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Report No. P-2024-SYR

REPORT AND RECOMMENDATION
OF THE
PRESIDENT OF THE
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
TO THE
EXECUTIVE DIRECTORS
ON A
PROPOSED LOAN TO
THE SYRIAN ARAB REPUBLIC
FOR THE
ALEPPO WATER SUPPLY PROJECT

June 1, 1977

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CURRENCY EQUIVALENTS

Currency Unit: Syrian Pound (LS)

LS 1 = US\$0.25
US\$1 = LS 3.95

ABBREVIATIONS

Arab Fund	- Arab Fund for Economic and Social Development
EPEA	- Etablissement Public des Eaux d'Alep (Aleppo Water Supply Authority)
EPEF	- Etablissement Public des Eaux de Fiegh (Damascus Water Supply Authority)
MHU	- Ministry of Housing and Utilities
MLG	- Ministry of Local Government
PDF	- Public Debt Fund
USAID	- United States Agency for International Development

Fiscal Year

January 1 - December 31

SYRIA - ALEPPO WATER SUPPLY PROJECT

LOAN AND PROJECT SUMMARY

- Borrower: Syrian Arab Republic.
- Amount: US\$50.0 million in various currencies.
- Terms: 17 years, including 3 1/2 years of grace, at interest rate of 8.2 percent per annum.
- Onlending Terms: US\$48.5 million in various currencies would be on-lent by the Government to Etablissement Public des Eaux d'Alep (EPEA) under the same conditions and with a maturity of not less than 17 and not more than 20 years, including not less than 3-1/2 and not more than 4-1/2 years of grace, at interest rate of 8.2 percent per annum.
- Project Description:
- (a) an expansion of the intake, transmission and treatment facilities from Lake Assad to Aleppo and extensions to the distribution system; auxiliary buildings, office facilities, equipment and staff training for EPEA; and related consulting services;
 - (b) feasibility and preliminary engineering studies of the sewage collection, treatment and disposal system for Aleppo and Lattakia;
 - (c) technical assistance to the State Planning Commission and public construction enterprises for the collection and analysis of data on construction resources and building materials and improving the administration of enterprises.

Project Cost: The table below summarizes the cost of the project.

	-----LS Millions-----			-----US\$ Millions-----			% of Project Cost
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	
(a) <u>Water Supply</u>							
<u>Component</u>							
Aqueduct and							
Pumping Mains	109.4	62.8	172.2	27.7	15.9	43.6	37.3
Pumping stations							
and Telemetry	3.9	37.5	41.4	1.0	9.5	10.5	9.2
Treatment Plant	10.6	10.3	20.9	2.7	2.6	5.3	4.4
Distribution							
Facilities	17.1	32.5	49.6	4.3	8.2	12.5	10.7
Ancillary Buildings							
and Equipments	4.8	2.6	7.4	1.2	0.7	1.9	1.7
Consultants	5.2	15.2	20.4	1.3	3.8	5.1	4.3
Training	<u>0.8</u>	<u>0.8</u>	<u>1.6</u>	<u>0.3</u>	<u>0.2</u>	<u>0.5</u>	<u>0.4</u>
<u>Sub-Total</u>	<u>151.8</u>	<u>161.7</u>	<u>313.5</u>	<u>39.5</u>	<u>40.9</u>	<u>79.4</u>	<u>68.0</u>
(Base Cost)							
Physical contin-							
gencies 15%	<u>21.8</u>	<u>25.2</u>	<u>47.0</u>	<u>5.5</u>	<u>6.4</u>	<u>11.9</u>	<u>10.2</u>
<u>Sub-total</u>	<u>173.6</u>	<u>186.9</u>	<u>360.5</u>	<u>44.0</u>	<u>47.3</u>	<u>91.3</u>	<u>78.2</u>
Price contin-							
gencies	<u>55.7</u>	<u>38.0</u>	<u>93.7</u>	<u>14.1</u>	<u>9.6</u>	<u>23.7</u>	<u>20.2</u>
<u>Sub-total Water</u>							
<u>Supply Works</u>	<u>229.3</u>	<u>224.9</u>	<u>454.2</u>	<u>58.1</u>	<u>56.9</u>	<u>115.0</u>	<u>98.4</u>
(b) <u>Aleppo and</u>							
<u>Lattakia</u>							
<u>Sewerage Studies</u>	1.0	4.9	5.9	0.2	1.3	1.5	1.3
(c) <u>Technical Assis-</u>							
<u>tance Construc-</u>							
<u>tion Industry</u>	0.2	1.0	1.2	0.1	0.2	0.3	0.3
Total Project Cost	<u>230.5</u>	<u>230.8</u>	<u>461.3</u>	<u>58.4</u>	<u>58.4</u>	<u>116.8</u>	<u>100.0</u>

Financing Plan: The proposed loan would finance 43% of the total cost of the project (excluding secondary distribution works) as summarized in the table below:

	<u>Total</u>	<u>EPEA</u>	<u>Government</u>	<u>IBRD</u>
	-----US\$ Millions-----			
Water supply component	115.0	14.2	52.3	48.5
Secondary distribution works	<u>6.6</u>	<u>6.6</u>	<u>-</u>	<u>-</u>
Sub-total EPEA	121.6	20.8 <u>/1</u>	52.3 <u>/2</u>	48.5
Sewerage studies	1.5		0.2	1.3
Technical assistance				
Construction industry	<u>0.3</u>		<u>0.1</u>	<u>0.2</u>
Total	<u>123.4</u>	<u>20.8</u>	<u>52.6</u>	<u>50.0</u>

/1 Net cash generation 1978-82.

/2 Equity.

<u>Estimated Disbursements:</u>	-----\$ Millions-----				
<u>Bank FY</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Annual	2.0	13.5	16.5	13.0	5.0
Cumulative	2.0	15.5	32.0	45.0	50.0

Procurement: Contracts for civil works (amounting to about US\$61 million including contingencies) and for materials and equipment (amounting to about US\$43 million including contingencies) would be awarded following international competitive bidding (ICB) in accordance with Bank Guidelines, except for contracts estimated to cost less than US\$300,000. These contracts, the total of which would not exceed in aggregate US\$5.0 million, would be awarded on the basis of local competitive procurement procedures acceptable to the Bank. In bid comparison, local manufacturers of equipment and materials, to be procured under ICB, would be allowed a margin of preference equal to 15 percent of CIF price or the actual customs duty, whichever is lower.

Consultants: About 1,040 man-months of consultant services would be provided under the project, at an average foreign exchange cost (excluding contingencies) of about \$5,000 per man-month; of the total, 800 man months would be provided for the water supply component.

Rate of
Return: Internal economic return (excluding non-quantifiable benefits):
10 percent

Appraisal
Report: Report No. 1542-SYR, dated June 1, 1977
EMENA Projects Department

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

REPORT AND RECOMMENDATION OF THE PRESIDENT
TO THE EXECUTIVE DIRECTORS ON A PROPOSED LOAN
TO THE SYRIAN ARAB REPUBLIC
FOR THE ALEPPO WATER SUPPLY PROJECT

1. I submit the following report and recommendation on a proposed Bank loan of \$50.0 million equivalent to the Syrian Arab Republic to help finance the Aleppo Water Supply project. The loan would have a term of 17 years including 3-1/2 years of grace, with interest at 8.2 percent per annum. The equivalent of \$48.5 million out of the proceeds of the loan would be on-lent to Etablissement Public des Eaux d'Alep (EPEA) under the same conditions and with a maturity of not less than 17 and not more than 20 years, including not less than 3-1/2 and not more than 4-1/2 years of grace, at interest rate of 8.2 percent per annum.

PART I - THE ECONOMY

2. A report entitled "Current Economic Position and Prospects for Syria" (no. 806-SYR, dated October 31, 1975) was distributed to the Executive Directors on November 12, 1975. This section is based on the findings of an economic mission which visited Syria in November 1976 in preparation for a Basic Economic Mission. Country data sheets are attached as Annex I.

3. Since attaining independence in 1946, Syria has had several changes in regime which resulted in a shift of power from groups of landowners, traders, and industrialists to a rising class of officers, technicians, and civil servants, as well as a shift of the economy from an essentially laissez-faire system to a largely publicly-owned and centrally regulated one. The Ba'ath Socialist Party, the ruling party since 1963, provided substantial continuity of emphasis on economic and social development policies which have, by and large, prevailed in spite of internal Government changes and tensions within the Middle East. During the 1960s an agrarian reform was carried out, with redistribution of land to a large number of formerly landless peasants; also large segments of the industrial, finance and trade sectors were nationalized. In November 1970 General Assad became President of the Republic; his regime has been characterized by a balance of firmness and conciliation in domestic policies, economic pragmatism, a concerted search for a better defined role for the private sector in a centrally regulated economy, as well as diversification of foreign economic relations. These aims have been pursued gradually and, in spite of continued political uncertainty in the Middle East, substantial reorientation of economic policies and diversification of production have been achieved.

4. The Government's attention to economic and financial matters has led to a sustained on-going effort in conceptualizing objectives, identifying constraints, and formulating alternative strategies. As a result, an increasingly pragmatic assessment of economic policies is taking place within the Government (and the ruling Ba'ath Party). A new cabinet was formed in August 1976. One

of its key tasks is to implement new economic policy directives, to strengthen economic management, and to tighten controls over investment decisions in the public sector. The new Prime Minister, General Khleifawi, a former head of the Economic Committee of the Ba'ath Party, and Prime Minister in the first cabinet formed after President Assad's accession to power, defined shortly after the change in cabinet the new principles which henceforth are to guide Syrian economic policies. The Prime Minister's program, while re-affirming the Ba'ath Party's commitment to general socialist principles and the dominant role to be played by the public sector, called for improvements in management of the public sector and attempted to define a role for the private sector (including the specification of activities open to private investment, exclusively or jointly with the public sector, and the provision of the necessary safeguards and incentives to stimulate private investment). The program also calls for the formulation of a wages and price policy, review of the economic planning system, transformation of the existing Industrial Bank into a genuine industrial development finance institution, and changes in interest rate policies to promote greater consistency with interest rates charged in neighbouring countries and to stimulate domestic savings.

5. The 1973 petroleum price increase, which boosted Syria's own petroleum export earnings, and the sharp rise in Arab grants following the October 1974 Rabat agreement, augmented financial resource availability in the short run, leading to revisions of the Third Plan (1971-75) and sharp increases in public investments. However, adverse financial developments, rooted in the high investment rates of 1974-75 and external developments, including the discontinuation of oil transit by Iraq, a decline in Arab aid and the impact of the Lebanese civil war, put unexpected financial constraints on investment and growth, and delayed the finalization of the Fourth (1976-80) Plan to early 1977. For 1976-80, the Plan calls for: real growth of 12 percent yearly in GDP, a target specified by the Ba'ath Party; increases in real terms of 7 percent per annum in exports; and a domestic savings/GDP ratio of about 23 percent. With the constraints on resource availability that have emerged, the Government has limited its investment program mainly to ongoing projects, and a further revision of the Plan is underway with a view to scaling it down substantially.

