications.

D. Development Prospects: The Four-Year Plan 1973-76

16.29 While public enterprises and Government agencies will continue to play a leading role in transport, private operators will be permitted to

1/ The Commission Sectorielle des Transports is a consultative body consisting of representatives of the administration, of the various transport agencies and of users which meets on request to study specific problems and to prepare development plans.

operate more freely in road transport. In order to raise productivity un-economic railway lines (Kasserine-Sousse) are to be closed. It is hoped that Tunis Air and CTN will be able to capture an increasing share of international traffic. While the development of air and maritime transport is not expected to present serious problems, energetic steps must be taken in inland transport to adjust tariffs to costs, to revise legislation, to improve management and to reform institutions if they are not to present obstacles to development.

16.30 In value added terms, the transport sector should grow at the rate of 9.4 percent per annum. Road transport should account for 33 percent of the growth, and ports, shipping and air transport for 14, 18 and 35 percent respectively. Rail traffic would not vary over the period.

16.31 To achieve these objectives it is planned to invest D 171.9 million, of which D 87.4 million would be for road transport, including vehicles, D 28.1 million for air transport, D 28.6 million for ports and shipping, and D 27.8 million for railways. (Statistical Annex, Table 9.3.6). Total investment projected for the four Plan Years would exceed total investment over the ten year period 1962-1972 by D 37 million, and would average 14.3 percent of gross fixed investment, compared with 10 percent over the same 10 year period. Out of the total of D 171.9 million, D 51.1 million is for the completion of on-going projects and the replacement of existing capacity ("A" projects), D 47.4 million is for projects that are about to start or have already been started ("B" projects), and D 73.4 million is for projects still under consideration and in respect of which no final decision had yet been taken ("C" projects) (Statistical Annex, Tables 9.3.7, 9.3.8 and 9.3.9).

16.32 The Government will contribute D 61.0 million to large infrastructure projects (roads, ports and airports). Public and private enterprises will invest D 104 million and D 6.9 million respectively, and are expected to finance about 23 percent from internally generated funds, 12.5 percent from Government sources and 64.5 percent from external sources. External assistance is expected to contribute about 32 percent of total investment.

16.33 During the Plan period 1973-76 the effort undertaken at the end of the 1960s will be completed and, at the same time, the program will be prepared for the 1970s. Almost 60 percent of the available funds have been allocated to "A" and "B" projects. However, if a new series of projects is to be started by 1975, the preparatory work will have to be completed during that year, which will require a considerable effort.

16.34 The projects to be carried out would be based on the recommendations of the Commission Sectorielle des Transports, which had among other things:

- a) to analyze the performance of the past decade, identify possible obstacles to sector development and propose remedies, and
- b) to define the targets for the sector in the light of the planned development of the other sectors of the economy.

The results achieved by CST are of unequal quality, reflecting the differences in the availability of reliable data among the various agencies. The work accomplished by the Commission is more an indication of what transport agencies can offer in the short run under the given financial and institutional constraints than an in-depth study of transport requirements in the context of general economic growth. The Commission has produced an investment program rather than a development plan.

16.35 The CST has succeeded in identifying the main institutional deficiencies, but has failed to provide solutions. Nevertheless, the usefulness of such a report should not be underestimated; it is the first attempt in years to analyze transport problems and to determine possible lines of development. The report should serve as the basis for further studies to update and complement the 1968 "transport master plan". The knowledge of transport demand needs to be considerably improved to make it possible to formulate a coherent policy which would lead to an equilibrium between supply and demand at least cost. It is also essential that the analysis of the costs and benefits of alternative solutions be improved, if the objectives of that policy are to be attained.

16.36 Unless such an effort is made, improvements of regulations, revisions of tariffs or partial organizational changes will not produce the effect expected of them. A prerequisite to the success of such a reform is the creation of an agency with the task, initially of preparing the studies required for the formulation of a coherent transport policy and, subsequently, of coordinating their execution with the assistance of CST. Among other things, these studies should:

- a) define the respective roles of the public and private sectors in road transport, and the conditions under which private undertakings would be allowed to operate;
- b) assess the interrelations between the development of tourism and air transport and the alternative ways of meeting the demand for air transport;
- c) indicate to what extent an increase of the capacity of the national shipping fleet will help to promote exports and reduce the cost of imports;
- d) establish social costs and benefits for urban as well as inter-urban public transport and decide how the cost should be apportioned;
- e) lay down financial guidelines for transport agencies;
- f) indicate how the management and staff training of transport undertakings could be improved.

At the same time, such an agency could recommend interim measures to restore the financial viability of road transport companies and the railway, and enable them to meet their obligations in the short run. This agency would not initially have executive power, but could be progressively upgraded to a Secretariat of State or possibly a Ministry of Transport and Communications.

17. INLAND TRANSPORT

A. General

17.1 Before 1962, except for the Sfax-Gafsa line, the entire railway network was operated by the Societe des Chemins de Fer Tunisiens (SNCFT), a company fully owned by the Government. Road transport was privately owned and operated under a complicated licensing system which was very loosely enforced. Passenger bus transport was mostly concentrated in the hands of three large companies, while freight transport was handled by some 600 operators, each owning one or two trucks.

17.2 Early in the decade, the Government decided that the operations of the various modes of transport (rail and road) should be coordinated to avoid unnecessary investment and provide the community with a good service at least cost. Although no detailed policy was formulated at that time, it was indicated in the "Perspectives Decennales" that this would be best achieved by

- (a) nationalizing the major bus transport companies and transferring their assets to a government-owned company, Societe Nationale des Transports (SNT), which was created in 1964, and
- (b) cancelling common carrier licenses to private operators and creating a series of semi-publicly owned regional transport companies (SRTGs) for each governorate; these companies were created between 1962 and 1964.

Four private transport companies were allowed to continue operation in the Tunis area. Licenses for "own account" transport were limited to private operators. Tariffs are fixed and controlled by the Government.

17.3 The main purpose of the Government in taking control of road transport was to (a) rationalize operations and minimize costs by regrouping vehicles and maintenance facilities, (b) promote modern management techniques, and (c) avoid cut-throat competition and improve transport coordination. The measures implemented between 1962 and 1964 were the first steps towards a more sophisticated system which was to be defined in subsequent plans.

17.4 Until 1969, despite some minor changes in government services, the structure of inland transport remained basically the same. In 1967, when the Sfax-Gafsa concession expired, the entire southern railway network was taken over by SNFCT. In road transport, despite numerous requests from the SRTG and SNT to reconsider transport policy and to merge regional transport companies into larger agencies, no decision was taken; the reorganization of road transport, although repeatedly announced, did not go beyond the stage of broad recommendations. Government control of tariffs became tighter and preferential rates were imposed, often without compensation, on SNCFT and road transport companies for essential commodities (wheat, olive oil), minerals and certain categories of passengers (students, civil servants). Despite cost increases, tariffs have not been revised and a number of road transport companies have

run into acute financial difficulties. In 1969 the Government followed a more liberal policy in road transport. The number of licensed private operators increased to an average of about 5,400 in 1971, and there are indications that this trend will continue.

B. Past Transport Demand and Supply

(i) Vehicle Fleet

17.5 The total fleet in 1971 was estimated at about 114,000 vehicles, and grew at an average rate of about 5 percent p.a. since 1962, increasing from 4 percent p.a. in the first half of the decade to about 6 percent in the second half.

Table 17.1: VEHICLE FLEET, 1962-71 ^{1/}

	<u>1962</u>	<u>1966</u>	<u>1971</u>
Private cars	47,000	53,700	72,100
Trucks	<u>25,800</u>	<u>31,500</u>	<u>41,500</u>
Total	72,800	85,200	113,600

17.6 Tunisia's 19.5 vehicles per 1,000 inhabitants is high compared with other African countries, and the figure is growing as a result of second-hand vehicle imports by expatriate workers, and the acquisition of light commercial vehicles by farmers and small businesses. Between 1970 and 1972 registrations of private cars and small commercial vehicles grew at 42 percent p.a.

Table 17.2: VEHICLE REGISTRATION, 1970-1972 ^{1/}

	<u>1970</u>	<u>1971</u>	<u>1972</u>
Private cars	4,217	5,825	8,503*
Others	<u>2,436</u>	<u>4,383</u>	<u>5,580*</u>
Total	6,653	10,207	14,083

^{1/} Source: Statistical Annex, Table 9.3.5

* Estimates based on provisional figures, 1st semester 1972.

17.7 Recent traffic counts, which are still being processed, show that traffic is increasing faster than forecast in the transport survey carried out by consultants in 1967 and 1968. Recorded traffic shows an average annual increase of about 11.5 percent, while previous projections were of only 9 percent p.a. Traffic increase has been particularly heavy on the access roads to Tunis and in the tourism areas, where rates of 12 to 14 percent are recorded, with an average daily traffic of 15,000 to 30,000 vehicles on the roads from Tunis to the GPI.

17.8 It is too early to predict whether this trend will last. It is obvious that part of the increase results from a more liberal import of vehicles and an easier access to transport licenses, and it is likely that, after a few years, the increase in the vehicle fleet will taper off. This might be encouraged by government action aimed at reducing second-hand vehicle imports, which are considered dangerous and costly in repair and maintenance because of the lack of control of vehicle condition at the entry point.

(ii) Traffic Increase

17.9 A large part of road traffic (private cars and transport for own account) is not recorded regularly, and reliable information on goods and passenger traffic is available only for public and semi-public transport agencies. These statistics should, however, be viewed with considerable reservations. On the one hand, traffic measured in terms of unit-km tends to exaggerate the importance of long-distance transport and, on the other hand, public road transport companies were created between 1962 and 1964 and do not have reliable records for the years preceding 1966. Also, as transport for "own account" is excluded, the share of rail transport tends to be artificially increased.

17.10 Data for freight and passenger traffic are summarized below:

Table 17.3: SUMMARY OF TRAFFIC

	<u>1966</u>	<u>1968</u>	<u>1970</u>	<u>1971</u>	<u>Average Rate of Growth Per Annum</u>
Freight: (million ton-km)					
A. General Cargo					
Road	240	393	470	490	15.5%
Rail	<u>288</u>	<u>290</u>	<u>350</u>	<u>365</u>	5.8%
Subtotal	528	683	820	855	10%
B. Bulk Rail	<u>1,018</u>	<u>1,081</u>	<u>978</u>	<u>1,000</u>	--
C. Total Freight	1,546	1,764	1,798	1,861	3.5%
Passenger long-distance: (million pass-km)					
Road	629	758	860*	925*	8%
Rail	<u>384</u>	<u>312</u>	<u>293</u>	<u>312</u>	-4.2%
Total	1,013	1,070	1,153	1,237	4.1%

* Estimates.

Sources: Retrospectives Decennales; transport agencies.

(iii) Freight Traffic

17.11 Over the 1966-1971 period freight traffic, bulk materials excluded, grew at an average rate of 10 percent p.a., while passenger traffic, urban transport excluded, grew at 4 percent p.a. In both cases road traffic grew faster than rail traffic.

17.12 Although there is no real transport coordination, the Government's policy has been to protect SNCFT against road competition by allocating certain commodities to rail: (phosphate 4.0 million tons, iron ore 1.0 million tons, building materials 600,000 tons). Phosphate and iron ore account respectively for most of the traffic of the southern and north central lines. In 1972 these commodities accounted for 80 percent of the tonnage transported by rail and 90 percent of the ton-km. As a result there is no obvious misallocation of traffic; the average haul on rail is about 200 km for bulk commodities and 120 km for general cargo, compared to an average haul of less than 100 km by road. Road traffic consists mostly of agricultural products, supplies, fuels and, recently, quarry materials (crushed stone, sand) for large infrastructure projects. Road transport companies also provide rail terminal-customer delivery service, although there are complaints of the lack of trucks and of delay in clearing the goods from railway terminals.

17.13 Rail traffic patterns are relatively simple, bulk material being transported by rail from the mines to the coast (see map) and agricultural products moving from the producing areas to Tunis and the south (cereals) while equipment and supplies travel from Tunis to the interior and the south. Traffic flows are unbalanced because of the importance of bulk material movement toward the coast, except in the northern area. Recent origin and destination data on road traffic is not available. However, a 1968 survey of road transport companies shows that long haul traffic accounts for some 60 percent of the total tonnage transported. Transport originating and terminating in Tunis accounted for respectively 44 percent and 37 percent of long haul tonnage, the remainder being inter-governorate movement, most of which took place in the south from Sfax and Gabes to Medenine and Gafsa. This pattern is representative of general cargo movement and is likely to be so for some years to come unless more effective measures are adopted to make the ports of Sfax and Gabes more attractive for the supply of the center and the south respectively.

17.14 Generally, freight transport demand has been satisfied, though with some delays, during the peak periods of agricultural campaigns. While users are reasonably satisfied with the services provided by SRTG and SNFCT, the wagon fleet is old and, despite operational improvements in wagon turn-around time, SNFCT recently experienced difficulties in meeting transport demand for building materials and cereals and had to curtail its services to less profitable customers pending the arrival of new rolling stock.

17.15 Road transport capacity is adequate to serve the needs of the economy and delays in collecting and delivering goods are not frequent and do not exceed two or three days on the average. The main weaknesses are in short haul

service, which, according to SRTG, is not financially attractive and is therefore neglected. This affects particularly the final distribution of products transported by rail; delays in clearing goods at rail terminals slow down wagon turn-around time and affect the efficiency of the railway as a whole and have resulted in some long haul traffic being diverted to road.

(iv) Passenger Traffic

17.16 Over the past five years public passenger transport grew at an average rate of 4.5 percent p.a. While rail transport decreased slightly, road transport increased at an average rate of 8 percent p.a. The predominance of road transport, which accounts for about 75 percent of total public transport, is explained by the relatively short distances between the main cities, and the small number and specialized nature of railway lines. However, the Government's objective that road transport should complement rather than compete with rail has generally been achieved. Bus lines have to be authorized by the Direction des Transports, and buses are not generally allowed to compete with rail on parallel routes except for short distances. Buses are predominantly used for short distances and the average distance travelled by bus is one-third of the average distance travelled by rail. However, there are certain lines where the two modes compete directly, more particularly around Tunis, where the bus service to Nabeul and Bizerte is much more efficient than the rail service.

17.17 Public transport companies operate regular services between the major urban centers and within governorates. They also operate low fare services on market days and "on request" services which in 1971 accounted for 25 percent of total passengers transported and 20 percent of the income. Most of the companies also operate long distance limousine services between the major cities. The geographical distribution and the frequency of service is generally satisfactory and so far the demand has been satisfied, though because of a shortage of buses transport companies have been authorized to overload their buses by 20 percent. Because of lack of funds the fleet has not been adequately maintained and replacement has been continuously postponed; buses are breaking down more frequently, and over the past two years the quality of service has declined. The same problems prevail in rail transport, and SNCFT is using dilapidated coaches, some of them of over 30 years of age, which cannot be properly maintained and contribute to the diversion of passengers to road transport.

17.18 The efficiency of public road transport also suffers from the disproportion between SNT and the SRTG. SNT, which transports some 40 percent of total passengers, has taken over the lines of three large companies which were nationalized in 1960. These cover the whole territory, and in many instances SNT is competing with the local SRTGs. Several proposals have been made to reorganize passenger transport and to redistribute bus lines more equitably, but so far nothing has been done.

17.19 Until recently two semi-publicly owned companies, TRANSTOUR and TOURAFRIC, were in charge of tourist transport from airport to hotel and on excursions. Regional transport companies participated marginally in this

type of transport. Beginning in 1972, a number of travel agencies and hotels have been authorized to operate buses for tourists on their own account. At the request of the "Office du Tourisme," the "Direction des Transports" is also studying new regulations to be applied to car hire companies, which could be given tax privileges and be exempted from custom duties on cars and spare parts. These measures would enable travel agencies to offer a greater choice of tours and to increase the mobility of tourists, who have been complaining that Tunisia did not offer sufficient entertainment.

(v) Urban Transport

17.20 Urban transport is particularly important in the three major cities, Tunis, Sfax and Sousse, which together accounted for over 95 percent of total passengers transported in 1971. Urban transport growth has been steady over the years and averaged 8 percent p.a. over the decade.

Table 17.4: URBAN TRAFFIC, 1967-1971
(million passengers)

	<u>1967</u>	<u>%</u>	<u>1971</u>	<u>%</u>	<u>Average Rate of Growth</u>
TUNIS					
SNT	85.8	59	118.2	59.5	8.3
TGM /1	12.5	9	15.7	8.0	5.9
Rail	<u>9.6</u>	<u>6.5</u>	<u>13.4</u>	<u>7.0</u>	<u>8.7</u>
Subtotal	107.9	74.5	147.3	74.5	8
Sfax	25.4	17.5	31.7	16.0	5.7
Sousse	<u>11.8</u>	<u>8</u>	<u>18.9</u>	<u>9.5</u>	<u>12.5</u>
Total	145.1	100.0	197.9	100.0	8.0

/1 1 TGM = Tunis Goulette-Marsa, electrified railway line operated by SNT.

17.21 With the exception of TGM and of two railway lines in Tunis, all urban transport is done by buses. The area served by public transport is substantially wider than municipal limits and in Sousse and Sfax bus lines connect the center of the cities with villages up to 20 km away.

17.22 In recent years, urban public transport has deteriorated considerably as a result of under-investment in new vehicles to replace and expand the fleet. Buses are dangerously overloaded and the frequency of breakdowns and repairs is increasing rapidly. Despite efforts to improve operating conditions, reschedule the services and accelerate maintenance, SNT and the SRTG's of Sfax and Sousse cannot meet the demand, especially since they have to provide several school bus services and to expand their lines at the request of the

municipalities. These problems were brought to the attention of the Government and measures have been taken to improve the operation of SNT which, if they are successful, could be extended to the SRTGs of Sfax and Sousse.

C. Evolution of Inland Transport, 1962-1972

17.23 At the beginning of the 1960s inland transport infrastructure was considered adequate in length and coverage to serve the needs of the country for some years. It was therefore planned that the major effort would be directed towards the modernization of equipment and vehicles. The Perspectives Decennales published in 1962 emphasized the importance of an adequate road transport service for freight, as well as passengers, and it was estimated that an investment of D 17.2 million, excluding vehicle replacement, would be required to meet future demand. Railway investment for the decade was projected at D 9.4 million, 60 percent of which would be used to modernize motive power and rolling stock.

Table 17.5: PROPOSED INVESTMENT IN INLAND TRANSPORT, 1962-71

	<u>D '000</u>	<u>%</u>
Road		
Infrastructure:	15,000	87
Equipment	<u>2,200</u> /1	<u>13</u>
Subtotal	17,200	100
Rail		
Infrastructure	3,800	40
Equipment	<u>5,600</u>	<u>60</u>
Subtotal	9,400	100
Total Inland Transport:	26,600	-

/1 Excluding replacement of vehicles.

Source: Perspectives Decennales.

17.24 The projections of the Perspective Decennales were not based on a detailed analysis of transport requirements and of alternative ways of meeting the demand. A master plan for transport investment was prepared in 1967-1968, following a transport survey undertaken by consultants on behalf of the Government, with the assistance of UNDP. The main conclusion of the survey was that, while there had been relatively few cases of obvious misallocation of resources, past investments had not been directed to the most urgently required projects and it was necessary rapidly to rehabilitate road and rail infrastructure and to modernize and increase the vehicle fleet if inland transport was not to become an obstacle to development. The consultants recommended an investment for the period 1969-1972 of D 100 million, of which D 40 million was for infrastructure and D 60 million for equipment.

17.25 In addition, the consultants identified a number of institutional deficiencies as serious obstacles to the operation and development of the sector. The absence of a clearly defined transport policy and the inexperience of existing institutions had led to distorted pricing. Cumbersome legislation and unnecessary controls, which were often applied by several agencies, and complicated administrative routine had contributed to inefficient management.

17.26 The consultants' analysis of the situation led to the preparation of a coordinated investment program which was carried out with the assistance of the World Bank. In addition, a number of studies of the problems of inland transport were initiated. While significant results were achieved in highway maintenance and construction, action in other fields has been delayed by the 1969 changes in general economic policy. In particular, the inland transport policy has not been defined and no substantial changes have been made in prices. However, the Government recently took steps to increase tariffs and revise transport regulations. The SNCFT tariff should be increased by 17 percent early in 1974, and the Direction des transports has commissioned consultants to make a study of road regulations and taxation.

D. Road Transport 1/

(i) Road Transport Infrastructure

17.27 About 1,500 km of roads were constructed and upgraded over the decade, more than 50 percent of them being main roads. The balance consisted of feeder roads, tourism and industrial infrastructure and municipal roads in the ratios of 13 percent, 25 percent and 12 percent respectively. Total highway expenditure amounted to D 25.4 million, of which 77 percent was for roads; D 1.8 million went for highway feasibility studies and D 4.0 million for construction equipment. Foreign assistance amounted to D 7.5 million, representing 18 percent of the construction program, and 100 percent of the cost of construction equipment. In 1970 the World Bank participated in the development of the highway sector with a loan of US\$24 million equivalent, of which only US\$1.0 million has been disbursed so far.

17.28 Before 1969, roads investment planning was almost nonexistent and maintenance was insufficient. This had resulted in the execution of a number of projects which were not economically justified (Cap Bon and Ksar Lamsa-Queslatia) and rapidly deteriorating road conditions. Highway construction and maintenance were undertaken by the Ministry of Public Works' own construction company under complicated and ineffectual procedures. Construction equipment was ill-maintained. Funds for highway construction and maintenance were allocated from the national budget and bore little relation to actual needs.

1/ The basic data on road transport appear in Table 9.3.5 of the Statistical Appendix.

17.29 Most of these deficiencies have now been corrected and the present program is based on sound project evaluation. Highway maintenance funds have been substantially increased and the maintenance department reorganized. To increase construction capacity, a semi-publicly owned construction company has been created and the bidding procedures for highway projects have been revised. However, the highway department in the Ministry of Public Works is short of qualified staff and has difficulty in coping with the workload, as is evidenced by delays in carrying out and preparing projects.

17.30 During the decade a number of specialized road projects were undertaken to promote industrial, tourism and agricultural development. While the effort in the field of industrial and tourism infrastructure appears to have been sufficient, there is a need for stepping up the construction and maintenance of agricultural roads. Local agencies of the Ministry of Public Works (TPH) do what they can at the request of local authorities, but this is often barely enough to keep the roads open during the rainy season. The situation became worse after the floods of 1969 and 1973 and quite a number of feeder roads which were provisionally repaired are in need of permanent improvement. Although some priority was given to road and bridge rehabilitation after the floods, there are still some main road sections to be repaired.

17.31 Although significant improvements to municipal roads were carried out during the decade, access roads to large urban areas are becoming congested. This is particularly true of the Tunis area where some improvements to the northern and southern access to Tunis are required. The problem is being studied on the basis of the traffic survey carried out in 1972.

(ii) Road Transport Operation

(a) Investment

17.32 Public sector investment in the vehicle fleet over the decade amounted to D 27.5 million, of which 85 percent went into vehicle replacement and expansion. The balance was used to finance road terminals, workshops and studies. No precise information is available on capital expenditure by the private sector.

(b) Vehicle Fleet and Operation

17.33 The freight fleet increased from 3,200 tons capacity in 1963 to about 12,200 tons in 1971. In 1971 it consisted of 1,360 vehicles of some 12 different makes, 50 percent of which were over 6 years old. The average truck capacity increased from 5.5 tons in 1963 to 9.0 tons in 1971, but truck productivity, which had been increasing until 1968, decreased thereafter to an average of 40,200 ton-km per ton of capacity in 1971.

17.34 Because of the lack of preventive maintenance, breakdowns are frequent, and 25 to 30 percent of the trucks are immobilized, one-third of them for long periods, because of the lack of spare parts. Capacity utilization is usually good and loading ratios average 85 to 95 percent. Overloading is rare because of efficient road control. Vehicle operation on the average is low and empty mileage accounts for 30 to 45 percent of total mileage. This is due partly to unbalanced traffic patterns between Tunis and the major urban centers, but also to lack of coordination between companies.

17.35 The total bus fleet increased from 46,500 seats in 1966 to about 85,000 seats in 1971. Between 1966 and 1971 the number of inter-urban buses remained about constant although their average capacity grew by 20%. The number of urban buses more than doubled while the traffic increased by 77 percent. Between 1966 and 1971, productivity expressed in terms of passenger-km per unit of capacity decreased by 25 percent in urban transport, while it increased by more than 20 percent in intercity bus transport.

Table 17.7: URBAN AND INTERCITY TRAFFIC

	<u>Inter-Urban Transport</u>		<u>Urban Transport</u>	
	<u>1966</u>	<u>1971</u>	<u>1966</u>	<u>1971</u>
Passenger-km (million)	629	925	155	275
Seats offered	21,373	25,580	25,126	59,680
Productivity (pass-km/seat)	29,430	36,161	6,169	4,600
Index	100	122.5	100	75

Source: Retrospectives Decennales; transport agencies.

The productivity increase in intercity bus transport can be explained by the overloading of buses which appeared some years ago and is officially tolerated up to 120 percent of the normal load. The drop in the productivity in urban transport results from deteriorating traffic conditions in the three main cities, and more particularly Tunis and Sfax, and from the generally extremely poor state of repair of the fleet and hard operating conditions (urban buses operate 16 to 18 hours a day, seven days a week). The fleet is relatively old, 35 percent of the buses being more than 10 years old, and maintenance standards low. Therefore, the immobilization rate may be as high as 40 to 45 percent. Buses which should have been written off a long time ago are kept on the books as a source of spare parts.

(c) Cost and Tariffs

17.36 Vehicle operating costs are difficult to assess, as most of the companies do not have proper cost accounting systems. The concept of vehicle operating cost is generally not well understood, and most of the companies draw their information from general accounts which do not reflect realities. Depreciation, for example, is done on a straight line and based on the purchase value of the vehicle and not on the replacement value as it should be. Some companies, notably STM, are introducing cost accounting systems, but it is not yet clear whether these systems will be satisfactory.

17.37 Officially, tariffs are fixed by the Government and cannot be exceeded. However, while companies do follow official tariffs for passenger transport, their rates for freight are much more flexible. They have been authorized, unofficially, to increase the rates by 20 to 30 percent for certain government organizations (particularly public works). They also charge higher rates when they are in a monopoly situation. However, except for the STM, there is no rate policy, and freight is accepted even at rates below cost in order to obtain cash to meet daily obligations. It is generally felt that the prevailing rates, which have not been increased since 1959, should be raised to cover cost increases. However, no company appears to be in a position to make a concrete proposal to the Direction des Transports.

17.38 Government policy has been to subsidize certain categories of passengers (students, civil servants, military personnel). Transport companies are required to provide school bus services, for example, at a nominal fee which is far below the cost of operation. Fees collected on this service in Sfax do not cover fuel expenses. No compensation is paid by the Government or the municipality; on the contrary, transport companies pay sales taxes on the subsidized as well as on the non-subsidized services. This has imposed a heavy burden on the SRTGs of Sfax and Sousse. SNT, being fully owned by the Government, is entitled to a direct subsidy to the extent of the losses resulting from concessional tariffs, though it has not claimed such compensation so far. However, a recent project for the rehabilitation of Tunis Urban Transport, prepared with the assistance of the World Bank, provides for both tariff increase and compensation in order to restore SNT's viability.

17.39 The difficulties of the SRTGs and more particularly of SORETRAS (Sfax) and STS/Sousse cannot be solved by subsidies, which are not provided for in their charters. SORETRAS and STS should therefore be compensated for their losses. Pending settlement of this question, immediate steps should be taken to improve the situation by, for example, exonerating them from custom duties on the equipment needed for and sales taxes on the income derived from subsidized services.

