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Report No. P-2500-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 A
LOWER EUPHRATES DRAINAGE PROJECT

March 28, 1979

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CURRENCY EQUIVALENTS
(as of November 30, 1977)

| | | |
|---------------|---|--------------------|
| Currency Unit | = | Syrian Pounds (LS) |
| LS 3.95 | = | US\$1.00 |
| LS 1.00 | = | US\$0.253 |
| LS 1,000,000 | = | US\$253,165 |
| US\$1,000,000 | = | LS 3,950,000 |

FISCAL YEAR

JANUARY 1 - DECEMBER 1

LIST OF ABBREVIATIONS

| | |
|--------|---|
| CMO | Cotton Marketing Organization |
| FAO | Food and Agriculture Organization of the United Nations |
| GADEB | General Administration for the Development of the Euphrates Basin |
| GERSAR | Groupement d'Etudes et de Realisations des Societes d'Amenagement Regional |
| GOCM | General Organization for Cereals and Mills |
| GOED | General Organization for the Euphrates Dam |
| NEDECO | Netherlands Engineering Consultants |
| SCET | Societe Centrale pour l'Equipement du Territoire (International) |
| UNDP | United Nations Development Program |
| USAID | United States Agency for International Development |

LOWER EUPHRATES DRAINAGE PROJECT

LOAN AND PROJECT SUMMARY

Borrower: Syrian Arab Republic

Beneficiary: General Administration for the Development of the Euphrates Basin (GADEB)

Amount: US\$30 million

Terms: Amortization in 17 years, including a 4-year grace period, with interest at 7.0 percent per annum.

Project

Description:

(i) Objectives. The Project would arrest the spread of salinity and improve agricultural production on about 75,000 ha of land irrigated or previously irrigated on both banks of the Lower Euphrates River in North Eastern Syria.

(ii) Major components. Under the Project, 170 tubewells operated by electric pumps would be installed to lower the saline water table by pumping from a gravel aquifer under the riverine plain into open drains leading to the Euphrates River. A total of 450 km of open drains to handle pumped and surface water, 200 km of pumping station access roads, 240 km of 22 kV power lines and buildings for operation and maintenance and research and extension operations, would be constructed. Consultants would be appointed to assist the General Administration for the Development of the Euphrates Basin, the agency responsible for implementing the project. Consultants would carry out detailed hydrogeological investigations on about 65,000 ha not already covered in the preparation phase, supervise the construction and installation work under the Project and establishment of an operation and maintenance service, supply engineering services for the design of works, assist in a crop research and extension program.

(iii) Benefits and beneficiaries. The Project would benefit 23,000 farm families, about half of which are below the relative poverty level; this proportion is likely to increase to 70 percent without the Project. The balance of payments would be improved through increased agricultural production.

(iv) Risks. The main risks are technical and administrative. The lack of experience of tubewell drainage construction techniques and the operation and management of such a system requires an expertise presently not available in Syria. The large provision for consulting services and the increase in the number of tubewells from 139 to 170 are aimed at reducing this risk. Administrative delays in award of contracts and procurement could delay project completion and reduce the rate of return.

Project Cost

Estimates:

| | US\$ Million | | |
|--------------------|--------------|-------------|-------------|
| | Local | Foreign | Total |
| (i) Drainage works | 11.2 | 11.4 | 22.6 |
| (ii) Buildings | 0.3 | 0.2 | 0.5 |
| (iii) Equipment | 0.2 | 0.9 | 1.1 |
| (iv) Consultants | 2.9 | 6.7 | 9.6 |
| (v) Contingencies | <u>8.4</u> | <u>10.3</u> | <u>18.7</u> |
| Total | 23.0 | 29.5 | 52.5 |

Financing Plan:

| | US\$ Million | | |
|------------|--------------|-------------|-------------|
| | Local | Foreign | Total |
| IBRD Loan | 0.0 | 30.0 | 30.0 |
| Government | <u>22.5</u> | <u>0.0</u> | <u>22.5</u> |
| Total | <u>22.5</u> | <u>30.0</u> | <u>52.5</u> |

Estimated

Disbursements:

| | US\$ Million | | | |
|------------|--------------|------|------|------|
| | FY80 | FY81 | FY82 | FY83 |
| Annual | 11.1 | 9.6 | 7.0 | 2.3 |
| Cumulative | 11.1 | 20.7 | 27.7 | 30.0 |

Technical Assistance:

- (a) Consulting services for detailed investigations, project design and preparation of documents for about 65,000 ha (in Zones 2 and 3) of the Project Area (about 675 man-months) in addition to use of computer time for mathematical models as well as water and soil analysis.
- (b) Consulting services for supervision of works of the Project (288 man-months).
- (c) An agricultural research and an agricultural extension specialist (72 man-months).

The average cost for consulting services would be \$7,000 per man-month.

Estimated

Completion Date: June 30, 1982

Rate of Return: 15 percent (Economic)

Staff Appraisal

Report: No. 1910a-SYR of March 15, 1979
EMENA Projects

Map: IBRD 13259

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

REPORT AND RECOMMENDATION OF THE PRESIDENT OF THE IBRD
TO THE EXECUTIVE DIRECTORS ON A PROPOSED LOAN
TO THE SYRIAN ARAB REPUBLIC FOR A
LOWER EUPHRATES DRAINAGE PROJECT

1. I submit the following report and recommendation on a proposed Bank loan of US\$30 million equivalent to the Syrian Arab Republic to help finance the Lower Euphrates Drainage Project. The loan would have a term of 17 years, including 4 years of grace, with interest at 7.0 percent per annum.

PART I - THE ECONOMY 1/

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 a Basic Economic Mission which visited Syria in April 1977, whose report was sent to the Government for comments in May 1978, and on a brief updating mission which visited Syria in July 1978. Country data sheets are attached as Annex I.

3. Syria experienced great political instability in the period between 1946, when it attained independence, and November 1970, when General Hafez Assad became President of the Republic. Two very significant changes have occurred in the polity and economy during the last three decades. First, the Ba'ath Socialist Party gained power in March 1963 and this accelerated a shift in the locus of power from the traditional groups of landowners, traders and industrialists to Party leaders, civil and military officials, and an emerging group of professionals. Second, the economy has been transformed from an essentially laissez faire system to a largely publicly-owned and centrally regulated one with the nationalization in the 1960s of large segments of the industrial, finance and trade sectors. This development was paralleled by the agrarian reform, commenced in 1958, which has resulted in a substantial redistribution of land to the landless peasants and small farmers and the establishment of agricultural cooperatives and state farms. President Hafez Assad's regime has been characterized by a balance of firmness and conciliation in domestic policies, economic pragmatism and a diversification of foreign economic relations, all in the framework of Ba'athist ideology. These aims have been pursued gradually but determinedly and, in spite of continued political uncertainty in the Middle East and of the constraints of what is largely an economy dominated by the priority given to military expenditures, some progress towards a reorientation of economic policies and a diversification of production has been achieved.

1/ This part is substantially unchanged from that in the President's Report No. 2369-SYR on a Loan to the Syrian Arab Republic for an Oilseed Processing Project, dated November 2, 1978.

Past Performance

4. The Syrian economy grew at a fairly impressive pace (averaging over 7 percent per year) during the 1960s and early 1970s. The overall growth rate, however, concealed underlying weaknesses in Syria's economic development, as the bulk of the increase in value added (GDP) took place in the service sectors while performance in the agriculture sector was poor. The service-dominated growth resulted in very slow growth of the tax base and the export potential of the economy, and has consequently created domestic and external financial bottlenecks. Syria's population has grown at 3.3 percent per annum since 1960 and almost half of the total population is at present urban--the rate of urbanization has so far been moderate. The rapid population growth has certainly imposed a high cost on the economy in the provision of housing, social services and rising aggregate consumption. As awareness of these costs becomes widespread, attitudes towards family planning are gradually changing and family planning services are being provided under Government aegis although external assistance for the purpose is still not acceptable. Syria has experienced a relatively low unemployment rate (around 5 percent) in the recent past, largely a result of three factors: the high number of emigrant workers (currently estimated at 450,000 persons), the surprisingly high employment generation in the agriculture sector during the 1960s and early 1970s and the low female participation rate. Since these safety outlets will probably not be available to the same extent in the future the generation of substantial new employment must become an imperative for Syrian policy makers.

5. Economic growth during the Third Plan period, 1971-75, exceeded the 8 percent per year target level. The 1973 petroleum price increase, which boosted Syria's 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 and sharp increases in planned public investments. Actual 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. A substantial number of major projects, including those in fertilizers and steel rolling, came on stream during the Plan period, thus diversifying the structure of industrial output. Investments in irrigation and agriculture, however, were stagnant in real terms during the Plan period and fell substantially short of the Plan's target. Nonetheless, the Euphrates basin investment was substantial and, if the serious technical problems faced so far are overcome, may 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.

6. During 1976 adverse financial developments emerged as a cumulative result of the high investment rates of 1974-75 and external developments, including the discontinuation of oil supplies and transit by Iraq, a temporary decline in Arab aid (in 1976) and the impact of the Lebanese civil war. The Government, therefore, delayed the finalization of the Fourth (1976-80) Plan

to early 1977. Recognizing the lack of resource availability, the Government decided to limit its investment program for 1977-80 mainly to ongoing projects. The strategy underlying the current investment program 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. A significant increase in exports of manufactured goods by 1980 -- particularly textiles and fertilizers -- is a primary objective in the sector. In agriculture, the Government's overall objectives are, as 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 diet 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.