6. The strategy underlying the Fourth Plan places particular emphasis on industrialization, with investment in agriculture remaining substantial. The industrial development strategy stresses import-substitution in consumer goods, and a substantial expansion of resource-based industries, such as cotton textiles, cement and fertilizers. Significant exports of manufactured goods by 1980 -- particularly textiles and fertilizers -- is a primary objective of the Government's investment program in the manufacturing sector. In agriculture, the Government's overall objectives are the same as those in the previous Plan: self-sufficiency in major domestic food needs, meeting the raw material requirements of industry, and provision of a production surplus for export. Rational land and water use, the stabilization of annual fluctuations in output and the improvement in consumer diets through an increase in protein supply are further objectives. The strategy to achieve these objectives includes expansion of irrigated agriculture, intensification of crop production and achievement of a better balance and complementarity between crop and livestock production.

7. Economic growth during 1971-75 is estimated at close to the 8 percent target level, and growth in 1976 was also around 8 percent. Public investment during 1971-75 reached about 70 percent of the original Plan target, with about 55 percent of the total outlays being made in the last two years of the Plan period, largely as a result of greater availability of financial resources. The elasticity of savings with respect to GDP fell to 1.0, compared to a target of 1.8, reflecting a shortfall in the public savings effort, particularly in recent years. A substantial number of manufacturing projects, including those in fertilizers and steel rolling, came on stream during the Plan period, thus diversifying the structure of industrial output. Particularly heavy expenditures were made in industry, energy and fuel in 1974 and 1975, as a large number of projects were commenced. Investments in irrigation and agriculture appear to have remained stagnant in real terms during the Plan period and fell substantially short of the target and the Plan's overall achievement rate. Nonetheless, the Euphrates basin investments were substantial and are expected to lead to higher growth and stability in the production of the agricultural sector in the future. Progress in the fields of transport and communications kept pace with the overall implementation rate of the Plan. Investments in social services reached a high proportion of planned allocations, although substantial needs remain in education, health and urban services.

8. Increasingly aware of the needs to improve the economy's performance, the Government has begun to take measures to relieve constraints on the country's development. Following the years of financial ease (up to early 1976), fiscal performance needs to be improved, if development is to proceed without interruption and without entailing potentially serious inflationary and public debt management problems. This will require greater resource mobilization and tighter control of expenditures. Efforts are underway in the Ministry of Finance to reform the tax system and to improve the Ministry's budgetary and control functions. In addition, consideration needs to be given to increasing the efficiency of the economic enterprises and their contribution to the budget through improved management, including introduction of sound accounting practices (for which a law was passed in 1974) and control, as well as improved efficiency in production. The State Planning Commission is presently studying capacity utilization in agriculture, industry and transport with a view towards finding means of increasing growth through improved utilization of existing capacity rather than new investments. With a large number of projects (particularly in industry), expected to come on-stream over the next few years, the scope of raising output to optimum use of capacity appear quite substantial. The Government has also sought UNDP assistance in planning. While these efforts are expected to have only a small impact during the Fourth Five Year Plan, they are likely to yield considerable fruits in the long run.

9. The shortage of skilled manpower may cause bottlenecks in project implementation. The uneven spatial distribution of employment is also likely to pose problems as a large proportion of public investment in agriculture and industry is to take place in the Northeast, where the population density is much lower than in the Western Coastal belt. Measures will be required to attract population and to provide sufficient skilled manpower to the Northeast

region. The overall manpower situation and the difficulties currently encountered in fostering an efficient public administration and public economic sector are exacerbated by emigration of trained technicians and skilled labour abroad and the outflow of trained manpower from the public sector to the private sector as a result of wide wage differentials. To alleviate the shortages the Government will provide extensive training facilities for augmenting the supply of skilled manpower. It may however have to revamp the structure of incentives so as to enable the public sector to attract and retain an efficient cadre of administrators, technicians and other skilled workers. While the Government is fully committed to increasing productive employment opportunities, there is an urgent need to formulate a coherent employment strategy consistent with the Fourth Plan investment strategy.

10. Syria's economic prospects depend heavily on the availability of financial resources and also on absorptive capacity in the various sectors. Tentative Bank projections indicate that considering these constraints, an investment program totalling around SL 35 billion in constant 1975 prices is likely to be achieved during the 1976-80 period. At this level, investment would be consonant with the Government's concern for improving the quality of investments. It would generate real GDP growth around 7 percent yearly during the period, which is somewhat below the recent growth record (8 percent). The sources of growth in the late 1970's are likely to be the manufacturing and construction sectors, with agricultural production stabilized at higher levels, rather than mining and commerce which were the leading growth sectors during the Third Plan.

11. On Bank assumptions, the requirements of a growing aggregate demand would entail an increase in the current account deficit from \$580 million in 1976 to \$1,220 million in 1980. The Government is expected to implement strong measures to improve domestic resource mobilization, following the studies currently underway, so as to close the savings-investment gap, and thereby the resource gap; and a turnaround in the increasing deficit position may be expected in the late 1980's. Assuming current transfers to increase in 1977-78 and decrease thereafter, gross external borrowing requirements over the Fourth Plan period are estimated to be \$4.0 billion. Syria can probably mobilize most of this from official sources and obtain the remainder from commercial sources.

12. At the end of 1976, external public debt outstanding and disbursed, excluding military debt, was estimated to be around \$970 million (14 percent of GDP) of which 80 percent was held by Governments (28 percent, OPEC; and 47 percent, centrally planned economies), and 4 percent by multilateral organizations (exclusively the World Bank Group). Debt service payments in 1976 amounted to only 10.6 percent of exports (including NFS). With assumed new borrowing, debt and debt service would rise significantly. By 1980, Bank projections indicate that debt could reach 30 percent of GDP while debt service would be around 16 percent of exports. Beyond 1980, the effect of policies emphasizing exports (para. 6) would stabilize the relative burden of debt service at a manageable level of around 20 percent of exports. Syria is therefore creditworthy for continued Bank lending.

PART II - BANK GROUP OPERATIONS IN SYRIA

13. Syria has to date received four IDA credits totalling US\$47.3 million and eight loans totalling US\$249.1 million (including one loan of US\$12.5 million on Third Window terms), net of cancellations. Although Syria is a member of the Corporation, IFC has made no investments. At the end of 1976 the Bank Group accounted for 4 percent of Syria's total outstanding public debt; by 1980 it is expected to account for 10 percent of total outstanding public debt and 7 percent of public debt service obligations. Annex II contains a summary statement of IDA credits and Bank loans as of April 30, 1977.

14. Project implementation has generally suffered substantial delays due largely to circumstances beyond Syria's control. The 1973 hostilities brought works to a standstill and diverted the country's resources first to military, then to reconstruction tasks; the unsettled conditions in the region and weaknesses in the administrative system caused project implementation to be slow. The above developments were compounded by the high rate of world inflation and generated considerable cost overruns in most projects. As a result the composition of the Damascus Water Supply and Mehardeh Power Projects had to be revised and additional financing secured. In the case of the Balikh Project, the Government obtained a \$50 million loan from the Government of Iran and has undertaken to provide the Bank with a new financing plan for the project. In the case of the Second Highway Project, the Government obtained a \$45.9 million loan from USAID to finance one of the components originally included in the project and has decided to upgrade the project roads to four lane standards. Recent progress in project implementation has been encouraging; contracting and construction is well underway for most projects although the Damascus Water Supply Projects will require close coordination of the works financed by different donors.

15. Lending for infrastructure accounted for over two-thirds of Bank Group lending to Syria thus far. It aimed at fostering well designed sector policies and strengthening various public institutions in charge of power, water supply, highways and telecommunications. The objective of lending for irrigation development (Balikh Project) was to help increase and stabilize agricultural production and farmers' incomes which are subject to wide fluctuations under rainfed conditions. The livestock development project for which a loan was approved earlier in FY77 provides for fundamental improvements in feed and flock management policy as well as credit to sheep farmers, most of whom are among Syria's poor nomadic population, with an aim to increasing and stabilizing incomes in the sheep subsector throughout Syria. Due to delays in selecting and appointing consultants, this loan has not yet become effective.

16. A diversification of lending operations in Syria is envisaged through a gradual shift of emphasis away from long gestation infrastructure projects, except where they are of utmost social priority (e.g., education and the provision of basic urban services, such as water supply), toward quicker yielding projects in the directly productive (agricultural and industrial)

sectors. This would be in support of the Government's Fourth Five-Year Plan (1976-80) strategy of developing the country's productive capacity and improving its social and physical infrastructure. However, project preparation according to Bank standards remains a serious constraint in these sectors.

17. Negotiations have recently been completed for an education project, which provides for facilities for teacher training and vocational and technical training, and for related technical assistance. A tourism project, providing for hotel training and technical assistance to the sector, and a rural electrification project, which would be part of the Government's rural electrification program covering all of Syria, have or are presently being appraised. Preparation has also begun for a third highway project, which would include the construction and/or upgrading of high priority road sections; for an irrigation/drainage project, providing for the rehabilitation of salt-affected lands in the lower Euphrates area; and for agro-industry (cotton seed processing), industry (rehabilitation of textile plants), rainfed agriculture (integrated development in the northeastern region), and sewerage facilities (for Damascus, Hama, Homs).

18. The lending activities described above would help to improve project preparation and implementation, especially in those sectors in which the Bank has not been previously involved, and strengthen sector policies and institutions. The proposed operations will include significant technical assistance and training components to achieve the above objectives.

PART III - THE WATER SUPPLY AND SEWERAGE SECTOR

19. Although substantial surface and groundwater resources are available in Syria, the scarcity of water supplies is a present and growing problem in some regions as a result of the unbalanced distribution of the resources (annual rainfall varies between 50 mm and 1,000 mm in the different areas of the country) and the rapid increase in population (3.3 percent per annum) which reached 7.4 million by 1975. Growth in urban population has been above average and rural-to-urban migration significant. Some 45 percent of total population now resides in urban areas, where, generally, water transmission and distribution systems are overburdened and sewerage facilities inadequate. Two main rivers are utilized for public water supplies, the Euphrates, which serves Aleppo and towns in the northeast, and Orontes, which serves the central area; there are also a number of important aquifers, one of which feeds the Fiegh spring supplying Damascus.