(d) Financial Performance and Management

17.40 As already mentioned, accounting practices in road transport companies are inadequate. Most of the companies suffer from constant funds shortages resulting from heavy short-term indebtedness and inadequate tariffs. Returns on net fixed assets are extremely low and preclude access by the companies to medium- and long-term credits to finance their expansion.

17.41 As a result of increasing costs of vehicles and supplies, financial results have deteriorated over the past five years, and at least two companies are facing bankruptcy. In the absence of tariff increases, the situation is likely to become worse, particularly as labor pressure has led the Government to approve important wage increases to SNT personnel which will be followed by corresponding increases in the other companies.

Table 17.6: SUMMARY OF INVESTMENTS IN INLAND
TRANSPORT, 1962-1971
(Private Sector Excluded)
000 Dinar

	Forecast in 1962		Actual Realization 1962-1971		Difference In Percent Of 1962 Forecast
	Dinar	Percent	Dinar	Percent	
Road Infrastructure:					
Main Roads	10,000	37.5	9,000	13.0	- 10.0
Industrial Roads	-		700	1.0	
Feeder Roads	-		1,300	2.0	
Touristic Roads	-		1,900	2.5	
Municipal Roads	3,500	13.0	2,650	3.5	- 24.0
Subtotal	13,500	50.5	15,550	22.0	+ 15.0
Briges	1,500	5.5	4,050	5.0	+150.0
Subtotal	15,000	56.0	19,600	28.0	+ 30.0
Studies	-	-	1,800	2.5	-
Total Infrastructure	15,000	56.0	21,400	30.5	+ 42.5
Road Equipment:					
Construction Equipment	-		4,000	6.0	
Vehicles and Maintenance and Repair Facilities	2,200 ^{1/}	8.5	27,500	39.5	
Total Equipment	2,200	8.5	31,500	45.5	+1330.0
Total Road	17,200	64.5	52,900	76.0	+207.0
Rail:					
Infrastructure	3,800	14.5	5,600	8.0	+ 47.0
Equipment	5,600	21.0	11,200	16.0	100.0
Total Rail	9,400	35.5	16,800	24.0	78.5
Total Inland Transport:	26,600	100	69,700	100	162.0

^{1/} Original forecast including only the cost of the projected increase in the vehicle fleet. Replacement of vehicles and maintenance facilities not included.

17.42 There is very little management can do to improve the situation. Operational improvements, reduction of stock and tighter control of overheads will improve the situation only temporarily. An increase of capital would provide cash to renew the fleet but, in the absence of drastic reforms in accounting, revision of tariffs and compensation for losses resulting from subsidized rates, viability will not be assured.

17.43 Urgent measures are required to improve management information systems and to train the accounting staff. The concept of return on investment is not well understood, and profitability is usually measured by positive operating surpluses. There is no idea of financial planning. Firms are reluctant to incur long- and medium-term indebtedness and tend to finance capital expenditure through short-term credits. It would be advisable for the Direction des Transports to organize management seminars with emphasis on the financial policy and investment planning.

(iii) Conclusions and Prospects: Infrastructure

17.44 During the late 1960's expenditure on road construction and maintenance increased steadily in an effort to catch up with a backlog in road maintenance and modernization. This trend will continue for the four years 1973-1976 and the draft Fourth Plan recommends that a higher level of expenditure be maintained over the next decade to enable the Ministry of Public Works to bring the road system up to the standards required by the volume of traffic.

17.45 The draft Plan outlines a program which basically consists of a continuation and strengthening of actions undertaken since 1968-1969. The two priority fields are:

- (1) maintenance and improvement, for which the Ministry has requested an annual allocation of 500 D/km for main roads and 200 D/km for secondary roads;
- (ii) modernization of the existing network based on feasibility studies and traffic growth. Lower priority is given to the extension of the road network, as it is estimated, rightly, that its length and coverage will be adequate for some time to come.

17.46 Improvement of urban and suburban roads and of access roads to the capital will be carried out as a special program within the framework of an integrated urban development policy, to be formulated before 1976, which would coordinate the development of housing, urban transport and utilities. The draft Plan recognizes the need to construct new feeder roads and upgrade existing ones, and indicates that research will be undertaken to determine what maintenance and construction techniques would be most appropriate to improve and expand the feeder road network.

17.47 Total infrastructure investment for the next four years amounts to D 53.9 million, of which D 26.9 is for the continuation of ongoing projects, D 1.2 million for improvement of urban roads, D 14.5 million for local bodies

and flood damage repairs and D 11.3 for studies and new projects in preparation. These projects consists of:

- (a) the modernization of about 500 km of roads;
- (b) the improvement of the access to Greater Tunis;
- (c) the construction of about 150 km of feeder roads and other small projects;
- (d) the completion of the Sfax-Gafsa road; and
- (e) the construction of tourism roads infrastructure.

17.48 While the objectives of the Plan are sound and correctly reflect priorities in the highway sector, it seems unlikely that they can be fully attained before 1976; the modernization of the road network will continue as on-going works are completed. However, the Plan gives no indication of the maintenance expenditure required for the next four years. Moreover, no attempt is made to relate road expenditures to user charges and no analysis is presented of the adequacy and relevance of the existing charge for this purpose. Recently the Direction des Transports appointed consultants to carry out a study of the existing road regulations and user charges. The Ministry of Public Works and the Ministry of Plan should be closely associated with the study in order to reflect its findings in investment and tariff policies.

17.49 Although the draft Plan indicates that a new policy should be formulated regarding urban and suburban roads as well as feeder roads, an executing agency has not yet been designated to make the necessary studies and no schedule of execution has yet been prepared. It is urged that a committee composed of representatives of the parties concerned be constituted to select executing agencies, prepare terms of reference and fix time tables for the completion of these studies. This work could be coordinated and supervised by the "Comite Superieur des Transports".

Table 17.8: INVESTMENT IN ROADS INFRASTRUCTURE, 1968-1976
(million Dinars)

	<u>Actual</u> <u>1968-1972</u>	<u>Projected</u> <u>1973-1976</u>
"A" Projects) (ongoing))		26.9
"B" Projects)	8.6	1.2
"C" Projects)		6.0
Studies	<u>1.6</u>	<u>0.3</u>
Subtotal	10.2	34.4
Tourism Infrastructure		5.0
Local Bodies	<u> </u>	<u>14.5</u>
Total	10.2	53.9

(iv) Conclusions and Prospects: Road Transport Industry

17.50 A number of the present difficulties in road transport stem from the lack of follow-up in the reorganization of the industry and in operational and financial decisions. As indicated above, the purpose of creating semi-public transport companies was to rationalize operation and avoid overinvestment in road transport. Part of this objective has been achieved: private operators have been eliminated and are now shareholders of the SRTGs, the fleet has been standardized, though there are still too many makes and types of vehicles, and the quality of service has improved. It is, however, not certain that unnecessary investment has been avoided. On the one hand, there is some evidence of excess capacity in the SRTGs as far as freight vehicles are concerned. On the other hand, private and public companies own a large number of vehicles and prefer to use their own trucks rather than public transport.

17.51 Road transport is going through a critical period of transition. The draft Plan proposes a recovery program based on three premises:

- (a) entry should be liberalized and some degree of competition restored; for this purpose the existing regulations and taxation should be revised;
- (b) tariffs should also be revised and transport companies compensated by the State for the losses resulting from concessionary rates;
- (c) the administration should promote new management techniques; and
- (d) the number of transport licenses should be restricted to that which the market can bear.

These objectives provide answers to most of the problems of the industry, yet they are not translated into a detailed program. In addition, no solution is proposed for solving the immediate difficulties of the transport companies.

17.52 It will take a sustained effort going far beyond a mere proposed plan of action to reorganize road transport, and it is doubtful whether this could be achieved within the next three or four years. While the draft Plan recommendations are broadly adequate, they should be complemented by a realistic program which would aim at:

- (a) defining the future structure of the sector;
- (b) establishing a modern and realistic regulatory environment;
- (c) reestablishing the financial viability of the existing companies;
- (d) studying the possibility of merges;
- (e) studying the practicability of separating urban, interurban and freight activities.

17.53 On the basis of this appraisal an interim investment plan for the next two years could be prepared. Concurrently, a working group, consisting of representatives of the industry and of the users, could prepare a long-term Plan which would inter alia define:

- (a) transport requirements in the long run, including the needs of specialized transport (quarry materials, equipment) and of interurban and urban passenger transport;
- (b) the optimum structure of the sector and the optimum size of enterprises to satisfy the demand at least cost;
- (c) transport regulations suitable for the normal operation of the sector and which would include provisions for new types of transport such as tourist transport and car hire;
- (d) management standards to be applied to road transport companies;
- (e) a technical and business training program; and
- (f) an implementation timetable to ensure that the objectives are achieved on schedule.

Such a program could be undertaken by the Direction des Transports. There would be a serious staffing problem in the short run but this could be alleviated by the temporary employment of consultants.

17.54 Total investment by public transport companies (including the three private companies in Tunis and the tourist transport companies) for the period 1973-76 amounts to D 33.5 million of which D 32.0 million is for replacement of vehicles and D 1.5 million for infrastructure projects (road terminals, workshops, etc.).

Table 17.9: SUMMARY OF INVESTMENT IN ROAD TRANSPORT, 1972/76
(000 Dinars)

On-going Projects ("A" Projects):

SNT	4,100
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"B" Projects:

Infrastructure SNT	1,500
Buses replacement	3,100
Trucks replacement	<u>1,700</u>
Subtotal	6,300

"C" Projects:

Bus fleet expansion	10,300
Truck fleet expansion	3,100
Transport of tourists	4,700
TGM	<u>5,000</u>
Subtotal	23,100
Grand Total	33,500

Of the total investment, D 26.7 million is for passenger transport, while D 4.6 million is for freight transport. Priority has been given to passenger transport to eliminate overloading and provide spare capacity. The relatively low amount going to freight transport is justified by the low utilization rate of the privately owned fleet which, in the light of the more liberal approach to the role of the private sector, should be able to assume a larger share of freight traffic in the future.

17.55 The investment plans for the public sector should be treated with considerable reserve. They result from an evaluation made jointly by the Ministry of the Plan and the transport companies, and reflect what the companies think they would be able to invest, under certain assumptions regarding traffic growth and financing, rather than what would be required to modernize the fleet and meet future demand. The amounts allocated to vehicle replacement appear to be too low; under the assumption of replacement after 10 to 15 years of service, they account for only 40 to 50 percent of what would be required for passenger transport and 30 to 40 percent of what would be required for freight transport. Moreover, future requirements have been calculated on a global basis and do not take into account possible changes in the pattern of traffic. In any case, it is doubtful whether the transport companies would be able to find the necessary finance. Given the present returns on their investments, it is doubtful whether medium-term credits would be available and, in the absence of any tariff revision, the alternative would be short-term credit or a reduction in the investment plan.

E. Rail Transport 1/

17.56 Until 1967 the railway network was divided into three different single-track systems: the Northern system consisting of about 420 km of metric gauge lines, and the Central and Southern systems, consisting respectively of 1044 and 456 km of narrow-gauge lines. The first two systems were operated by SNCFT. The Southern system was operated under concession by the "Compagnie des Phosphates et du Chemin de Fer de Sfax Gafsa" (Sfax-Gafsa). The concession agreement expired in 1967 and since then SNCFT has been in charge of the whole railway network.

(i) Railway Investment

17.57 Between 1962 and 1971 a total of D 16.8 million was invested in rail transport of which D 5.6 million was for infrastructure, D 8.5 million for equipment and D 2.7 million for flood damage after 1968. Half of the investment (excluding flood damage) took place after 1968. From 1961 to 1968, priority was given to rolling stock and equipment, while toward the end of the decade (1968-71) the emphasis was on infrastructure; 75% of expenditures in equipment were made before 1968 and 75 percent of expenditures in infrastructures took place in the last three years. In addition to the investment made by SNCFT, Sfax-Gafsa has invested about D 2.6 million of which D 2.0 million was for locomotives and D 0.6 for rolling stock and handling equipment. Prior to 1969, rolling stock and equipment were financed by suppliers' credit; after 1969 the World Bank participated for D 9.0 million in the financing of railway investments consisting mainly of track rehabilitation, and replacement of motive power and rolling stock. So far an amount equivalent to about D 4.2 million has been disbursed; completion of the project, which has been delayed by floods, is expected for mid-1975.

(ii) Financial Aspects

17.58 Prior to 1969, the main features of the financial relationship between the Government and SNCFT were for the Government to compensate SNCFT:

- (a) when imposing general or partial tariff reductions, and
- (b) if SNCFT still operated at a deficit after receipt of the above compensation. Moreover, if SNCFT's income account showed a surplus, the compensation under (a) was reduced or cancelled so as to balance the accounts. If after such cancellation or reduction there was still a surplus, SNCFT had to reimburse previous Government subsidies. All surplus funds went to the Government.

In addition, tracks and structures on the Northern Center system were the property of the State, maintenance and capital expenditure being shared on

1/ The basic data on rail transport appear in Tables 9.3.2 and 9.3.3 of the Statistical Appendix.

a 60 percent-40 percent basis between the State and SNCFT. Tariffs were fixed by the Government, which also approved the operating and capital budget, sales of assets and borrowing. This system did not promote efficient allocation of resources, and it limited the funds available to SNCFT for depreciation, preventing SNCFT from participating substantially in the financing of its investment. More recently the statute of SNCFT has been changed to include inter alia the following provisions:

- (a) SNCFT will be the full owner of tracks and structure; capital and maintenance expenditure will be charged to SNCFT;
- (b) Tariffs will be cost-based and adjusted from time to time to produce enough revenues to cover operating expenses, including depreciation, and earn an adequate return on the value of net fixed assets in use;
- (c) If the Government decides that certain commodities should be subsidized by low transport rates, SNCFT should be compensated for the loss of revenue.

It was also agreed that pending the first tariff revision the Government will pay SNCFT D 1.0 million p.a. as a lump-sum compensation for inadequate tariffs.

17.59 Following these measures, the financial situation of SNCFT improved in 1970. However, in 1971 costs increased by 7 percent whereas revenues increased by only 4 percent, and the SNCFT surplus decreased. In 1972, SNCFT showed a loss after Government subsidy. The main reason for the deteriorating financial situation is the reluctance of the Government to increase tariffs and to make a firm decision on the rates to be applied for the transport of phosphate. The Government is conscious of the difficulties and has decided (i) to pay the arrears of the Sfax-Gafsa phosphate company; (ii) to increase existing subsidies to cover actual losses in 1972 and 1973, and (iii) to increase tariffs from January 1974. However, since discussions are under way to revise wages in the transport sector, it is doubtful that the across-the-board tariff increase of 17 percent which was considered will be enough to restore the financial viability of SNCFT.

(iii) Railway Operation

17.60 In the first part of the decade railway operation was not satisfactory, because of the poor condition of the equipment and the track. On the average, the utilization of motive power was below accepted standards, and wagon turn-round time, which averaged 6 to 7 days, was too slow. The existence of two different gauges does not appear to have impaired SNCFT's operations. While the operational efficiency in the Northern system was poor, results in the Southern system were good, and could have been better with larger storage facilities for phosphate at the mines and at the port of Sfax. Over the past five years operational results have improved significantly; average wagon turn-round time is now satisfactory and improving, despite some considerable discrepancies between the North and the South which can probably be explained by the nature of the traffic. Total staff continues to decrease and traffic units per employee have improved from 200,000 in 1969 to 283,000 in 1972. Demand has generally

been satisfied although recently SNCFT has had some difficulties in the transport of building materials and phosphates. This is mainly due to an aging wagon fleet which will need replacement soon. SNCFT is presently negotiating the acquisition of about 500 new wagons. Some lines, particularly the line Sousse-Kasserine, carry minor traffic and it is questionable whether they should be kept in operation. SNCFT is considering their closure but no final decision has been made yet.

(iv) Prospects of Rail Transport

17.61 Recent investments in rail transport have aimed mainly at restoring the operational capacity of SNCFT by track rehabilitation and equipment replacement. There is no doubt that rail transport performs, and will continue to perform, a useful function in the South in providing an efficient link from the phosphate mining areas to the coast. It is, however, questionable whether in the long run the Northern and Central systems, other than the coastal line, will still be justified. (It is already considered that the Sousse-Kasserine line should be closed because of its high maintenance and operating costs and the low level of traffic).

17.62 Rail transport is generally more economical than road transport over long distances, but this advantage is of little interest in Tunisia where the distances between the interior and the coast and between major cities are relatively short. International traffic with Algeria is negligible and is not expected to increase substantially in the future. Because of insufficient staff in the Transport Directorate and government mandatory allocation of traffic, the problems of the future of rail transport have not been analyzed, although it is felt that the role of railways should be reviewed in the light of future development in transport demand. Studies are currently under review for limited containerization and door-to-door service; however, there is no integrated approach which would review the impact of such changes on operations and on the respective roles of rail and road transport. This is reflected by the considerable difficulties experienced during the preparation of the Fourth Plan in defining future railway investments. A study of the development prospects of rail transport needs to be carried out in the near future. Such a study should analyze in detail the economic and financial viability of each line, recommend alternative development plans and propose an investment program for the next five ten years.

18. AVIATION AND MARITIME TRANSPORT

A. Aviation transport

(i) General

18.1 Tunisia is served by three international airports, with a total capacity of about 2.4 million passengers per year, and a number of very primitive domestic airports which, with the exception of Sfax and Gabes, are not presently used. In addition to Tunis Air, the national airline, about a hundred international airlines connect Tunisia with the rest of the world. Over the past decade civil aviation has experienced outstanding growth due mainly to the development of tourism. According to recent forecasts, this trend is likely to continue for the medium-term.

(ii) Organization

18.2 The Office des Ports Aeriens Tunisiens (OPAT) is in charge of airports and infrastructure operation and development. OPAT was created in 1970 following the recommendations of the 1968 Transport Survey, and has so far taken over air traffic control and operation of the three international airports, at Tunis-Carthage, Skanes-Monastir and Djerba-Mellita. OPAT is an independent legal entity, fully owned by the Government. Tunis Air is a joint venture between the Tunisian Government and Air France, which own respectively 51 percent and 49 percent of the capital. These two agencies are supervised by the Ministry of National Economy (Direction des Transports) for all matters related to operation and by the Ministry of Public Works and Housing for all matters related to infrastructure development and safety regulations.

18.3 This dual control is responsible for delays in decision-making and has resulted in a lack of coordination which adversely affects operations.

(iii) Performance

(a) Traffic

18.4 Over the past decade passenger and freight traffic grew at average rates of 25 percent and 11 percent per annum respectively and aircraft movements at 18.5 percent per annum. In 1972, the total number of passengers recorded at the airports was about 1.8 million, more than two-thirds of whom used Tunis-Carthage airport, the remainder being about equally divided between Skanes and Djerba.

Table 18.1: AIR TRAFFIC MOVEMENTS, 1962-1972

	<u>1962</u>	<u>1966</u>	<u>1971</u>	<u>1972</u>	<u>Average rate of Growth</u>
<u>Passenger Traffic (000)</u>					
Scheduled	185	257	533	730	14.5%
Charter	<u>8</u>	<u>196</u>	<u>842</u>	<u>1,047</u>	<u>63%</u>
Subtotal	193	453	1,375	1,777	25%
<u>Freight Traffic (tons)</u>					
Scheduled	2,480	2,930	4,650	n.a.	-
Charter	<u>45</u>	<u>300</u>	<u>430</u>	<u>n.a.</u>	<u>-</u>
Subtotal	2,525	3,230	5,080	7,308	11.2%
<u>Aircraft Movements</u>	4,950	10,983	22,650	27,185	18.5%

Source: OPAT and Tunis Air (Statistical Appendix Table 9.3.4)

18.5 While passenger traffic on scheduled flights is growing at a normal rate, charter traffic has increased substantially, following the development of tourism after 1966. This trend is likely to continue and it is estimated that charter traffic will account for, respectively, 60 percent and 70 percent of the total passenger traffic in 1975 and 1980.

18.6 Since 1970, Tunis Air has operated only one domestic line, from Tunis to Djerba, which in 1972 accounted for less than 3 percent of the total traffic. Most of the passengers on this line are tourists.

18.7 In 1971, Tunis Air accounted for an average of 44 percent of the traffic on scheduled service; its share in charter traffic dropped from 57 percent in 1962 to about 15 percent in 1971. This reflects the commercial policy of Tunis Air, which has been to share equally with other countries in international scheduled services and remain marginal in charter traffic, which is considered to be seasonal and not financially attractive. There are, however, indications that Tunis Air now expects to increase its share in charter traffic to about 30-35 percent by 1980.

(b) Investment policy

18.8 In 1962 infrastructure and equipment were inadequate to meet the future needs of the sector. The only international airport, located at El Aquina, some 8 km northwest of Tunis, was old and not equipped to accommodate jet aircraft. Tunis Air's fleet consisted of DC3s and DC4s. To prevent civil aviation becoming an obstacle to the development of tourism, since more than 80 percent of tourists enter Tunisia by air, it was necessary to invest heavily in infrastructure.

18.9 Improvement of infrastructure was undertaken by steps. Modernization of the old airport was followed by the creation of two new airports, at Skanes-Monastir and Djerba-Mellita. While the old airport continued to be used for most of the scheduled services, the two new airports were used mostly for charter flights. Early in the decade it was decided to build a new airport near Tunis, close to the old one. The capacity of the new airport was based on studies undertaken in 1961 which pointed to a traffic of 780,000 passengers in 1975. This forecast was very soon exceeded.

18.10 Eventually the airport was planned and built to accommodate 1,000,000 passengers per annum; modifications were made during construction to increase the capacity to about 1,700,000 passengers. The airport was completed in 1972 and received more than 1,300,000 passengers the same year. The two other airports were progressively expanded to accommodate modern aircraft. Skanes-Monastir and Djerba-Mellita have a capacity of 500,000 passengers per annum and can accommodate aircraft up to the Boeing 727 and 707 sizes.

18.11 As early as 1964, Tunis Air had undertaken the modernization of its fleet. The old DC3s and DC4s were replaced by three "Caravelles" and recently Tunis Air acquired a Boeing 727/200 which was put into service in April 1972. In addition, Tunis Air acquired two Cessnas and a Nord-262 for its domestic routes. Ground equipment was also modernized in order to maintain and service the newly acquired aircraft and satisfy the needs of international airlines.

18.12 Total investment in civil aviation for the decade amounted to D 22.5 million, of which D 13.5 million was for infrastructure and D 8.2 million for equipment; the remainder covered the modernization of the Ecole de l'Aviation Civile et de Meteorologie and other minor works. Infrastructure development was financed by the Government with foreign aid (60 percent), while the equipment was financed by Tunis Air from internally generated funds for more than 50 percent, by suppliers' credits, and by a loan from EXIMBANK for the acquisition of the Boeing 727.

Table 18.2: SUMMARY OF INVESTMENT IN AIR TRANSPORT, 1962-1971

	(000 Dinars)	
	<u>Total</u>	<u>Foreign Aid</u>
<u>I. Infrastructure</u>		
Tunis-Carthage	9,600	6,600
Skanes Monastir	1,700	780
Djerba Mellita	<u>2,350</u>	<u>950</u>
Subtotal	13,650	8,330
<u>II. Equipment</u>		
Aircraft /1	5,700	
Equipment	500	
Building	<u>600</u>	
Subtotal	6,800	
Total	20,450	

/1 Boeing 727 not included.

Source: OPAT and TUNIS Air.

(c) Financial Results

18.13 It is too early to judge the financial viability of OPAT, which was created in 1970 and which has not yet taken over the Tunis-Carthage airport (as construction is not yet completed, it is still under the Ministry of Civil Works and Housing, TPH). However, in 1970 and 1971 OPAT incurred operating losses of D 290,000 and D 90,000 respectively, and it is doubtful whether in future it will be able to cover its operating expenses and depreciation, let alone any contribution to future investments; it will probably have to be subsidized by the Government.

18.14 Tunis Air has remained profitable over the decade and has generated enough cash internally to finance about 50 percent of its investments. Financial performance has been satisfactory despite low tariffs to promote air travel.

(iv) Development Prospects

18.15 Great progress has been made in improving and modernizing infrastructure. However, this effort has been concentrated entirely on improvement of the international airports to meet the needs of tourism. Nothing has been done to improve domestic airports, especially in the south, and in 1970 Tunis Air discontinued its domestic services other than Tunis-Djerba. Improvement of infrastructure has been hampered by lack of comprehensive studies, and by the rapid growth of tourism, as evidenced by the new airport at Tunis-Carthage, which will reach full capacity less than three years after its completion.

18.16 Tunis Air's operation has generally been satisfactory. Aircraft capacity utilization rose from 63 percent in 1962 to about 69 percent in 1971, and the share of the value added in the total turnover from 53 percent in 1962 to 68 percent in 1971. Over the decade, staff increased in proportion to traffic. A continuous training effort has enabled Tunis Air to satisfy its needs with Tunisian nationals except for pilots.

18.17 As already mentioned, the development of air transport, and more particularly of charter traffic, is linked to the development of tourism. More than 80 percent of the tourists visiting Tunisia arrive by air, and though there has been an increasing demand for sea transport (car ferry), the trend is unlikely to change substantially in the near future. Freight transport is not important and is not likely to increase rapidly in the near future, as the marketing infrastructure will have to be developed before Tunisia can enter the overseas markets for fresh and early fruits and vegetables.

18.18 Traffic projections prepared separately by OPAT and Tunis Air differ substantially as to the likely number of passengers in 1976.

Table 18.3: AIR TRAFFIC PROJECTIONS, 1976
(000 Passengers) .

<u>Tunis Air</u>	
- higher projection	2,860
- lower projection	2,700
<u>OPAT</u>	3,730

Even if transit passengers are included, OPAT's projections remain high and exceed the Office National du Tourisme (ONTT) target of about 1.3 million tourists in 1976. Nevertheless it seems reasonable to count on a total passenger movement of about 3.0 million by 1976, representing an average increase of 14 percent per annum compared with 1972. About 63 percent of passenger traffic will pass through Tunis-Carthage airport, the capacity of which will be exceeded by 1975/76; the remainder will be divided about equally between Djerba and Skanes-Monastir. Scheduled flights are expected to account for 40 to 45 percent of total passenger traffic, while charter flights will supply the balance. Given the potential development of tourism, these projections are not unreasonable.

18.19 Freight traffic is expected to grow at an average rate of about 7 percent per annum, from 7,400 tons in 1972 to 9,500 tons in 1976. Most of the freight will pass through Tunis-Carthage, and some difficulties are expected in meeting the demand, as the existing handling and storage facilities are already inadequate.

18.20 Although the Tunis-Carthage airport is fairly new (construction will be completed during the current Plan period), some difficulties are expected in meeting the projected demand over the next four years. Passenger-handling capacity should be adequate, although police and Customs formalities

may cause some delay. However, the capacity of the aircraft parking and servicing areas is inadequate. OPAT is conscious of this problem, which it inherited on its creation, and has undertaken, with the assistance of consultants, the preparation of a master plan for the future development of the Tunis-Carthage airport. This plan should enable OPAT to increase the capacity of the existing airport by stages until 1985, when a second airport, likely to be located south of Tunis, might be considered. No major capacity problems are envisaged at Skanes-Monastir and Djerba. However parking and servicing areas will have to be expanded during the Plan period to provide safer landing conditions at Djerba and to make it possible to utilize Skanes-Monastir as an overflow facility for Tunis.

18.21 Domestic airports have been neglected up to now, partly because there was no obvious demand for domestic services and partly because the main effort was concentrated on the development of international airports to encourage tourism. It is envisaged, although no detailed study has yet been undertaken, that the Sfax, Gabes and Gafsa airports should be reopened to light aircraft (40 seats) to satisfy the demand created by tourism development, largely industrial projects in the south and stepped-up oil exploration. These airports would be served by domestic services operated by Tunis Air.