Present Situation

7. During 1976-78, Syria's economic growth slowed down to an annual average of 3.5 percent despite a high and rising level of investment. This growth was due to the declining output of petroleum and industrial sectors, slow growth of public services as a result of budgetary restraints, and stagnant agricultural output because of bad weather in 1977 and 1978. The rate of investment however rose sharply from 28 percent of GDP in 1975 to an average 37 percent during 1976-78 as a number of capital-intensive, long gestation projects which had been initiated earlier, were being completed. While the growth of public investment raised total public expenditures from 42 percent of GDP in 1975 to an average 53 percent in 1977-78, the Government's attempts to raise revenues from taxes and transfers from public enterprises were only partly successful. As a consequence, the budgetary deficit widened from SL 3.0 billion in 1975 to an average SL 5.5 billion in 1976-78, or from 15 percent to 21 percent of GDP. At the same time imports grew sharply in 1976-78, while export growth was slow due to the decline in crude oil output and poor performance of manufacture exports. The balance of payments, reflecting these trends, moved from a current account surplus of \$93 million in 1975 to a deficit of \$759 million in 1976, and external reserves fell in 1976 by \$519 million. In 1977 and 1978, however, an increase in official transfers from neighboring oil-exporting Arab countries (from \$412 million in 1976 to \$1.2 billion in 1977 and an estimated \$0.9 billion in 1978), served to reduce the current deficit to an average \$460 million. Gross international reserves amounted to some \$700 million at end 1978, equivalent to about 2.6 month's imports.

8. The Government has made efforts to respond to the problems by introducing fiscal austerity, restricting imports and devising ways to improve export and savings performance. The Fourth Five-Year Plan has been severely curtailed (para. 6). Current expenditures under the 1977 and 1978 budgets have been held essentially to 1976 levels, and public investment has largely been restricted to on-going projects. Simultaneously, the Government has been conducting a review of economic profitability of the on-going

and proposed projects. In 1977 efforts began to improve domestic resource mobilization, tighten control of expenditures, and to reform the tax system. These efforts need to be sustained and strengthened if available resources are to be utilized efficiently and development is to proceed without serious inflation and public debt management problems. Vigorous action must be taken to increase the efficiency of the public economic enterprises and their contribution to the budget through improved management, as well as improved efficiency in production and introduction of cost-related pricing. The State Planning Commission has undertaken studies of capacity utilization in agriculture, industry and transport with the aim of finding means of increasing growth through improved utilization of existing capacity rather than new investments. The Government is also receiving UNDP assistance in planning. These efforts are expected to have a significant impact on economic policy making in the near-term, and on the quality of the Fifth Five Year Plan (1981-85), which is currently under preparation.

Prospects

9. In the medium term, the Government is confronted with the task of restoring order in the public finances and the balance of payments. This task is further complicated by the ideological commitments and social concerns of the Government and the situation in the Middle East. Reconciling the conflicting objectives and making progress in solving these problems will be an arduous and long-term effort. The recent pledges of increased Arab assistance and the improvement of relations with Iraq promise immediate benefits which would allow the Government time and flexibility in formulating strategies and policies conducive to strengthening the budget and the balance of payments. With prospects of increased availability of financial resources real GDP growth may be of the order of 4 percent per year in 1979 and 1980 and in the neighborhood of 6 percent per year in the early 1980's. The sources of growth 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.

10. Perhaps the most significant obstacle to long-run economic and social progress in Syria is the absence of effective planning and administrative institutions. Although the administrative problems are too complex and deep-rooted to allow an early solution, there is an urgent need to begin a reform that would strengthen administrative capacity and develop capability particularly in the formulation and execution of development plans, programs and projects. Another major obstacle in the way of efficient implementation of the investment program is likely to be the shortage of skilled manpower. 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 labor 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 plans to provide extensive training facilities for augmenting the supply of skilled manpower. It may also 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.

External Debt

11. At the end of 1977, external public debt outstanding and disbursed, excluding military debt, was estimated to be around \$1,528 million (\$3,692 million including undisbursed) of which around 80 percent was held by Governments (37 percent, OPEC; and 43 percent, centrally planned economies), and about 9 percent by multilateral organizations. At the end of 1978, estimated total public debt outstanding and disbursed was \$2,300 million, and gross reserves were estimated to be some \$700 million. Gross external capital requirements during 1979-80 are expected to total about \$1.5 billion. As a result, Syria's debt service ratio is expected to rise from an estimated 15 percent in 1978 to 16 percent by 1980, and to 23 percent by 1985. The Bank Group's share in total public debt outstanding and disbursed is projected to increase to 9 percent and in total debt service payments to 7 percent in 1980. Subject to continued prudent debt management, Syria remains credit-worthy for Bank lending.

PART II - BANK GROUP OPERATIONS IN SYRIA

12. Syria has to date received four IDA credits totalling \$47.3 million and thirteen loans totalling \$438.1 million (including one loan of \$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 1977, the Bank Group accounted for 5 percent of Syria's total outstanding public debt; by 1980 it is expected to account for 9 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 March 9, 1979.

13. Project implementation has generally suffered substantial delays due partly 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 decision making and administrative systems caused delays in establishing a dialogue on economic policies (which commenced in 1977), resolving policy issues and in project implementation. The above developments were compounded by the high rate of world inflation and generated considerable cost overruns in most projects. As a result, the scope of the Damascus Water Supply and Mehardeh Power Projects had to be revised and additional financing secured. In the case of the Second Highway Project, the war-related delays and the economic upturn after 1973 made it necessary to redesign the project roads to four lanes instead of two. To cover the additional cost, the Government obtained a \$45.9 million loan from USAID and a \$11.3 million loan from Saudi Arabia to help finance certain highways originally included in the project.

Disbursements of Bank loans had reached, as of December 31, 1978, 59 percent of appraisal estimates and 70 percent of revised estimates. The Bank has agreed with the Government to hold semi-annual reviews to define steps for improving project implementation. The Syrian Electricity Authority is at present not earning a return of 9 percent on its assets in operation as is stipulated in Loan Agreements with the Bank (Loan Nos. 986-SYR and 1144-SYR). During negotiations of the Rural Electrification Project (for which Loan No. 1531-SYR was made in May 1978 and which is not yet effective) the Bank agreed that this rate of return could be achieved over three years. The Electricity Authority sought Government approval in September 1978 for the necessary tariff increases to become effective on January 1 of this year. The Government has not yet given its approval. As a result, the Bank is considering remedies under its agreements and has informed the Government that the Rural Electrification Project will not be declared effective until the necessary tariff action is taken.

14. Lending for infrastructure has accounted for over two-thirds of Bank Group lending to Syria. It aimed at fostering well designed sector policies and strengthening the public institutions responsible for 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 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 the objective of increasing and stabilizing incomes in the sheep subsector throughout Syria.

15. Future lending operations in Syria would continue to support physical infrastructure development in the telecommunications, roads and power distribution areas but there would be a greater emphasis on assisting in the social sectors through education, water supply, and sewerage development projects. Moreover, the pipeline of projects under preparation is designed to provide quicker yields, such as the modernization of existing industry and rehabilitation of irrigation systems and to focus on more directly productive projects, such as the utilization of gas resources and the improvement of agricultural practices in already cultivated areas (paras. 23-25). The Oilseed Processing Project, approved by the Board in November 1978, and this Project reflect this new strategy.

16. The proposed 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 these objectives.

PART III - THE AGRICULTURAL SECTOR

17. Agriculture in Syria accounts for a quarter of GDP although the annual figures in recent years varied between 23 percent and 36 percent largely due to the variability of rainfed production. It is still a key sector in the economy, although its development has been neglected and its sluggish growth has become a constraint to overall national development. The relatively low rate of growth in agricultural output, about 2 percent annually, was reflected in stagnant agricultural exports, which account for about 60 percent of the value of exports excluding petroleum. Cotton is the single most important agricultural export accounting for three quarters of the total by value. Agricultural imports have shown some tendency to increase. Syria has now become a consistent net importer of wheat and sugar. The rapid population growth (para. 4) is placing increasing demands on the agricultural sector, and production will also have to increase rapidly during the next decade to provide self-sufficiency in food (cereals and sugar), provision of raw materials for industry (cotton) and production of an export surplus.

Agricultural Policy and Planning

18. Syria's considerable agricultural potential is seriously constrained by several issues related to agricultural policy and planning. Agricultural policy in Syria is carried out through a system of laws and controlled prices with the overall objective of self-sufficiency in food production. Three key policy issues limit the growth of agricultural production: (i) the relationship between physical production targets and pricing policy; (ii) lack of institutional capability; and (iii) poor allocation of investments. To meet specified annual production targets, Law 14 of 1975 obliges farmers to follow specific cropping pattern set by the Government. Prices are controlled for most agricultural commodities including cereals, sugar beet and cotton. The controlled price system is regarded principally as a tool of social policy for income distribution and subsidy purposes rather than as a means of adjusting agricultural production. In the recent past, farmgate prices paid for most crops by the State Monopoly agencies have been well below the equivalent border price in international trade, and cost increases in inputs have reduced the financial incentive for farmers to produce more.

19. Syria does not have sufficient agricultural data and trained manpower either in the State Planning Commission or in the Ministry of Agriculture to prepare detailed operational production plans necessary to a successful centrally controlled production system. This institutional weakness exists also in implementation. The Ministry of Agriculture is not yet fully equipped to carry out its role in helping farmers to increase production. The Cooperative Agricultural Bank is the sole institutional source of farm credit. It is also responsible for the physical supply of farm inputs. Due to the inadequacies of the planning mechanism there has not always been a clear relationship between the investments proposed in the agricultural sector and the targets to be achieved. For instance, there has been too great an emphasis on major infrastructure in the Euphrates Valley and too little on the complementary investments needed to obtain full production from new and existing infrastructure.

Irrigation and Drainage

20. Due to the variability of rainfall in Syria and the resulting fluctuations in rainfed production, the main scope for obtaining self-sufficiency in food production is through increasing production on irrigated lands. For two decades it has been the Government's policy to reduce the dependence of the country on rainfed agriculture by increasing irrigated areas. The Ministry of the Euphrates Dam was established in 1969, and more than 75 percent of the total public sector investment in the third Five-Year plan (1971-1975) was directed towards development of irrigation in the Euphrates Basin, where the main potential for increasing irrigated cultivation exists.