20. In Damascus, IDA and the Bank have assisted in the financing of projects designed to improve and expand the distribution and supply systems (Credit 401 for \$15 million in FY73 and Loan 1241 for \$35 million in FY76). Financing for these projects is also provided by the Arab Fund (\$41.3 million) and USAID (two loans totalling \$62.5 million). The Credit/Loan also include funds for a study of measures to reduce pollution in the Orontes and Barada rivers, including sewage treatment facilities in Damascus, Homs and Hama, and

for training of staff of the city's water supply authority. Construction of the components financed by the Bank Group is generally well underway. A close coordination of the works financed by the various donors will be required to permit the timely link-up of the various components of the supply and distribution system and to minimize expected delays in implementation of the project components financed by other donors. The total project, when completed (1982), would meet the anticipated demand until 1987.

21. In Aleppo, the principal manufacturing and trading city in northern Syria, the population served by Etablissement Public des Eaux d'Alep (EPEA) with water from the Lake Assad reservoir (some 80 km east of the city on the Euphrates river) has increased from about 640,000 in 1970 to over one million in 1976. Because of the rapid growth in demand, severe shortages of water during summer have occurred since 1973; the temporary shut off of supplies in rotation results in serious health hazards from back syphoning. The partial completion, by mid-1977 of the second phase of supply works, which involved a duplication of the original scheme completed in 1967, should remedy this situation, but without further works, supply would become inadequate again by 1981. The city's sewerage system is in poor condition. Most of the population is connected to sewers but there is no treatment.

22. At the central Government level, the responsibility for water supply and sewerage both in urban and rural areas is shared between the Ministries of Housing and Utilities (MHU) and the Ministry of Local Government (MLG). While MLG has overall responsibility for the services provided by the municipalities, MHU provides general guidance and assistance on technical matters. Eight major cities, including Aleppo have semi-autonomous water authorities, which are subject to close Government control on such matters as tariffs, budget, personnel, salaries and capital investment. Municipalities are responsible for the operation and management of sewerage systems, and outside the major cities for management of the water supply systems.

23. At present, about 70 percent of the urban population is served by metered house connections; the remainder depends upon private wells, public taps and water vendors. Service levels for urban poor within city limits are generally satisfactory. In 1975, an estimated 60 percent of the rural population had reasonable access to safe water, compared to 50 percent in 1970. At present, about 75 percent of urban dwellings have some form of sewerage service; however, there are no sewage treatment plants and most of the networks discharge raw sewage into rivers, streams or the sea. No organized disposal systems are available to the majority of the rural population.

24. The Government objectives in the sector, as reflected in the Fourth Five Year Plan (1976-80), are: to increase the house-connection of urban dwellings to 80 percent, and the rural population with reasonable access to safe water to 70 percent; to improve the quality of service; and to give priority to sewerage in order to reduce pollution of major water sources. The cost of the program for the water supply and sewerage sector is estimated at LS 2,616.5 (US\$662.5) million in 1975 prices, of which LS 1,552.0 (US\$393) million would be allocated to the eight existing public water authorities, LS 924 (US\$234) million to water supply for other municipalities and rural areas

and LS 140.5 (US\$35.5) million for sewerage. The Government plans to further decentralize the responsibilities for urban water supply through the establishment of public water authorities in the other six provincial capitals.

25. A Bank water supply and sewerage sector mission visited Syria in November/December 1976. Its findings and recommendations will be discussed with the Government shortly. The mission reviewed the Government's sector program and concluded that two principal factors are likely to constrain investments in the sector. The first is the shortage of professional and skilled manpower resulting from the absence of water supply and sewerage training programs and the low salary levels in the public sector, which causes an outflow of trained manpower to the private sector and out-migration of skilled individuals to neighboring oil-exporting countries. The program for the establishment of a national water supply and sewerage center and training of staff is supported by financial and technical assistance from the Arab Fund and the Bank. Secondly, the financial constraints of the Government resulting from recent developments, will possibly result in a reduction of the sector program envisaged in the Fourth Five Year Plan (see para 24 above), even though these constraints will be somewhat alleviated by the recent increases in tariffs and other charges for water supply which will enable water authorities to generate cash surpluses to meet part of their investment needs.

PART IV - THE PROJECT

Background

26. The source of Aleppo's water is the Lake Assad reservoir on the Euphrates River. Raw water quality has been good, although occasional high turbidities and seasonal algae infestation have occurred. After treatment at the intake, gravity flow aqueducts bring the water to the city where it is further treated prior to distribution. The first phase of the supply system was completed in 1967; the second phase is expected to be completed by 1977 and will bring the quantity of water supplied to Aleppo to 180,000 m³/d. EPEA's system has been operated efficiently and water losses have averaged a reasonable 30 percent of total production and 24 percent of water pumped to the city.

27. The population served by EPEA grew at 8.2 percent per annum between 1970 and 1976 as a result of natural growth, rural-to-urban migration and extensions of the supply area. Severe shortages of water have occurred in summer since 1973; this necessitated shutting off supplies in rotation and caused serious health hazards from back-siphoning. About one million people are presently served by the system; about 900,000, or 90 percent, have direct house connections. By 1976, domestic consumption accounted for about 75 percent of all water consumed and per capita daily consumption amounted to 84 liters; it is expected to increase to 90 liters in 1977 when ongoing supply works will be completed and present constraints will be removed. However, without further works supply would become inadequate again by 1981.

28. The sewerage system is operated by the Public Works Department of the Municipality of Aleppo and financed from the municipal budget. It serves, at no charge, approximately 80 percent of the municipal population; of the remainder, 10 percent rely on septic tanks. Most of the system was constructed in the last 60 years but the main interceptors were built in the 1940's. Surcharging occurs frequently as a result of the rapid development of the city. The system is in poor condition. All flow is by gravity into three interceptors which discharge undiluted raw sewage into the Quwaik River, which is used for contact irrigation. During periods of very low flow, this creates serious health problems which periodically reach epidemic proportions. In Lattakia, there is a need to relocate the present sewage outfalls because of a proposed port expansion, and to extend the system to serve planned tourist and industrial development areas. The proposed project, provides for feasibility studies of the sewage collection systems in Aleppo and Lattakia and preliminary engineering studies for sewage treatment and disposal to be undertaken by consultants.

29. Preparations for the project's main component consisting of the third phase of works for meeting the rapidly increasing demand for water in Aleppo, were undertaken by EPEA. A Bank identification mission visited Syria in May 1976. The project was appraised by a Bank mission to Syria in November/December 1976. Negotiations were held on May 9-16, 1977 in Washington, D.C.. The Government delegation was led by Mr. Moharram Tayarra, Minister of Housing and Utilities, and EPEA was represented by Mr. Abdul Latif Breydi, General Director.

Objectives

30. The objectives of the proposed project are to: (i) expand the water source and transmission facilities to meet anticipated demand until about 1991; (ii) reinforce distribution and thereby improve minimum pressures and reduce risks of pollution within the system; (iii) extend the supply into fringe areas of the city occupied mainly by the urban poor; (iv) improve project implementation capacity and operations of EPEA; (v) prepare sewerage and sewage treatment projects for Aleppo and Lattakia; and (vi) improve construction sector planning capabilities in the Ministry of Planning and the administration of public construction enterprises.

Project Description

31. The water supply component comprises the expansion of the intake, transmission and treatment facilities from Lake Assad to Aleppo and extensions to the distribution system; it consists of the following elements: (i) a third gravity aqueduct 75 km long to convey 220,000 m³/d and pumping mains to deliver 110,000 m³/d; (ii) pumping facilities at the Lake Assad intake to produce 220,000 m³/d and extensions to pumping and treatment facilities at existing stations to produce an additional 110,000 m³/d with provision for an increase to 220,000 m³/d; (iii) additional service reservoirs, with a combined capacity of 100,000 m³; (iv) distribution mains to serve areas occupied by urban poor and areas where future growth is planned; (v) auxiliary buildings, administrative offices, transportation and office equipment; (vi) consulting

services (about 800 man-months) for studies (see para. 44 below), review of construction methods, preparation of detailed design of works and bidding documents, bid evaluation and supervision of construction; and (vii) training of professional and technical staff.

32. The project also provides for about 200 man-months of consulting services for studies for the preparation of sewerage and sewage treatment projects in Aleppo and Lattakia; and about 40 man-months of consulting services to assist the State Planning Commission in the collection and analysis of data on construction resources and building materials in Syria, and to provide technical assistance to the Syrian public construction enterprises in cost accounting, equipment repair and warehousing. The proposed assistance to the construction sector would aim at improving its structure and operations to ensure that the investment program in the water supply and sewerage sector, as well as in other sectors, can be implemented timely and effectively.

Cost Estimates

33. The estimated cost of the various project items, expressed in June 1977 prices, are given in detail in the Loan and Project Summary. Total project cost would be \$116.8 million, of which \$58.4 million, or 50 percent would be in foreign exchange. The major element of cost is the aqueduct, the cost estimates for which have been based on the design and construction methods similar to those for previous aqueducts. Physical contingencies (15 percent of base cost estimates) and price contingencies (26 percent of base cost estimates plus physical contingencies) would amount to \$35.6 million, or 30 percent of total project cost.

Financing Plan

34. The Bank loan of \$50 million would finance 43 percent of the total cost of the project, as described in paras. 31 and 32 above, net of duties and taxes. Of the proposed Bank loan to the Government \$48.5 million would be on-lent to EPEA, and would cover 85 percent of the foreign exchange cost of the water supply component (para. 31 above). The on-lending terms provide for a maturity of not less than 17 and not more than 20 years, including not less than 3-1/2 and not more than 4-1/2 years of grace, at interest rate of 8.2 percent. This flexibility in on-lending terms will permit the Government to make the loan proceeds available to EPEA at terms somewhat closer to those for Etablissement Public des Eaux de Figeh (Damascus) under Loan 1241 approved in FY 1976. The \$1.5 million balance of the Bank loan would finance the foreign exchange component of the proposed sewerage studies and technical assistance (para. 32 above), for which the Government would provide local cost financing. EPEA's overall financing requirements for capital works over the 1978-82 construction period, which in addition to the project would include \$6.6 million for secondary distribution works, would amount to \$121.6 million and, aside from the Bank loan, would be financed through EPEA net cash generation of \$20.8 million and through a Government equity contribution of \$52.3 million equivalent.

Financial Situation

35. EPEA has a good financial record and has thus far generated a substantial proportion of its investments requirements. For 1973-1976, EPEA's operating ratio averaged about 54 percent and its rate of return on average net fixed assets about 10 percent. In recent years, increases in operating costs have exceeded those of revenues, as a result of inflation and the lack of tariff increases over nearly two decades; this has caused a deterioration in EPEA's financial performance. However, the recently implemented new tariffs and charges for water supply (see para 37 below) will result in a considerable improvement in EPEA's financial performance (see para 38 below).