18.22 One of the objectives of ONTT is to diversify tourism and to offer a year-round program to potential tourists. For this purpose ONTT is considering the development of Saharan tourism and is planning to build an airport for medium-sized aircraft at Tozeur. This project, as well as the modernization of the airports of Sfax, Gabes and Gafsa, is subject to further studies. However, the Tozeur project has been given a higher priority than the other airports.

18.23 A total of D 14.2 million will be invested in infrastructure projects over the next four years, of which D 6.9 million is for the completion of on-going projects, D 0.75 million for projects which have been decided upon and are ready to start, including the study of a master plan for the Tunis-Carthage airport, and D 6.55 million for projects which are still being studied. These new projects include the extension of Tunis-Carthage airport (D 3.0 million) and various improvements at Djerba and Skanes-Monastir (D 1.25 million) and domestic airports (D 2.3 million).

18.24 The civil aviation investment program appears reasonable, although the total cost of the Tunis-Carthage expansion is high. (This is the result of poor planning in the past and should not be repeated once the airport master plan is completed). New projects which are being launched only account for 5 percent of the total investment, and projects under consideration for 45 percent of the total program. However, the total investment required is far beyond the financial possibilities of OPAT and 35 percent of the total cost of the program will be financed by the Government. Even so, OPAT's resources will have to be supplemented by government operating subsidies amounting to about D 3.0 million over the period. The problem of the financial viability of OPAT has not been studied in detail, as the agency has only been recently created. However, there is a need to define more precisely OPAT's task and its financial responsibilities toward the Government. Some of the installations to be financed by OPAT will be used for services to be provided

by the Government within the framework of international conventions (traffic and air control). The capital as well as operating cost of these services should not be borne by OPAT as now.

18.25 As the development of air traffic is closely linked to tourism, it would seem reasonable that part of this infrastructure cost should be borne by tourism agencies. This approach has not yet been considered, but the taxation of tourism could be used to provide OPAT with funds to facilitate the financing of the investment program. Alternatively, the Government could agree, as it has for the port of Gabes, that the construction of new airports (Tozeur) and the modernization of existing ones (Sfax, Gabes, Gafsa) are development projects and that OPAT would be responsible only for operation of the facilities, without having to bear depreciation or loan service.

18.26 Tunis Air's objectives for the next four years are to increase its share in scheduled traffic slightly and to enter charter operation seriously. To realize the first part of its program, Tunis Air has acquired a second Boeing 727 and is planning to replace its Caravelles by new aircraft to be purchased between 1974 and 1976 as the need arises. These new aircraft will be financed to the extent of 50 percent by internally generated funds, the remainder being financed by suppliers' credits.

18.27 For a long time, Tunis Air has been considering moving into charter operations, which at present account for only 17 percent of its total traffic. The main reasons are: (i) to obtain a share of foreign exchange which now goes to foreign operators, and (ii) to make Tunisia's tourist traffic less dependent on foreign tour operators. Tunis Air aims at obtaining about 25 percent of total charter traffic by 1976, which would mean more than doubling the number of passengers transported between 1972 and 1976. Although it has not yet been decided how the charter activity would be organized, Tunis Air and the Government apparently favor the creation of a subsidiary company dealing exclusively with charter flights. However, other solutions are being studied.

18.28 Tunis Air knows that it will be difficult to introduce a new charter company in an already very competitive market, but expects to be able to establish a foothold in such markets as Scandinavia and the UK. The project is only in the very early stages and other studies will no doubt be undertaken. Nevertheless, there is a need for closer coordination between the tourism agency (ONTT) and Tunis Air. The success of a charter company will depend greatly on the capability of the travel agencies to supply passengers, and it is doubtful whether the Tunisian tourism organization abroad is sufficiently well staffed and organized for this purpose. Moreover, charter activity is seasonal, at least in Tunisia's case, and there is little opportunity to use aircraft during the off-peak season except for very short periods, to supplement the ordinary fleet. While in principle the idea of a charter company is attractive, it is a risky venture which, at least in the early years, might not be profitable and could possibly endanger the viability of the parent company.

8.29 Although the Fourth Plan recognizes the close links between air transport and the needs of tourism, it is not based on any analysis of the relative costs and benefits of increasing the national fleet compared with relying on foreign airlines and travel agencies. It would be advisable to create a subcommittee for air transport, consisting of representatives of the administration and of the transport and tourism agencies, to study this problem further and to prepare an integrated plan for the development of air transport in Tunisia.

B. Maritime Transport

(i) General

18.30 With more than 1200 km of coastline, Tunisia is served by the four major ports of Tunis-La Goulette, Bizerte, Sfax and Sousse and a new industrial port under construction at Gabes. In addition, there are a number of fishing ports which are not commercially important. While Bizerte and Sfax are specialized ports, handling petroleum and phosphate respectively, Tunis-La Goulette is the main port for general cargo and grain. Sousse is of regional importance only; in 1972 it handled 8 percent of total traffic (petroleum and phosphate excluded). Gabes will mainly serve the chemical industry to be developed in the south.

(ii) Organization

18.31 Since 1963, Tunisian ports have been controlled by the "Office des Ports Tunisiens" (OPNT), an independent authority managed by a Director-General responsible to a Board of Directors consisting of three representatives of the Government and four representatives of port users. OPNT is responsible for the development and maintenance of Tunis-La Goulette, Sfax, Sousse and Bizerte (including Menzel Bourguiba) and has recently been made responsible for the operation of Gabes. OPNT has a reasonable degree of autonomy in all administrative and financial matters.

18.32 With few exceptions, OPNT does not operate cargo handling services, though it holds part of the equipment. These services are provided by cargo handling companies, the most important of which is the Societe d'Acconage et de Manutention (STAM) in which the Government has a majority interest. STAM operates in all OPNT ports and provides exclusive services at Tunis-La Goulette. Except for floating cranes and portals, STAM owns its own handling equipment.

18.33 Tunisia's only shipping company, Compagnie Tunisienne de Navigation (CTN) was created in 1959. The Government owns 55 percent of its capital, the remainder being divided between public enterprises and some private interests. CTN has shares in a number of companies closely related with port operation and shipping, and more particularly owns 55 percent of the capital of STAM and 25 percent of that of Chimie Gabes Transport. ^{1/} CTN provides all kinds of shipping services except passenger transport. In 1972 it handled about 30 percent of Tunisia's total external trade.

^{1/} Chimie Gabes Transport is a subsidiary company of ICM and CTN for the transport of chemicals and particularly of phosphoric acid.

(iii) Traffic 1/

18.34 From 1963 to 1972 total port traffic increased from 5.6 million tons to 8.9 million tons at an average rate of 5.3 percent per annum. However, in the past five years total traffic has remained almost constant, the increase in petroleum being offset by the decline of iron ore. Total tonnage loaded in 1972 accounted for less than 45 percent of total traffic, compared with 63 percent in 1966 and 75 percent in 1963, the changes being mainly due to the increase in the import of crude oil to supply the Bizerte refinery.

Table 18.4: SUMMARY OF CARGO TRAFFIC IN TUNISIAN PORTS BY MAIN CATEGORIES

	<u>1963</u>	<u>1968</u>	<u>1971</u>	<u>1972</u>
	----- (000 tons) -----			
General Cargo	1,308	1,223	1,010	1,166
Grain	272	379	277	328
Crude oil and petroleum products	655	2,056	2,988	3,171
Iron ore	738	1,385	957	537
Solid fuels	-	79	101	141
Iron and steel products	-	33	112	195
Building materials	97	36	23	140
Phosphates	2,202	2,521	2,797	2,702
Sulphur	-	128	41	148
Salt	297	289	197	317
Others	-	27	35	36
Total	5,569	8,156	8,538	8,871
Unloaded	1,528	2,668	3,493	3,809
Loaded	4,041	5,488	5,046	5,062

Owing to an adequate development program, port capacity has generally been sufficient to meet the demand, although in Sfax the traffic is approaching capacity. The Tunis-La Goulette port, which handles 65 percent of general cargo traffic and 50 percent of total traffic, is affected by (i) the delay in completing a bulk grain berth; (ii) the reluctance of port users to transfer their storage from the old Tunis Port to La Goulette; (iii) the lack of housing for dockers; and (iv) the inefficiency of STAM in clearing goods and using transit sheds as semi-permanent storage. Nevertheless, these deficiencies are not yet severely affecting the traffic, as the port is operating at considerably less than optimum capacity, but they should be resolved to avoid congestion as traffic grows. The Government is presently studying measures to enable OPNT to change port regulations and to improve port operations.

1/ The basic data on maritime transport appear in Table 9.3.1 of the Statistical Appendix.

18.35 From 1962 to 1971, the total tonnage transported by CTN increased from 1.4 million tons to 3.4 million tons per annum. CTN has a quasi-monopoly of petroleum coastal shipping, which grew at an average rate of 22 percent per annum over the period, and its share of international crude oil traffic is about 50 percent. CTN's share in bulk material and general cargo traffic is only about 10 percent, half of which is transported under the Tunisian flag and the remainder chartered.

Table 18.5: SUMMARY OF CTN TRAFFIC

	<u>1962</u>	<u>1966</u>	<u>1970</u>	<u>1971</u>
	----- (000 tons) -----			
Cargo	757	1,167	808	706
Petroleum				
- coastal shipping	-	613	1,465	1,583
- other	<u>651</u>	<u>1,045</u>	<u>1,017</u>	<u>1,072</u>
Subtotal	651	1,658	2,482	2,655
Total	1,408	2,825	3,290	3,361

18.36 CTN operates regular lines to France, Italy and the Atlantic and North Sea ports. Export freight consists mainly of agricultural products (citrus fruit and olive oil), wine and minerals (phosphate, iron ore, salt). Return freight consists of food products (cereals, sugar) and industrial and semi-industrial products. CTN is fairly active in the olive oil trade, but lacks adequate facilities for wine export, though market opportunities look promising for the next four to five years. The fleet consists of 11 general cargo vessels totalling 31,000 dwt and one 10,000-ton oil tanker. Half of the fleet is over 15 years old and is not equipped for modern cargo handling. This creates some problems in European ports.

(iv) Investments

18.37 Major port investments were undertaken early in the 1960s at La Goulette to relieve congestion in the old Tunis Port and to provide facilities capable of accommodating modern vessels. Presently La Goulette is handling some 80 percent of the total tonnage of the Port of Tunis complex. This was followed by a modernization and improvement program of the ports of Tunis, Bizerte and Sfax, which consisted in (i) dredging access channels in order to accommodate mineral carriers of 35,000 dwt at La Goulette and 20,000 dwt at Sfax, and oil tankers of 50,000 tons capacity at Bizerte; (ii) the acquisition of dredging and cargo handling equipment; (iii) the reconstruction of an island breakwater at Bizerte; (iv) the construction of a car ferry terminal at La Goulette; and (v) the construction of grain storage at La Goulette. The World Bank made two loans of US\$7.0 million and US\$8.5 million respectively towards the cost of these projects, the balance being provided by funds generated internally,

18.38 Early in the 1960s the Government decided to build an industrial port at Gabes with the intention of promoting regional development by encouraging chemical industries in the south. This port is nearing completion and will serve the Industries Chimiques Maghrebiennes (ICM) and the industries being installed at Gabes, and will be used to export phosphates to relieve Sfax, which is approaching capacity. The total cost of the port, about D 12 million, has been partly financed by an Italian loan of D 8.0 million.

18.39 While the OPNT program appears to be justified despite some shortfall in iron ore and phosphate exports, the justification of the Gabes port is more doubtful. It is true that infrastructure projects can assist in opening up underdeveloped regions, but they should be based on a precise evaluation of development and the analysis of alternative solutions and the possibility of stage construction. Despite the expansion of ICM and the possible construction of a refinery and a cement factory, the Port of Gabes is oversized for the immediate needs of the area. Recently, however, there have been some opportunities to use Gabes to relieve the Port of Tripoli (Libya), which is undergoing major expansion. Negotiations between Tunisia and Libya are underway.

18.40 CTN's investment over the decade amounted to D 4.1 million for the acquisition of 10 vessels. This amount is considerably less than had been originally envisaged.

Table 18.6: SUMMARY OF CTN'S INVESTMENT, 1962-1971
(000 Dinars)

	<u>Forecast</u>	<u>Actual</u>
Prior to 1965	1,055	1,320
1965-1968	5,300	855
1969-1972	<u>2,625</u>	<u>2,480</u>
Total	8,970	4,675

The reason for the difference between objectives and results is CTN's lack of financial resources. All the vessels, whether new or second-hand, were acquired through suppliers' credits and bilateral credits. Government participation in the financing was limited to down-payments on these vessels in the amount of D 73,000. Repayment periods for these credits vary from 3 to 12 years.

(v) Cost and Tariffs

18.41 OPNT is one of the few government-owned transport agencies whose financial situation is satisfactory. OPNT's present tariffs are sufficient to cover operating expenses, service debt and yield a return on net fixed assets of about 6 percent. However, the tariff structure is not entirely satisfactory. In particular, charges for the use of berths are based on cargo handled and not on the ship's size and length of stay, so that the shipowner has no incentive

to use larger ships and to shorten berth occupancy; this probably reduces the benefit to the national economy. OPNT is aware of the problem and is to carry out a tariff study which is expected to be completed early in 1974.

(vi) Development Prospects

18.42 It is projected that total port traffic will increase from 8.5 million tons in 1971 to about 10.7 million tons in 1976, of which 1.5 million tons would be handled at Gabes. Passenger traffic will grow from 180,000 passengers in 1971 to 320,000 in 1976, all of which will be handled by Tunis-La Goulette, therefore exceeding the capacity of the existing terminal. Some important changes are expected in the nature and type of vessels calling at Tunisian ports, and it is expected that the use of horizontal loading (roll-on/roll-off) vessels will become more common and necessitate some changes in equipment and infrastructure.

18.43 CTN's intentions are to acquire new vessels to increase its share in total shipping up to 22, 30 and 35 percent for the transport of general cargo, bulk materials and passengers respectively. Gabes Chimie Transport plans to expand its fleet by one unit and to modernize its terminal equipment.

18.44 Total investment in maritime projects for the period is planned at D 32.95 million, of which D 4.6 million is non-budgetary funds for the completion of the Port of Gabes. The Government will provide D 6.85 million, which will cover the Port of Gabes, minor works in various ports and two marinas at Sidi Bou Said and Monastir. The OPNT and STAM investment programs amount to D 5.2 million, of which D 1.5 million is for ongoing projects and the remainder for minor improvements at the various ports. CTN and Gabes Chimie Transport investments are the largest, amounting to D 16.25 million, of which D 12.0 million will be used to finance the acquisition of 4 mineral carriers, a roll-on/roll-off general cargo carrier and a car ferry. Gabes Chimie Transport will acquire a new phosphoric acid carrier.

18.45 The port expansion plan appears to be well-balanced. Port capacity should generally be adequate for the next four years but further expansion will be needed late in the 1970s. OPNT has decided to prepare a master plan for each port. This study, which includes traffic forecasts by commodity, should enable OPNT to prepare an expansion program for the Fifth Plan.

18.46 CTN's objective of increasing its share of traffic to avoid freight rate fluctuations also appears justified in so far as the plan is linked to a marketing program for minerals and to large contracts with Mediterranean countries. The acquisition of a car ferry presents the same problem as the acquisition of aircraft for tourism. However, no decision has yet been taken on this project, which should be studied further.

18.47 OPNT will rely largely on funds provided from other sources. OPNT's financial projections show that its financial viability will not be impaired by carrying out the program. CTN will use internally generated funds and suppliers' credits, and its program should not present undue financial problems.

19. TOURISM

19.1 Centrally situated between the Eastern and Western basins of the Mediterranean, Tunisia is the nearest point of the African continent to the hub of the European tourist market in the London-Frankfurt-Paris triangle. The country's 1,200 km of coastline has some of the finest beaches of the Mediterranean, with a pleasant climate for the greater part of the year. Moreover, in the south there is the Sahara desert which, with its beautiful oases, has a special appeal to tourists. Relics of Tunisia's cultural past abound throughout the country: Phoenician ruins dating from the period when Carthage was a major maritime power, Roman aqueducts, temples, and coliseums, Byzantine inspired mosques, Turkish fortifications along the old Barbary coast and, in all Tunisian towns, ancient Arab "souks" where a variety of imaginative handicrafts is offered. During the Roman period Tunisia's watering-places were known, and before independence the French had already developed tourism in such places as the Tunis-Carthage coast, Cap Bon and Hammamet. Over the past decade, the abundance of tourist attractions has attracted a rapidly increasing number of foreign visitors.

A. The Sector

(1) The Growth of Tourism and its Contribution to the Tunisian Economy

19.2 In the last decade, the rate of growth of tourism in Tunisia was one of the highest in the world. Between 1961 and 1972, foreign visitor arrivals in Tunisia increased at an annual rate of almost 30 percent, from 46,000 to 780,000. Following the end of the war in Algeria, there was a sharp spurt in 1963-1964, when the number of visitors increased at an average rate of 62 percent per annum. The rate then became uneven, averaging 24 percent per annum in 1965-1972; there was a slowdown in 1967, because of the war in Middle East, and again in 1969 and 1970, as the result of a combination of such factors as political uncertainty, floods and cholera. Growth regained momentum in 1971 and in 1972, when foreign visitor arrivals rose by 48 percent and 28 percent respectively. In recent years tourism in the Mediterranean region has grown at an average of 10 percent a year, and Tunisia's rates of 30-40 percent are exceptionally high.

Table 19.1: GROWTH OF INTERNATIONAL TOURISM

	1961	1964	1968	1972	Growth Rate			
					1961-64	1965-68	1969-72	1961-73
Visitor arrivals (000)	46	138	330	780	44.0	24.5	24.0	29.3
Visitor bednights (000)	320	694	3,082	6,778	29.5	45.0	22.0	32.0
Foreign exchange receipts (million of dinars)	1.5	5.4	22.2	67.4	54.5	42.5	32.5	41.5

Source: Office National du Tourisme et du Thermalisme (ONTT).

19.3 Length of stay, and consequently foreign exchange earnings from tourism, have increased much faster than arrivals and accommodation. The rate of increase of foreign exchange earnings, which was over 40 percent per annum in 1961-72 (about three times the world rate), reflected both an increase in the average length of stay and in average expenditure. Average length of stay increased from 5 days in 1963 to 9.3 days in 1968, levelled in 1969-71, then decreased slightly in 1972-1973 as the number of short-stay winter visitors increased. The daily expenditure of tourists increased from D 5 in 1963 to D 10.1 in 1972. The expenditures of cruise visitors, who are not included in the number of overnight stays, are included in tourism foreign exchange earnings. However, although the number of cruise visitors has increased rapidly, their impact is slight, as their expenditures are usually only for souvenirs and short day trips.

19.4 Because of Tunisia's low per capita income, the development of domestic tourism was much slower. The number of resident bednights - mostly foreign resident in Tunisia - showed little change up to 1967, then increased by 8 percent per annum. As a percentage of total bednights, the number of resident tourist bednights, which had rapidly declined, represented less than 5 percent in 1972.

Table 19.2: CONTRIBUTION OF TOURISM TO TUNISIAN ECONOMY
(Percentage)

	<u>1962</u>	<u>1964</u>	<u>1966</u>	<u>1968</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>
Tourism value added/GDP at factor cost	0.5	0.9	1.7	2.3	2.7	3.9	4.1
Gross receipts from tourism/ Merchandise exports	4.0	9.4	18.3	26.7	32.0	45.9	42.2
Gross receipts from tourism/Total current receipts in the Balance of Payments	2.5	5.9	10.9	14.9	16.4	21.2	21.5
Investment in tourism/Total fixed investment	5.3	12.7	8.1	12.2	9.6	11.8	12.0

Source: Ministry of Planning and ONTT.

19.5 The tourism sector has contributed more and more significantly to Tunisia's economy. In relation to GDP its contribution rose from 0.5 percent in 1962 to 4 percent in 1972, at current prices. According to the official national accounts, the direct value added by tourism - without taking into account the indirect effects of tourism on other sectors - grew by 29 percent per annum over the decade at constant prices, compared with 6.8 percent for total GDP at factor cost (1961-1972). However, this rate, which is no more than that for visitor arrivals, is probably underestimated, since the

ratio of value added to gross receipts from tourism has improved over the decade (according to the O.N.T.T. 1/). Investment in hotels 2/ averaged 10 percent of total gross capital formation in Tunisia during the decade. On the basis of an investment in hotels of D 124 million in 1962-1971, and an increase in the value added by tourism of D 35 million from 1962 to 1972, 70 percent of which is attributable to hotels, the incremental capital output ratio for hotel investment is about 5 (at current prices, one year time lag). In 1972 about 20,000 people were employed by the tourism industry (compared with 1,600 in 1961) - about 2 percent of the total full-time employment. However, this figure does not take into account the indirect employment in other sectors attributable to tourism. The total employment generated by tourism in Tunisia has been estimated at not less than twice the directly created employment.

Table 19.3: TOURISM AND OTHER MAJOR SOURCES OF FOREIGN EXCHANGE EARNINGS
(Percentage)

	<u>1961-62</u>	<u>1963-64</u>	<u>1966-67</u>	<u>1969-70</u>	<u>1971-72</u>
Gross receipts from tourism	2.1	5.2	11.6	15.9	21.4
Petroleum exports	-	-	6.4	13.4	12.8
Workers' remittances	3.2	2.9	4.1	7.3	9.2
Phosphate product exports	11.7	13.1	16.4	10.8	7.7
Olive oil exports	13.8	12.5	8.4	5.3	12.7
Other exports and invisibles	69.2	66.3	53.1	47.3	36.2
Total current receipts	100	100	100	100	100

Source: Ministry of Planning.

19.6 The contribution of tourism to Tunisia's economy appears more significant in terms of foreign exchange earnings. Between 1961 and 1972, earnings from tourism rose from D 1.5 million (\$3.6 million) to D 67.4 million (\$140.2 million), i.e. from 1.8 percent of total current receipts to more than 21 percent and from 3.2 percent of merchandise exports in 1961 to 42 percent in 1972. Foreign exchange earnings from tourism are now the single most important source of foreign exchange for Tunisia, accounting for 21 percent of the total, and ahead of petroleum exports (13 percent), olive oil (12 percent), workers' remittances (9 percent) and phosphate products (8 percent).

1/ Office National du Tourisme et du Thermalisme.

2/ Excluding infrastructure.

Table 19.4: CONTRIBUTION OF TOURISM TO THE BALANCE OF PAYMENTS
(Annual Average)

	Millions of Dinars			
	<u>1963-64</u>	<u>1966-67</u>	<u>1969-70</u>	<u>1971-72</u>
Net Tourism receipts (excluding equipment import)	2.1	10.2	20.2	42.8
Net Tourism receipts (including equipment import)	-3.8	5.3	15.8	37.2
Total Net exports of goods and non-factor services	-44.3	-54.1	-32.2	-15.1
Net exports of goods and non- factor services, excluding tourism	-40.5	-59.4	-48.0	-52.3

Source: Ministry of Planning and Bank estimates.

19.7 However, since tourist services need a large proportion of imported inputs (foodstuffs, consumer goods, services of transport and marketing), its contribution in terms of net earnings is smaller. Net foreign exchange earnings from tourism were estimated by ONTT at 46 percent of gross receipts in 1964, 68 percent in 1968, and about 70 percent in the last year or two. This increase has been due to the expansion of domestic production, particularly of foodstuffs, to meet the tourism demand. Net receipts from tourism increased from about D 2 million in 1963-1964 to about D 43 million in 1971-72, compared with gross receipts of D 4.6 million and D 61 million respectively. Furthermore, taking into account imports of equipment by the tourism sector, estimated at about 60 percent of total investment during the first years of the decade and at about 30 percent in recent years, the contribution of tourism to the balance of payments was at first negative, and then increased to about D 16 million in 1969-1970 and about D 37 million in 1971-1972 ^{1/}. These rough estimates show that tourism will not reach maximum profitability in terms of foreign exchange earnings until the necessary infra-structure has been completed.

(ii) The Nature of Tourism Demand in Tunisia

19.8 The main characteristics of the visitor flow to Tunisia have been:

^{1/} These figures do not include the net foreign exchange receipts from Tunis Air which are largely due to tourism. These net receipts are probably small, since this company has made big investments with an important foreign exchange component.

- (i) The predominance of European visitors seeking vacations on beaches in the sun; there is only a secondary interest in tourism attractions outside the coastal fringe;
- (ii) Most European tourists arrive at airports close to the beach resorts, mainly by charter flights;
- (iii) The initiative lies mainly in the hands of European travel organizers and holiday clubs, especially the wholesalers who offer package tours by charter flight;
- (iv) While demand is highly seasonal, there has been expansion of winter tourism.

Table 19.5: VISITOR ARRIVALS BY REGION OF PERMANENT RESIDENCE

	Percentage				Average Length Of Stay (Days)
	1963	1966	1969	1972	1972
Germany	11.2	15.4	15.9	21.7	13.6
France	26.6	22.1	23.0	19.5	7.7
United Kingdom	4.7	9.3	10.0	18.1	8.6
Benelux	2.6	4.2	5.9	7.6	10.7
Scandinavia	1.4	2.7	9.0	5.6	9.9
Italy	6.6	5.3	6.2	4.8	5.7
Other European countries	5.7	9.6	7.7	5.4	11.0
Sub-total	58.8	68.6	77.7	82.7	10.0
Arab countries	30.6 ^{/1}	22.1 ^{/1}	14.1 ^{/2}	11.8 ^{/2}	1.4
United States and Canada	3.8	3.4	2.6	2.7	4.6
Other areas	6.8	5.9	5.6	2.8	5.4
TOTAL	100	100	100	100	8.7

/1 Including a large proportion of Algerians.

/2 Mostly Libyans.

Source: ONTT (Statistical Appendix, Table 9.4.2).

19.9 As shown in Table 19.5, the principal source of tourists for Tunisia is Western Europe, which in 1972 accounted for almost 83 percent of total foreign arrivals; Germany, France and the U.K. are the three chief countries of origin. German visitors have recently outnumbered those from France although, in terms of visitor bednights, Germans had taken the lead some time earlier because of a longer average stay. In recent years there was a rapid increase in arrivals from the U.K. This expansion is significant as reflecting the effects of a dynamic marketing policy in the U.K., particularly in developing the "extended week-end" off season. Other fast growing markets are Scandinavia

and Benelux. Visitors from the United States and Canada, who had accounted for a small and declining proportion of the traffic, increased by 27 percent in 1972, as the result of a new interest on the part of American travel agencies, and North America appears to be the main potential for the growth of Tunisian tourism. The least dynamic markets have been the traditional ones of France and Italy, which, however, still remain important.

19.10 Generally, visitors from Northern Europe who have to spend more on transport tend to stay longer to justify the cost. French and Italian visitors have among the lowest number of bednights recorded for all Europeans visitors; however, some are visiting relatives in Tunisia, where their stay is not registered if they do not reside in hotels. The Americans also stay a short time, since in their case, Tunisia is generally just one stop in a tour of Europe and the Middle East. According to a sample survey made by the "Compagnie Financiere et Touristique" (COFITOUR) from May to August 1971, beach oriented and sun seeking vacationers form the majority of Tunisia's foreign visitors. Although the cost of accommodation and services is lower in Tunisia than in other Mediterranean destinations, the relatively high cost of air travel (even via charter flights) from Western Europe makes a vacation in Tunisia more expensive than one in areas which can be reached by car or train. The bulk of the tourists are middle class, medium-income, and mostly seasonal international travelers. About 80 percent of the vacations have been organized by inclusive-tour groups. Package tours are most popular with the Germans, Swiss and British, and least with the French. The French and Belgians make most use of holiday clubs, and the French have had the highest proportion of individual tourists.