21. The Ministry of the Euphrates Dam is charged with the overall development of water and power resources in the Euphrates Basin. The Ministry has a relatively small staff in Damascus which makes policy decisions and provides coordination for its two large semi-autonomous operational agencies, the General Administration for the Development of the Euphrates Basin (GADEB) and the General Organization for the Euphrates Dam (GOED). While GADEB is responsible for all aspects of the development of irrigation and drainage in the Euphrates Basin, GOED is mainly a construction enterprise responsible for the construction and maintenance of the Tabqa dam and associated hydro-electric power developments. In spite of large investment in infrastructure, the irrigated area in the Euphrates Basin will only have increased to about 165,000 ha by 1980, considerably less than planned, largely due to the technical problems of constructing canals in gypsiferous soils, and a sharp increase in construction costs.

22. In several parts of Syria, serious drainage problems have developed some years after the installation of irrigation facilities. The Lower Euphrates Valley, which is the Project area, covers 121,000 ha or nearly a quarter of the irrigated area in Syria. It has been particularly affected by a lack of drainage causing serious salinity problems. It is estimated that some 24,000 ha had been effectively abandoned by 1975 and a further 30,000 ha of salt affected land are expected to go out of production if no action is taken to arrest the spread of salinity. The proposed project is intended to assist the Government in protecting an existing productive irrigated area with 23,000 trained farmers and a developed infrastructure from further salinization and risk of abandonment at a fraction of the cost of developing new land.

23. The Government is now reconsidering its irrigation development strategy, and before authorizing expenditures on new projects evaluates expected results and viability of projects already under implementation. High priority should be assigned to rehabilitation of existing irrigation areas where salinity, waterlogging, flooding and poor on-farm distribution systems are seriously limiting production. There is considerable scope for improving yields and production, since experienced farmers are already farming these lands, some of the investment required exists and an institutional framework (cooperatives, agricultural bank) is present, permitting production to increase quite rapidly on completion of the remedial physical works.

24. The Bank has financed three projects in the agricultural and agro-industry sector, the Balikh Irrigation and Rural Development Project (Loan No. 975-SYR, Credit No. 469-SYR) which became effective in September 1974, the First Livestock Development Project (Loan Nos. 1311-1312T-SYR), which

became effective in March 1978 and the Oilseed Processing Project (Loan No. 1631-SYR), the agreement for which was signed on December 13, 1978, but is not yet effective pending the recruitment of consultants. The Balikh Irrigation and Rural Development project suffered long delays in the appointment of consultants and due to procurement problems, but works are now progressing with some difficulty on the first 10,000 ha section. However, the remainder of the project (31,000 hectares) has been postponed to review the technique of lining canals in gypsiferous soils, the extent of affected soils and the preparation of a revised financing plan to meet the large cost increases. The Livestock Project would contribute towards increasing total sheep production in the semi-arid parts of the country. The Oilseed Processing Project will increase vegetable oil production by 50,000 tons per year.

25. Future agricultural projects in the lending program include both rainfed and irrigated projects. A project in the Lower Euphrates Valley, subsequent to this Drainage Project (paras. 26 and 27), would concentrate on modernizing and developing the existing infrastructure in the irrigated areas, and on increasing farm production through agricultural research, extension and the provision of inputs. Another proposed irrigation development project in the North East (para. 15) would provide low cost supplementary irrigation from groundwater, which would increase farm incomes in a traditional rainfed farming area. A proposed project in the Horan region, south-west Syria, would increase the crop production in a rainfed area by improving the land (levelling, destoning, etc.) and cultural practices and supplementing the water supply by small dams.

PART IV - THE PROJECT

Background and Project Objectives

26. As a result of a FAO/IBRD CP identification mission in 1973, the Government asked the French consultants GERSAR-SCET in 1974, with the Bank's financial assistance under the Balikh Irrigation Project, to examine the progressive salinization of the Lower Euphrates Valley and to make proposals for its control. A comprehensive program for drainage, irrigation development and land reclamation was prepared in 1977, comprising three main elements:

- (a) Construction of a drainage system, consisting of tubewells and open drains, to halt the spread of salinity by lowering the level of ground water. The hydrogeological structure of the valley is suitable for installing tubewells to lower the water table by pumping water into open drains spilling into the Euphrates River.
- (b) Increase of agricultural production on the land still under cultivation by increasing farm inputs and improving farming practices through research and extension efforts and provision of credit.

- (c) Development and modernization of the irrigation system along with provision of additional drainage tubewells to bring the abandoned lands back into production through leaching and to improve water management.

27. A Bank mission visited Syria in October 1977 to appraise the Project. In view of the alarming rate of abandonment of saline land, the mission suggested that drainage be undertaken to halt the spread of salinity as a matter of urgency, not only on the 56,000 ha that had been studied in detail but over the whole Lower Euphrates Valley presently under irrigation. The mission also proposed that the Project concentrate on the provision of drainage through tubewells and open drains coupled with agricultural research and extension (i.e. para 26(a) and (b)), and that the other aspects of the comprehensive program (i.e. para 26(c)) be considered as future projects once salinity has been arrested and the Government has decided on the type of exploitation it proposes for the reclaimed land. The Government accepted and fully supported this strategy. Negotiations were delayed by almost a year to allow further study and discussion of the likely effects of pumping saline drainage water into the Euphrates River (paras. 48 and 49). Negotiations were held in Washington between February 22 and March 6, 1979. The Syrian delegation was headed by H.E. Sobhi Kahale, Minister of the Euphrates. A staff Appraisal Report No. 1910a-SYR is being distributed separately.

Project Description

28. The Project would provide a drainage system consisting of:
- (a) 170 tubewells with electric pumps and associated equipment;
 - (b) 450 km of open drains to return saline drainage water to the Euphrates River, to intercept surface water from adjacent areas and to collect surface water from the Project area;
 - (c) 200 km of access roads to the tubewell pumping stations;
 - (d) 240 km of 22 kV power transmission lines for the pumping stations; and
 - (e) monitoring of salinity.

The Project would also provide for consulting services, mainly to GADEB to assist in extension training, installation and operation of tubewells, agricultural research, and salinity monitoring. Consultants would also provide hydrogeological investigations and engineering design services.

29. The Project area (IBRD Map 13260) is divided into three zones, subdivided into eight sectors each of which is also a separate hydrogeological unit: Zone 1 (Sectors 3, 5 and 7 - 55,600 ha suitable for gravity irrigation) on the right bank downstream of Deir-ez-Zor; Zone 2 (Sectors 6 and 8 - 36,000 ha) on the left bank downstream of the Al-Khabour River; and Zone 3 (Sectors 1, 2 and 4 - 29,400 ha) on both banks, upstream of Deir-ez-Zor on the right bank and the Al-Khabour River on the left bank.

30. The above Zones, covering the alluvial terraces on both banks of the Euphrates, have been settled in the past decades by a population of nomadic origin. Irrigation is carried out by pumping directly from the River, mostly through five thousand individual pumping stations and conveyance systems developed by individual farmers or farmers cooperatives. While overall efficiency of irrigation is low, the whole area has been developed at much lower cost than the present large-scale Government schemes, thanks to favorable physical features and to private initiative and ingenuity. Land tenure is characterized by small holdings; 84 percent of the farms are less than 5 hectares and 75 percent of the area is operated by the owner, either privately or in a cooperative form. Under the Agrarian Reform Law which has set a ceiling of 50 ha per family, 9,000 ha have been expropriated and redistributed to small farmers.

Detailed Features of Components

31. (a) Tubewells and Pumping Stations. Because of the presence of an uniform and pervious gravel layer at about 2-10 m below alluvial soils of the Project area, tubewells can be used to lower the water table to levels where salinization of top soils is prevented. The method is more economical than a tile drain system designed for the same objective. The Project would require a total of about 170 wells, 72 located in Zone 1 and 98 in Zones 2 and 3. The tubewells would have a depth of about 20 m and an 18 inch diameter. Pumping equipment would be standardized and designed for delivery of a constant flow. Power supply at 22 kV would be provided at each well where a stepdown transformer would be located.

(b) Surface Drains. A total of about 450 km of surface drains would collect drainage water and discharge it into the River. Leakage from the drains would be reduced by soil compaction and lining where they cross areas of gravel outcrops. Structures would include roadway crossings and flap gates at the River to prevent back-up into the drainage system during flood periods.

(c) Access Roads. About 200 km of access roads would be constructed within the Project area to link tubewells to the existing main roads running along each bank. Roads would be surfaced with gravel on a compacted soil base.

(d) Power Supply. Power supply to the tubewells would be provided by a total of 240 km of 22 kV lines, which would tap the 22 kV main power lines already existing or under construction on the right bank, and those to be built in 1979 on the left bank. The power requirements for the tubewells would be about 720 kW for Zone 1 and 790 kW for Zones 2 and 3. Assurances were obtained during negotiations that these power lines would be completed and connected along with the completion of tubewell installation.

(e) Buildings and Other Facilities. Offices and warehouses would be built at the Project headquarters in Deir-ez-Zor, and at the eight sector headquarters. These facilities would subsequently be used by agricultural extension staff and operation and maintenance personnel. Office furniture, equipment and vehicles would be provided under the Project. A central workshop for repairing tubewell equipment would be built in Deir-ez-Zor.

(f) Consultants Services. (i) Regarding Zone 1. The existing contract for engineering services between GADEB and GERSAR-SCET (financed under the ongoing Bank financed Balikh Irrigation Project) provides for the detailed designs and preparation of tender documents for the construction of irrigation and drainage works for Zone 1. Tender documents for drilling and electromechanical equipment are ready and will be completed for civil works and electrical connections by April 1979. Consultants will be appointed under terms of conditions satisfactory to the Bank to assist in evaluating bids for tubewells and associated equipment and to supervise construction and installation of the Project (Section 3.02 of the Loan Agreement). (ii) Regarding Zones 2 and 3. Consultants would be employed under the Project for carrying out additional soils and hydrogeological investigations to be followed by detailed design and preparation of tender documents for tubewells and associated works, evaluation of tubewell bids and supervision of construction. The results of the additional soils and hydrogeological investigations will be submitted to the Bank for comment before commencement of the drainage works in these two Zones (Section 3.06 of the Loan Agreement). (iii) Consultants would also be provided under the Project to assist Government in strengthening existing agricultural research activities with respect to major crops, and in agricultural extension services to farmers at the village level in basic crop growing techniques, animal husbandry and drainage practices (Section 3.02 of the Loan Agreement). If the FAO/UNDP Project (para. 35) is extended this expertise would be provided under that Project.