36. EPEA's debt/equity ratio increased from 30/70 in 1973 to 49/51 in 1976 as a result of borrowing from the Government's Public Debt Fund (PDF) to finance the second phase of supply works. At the end of 1976 long term loans, solely from the PDF, amounted to LS 80 (US\$20 million).

37. EPEA has recently (May 1977) implemented new tariffs and charges for water supply. The water rates in effect prior to May 1977, which had remained unchanged since 1959, yielded an average of LS 0.30/m³. Together with other charges, the new rates of LS 0.60/m³ for household consumption and LS 0.75/m³ for non-household consumption, will yield revenues of LS 1.10/m³ (compared to about LS 0.55/m³ prior to May 1977). In order to maintain an acceptable financial performance and to generate a reasonable contribution to the investment program, EPEA would set and collect rates for the sale of water not below the present levels; as a minimum, these rates, together with revenues from other charges on water supply, would cover in each year, operating expenses (excluding depreciation), debt service and increased working capital, plus during the period 1978-82 at least 15 percent, and beginning in 1983, at least 35 percent of the three-year average investment cost, computed over one actual and two forecast years (Section 4.03(a) of Project Agreement and Section 4.04 of Loan Agreement). By not later than September 30 of each year EPEA would review the adequacy of its tariffs for the next year on this basis. The results of these reviews would be furnished to the Bank (Section 4.03(b) of Project Agreement). It is expected that no tariff increases will be required until 1982 to generate the agreed contribution to the average investment program. If and when future upward adjustments in tariffs and charges are required, EPEA would ensure that such adjustments would be higher for large consumers, which represent the higher income groups, than for consumers of small quantities of water, which represent the poorer segment of the population. This would allow an equitable application of future tariffs and the gradual introduction of progressive rate schedules.

38. With the new tariffs and charges, EPEA's rate of return on net fixed assets is expected to be somewhat above 12 percent during any of the years 1977 through 1981; thereafter it would decline as project works are added to fixed assets. However, with the increased utilization of the project facilities, the rate of return would steadily increase again between 1983 and 1991, provided tariffs are maintained in real terms. During this period only minor investments in pumps and treatment will be required for full utilization of the transmission works. EPEA's debt/equity ratio is projected at about 40/60

during the period 1977-82. The debt service coverage is projected at 1.7 in 1981 and 1.2 in 1984. EPEA would not incur any further loans unless its net cash generation, before depreciation and interest, exceeds 1.5 times its debt service in any future year, including debt service on the amount to be borrowed from the proposed Bank loan (Section 4.04 of Project Agreement).

Management and Organization

39. Service des Eaux d'Alep was established in 1947 and was transformed into the Etablissement Public des Eaux d'Alep (EPEA) in 1975 under a decree establishing a semi-autonomous authority for the water supply of the city of Aleppo and villages along the transmission pipeline from Lake Assad. EPEA is fairly autonomous in its day-to-day operations and is managed by a Board of Directors comprising a President-Director General, four department managers and a workers' representative. The Minister of Housing as well as, in some cases, the Prime Minister's Office are involved in major decisions (see para 22 above). To expedite the implementation of ongoing investment works a project committee under the Governor of Aleppo, was established by Presidential Decree in 1975 for a period of three years ending January 1978. This committee has wide ranging power in matters of procurement, project execution and commissioning. The operation of this committee would be extended to cover the proposed project (Section 4.02 of Loan Agreement).

40. Five department managers report directly to the Director General who is responsible for executing Board decisions. EPEA's top management is an experienced, qualified and efficient team. EPEA's total staff of 756 includes 16 engineers, 15 other professional staff and 725 skilled and unskilled workers. The operating staff is competent and experienced, but specialized training in such areas as system design, treatment plant operation, distribution system analysis, quality control, budgeting and accounting is required and is provided for under the proposed project. EPEA would prepare a training program for its professional staff and submit such program to the Bank for comment prior to June 30, 1978 (Section 2.04 of Project Agreement). EPEA's staff is presently housed in several inadequate buildings throughout the city which results in lack of communication and inefficiency. The proposed project therefore provides for the construction of a new EPEA office building.

41. EPEA's budget, including proposed levels of staff, requires Government approval. Temporary workers can be hired for a period of less than six months. EPEA's annual staff turnover is only 1.5 percent as a result of Government restrictions on resignation and transfer of staff. EPEA has recently been unable to fill a number of vacancies mainly due to the low levels of public sector salaries. In order to ensure effective project implementation the Government would permit EPEA to be adequately staffed at all times with experienced and qualified personnel (Section 3.02 (b) of Loan Agreement). However, in view of the overall shortage of technicians, especially in the public sector (see para 9 above), and given the scope of the proposed project works, there will nevertheless be a need for EPEA to employ a substantial number of engineering consultants to assist in project implementation (Section 2.03 of Project Agreement).

42. EPEA's accounts are kept satisfactorily on a commercial basis in accordance with a unified accounting system introduced in 1974. The billing of customers on a two month-cycle, and the collection of accounts are satisfactory. However, office equipment is old and inadequate and the proposed project provides for its replacement and expansion. EPEA's internal auditing is weak and external auditing by the Ministry of Finance has thus far taken place with long delays. EPEA would engage auditors acceptable to the Bank to undertake an annual audit of its accounts for 1977 and onwards (Section 4.02 of Project Agreement).

Project Implementation

43. Project implementation will be carried out by EPEA with the assistance of consultants. Construction of project works, except for new intake pumps to be installed in 1977, is scheduled to start towards the end of 1978. All works would be completed by the end of 1981. EPEA has agreed on the critical dates of the project construction schedule and would establish and maintain systems to produce performance and progress indicators to monitor the project implementation schedule and would report relevant information to the Bank within three months of the end of each quarter (Section 3.02 (c) of Project Agreement).

Status of Engineering

44. The proposed third phase of supply works would be a duplication of the schemes used by EPEA for the earlier phases of the works. The necessary land and way leaves are already owned by EPEA. Consulting engineers will be employed to review various techniques of constructing the proposed alternative and to prepare detailed designs and bidding documents. Because of the deposition of silt at the intake which has rendered two out of three gates inoperative, EPEA would engage consultants to undertake studies to determine the extent of the silting problem. In view of the potential risk of flooding of pump motors at the intake, EPEA would engage consultants to investigate and advise on actions to minimize this risk. On the basis of the studies on silting and the protection of intake pumps, the Government would take measures required to prolong the life of the intake (Section 3.03 of Loan Agreement). EPEA would also engage consultants to design water treatment plants, taking into account the changes in water quality which have occurred since the construction of Lake Assad. The commencement of work by all consultants referred to above would be a condition of loan effectiveness (Section 6.01 (c) of Loan Agreement and Section 2.03 of Project Agreement). Finally, to ensure adequate planning and the least cost-scheme for the extensions to the distribution works (see para 51 below), EPEA would engage consulting engineers to analyze the existing system and review alternatives for its extension (Sections 2.02 and 2.03 of Project Agreement).

Procurement

45. Contracts for civil works (amounting to about US\$61 million including contingencies) and for materials and equipment (amounting to about US\$43 million including contingencies) would be awarded following international

competitive bidding in accordance with Bank Guidelines, except for contracts estimated to cost less than US\$300,000. These contracts, the total of which would not exceed in aggregate US\$5.0 million, would be awarded on the basis of local competitive procurement procedures acceptable to the Bank. In bid comparison, local manufacturers of equipment and materials, to be procured under ICB, would be allowed a margin of preference equal to 15 percent of CIF price or the actual customs duty, whichever is lower.

46. Bidders for civil works contracts are expected to include public construction enterprises which under their charter are exempt from normal supervision by the employer. The Government has agreed that for a public construction enterprise to be qualified for bidding, the Government would, for the purpose of the project, waive this provision in its charter (Section 2.03 of Loan Agreement and Schedule 1 of Project Agreement). In addition under Syrian legislation public construction enterprises are exempt from posting bid bonds and performance bonds. The Government has agreed that tender calls will require bidders to state the cost of bid bonds and performance bonds as separate items and that the cost of these will be deducted from the amount of the tenders when comparing tenders which include those from public enterprises (Section 2.03 of Loan Agreement and Schedule 1 of Project Agreement).

Disbursement

47. The proposed loan of US\$50 million would be disbursed on the basis of the following percentages:

- (i) 100 percent of foreign expenditures for directly imported equipment and materials;
- (ii) 100 percent of ex-factory cost of locally manufactured equipment and materials;
- (iii) 70 percent of total expenditures for locally procured imported equipment and materials;
- (iv) 25 percent of total expenditures for civil works;
- (v) 100 percent of foreign expenditures for consulting services, technical assistance and training.

The estimated disbursement schedule is shown in the Loan and Project Summary. Disbursement is expected to be completed by the middle of 1982.

Project Justification and Risks

48. Environmental and Health Impacts. The high incidence of water-borne diseases in the Aleppo area arises in part from the following causes: (i) because of severe shortages in water supply during the past three summers, large sections of the supply area have been turned off in rotation resulting in back-syphoning of polluted groundwater into the distribution system; (ii) outlying urban areas cannot be provided with piped supplies until increased

source facilities are available; (iii) during periods of water shortage the supply is supplemented by untreated water from private wells, the quality of which is not continuously monitored. With the completion of the second phase of the supply works in 1977, those health hazards should come to an end; they would, however, recur in 1981 when demand would again exceed supply if the third phase is not implemented. A further health risk in the area arises from the present lack of sewage treatment and the use for irrigation of water from the Quwaik River containing a high proportion of raw sewage.

49. The relatively small proportion of the Euphrates water taken for public supply to Aleppo raises no riparian or environmental problems; at maximum capacity, expected to be reached beyond 1990, the extraction of water would amount to 80 million m³ per year for the proposed project which, including works under operation or construction, would bring total extraction to 160 million m³ per year, or about 0.5 percent of the total average annual inflow of 29.4 billion m³ at Lake Assad. Although the increased supply will increase the volume of sewage discharged to the Quwaik River, planned improvements in the sewerage system, including sewage treatment, will eliminate any serious health risks from this source.

50. Demand. The population served is expected to grow at 3.3 percent p.a. and per capita consumption, which is very low at present (para 27), is expected to increase by 3 percent p.a. Industrial water use, presently only 3 percent of the total, is expected to increase rapidly with the completion, in the near future, of a new industrial estate, and would amount to 20 percent of total water use by the early 1980's. Total water demand is expected to increase by about 9 percent p.a. between 1977 and 1984. Without the project, supplies would become inadequate by 1981.