Table 19.6: SEASONAL DISTRIBUTION OF BEDNIGHTS AND LENGTH OF STAY

	<u>Bednights in percentage</u>					<u>Average Length of Stay in days</u>				
	<u>1963</u>	<u>1966</u>	<u>1969</u>	<u>1971</u>	<u>1972</u>	<u>1963</u>	<u>1966</u>	<u>1969</u>	<u>1971</u>	<u>1972</u>
Peak Season <u>/1</u>	45.4	53.9	58.9	56.0	51.6	5.1	8.2	10.3	10.7	9.9
Medium Season <u>/2</u>	34.6	31.2	28.0	30.6	30.9	5.9	7.7	9.3	9.3	8.6
Low Season <u>/3</u>	20.0	14.9	13.1	13.4	17.5	4.4	5.4	5.9	7.0	6.4
TOTAL	100	100	100	100	100	5.2	7.5	9.2	9.6	8.7

/1 June, July, August and September.

/2 October, November, April and May.

/3 December, January, February and March.

Source: ONTT (Statistical Appendix, Table 9.4.3).

19.11 Tourism has been increasingly concentrated in the summer months (Table 21.6). The number of foreign visitor bednights during the four summer months went up from 45 percent of the total in 1963 to 59 percent in 1969. The proportion of arrivals during this peak season was lower, 46 percent in 1963 and 52 percent in 1969, but the average length of stay, which generally increased during the decade, increased most for summer vacations, going up

from 5 days in 1963 to more than 10 days in 1969. The seasonality of the traffic is due more to the habits and conditions in the countries of origin than to the Tunisian climate, which is generally more favorable all year round than in Europe, at least in the center and the south.

19.12 However, since 1971, while there has been a slight decrease in the average length of stay for all seasons, tourism has increased during the winter and autumn months. In 1972 the proportion of bednights during the peak season fell to less than 52 percent, while the proportion during the four winter months increased from 13 percent in 1969 to 17.5 percent in 1972, and the proportion during the "medium" season increased from 28 percent to 31 percent. This latter increase was mostly due to a rise in bednights in October and November from 9 percent of the total in 1969 to 13.5 in 1972. These changes reflect the efforts of travel agencies to develop inclusive-tour groups in winter and autumn at lower prices. In this respect Tunisia has considerable long-term potential as a winter resort for Europeans, especially the southern beaches, which are in about the same latitude as Florida, closer to Europe, and less expensive than Bermuda, the Bahamas or the Caribbean. Compared with other tourist countries of the Mediterranean region, the performance of Tunisia, with 48 percent of bednights during the medium and low season (October through May), is best. The corresponding rates are 40 percent for Greece and Spain, 25 percent for Italy and 15 percent for Yugoslavia.

Table 19.7: VISITOR ARRIVALS BY TYPE OF TRANSPORT
(Percentage)

	<u>1963</u>	<u>1966</u>	<u>1969</u>	<u>1972</u>
AIR	50.6	64.9	75.8	81.5
(Tunis-Carthage)	--	--	(57.8)	(56.6)
(Djerba)	--	--	(7.4)	(9.2)
(Monastir)	--	--	(10.6)	(15.7)
of which: by scheduled flights	85	46	42	38
by charter flights	15	54	58	62
ROAD	34.2	26.2	17.0	13.5
SEA	15.2	8.9	7.2	5.0
TOTAL	100	100	100	100

Source: ONTT.

19.13 Since 1963, Tunisia has largely overcome the disadvantage of being less accessible from Europe than northern Mediterranean countries by encouraging air movement by both scheduled and non-scheduled flights. In 1963 only about half the stopover visitor traffic arrived by air, whereas in 1972 the proportion was more than 80 percent. Moreover, there was an increasing number of arrivals by charter flights, which since 1966 have outnumbered scheduled flights and have constituted about 60 percent of total air traffic. Assuming that about 20 percent of arrivals on scheduled lines is by organized

"package" tours, probably 70 percent or more of the visitor air traffic to Tunisia from Europe is in the form of all-inclusive tours covering transport, accommodation and board. This means that the large foreign tour organizers have a powerful voice in the determination of the nature and price of hotel accommodation. The increase in arrivals by air has been helped by the existence of three international airports (Tunis-Carthage, Monastir and Djerba), which were extended to allow the landing of larger jets, and, being close to the main zones of tourist attraction, give easy access for direct charter flights, as well as regular traffic.

19.14 Sea traffic has played only a minor role. It remained around 20,000 visitors a year until 1968, then increased by 17 percent per annum to 39,000 in 1972. However, since overall arrivals grew more rapidly, sea traffic fell from 15 percent of the total in 1963 to only 5 percent in 1972. Most of this traffic arrives by the ferry services through Tunis/La Goulette, while small numbers arrive through the ports of Sfax, Sousse and Bizerte. The number of cruise visitors, however, is greater than that of stopover visitors arriving by sea, and increased rapidly from 5,000 in 1962 to 82,000 in 1969, then decreased to 52,000 in 1972. Cruise visitors only spend a day or two in the country and are usually accommodated and fed aboard ship.

19.15 There are two main sources of road tourist traffic in Tunisia: visitors coming mainly from Maghreb countries, and other visitors who travel by road vehicles of various kinds on excursions or tours to places of interest. In 1972, 105,000 visitors arrived by road, but this represented only 14 percent of total arrivals, compared with 34 percent in 1963. Most of the internal tourist traffic is generated by tour operators using large buses and by hotels and holiday villages using their own small buses. During recent years car rental companies have also become important. Without statistics, it is difficult to measure the distribution of the traffic throughout Tunisia. The most heavily travelled route for tourists is GP1, the main north-south truck road, and probably 90 percent of tourist road traffic is concentrated in the areas surrounding the four main tourism zones of Tunis, Hammamet-Nabeul, Sousse-Monastir, and Djerba-Zarzis. The principal inland target areas of tourist road traffic are likely to be the southern oases (Gafsa, Tozeur, Nefta, and Tataouine) and the northern mountain circuits of Bizerte, Tabazka, Jendouba, Le Kef, Sbeitla, Kairouan, Kasserine and the Cap Bon region. The total tourist vehicle mileage may be estimated at about 20 million km in 1972. In general, the road system in Tunisia appears capable of carrying the present volume of traffic, but will require improvement as traffic expands.

(iii) Tourism Accommodation

19.16 Overshooting the targets set by various national development plans, Tunisia's hotel accommodation expanded at an annual rate of 25.5 percent over the last decade, from 3,950 beds in 1961 to about 47,800 in 1972. Demand, expressed in visitor bednights, grew at a much higher rate - 32 percent - than accommodation, so that average occupancy rose from 22.5 percent in 1961 to 39.4 percent in 1972.

19.17 However, if residents as well as visitors are taken into account, the annual occupancy rate in 1972 was much the same as in 1961 - 40-41 percent - but there were important changes during the decade (Table 19.8). Occupancy by residents, which represented almost half of total bednights in 1961, decreased sharply during the first years of the decade, as a result of the French leaving the country. This lowered the total rate of occupancy in spite of a rapid increase in foreign visitor bednights, while accommodation expanded considerably as a result of government investment. Total occupancy fell to 33 percent in 1964. Total capacity increased by 24.5 percent per annum during 1961-1964 and total bednights by only 16.6 percent. Thereafter, in spite of a rapid increase in private investment in hotels during the 1965-1968 Plan period, capacity did not keep pace with the rapidly increasing demand from foreign visitors. Total demand grew by 39 percent per annum during this period and total capacity by 35 percent, while at the same time, visitor demand grew by 45 percent. During the 1969-1972 Plan period the growth of both hotel investment and total bednights slackened, and as a result the annual occupancy rate rose again from 38 percent in 1968 to 41 percent in 1972, a good performance compared with other Mediterranean tourist countries, where the rate averages 30-35 percent.

Table 19.8: DEVELOPMENT OF ACCOMMODATION CAPACITY

	1961	1964	1968	1972	Growth Rate			
					1961-64	1965-68	1969-72	1961-72
Number of hotels	71	91	176	241	8.6	17.9	8.2	11.8
Average beds per hotel	55	83	140	198	14.6	14.0	9.1	12.3
Theoretical Capacity (000 bednights) /1	1,422	2,736	8,895	17,217	24.5	34.4	18.0	25.5
Actual visitor bednights	320	694	3,082	6,778	29.5	45.0	22.0	32.0
Occupancy rate, visitors only	22.5	25.5	34.6	39.4	-	-	-	-
Actual bednights (000) (Visitors and residents)	572	907	3,344	7,078	16.6	38.5	20.5	25.0
Total Occupancy rate (%)	40.3	33.3	37.6	41.1	-	-	-	-

/1 Calculated on a 360 day basis.

Source: ONTT.

19.18 The Tunisian hotel industry is also benefitting from economies of scale. The average number of beds per hotel increased from 55 in 1961 to 198 in 1972 as a result of the expansion of existing hotels and the creation of larger hotels. Expansions have accounted for a third of total hotel investment in recent years. Until 1968 most new hotels were designed to provide first-class accommodation, and 40 percent of the total fell into this category in 1965-1968, compared with 30 percent in 1961. Thereafter, the demand for medium class accommodation grew and led to a concentration of investment in this category during recent years. However, data for 1972 and for 1965-68 cannot be compared, since hotels have been reclassified. According to the new classification, the percentage of medium class hotels increased from 47 percent in 1969 to 65 percent in 1972. During the decade a number of tourist villages and youth hostels were also built and now represent about 16 percent of total bed capacity. However, they are usually opened only during the peak tourism season, and actual bednights in tourist villages and youth hostels represented only 7 percent of total visitor bednights in 1972. Moreover, tourist village traffic growth was lower than the average for other accommodation during the decade (27 percent per annum compared with 33 percent). Supplementary accommodation, such as rooms in private homes and camping sites, which is important in other Mediterranean countries, is lacking in Tunisia, and where are few private holiday residences.

19.19 Four principal tourism areas have predominated: Hammamet/Nabeul, Sousse/Monastir, Djerba/Zarzis and, to a lesser extent, the Tunis area. From 1961 to 1972 accommodation increased by 40 percent per annum in the Djerba/Zarzis area, by 37 percent in Nabeul/Hammamet, and by 36 percent in Sousse/Monastir, compared with an overall capacity growth of 25.5 percent. Accommodation in the Tunis area grew by 11 percent per annum only, starting from a higher base in 1961. In 1972, 86 percent of total capacity accommodation was in the four main tourism zones, which accounted for 93 percent of visitor bednights. The Tunis area had only 9 percent of visitor bednights in 1972 (42 percent in 1963) and 13 percent of total capacity; nevertheless, Tunis remains the most important tourism and transit center as the main arrival point for air and sea traffic and the capital city with the main concentration of tourist attractions. The lower level of beach occupancy in the Tunis area is partly due to a somewhat less reliable climate in the off season than at resorts further south.

19.20 At present there is a considerable disparity between the capacity and occupancy rates of these four main tourism areas and other regions in Tunisia, and the character of the traffic they attract. Accommodation in the inland areas and cities was only 14 percent of the total in 1972 (30 percent in 1963), with 7 percent of visitor bednights. Apart from a few transient vacationers, visitors in these areas are mostly on business, while the resort hotels have more extended vacation visitors. However, in the oases of the south there are some important hotels for transient vacation visitors, and the Tozeur/Nefta region is becoming an important resort with de luxe hotels in the desert and an airport which is to be extended to receive larger jets.

Table 19.9: REGIONAL DISTRIBUTION OF VISITOR BEDNIGHTS AND ACCOMMODATION CAPACITY

	<u>OCCUPANCY RATE</u>				<u>GROWTH RATE</u> <u>1961-1972</u>
	<u>P E R C E N T A G E</u>				
	<u>1963</u>	<u>1966</u>	<u>1969</u>	<u>1972</u>	
<u>Tunis</u>					
Capacity	(32.0)	(20.7)	(14.9)	(12.6)	(11.2)
Visitor Bednights	41.6	24.7	14.4	9.2	11.8
Occupancy Rate	33.9	31.7	28.9	28.5	-
<u>Nabeul-Hammamet</u>					
Capacity	(11.5)	(19.5)	(31.5)	(33.6)	(37.0)
Visitor Bednights	19.4	23.1	33.0	35.9	38.0
Occupancy Rate	44.1	31.6	31.2	42.0	-
<u>Sousse-Skanès-Monastir</u>					
Capacity	(10.3)	(21.8)	(23.2)	(22.9)	(36.0)
Visitor Bednights	10.4	24.5	27.3	30.7	61.0
Occupancy Rate	26.6	29.9	35.2	52.9	-
<u>Djerba-Zarzis</u>					
Capacity	(16.0)	(18.4)	(14.9)	(17.2)	(40.0)
Visitor Bednights	17.8	16.8	17.1	17.3	47.0
Occupancy Rate	29.1	24.4	34.4	39.7	-
<u>Sub-total</u>					
Capacity	(69.8)	(80.4)	(84.5)	(86.3)	(27.0)
Visitor Bednights	89.2	89.1	91.8	93.1	32.8
Occupancy Rate	33.4	29.5	32.5	42.5	-
<u>Other Areas</u>					
Capacity	(30.2)	(19.6)	(15.5)	(13.7)	(18.8)
Visitor Bednights	10.8	10.9	8.2	6.9	24.5
Occupancy Rate	9.4	14.9	15.8	19.9	-
<u>Total Capacity</u>	(100)	(100)	(100)	(100)	(25.5)
<u>Total Visitor Bednights</u>	100	100	100	100	32.0
<u>Total Occupancy Rate</u>	26.2	26.7	29.9	39.4	-

Source: ONTT

19.21 From 1960 to 1965 the main effort in the construction of hotels was made by the Government. SHTT ^{1/} hotels were the pioneers, and it was during this period that the main lessons were learned. One of these was that hotels costing D 5,000 to D 10,000 per bed and more were too luxurious for the medium-income European group tourists who formed the majority of the visitors. Since 1965, 90 percent of the investment has come from the private sector in Tunisia. At the same time the average cost of hotel construction has been lowered to about D 2,000 - 2,500 per bed, which is more appropriate to a predominantly air charter-based market. Tunisian hotel operators are generally highly cost-conscious and assess the effects on variable and fixed costs of flexible seasonal patterns of visitor flow and different tariff levels sufficiently well to extract the maximum profitability from seasonal operations. Some hotels and all holiday villages are purposely built as seasonal structures; others are a mixture of heated central hotel blocks for annual occupancy mixed with unheated bungalow extensions for seasonal use. Summer and winter tariffs quote variable prices both for individual and group tourists. Heated pools are available for off-season traffic.

19.22 Profitability in hotel operation is usually considered to depend on maximizing occupancy before maximizing margins. The relative sureness of obtaining large scale pre-planned block bookings from European air charter operators is seen as the key to ensuring that fixed costs are covered for the season. The bulk comes from the "package" tours. Thereafter hotel operators try to attract the maximum higher margin traffic possible. In addition to the relatively low cost of construction, the low labor cost (and the relatively low average number of one employee to every 3 beds) and the low prices of domestically produced foodstuffs and services place the Tunisian hotel industry in a good position to compete with its Mediterranean rivals. Full board rates range from D 3 - 4 in the tourist category to D 10 - 12 in de luxe hotels. At present, one- and two-year old hotels, facing the usual difficulties of the run-in period, account for a high 32 percent of Tunisia's total accommodation. As this proportion declines in future, both the occupancy and profitability of the Tunisian hotel industry should improve further.

19.23 Foreign investment (mostly French and German) in Tunisia's tourism sector has been of some importance since 1966, and amounted to D 10 million from 1966 to 1972, representing about 10 percent of total investment in hotel industry during this period. Accommodation capacity built and operated by foreigners represented about 10 percent of total hotel capacity in 1972. Most of this foreign investment was in the Hammamet/Nabeul and Djerba/Zarzis areas; a minor part was in the Tunis region. A large hotel is being built by a foreign company at Skanes/Monastir and some other foreign projects are planned in this area. Besides investment in hotels, there has been important foreign investment in private holiday residence villages in the Hammamet/Nabeul and Kelibia (Cap Bon) areas.

^{1/} Societe Hoteliere et Touristique de Tunisie.

(iv) Incentive and Institutional Framework

19.24 During the 1960's the organization responsible for tourism was at first a semi-government agency (the "Commissariat General du Tourisme et du Thermalisme", or CGTT) then a ministry and, since 1970, an autonomous body (the "Office National du Tourisme et du Thermalisme", or ONTT) under the supervision of the Ministry of Economy.

19.25 The functions of ONTT may be summarized as follows:

- i) To formulate and implement policies for developing tourism and spas within the framework of the National Plan;
- ii) to promote the development of specific tourism zones and spas;
- iii) to organize tourism training;
- iv) to coordinate and promote tourism development with public and private bodies, including construction, management, publicity, and the organization of exhibitions.

19.26 The Board of Directors of ONTT is chaired by the Minister of National Economy and has six directors appointed by the chairman in consultation with the Minister of Finance; six directors chosen by him for their competence in the field of tourism; and the Director-General of ONTT, also nominated by him. ONTT is largely financed from the national budget through the Ministry of National Economy. Under the general supervision of the Minister, ONTT is empowered to contract loans, to participate in tourist enterprises, and to pay expenses incurred from its own bank accounts. It handles state aid to tourist enterprises; it contracts out, supervises and pays for the small infrastructure works ("branchements") undertaken in cooperation with the appropriate agencies to link hotels to the main infrastructure (water, telecommunications, sewerage, electricity and roads). All hotel projects in Tunisia are subject to ONTT regulation and approval, within the framework of the Interdepartmental Tourist Commission ^{1/}. ONTT is also responsible for setting up, administering and financing the Government's tourism training programs. The Government hotel, restaurant and transport chain, Societe Hoteliere et Touristique Tunisienne (SHTT), is under ONTT's supervision.

19.27 ONTT and its predecessors have supported the joint efforts of the hotel industry and travel agencies by opening tourist bureaus in several European capitals. In 1970, ONTT's advertising and promotional expenditures amounted to D 350,000, or 20 percent of its total operating budget; by the end of 1971 this expenditure had increased to nearly D 500,000.

^{1/} This Commission meets monthly to approve hotel projects under the Investment Code, usually under the chairmanship of the Director-General of ONTT, representing the Minister of National Economy.

19.28 The Government offers various incentives to investment in tourism which are reviewed in Chapter 7.

19.29 The State has also assisted investors to obtain hotel sites. All land transfers within the country have been subject by law to the approval of regional Governors; a landowner's refusal to sell at a price and for a purpose recommended by one of these regional authorities entailed the risk of his being prevented from selling his land for any other purpose. The public sector has thus been able to ensure the availability of coastal land for hotel development at reasonable prices (about D 0.5 per m²). It was questionable, however, whether this method would work in future as competition for coastal sites increases. This has led the Government to set up an agency responsible for land transfers for hotels.

19.30 For several years the Societe Tunisienne de Banque (S.T.B.) took the lead in providing credit for hotel construction. Then the "Societe Nationale d'Investissements" (SNI) and the "Compagnie Financiere et Touristique" (COFITOUR) took its place and together have provided financing of about D 15 million for some 40 hotel projects. Both institutions have been able to supplement their funds of local origin from international sources such as the World Bank Group. Funds available for hotel lending have thus far been adequate. The repayment period of Tunisian hotel loans (10 to 12 years), however, is short; it is well below the average life of hotels and inconsistent with the loan terms (15 to 25 years) offered by hotel credit institutions in such other Mediterranean countries as Italy, Greece and Morocco.

19.31 The Government has recently reasserted its interest in tourism development. The transformation of the Ministry of Tourism into ONTT has proved timely. Combining greater flexibility in decision-making, financing and recruitment with good leadership at top and intermediate levels, ONTT is far better equipped to perform the tasks imposed by the continuous expansion of the sector. In 1971 the Council of Ministers approved a series of measures providing, inter alia, for the doubling of Tunis-Carthage Airport's terminal building capacity, for the exemption from customs duties of cars and buses to be used as tourist conveyances, and for reduced gasoline prices for "motorized" foreign visitors. A law creating three public land corporations for industry, tourism and housing was enacted on April 11, 1973 1/. On May 6, 1973 a decree was issued to establish the Tourism Land Corporation 2/ to facilitate land transfers to hotel investors. The Government has also designated priority tourism development zones in which hotel development will take place according to master plans.

1/ "Loi relative a l'amenagement des zones touristiques, industrielles ministrelle et d'habitation.

2/ "Agence fonciere touristique."

19.32 The six designated priority tourism development zones are within the four main tourism areas: Tunis north, Tunis south; Hammamet; Sousse; Island of Djerba, and Zarzis. With approximately 170 km of coastline, they contain about 65 percent of the country's hotel accommodation and receive more than 70 percent of foreign visitors. Although differing greatly in natural setting and man-made attractions, the six zones have in common fine beaches and clear coastal waters, as well as mild winters and pleasantly warm summers. Infrastructure in these six zones has generally lagged behind accommodation, especially with respect to roads, sewage and water supply. Scarcity of water is a problem, particularly in the Djerba and Zarzis areas.

19.33 Because of the lack of proper physical planning and building controls, the development of accommodation in the priority zones has progressed haphazardly. In most coastal areas, hotels were built in a single row close to the water -a type of development requiring beach and building surfaces which are out of proportion to the number of tourists accommodated. The distances involved in this ribbon-type development have induced hotel owners to create individual shopping and recreational facilities, whereas "shared facilities" would have been a more economic way to meet these requirements and would contribute more to the emergence of collective leisure centers, which are presently seriously lacking in Tunisia. Furthermore, as a rule, hotels have been obliged to provide for their own sewage disposal and sometimes for their own water supply.

19.34 The Government has undertaken large infrastructure projects in these zones with loans from the World Bank Group and the Kreditanstalt fuer Wiederaufbau. According to ONTT, 68 percent of beds in hotels to be opened in 1973 and 1974 will be in these zones, and so will 78 percent of future hotel accommodation not yet started. Moreover, 93 percent of hotel beds to be available in 1973 and 1974 are in the four main tourism areas in which the priority zones are included.

B. Development Prospects

19.35 The major determinants of further tourism growth in Tunisia are (i) absorptive capacity, particularly in regard to infrastructure and skilled manpower, (ii) the availability of capital for hotel development, (iii) adequate marketing to integrate Tunisia in the world market, and (iv) the improvement of the quality of services, particularly leisure services, to increase the competitiveness of Tunisian tourism.

(i) Objectives of the Fourth Plan

Table 19.10: PROJECTED DEVELOPMENT OF ACCOMMODATION CAPACITY (BEDS)

	<u>End 1972</u>		<u>Annual Increase 1973-1976</u>	<u>End 1976</u>	
	<u>Number</u>	<u>Percent</u>		<u>Number</u>	<u>Percent</u>
Tunis North	1,782	3.6	617	4,250	5.0
Tunis South	2,182	4.4	142	2,750	3.3
Hammamet/Nabeul	14,379	29.1	2,655	25,000	29.8
Sousse North	5,419	10.9	2,395	15,000	17.8
Djerba and Zarzis	9,238	18.7	1,191	14,000	16.7
Total priority zones	33,000	66.7	7,000	61,000	72.6
Other tourism areas	16,500	33.3	1,625	23,000	27.4
TOTAL	49,500	100.0	8,625	84,000	100.0

Source: Ministry of Planning ONTT.

19.36 The physical targets of the Fourth Plan (1973-1976) are based on studies and assumptions made by the "Commission Sectorielle du Tourisme et du Thermalisme." Accommodation is planned to increase from 49,500 beds at the end of 1972 to 84,000 beds in 1976. The annual increase would be 8,600 beds, compared with 6,500 during the 1969-1972 Plan. In accordance with the policy of concentrating tourism, 81 percent of the proposed additions to capacity are expected to be in the six priority zones, so that 73 percent of total accommodation will be in the six priority zones in 1976, compared with 67 percent at the end of 1972. It is expected that tourists will continue to fall within the same income groups; 15 percent of the additional capacity will be in de luxe and first class hotels, 70 percent in medium category hotels and 15 percent in holiday villages.

Table 19.11: PROJECTED INVESTMENTS 1973-1976 (Millions of Dinars)

	<u>Public Sector</u>	<u>Private Sector</u>
Hotels	1.7 (S.H.T.T.)	100.0
Leisure infrastructure	3.4	
Government Services	2.1	
Thermalism	3.9	
Studies	2.6	
Subtotal	13.7	100.0
Promotion and marketing	4.7	
Education and Training	2.4	
Infrastructure (priority zones)	27.0	
Infrastructure (other areas)	1.0	
Total	48.8	100.0

Source: Ministry of Planning and ONTT.

19.37 In the 1973-1976 Plan the Government has allocated D 113.7 million to the tourism sector, about double the investment during 1969-1972. Moreover, expenditures of D 35 million directly related to tourism have been forecast within other budgets - ONTT, education and public infrastructure - so that the overall total of investments in tourism will be about D 150 million. Out of this total, private investment in hotels is expected to account for D 100 million, assuming about the same average cost per bed as in the past years - D 4,600 per bed for de luxe and first class hotels; D 2,900 for medium category hotels; and D 1,400 for holiday villages and youth hostels. D 28 million will be allocated to infrastructure, mostly in the priority zones, including road construction, sewage, water supply, electricity and communications. D 3.4 million will constitute the government's contribution to investment in leisure infrastructure - beach preparation, ports, golf courses - with another D 2 million for various services. D 2.6 million will be allocated to studies of infrastructure projects and incentives, and it is planned to invest D 4.5 million in spas, a sector where some potential exists but which is not yet developed (see Part C). It is proposed to allocate D 4.7 million for tourism promotion and marketing through ONTT. Lastly, there will be D 2.4 million in the education budget for tourism manpower training, of which D 1.4 million will be for school projects already undertaken and D 1.0 million for new projects.

(ii) Absorptive Capacity

19.38 In terms of hotel construction, the Fourth Plan targets appear feasible when compared with performance during the last Plan. However, such continuing rapid development runs the risk of being hindered by shortages of skilled manpower, infrastructure, water supply, transportation, and intermediate goods. In particular a shortage of skilled labor seems probable. In the four years 1973-1976 it has been estimated that the hotel industry will require 13,650 persons - 1 person per 2.5 beds, which is about the present employment average - i.e. 3,632 persons annually, taking into account an 8 percent annual loss from the sector. This annual demand would be made up of 8 percent managers, 28 percent trained persons at the intermediate level, 45 percent skilled manpower and 19 percent unskilled workers. The annual training capacity of the "Institut d'Hotellerie et de Tourisme", of the hotel schools - Sousse, Bizerte, Jerba, Sidi Dhaif, La Marsa, Nabeul, Monastir - and of the training centers of the "Office de la Formation Professionnelle et de l'Emploi", plus the number of persons expected to be trained abroad, falls short of requirements by 75 persons at the management level, 365 persons at the intermediate level and about 860 at the skilled manpower level.

Table 19.12: HOTEL PERSONNEL DEMAND AND TRAINING CAPACITY

	<u>Annual Demand</u>	<u>Annual Training Capacity</u>	<u>Annual Deficit</u>
Management	295	220	75
Intermediate level	1,000	635	365
Skilled manpower	<u>1,658</u>	<u>800</u>	<u>858</u>
Subtotal	2,953	1,655	1,298
Unskilled manpower	<u>679</u>		
Total	3,632		

Source: ONTT.

19.39 To face this problem the Government plans the following measures. With respect to personnel at the management and intermediate levels, which in turn is needed to train manpower in hotels, the Fourth Plan proposes the construction of four new hotel schools, as an increase in the capacity of the "Institut d'Hotellerie et de Tourisme". At the lower level the Government intends to create additional training centers and to reduce the training period from twelve months to six months, which is feasible given recruits of a higher educational level. However, these measures will not sufficiently increase the supply of trained personnel. Accelerating school projects and seeking training possibilities in foreign countries have high priority. Hotel owners should be induced to participate to a greater extent in training programs; training in selected hotels on a large-scale should be organized. The Tunisian program and facilities for training hotel personnel has been examined by a team from the International Labor Office under the tourism infrastructure project, which has led to a training project with World Bank financing.