Project Implementation and Management

32. The Project would be implemented over four years, from mid-1979 through June 1982. The General Administration for the Development of the Euphrates Basin (GADEB) would be responsible for the engineering aspects of the Project, and the Ministry of Agriculture (para. 35) for the agricultural aspects. Although GADEB has acquired experience in the supervision of design and construction of irrigation facilities in the Balikh Basin, the Project would involve the introduction of a drainage technique new to Syria, requiring the expertise of specialists presently not available in Syria. Provision has been made in the Project for employment of consultants to provide such technical assistance (para. 31(f)).

33. Responsibility for the design, construction and maintenance of the Project works would be with the Deputy Director General for Irrigation of GADEB at Raqqa. The office at Deir-ez-Zor would be in charge of day-to-day supervision of the Project. GADEB would make arrangements for the construction and connection of the power lines included in the Project. The Operations and Maintenance Division of the Irrigation Sector of GADEB would gradually take over the operation and maintenance of drainage networks, tubewells and pumping stations from the Irrigation Division as project construction is completed.

34. While a detailed study of Zone 1 has been prepared by consultants who have commenced work on the detailed drawings for tubewells and drains, only a preliminary study has been carried out in Zones 2 and 3. Because of the urgency of drainage works and the similarity of hydrogeological conditions in the three Zones, Zones 2 and 3 have been included in the Project.

Construction, however, would not take place in Zones 2 and 3 before detailed technical investigations to define the location of wells are completed and a comprehensive report has been submitted to the Bank for comment (Section 3.06 of the Loan Agreement).

Extension, Research and Credit

35. GADEB would have the overall responsibility for the development of agricultural services in the Project area, but it has only gained agricultural experience from the previously sparsely populated Balikh pilot project area. The Ministry of Agriculture is well established in the Lower Euphrates Valley, with a large regional office at Deir-ez-Zor and eight district offices, and has staff that already provides research, extension and training services. The Ministry of Agriculture will, therefore, continue to be responsible for the provision of research and extension services during Project construction. It already has a large organization, it is the counterpart organization for a large FAO/UNDP assistance project in the Valley and serves as technical advisor for the cooperative groups. However, during the subsequent irrigation rehabilitation phase, GADEB will take over responsibility for agricultural extension and research at the time that land is redistributed following the appropriation of land required for construction of canals and other irrigation works.

36. A substantial effort must be made to improve research and extension to obtain full benefits from the Project, and an early start is required if reasonable benefits are to be obtained from the subsequent irrigation rehabilitation and development phase. Experimental work needs to be carried out on the two major crops in the area, wheat and cotton, and also on sugar beet production, the area of which has to be expanded to supply the new sugar beet factory presently under construction at Deir-ez-Zor. An adequate number of staff is already available in Syria, on the Beni Tahleb farm and elsewhere, who will be assisted by the research consultant to be provided under the Project (Section 3.02 and Schedule 2 Part H of the Loan Agreement). Many basic techniques in crop growing and animal husbandry can be passed on to farmers while waiting for research results from the Project. In addition farmers will have to be educated in the purpose and effect of the drainage tubewells, and the associated collector canals. The present extension service, which will be increased at the village level, will have the specific objectives of informing the farming population of the aims, methods, and benefits of the Project, assisting farmers in using the present irrigation system for leaching of saline lands and modifying the cropping pattern to increase intensity of cropping and preparing the way for the irrigation phase of development. They will have contact with cooperative officials and work through this group wherever possible. Assurances were obtained during negotiations that the Government would keep the extension service operating in the Project area adequately organized and staffed (Section 3.08 of the Loan Agreement). The Project will provide for a consultant for three years, who will assist in establishing training courses for extensionists and supervisors and provide in-service training for University graduates. Ample credit is available for seasonal and improvement needs, through the four branches of the Cooperative Agricultural Bank operating in the Project area, and the Government has undertaken to ensure that future credit needs will be adequately met (Section 4.05 of the Loan Agreement).

Project Cost and Financing Plan

37. The total Project cost is estimated at \$52.5 million including physical and price contingencies. The foreign costs component is estimated at \$29.5 million or about 56 percent of total Project cost. Cost estimates of the main Project items are as follows:

| <u>Item</u> | <u>Local Cost</u> | <u>Foreign Cost</u> (US\$ million) | <u>Total Cost</u> |
|-------------------------|-------------------|---------------------------------------|-------------------|
| Drainage works | 11.2 | 11.4 | 22.6 |
| Buildings and equipment | 0.5 | 1.1 | 1.6 |
| Consultants | 2.9 | 6.7 | 9.6 |
| Sub-total | <u>14.6</u> | <u>19.2</u> | <u>33.8</u> |
| Physical contingency | 2.5 | 3.2 | 5.7 |
| Price contingency | <u>5.9</u> | <u>7.1</u> | <u>13.0</u> |
| Total Project Cost | <u>23.0</u> | <u>29.5</u> | <u>52.5</u> |

The cost per ha drained is about \$700. The cost per beneficiary family is about \$2,300. This index is generally similar to that of other drainage projects recently financed by the Bank. The cost per ha drained in the Project, which would use vertical drainage (tubewells) is considerably cheaper than the alternative of horizontal (sub-surface tiles) drainage.

38. The proposed Bank loan of \$30 million to the Government of Syria would finance the total foreign exchange cost of the Project. Local currency expenditures would be financed by the Government. The Bank loan, which would bear 7.0 percent interest, would be amortized over 17 years, including a grace period of 4 years.

Procurement

39. Construction of civil works and furnishing of equipment for the drainage system will be divided into the following eight contracts:

- (a) two contracts for drilling and equipping tubewells and furnishing and installing electromechanical equipment for Zone 1, and for Zones 2 and 3 (\$7.6 million);
- (b) three contracts for construction of surface drains and access roads for each Zone (\$22.7 million); and
- (c) three contracts for acquisition and installation of power transmission lines and related civil works for each Zone (\$4.4 million).

These contracts valued at \$34.7 million would be tendered under international competitive bidding according to the Bank's guidelines for procurement. From the experience gained in bidding for the Balikh Project it is likely that civil works contracts will be won by Syrian nationalized companies. During loan negotiations the Government agreed that for state-owned companies, to

qualify for bidding, the Government will, for the purpose of the Project, waive the supervision exemption clause in their charter. Construction of administrative buildings, stores and shops will be let in small contracts after local competitive bidding following normal Government procedures which are satisfactory to the Bank. Equipment and vehicles for supervision, and operation and maintenance, estimated to cost a total of \$1.4 million, will be procured after international competitive bidding in accordance with Bank guidelines, except for purchases not exceeding \$100,000 equivalent where procurement will be in accordance with the normal procurement procedures of GADEB.

Disbursement

40. The proposed Bank loan of \$30.0 million will be disbursed over four years, 1979-1982. It would finance: (i) 100 percent of the foreign exchange cost of the contracts for drilling and equipping tubewells and the contracts for transmission lines; (ii) 45 percent of the cost of civil works contracts (representing the estimated foreign exchange component); (iii) 100 percent of the foreign exchange of imported equipment, and 70 percent of the cost of locally purchased goods; and (iv) 100 percent of the foreign exchange cost of consultant services.

Monitoring

41. The effectiveness of the Project in terms of lowering the water table and preventing an increase of abandoned or saline land, increasing yields of crops, would be checked by a small monitoring unit located at Deir-ez-Zor (Section 3.07 and Schedule 2 Part G of Loan Agreement). The unit would also check the salinity levels in the Euphrates River upstream and downstream of the Project area to determine the effect of the Project. Soil and water samples will be taken from specific sites, at regular intervals and analyzed for salinity in the Ministry of Agriculture Laboratory at Deir-ez-Zor. The unit will regularly summarize the data, inform project management of the status and effectiveness of the Project and recommend remedial action, if necessary. GADEB will continue to submit reports to the Bank during the first five years after Project completion (Section 4.04 of Loan Agreement).

Acquisition of Land

42. The Law establishing the Ministry of Euphrates Dam provides a legal basis for compulsory purchase of land required for roads, canals, etc. Until a compensation price is agreed upon for the capital value of the land, compensation is paid by GADEB for the value of crops that would have grown on the land acquired. The total area of land to be acquired for the collector drains would be small, and no individual farmer will be likely to lose more than a small part of his land. Assurances were obtained at negotiations that land needed for the construction of Project works would be acquired as provided for in Syrian law and that proper compensation would be paid to farmers whose land was acquired.

Cost Recovery

43. No direct contributions are expected from the farmers towards the costs of the Project. Most farmers in the Project area have already suffered considerable losses in farm income in recent years due to the effects of salinity, and before the Project can arrest the spread of salinity, the area of cropped land available to the average farmer will have fallen by a further 10 percent. In addition, the majority of the beneficiaries are in the target group and more than 40 percent of them would remain below the poverty threshold even after Project completion. Project costs, however, would be partly recovered indirectly from revenues derived by the Government from cotton, the major crop in the Valley, for which farmers receive a controlled price lower than the border price. The main scope for recovering Project costs would be during the subsequent irrigation rehabilitation and development phase when large increases in production and farm incomes are expected.

Project Benefits

44. The direct and immediate benefit from the Project would be to arrest the spread of salinity and prevent 30,000 ha from being abandoned for agricultural purposes. It is the production on this area which would otherwise be lost, that would be the principal source of quantifiable Project benefits but the Project also has the social objective of saving an established community of farmers, with a transport and marketing infrastructure, social services and amenities, which is in jeopardy if the salinization continues. Once the tubewell drainage system is installed, farmers would have the possibility of carrying out leaching to rehabilitate some of their land even before the other phase of the comprehensive program is completed.