51. Least-Cost Solution. The only proven major source of water available for Aleppo is from Lake Assad on the Euphrates River. The project cost estimates are based on the duplication of existing supply works with staged construction where appropriate and extensions to the main distribution system. After careful consideration of construction alternatives it was found that the proposed solution for this stage of the works represents the least cost solution primarily because it takes full advantage of an existing tunnel under the city and existing intake works which were built with capacity for the proposed project. Consultants will assist EPEA in preparing detailed designs for the proposed alternative and in analyzing the existing distribution system to optimize the design of the reinforcement and extensions to outlying areas.

52. Economic Analysis. The most important benefits associated with the provision of a reliable and safe water supply are health-related. These would be partially revealed through medical cost saving, a general improvement in individual well-being and a cost saving to and/or increased productivity of business enterprises. Because of their nature and the absence of reliable information, these benefits cannot be quantified. Using the value of sales of incremental water supply from the project (at present tariffs and charges) as a minimal measure of economic benefits, the project would have an internal economic rate of return of 10 percent. The average revenues from water sales of LS 1.10/m³ resulting from the recently introduced new tariffs and charges

(see paragraph 37 above), are virtually equal to the long-term marginal cost of water in Aleppo, which has been estimated at about LS 1.14/m³, at a discount rate of 10 percent (the estimated opportunity cost of capital in Syria).

53. Risks. Measures to be taken to ensure satisfactory project completion are those normally found in a typical water supply project. The technical design content of the project is similar to work already completed by EPEA, and with assistance of consultants, implementation should pose no major problem. EPEA is a long established organization which has shown that it can perform effectively, and the training, techniques and control methods to be introduced through the project will assist in strengthening EPEA's operational capabilities. Consequently, the proposed project poses no special risks.

PART V - LEGAL INSTRUMENTS AND AUTHORITY

54. The Loan Agreement between the Syrian Arab Republic and the Bank, the Project Agreement between the Bank and Etablissement Public des Eaux d'Alep, the Report of the Committee provided for in Article III, Section 4 (iii) of the Articles of Agreement of the Bank, and the text of a draft resolution approving the proposed loan are being distributed to the Executive Directors separately. Features of the Agreements of special interest are described in Annex III. The commencement of work by consultants (Section 6.01 (c) of Loan Agreement) would be an additional condition of effectiveness.

55. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Bank.

PART VI - RECOMMENDATIONS

56. I recommend that the Executive Directors approve the proposed loan.

Robert S. McNamara
President

Washington, D.C.
June 1, 1977

SYRIAN ARAB REP.		- SOCIAL INDICATORS DATA SHEET		SYRIA: ARAB REP.		REFERENCE COUNTRIES (1970)	
		1960	1970 ESTIMATE	TUNISIA	TURKEY	ALGERIA **	
		100.0	100.0	100.0	100.0	100.0	
LAND AREA (THOU SQ.M)							
TOTAL	195.2						
AGRIC.	123.7						
GNP PER CAPITA (US\$)							
POPULATION AND VITAL STATISTICS							
POPULATION (MID-YR, MILLION)	4.6	6.3	7.4	5.0	35.6	13.4	
POPULATION DENSITY	23.0	36.0	40.0	30.0	46.0	6.0	
PER SQUARE KM.	37.0	45.6	56.0	67.0	87.0	30.0	
PER SQ. KM, AGRICULTURAL LAND							
VITAL STATISTICS							
CRUDE BIRTH RATE (/THOU, AV)	49.6	7.6	49.4	44.7	40.6	50.0	
CRUDE DEATH RATE (/THOU, AV)	20.1	16.2	15.4	16.0	14.4	18.4	
INFANT MORTALITY RATE (/THOU)			93.0/A	135.0	145.0		
LIFE EXPECTANCY AT BIRTH (YRS)	46.3	53.0	56.0	51.6	54.4	50.7	
GROSS REPRODUCTION RATE	1.0	3.5	3.5	3.4	2.6/A,B	3.5	
POPULATION GROWTH RATE (%)							
TOTAL	3.0	3.3	3.3/A	2.1/A	2.5	2.9	
URBAN	4.2	5.0	4.5/B	3.0/B	4.9/C	7.0	
JRBN POPULATION (% OF TOTAL)	37.0	43.5	49.9	40.1/C	38.5	45.4	
AGE STRUCTURE (PERCENT)							
0 TO 14 YEARS	46.3	46.0	49.3/C	46.3/C	41.6	47.2/A	
15 TO 64 YEARS	48.0	50.6	46.3/C	50.2/C	53.9	48.4/A	
65 YEARS AND OVER	4.0	3.2	4.4/C	3.5/C	4.3	4.4/A	
AGE DEPENDENCY RATIO							
ECONOMIC DEPENDENCY RATIO	1.0	1.0	1.2	1.0/C	0.9	1.1	
	2.1	2.5	2.8/A	1.8/C,D	1.1/A	2.6/A	
FAMILY PLANNING							
ACCEPTORS (CUMULATIVE, THOU)							
USERS (% OF MARRIED WOMEN)							
EMPLOYMENT							
TOTAL LABOR FORCE (THOUSAND)	1100.0/A,B	1500.0/A	1700.0	1300.0/C	14500.0/A	2600.0/A,B	
LABOR FORCE IN AGRICULTURE (%)	47.0/A,B	48.0/A	50.9	59.0/C	67.0	50.4/A,B	
UNEMPLOYED (% OF LABOR FORCE)	8.5	6.4	4.5	12.0/C	4.0/C	15.0/A	
INCOME DISTRIBUTION							
% OF PRIVATE INCOME RECEIVED BY:							
HIGHEST 5% OF HOUSEHOLDS							
HIGHEST 25% OF HOUSEHOLDS							
LOWEST 25% OF HOUSEHOLDS							
LOWEST 50% OF HOUSEHOLDS							
DISTRIBUTION OF LAND OWNERSHIP							
% OWNED BY TOP 10% OF OWNERS							
% OWNED BY SMALLEST 10% OWNERS							
HEALTH AND NUTRITION							
POPULATION PER AMERICAN	5040.0/C	1880.0	3510.0/D	5950.0	2350.0	7490.0	
POPULATION PER RUSSIAN	7110.0/C,D	2730.0/A	4800.0/D	730.0/E	1770.0/A	2400.0	
POPULATION PER HOSPITAL BED		1010.0	680.0/D	410.0/A	590.0	330.0	
PER CAPITA SUPPLY OF:							
CALORIES (% OF REQUIREMENT)	102.0	103.0	107.0/E	94.0/A	110.0	71.0	
PROTEIN (GRAMS PER DAY)	74.0	70.0	75.0/E	63.0/A	76.0	45.0	
-OF WHICH ANIMAL AND PULVE	28.0	16.0/C		14.0/B	22.0/E	9.0/C	
DEATH RATE (/THOU) AGES 1-8				1.5/C,E	15.0/B	12.0/A	
EDUCATION							
ADJUSTED ENROLLMENT RATIO							
PRIMARY SCHOOL	65.0	80.0	98.0/D	107.0	111.0	75.0	
SECONDARY SCHOOL	16.0	34.0	45.0/D	20.0	26.0	11.0	
YEARS OF SCHOOLING PROVIDED (FIRST AND SECOND LEVEL)	12.0	12.0	12.0	13.0	11.0	15.0	
VOCATIONAL ENROLLMENT (% OF SECONDARY)	6.0	3.0/B	4.0/A,B	34.0	14.0	20.0	
ADULT LITERACY RATE (%)	36.0/A	40.0			55.0/A	26.0	
HOUSING							
PERSONS PER ROOM (URBAN)	2.1/A			2.7/C	1.9	2.8/A,B	
OCCUPIED DWELLINGS WITHOUT PIPED WATER (%)	58.0/A			60.0/C	64.0	77.0/A	
ACCESS TO ELECTRICITY (% OF ALL DWELLINGS)	38.0/A			24.0/C	41.0	34.0/A	
RURAL DWELLINGS CONNECTED TO ELECTRICITY (%)	11.0/A				16.0	12.0/A	
CONSUMPTION							
RADIO RECEIVERS (PER THOU POP)	57.0	226.0	378.0/A	77.0	89.0	52.0	
PASSENGER CARS (PER THOU POP)	4.0	3.0	5.0	13.0	4.0	11.0	
ELECTRICITY (KWH/YR PER CAP)	81.0	153.0	192.0	153.0	247.0	138.0	
WEARPOINT (KG/YR PER CAP)	0.2	0.2	0.1	0.1	0.7	1.1	
SEE NOTES AND DEFINITIONS ON REVERSE							

NOTES

Unless otherwise noted, data for 1960 refer to any year between 1959 and 1961, for 1970 between 1968 and 1970, and for Most Recent Estimate between 1973 and 1975

** Algeria has been selected as an objective country on the basis of the similarity in the economic organizations of the two countries, with the leading role in capital formation assigned to the public sectors, and the similarity in the gross reproduction rate and age structure of the two populations (as well as the distribution of population in urban areas, and the labor forces in agricultural employment).

SYRIAN ARAB REP. 1960 /a 6 years of age and over; /b Syrian population only; /c 1962; /d Including midwives. /e 1961-62.

1970 /a Syrian population only; /b Including midwives, assistant midwives and assistant nurses, /c 1964-66, /d Including UNRWA schools.

MOST RECENT ESTIMATE: /a 1971; /b 1970-75 and 70-74 for urban growth; /c Including Palestinian refugees; /d 1972; /e Including midwives, assistant midwives and assistant nurses; /f 1969-71 average; /g Including UNRWA schools; /h Ratio of population under 15 and 65 and over to total labor force

TUNISIA 1970 /a Due to emigration, population growth rate is lower than the rate of natural increase; /b 1956-66, /c 1966, /d Ratio of population under 15 and 65 and over to total labor force; /e Covering 4.5 million hectares of private land, excluding 0.8 million hectares in public ownership, and 2.1 million hectares of collective land; /f Personnel in government services only; /g Government hospital establishments only; /h 1964-66; /i Registered only.

TURKEY 1970 /a Excluding 17 eastern provinces; /b 1965-67; /c 1965-70; /d Ratio of population under 15 and 65 and over to labor force 15 years and over; /e 15 years and over, excluding unemployed; /f Registered only, /g Disposable income; /h Including assistant nurses and midwives; /i 1964-66; /j Persons six years and over who tell the Census takers that they can read and write.

ALGERIA 1970 /a 1966, /b Excluding military personnel in barracks and 274,663 nationals abroad of whom 229,020 are economically active, also excluding 1,200,000 females mainly occupied in agriculture, /c 1964-66; /d Total, urban and rural, /e Including midwives and assistant nurses.