19.40 The infrastructure problem is also serious. The project for the six priority zones will eliminate most of the current backlog and provide a basis for hotel development in these areas in accordance with the Plan target and with sufficient capacity to meet the demand through 1981. However, infrastructure backlogs also exist in other parts of the main tourism areas and elsewhere. For this reason, the amount allocated for infrastructure investments in the lower priority areas during the Plan period - D 1 million - is probably seriously underestimated. There has been a concern about water supply demand in the main tourism areas, and the construction of desalination plants has already been envisaged in Djerba and Zarzis. Studies have recently been carried out on the possible use of ground water reserves. Such use would require large investments, and should be studied in the framework of the national water program to avoid any risk of shortage, even temporary, in water supply for the tourism sector.

19.41 Important efforts are also needed to develop transport capacity in the tourism sector, and several projects directly related to tourism demand are foreseen in the Fourth Plan. They include an expansion of the capacity of Tunis Air, the acquisition of a second car ferry by the "Cie Tunisienne de Navigation", and the creation of an airport for larger jets in Tozeur. The creation of a charter company associated with Tunis Air is also envisaged. Tour operators are expected to invest D 5 million to increase their road vehicle fleet. There will also be a large expansion of the bus capacity of the "Societes regionales de transport". The Plan envisages limiting the development of bus fleets owned by hotels in order to specialize tourism transport. Since these fleets constitute a major source of profits for hotels, it is not clear that this policy is appropriate. On the other hand, it is desirable to increase the fiscal incentives to develop the car fleets of both hotels and car rental companies (at present they benefit from exemption from import duty only).

19.42 Another concern is the supply of the tourism sector with foodstuffs and consumer goods. An important proportion of these are imported, and supply to hotels has often been hindered by a highly restrictive import system, weaknesses and rigidity in the structure of the commercial sector, and import monopolies. An effort is also needed to develop the domestic production of foodstuffs and beverages. Tourism demand should be met by an increase in the quantity and quality of domestic production instead of by increased imports. The maintenance of hotels will also be a problem, and there is a need to train maintenance technicians and set up incentives to create maintenance companies in tourism areas.

(iii) Hotel Development and Financing

19.43 The Fourth Plan envisages hotel projects costing D 100 million during 1973-1976. At the beginning of 1973 hotel projects under construction represented D 30 million and projects to be started D 24 million ^{1/}. Thus to achieve the 1973-1976 targets, hotel projects for an amount of about D 70 million have to be rapidly initiated, since the average construction period is two years. The favorable market outlook and the prospect of improved profits should stimulate hotel investment, particularly in the priority zones. Nevertheless, entrepreneurial interest in tourism could slacken as a result of the opening of other sectors of the economy to private capital. Moreover the slowdown in tourist demand which occurred in 1973 and is continuing in 1974, may induce some investors to postpone their projects. The new "Agence fonciere pour le tourisme" will make it easier for investors to obtain sites for hotels. However, further promotional efforts should include the setting up of an incentive system to attract both local and foreign investors and increased financing facilities.

^{1/} Hotel projects accounting for D 11 million, which have started, are suspended as a result of financing difficulties.

19.44 The Government is undertaking an incentive study with foreign assistance in connection with the infrastructure project. This study will include an assessment of the efficiency of the present incentive system. On the basis of its findings, improvements in the present system will be proposed to attract hotel investors and tourists, and to encourage activities related to tourism such as leisure and transport, and the construction of private residences in tourist areas. The study will also examine incentives covering the location and class of hotel projects, and the means of avoiding monopolies in hotel ownership ^{1/}. Finally, the study will propose measures to simplify the existing cumbersome administrative procedures. A major promotional program, including campaigns aimed at the international capital market, will be established under the infrastructure project. Because of the competition in Mediterranean tourism, foreign investment in Tunisia will depend to a large extent on the efficiency of such promotional programs and of the incentive system.

19.45 Given the financial structure of hotels in Tunisia - 40 percent self-financing, 60 percent bank credits - the D 100 million investment target would represent mobilization of private capital amounting to D 40 million. It is doubtful whether national savings and foreign capital would be able to provide as much, and the Government proposes to reduce the proportion of self-financing and to provide more bank credit. Moreover, in order to make the terms of Tunisian hotel credits comparable with those in other competitive Mediterranean countries, it is necessary to extend the terms of loans from COFITOUR and SNI to 20 years (as against the present 12 year limit).

19.46 At present a number of hotels also have difficulties in current financing. The specific problems of the hotel industry and of tourism in general call for the creation of a specialized hotel credit bank to finance current operations. It would also be necessary to give foreign investors in the hotel industry access to domestic credit for both investment and current financing.

(iv) Demand Prospects - Leisure Activities - Promotion and Marketing

^{1/} It has been estimated that, at present, five Tunisian investors own about 25 percent of total accommodation capacity and the Government hotel company (SHTT) another 15 percent.

Table 19.13: PROJECTED DEVELOPMENT OF TOURIST DEMAND

	<u>1972</u>	<u>1973</u>	<u>1976</u>	<u>Growth Rate</u> <u>1972-1976</u>
Visitors (thousands)	780	912	1,321	14.1
Visitor bednights (thousands)	6,778	7,937	11,496	14.1
Resident bednights (thousands)	326	401	600	16.5
Occupancy Rate	41.3	41.3	41.4	-
Average length of stay visitors (days)	8.7	8.7	8.7	-
Average receipts per bednight (dinars)	10	10	10	-
Tourism foreign exchange receipts (millions of dinars)	68.4	79.4	115.0	14.1

Source: Ministry of Planning ONTT.

19.47 The Fourth Plan targets for the development of hotel accommodation presuppose a growth in hotel bednights of 14 percent per year, assuming the same occupancy rate as in 1972 - 41.1 percent. Assuming the same average length of stay as in 1972 - 8.7 days - this target implies 1,320,000 foreign visitor arrivals in 1976, compared with 780,000 in 1972. On the basis of the same average tourist expense per day as in 1972 - D 10 - this would bring about D 115 million in tourism foreign exchange earnings in 1976, which would represent 26 percent of total expected foreign exchange receipts in that year, compared with 22 percent in 1972. A target of 1.5 million foreign visitors had been originally set for 1980; spurred by the 1971-1972 tourism boom, Tunisian authorities have advanced this target and have forecast 1.3 million visitors as early as 1976.

19.48 The Western European tourist market has been Tunisia's most important source of tourists and the prospects for the further expansion of this European market may amply justify the Fourth Plan targets. Moreover, as indicated above, the American tourist market, which is already important for the older Mediterranean tourist countries, should also be extended to Tunisia. Tunisia's potential is still far from being fully realized and the market will not be a constraint. While Tunisia is farther from the main sources of tourism in Europe than its principal competitors, such as Spain, Greece or Yugoslavia, it is attractive to most European incomes. A tourist from Frankfurt or Paris can have one week in Tunisia at a cost of \$150, including travel by charter.

19.49 The Fourth Plan target of 1.3 million visitors in 1976 appeared to be quite realistic when it was set up at the beginning of 1973, on condition that the accommodation targets are achieved and problems of absorptive capacity (infrastructure, labor force, transportation and supply of intermediate goods) are solved. However, the adverse factors - cholera, hotel price increases - which caused a decrease in Tunisian tourism activity in 1973 and the beginning of 1974, may lead to revision of the Plan objectives. The number of tourists decreased by 7 percent and the number of bednights by 11 percent in 1973 compared with 1972; tourism receipts in 1973 have been estimated at

the same level as those of 1972 due to the increase in average expense per tourist. For the three first months of 1974 there was again a decrease of 23 percent in the number of tourists in comparison with the corresponding period of 1973. In spite of the influx of tourists during the summer season, which resulted from the events in Greece, Turkey and Cyprus, the slowdown may continue during 1975 until the growth trend prior to 1973 reappears. As a consequence the achievement of the Plan objectives for both hotel investment and occupancy is likely to be delayed by one or two years. On the contrary, with respect to average length of stay and average tourist expense, the Fourth Plan targets, which assume no change as compared with 1972, appear quite moderate. These elements could reasonably increase during the coming years as a result of the continuing increase in holiday duration and real income among European workers. The average length of stay may be influenced by the development of stays out of season, but this would constitute an advantage for the hotels by reducing seasonal changes in occupancy.

19.50 However, with the opening of new markets in the Mediterranean and the Black Sea and changing trends in air travel, which are beginning to make destinations as far distant as Kenya and the Caribbean accessible even to the mass European travel market, international tourist competition will be increasing. The attainment of Tunisia's tourism targets will depend on overcoming two major constraints: weaknesses in the organization and availability of leisure activities and in promotion and marketing efforts overseas.

19.51 One of the chief complaints of foreign tourists in Tunisia is the absence of entertainment facilities. Fine beaches and sun are not sufficient, and people on vacation need such attractions as sports facilities, cinema and dance halls, casinos, and livelier hotels. The Tunisian tourist authorities are aware of this and have decided to promote these activities. In the Fourth Plan D 3.4 million has been allocated to leisure infrastructure, including several beach preparation projects, ports and golf courses, but this amount is probably insufficient. Entertainment facilities are as important as accommodation and infrastructure. Initiative should be encouraged in two further fields: first, the development of private holiday residences with a regular holiday population likely to create habits and lively places which will begin to attract hotel tourists; second, the creation of "marinas", including private residences, restaurants and handicraft stores around sailing ports. This could be achieved at a moderate cost. The Government should offer special incentives in this field, provide financing facilities, include entertainment facilities and centers in master plans, and organize training for leisure and sport specialists.

19.52 It is important to integrate Tunisia into the flow of international tourism and to make it competitive with other Mediterranean countries in tourism promotion. ONTT has already undertaken advertising campaigns and created offices abroad. There are six ONTT offices in the main European capitals, one in New York, and two others are to be opened in Canada and Middle East. The present policy is to limit governmental activities to promotion, and leave marketing to the initiative of foreign tour operators. At this stage this strategy is appropriate, given the difficulty of competing with the large European and American tour operators. Tunisia benefits from their know-how

and from their channelling of tourist demand, but promotion operations have to be developed to orient demand towards Tunisia. However, the control of Tunisia's tourism sector by foreign agencies places the hotels, which depend on them for most of their business, in a weak bargaining position, and implies important losses of tourism receipts for the country. It has been estimated that out of every D 100 spent by a tourist coming to Tunisia through a tour operator, almost D 30 is retained by the tour operator to cover his expenses, profits and transport costs. Tunisia should steadily reduce that dependence by undertaking independent marketing. This will call for large investments, by the hotels rather than by ONTT, whose role is to formulate and implement government policy. Hotel operators should organize their marketing and, at a later stage, create travel agencies abroad. In this respect, the "Federation Tunisienne de l'Hotellerie" could play a major role in grouping hotel operators in association with the proposed Tunisian charter company, and in mobilizing financial resources.

(v) Non-Quantifiable Costs of Tourism

19.53 On the whole, the long-term prospects for a further expansion of Tunisia's tourism sector are favorable, but will depend on vigorous efforts in the fields reviewed above. Moreover, tourism is, typically, an economic activity where the decisions are made and the driving force lies outside the developing countries. The demand for tourism comes mostly from the middle-class stratum of the industrialized countries of Western Europe. It is therefore likely to be subject to sudden changes for economic as well as non-economic reasons. The unfavorable developments in 1973 and 1974 (see para 19.49) have illustrated the great sensitivity of the demand for tourism. Once this is recognized, it might be prudent to maintain a more balanced development between tourism and the other sectors of the economy which are less sensitive to non-economic factors.

19.54 The significance of tourism for regional development is not very clear. While the building of hotels in backward regions can have important developmental effects, tourism only touches the coastal fringe of these regions. Since labor is attracted from the hinterland to the coastal area, the impact of tourism on the poorest regions, i.e. the hinterland, is usually negative. To counter these unfavorable effects, it is desirable to stimulate agricultural production and other activities to meet tourist demand, such as hotel equipment industries and handicrafts, in the hinterland.

19.55 More difficult to measure are the social costs and benefits of tourism. The presence during four or five months every year of a large foreign community, differing from Tunisian society in its income and its life style creates a special group of Tunisians catering to the needs of foreigners which is somewhat cut off from the rest of society and more inclined to adopt foreign values. The presence of a foreign minority with high purchasing power may, on the one hand, arouse resentment or, on the other, create a desire to emulate the patterns of the visitors. No doubt, however, the Tunisian Government is aware of all these possibilities, and took them into account when deciding to launch its campaign to develop tourism.

C. Spa Facilities in Tunisia ^{1/}

(i) Development of Spa Facilities During the Past Decade

19.56 Thermal Spas. The "Perspectives Decennales" 1962-71 included a program in this field, in particular the construction of thermal facilities at Djebel Oust and Hammam-Bourguiba. This program, the cost of which was estimated at D 6,300,000, fell far short of its target, and only D 2,500,000 was actually spent. The two spas have not yet started operating; their completion poses a number of problems, particularly at the marketing and management level. Furthermore, there has been no program for modernizing the existing thermal spas.

19.57 Mineral Water Spas. The "Perspective Decennales" included an investment of D 1,000,000, most of which was spent by 1971, so that the targets were met. This sector, which has been managed by SOSTEM since 1968, consists of three bottling plants, all at present in operation:

OKTEUR plant

This plant started operations in 1962 and forms part of a thermal complex which includes a 52-bed hotel, restaurant and public pump-room. Production capacity is 1,000 bottles/hour. 750,000 bottles of this water are produced annually.

GARCI plant

This plant started operations in 1963; it has a production capacity of 3,000 bottles/hour and an annual output of 3,000,000 bottles.

SAFIA plant

This plant began operations in 1968 with a production capacity of 1,000 bottles/hour. In 1971 a new bottling line was installed and the plant increased its capacity to 7,000 bottles/hour. Annual production is now 7,300,000 bottles.

Because of heavy demand from tourists and the local population, the mineral water sector is booming; it is managed very efficiently in spite of some technical problems related to packaging and transportation.

(ii) Forecasts for the Fourth Plan 1973-1976

Mineral waters

19.58 The most important element of this Four-Year plan is the Melliti project, which had already been scheduled for the decade 1962-1971. The Ain Skhoun operation, marketing water under the name of Hella, will also require an investment of nearly D 100,000 for the piping and transmission works planned for completion by the end of the Four Year Plan. The packaging

problem has been the main obstacle to the growth of the mineral water sector in recent years. Consumption of bottles is estimated at 21,750,000 in 1976. However, this rapid expansion is liable to be endangered without a commensurate effort to increase the production capacity of the existing glassworks or to establish a new unit. Transportation at the distribution level also presents important problems, especially during the period when mineral water consumption is at its peak, which coincides with the grain harvest and the season for several food industries. The best way to solve this problem would be for SOSTEM to have its own fleet of vehicles. During this four-year period SOSTEM also intends to move into the fast growing soft drink sector by starting production of Pepsi Cola, Mirinda, Ricqles and fruit flavored beverages. The four-year consumption forecasts indicate a growth of 70 percent for SAFIA and 33 percent for GARCI. The OKTEUR plant should maintain its existing output, while the Melliti plant is expected to produce 4,500,000 bottles in 1976, compared with 3,000,000 when it starts operations in 1974. Total capital outlay for the coming decade is estimated at D 450,000 for the Melliti project and D 100,000 for the Hella project.

Thermal waters

19.59 National spas. Four spas are regarded as being national in character. These are: Djebel Oust, Hammam-Bourguiba, Korbous and Hammam-Zriba. Efforts during the coming four-year period will be concentrated on the first three, the development of Hammam-Zriba being planned to take place between 1976 and 1980. With these four national spas, Tunisia will have a complete range of thermal spa facilities. To arrive at this point it will be necessary to complete the two spas of Djebel Oust and Hammam-Bourguiba, where work came to a halt nearly three years ago, at an additional investment cost of nearly D 2,000,000. Furthermore, the Korbous operation is envisaged in the context of the overall development of the Korbous area, to be financed by SETIMEG. The first phase (1973-76) will require infrastructural investments of around D 1,900,000.

19.60 Regional spas. These spas are the following: Hammam-Djedidi, Hamma de Gabes, Hamma du Djerid and Sidi Ahmad Zarrouk (Gafsa). These spas will continue to be operated on a local or regional basis by the communities concerned, with the aid of local doctors exercising medical supervision in these establishments. State aid will therefore be limited as far as possible to studies, the analysis and piping of water, the financing of infrastructure, promotion and the supply of credit.

Source: National Office of Tourism and Thermalism.

20. EDUCATION

A. Introduction

20.1 The Tunisian Government has always regarded the expansion of education as a pre-condition of economic development and a means of social progress. The Government sought first to establish universal primary education and then to expand the number of places at secondary and higher levels as rapidly as resources would permit. Since Independence there has been considerable quantitative progress towards these objectives. Primary school enrollment has increased threefold - from about 320,000 in 1958 to 934,000 in 1971. Secondary school enrollment is up sixfold, from 33,000 in 1958 to 184,000 in 1971. Enrollment at the post-secondary level has increased fivefold, from 2,160 in 1959 to 11,000 in 1971. In terms of rates of population in school, between 1956 and 1971 primary school enrollment increased from 29 to 73 percent of the 6-14 age group, secondary enrolment from 11 to 42 percent of the 15-19 age group, and university enrollment from 0.1 to 3 percent of the 20-24 age group. This expansion imposes a heavy financial burden on a country still at an early stage of development. Tunisia now allocates to education about 6.5 percent of its GDP and over 30 percent of public recurrent expenditures.

20.2 Historical Background. When Tunisia became independent in 1956, the educational system reflected, on the one hand, the influence of Islam, reflected in the establishment of a number of schools with a religious orientation centered upon the az-Zaitouna University (the Zaitounian Schools) and, on the other hand, the influence of France, which had led to the establishment of a system of schools on the French model, teaching a French curriculum. Among the latter are the Sadiki Schools, founded in 1875, in which courses in the Arabic language and culture were fitted into a basically French educational pattern. The education system did not aim to extend literacy to the masses, nor did it produce the skilled manpower upon which rapid economic growth depends. In 1949 only 12 percent of Arab children between 5 and 14 years old were in elementary school, and out of a total Arab population of 3.2 million, only 6,700 were in secondary school, and fewer than 1,000 in technical schools.

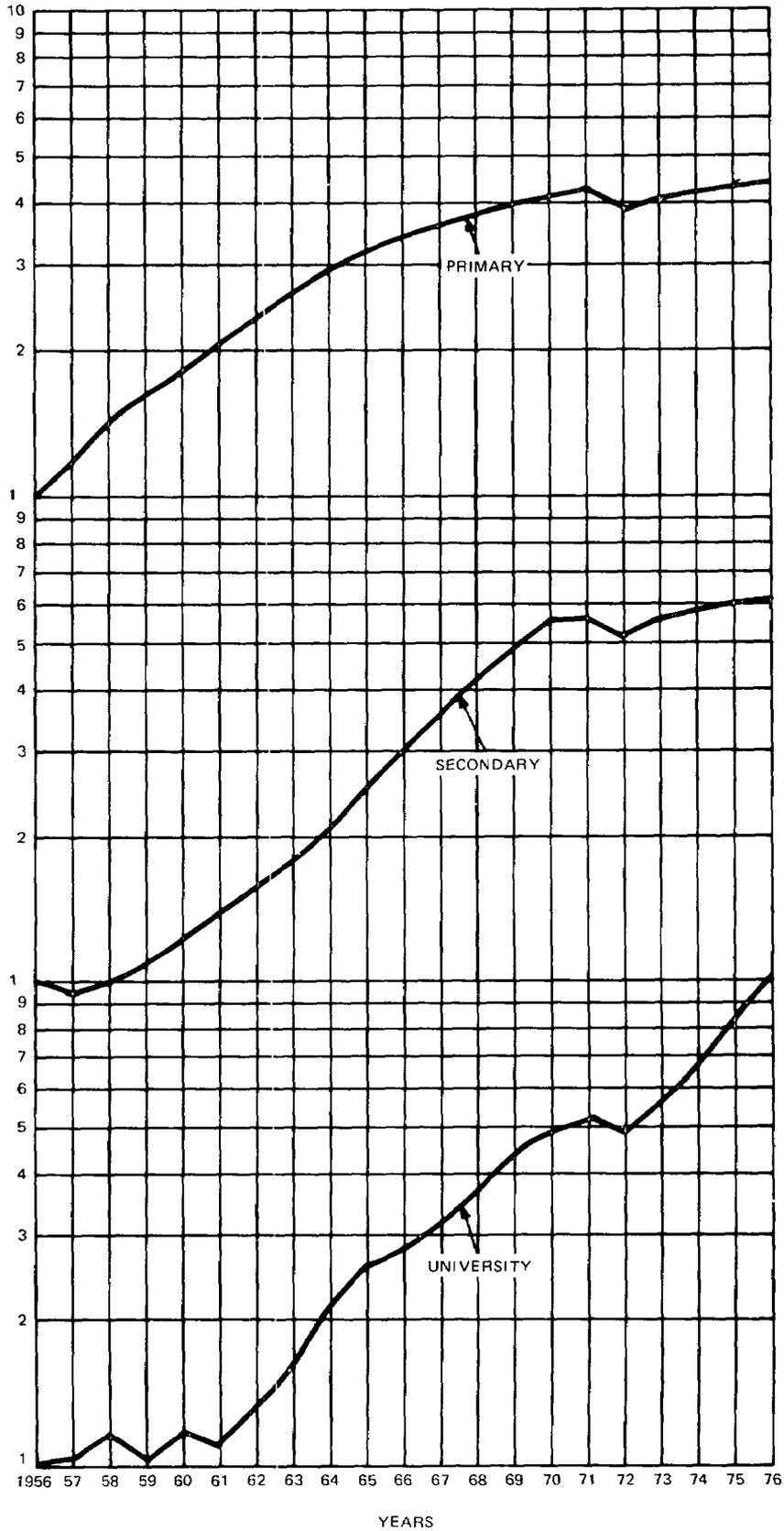
20.3 After Independence the Tunisian Government addressed itself, within the framework of the 1959 Ten-Year Plan for Education Development, to the remodeling and expansion of the education structure. The Education Reform Act of 1958 provided that the religious schools should gradually be merged into the state school system. It did not cover the French schools, which were then conducted by the French Cultural and University Mission primarily for the benefit of French children (but increasingly admitting Tunisians). Nor did it cover the vocational training schools operated by the Ministries of Social Affairs and Agriculture, and other institutions.

B. The School System

20.4 The school system as reorganized on the basis of the 1958 Act introduced language and other reforms into what remained basically a French structure: six years of elementary school leading, through an external and

Graph. 20.1
GROWTH IN ENROLLMENTS
 (1956 - 1976)

Semi-log scale with
 base year enrollment
 equals 1.



competitive examination, to either three years of intermediate or six years of secondary school. Arabic was introduced as the medium of instruction for the first two years of primary school, then concurrently with French; the latter remains predominant at the secondary level. The French language is considered an "indispensable but associated" vehicle of culture.

20.5 The classical academic type of elementary school is found almost everywhere, even in the most remote areas. The function of these schools (923,000 pupils in 1970/1971) is mainly instruction in the "3 Rs", French and some civics. A final certificate is in practice given only to those pupils who succeed in passing the secondary school entrance examination. The remainder are considered as dropouts, although they have completed the course of instruction. Approximately 30 percent of the pupils do not complete primary school and a further 23 percent fail to qualify for secondary. Thus, half of all primary school leavers, after taking an average of eight years to pass through the six grades, will have reaped relatively little benefit from their studies. The other half normally qualify for admission to secondary school. About one-third of these go to intermediate schools ^{1/} (12,000 pupils in 1970/1971), which have replaced the old-fashioned craft schools and, in a three to four year course, combine more appropriate forms of vocational education with further general education. They are intended to provide the basic skills needed in the lower ranks of industry, government and business. About 75 percent complete the course, and about half of these go on to further training.

Table 20.1: GROWTH OF SCHOOL ENROLLMENT

School Year	Primary		Secondary		Higher	
	Students	Index	Students	Index	Students	Index
1956/57	226,919	100	32,924	100	2,140	100
1957 - 1958	266,288	117	32,149	98	2,164	101
1958 - 1959	320,362	141	32,934	100	2,489	116
1959 - 1960	361,532	159	35,732	109	2,157	101
1960 - 1961	408,758	180	40,317	122	2,478	116
1961 - 1962	465,577	205	45,751	138	2,309	108
1962 - 1963	527,373	232	51,433	156	2,869	134
1963 - 1964	593,059	261	58,938	179	3,396	159
1964 - 1965	658,766	290	67,793	206	4,587	214
1965 - 1966	717,093	315	82,548	251	5,456	255
1966 - 1967	777,686	342	100,525	305	5,903	276
1967 - 1968	810,795	357	118,411	359	6,686	312
1968 - 1969	844,994	372	135,947	413	7,668	358
1969 - 1970	900,519	396	161,382	490	9,413	440
1970 - 1971	922,861	407	180,522	548	10,343	484
1971 - 1972	934,827	412	184,125	559	10,992	514

Source: Ministère de l'Éducation Nationale.

^{1/} "College moyen" from 1959 to 1970; "education professionnelle" from 1971.

20.6 The other two-thirds of pupils accepted into secondary school follow the regular secondary cycle. Until 1972 the secondary schools (21,000 new entrants in 1970/1971) were based on the principle of progressive specialization, in two three-year cycles. After one common year, pupils were divided into technical, economic and general streams. During the second three-year cycle, each stream divided into a number of optional sections, including teacher training, with strongly differentiated curricula. The grammar and science tracks, as well as the economic and the technical-mathematical options, led up to the "Baccalaureat" examination which guarantees entrance to the university. Other sections, including teacher training, were considered vocational and led to a certificate (Brevet or Diploma). About two-thirds of entrants dropped out, and about 40 percent of the final-year students failed to get their diplomas. In 1968 the seventh year was reintroduced. In 1971 a number of changes were introduced, primarily to reduce the intake into secondary schools from 40 percent to 25 percent of primary school leavers, and secondly to expand the intermediate schools and integrate them more closely into the general secondary system.

20.7 Primary teachers are trained in four teacher-training colleges and in a growing number of training sections (18) in secondary schools. Until a training college for secondary teachers was established in 1965, secondary teachers were expected to have university degrees. All student-teachers, either in the University of Tunis or abroad, receive substantial grants, provided that they commit themselves to serve as teachers for a minimum of ten years. This commitment is strictly enforced.

20.8 The University of Tunis, established in 1960, comprises, in addition to faculties of science, law and economics, arts, medicine and theology, the following specialized institutions: (i) the Advanced Teacher-Training College, (ii) the Pedagogic Center, (iii) the Advanced School of Law, (iv) the College for Advanced Commercial Studies and (v) the Normal School for Assistant Secondary School Teachers. There are also research centers for (i) economics and social studies, (ii) arid-zone studies, (iii) atomic physics, and (iv) audio-visual aids.

20.9 Agricultural education, which was not covered by the 1958 Education Reform Act, is provided under the auspices of the Ministry of Agriculture by means of schools at the secondary and higher levels, special vocational centers and, more recently, in short seminars for farmers. The Ministry of Social Affairs is responsible for a program of general vocational training.

20.10 In sum, in the decade of the 1960s Tunisia's school system developed substantially, to the point where, in the Third Plan (1969-1972), investment in education totalled D 35.6 million, about 5 percent of total investment. The share of the ordinary national budget allocated to the Ministry of National Education has risen from 19.4% (1961) to 25.7% (1965), 27.2% (1968) and 30.5% (1972). As a proportion of GDP, total expenditures for education (capital and current expenditure) channeled by the Ministry of National

Education rose from 4.5% in 1962 to a peak of 7.1% in 1970. ^{1/} Practically all education expenses are met from public funds, but the number of pupils in private schools is now expanding at a rate of more than 10 percent per year.