45. The Project would directly benefit 23,000 farm families (about 175,000 people) farming 75,000 ha of land; about half of these families are estimated to be below the relative poverty level. Without the Project, the annual income of an average farm family, at present about \$1,500, would decrease to \$1,100 by the year 2000. With the Project, the net farm income would increase to \$1,800 by 1987. The percentage of farm families below the poverty level would increase from 52 percent in 1980 to 71 percent in 2000 without the Project, but would decrease to 44 percent with the Project. By assuring permanent employment in the Project area, the Project would also reduce the rate of migration of farmers to towns due to the abandonment of their saline land. The economic rate of return of the Project is estimated at 15 percent over a 22-year period. A 20 percent increase in capital costs or a 20 percent reduction in benefits would only reduce the economic rate of return by 2 percent and 3 percent respectively.

Project Risks

46. The main risks involved in the Project are of a technical nature -- the risk of the tubewells not being able to lower the water table to safe levels for growing crops. The Bank mission proposed an increase in number of tubewells (from the 139 recommended by the Consultant to 170) to decrease the risk of additional inflow to the groundwater, from return flow from drains and

from irrigation canals, and to protect against breakdowns. On the basis of observations of existing unlined irrigation canals, the Consultants assumed that the return flow from unlined surface drains to the aquifer will be negligible. The Project, therefore, provides for lining of surface drains only where the thickness of alluvial layer is less than 4 meters.

47. There are also risks associated with the ability of both GADEB and the Ministry of Agriculture to perform their tasks satisfactorily. Every attempt has been made to provide under the Project outside assistance in fields where the organizations lack the required expertise. Past experience, however, indicates that GADEB could delay tendering, signing contracts and engaging consultants. In the event of a delay in completing Project construction of up to two years, the Project would still be viable and economic.

Environmental Effects

48. The Project would affect the environment in three ways:

- (a) Construction of power lines and installation of pumps and construction of drainage canals. The area to be taken up by both lines and pumps would be minor and would not disturb existing known structures. The area occupied by collector canals would be about 0.2 percent of the total area and would not disturb known archeological sites.
- (b) Lowering the water table would result in a reduction of stagnant water in ponds and this should reduce the incidence of malaria present in the region. Because of the dense human population in the Project area, the ponds are not a habitat for significant numbers of wild life.
- (c) Pumping the drainage water into the Euphrates River would increase the level of salinity by a maximum of 0.2 gram/liter. This is not expected to affect the downstream River water for either irrigation or human consumption (para 49). As surface waters would be drawn down through the soil profile before discharge into the River this should not increase the content of harmful organisms in the River.

The Government already maintains an active Bilharzia control program, with guidance from the World Health Organization. Therefore, additional measures are not necessary under the Project.

Riparian Question

49. The Project will not affect the river flow in the Euphrates in quantitative terms. It will, however, increase salinity in the River. The likely effects of pumping drainage water into the Euphrates River were studied to ascertain whether it would increase the prevailing salinity to a critical level, which at present varies between 0.2 and 0.5 grams per litre

downstream of the Tabqa Dam. A review was conducted of: (a) calculations about the amount of salt that would be added to the river by the Project; (b) the river flow data for three stations: Kadahie (near the border of Turkey and Syria), Al Thawra (downstream of the Tabqa Dam) and Abou Kamal (at the border of Syria and Iraq); and (c) the projected abstraction of water during the next ten years or so from the Euphrates River due to future irrigation developments in Turkey and Syria. On the basis of this review it was concluded that the probability of having a flow substantially below 500 cubic meters per second downstream of the Tabqa Dam is extremely low. This would also apply to the period of filling of the Karakaya Dam--scheduled for 1983--if Turkey maintains releases of 500 cubic meters per second during that period, as its Government recently indicated (in a statement to the Turkish parliament and in a representation to the Bank) it would do. For instance, the minimum monthly flow at Abou Kamal since March 1976, when the filling of both the reservoirs impounded by the Keban and Tabqa Dams was completed, has been 566 cubic meters per second. At this level of water flow the risk of any significant increase in the current salinity level of the Euphrates water downstream of the proposed drainage project area is considered to be very low. This conclusion is reinforced by the fact that electric power needs in Turkey and Syria will result in fairly constant releases from the Keban, Tabqa and Karakaya Dams during the low flow summer months. The Iraqi and Turkish Governments were informed about these conclusions and the proposed Project and have not commented thereon.

PART V - LEGAL INSTRUMENTS AND AUTHORITY

50. The draft Loan Agreement between the Syrian Arab Republic and the Bank, and the draft Report of the Committee provided for in Article III, Section 4(iii) of the Articles of Agreement of the Bank are being distributed to the Executive Directors separately. Features of the Agreement of special interest are described in Annex III.

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

PART VI - RECOMMENDATION

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

Robert S. McNamara
President

by Ernest Stern

Attachments
March 28, 1979
Washington, D.C.

TABLE 3A
SYRIAN ARAB REPUBLIC - SOCIAL INDICATORS DATA SHEET

| LAND AREA (THOUSAND SQ. KM.) | SYRIAN ARAB REPUBLIC | | | REFERENCE GROUPS (ADJUSTED AVERAGES /a) | | |
|--|----------------------|--------|----------------------|---|----------------------|-----------------------------|
| | TOTAL | 1970 | MOST RECENT ESTIMATE | - MOST RECENT ESTIMATE | | |
| | | | | SAME GEOGRAPHIC REGION /c | SAME INCOME GROUP /d | NEXT HIGHER INCOME GROUP /e |
| AGRICULTURAL | /b | /b | /b | /c | /d | /e |
| TOTAL | 185.2 | | | | | |
| AGRICULTURAL | 124.2 | | | | | |
| GNP PER CAPITA (US\$) | 260.0 | 480.0 | 900.0 | 1438.5 | 867.2 | 1796.4 |
| ENERGY CONSUMPTION PER CAPITA (KILOGRAMS OF COAL EQUIVALENT) | 321.0 | 502.0 | 477.0 | 816.7 | 578.3 | 1525.0 |
| POPULATION AND VITAL STATISTICS | | | | | | |
| TOTAL POPULATION, MID-YEAR (MILLIONS) | 4.6 | 6.3 | 7.9 | . | . | . |
| URBAN POPULATION (PERCENT OF TOTAL) | 37.0 | 43.5 | 46.2 | 45.8 | 46.2 | 52.2 |
| POPULATION DENSITY | | | | | | |
| PER SQ. KM. | 25.0 | 34.0 | 43.0 | 23.2 | 50.8 | 27.6 |
| PER SQ. KM. AGRICULTURAL LAND | 37.0 | 56.0 | 64.0 | 112.4 | 93.3 | 116.4 |
| POPULATION AGE STRUCTURE (PERCENT) | | | | | | |
| 0-14 YRS. | 46.3 | 49.3 | 49.3 | 46.0 | 42.9 | 34.8 |
| 15-64 YRS. | 48.9 | 46.3 | 46.3 | 50.6 | 53.5 | 56.0 |
| 65 YRS. AND ABOVE | 4.8 | 4.4 | 4.4 | 3.3 | 3.5 | 5.7 |
| POPULATION GROWTH RATE (PERCENT) | | | | | | |
| TOTAL | 3.3 | 3.3 | 3.3 | 2.9 | 2.5 | 1.6 |
| URBAN | 4.2 | 5.0 | 4.5 | 5.0 | 4.7 | 3.4 |
| CRUDE BIRTH RATE (PER THOUSAND) | 46.6 | 47.6 | 45.4 | 45.0 | 37.8 | 27.0 |
| CRUDE DEATH RATE (PER THOUSAND) | 20.1 | 16.2 | 15.4 | 13.7 | 10.8 | 9.9 |
| GROSS REPRODUCTION RATE | 1.4 | 3.5 | 3.5 | 3.4 | 2.5 | 1.9 |
| FAMILY PLANNING ACCEPTORS, ANNUAL (THOUSANDS) | .. | .. | .. | . | . | . |
| USERS (PERCENT OF MARRIED WOMEN) | .. | .. | .. | 14.7 | 20.0 | 19.3 |
| FOOD AND NUTRITION | | | | | | |
| INDEX OF FOOD PRODUCTION PER CAPITA (1970=100) | 98.4 | 100.0 | 160.0 | 107.1 | 107.3 | 103.8 |
| PER CAPITA SUPPLY OF CALORIES (PERCENT OF REQUIREMENTS) | 102.0 | 98.0 | 104.0 | 99.2 | 105.3 | 110.4 |
| PROTEINS (GRAMS PER DAY) | 74.0 | 70.0 | 66.7 | 63.4 | 63.0 | 77.7 |
| OF WHICH ANIMAL AND PULSE | 28.0 | 16.0 | 21.4 | 16.4 | 21.7 | 22.2 |
| CHILD (AGES 1-4) MORTALITY RATE | .. | 4.1 | .. | .. | 8.0 | 1.9 |
| HEALTH | | | | | | |
| LIFE EXPECTANCY AT BIRTH (YEARS) | 46.3 | 53.0 | 56.0 | 53.7 | 57.2 | 63.0 |
| INFANT MORTALITY RATE (PER THOUSAND) | 145.8 | 123.1 | 112.5 | 77.7 | 53.9 | 38.2 |
| ACCESS TO SAFE WATER (PERCENT OF POPULATION) | | | | | | |
| TOTAL | .. | 71.0 | .. | 59.1 | 56.8 | 67.7 |
| URBAN | .. | 98.0 | .. | 85.9 | 79.0 | 83.5 |
| RURAL | .. | 50.0 | .. | 38.0 | 31.8 | 41.5 |
| ACCESS TO EXCRETA DISPOSAL (PERCENT OF POPULATION) | | | | | | |
| TOTAL | .. | .. | .. | 64.3 | 30.9 | 70.3 |
| URBAN | .. | .. | .. | 94.5 | 45.4 | 90.7 |
| RURAL | .. | .. | .. | 27.7 | 16.1 | 38.3 |
| POPULATION PER PHYSICIAN | 4600.0 | 3860.0 | 3070.0 | 4271.6 | 2706.8 | 1310.8 |
| POPULATION PER NURSING PERSON | 6660.0 | 4500.0 | 5810.0 | 2077.4 | 1462.0 | 849.2 |
| POPULATION PER HOSPITAL BED | | | | | | |
| TOTAL | 900.0 | 1010.0 | 980.0 | 580.2 | 493.9 | 275.4 |
| URBAN | .. | .. | .. | 310.0 | 229.6 | 129.9 |
| RURAL | .. | .. | .. | .. | 2947.9 | 965.9 |
| ADMISSIONS PER HOSPITAL BED | .. | 24.0 | 27.0 | 22.0 | 22.1 | 18.9 |
| HOUSING | | | | | | |
| AVERAGE SIZE OF HOUSEHOLD | | | | | | |
| TOTAL | 5.9 | 5.9 | .. | 5.4 | 5.2 | 3.4 |
| URBAN | 6.0 | 5.9 | .. | .. | 5.0 | .. |
| RURAL | 5.9 | 5.9 | .. | .. | 5.4 | .. |
| AVERAGE NUMBER OF PERSONS PER ROOM | | | | | | |
| TOTAL | 2.9 | .. | .. | .. | 2.0 | 0.9 |
| URBAN | 2.5 | .. | .. | 1.8 | 1.5 | 0.8 |
| RURAL | 3.2 | .. | .. | .. | 2.7 | 1.0 |
| ACCESS TO ELECTRICITY (PERCENT OF DWELLINGS) | | | | | | |
| TOTAL | 38.0 | 41.7 | .. | 40.3 | 64.1 | 59.2 |
| URBAN | 87.7 | 84.7 | .. | .. | 67.8 | 78.0 |
| RURAL | 10.5 | 10.2 | .. | 12.2 | 34.1 | 12.5 |