R5, January 12, 1977

DEFINITIONS OF SOCIAL INDICATORS

Land Area (thou km²)

Total - Total surface area comprising land area and inland waters.
Agric. - Most recent estimate of agricultural area used temporarily or permanently for crops, pastures, market & kitchen gardens or to lie fallow.

GNP per capita (US\$) - GNP per capita estimates at current market prices, calculated by same conversion method as World Bank Atlas (1973-75 basis); 1960, 1970 and 1975 data.

Population and vital statistics

Population (mid-yr. million) - As of July first; if not available, average of two end-year estimates, 1960, 1970 and 1975 data.

Population density - per square km - Mid-year population per square kilometer (100 hectares) of total area.

Population density - per square km of agric. land - Computed as above for agricultural land only.

Vital statistics

Crude birth rate per thousand, average - Annual live births per thousand of mid-year population; ten-year arithmetic averages ending in 1960 and 1970, and five-year average ending in 1975 for most recent estimate.

Crude death rate per thousand, average - Annual deaths per thousand of mid-year population; ten-year arithmetic averages ending in 1960 and 1970 and five-year average ending in 1975 for most recent estimate.

Infant mortality rate (/thou) - Annual deaths of infants under one year of age per thousand live births.

Life expectancy at birth (yrs) - Average number of years of life remaining at birth, usually five-year averages ending in 1960, 1970 and 1975 for developing countries.

Gross reproduction rate - Average number of live daughters a woman will bear in her normal reproductive period if she experiences present age-specific fertility rates, usually five-year averages ending in 1960, 1970 and 1975 for developing countries.

Population growth rate (%) - total - Compound annual growth rates of mid-year population for 1950-60, 1960-70 and 1970-75.

Population growth rate (%) - urban - Computed like growth rate of total population, different definitions of urban areas may affect comparability of data among countries.

Urban population (% of total) - Ratio of urban to total population; different definitions of urban areas may affect comparability of data among countries.

Age structure (percent) - Children (0-14 years), working-age (15-64 years), and retired (65 years and over) as percentages of mid-year population.

Age dependency ratio - Ratio of population under 15 and 65 and over to those of ages 15 through 64.

Economic dependency ratio - Ratio of population under 15 and 65 and over to the labor force in age group of 15-64 years.

Family planning - acceptors (cumulative, thou) - Cumulative number of acceptors of birth-control devices under auspices of national family planning program since inception.

Family planning - users (% of married women) - Percentages of married women of child-bearing age (15-44 years) who use birth-control devices to all married women in same age group.

Employment

Total labor force (thousand) - Economically active persons, including armed forces and unemployed but excluding housewives, students, etc.; definitions in various countries are not comparable.

Labor force in agriculture (%) - Agricultural labor force (in farming, forestry, hunting and fishing) as percentage of total labor force.

Unemployed (% of labor force) - Unemployed are usually defined as persons who are able and willing to take a job, out of a job on a given day, remained out of a job, and seeking work for a specified minimum period not exceeding one week; may not be comparable between countries due to different definitions of unemployed and source of data, e.g., employment office statistics, sample surveys, compulsory unemployment insurance.

Income distribution - Percentage of private income (both in cash and kind) received by richest 5%, richest 20%, poorest 20%, and poorest 40% of households.

Distribution of land ownership - Percentages of land owned by wealthiest 10% and poorest 10% of land owners.

Health and Nutrition

Population per physician - Population divided by number of practicing physicians qualified from a medical school at university level.

Population per nursing person - Population divided by number of practicing male and female graduate nurses, "trained" or "certified" nurses, and auxiliary personnel with training or experience.

Population per hospital bed - Population divided by number of hospital beds available in public and private general and specialized hospital and rehabilitation centers; excludes nursing homes and establishments for custodial and preventive care.

Per capita supply of calories (% of requirements) - Computed from energy equivalent of net food supplies available in country per capita per day; available supplies comprise domestic production, imports less exports, and changes in stock; net supplies exclude animal feed, seeds, quantities used in food processing and losses in distribution; requirements were estimated by FAO based on physiological needs for normal activity and health considering environmental temperature, body weights, age and sex distributions of population, and allowing 10% for waste at household level.

Per capita supply of protein (grams per day) - Protein content of per capita net supply of food per day; net supply of food is defined as above; requirements for all countries established by USDA Economic Research Services provide for a minimum allowance of 60 grams of total protein per day, and 20 grams of animal and pulse protein, of which 10 grams should be animal protein; these standards are lower than those of 75 grams of total protein and 23 grams of animal protein as an average for the world, proposed by FAO in the Third World Food Survey.

Per capita protein supply from animal and pulse - Protein supply of food derived from animals and pulses in grams per day.

Death rate (/thou) ages 1-4 - Annual deaths per thousand in age group 1-4 years, to children in this age group, suggested as an indicator of malnutrition.

Education

Adjusted enrollment ratio - primary school - Enrollment of all ages as percentage of primary school-age population; includes children aged 6-11 years but adjusted for different lengths of primary education; for countries with universal education, enrollment may exceed 100% since some pupils are below or above the official school age.

Adjusted enrollment ratio - secondary school - Computed as above; secondary education requires at least four years of approved primary instruction; provides general, vocational or teacher training instruction for pupils of 12 to 17 years of age; correspondence courses are generally excluded.

Years of schooling provided (first and second levels) - Total years of schooling; at secondary level, vocational instruction may be partially or completely excluded.

Vocational enrollment (% of secondary) - Vocational institutions include technical, industrial or other programs which operate independently or as departments of secondary institutions.

Adult literacy rate (%) - Literate adults (able to read and write) as percentage of total adult population aged 15 years and over.

Housing

Persons per room (urban) - Average number of persons per room in occupied conventional dwellings in urban areas; dwellings exclude non-permanent structures and unoccupied parts.

Occupied dwellings without piped water (%) - Occupied conventional dwellings in urban and rural areas without inside or outside piped water facilities as percentage of all occupied dwellings.

Access to electricity (% of all dwellings) - Conventional dwellings with electricity in living quarters as percent of total dwellings in urban and rural areas.

Rural dwellings connected to electricity (%) - Computed as above for rural dwellings only.

Communication

Radio receivers (per thou pop) - All types of receivers for radio broadcasts to general public per thousand of population; excludes unlicensed receivers in countries and in years when registration of radio sets was in effect; data for recent years may not be comparable since most countries abolished licensing.

Passenger cars (per thou pop) - Passenger cars comprise motor cars seating less than eight persons; excludes ambulances, hearses and military vehicles.

Electricity (kwh/yr per cap) - Annual consumption of industrial, commercial, public and private electricity in kilowatt hours per capita; generally based on production data, without allowance for losses in grids but allowing for imports and exports of electricity.

Newsprint (kg/yr per cap) - Per capita annual consumption in kilograms estimated from domestic production plus net imports of newsprint.

SYRIA: ECONOMIC DEVELOPMENT DATA
(Amounts in millions of U.S. dollars)

NATIONAL ACCOUNTS	Actual			Projected			1966-	1973 -	1976 -	19 81-	1965	1972	1975
	19 65	19 72	1975	19 76	19 80	19 85	1972	1975	1980	19 85			
	At 1975 Prices						Average Annual Growth Rates				As Percent of GDY		
Gross Domestic Product	5225	4753	5877	6370	8351	11530	5.7	7.3	7.0	6.5	113	111	100
Gains from Terms of Trade (+)	-378	-475	0	-67	-161	290					-13	-11	0
Gross Domestic Income	2847	4278	5877	6303	8190	11151	6.0	11.2	6.8	6.4	100	100	100
Import (incl. NFS)	525	1066	1890	1911	2346	2932	11.7	21.0	5.3	4.6	18	25	32
Exports " (import capacity)	430	813	1251	1094	1328	2048	9.5	15.4	5.0	9.1	15	19	21
Resource Gap	95	253	639	817	1982	884	-	-	-	-	3	6	11
Consumption Expenditures	2497	3285	4714	5592	6996	9347	4.0	12.8	5.7	6.0	88	77	80
Investment " (incl. stocks)	446	1246	1802	1529	2213	2689	14.8	23.0	6.0	3.8	16	29	31
Domestic Savings	351	993	1162	712	1195	1804	16.1	5.4	14.0	8.6	12	23	18
National Savings	417	1200	1877	1038	1420	1828	16.3	0.4	8.2	5.2	15	28	32

MERCHANDISE TRADE	Annual Data at Current Prices						As Percent of Total						
	1965	1972	1975	1976	1980	1985							
Imports													
Capital goods	..	123	439	452	760	1239					..	22	29
Intermediate goods (excl. fuels)	..	235	605	626	1085	2093					..	43	39
Fuels and related materials	..	24	99	256	522	1115					..	4	6
Food	..	124	275	313	351	431					..	23	18
Consumption goods	..	40	121	128	218	391					..	7	8
Total Merch. Imports (cif)	..	547	1539	1775	2936	5269					..	100	100
Exports													
Petroleum	..	52	642	584	752	1002					..	18	69
Phosphate	..	--	15	15	39	102					..	0	1
Cotton	..	98	119	162	80	86					..	34	13
Manufactured goods	..	137	154	210	587	1691					..	48	16
Total Merch. Exports (fob)	..	287	930	971	1458	2881					..	100	100

Merchandise Trade Indices	1975 = 100					
Export Price Index	22	32	100	110	141	198
Import Price Index	41	58	100	117	158	225
Terms of Trade Index	53	54	100	94	89	88
Exports Volume Index	..	96	100	98	111	156

VALUE ADDED BY SECTOR	Annual Data at 1975- Prices and Exchange Rates						Average Annual Growth Rates				As Percent of Total		
	1965	1972	1975	1976	1980	1985							
Agriculture	871	989	1017	1070	1253	1464	1.8	1.0	4.3	3.2	27	21	17
Industry and Mining	764	1516	2010	2191	3215	5073	10.2	9.8	9.9	9.6	24	32	34
Service	1590	2248	2850	3109	3892	4992	5.1	8.3	6.4	5.1	49	47	48
Total	3225	4753	5877	6370	8351	11530	5.7	7.3	7.0	6.5	100	100	100

PUBLIC FINANCE (SL Million)	Annual Data at 1975- Prices and Exchange Rates						As Percent of GDP						
	1965	1972	1975	1976	1980	1985							
(General Government)													
Current Receipts	223	508	1784	1651	..	..					7	11	30
Current Expenditures	188	454	1395	1511	..	..					6	10	24
Budgetary Savings	34	54	389	140	..	..					1	1	6
Public Sector Investment	93	252	1217	1272	..	..					3	5	21