20.11 The purpose of the 1958 reorganization was to achieve universal primary education. Science, technology and agriculture have not received the desirable and necessary attention. The expansion of schools has been determined by criteria derived from the system itself, so that the rate of growth has been based on considerations of admittance and enrollment rather than of manpower needs. The financial implications of this evolution were accepted without contest up to the year 1964. Since then the financial authorities have expressed concern about the rapid increase in education expenditure.

C. The 1959 Targets

20.12 The aims of the Ten-Year Education Plan, established in 1959, intended to be achieved within the span of a student's school career, were universal primary education and a significant rise in output at the intermediate and secondary levels. Problems of teacher training and school construction were simplified by a number of expedients. At the primary level, the curriculum and the weekly schedule of instruction were reduced, the teacher-student ratio was decreased from 1:40 to 1:57, and school space was economized by double-sitting the first grades, so that, on the average, seven grades of pupils needed no more than five classrooms. In secondary schools, the reduction of the foreign school-age population and the important contribution by expatriate teachers had the same effect. In addition, the course was reduced from 7 years to 6 years. These expedients gained the time needed to bring teacher training and school construction to the level necessary for the planned increase of enrollment.

20.13 Enrollment targets were calculated exclusively in terms of gross input. For primary schools, first grade places were to increase annually by 10 percent of the 1958 enrollment until the whole estimated 6-plus age group was in school. The primary "pyramid" was then estimated by assuming an annual attrition rate of 1 percent and a repeater rate of 25 percent. From these assumptions, the needed numbers of teachers and classrooms were calculated. For secondary enrollment, the key was the proportion of primary graduates permitted to enter secondary education, at first set at 37 percent and later raised to 40 percent; in 1971 it was lowered to 25 percent.

20.14 Broadly, the delayed impact of the larger primary enrollment was expected to be felt by 1968 in intermediate schools, by 1971 in six-year secondary schools, and by 1975 at the university level. It was expected that the most difficult period would be when enrollment sharply increased at each level, so that a maximum of investment would be needed and operational expenditures would rise at a corresponding rate. The expected stabilization point was 1972 for primary (with an estimated total enrollment of

^{1/} This total does not include expenditure on professional and agricultural training. In 1972, total expenditure reached D 60 million but accounted for only 5.9% of GDP owing to the exceptional growth of the latter (Annex, Table 9.7.7).

about one million pupils); 1975 for intermediate; and 1978 for the six-year secondary schools. The rate of continuance from primary to secondary should then reach 34 percent.

20.15 The 1958 forecasts provided a sufficiently precise frame of reference to enable the education authorities to manage the system within the limits of the policies then adopted. The chief deficiency of the 1958 projections was to overestimate the eligibility of young school leavers for jobs and to underestimate the increase in school-age population. In fact, 75 percent of the new jobs called for experienced workers and for training on the job for which no provision was made. Adjustments of the school-age population forecasts have led to successive decisions to postpone the target date for universal primary education.

D. An Appraisal of the System

(i) Primary Education

20.16 It was predicted that universal primary enrollment would be attained for the first grade in 1966/1967, and would reach the entire 6-14 age group by 1972/1973. In 1966 the enrollment of first-graders was only 77 percent of the projected figure. Resources intended for primary school expansion were transferred to secondary and higher education. A slight decline in the proportion of children aged 6-14 in primary schools indicates that primary enrollment may have reached a plateau, partly because of a reduced emphasis on the early achievement of universal primary education in areas where population is widely dispersed and unit costs consequently high, and partly because primary education for girls has not yet won full acceptance in some areas. As regards regional difference, the enrollment rate ranges from 57 percent in Kasserine and 59 percent in Jendouba, to 81 percent in Tunis and 82 percent in Nabeul. And as regards in-school rates according to sex, in 1971/1972 about 85 percent of the boys in the 6-14 age group were in school, but only 58 percent of the girls. In Kasserine only 34 percent of girls are in school, compared with 75 percent in Tunis. Although starting from a very low percentage, the enrollment of girls has expanded only slightly more rapidly than that of boys.

Table 20.2: PRIMARY ENROLLMENT: PROJECTED AND ACHIEVED

	<u>Projected in 1958 for 1966/67</u>	<u>Projected in 1964 for 1966/67</u>	<u>Achieved in 1966/67</u>	<u>Achieved in 1970/71</u>
Enter 1st Grade	154,000	-	118,000	124,000
All Grades	837,000	879,000	846,000	935,000

20.17 The combined effect of the two-shift system, the reduction in class hours from 30 to 25 for grades 3-6, and the elimination of the 7th grade was to reduce the total number of class hours for primary school. Courses developing manual skills, physical education and art were either omitted or severely

reduced. The quality of teaching varied considerably over time and space. The number of primary teachers of French nationality declined until the late 1960s. They still constitute a majority in the private schools. Since the 1958 Reform Act more than 1,000 teachers have been trained each year, so that now the 20,000 "instituteurs" and "moniteurs" are Tunisian. The percentage of "instituteurs" and "moniteurs" varies considerably according to region. In Kef and Jendouba only 29 and 30 percent of the teachers are the better qualified "instituteurs", while in the Sfax and Tunis regions the percentages reach 60 and 63. The salaries of primary teachers average 30 dinars a month, about the full-time earnings of an agricultural laborer. Primary teachers' salaries are about 40 percent of secondary salaries. The capital cost of creating a new job in primary education is about 60 dinars, and could be even less if school construction methods were simplified and more intensive use made of existing buildings.

20.18 One of the most serious problems of primary education is the high repeater rate. The effects of dropouts, repeaters and cumulative repeaters on primary, and even secondary education, is revealed by an analysis of the school careers of 1,000 children. Almost 18 percent left school before completing the fourth grade; 54.4 percent reached the last year of primary school without any delay; and those entering secondary school had on the average spent eight years completing the six-year primary curriculum. This situation in all probability cannot be cured by administrative measures; a drastic restriction of the right to repeat under the present system would probably result in an undesirable increase in dropouts. The main causes are apparently the excessive requirements of the curriculum and, above all, the traditional means of assessing achievement by formal examinations. More basic adjustments are needed. Two kinds of solutions are possible: either to extend the number of grade years in the primary cycle or to adjust the level and content of the curricula and examinations to correspond to the education level required of the pupils after completion of primary school. The most practical solution might well be to extend the primary cycle to 7 years and adjust the education level.

20.19 Before 1969, French was begun during the third grade. In 1969 it was begun in the first grade, in 1970 in the second grade. For the first three years arithmetic is taught in Arabic and for the last three in French. The switch to French means that students who are weak in French are likely to remain poor in arithmetic. Moreover, the Arabic taught in the classroom is literary Arabic, which is more complex than spoken. Studies are apparently needed to evaluate the advantages and disadvantages of beginning instruction in French during the first years of primary school.

(ii) Secondary Education

20.20 Secondary education in Tunisia is a complex operation involving three ministries - Education, Agriculture and Social Affairs. The initial (1961) and revised (1965) plans for the expansion of secondary education and the achievement over the period 1961-1972 are summarized in Table 20.3.

Total Ministry of Education secondary enrollments in 1971/1972 were only 57 percent of the 1961 projection, but 80 percent of the 1965 revised projection. This was mainly the result of budgetary constraints during the middle 1960s. In addition to the 38,000 "technical" students under the Ministry of Education, there were 30,900 students not under the Ministry, i.e. a total of 68,900 receiving technical education in 1971/1972. About one half of these, or about 34,000, enter the job market each year to complete for barely 10,000 openings (75 percent of the new jobs created are for experienced workers, not apprentices). Hence unemployment among technical school graduates is rising. The paradox of a growing social demand for secondary school places and a lagging growth of economic demand for the services of secondary school graduates is unlikely to disappear. The jobs held by expatriates until the early 1960s have now been filled by Tunisians, and new jobs are no longer available at the rate which prevailed in the 1960s. While there are no comprehensive estimates of the number of unemployed school leavers, partial studies appear to indicate an increasing trend. Extension of the period of schooling would not, apparently, help to improve their job prospects. It appears that the solution to this problem lies rather in a review of the nature and structure of secondary education to give greater emphasis to practical technical instruction.

Table 20.3: SECONDARY ENROLLMENT: PROJECTED AND ACHIEVED
(Numbers of Pupils)

	Actual 1961/62	Projected In 1961 For 1971/72	Projected In 1965 For 1971/72	Achieved In 1971/72
<u>Ministry of Education</u>				
Academic	28,966	222,000	152,658	156,316
Professional	13,959	103,000	76,329	37,809
Total	42,925	325,000	228,987	194,125
<u>Ministry of Agriculture</u>				
Lycees (7 years)	-	-	-	1,418
Shorter program	-	-	-	7,164
Total	-	-	-	8,582
<u>Ministry of Social Affairs</u>				
Vocational education				
Basic	-	-	-	14,000
Other I	-	-	-	9,326
Other II	-	-	-	7,618
Total	-	-	-	30,944
Total	-	-	-	233,651

Source: Ministère de l'Education Nationale, Ministère de l'Agriculture,
"Formation des Cadres: Plan Quadriennal, 1973-1976."

20.21 Another issue in secondary education has been its dependence on foreign teachers, who accounted for 34 percent of the total in 1971/72, the same proportion as in 1965/66, the earliest year for which data are available, even though over the same period the number of secondary and professional teachers virtually doubled.

20.22 Admission to secondary school is based on an examination in Arabic, French and arithmetic. Yet the 1972 National Commission on Education and Research reports that only a small proportion of students, "thanks to favorable family and social conditions, achieve a sufficient knowledge of one language or the other". Before 1970, 40 percent of the sixth-grade primary students were admitted into secondary schools on the basis of their examination grades. In 1970 the standard was raised. The number of students admitted to secondary schools then fell, from 41,955 (41 percent) in June 1969 to 32,663 (25 percent) in June 1971 (Table 20.4). This shift in policy is probably having an inequitable effect, in that an even higher level in French is now required for admission to secondary school and this places students from the poorer homes and rural areas at a disadvantage.

Table 20.4: TRENDS IN ADMISSIONS TO SECONDARY SCHOOL

	<u>Sixth Grade</u>	<u>Admitted Secondary</u>	<u>Percent Admitted</u>
1961/1962	32,822	14,644	39
1968/1969	101,899	41,955	41
1969/1970	119,580	41,543	35
1970/1971	133,166	32,663	25

Source: Ministère de l'Education Nationale.

Table 20.5: GIRLS AS A PERCENTAGE OF SECONDARY STUDENTS, MINISTRY OF EDUCATION

	<u>1961/62</u>	<u>1971/72</u>
General Academic Schools	22.7	28.7
"Professional" schools	25.1	26.7
Total	23.6	28.4

Source: Ministère de l'Education Nationale.

20.23 The increase in the number of students has led to extreme pressure on school accommodation. Laundry rooms, gymnasiums, infirmaries, and even warehouses are used to house students. Schools planned for 800 have had to take 1,400. Because of these pressures, the curriculum has had to be simplified and the number of class hours reduced.

20.24 These circumstances have caused feelings of instability and insecurity among teachers, parents and students. For example, when the 6th grade of secondary was the last grade it took the average student 8 years to reach it; but the vast majority did not reach the last grade, since they either dropped out or were pushed out. For the intakes beginning their first year of secondary education during the period 1961-1970, the number of dropouts is estimated at 75 percent (academic secondary 81 percent; professional secondary 63 percent).

Table 20.6: GRADUATES AND DROPOUTS ESTIMATED FOR SECONDARY INTAKES FROM 1961-1970

	<u>Total Entered</u>	<u>Percent Graduate</u>	<u>Total Graduate</u>	<u>Total Dropout</u>	<u>Dropout/Year/Intake</u>
Academic	202,565	19	38,487	164,078	16,408
Professional	92,808	37	34,339	57,469	5,747
Combined	294,373	25	72,826	221,547	22,155

Source: Ministère de l'Education Nationale.

(iii) Vocational Training

20.25 (1) Non-Agricultural. To fill the jobs of non-Tunisian workers following Independence, vocational training centers were organized. In 1966 the Office of Vocational Training and Employment (OFPE) ^{1/} was created in the Ministry of Social Affairs to coordinate and manage training. Three types of training are given: pre-apprenticeship, adult and retraining/upgrading. Pre-apprenticeship training is usually for one year and accepts primary school leavers and dropouts. The courses provide a basic knowledge of Arabic, French, workshop calculations, technical science and drawing, and also develop a range of practical skills (fifteen hours per week). In 1966 there were 60 centers and about 3,000 students. The initial plan was to expand rapidly to 120 centers and 6,000 students, but by 1972 the numbers were unchanged from the 1966 levels (Table 20.7). Adult training aims at achieving skill in a narrow field in a 6-month course. In 1966 there were 12 centers and by 1972, 27, of which 14 were in Tunis or Sousse. About 7,200 students are trained each year. Retraining/upgrading courses vary in length from six months to two years, and are mainly for the training of teachers for the vocational centers. The training is for two years, and is carried out at five centers, of which the most important is the National Institute of Productivity and Vocational Training at Rades. The number of workers trained in both the adult courses

^{1/} Now the "Office des Travailleurs Tunisiens a l'Etranger, de l'Emploi et de la Formation Professionnelle".

and the retraining/upgrading courses was about the same in 1972 as in 1966. The adult training courses are of about six months and the number trained has averaged about 10,500 a year (Table 20.7).

20.26 OFPE also supervises other vocational training, which includes a new pilot program in the primary schools, in-plant apprentice training and other courses given by correspondence or in the evenings. The table below indicates the levels of these programs in 1972. Finally, there is a range of non-agricultural training opportunities that are not supervised by the OFPE and mostly under the Ministries of Social Affairs and Education. The total number of non-agricultural students receiving some vocational education outside the Ministry of Education is estimated at 27,400 per year in all.

Table 20.7: BASIC VOCATIONAL TRAINING IN 1972

	<u>Classes</u>	<u>Students</u>
A. <u>Pre-apprenticeship</u>		
Fundamentals (Men)	43	2,341
Fundamentals (Women)	7	271
Hotel (Men)	<u>3</u>	<u>381</u>
Total	53	2,993
B. <u>Adult Training</u>		
1st degree	298	5,216
2nd degree	128	1,918
3rd degree	<u>4</u>	<u>68</u>
Total <u>/1</u>	430	7,202
C. <u>Adult Retraining/Upgrading</u>	15	350
Total A, B and C (six-month period)	498	10,545

/1 Of which 1,988 are in construction trades, 1,246 in metal working, and 367 in other skills.

Source: Ministère des Affaires Sociales, OFPE, February 1972.

Graph 20.3
 TUNISIA
 ORGANIZATION OF THE OFFICE OF VOCATIONAL TRAINING AND EMPLOYMENT
 - 1973 -

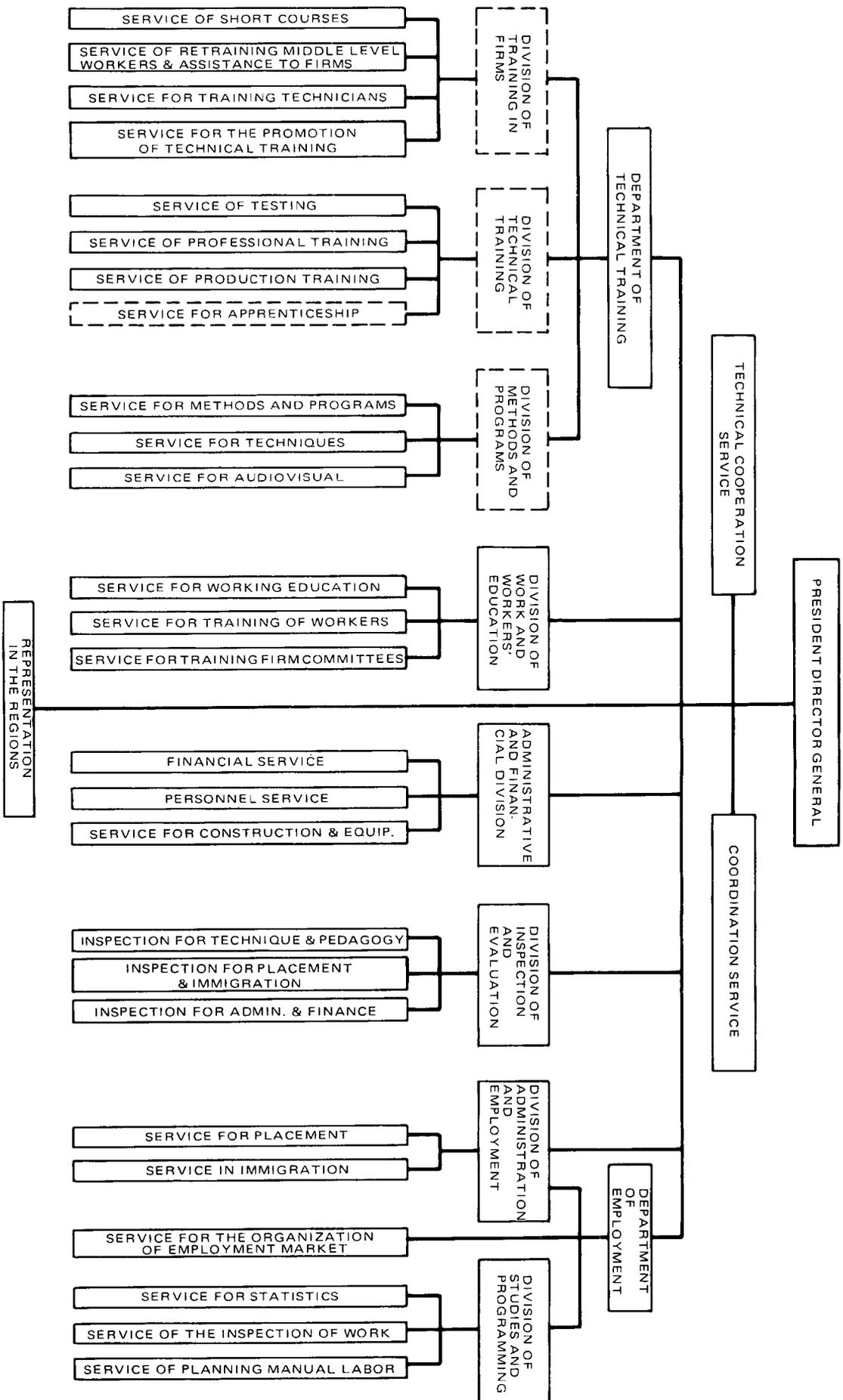


Table 20.8: OTHER VOCATIONAL TRAINING IN 1972

	Centers/Firms	Students
Primary schools (5th and 6th grades)		549
<u>In-plant Apprenticeship:</u>		
Construction	-	1,602
Metals	-	3,175
Other	-	3,060
<u>Other Courses:</u>		
Evening		380
Correspondence		560
Total		9,326

Source: Ministère des Affaires Sociales, OFPE, February 1972.

Table 20.9: VOCATIONAL TRAINING, UNDER MINISTRY OF SOCIAL AFFAIRS
(number of students)

Organization	1971	1971	1972
Office National de la Pêche		274	429
Union Nationale des Travailleurs Tunisiens		760	800
Union Nationale des Agriculteurs		3,153	2,837
Inst. Orient		382	356
Ecole de Montfleury		30	29
Centre de Formation d'Assistants en Gestion		67	142
Beaux-Arts		210	207
Service Social /1		197	113
Institut National de Nutrition		69	136
Croissant Rouge		27	42
Institut National des Sports		211	247
Ecole Normale des Maîtres d'Etudes Primaires		153	154
Ecole Nationale des Cadres et de la Jeunesse		88	81
Ecole Nationale d'Administration		531	530
Union Nationale des Femmes Tunisiennes		1,500	1,500
Office des Céréales		15	15
Total		7,667	7,618

/1 This is inside the Ministry of Social Affairs.

Source: Ministère du Plan, 1973.

20.27 (2) Agriculture. The agricultural sector was severely affected by the withdrawal of expatriate technicians in the late 1950s and early 1960s. Before Independence, only one Tunisian had graduated from the Faculte d'Agronomie. Agricultural training has usually been the responsibility of the Ministry of Agriculture except for a short period in the late 1960s, when it was transferred to the Ministry of Education. The courses range from the training of specialized workers to preparation for university degrees.

20.28 Formal agricultural education and training begins at the college moyen level. Three-year courses to train field officers (agents techniques) are given in eight of these colleges to pupils who have completed their primary education and are not less than 14 years of age. Upon leaving, some 60 percent of the pupils pass into a vocational training school from which they emerge two years later as junior technical assistants (adjoints techniques) or as instructors in government service: a further 25 percent secure direct employment on farms or in other agricultural undertakings. For the remaining 15 percent, three agricultural schools provide second-cycle secondary education leading to employment as senior technical assistants, agricultural teachers, and farm managers. The course is of three years, and receives equal intakes from the first cycle of general secondary education and from the agricultural colleges moyens; during the first year the former group receives agricultural subjects and the latter a general scientific training. During the second and third years, common courses are followed in one of three main streams: scientific, technical, and instructor training.

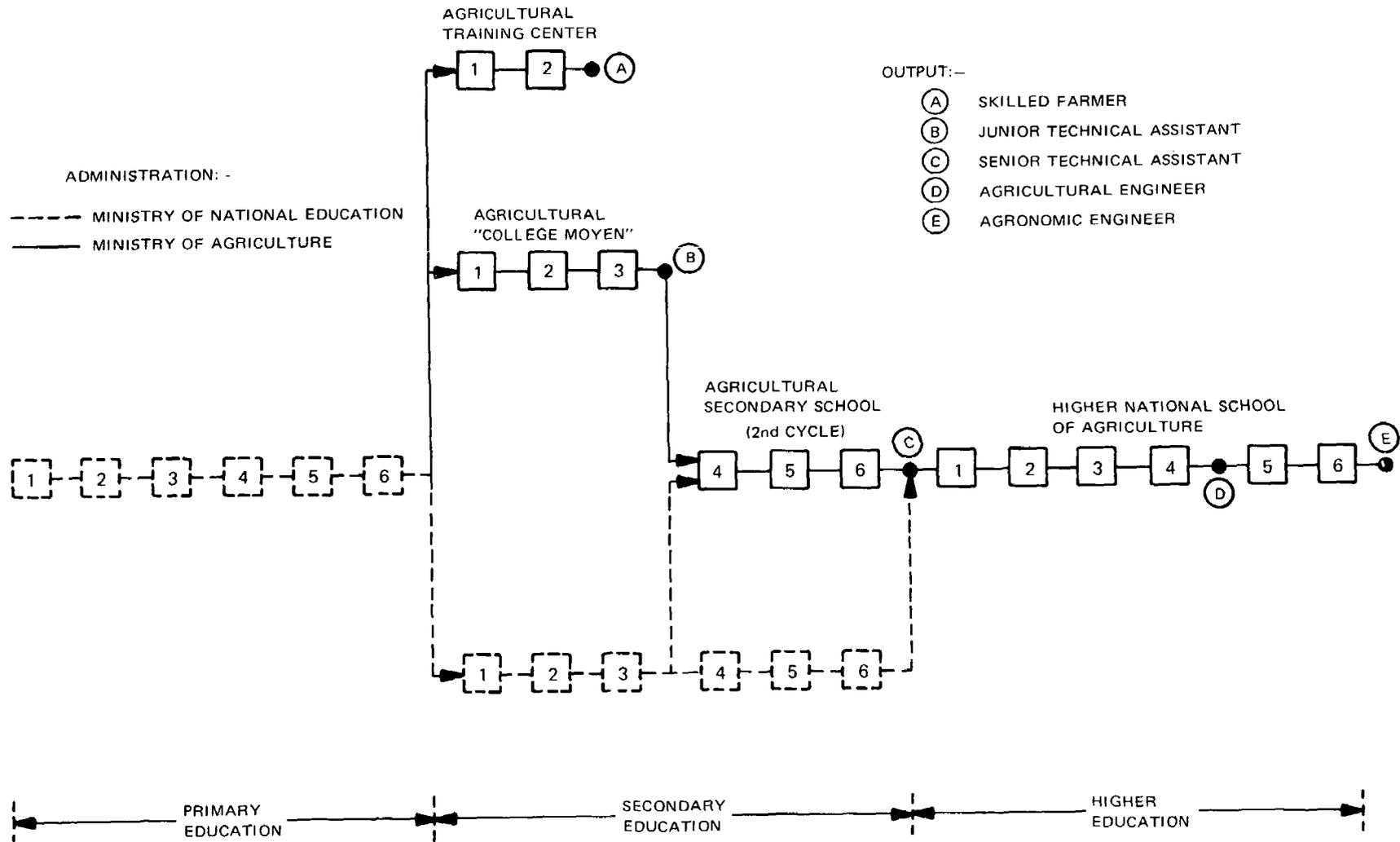
20.29 Some 75 percent of those who obtain the secondary agricultural studies diploma find immediate employment in government or the private sector. The remaining 25 percent enter the Ecole Nationale Superieure d'Agriculture de Tunis (ENSAT), where they are joined by entrants who have completed the second cycle of general secondary education. The courses, of four and six years, lead to diplomas in agricultural and agronomic engineering respectively.

20.30 An entirely different path leads from the primary school to the Agricultural Vocational Training Centers. Recruiting pupils of 14 or 15 years of age, the centers offer two-year courses leading to certificates marking the completion of elementary agricultural studies or of agricultural apprentice training. The curriculum includes general education and farm economics, together with technical subjects, selected according to the areas served, which include irrigation, sheep farming, fruit farming, cattle rearing, forestry, commercial grasses, horticulture, agricultural machinery, fishing, and rural feminine crafts. In addition to these full-time courses, producing practical farmers with a sound knowledge of modern methods and techniques, the centers also provide one-week to three-month upgrading courses for farm workers wishing to keep abreast of recent developments or to qualify for promotion.

20.31 Table 20.11 shows the number of graduates, planned and actual, during the 1962-71 period. The number of specialized workers almost doubled over the period and the number of university graduates increased 3.6 times. However, the results range from 50 to 59 percent of the targets set in 1962. The 43 separate facilities under the Ministry have an unused capacity varying between 56 percent and 84 percent.

Graph. 20.4

TUNISIA: SYSTEM OF AGRICULTURAL EDUCATION



20.32 In general, the capacity of the system of vocational training appears fairly adequate, but the quality of the graduate of the non-agricultural training centers is not very high. Gaps exist in particular in training for special trade skills, and in the supervisory and higher technical grades in manufacturing, tourism and building and construction. In the training of primary school leavers and dropouts, formal education is emphasized at the expense of practical training. There is a lack of interest on the part of potential employers. In the agricultural schools, the problem is rather the misuse or misdirection of the graduates and their limited suitability for field work. This is partly due to the method of selection, with its urban basis and its the lack of emphasis on rural background and vocational motivation.

Table 20.10: STUDENTS AND SCHOOLS IN AGRICULTURAL EDUCATION, 1972

	Centers	Capacity	Students	Graduated Year	Percentage of Capacity
(A) Vocational Training (stagiaires)	17	..	4,500	4,500	..
Adult Training (Ouvriers specialises)	15	2,760	2,005	1,200	73
Total	32		6,505	5,700	
(B) Lycees (Agents techniques)	8	1,680	1,418	350	84
Technical Institutes (Adjoints techniques)	3	780	433	110	56
Total	11	2,460	1,851	460	
(C) Higher Education (Faculte d'agronomie, ingenieurs)	1	330	226	45 /a	68
Total A, B, C	44	..	8,582	6,200	..

/a Excludes 36 who graduated abroad.

Source: Ministère de l'Agriculture, Plan Quadriennal: Formation des Cadres, Tunis, 1973.