TABLE 3A
SYRIAN ARAB REPUBLIC - SOCIAL INDICATORS DATA SHEET

| | SYRIAN ARAB REPUBLIC | | | REFERENCE GROUPS (ADJUSTED AVERAGES) | | |
|--|----------------------|---------|-------------------------|--------------------------------------|----------------------|-----------------------------|
| | | | | - MOST RECENT ESTIMATE) /a | | |
| | 1960 /b | 1970 /b | MOST RECENT ESTIMATE /b | SAME GEOGRAPHIC REGION /c | SAME INCOME GROUP /d | NEXT HIGHER INCOME GROUP /e |
| EDUCATION | | | | | | |
| ADJUSTED ENROLLMENT RATIOS | | | | | | |
| PRIMARY: TOTAL | 65.0 | 89.0 | 102.0 | 80.8 | 99.8 | 97.6 |
| FEMALE | 39.0 | 66.0 | 81.0 | 61.8 | 93.3 | 87.4 |
| SECONDARY: TOTAL | 16.0 | 39.0 | 48.0 | 23.6 | 33.8 | 47.8 |
| FEMALE | 7.0 | 21.0 | 30.0 | 18.2 | 29.8 | 42.6 |
| VOCATIONAL (PERCENT OF SECONDARY) | 6.0 | 3.4 | 4.6 | 6.7 | 12.8 | 22.7 |
| PUPIL-TEACHER RATIO | | | | | | |
| PRIMARY | 46.0 | 37.0 | 35.0 | 31.5 | 34.9 | 25.4 |
| SECONDARY | 21.0 | 22.0 | 20.0 | 22.3 | 22.2 | 24.9 |
| ADULT LITERACY RATE (PERCENT) | 30.0 | 40.0 | .. | 50.1 | 71.8 | 96.3 |
| CONSUMPTION | | | | | | |
| PASSENGER CARS PER THOUSAND POPULATION | | | | | | |
| | 4.0 | 5.0 | 7.0 | 14.5 | 12.4 | 32.3 |
| RADIO RECEIVERS PER THOUSAND POPULATION | | | | | | |
| | 57.0 | 224.0 | 374.0 /g | 125.8 | 104.5 | 201.9 |
| TV RECEIVERS PER THOUSAND POPULATION | | | | | | |
| | 0.2 | 19.0 | 31.0 | 34.5 | 28.1 | 97.7 |
| NEWSPAPER ("DAILY GENERAL INTEREST") CIRCULATION PER THOUSAND POPULATION | | | | | | |
| | .. | .. | 9.0 | 17.4 | 45.2 | 70.9 |
| CINEMA ANNUAL ATTENDANCE PER CAPITA | 2.0 | 4.0 /i | .. | 1.6 | 4.6 | 4.4 |
| EMPLOYMENT | | | | | | |
| TOTAL LABOR FORCE (THOUSANDS) | | | | | | |
| | 1100.0 /j | 1600.0 | 1800.0 | .. | .. | .. |
| FEMALE (PERCENT) | | | | | | |
| | 9.4 | 10.5 | 11.2 | 9.3 | 25.7 | 17.4 |
| AGRICULTURE (PERCENT) | | | | | | |
| | 47.0 | 47.8 | 49.9 | 42.0 | 46.2 | 38.4 |
| INDUSTRY (PERCENT) | | | | | | |
| | 19.0 | 20.8 | .. | .. | .. | .. |
| PARTICIPATION RATE (PERCENT) | | | | | | |
| TOTAL | 28.0 | 26.6 | 26.0 | 26.9 | 33.8 | 33.7 |
| MALE | 49.4 | 46.3 | 45.2 | 46.6 | 48.1 | 50.8 |
| FEMALE | 5.4 | 5.7 | 6.0 | 5.3 | 17.3 | 12.6 |
| ECONOMIC DEPENDENCY RATIO | 2.1 | 2.1 | 2.2 | 1.9 | 1.4 | 1.4 |
| INCOME DISTRIBUTION | | | | | | |
| PERCENT OF PRIVATE INCOME RECEIVED BY | | | | | | |
| HIGHEST 5 PERCENT OF HOUSEHOLDS | 25.0 | .. | .. | .. | 23.6 | 20.2 |
| HIGHEST 20 PERCENT OF HOUSEHOLDS | 49.0 | .. | .. | .. | 52.3 | 47.9 |
| LOWEST 20 PERCENT OF HOUSEHOLDS | 16.0 | .. | .. | .. | 4.3 | 3.2 |
| LOWEST 40 PERCENT OF HOUSEHOLDS | 6.0 | .. | .. | .. | 13.1 | 13.7 |
| POVERTY TARGET GROUPS | | | | | | |
| ESTIMATED ABSOLUTE POVERTY INCOME LEVEL (US\$ PER CAPITA) | | | | | | |
| URBAN | .. | .. | .. | .. | 191.9 | .. |
| RURAL | .. | .. | 249.0 | 142.0 | 193.1 | 157.9 |
| ESTIMATED RELATIVE POVERTY INCOME LEVEL (US\$ PER CAPITA) | | | | | | |
| URBAN | .. | .. | 257.0 | 236.1 | 319.8 | 448.8 |
| RURAL | .. | .. | 155.0 | 144.7 | 197.7 | 313.1 |
| ESTIMATED POPULATION BELOW POVERTY INCOME LEVEL (PERCENT) | | | | | | |
| URBAN | .. | .. | 24.0 | 21.5 | 19.8 | 23.2 |
| RURAL | .. | .. | 40.0 | 37.4 | 35.1 | 54.5 |

.. Not available
. Not applicable.

NOTES

- /a The adjusted group averages for each indicator are population-weighted geometric means, excluding the extreme values of the indicator and the most populated country in each group. Coverage of countries among the indicators depends on availability of data and is not uniform.
- /b Unless otherwise noted, data for 1960 refer to any year between 1959 and 1961; for 1970, between 1969 and 1971; and for Most Recent Estimate, between 1973 and 1977.
- /c North Africa & Middle East; /d Intermediate Middle Income (\$551-1135 per capita, 1976); /e Upper Middle Income (\$1136-2500 per capita, 1976); /f Av. 1964-66; /g 1972; /h 1962; /i 1966; /j 6 years and over (Syrian population only).

DEFINITIONS OF SOCIAL INDICATORS

Note: The adjusted group averages for each indicator are population-weighted geometric means, excluding the extreme values of the indicator and the most populated country in each group. Coverage of countries among the indicators depends on availability of data and is not uniform. Due to lack of data, group averages for Capital Surplus Oil Exporters and indicators of access to water and excreta disposal, housing, income distribution and poverty are simple population-weighted geometric means without the exclusion of extreme values.

LAND AREA (thousand sq. km)

Total - Total surface area comprising land area and inland waters.

Agricultural - Most recent estimate of agricultural area used temporarily or permanently for crops, pastures, market and 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 (1975-77 basis); 1960, 1970, and 1977 data.

ENERGY CONSUMPTION PER CAPITA - Annual consumption of commercial energy (coal and lignite, petroleum, natural gas and hydro-, nuclear and geothermal electricity) in kilograms of coal equivalent per capita.

POPULATION AND VITAL STATISTICS

Total population, mid-year (millions) - As of July 1; if not available, average of two end-year estimates; 1960, 1970, and 1977 data.

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

Population density

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

Per sq. km. agriculture land - Computed as above for agricultural land only.

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

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

Crude birth rate (per thousand) - 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) - 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.

Gross reproduction rate - Average number of 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.

Family planning - acceptors, annual (thousands) - Annual number of acceptors of birth-control devices under auspices of national family planning program.

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

FOOD AND NUTRITION

Index of food production per capita (1970=100) - Index number of per capita annual production of all food commodities.

Per capita supply of calories (percent 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 percent 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 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.

Child (ages 1-4) mortality rate (per thousand) - Annual deaths per thousand in age group 1-4 years, to children in this age group.

HEALTH

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

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

Access to safe water (percent of population) - total, urban, and rural - Number of people (total, urban, and rural) with reasonable access to safe water supply (includes treated surface waters or untreated but uncontaminated water such as that from protected boreholes, springs, and sanitary wells) as percentages of their respective populations. In an urban area a public fountain or standpost located not more than 200 meters from a house may be considered as being within reasonable access of that house. In rural areas reasonable access would imply that the housewife or members of the household do not have to spend a disproportionate part of the day in fetching the family's water needs.

Access to excreta disposal (percent of population) - total, urban, and rural - Number of people (total, urban, and rural) served by excreta disposal as percentages of their respective populations. Excreta disposal may include the collection and disposal, with or without treatment, of human excreta and waste-water by water-borne systems or the use of pit privies and similar installations.

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, practical nurses, and assistant nurses.