CURRENT EXPENDITURE DETAILS	Actual		Prelim. 1975	Est. 1976	DETAIL ON PUBLIC SECTOR INVESTMENT PROGRAM	(SL Million)	
	1966	1972				Third Five-Year Plan 1971-75	Actuals	Composition
As % Total Current Expend.	1966	1972	1975	1976		1971-75	(%)
Education	21	15	10	13	Irrigation	1437	16
Other Social Services	4	2	1	1	Agriculture	479	5
Agriculture	3	2	1	1	Industry and Mining	1398	15
Other Economic Services	14	32	36	24	Power	2719	30
Administration and Defense	58	48	52	64	Transport and communications	1178	13
Other	..	..	..	..	Other	1903	21
Total Current Expenditures	100	100	100	100	Total Expenditures	9114	100

SELECTED INDICATORS	1965-	1972-	1976-	1980-	FINANCING		
	1972	1975	1980	1985			
Average ICOR	3.1	2.8	3.8	3.8	Public Sector Savings	3382	37
Import Elasticity	1.4	1.4	0.7	0.7	Domestic Borrowing	1059	12
Average National Savings Rate	17.4	24.7	20.3	15.4	External Financing	4673 /1	51
Marginal National Savings Rate	50.4	44.9	17.1	14.5	Total Financing	9114	100

1/ includes transfers from Arab countries which are excluded from budgetary accounts

LABOR FORCE AND OUTPUT PER WORKER	Total Labor Force				1972-75 Growth Rate	Value Added Per Worker (1975 Prices & Exg. Rates)				
	In thousands		% of Total			In U.S. Dollars		Percent of Average		
	1972	1975	1972	1975		1972	1975	1972	1975	
Agriculture	907.7	894.9	55.5	51.1	0.1	1089	1138	37	34	1.1
Industry	303.1	348.7	18.5	19.9	8.5	5001	5764	172	172	4.8
Service	423.4	506.9	26.0	29.0	7.5	5309	5622	183	167	1.4
Total	1634.2	1750.5	100.0	100.0	3.5	2908	3357	100	100	4.9

. not applicable - nil or negligible
.. not available -- less than half the smallest unit shown

SYRIA: BALANCE OF PAYMENTS, EXTERNAL ASSISTANCE AND DEBT
(amounts in millions of U.S. dollars at current prices)

	Actual				Estimated 1976	Projected					
	1972	1973	1974	1975		1977	1978	1980	1982	1985	1990
SUMMARY BALANCE OF PAYMENTS											
Exports (incl. NFS)	481	601	1061	1251	1214	1354	1525	1990	2691	4381	9498
Imports (incl. NFS)	599	687	1409	1890	2121	2374	2697	3516	4541	6272	10790
Resource Balance (X-M)	-118	-86	-347	-639	-907	-1020	-1172	-1526	-1850	-1891	-1292
Interest (net)	-10	-5	-45	-3	-19	-42	-50	-115	-242	-494	-941
Direct Investment Income	-	-	-	-	-	-	-	-	-	-	-
Workers' Remittance	68	51	62	55	67	77	88	117	154	235	472
Current Transfers (net)	58	371	425	664	282	620	620	300	300	300	300
Balance on Current Accounts	-1	331	95	76	-577	-366	-514	-1224	-1638	-1851	-1462
Private Direct Investment	-	-	-	-	-	20	22	25	28	35	49
Official Capital Grants	-	-	-	-	-	-	-	-	-	-	-
Public M< Loans											
Disbursements	77	89	134	262	415	731	869	936	1864	2136	2291
-Repayments	-35	-58	-62	-87	-97	-123	-135	-194	-345	-503	-1486
Net Disbursements	41	50	72	175	318	608	734	743	1519	1634	805
Other M< Loans											
Disbursements	-	-	-	-	-	18	31	36	42	51	71
-Repayments	-	-	-	-	-	0	0	-9	-19	-38	-53
Net Disbursements	-	-	-	-	-	18	31	27	22	13	19
Capital Transactions n.e.i.	-33	-60	-8	-173	-85	-	-	-	-	-	-
Change in Net Reserves (- = increase)	-7	-315	-159	-78	344	-	-	-	-	-	-
GRANT AND LOAN COMMITMENTS											
Official Grants & Grant-like	49	363	416	653	251	-	-	-	-	-	-
Public M< Loans	119	138	495	845	787	-	-	-	-	-	-
IBRD	-	-	88	81	81	-	-	-	-	-	-
IDA	14	15	10	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-
Other Multilateral	-	-	-	-	-	-	-	-	-	-	-
Governments	70	34	300	719	669	-	-	-	-	-	-
Suppliers	35	89	68	46	38	-	-	-	-	-	-
Financial Institutions	-	-	29	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-	-	-	-
Public Loans n.e.i.	-	-	-	-	-	-	-	-	-	-	-
DEBT AND DEBT SERVICE											
Public Debt Out. & Disbursed											
Interest on Public Debt						7	9	10	17	32	32
Repayments on Public Debt						35	38	62	87	97	97
Total Public Debt Service						42	47	72	104	129	129
Other Debt Service (net)						-	-	-	-	-	-
Total Debt Service (net)						42	47	72	104	129	129
Burden on Export Earnings (%)											
Public Debt Service						8.7	7.7	6.7	8.3	10.6	10.6
Average Terms of Public Debt											
Int. as % Prior Year DO&D						2.9	2.9	3.1	2.6	3.3	3.3
Amort. as % Prior Year DO&D						18.1	15.9	21.5	15.8	13.2	13.2
IBRD Debt Out. & Disbursed						-	-	-	0.5	2.5	2.5
" as % Public Debt O&D						-	-	-	0.7	0.9	0.9
" as % Public Debt Service						-	-	-	-	-	-
IDA Debt Out. & Disbursed						-	-	-	0.5	2.0	2.0
" as % Public Debt O&D						-	-	-	0.2	0.3	0.3
" as % Public Debt Service						-	-	-	-	-	-
EXTERNAL DEBT											
	Actual Debt Outstanding on Dec. 31, 1976										
	Disbursed Only					Percent					
World Bank	24	24	24	24	24	24	24	24	24	24	24
IDA	44	44	44	44	44	44	44	44	44	44	44
Other Multilateral	0	0	0	0	0	0	0	0	0	0	0
Governments	782	782	782	782	782	782	782	782	782	782	782
Suppliers	118	118	118	118	118	118	118	118	118	118	118
Financial Institutions	30	30	30	30	30	30	30	30	30	30	30
Bonds	0	0	0	0	0	0	0	0	0	0	0
Public Debts n.e.i.	0	0	0	0	0	0	0	0	0	0	0
Total Public M&LT Debt	975	975	975	975	975	975	975	975	975	975	975
Other M< Debts	0	0	0	0	0	0	0	0	0	0	0
Short-term Debt (disb. only)	0	0	0	0	0	0	0	0	0	0	0

. not applicable
 .. not available
 ... not available separately
 but included in total

e staff estimate
 - nil or negligible
 -- less than half the
 smallest unit shown

STATUS OF BANK GROUP OPERATIONS IN SYRIAA. Statements of Bank loans and IDA credits
(As of April 30, 1977)

<u>Number</u>	<u>Year</u>	<u>Borrower</u>	<u>Purpose</u>	<u>Bank</u>	<u>IDA</u>	<u>Undisbursed</u>
46	1963	Syrian Arab Republic	Highways		8.5	-
298	1972	Syrian Arab Republic	Highways		13.8	13.4
401	1973	Syrian Arab Republic	Water Supply		15.0	8.5
469	1974	Syrian Arab Republic	Irrigation		10.0	2.1
975	1974	Syrian Arab Republic	Irrigation	63.0		63.0
986	1974	Etablissement Public de l'Electricité	Electricity	25.0		5.6
986-1	1975	Etablissement Public de l'Electricité	Electricity	8.6		8.6
1144	1975	Etablissement Public de l'Electricité	Electricity	72.0		54.1
1241	1976	Syrian Arab Republic	Water Supply	35.0		28.9
1261	1976	Etablissement Public des Telecommunications	Telecommuni- cations	28.0		28.0
1311	<u>1/</u> 1977	Syrian Arab Republic	Livestock	5.0		5.0
1312T	<u>1/</u> 1977	Syrian Arab Republic	Livestock	<u>12.5</u>		<u>12.5</u>
		<u>Total</u>		249.1	47.3	229.7
		of which has been repaid		<u>0</u>	<u>.3</u>	
		Total now outstanding		<u>249.1</u>	<u>47.0</u>	
		Amount sold		1.0	0	
		of which has been repaid		0	0	
		Total now held by Bank and IDA <u>2/</u>		<u>248.1</u>	<u>47.0</u>	
		Total undisbursed		<u>205.7</u>	<u>24.0</u>	<u>229.7</u>

1/ Not yet effective2/ Prior to exchange adjustmentsB. Statements of IFC Investments: None
(As of April 30, 1977)

Credit 298 - Second Highway Project; US\$13.8 million Credit of April 17, 1972;
Date of Effectiveness: February 2, 1973; Closing Date: June 30, 1978

Project implementation started in 1975 after an initial delay due to the unfavorable political situation in the region. In July 1975, after several contracts had been awarded, the Government decided to upgrade the project roads to four-lane standards, undertaking to cover the extra costs involved. Economic studies, based on preliminary cost estimates, indicate the upgrading to be economically justified. The Association will determine its position on the upgraded roads after final cost estimates, based on detailed engineering, become available. Government has called bids for the additional works on the Homs-Tartous road and is presently negotiating addenda to the contracts with the contractors for the construction of the Damascus-Lebanese border road. Agreement for financing of construction of the Damascus-Jordanian border road has been reached between the Government and USAID. This section will, therefore, be deleted from the project. The Government has requested that the construction of the Damascus-Lebanese border road and Tall Kalakh section of Homs Tartous road remain components of the project even if IDA participation in financing would become low due to the higher standards and increased costs.

Credit 401 - Damascus Water Supply Project; US\$15 million Credit of June 22, 1973; Date of Effectiveness: February 20, 1974; Closing Date: December 31, 1978

Initial delays in project implementation of about two years were caused by the unfavorable political situation in the region. A revision of the project description was required as a result of considerable cost overruns and was approved by the Board on May 28, 1975. This permitted work to proceed on an urgent phase of distribution. Work is now proceeding in accordance with the contract schedule with about 50 percent of the works completed to date. No further delays are anticipated. Consultants have begun the pollution control studies for Damascus, Homs and Hama.