Table 20.11: PLANNED AND ACTUAL OUTPUT OF AGRICULTURAL EDUCATION

	Available in 1962	Planned 1962-71	Achieved 1962-71	Achieved/ planned (%)	Output/ Year
Ouvriers Specialises	10,600	47,500	27,862	59	2,786
Agents techniques	-	5,417	2,838	52	284
Adjoints techniques	19	1,425	722	51	72
Ingenieurs	164	1,204	606	50	50

Source: Ministère de l'Agriculture, Plan Quadrennial: Formation des Cadres, Tunis 1973.

(iv) Higher Education

20.33 In 1961/1962, the University of Tunis and other schools of higher education had 2,234 students. By 1971/1972 enrollment had reached 10,849. Higher education is open to all holders of the secondary school "baccalaureate", and only 6 percent of these fail to enroll. This requirement is often waived; 37 percent of first-year students in 1970/1971 did not have the baccalaureate. Some institutions for example, the Faculty of Theology and the Normal School of Assistant Teachers, do not require the baccalaureate. The distribution of students is given in Table 20.12. The supply of higher education places in Tunisia increased sufficiently to reduce the percentage of students studying abroad from 45 percent in 1960 to 30 percent in 1971.

Table 20.12: STUDENTS AND FACULTY IN HIGHER EDUCATION, 1971/72

	Students	Faculty	Students/ Faculty
Ecole Nationale d'Ingenieurs	266	74	4
Institut Supérieur de Gestion	133	24	6
Institut des Htes Etudes Commerciales	108	10	11
Ecole Normale des Professeurs Adjoints	871	68	13
Faculte des Sciences	2,299	174	13
Faculte de Medecine	798	47	17
Faculte des Lettres	3,320	102	33
Faculte de Droit	1,948	48	41
Faculte de Theologie et des Sciences Religieuses	867	18	48
Total	10,610	565	19

Source: Ministère de l'Education Nationale.

20.34 The quantitative objectives of the Perspectives and the three development plans were achieved. The goal was to have between 12,000 and 15,000 students in higher studies at home and abroad in 1971, and the actual figure was 14,073. The number actually graduated was 8,000, of whom 5,200 were from the University of Tunis. The demand for graduates was estimated at 11,000, of whom about 6,000 were needed for teaching, mainly at the secondary level. But, during the decade, only 2,000 were trained as teachers and of these it is estimated that half are not teaching but are working either in education administration or outside education.

20.35 Unemployed university graduates appeared for the first time in the fall of 1971 and in 1972 the number was larger. Because they were comparatively few in number, a considerable proportion was easily absorbed by jobs created in government for the purpose. However, even under optimistic assumptions about the rate of growth of GDP and the number of new jobs, the planned rate of expansion of the faculties for the next decade will probably mean that more graduates will be unemployed. These graduates, unlike "blue collar" workers, will not find a ready demand for their skills in Europe, which faces a similar disequilibrium except in a few fields, such as medicine, statistics, management and accounting. Some graduates could, however, find jobs in other Arab countries. A number could also go into primary and secondary teaching, after suitable training. While more years of schooling are often regarded as a net social benefit, these benefits will have to be carefully compared with the net benefits from alternative investments, the social and political problems of unemployed graduates, and the mounting financial burden of university education. The Government has now undertaken the definition of a specific policy for the training of manpower for higher education and of a clear strategy of career guidance.

(v) Adult Education and Literacy

20.36 To reduce the proportion of illiterates has been one of the Government's principal objectives but a nationally organized and financed program was not undertaken until 1965, at the same time as UNESCO began its campaign to promote functional literacy. Thus, the Tunisian program, supplemented by UNESCO, provided information useful for low-income adults as well as teaching the simple cognitive skills. The number of participants reached a peak of 41,000 in 1968/1969 and by 1971 had declined to 26,000. The program seems to have had less than the expected impact on the cognitive achievement or attitudes of the participants. An evaluation of the better program centers showed that four years attendance was necessary to achieve the proficiency of a sixth-grade primary student in Arabic reading comprehension. Adults with less than four years did worse than fourth-grade students, which meant they could not read and understand a national newspaper. The adults who did best came from the city, had had previous education, and had parents of higher socio-economic status. Finally, 34 percent showed a decline in reading ability two years after completing the course, while 48 percent showed a gain. Students with previous education were more retentive than those without. Eighteen percent were unchanged. The program was costly since only 50 percent of each grade was permitted to proceed to the next. The costs per graduate of the 4-year course were as high as D 1,600. Since 1970 the program has been affected by a budget reduction and the number of participants has

diminished. The 1966 census indicated a literacy rate of 55 percent of the population, on the basis of the number of people who had completed 4 years of primary school.

(vi) Private Education

20.37 Private education performed an important function in Tunisia before Independence. In 1972, the total number of private students was less than 3 percent of the number enrolled in public schools. There are two main kinds of private schools: schools staffed by French teachers and subsidized by the French Government, mainly attended by children of the elite, and schools attended by students of the middle and upper income groups who drop or are pushed out of the public secondary system. The former concentrate on academic subjects, while the latter provide a mixture of academic and commercial courses. With the reduction in 1970 in the percentage of primary students admitted to public secondary schools, the number of private students has increased at both primary and secondary levels. New "non-elite" private schools have opened across the country, 17 in 1972 alone. The number of students receiving private education was 21,000 in 1972, 20 percent more than in 1971.

(vii) Pre-School Education

20.38 Most pre-school education is in private institutions, some of which are subsidized by the French Government. In the middle 1960s, however, the Ministry of Social Affairs began to organize kindergartens, supported by local contributions, in which 4-6 year olds engage in supervised play and receive nutritious meals. Low-income students either pay half fees or nothing, according to the local contribution.

Table 20.13: STUDENTS AND SCHOOLS IN PRIVATE EDUCATION

	<u>1971/72</u>	<u>1972/73</u>
<u>Students /1</u>		
Primary	8,475	9,404
Secondary		
- Professional	2,056	2,596
- Academic	5,248	8,127
- Pre-professional	<u>1,189</u>	<u>1,189</u>
Total	16,968	21,316
<u>Schools</u>		
Primary	36	39
Secondary	<u>55</u>	<u>69</u>
Total	91	108

/1 These include students at the French mission schools:

	<u>1971/72</u>	<u>1972/73</u>
Primary	1,599	1,678
Secondary	2,262	2,655

Source: Ministère de l'Éducation Nationale.

E. Cost and Efficiency of Education

20.39 Two studies 1/ on educational costs in Tunisia carried out in the past few years reached the conclusion that real costs per secondary and university student were high and rapidly rising. The costs per student for the three levels of the education system are given in Table 20.14 below. Secondary education is at least seven times as expensive as primary. Agricultural education costs 17 times as much as primary, and higher education 41 times as much, per student. A major component of these high costs is the high salaries of foreign teachers, who constitute nearly half of the staff at the secondary and higher levels. Scholarships average D 75 per holder for secondary and D 406 for higher education.

1/ Bsais, A & C Morrison: Les Coûts de l'Éducation en Tunisie, in Cahiers du CERES, No. 3, June 1970. Tibi, Claude: Economic Development and Financial Aspects of Education Policy: The Tunisian Case, The International Institute for Education Policy, Paris, 1972.

Table 20.14: UNIT COSTS OF EDUCATION IN 1971
(current prices in dinars)

	Current	Capital	Total	Index
Primary <u>/a</u>	23 <u>/b</u>	1	24	100
Secondary <u>/c</u>	156	25	181	754
Vocational <u>/d</u> (Indust.)	202	6	208	867
Vocational (Agric.)	416 <u>/e</u>	-	416	1,733
Higher	762 <u>/f</u>	224	986	4,108

/a Note de Synthèse preparatory to Plan.

/b Of which D 1.40 was spent on food, clothing and scholarships.

/c For 1970, and includes academic and professional.

/d For 15,000 students.

/e 1969.

/f Of which D 406 went for food, tuition and scholarships.

20.40 The real cost of producing one graduate consists of the total cost of his education plus a share of the cost of the education of those students who did not graduate. This fails, of course, to take account of the benefits that may have accrued to the students who did not graduate, although these benefits are small for secondary students who do not reach "Brevet" certificate stage and are almost insignificant for primary students. The costs per graduate at each level of the education structure, when the costs of dropouts and repeaters are included, are shown in Table 20.15. The cost per primary graduate was D 394 in 1971. The cumulative cost of obtaining one secondary graduate (i.e., primary plus secondary) was D 4,792 and one university graduate D 19,582.

Table 20.15: COST PER GRADUATE IN 1971
(current prices in dinars)

	Mean Years Required To Obtain Cost/ Student (1)	Certi- ficate Cost/ Grad- uate (2)	Number Of Non- Certi- ficate Students Per Certi- ficate holder (3)	Mean Years Schooling Non- Certi- ficate Students (4)	Mean Years Non- Certi- ficate Students (5)	Total Cost Of Non- Certi- ficate Students (1)x(4)x(5) (6)	Cost/ Graduate (3)+(6) (7)
1. EACH LEVEL							
Primary	24	8	192	2.1	4	202	394
Secondary	181	9	1,629	5.2	3	2,769	4,398
Vocational (Indus.)	208	4	832	2.7	2	1,123	1,955
Vocational (Agric.)	416	7	2,912	3.0	3	3,744	6,656
Higher	986	6	5,916	3.0	3	8,874	14,790
2. CUMULATIVE							
Primary + Secondary	.	.	1,829	.	.	.	4,792
Primary + Voc. (Ag.)	.	.	3,104	.	.	.	7,050
Primary + Sec. + Higher	.	.	7,745	.	.	.	19,582

Source: Ministère de l'Education Nationale.

20.41 Private studies ^{1/} made to measure the achievement of students as a function of school inputs, family background and personality show that the fact that some students score higher than others is probably due more to family background and personality rather than to the quality or quantity of school inputs. As regards measurement of non-cognitive educational achievement, the studies show that primary schooling has little effect in developing "modern attitudes" as measured on the Inkles modernity scale, but secondary schooling has a significant effect. These results appear consistent with those of recent

^{1/} Carnoy, Martin, Hans Thias and Richard Sack, "Middle Level Manpower, The Links Between Socioeconomic Origin, Schooling and Job History in Tunisia," Tone and Simmons, 1973. Simmons, John, "The Income Benefits from Formal and Informal Education, Estimates for a Socioeconomic Model," Development Research Center, Harvard University, Cambridge, Mass., 1972. Erkut, Sumru, "A Theoretical and Empirical Study of Modernity as a Concomitant of Industrialization," Department of Social Psychology, PhD Dissertation, Harvard University, Cambridge, Mass., Nov. 1972.

educational research in other countries, and the questions they raise demonstrate the need to pursue the study of this problem.

20.42 Several studies have sought to determine the importance of schooling for lifetime earnings. Earnings are regarded as a function of schooling, ability, work experience, and parental socio-economic status. A national survey (Carnoy, Thias, Sack 1972) ^{1/} found that the predicted lifetime earnings of a worker with no education at all were just as high as those of a worker with full primary and two grades of post-primary schooling. The more schooling workers had after the second secondary year, the higher their earnings. But the older the workers in this group, the less important schooling below a certain level was in determining their earnings. For example, for schooling to be significant for workers above 40, they had to have had one year of university training. Contrary to expectations, workers aged 21-40 with vocational training were found to earn less than workers who had general education. Furthermore, training on the job was highly significant in determining earnings.

20.43 Equity in the education sector implies a proper distribution of benefits and costs, over the long term, between the different social groups. Unfortunately, the basic data available for Tunisia is limited and the inter-generational social mobility data required to answer these questions is quite incomplete. In 1970 the Ministry of Education classified students at the three levels of education according to social situation. The results are presented in Table 20.16. Since this classification could not be made for the primary-school group, it was assumed that the classification for the primary group corresponds to that for the population as a whole. In fact, this "estimate by residue" is far from objective, since most primary-school children come from the lowest income groups of the population. Even on this assumption, the proportion of students with fathers of high socio-economic status (SES) getting some higher education is 8.8 times as high as the proportion of high-SES students in the population. The lowest income group has only 27 percent of the places at the university level that would be expected if education were distributed absolutely equitably. Table 20.16 shows that in 1970 children in the upper income groups were clearly getting the lion's share of higher education. Account must, of course, be taken of the quite undemocratic nature of primary education at the time of Independence.

^{1/} Carnoy, Martin, Hans, Thias and Richard Sach, "Middle Level Manpower, The Links Between Socioeconomic Origin, Schooling and Job History in Tunisia," Stone and Simmons, 1973.

Table 20.16: SOCIO-ECONOMIC STATUS OF STUDENTS' FATHERS (1970)
(percentage)

Socio-economic Status	Primary (1)	Secondary (2)	Higher (3)	Ratio (3)/(1)
High 1	1.2	5.9	10.5	8.8
2	26.5	40.0	26.2	1.0
3	12.7	20.8	17.6	1.4
Low 4	43.5	17.3	11.9	0.27
Other	16.1	16.0	33.0	2.0
Total	100.0	100.0	100.0	
Number of Students (000)	113.9	7.8	0.6	

Status: High 1: Highest white collar, professions, heads of firms and employees Category A.
 " 2: Employees Categories B and C, office staff and skilled workers.
 " 3: Foremen, semiskilled or unskilled industrial workers.
 Low 4: Agricultural laborer and non-industrial unskilled workers.
 Other : Retired, without occupation, and father dead.

Source: Ministère de l'Education Nationale, Bureau de Planification.

F. The Fourth Economic and Social Development Plan, 1973-76

20.44 The preparatory documentation for the Fourth Plan, 1/ and the Plan itself, stress the absolute necessity of bringing the output of the education system into line with the needs of the economy. The Fourth Plan does not claim to solve all the problems posed by the structural imbalance of education. A committee has been set up to carry out a far-reaching reform of education during the Plan period. Alongside this work, the tasks of short-term education planning will be continued.

20.45 At the present stage, the policy and objectives defined by the Fourth Plan can be summarized as follows:

(i) Primary education

The starting point adopted for the development of primary education is the basic decision to create structures to

1/ Commission Nationale Sectorielle de l'Education et de la Recherche Scientifique, "Rapport de synthese sur l'education pour la decennie 1961-1972," July 1972; Ministère de l'Education Nationale, Note de Synthèse du Plan Quadriennal 1973-76: "Les objectifs quantitatifs et qualitatifs du systeme scolaire et universitaire," May 1973.

accommodate all school-age children that wish to enroll: the right of every child to primary education is assured without going so far as to make schooling compulsory. Primary enrollment is expected to increase from 884,000 in 1972/73 to 1 million in 1976/77, an annual growth of 3.3 percent; with this rate, which compares with 8.5 percent in the 1960s, it will be possible to cope with the population growth while continuing to improve the percentage of school-age children receiving schooling. The qualitative objectives of the Plan are, essentially: to improve the internal productivity of education by revising timetables and strengthening teacher-training, and to guide students toward scientific and technical careers through appropriate curricula adjustments.

(ii) Secondary education

Secondary school enrollment is expected to grow by 4 percent a year, from 172,000 in 1972/73 to 200,000 in 1976/77. Most of this increase will be in the technical, mathematics, science and vocational tracks. In order to steer a higher percentage of pupils toward these, it is proposed to strengthen the mathematics, sciences and technical courses, to increase the number of teachers in these subjects, and to prepare the necessary structures to handle the growing technical and vocational enrollment.

(iii) Higher Education

Having regard to the foreseeable number of secondary-school graduates (bacheliers), student enrollment is expected to increase from 10,650 in 1972/73 to 22,700 in 1976/77, i.e. at a rate of 22 percent a year. In addition to this substantial growth, the Fourth Plan identifies the other two problems that higher education will have to face: the imbalances between the scientific and technical disciplines on the one hand and literature and the arts on the other, which will tend to widen, and the low output of the studies. The measures to change the enrollment structure at the secondary level should make it possible to guide students towards the scientific and technical disciplines and progressively to redress the balance of higher education to fit needs. Thus, the Plan calls for an increase of 226 percent in enrollment in the Faculty of Sciences and the scientific sections of the Ecole Normale Supérieure, doubling of the enrollment in the Faculty of Medicine (from 1,000 to 2,250 in 4 years), and an increase in enrollment in the National Engineering Schools from 340 in 1972/73 to 2,120 in 1976/77.

Table 20.17: PROJECTED STUDENT ENROLLMENTS,
FOURTH PLAN, 1973-76
(000 students)

	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>Percent Growth 1972-1976</u>
Total Primary	883	918	950	975	999	13.2
Total Secondary	172	182	191	199	200	16.4
- of which Professional	18	27	34	41	41	124.4
Total Higher	11	12	14	18	23	109.0

Source: Ministere de l'Education Nationale and Ministere du Plan.

20.46 For teachers, the Fourth Plan gives detailed projections only for the secondary level. It appears that a sufficient number of teachers can be trained to cope with the increase in school population at the primary level. In higher education, the large increase in student enrollment will call for a substantial effort to develop the needed teaching staff. In the case of secondary education the present enrollment structure, in terms of its distribution among the various faculties, means that it will not be possible, in addition to supplying the new needs, to replace the expatriate teachers during the Plan period in certain subjects such as mathematics, physics and chemistry, and French. On the other hand, the output of the University in other subjects, for which teaching is the main outlet, such as Arabic, History and Geography, will far exceed recruitment opportunities in secondary education. According to the Fourth Plan the number of secondary teachers will increase from 5,560 in 1973/74 to 6,280 in 1976/77; the number of Tunisian teachers will increase from 3,750 to 5,390, while that of expatriate teachers will fall from 1,810 to 890.

20.47 The capital budget of the education system for the 4 years of the 1973-76 Plan is nearly D 40 million, or 14 percent of the total capital expenditure of general Government provided for in the Plan. During the preceding Plan period (1969-72), the capital expenditure on education amounted to D 36 million, i.e. 20 percent of the Government's capital budget. To this must be added D 4 million a year assigned to the schools of agriculture and D 1 million a year assigned to vocational training. During the same period, the operating expenditures of the education system will rise by 8.4 percent a year to D 72 million in 1976. According to the Plan forecasts, total education expenditure (capital and operating) in 1976 would account for 6 percent of GDP, i.e. slightly less than in 1970/71 (6.5 percent).

G. Elements of a New Orientation

20.48 Considering that the objectives of education are essentially to contribute to economic growth, to the social development of the people and to greater social equality between population groups, the preconditions for achieving these objectives are three:

- (i) the efficiency of education investment must be improved, by adapting the teaching to the needs of the economy and of the individuals;
- (ii) conditions must be fostered that allow equality of access to education and to the advantages it brings;
- (iii) education planning must be developed so that it may better satisfy the needs of society.

The Government's policy and the measures taken during recent years are consistent with this orientation. However, there is a need to give even greater attention to the factors, both inside and outside the education system, that would help to expand the number and range of productive jobs, to narrow the artificial differences in wage levels, to ensure a smoother transition from school to working life, and to facilitate access to both scholastic education at all levels and other forms of education.

(i) Basic Education

20.49 Formal education to a minimum level of verbal and quantitative skills associated with literacy is essential for self-learning, further formal education and more active participation in economic and social life. It is also important to define as precisely as possible what constitutes an adequate level of literacy and what kind of education this calls for, so that the necessary adjustments may be made. Curricula, textbooks and practical work for the primary or basic cycle need to be revised to adapt them better to the dominant economic and social activities in the country. This would contribute both to the social objective of universal literacy and to raising productivity and improving the participation of the poor. Other basic reforms of primary education that could be studied include increased local contribution to school construction, raising the primary entry age, automatic promotion, mastery learning, the use of school leavers as para-professionals, and accelerated training aimed at re-entry of young people and adults into the school or university system.

20.50 The purpose of the certificate of primary education under the present system is essentially to select students for secondary school and not to attest to a particular level of education. Since only about 25 percent of the school population continue their formal education beyond primary, and the remaining 75 percent are left to develop their skills and knowledge for employment as best they can, it seems essential that the primary cycle be geared chiefly to the needs of this 75 percent. Because the curriculum is directly linked to the examination system (since the weight given to a subject in the examination, and the form the questions take, largely define the method and content of teaching), it is essential to redefine the role of the primary certificate and to devise methods of selection that are appropriate to the amended curricula and, at the same time, efficient and equitable.

20.51 The present system of examination of cognitive achievement, which is heavily biased in favor of French language ability, has the effect of discriminating against rural and low-income students. While bilingual instruction has been the subject of considerable debate in the past few years, little evidence exists to suggest either how efficient or how fair the suggested alternatives are. This information should be collected and evaluated to provide insight into the issue. Furthermore, although technical workers require psychomotor ability, students are not tested for it and it is not correlated with cognitive achievement. Thus, an important group of students who could learn to be skilled technicians, if promoted to intermediate school, are excluded. Questions that need to be studied include the efficiency of available pedagogic methods and methods of improving reading comprehension and developing non-cognitive skills.

(ii) Secondary and Higher Education

20.52 Given the present numbers of students in the pipeline, let alone the increases projected for 1973-1976, it may be expected that the system will increasingly produce dropouts and certificate holders who will not find jobs to match their school qualifications or aspirations. It would follow that the number of years of schooling required for middle and upper level jobs should be reduced and part of the resources now spent on education allocated to other uses. The financial cost of successfully producing one university graduate, with uncertain prospects of finding a job, could create four new jobs in manufacturing. Once the basic skills for communication and further self-education have been provided, formal education opportunities could, in the light of the limited resources and jobs available, be geared more closely to the minimum educational requirements of the jobs that can be created, even if this means providing retraining later. For such a policy to be effective requires efforts to curtail excess demands for education on the one hand and to expand employment opportunities on the other.

20.53 The demand for post-primary training is inflated for a variety of reasons: (i) the supply of jobs is growing more slowly than the supply of school places; (ii) the income differential between modern and traditional sector employment remains artificially high and is widening; (iii) employers and government tend to give preference to educational "longevity" even though additional increments of formal education may add only marginally, if at all, to productivity, and (iv) the cost of education borne by the individual is out of line with the potential benefits. There is, as a result, a private demand for education far in excess of the economic demand in terms of higher-income, modern-sector employment opportunities. Educational enrollment should accordingly be more clearly related to the employment market. To reduce the demand for education to a more realistic level, consideration might be given to making the beneficiary (as opposed to his family or society as a whole) bear a larger or rising proportion of his educational costs as he proceeds through the system, with appropriate subsidies and loan programs.

(iii) Vocational Training

20.54 For terminal pupils at primary, and also at higher levels, there is an urgent need for a more comprehensive effort to establish practical,

job-oriented training schemes to assist in absorption into the labor market. Specialized training activities undertaken by several ministries might usefully be brought together into one unified system of extra-mural, second-chance institutions catering for both adults and school leavers. These institutions could essentially give instruction in village or rural crafts and training in modern industrial and business skills, and by catering for all-round needs (craft-skills, agricultural knowledge, small-scale business, elementary management and general economics), could assist people to improve their future livelihood, particularly in rural areas, and orient young people towards opportunities on the land and in self-employed activity. Of equal importance in the modern urban sector is the development of comprehensive programs for on-the-job training.

20.55 Finally, consideration could be given to the desirability of a formal break of one, two or more years in academic training to give students a greater awareness of the alternatives open to them and of their own preferences and aptitudes and, with greater maturity, to benefit more from further academic training. Introduction of such a break at this stage of Tunisia's development could interrupt the pattern of growth of education expenditure and provide a breathing spell in which to resolve some of the difficult problems confronting the Government. Such a proposal could, for example, be adopted to ease the problem of staffing in rural development programs identified in other parts of this report. All persons successfully completing secondary education could be required to give one year of community service to the rural areas, including teaching, on a subsistence-level pay scale as a prerequisite for higher education. This concept could also be usefully applied again by requiring a further year of service as part of the program leading to final qualification; this could be counted as part of the individual's military service.

21. SOME OBSERVATIONS ON HEALTH, NUTRITION AND FAMILY PLANNING

A. Introduction

21.1 Impressive progress has been made in the health field. Since Independence, health care has been virtually free for everyone. Modern medicine had become well established in the chief cities, but by 1964 the departure of most of the European doctors had left the health services seriously undermanned. Since 1964 an effort has been made to extend and improve health services, despite a lack of qualified medical and other personnel.

B. Health

21.2 Over the period 1955 to 1970 the gross death rate fell from 20 to 14 per 1000 and the infant death rate from 155 to 106 per 1000. The chief causes include the improvement of preventive and curative health care as well as changes in the age structure of the population.

Table 21.1: VITAL STATISTICS
(Muslim Population Only: N/1000)

	<u>1945</u>	<u>1955</u>	<u>1960</u>	<u>1965</u>	<u>1970</u>
Gross Death Rate	26.0	20.3	19.3	17.8	13.7
Infant Death Rate	202	155	90	113	106
Life Expectancy (Years)	38 <u>/1</u>	47 <u>/1</u>	54 <u>/2</u>	55	56

/1 Tunis only.

/2 Rate corrected by a coefficient of 1.4.

Source: Ministère de la Santé Publique, Retrospectives de la Tunisie, 1962-1971, L'Annuaire Statistique.
Ministère du Plan, Retrospectives Decennales.
La Mortalité et le coût de la Santé Publique en Tunisie.
Cahiers du CERES Serie Demographique No. 1, June 1967 and No. 2, January 1968.

Although records of incidence of diseases were maintained before Independence, they display erratic variations from year to year which suggest errors in collection. Table 21.2 shows the trends in some epidemic illnesses. Malaria and typhus have been virtually eradicated.

Table 21.2: TRENDS IN EPIDEMIC ILLNESSES
(Cases Reported)

	<u>1946</u> /1	<u>1955</u> /1	<u>1967</u>	<u>1971</u> /2
Typhoid Fever	833	484	666	935
Typhus	512	27	-	45
Malaria	7,855	1,507	2,565	95

/1 Cases reported for Tunis only.

/2 Estimate based on Appendix Table 1, this chapter.

21.3 Health inputs include public expenditures for equipment and operation of health services and private expenditures on items ranging from medicines to nutritious diets. These are summarized in Table 21.3. Given the rapid increase of population over the period, the rates of change are even more significant than they at first appear. Current expenditures on health almost quadrupled in terms of constant prices. Access to clean water supplies almost doubled.

Table 21.3: MAJOR INDICATORS OF PROMOTION OF PUBLIC HEALTH

	<u>1956</u>	<u>1965</u>	<u>1970</u>
Clean Water Supplies (percentage of population benefitting)	29	40	n.a.
T.B. Preventive Campaign (percentage of population tested)	34	n.a.	n.a.
MDs/10,000 people	16	15	13
Current Expenditures in Dinars per capita (1964 constant prices)	1.207	1.934	2.200
Capital Expenditures (000x current dinars)	412	1,000 ^{/1}	2,700

/1 Estimate.

Source: Ministère de Santé Publique, Retrospectives de la Tunisie, 1962-1971
L'Annuaire Statistique.
Ministère du Plan, Retrospectives Decennales.
La Mortalité et le Coût de la Santé Publique en Tunisie.
Cahiers du CERES Serie Demographique No. 2, January 1968.

Table 21.4: UNIT COST OF HOSPITAL CARE
(1964 Constant Dinars)

<u>Current Expenditure</u>	<u>1955</u>	<u>1960</u>	<u>1965</u>	<u>1970</u>
Dinars/bed <u>/1</u>	613	632/ <u>2</u>	531	
Dinars/day <u>/2</u>	2.7	3.1	3.7/ <u>3</u>	

/1 Based on the assumption that 75 percent of the current budget goes for hospital expenditures.

/2 Based on the number of patient days.

/3 Estimate.

The total investment for the 1962-1971 period was D 11 million, of which 69 percent went into facilities in Tunis, and 9 percent into Bizerte, Sfax and Sousse, leaving 22 percent for the rest of the country.