Population per hospital bed - total, urban, and rural - Population (total, urban, and rural) divided by their respective number of hospital beds available in public and private general and specialized hospital and rehabilitation centers. Hospitals are establishments permanently staffed by at least one physician. Establishments providing principally custodial care are not included. Rural hospitals, however, include health and medical centers not permanently staffed by a physician (but by a medical assistant, nurse, midwife, etc.) which offer in-patient accommodation and provide a limited range of medical facilities.

Admissions per hospital bed - Total number of admissions to or discharges from hospitals divided by the number of beds.

HOUSING

Average size of household (persons per household) - total, urban, and rural -

A household consists of a group of individuals who share living quarters and their main meals. A boarder or lodger may or may not be included in the household for statistical purposes. Statistical definitions of household vary.

Average number of persons per room - total, urban, and rural - Average number of persons per room in all, urban, and rural occupied conventional dwellings, respectively. Dwellings exclude non-permanent structures and unoccupied parts.

Access to electricity (percent of dwellings) - total, urban, and rural - Conventional dwellings with electricity in living quarters as percentage of total, urban, and rural dwellings respectively.

EDUCATIONAdjusted enrollment ratios

Primary school - total, and female - Total and female enrollment of all ages at the primary level as percentages of respectively primary school-age populations; normally includes children aged 6-11 years but adjusted for different lengths of primary education; for countries with universal education enrollment may exceed 100 percent since some pupils are below or above the official school age.

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

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

Pupil-teacher ratio - primary, and secondary - Total students enrolled in primary and secondary levels divided by numbers of teachers in the corresponding levels.

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

CONSUMPTION

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

Radio receivers (per thousand population) - 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.

TV receivers (per thousand population) - TV receivers for broadcast to general public per thousand population; excludes unlicensed TV receivers in countries and in years when registration of TV sets was in effect.

Newspaper circulation (per thousand population) - Shows the average circulation of "daily general interest newspaper", defined as a periodical publication devoted primarily to recording general news. It is considered to be "daily" if it appears at least four times a week.

Cinema annual attendance per capita per year - Based on the number of tickets sold during the year, including admissions to drive-in cinemas and mobile units.

EMPLOYMENT

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

Female (percent) - Female labor force as percentage of total labor force.

Agriculture (percent) - Labor force in farming, forestry, hunting and fishing as percentage of total labor force.

Industry (percent) - Labor force in mining, construction, manufacturing and electricity, water and gas as percentage of total labor force.

Participation rate (percent) - total, male, and female - Total, male, and female labor force as percentages of their respective populations. These are ILO's adjusted participation rates reflecting age-sex structure of the population, and long time trend.

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

INCOME DISTRIBUTION

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

POVERTY TARGET GROUPS

Estimated absolute poverty income level (US\$ per capita) - urban and rural - Absolute poverty income level is that income level below which a minimal nutritionally adequate diet plus essential non-food requirements is not affordable.

Estimated relative poverty income level (US\$ per capita) - urban and rural - Relative poverty income level is that income level less than one-third per capita personal income of the country.

Estimated population below poverty income level (percent) - urban and rural - Percent of population (urban and rural) who are either "absolute poor" or "relative poor" whichever is greater.

ECONOMIC INDICATORS

| | <u>GROSS NATIONAL PRODUCT IN 1977</u> | | <u>ANNUAL RATE OF GROWTH (% , constant prices)</u> | | |
|---------------------------|---------------------------------------|-------|--|---------|---------|
| | US\$ Mln. | % | 1966-70 | 1971-75 | 1976-77 |
| GNP at Market Prices | 6717.0 | 100.0 | 4.8 | 9.8 | 3.9 |
| Gross Domestic Investment | 2552.4 | 38.0 | 5.2 | 33.3 | 1.3 |
| Gross National Saving | 2387.1 | 35.6 | -7.9 | 52.6 | -9.8 |
| Current Account Balance | 165.5 | - | - | - | - |
| Exports of Goods, NFS | 1380.8 | 20.6 | 7.7 | 5.6 | -4.9 |
| Imports of Goods, NFS | 2801.8 | 41.7 | 13.3 | 9.4 | 13.8 |

OUTPUT, LABOR FORCE AND PRODUCTIVITY IN 1977

| | <u>Value Added</u> | | <u>Labor Force</u> ^{1/} | | <u>V. A. Per Worker</u> | |
|---------------|--------------------|-------|----------------------------------|-------|-------------------------|-------|
| | US\$ Mln. | % | Mln. | % | US \$ | % |
| Agriculture | 1297.7 | 19.6 | 0.74 | 39.1 | 1753.6 | 50.1 |
| Industry | 1879.7 | 28.4 | 0.45 | 23.8 | 4177.1 | 119.3 |
| Services | 3438.2 | 52.0 | 0.70 | 37.1 | 4911.7 | 140.3 |
| Unallocated | - | - | - | - | - | - |
| Total/Average | 6615.6 | 100.0 | 1.89 | 100.0 | 3500.0 | 100.0 |

GOVERNMENT FINANCE

| | <u>Central Government</u> | | |
|---------------------------|---------------------------|-----------------|---------|
| | <u>(SL Mln.)</u> | <u>% of GDP</u> | |
| | 1977 | 1977 | 1974-76 |
| Current Receipts | 7464.0 | 28.6 | 38.6 |
| Current Expenditure | 6634.0 | 25.4 | 34.3 |
| Current Surplus | 830.0 | 3.2 | 4.3 |
| Capital Expenditures | 6639.0 | 25.4 | 34.4 |
| External Assistance (net) | 1826.0 | 7.0 | 9.5 |

MONEY, CREDIT and PRICES

| | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 |
|-------------------------------|--------|-------------------------------------|--------|--------|---------|---------|
| | | (Million SL outstanding end period) | | | | |
| Money and Quasi Money | 3429.0 | 4113.0 | 5997.0 | 7578.0 | 9387.0 | 12004.0 |
| Bank credit to Public Sector | 4017.0 | 3686.0 | 5515.0 | 6669.0 | 11119.0 | 13261.0 |
| Bank Credit to Private Sector | 578.0 | 653.0 | 694.0 | 889.0 | 1146.0 | 1332.0 |

(Percentages or Index Numbers)

| | | | | | | |
|-----------------------------------|------|------|------|-------|-------|-------|
| Money and Quasi Money as % of GDP | 38.6 | 43.7 | 40.3 | 38.8 | 39.9 | 45.9 |
| General Price Index (1975 = 100) | 62.0 | 75.0 | 86.0 | 100.0 | 111.0 | 125.0 |
| Annual percentage changes in: | | | | | | |
| General Price Index | 1.6 | 21.0 | 14.7 | 16.3 | 11.0 | 12.6 |
| Bank credit to Public Sector | 25.5 | -8.2 | 49.6 | 20.9 | 66.7 | 19.2 |
| Bank credit to Private Sector | 1.4 | 13.0 | 6.3 | 28.1 | 28.9 | 16.2 |

NOTE: All conversions to dollars in this table are at the average exchange rate prevailing during the period covered.

^{1/} Total labor force; unemployed are allocated to sector of their normal occupation. "Unallocated" consists mainly of unemployed workers seeking their first job.

.. not available
. not applicable

TRADE PAYMENTS AND CAPITAL FLOWS

BALANCE OF PAYMENTS

| | 1975 | 1976 | 1977 | Est. 1978 |
|-------------------------------|------------------|-------|-------|--------------|
| | (Millions US \$) | | | |
| Exports of Goods, NFS | 1251 | 1352 | 1381 | 1443 |
| Imports of Goods, NFS | -1891 | -2579 | -2802 | -3173 |
| Resource Gap (deficit = -) | -640 | -1227 | -1421 | -1730 |
| Interest Payments (net) | -17 | -22 | -27 | -56 |
| Workers' Remittances | 55 | 51 | 83 | 89 |
| Other Factor Payments (net) | 31 | 27 | 45 | 43 |
| Net Transfers | 664 | 412 | 1154 | 900 |
| Balance on Current Account | 93 | -759 | -166 | -754 |
| Direct Foreign Investment | 18 | 72 | 87 | 89 |
| Net MLT Borrowing | | | | |
| Disbursements | 262 | 393 | 539 | 709 |
| Amortization | -87 | -97 | -76 | -165 |
| Subtotal | 175 | 296 | 463 | 544 |
| Capital Grants | - | - | - | - |
| Other Capital (net) | - | - | - | - |
| Net Errors and Omissions | -235 | -128 | -210 | 187 |
| Increase in Reserves (+) | 51 | -519 | 174 | 66 |
| Gross Reserves (end year) | 735 | 361 | 546 | - |
| Net Foreign Assets (end year) | 518 | -26 | 144 | 200 |
| Fuel and Related Materials | | | | |
| Imports | 109 | 194 | 445 | 700 |
| of which: Petroleum | 105 | 192 | 441 | - |
| Exports | 654 | 689 | 644 | - |
| of which: Petroleum | 654 | 689 | 644 | - |

RATE OF EXCHANGE

| | | | | |
|----------------|------|------|------|------|
| US \$1.00 = SL | 3.70 | 3.89 | 3.95 | 3.95 |
|----------------|------|------|------|------|

MERCHANDISE EXPORTS (AVERAGE 1973-77)

| | US \$ Mln | % |
|-----------------------|-----------|-------|
| Crude Oil | 486.4 | 58.1 |
| Cotton | 160.8 | 19.2 |
| Textiles | 52.8 | 6.3 |
| Phosphates | 13.1 | 1.6 |
| Manufactured Goods | 21.2 | 2.5 |
| All other commodities | 102.9 | 12.3 |
| Total | 837.2 | 100.0 |

EXTERNAL DEBT, DECEMBER 31

| | 1977 | Est. 1978 |
|-------------------------------|-----------|--------------|
| | US \$ Mln | |
| Public Debt, incl. guaranteed | 1528.2 | 2300 |
| Non-Guaranteed Private Debt | - | - |
| Total outstanding & Disbursed | 1528.2 | 2300 |

DEBT SERVICE RATIO

| | 1977 | Est. 1978 |
|-------------------------------|------|--------------|
| | % | |
| Public Debt, incl. guaranteed | 7.5 | 15.3 |
| Non-Guaranteed Private Debt | - | - |
| Total outstanding & Disbursed | 7.5 | 15.3 |

1/ Ratio of Debt Service to Exports of Goods and Non-Factor Services.