Credit 469/Loan 975 - Balikh Irrigation Project; US\$10 million Credit and US\$63 million Loan of April 10, 1974; Date of Effectiveness: September 12, 1974; Closing Date: June 30, 1982

Following initial procurement difficulties, works by Syrian Government organizations for the development of the first 10,000 ha are progressing satisfactorily and construction of the Lower Main Canal headreach (18 km) is underway. Bids for the second part of the project (11,000 ha) have been evaluated but recommendations for award have not yet been received, pending a review by the Higher Inter-ministerial Council. The Syrian Government has obtained a loan from the Government of Iran to cover part of the considerable cost overruns and has undertaken to provide a financing plan for the project by the middle of 1977. The Government is presently reconsidering the scope of the project. The question of settlement in the Balikh Project is also being considered by Government. Feasibility studies for a drainage/irrigation project for rehabilitation of salt-affected lands in the lower Euphrates area are expected to be completed around the middle of 1977.

Loan 986 - Mehardeh Power Project; US\$25 million Loan of May 23, 1974 and Supplementary Loan of US\$8.6 million of June 4, 1975; Dates of Effectiveness: January 30, 1975 and January 19, 1976; Closing Date: June 30, 1979

The project consists of the first 150-MW unit of new steam-electric power station at Mehardeh; eight 230-kV substations, consultant services and training. The project is co-financed by a US\$33 million loan from Kuwait Fund, including a second portion of US\$15 million to cover the considerable cost overruns. Although main contracts were awarded about five months late and a further delay of about two months was caused due to a temporary lack of cement, physical progress is satisfactory and the final delay is expected to be minimal. Institutional progress is expected to remain slow due to lack of experienced personnel and the time required to train intermediate executive staff.

Loan 1144 - Second Mehardeh Power Project; US\$72 million Loan of July 18, 1975; Date of Effectiveness: January 19, 1976; Closing Date: June 30, 1980

The project comprises a second 150-MW steam generating unit at Mehardeh, construction of six and extension of two 230-kV substations, a new office building, organization and accounting studies and training. Construction of the power plant is progressing satisfactorily although a delay of about two months occurred due to a temporary lack of cement; the final delay is expected to be minimal. Construction of the new head office building has been delayed by about one year because the Government is reconsidering its size. Institutional progress is expected to remain slow due to lack of experienced personnel and the time required to train intermediate executive staff.

Loan 1241 - Second Damascus Water Supply Project; US\$35 million Loan of June 9, 1976; Date of Effectiveness: January 31, 1977; Closing Date: December 31, 1980

This loan became effective on January 31, 1977. The project, which is co-financed by the Arab Fund and USAID, provides for the supply components of Damascus' water system and for training. Work is proceeding on schedule on the contract for the tunnel, underground cutoff and supply reservoir, which are financed by the Bank. A close coordination of the works financed by the various donors under this project and of the works financed under the first project will be required to permit the timely link-up of the various components of the supply and distribution system and to minimize expected delays in implementation of the project components financed by other donors.

Loan 1261 - Telecommunications Project, US\$28 million Loan of June 9, 1976; Date of Effectiveness: March 15, 1977; Closing Date: June 30, 1979

This loan became effective on March 15, 1977. The project consists of the most urgent works of the telecommunications investment program for the period 1976-78, including the installation of telephone connections, trunk

exchanges and teleprinters; and expansion of long distance and international facilities; and a training center. Procurement is well underway on a number of contracts.

Loans 1311/1312T - First Livestock Development Project; US\$5 million Loan and US\$12.5 million Third Window Loan of July 22, 1976; Date of Effectiveness: ; Closing Date: December 31, 1982

This loan has not yet become effective due to delays in the selection and appointment of consultants. The project provides for a strengthening of the organizational framework for feed policies and animal health services as well as credit to sheep farmers and cooperatives.

SUPPLEMENTARY PROJECT

DATA SHEET

Section I - Timetable of Key Events

- | | |
|---|---|
| (a) Time taken to prepare project: | Six months |
| (b) Agency which prepared project: | Etablissement Public des Eaux d'Alep (EPEA) |
| (c) Date of first presentation to the Bank: | May 1976 |
| (d) Date of departure Appraisal Mission: | November 1976 |
| (e) Date of completion of negotiations: | May 1977 |
| (f) Planned date of effectiveness: | October 1977 |

Section II - Special Bank Implementation Actions

Bank provided terms of reference for studies and technical assistance components of proposed project. Other action to ensure satisfactory project implementation (e.g. training of EPEA staff, introduction of new techniques and control methods, provision of consulting services, improvements to public construction enterprises) is part of proposed project (paras. 32, 40, 43 and 44).

Section III - Special Conditions

- (a) Government to take adequate measures to prolong the life of the intake at Lake Assad on the basis of consultants studies (para. 44).
- (b) Government to extend the mandate of the project committee under the Governor of Aleppo to cover the proposed project (para. 39); and to enable EPEA to be adequately staffed (para. 41).
- (c) EPEA to set and collect rates for the sale of water at whichever is the higher of the following two levels: (i) rates at a level not below LS 0.60/m³ for household consumption and LS 0.75/m³ for non-household consumption; or (ii) rates, which together with revenues from other charges on water supply, are adequate to cover in each year: all operating expenses (excluding depreciation), debt service and increased working capital, and in each year during the period 1978-82 not less than 15 percent, and beginning with the year 1983, each year not less than 35

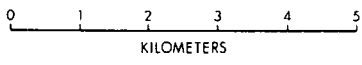
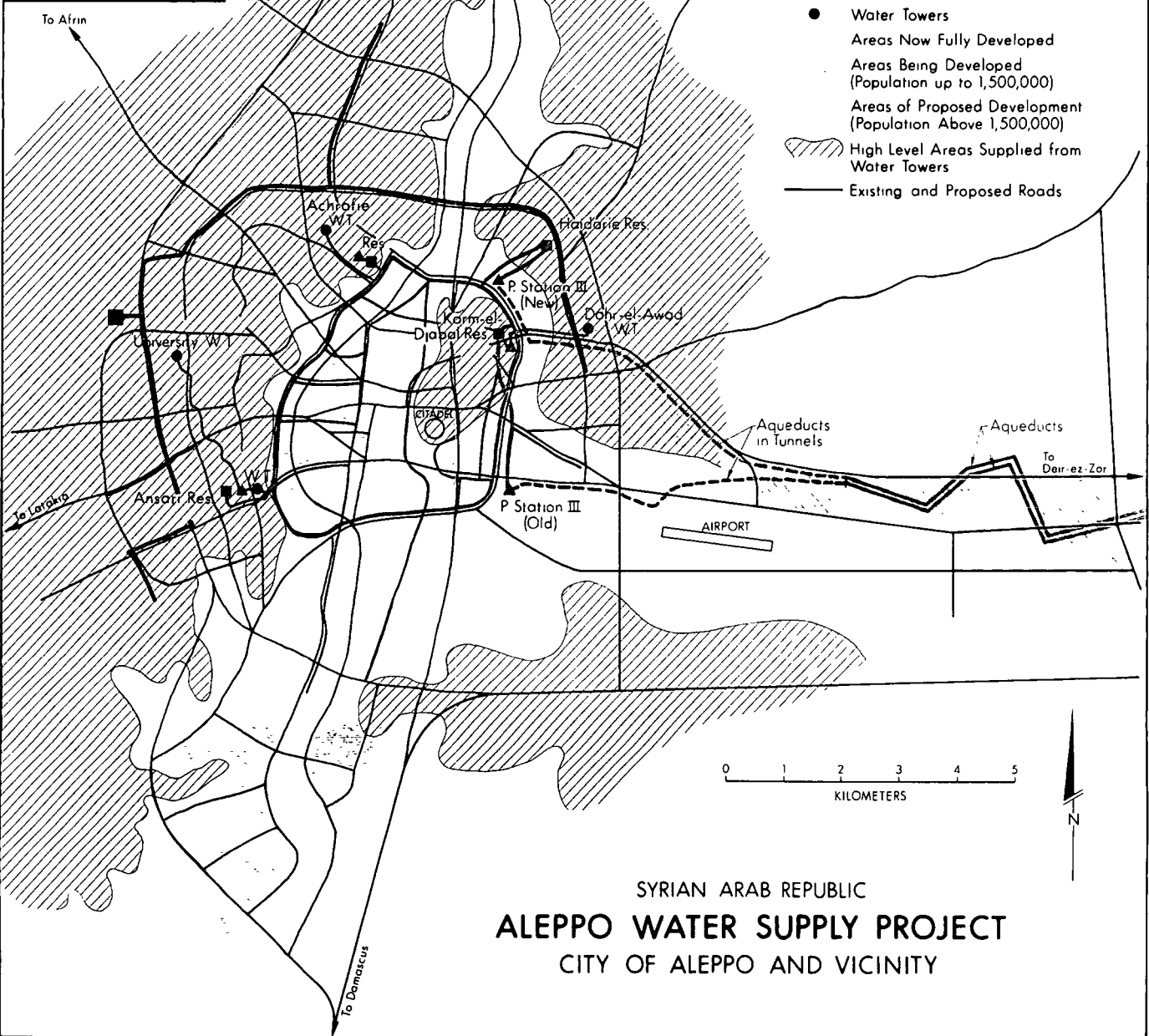
percent of the average cost of investment during each consecutive three-year period comprising an actual and two forecast years (para 37). EPEA to review, by not later than September 30 of each year, the adequacy of its tariffs for the next year on the basis of forecasts of expenditures for the current and next two years; and to furnish the results of these reviews to the Bank (para. 37).

- (d) EPEA not to incur any further loans unless its net cash generation, before depreciation and interest, exceeds 1.5 times its debt service in any future year, including debt service on the amount to be borrowed from the proposed Bank loan (para. 38).
- (e) EPEA to engage consultants to review construction techniques and to study silting, water treatment and risks of flooding of intake pump motors. Commencement of work by these consultants would be a condition of effectiveness. EPEA also to engage consultants to analyze the existing distribution system and review alternatives for its extension (para. 44).
- (f) EPEA to submit a training program for its professional staff to the Bank for its comments prior to June 30, 1978 (para. 40).



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

- Probable Location of Future Mains to Serve Developing High Level Areas
- Probable Location of Future Service Reservoir
- Trunk Mains
- ▲ Pumping Stations
- Service Reservoirs
- Water Towers
- Areas Now Fully Developed
- Areas Being Developed (Population up to 1,500,000)
- Areas of Proposed Development (Population Above 1,500,000)
- High Level Areas Supplied from Water Towers
- Existing and Proposed Roads



SYRIAN ARAB REPUBLIC
ALEPPO WATER SUPPLY PROJECT
 CITY OF ALEPPO AND VICINITY