21.4 The effectiveness of health expenditures is not easy to measure. Measures of output, such as death rates, are not entirely suitable. Furthermore, there is virtually no cost-accounting data for health services. Thus, with a few exceptions, it is difficult to trace the trends in unit costs over time or establish indicators of management efficiency. Despite these limitations, it is useful to note the trends in several aspects of hospital care. Table 21.5 below suggests that bed occupancy has fallen from 94 percent in 1965 to 75 percent in 1971. On the other hand, the average length of stay has decreased from 17 to 9 days, almost doubling the number of patients that could be served (assuming that the quality of the care and the type of illness treated is unchanged over the period). Costs per bed in constant prices fell during the 1960s. On the other hand, each doctor had almost twice as many beds to look after in 1965 as in 1955. Much more detailed cost-accounting information would be needed to obtain an accurate measure of the efficiency of the Tunisian health system.

21.5 The available data do not show how equitably the health services paid for by state funds are distributed, since they give no indication of the socio-economic status of the patients. However, there is a high correlation between the per capita income of the region and the volume of health services. For instance in the Tunis region 53 percent of births took place in hospitals or clinics, compared with only 4 percent in Kasserine (Table 21.6). It is possible that some women come from the poorer regions to Tunis for lying-in, but they would normally be those who could afford the transport and other costs. The same is true of the distribution of MDs. In proportion to population, there are ten times as many MDs in Tunis as in Kasserine.

Table 21.5: MEASURES OF EFFICIENCY

	<u>1955</u>	<u>1960</u>	<u>1965</u>	<u>1971</u>
Patients/Bed (for 1000 people)	18	26	24	-
Hospital Beds/MD	10	19	21	-
Beds Occupied/Total Beds	94	78	64	75
Average Length of Stay (days)	17	-	-	9
Dinars/Bed <u>/1</u> (1964 constant prices)	613	632 <u>/2</u>	531	-

/1 Based on the assumption that 75 percent of the current budget is spent on hospital expenditures.

/2 For 1959.

Source: Ministere de la Sante Publique, Retrospectives de la Tunisie, 1962-1971
L'Annuaire Statistique.
Ministere du Plan, Retrospectives Decennales.
La Mortalite et le Cout de la Sante Publique en Tunisie.
Cahiers du CERES, Serie Demographique No. 2, January 1968.

Table 21.6: DISTRIBUTION OF MEDICAL SERVICES, 1971

<u>Governorate</u>	<u>Population/Bed</u> <u>1971</u>	<u>Percent Children</u> <u>With Hospital</u> <u>Delivery <u>/1</u></u>	<u>Population</u> <u>Per MD <u>/2</u></u>	<u>Population/</u> <u>Paramed.</u> <u>1971</u>
Tunis	226	53	2,912	490
Cap Bon	462	40	9,139	1,123
Bizerte	295	39	5,852	812
Sfax	508	28	7,774	1,039
Sousse	437	27	8,139	816
Beja	602	15	12,869	1,333
Gabes	541	15	13,176	1,032
Djendouba	639	13	11,500	1,747
Le Kef	525	10	11,690	1,638
Gafsa	724	8	11,406	1,789
Kairouan	625	7	12,583	1,452
Medenine	696	5	11,565	1,574
Kasserine	1,396	4	22,900	1,991
Tunisia	400		6,486	907

/1 For 1965.

/2 For 1971.

Source: Ministere de la Sante Publique, Retrospectives Decennales, 1962-1971.

Note: Total number of beds is 12,571, of MDs 793, of whom 50 percent are foreign, and of paramedicals 5,664. For some rural areas, e.g. Kieble, there is one MD for 25,000 people; in Dou, only one for 40,000.

21.6 The biggest problem is the provision of adequate health services with limited resources. The Tunisian system is based on European standards. Nurses are not permitted to screen patients; anyone who arrives at the clinic and wants to see the MD can. About 75 percent of the current expenditures on health go to the big hospitals in the urban areas. Fifty percent of the MD's are foreign and do not speak Arabic. This problem can be partly solved by means of greater use of paramedical personnel for whom short training courses in simple medicine and hygiene suitable for persons with little formal education have proved to be effective.

C. Nutrition

21.7 Proper nutrition is essential to the health, not only of the present generation, but also that of future generations. The mother's nutrition before and during pregnancy influences the child's health. There is evidence that protein deficiency in a mother's diet harms at least two generations of female offspring. To keep abreast of these problems, in 1969 the Tunisian Government established the National Institute of Nutrition and Food Technology, which is now carrying out research and educational activities.

21.8 About one-third of Tunisian children die before the age of five. The chief reason for this is malnutrition of both mothers and children. While few die from marasmus or Kwashiorkor, malnutrition lowers the resistance of children to normally non-fatal infections like diarrhea and measles. The extent of the malnutrition is indicated by the fact that 25 percent of the population consumed less than 2,000 calories and 55 grams of protein each day, and 61 percent of the population received less than 20 percent of their protein in the animal form. Table 21.7 shows that, in 1966, malnutrition was more widespread in rural than in urban areas. Because of the stagnation of agricultural production in the 1960s, fewer calories and protein were available. In 1973 per capita consumption levels were lower than when the survey was made in 1966. Table 21.7 suggests that 30 percent of the rural population is getting less calories than it may need and that 70 percent get less than 30 percent animal proteins.

Table 21.7: DAILY CONSUMPTION PER CAPITA, 1966

	<u>Percentage of the Population</u>		
	<u>Rural</u>	<u>Urban</u>	<u>Total</u>
Average Consumption			
Calories	2,250	2,600	2,340
Protein (grams)	63	74	65
(% animal)	(17)	(34)	(22)
Consumption Below:			
2,000 calories	30	12	25
55 grams protein	30	12	25
20 percent animal protein	70	34	61

Source: "Comite Sectoriel de la Nutrition et de la Planification Alimentaire", Rapport du S/Comite de l'Economie Alimentaire August 1968, pp. 3, 5; "Economic Aspects of Nutrition Improvement in Tunisia", USDA, Washington, D.C., 1970.

21.9 Research on malnutrition in Tunisia is being conducted by the National Institute of Nutrition and Food Technology, the National Institute of Child Health and Yale University. In an important experiment under non-laboratory conditions, they are trying to determine what effect different types of food supplements and pediatric care have on the mental and physical development of children between birth and two years of age. The preliminary results indicate that, after the age of 12 months, medical care and nutrition do have a significant influence upon the sensory motor abilities 1/. In conjunction with data from an earlier Tunisian study, the new data suggest that almost half of the differences between income groups are attributable to this cause 2/.

D. Family Planning

21.10 Tunisia has a total population of about 5.5 million, 45 percent of whom live in the five governorates of Tunis (North and South), Sousse, Sfax and Bizerte, where the average density is 200 per square kilometer. The rate of growth increased from less than 2 percent in the 1930s to 2.3 percent by 1960, and to 2.5 percent by 1968. Population growth prospects were studied in Chapter 3, where it was seen that the effect of family planning programs on fertility will be important.

1/ "Nutrition and Child Growth and Development in Tunisia: Interim Progress Report", March 1973, Tunis.

2/ "Social Class and the Impairment of Growth and Health", in Change in Tunisia; Essays from the Social and Health Sciences, forthcoming.

21.11 Since over half of Tunisia's married women are concentrated in the five governorates listed above, the logistics of the delivery of family planning services are relatively favorable. Moreover, in Tunisia, unlike some other countries, the usual family limitation methods do not meet with strong resistance for religious or social reasons. A national survey of knowledge, attitudes and practice made in 1964 indicated a large demand for family planning services. A public family-planning program (the first in Africa) was introduced on an experimental scale in the same year, with financial and technical assistance from the Ford Foundation and the Population Council, and expanded into a national program in 1966. Since 1968 USAID and SIDA have also provided substantial financial support. While the program made rapid progress in its first two or three years, a "plateau" was reached in 1968, and in 1970 it was estimated that the program was reaching only about 2.5 percent of women of fertile age each year. The failure to advance further was attributed to weaknesses of organization and staffing and the overcrowding of the urban maternity hospitals.

21.12 The program took the form of counselling women on family planning and offering acceptors a wide choice of contraceptive methods in the course of free consultations at five large maternity hospitals, 89 Maternal and Child Health (MCH) Centers and 189 rural dispensaries. Outside the large hospitals, the consultations were conducted by teams, each consisting of a gynecologist (usually an expatriate), a midwife, an assistant nurse and a driver. It was found that the effectiveness of this team system was limited by the shortage of doctors, who had to be assigned in priority to curative medicine. This pressure was strengthened by the transfer in 1969 of much of the administrative and financial control of the program from the Directorate of Maternal and Child Health Services and Family Planning (MCH - FP) in the Ministry of Health to regional health administrators. The MCH - FP Directorate was also handicapped by administrative weakness which hindered the distribution of contraceptive supplies.

Table 21.8: ACTIVITIES UNDER THE FAMILY PLANNING PROGRAM

	<u>1968</u>	<u>1971</u>	<u>Percent Annual Change</u>
<u>Contraception and Abortion</u>			
Primary Insertion IUDs	9,199	9,638	1.6
Abortion	2,246	2,705	6.4
Free Pills (users: monthly mean)	1,779	6,285 <u>/2</u>	53.0
Private Sale of Pills	7,292
<u>Deliveries</u>			
Maternal and Child Health Beds	996	1,312	9.6
Deliveries at MCH	51,792	57,329	3.4
Deliveries/Bed	52	43	-6.0
Mean Stay/Bed (Days)	7
<u>Consultations</u>			
Centers	89 <u>/1</u>	80	-3.5
Total Consultations	98,951 <u>/1</u>	104,986	2.0
Mean Consultation/Center	1,112 <u>/1</u>	1,312	5.7
<u>Post Partum Education</u>			
Educators	51 <u>/1</u>	33	-135
Total Consultations	..	4,752	..
Consultations/MCH Deliveries	..	8	..
<u>Motivation Program</u>			
Invited for interview	19,526 <u>/1</u>	20,856	2.2
Came for interview	3,949 <u>/1</u>	3,905	-0.5
Accepted contraception	3,745 <u>/1</u>	3,845	0.9

/1 In 1969.

/2 1970 data.

Source: 1968: IBRD "Appraisal of a Population Project", March 1971, Washington, D.C.
1971: Ministere de la Sante.

21.13 Since 1970, efforts, supported by an IBRD loan of \$7.2 million made in March 1971, have been made to deal with these problems. The MCH-FP Directorate was made directly responsible to the Minister of Health, and a distinguished woman gynecologist was appointed Director. The services of pediatricians and other physicians attached to the MCH centers and of general practitioners are being enlisted to supplement the work of the mobile teams, and special resident midwives are to reside at the centers. There is to be increased use of paramedical staff, for whom additional training facilities are being provided. The loan is also financing the construction of additional

maternity hospitals and MCH centers and the services of management consultants who are advising on the organization and administration of the family planning system.

21.14 For 1970 it was estimated that of the 198,000 births which would otherwise have occurred, 12,135 or 6 percent were averted 1/. The intra-uterine device (IUD) accounted for about 66 percent of the births averted, abortion and tubal ligations 24 percent, and other methods 10 percent. Statistics of the family planning program are given in Table 21.9.

21.15 The data reflect the levelling off after 1968. Mean consultations per center rose from 1,112 in 1968 to 1,312 in 1971. Nine centers were closed. At the same time the number of post partum counsellors, an important factor in the acceptance of contraception, fell from 51 to 33. The rate of post partum consultation was only 8 percent of the total deliveries of infants at the Maternal and Child Health Centers (MCH) 2/.

21.16 The total cost of the family planning program in 1970 was D 559,000, of which 47 percent was provided by foreign assistance. For the period 1973-1976, it is predicted that the number of new women using pills and IUDs will increase from 42,400 to 59,000, or about 4 to 5 percent of women in productive age.

Table 21.9

AGENCIES OR GROUPS AFFECTED BY FAMILY PLANNING PROGRAM (1973)

A. Within Family Planning Program

1. Policy body
2. Relations with other national organizations
3. Relations with donors
4. Administration
5. Budget, accounting
6. Facilities, equipment, supplies
7. Personnel
8. Personnel recruitment
9. Personnel training
10. Supervision
11. Delivery of services
12. Transportation

1/ "Evaluation of Family Planning Programs Using Service Statistics", Working Paper No. 137, November 1972, Washington, D.C., World Bank.

2/ "Les Travaux d'evaluation sur le programme national tunisien de planning familial", African Population Conference, Accra, December, 1971.

13. Medical and contraceptive policy and research
14. Evaluation
15. Research
16. Program review
17. Public information

B. Within Health Ministry

1. Ministers and cabinet
2. Regional health administrations
3. Pediatrics
4. MCH
5. OB
6. Health education

C. Within Government

0. Coordinating council
1. Prime Minister, or President
2. Plan Ministry
3. Education Ministry
4. Finance Ministry
5. Economy or Labor Ministry
6. Agriculture Ministry
7. Foreign Affairs Ministry
8. Defense Ministry
9. Justice Ministry
10. Health Ministry
11. Social Affairs Ministry
12. Information Ministry

D. Other National Organizations

1. The political party(s)
2. The women's organization
3. Social science research organization
4. (Junior Chamber of Commerce)
5. Family organization
6. Religious organization(s)
7. Professional organizations (medical, obstetrical, sociological, psychological...)

E. Foreign Organizations

Governmental

USAID
SIDA
CIDA
Peace Corps

Dutch
USHEW
USIA
NORRAD - Norway

Multilateral

WHO
UNDP-UNFPA
UNESCO
UNICEF
FAO
ILO
IBRD

Private

IPPF
Pathfinder
Population Council
Ford Foundation
PPFA
CARE-MEDICO
Rockefeller Foundation
AFSC
Population Reference Bureau
OXFAM
World Education

Universities

Johns Hopkins
North Carolina
University of Chicago
Royal Tropical Institute
Rennes School of Public Health
Tulane
Harvard

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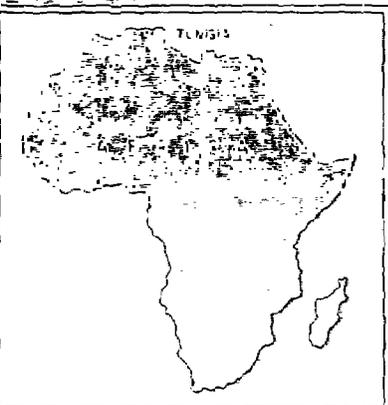
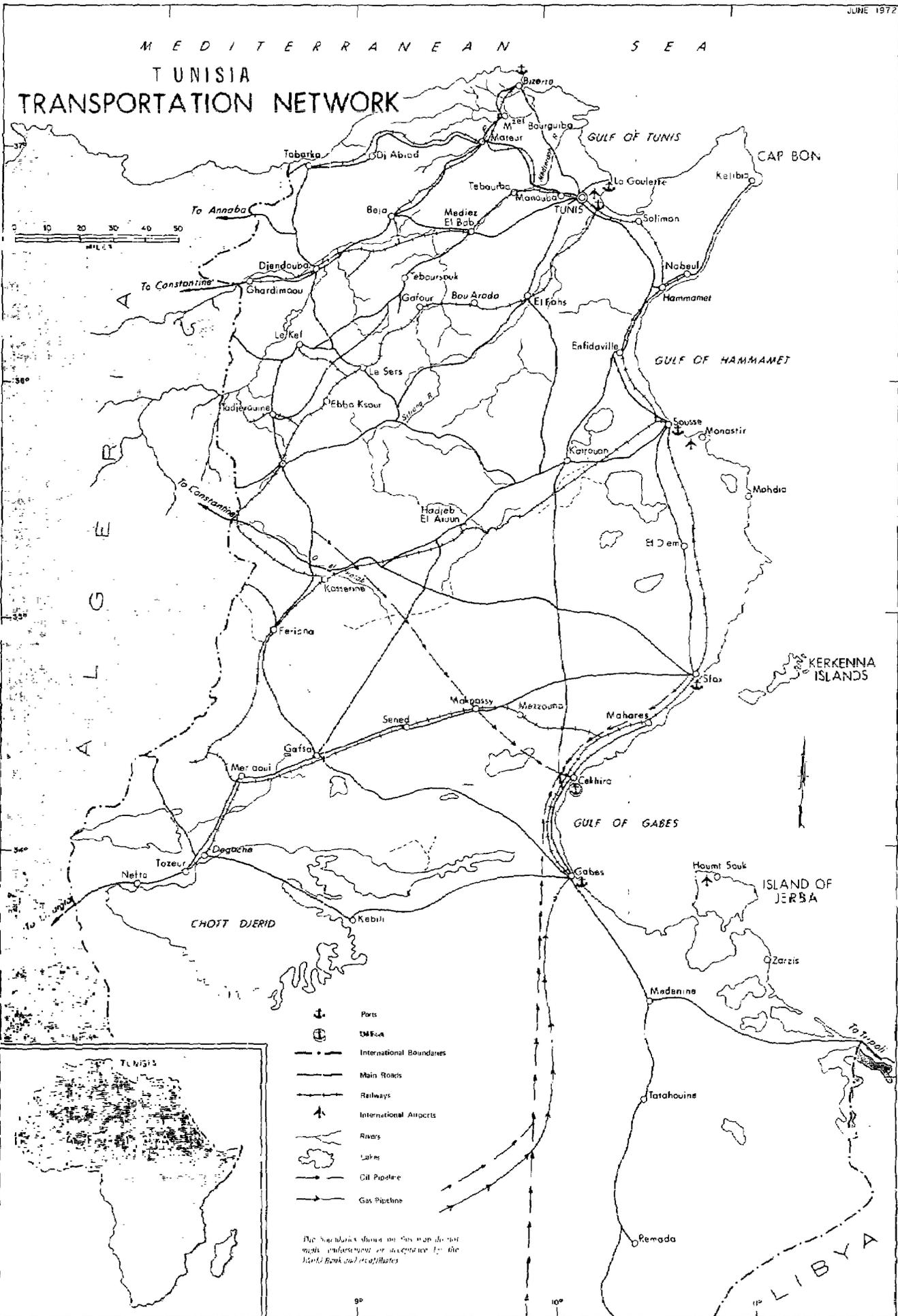
Table 21.10: ACTIVITY OF THE FAMILY PLANNING PROGRAM
(No. of Persons)

<u>Years</u>	<u>Initial Insertions Of I.U.D.</u>	<u>Reinser-tions Of I.U.D.</u>	<u>New Pill Users</u>	<u>Use of 1/ Pills</u>	<u>Use Of 1/ Condoms</u>
1964	1.154	-	-	25	-
1965	12.832	50	343	143	538
1966	12.077	310	350	208	423
1967	9.657	429	591	290	402
1968	9.304	475	4.780	1.779	943
1969	8.696	508	7.867	4.181	1.558
1970	9.638	618	9.959	6.285	2.254
Total	63.358	2.390	23.890
1st half 1970	5.905	337	5.209	6.124	2.249
1st half 1971	6.968	438	5.939	7.314	2.418

<u>Years</u>	<u>Use Of 1/ Jelly</u>	<u>Tubal Ligature</u>	<u>Abortion (Legal)</u>	<u>New Visits</u>	<u>Total Visits</u>
1964	-	293	-	6.160	12.620
1965	208	384	342	16.672	39.542
1966	150	1.396	1.396	16.176	41.517
1967	85	742	1.331	13.600	41.535
1968	193	1.627	2.246	20.432	67.986
1969	286	2.513	2.860	31.357	127.700
1970	340	2.539	2.705	35.362	184.419
Total	..	8.864	10.880	139.759	515.319
1st half 1970	362	1.427	1.419	19.385	93.291
1st half 1971	364	1.352	1.522	21.381	117.798

Source: Ministry of Health

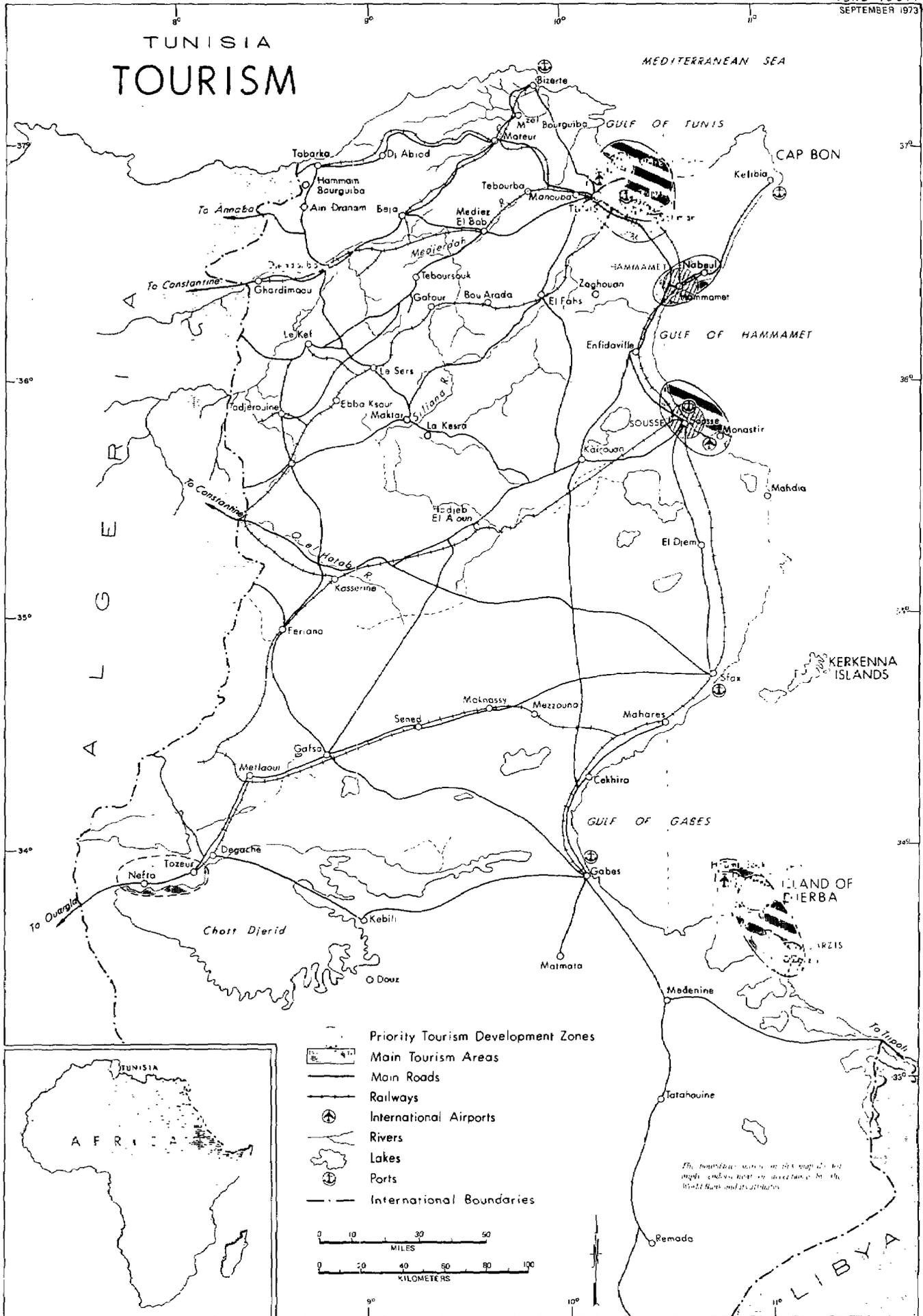
1/ Monthly Average



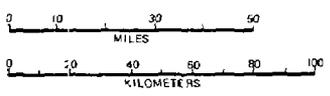
- Ports
- Railroads
- International Boundaries
- Main Roads
- Railways
- International Airports
- Rivers
- Lakes
- Oil Pipeline
- Gas Pipeline

The boundaries shown on this map do not imply endorsement or acceptance by the World Bank and its affiliates.

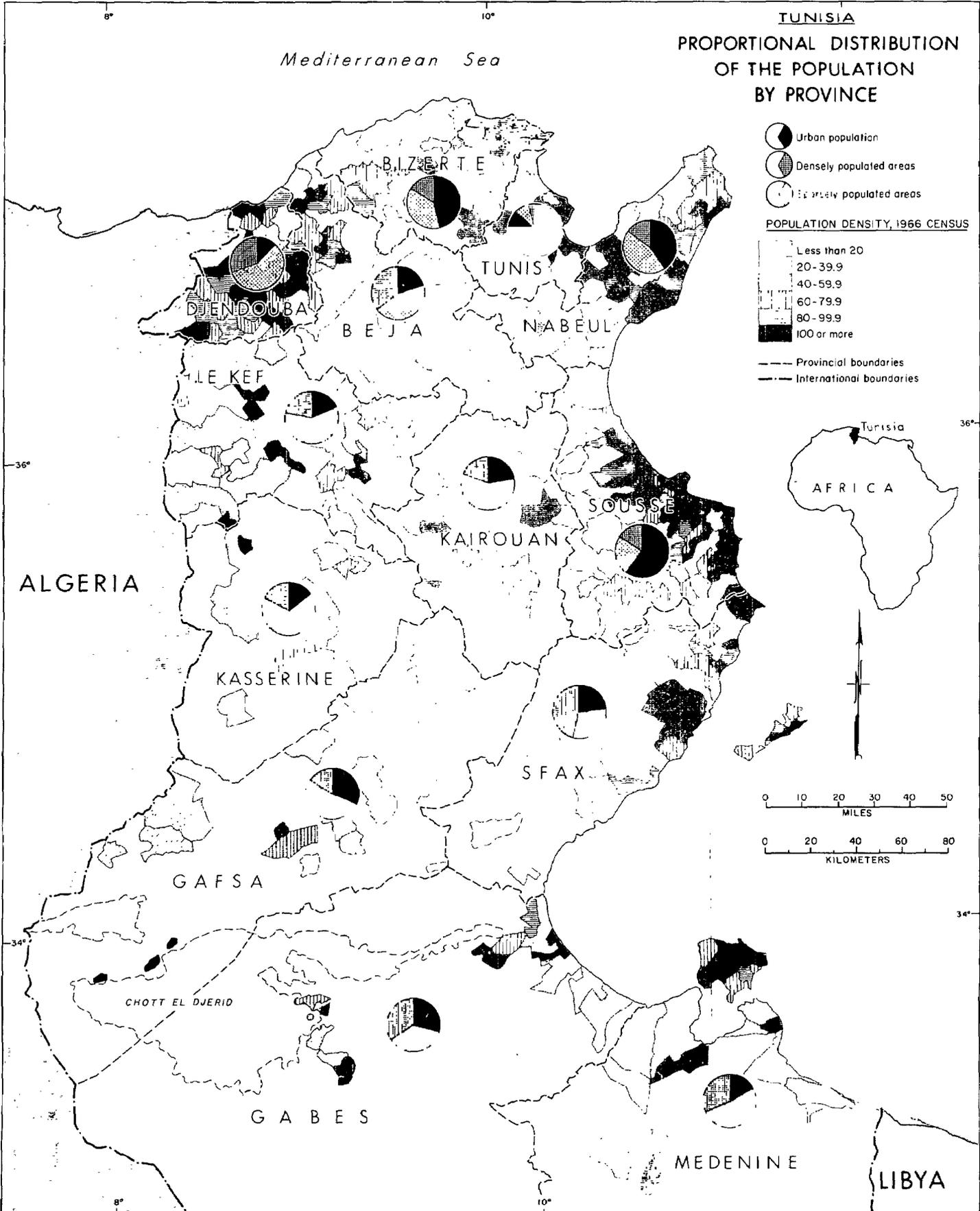
TUNISIA TOURISM



- Priority Tourism Development Zones
- Main Tourism Areas
- Main Roads
- Railways
- International Airports
- Rivers
- Lakes
- Ports
- International Boundaries



The boundaries shown on this map do not imply endorsement or acceptance by the World Bank and its affiliates.



Mediterranean Sea

TUNISIA MATERNITY FACILITIES & M.C.H. NETWORK