. . . not available

. . . not applicable

March 14, 1979
EMENA CPII-C

STATUS OF BANK GROUP OPERATIONS IN SYRIA

A. Statements of Bank Loans and IDA Credits
(As of March 9, 1979)

| <u>Number</u> | <u>Year</u> | <u>Borrower</u> | <u>Purpose</u> | <u>US\$ Million</u> | | |
|--|-------------|--|-------------------------|---------------------|-------------|--------------------------|
| | | | | <u>Bank</u> | <u>IDA</u> | <u>Undis- bursed</u> |
| Three loans and credits fully disbursed | | | | 25.0 | 18.5 | |
| 298 | 1972 | Syrian Arab Republic | Highways | | 13.8 | 7.8 |
| 401 | 1973 | Syrian Arab Republic | Water Supply | | 15.0 | 0.6 |
| 975 | 1974 | Syrian Arab Republic | Irrigation | 63.0 | | 46.7 |
| 986 | 1975 | Etablissement Public d'Electricite | Electricity | 8.6 | | 0.4 |
| 1144 | 1975 | Etablissement Public d'Electricite | Electricity | 72.0 | | 22.2 |
| 1241 | 1976 | Syrian Arab Republic | Water Supply | 35.0 | | 15.7 |
| 1261 | 1976 | Etablissement Public des Telecommunications | Telecommuni- cations | 28.0 | | 18.6 |
| 1311 | 1976 | Syrian Arab Republic | Livestock | 5.0 | | 4.9 |
| 1312T | 1976 | Syrian Arab Republic | Livestock | 12.5 | | 12.3 |
| 1458 | 1977 | Syrian Arab Republic | Water Supply | 50.0 | | 43.0 |
| 1480 | 1977 | Syrian Arab Republic | Education | 20.0 | | 19.6 |
| 1531 <u>1/</u> | 1978 | Etablissement Public d'Electricite | Electricity | 40.0 | | 40.0 |
| 1546 <u>1/</u> | 1978 | Syrian Arab Republic | Highways | 58.0 | | 58.0 |
| 1631 | 1978 | Syrian Arab Republic | Agroindustry | <u>21.0</u> | | <u>21.0</u> |
| TOTAL | | | | 438.1 | 47.3 | 310.8 |
| of which has been repaid | | | | <u>1.9</u> | <u>.6</u> | |
| Total now outstanding | | | | <u>436.2</u> | <u>46.7</u> | |
| Amount sold | | | | 1.0 | 0 | |
| of which has been repaid | | | | <u>0.5</u> | <u>0</u> | |
| Total now held by Bank and IDA <u>2/</u> | | | | <u>435.7</u> | <u>46.7</u> | |
| Total undisbursed | | | | <u>302.4</u> | <u>8.4</u> | <u>310.8</u> |

B. Statements of IFC Investments: None

1/ Not yet effective.

2/ Prior to exchange adjustments.

C. Projects in Execution 1/

Credit 298 - Second Highway Project; US\$13.8 million Credit of April 17, 1972; Date of Effectiveness: February 2, 1973; Closing Date: June 30, 1981

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 which economic studies indicated to be economically justified. The Association agreed to these changes after reviewing final cost estimates. Government has awarded the additional works on the Homs-Tartous road to a public company and will finance this component from its own resources. It has awarded the additional works on the Damascus-Lebanese border road as an extension to the contract of the contractors carrying out the works. Agreement for financing the construction of the Damascus-Jordanian border road has been reached between the Government and USAID. This section has, therefore, been deleted from the project. Upon the Government's request to reallocate IDA funds for the construction of the Damascus-Lebanese border road and Tall Kalakh section of Homs Tartous road to four-lane standards, an amendment to the Credit Agreement was prepared and approved by the Executive Directors on March 23, 1978. The rest of the works are to be financed by the Saudi and Kuwait Funds. A network development study for the North East was included in the amended project description and the studies started in January 1979.

Credit 401 - Damascus Water Supply Project; US\$15 million Credit of June 22, 1973; Date of Effectiveness: February 20, 1974; Closing Date: December 31, 1979

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 Executive Directors 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 and is almost completed. The pollution control studies for Damascus, Homs and Hama will be completed by consultants in a few months.

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

After initial delays during the procurement stage, progress on the works being implemented by Syrian Government organizations for the

1/ These notes are designed to inform the Executive Directors regarding the progress of projects in execution and, in particular, to report any problems which are being encountered, and the action being taken to remedy them. They should be read in this sense and with the understanding that they do not purport to present a balanced evaluation of strengths and weaknesses in project execution.

development of the first 10,000 ha has progressed but it has been slow due to technical and managerial difficulties. However, the remainder of the project (31,000 hectares) has been postponed to review the technique of lining canals in gypsiferous soils, the extent of affected soils and the preparation of a revised financing plan to meet the large cost increases.

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 a 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 and transportation difficulties for major equipment, physical progress is satisfactory and the plant start-up is planned for April 1979. Institutional progress is expected to remain slow due to lack of experienced personnel and the time required to train intermediate executive staff. Implementation of the new accounting system has not begun because of delay in appointing consultants. While physical implementation would be complete, delay in meeting institutional objectives might necessitate postponement of the Closing Date.

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 and transportation difficulties for major equipment; 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. The training component is behind schedule and institutional progress continues to be slow due to lack of experienced personnel and difficulties in recruiting and training intermediate accounting and financial 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

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 with a minor delay on 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

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; expansion of long distance and international facilities; and a training center. Because of late deliveries and delays in installation of equipment and civil works, there is an expected delay of around 18 to 24 months on project works. STE has taken steps to expedite action and further execution of the project is expected to proceed satisfactorily. Although the Government's approval of tariff increases for STE has been delayed, the overall financial position of STE has remained satisfactory due to the delay in the construction program. However, because of the relevant investment program to be undertaken by STE, a tariff increase cannot be further delayed. Proposals to increase tariff by 100 percent are under consideration by the Government.

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: March 20, 1978; Closing Date: December 31, 1981

The project aims at increasing and stabilizing sheep production and the incomes of nomadic flockowners and sheep fatteners through stabilization of feed availability and improvement of veterinary services. Financing is provided for the purchase of animal feed needs of sheep cooperatives, strengthening of national animal health services, and technical assistance. After initial delays in recruiting consultants, project implementation got underway in April 1978. Replenishment by the Government of the National Feed Revolving Fund is under way. Although there was an initial delay of two years, project implementation is now proceeding satisfactorily.

Loan 1458 - Aleppo Water Supply Project; US\$50 million Loan of June 30, 1977;
Date of Effectiveness: March 2, 1978; Closing Date: December 31, 1982

The project consists of constructing a 75 km transmission line and associated pumping facilities from Lake Assad to Aleppo, treatment plant expansion and extension and improvements to the existing trunk distribution system. Engineering services for improvements of the sewer systems in Aleppo and Latakia and technical assistance to the State Planning Office and public construction enterprises are also included in the project. Preparation of detailed engineering and bidding documents for transmission line has been completed and tendering is expected to be completed by the end of April 1979. This should permit construction to commence in June 1979.

Loan 1480 - First Education Project; US\$20 million Loan of September 14, 1977;
Date of Effectiveness: February 9, 1978; Closing Date: December 31, 1982

The project provides for the construction, furnishing and equipping of five primary teacher training colleges, an intermediate teacher training institute, three intermediate technical institutes and two vocational training complexes. The project also includes the preparation of curricula for the technical institutes, the establishment of suitable mechanism for coordinating vocational training and technical education, the development of craft programs and the provision of 33 man-years of fellowships and overseas training. Project implementation is proceeding satisfactorily.

Loan 1531 - Regional Electrification Project; US\$40 million Loan of May 3,
1978; Date of Effectiveness: _____ ; Closing Date: December 31,
1981

The project is the first stage of a ten-year National Rural Electrification Program aimed at providing electricity service to all villages with a population of at least 100 by 1987. The project would provide electricity service to 900,000 inhabitants in 11 out of 14 provinces in Syria, including about 150,000 rural households for whom adequate supply of electricity would be made available for the first time. The project would also serve health care, education and communication centers as well as infrastructure services such as water supply and industries as part of the Government's drive to increase agro-industrial activity and to improve the quality of life in rural Syria. Project implementation has not yet begun. The Date of Effectiveness has been postponed twice because of delay in hiring project consultants. In addition the Government is delaying approval of proposals to increase electricity tariffs, which had been submitted to it in September 1978.

Loan 1546 - Third Highway Project; US\$58 million of May 3, 1978; Date of
Effectiveness: November 8, 1978; Closing Date: June 30, 1982

The project supports the Government's objectives for the development of the highway network in line with the current investment program. It would help stimulate the development of agriculture and industry in fertile and rapidly developing but thinly populated Northeastern region in Syria and aims at further strengthening the Government's long-term planning capabilities in the sector. The Government has awarded the contracts for pavement strengthening of the Damascus-Aleppo Highway and is currently proceeding with the pre-qualification of contractors for the Homs Bypass and Qantary-Tall-Tamir road and the selection of consultants for construction supervision. Project implementation is proceeding satisfactorily and is on schedule.

Ln. 1631-SYR: Oilseed Processing Project; US\$21 Million Loan of December 13, 1978; Date of Effectiveness: ; Closing Date: June 30, 1983.

The project aims at rationalizing and expanding the state-owned oilseed processing industry by improving technical efficiency of existing plants and increasing total processing capacity. The project includes construction of a factory at Deir-ez-Zor to process 50,000 tons of cottonseed per annum, the modernization of two factories in Aleppo, technical assistance and training. The Syrian Industrial Company for Vegetable Oils, the executing agency, is in the process of hiring consultants to assist in project implementation, which is a condition of effectiveness of the loan.

SUPPLEMENTARY PROJECT DATA SHEET

Section I - Timetable of Key Events

- (a) An FOA/CP mission visited the Project area and issued a report in December 1973. The report recommended further feasibility studies. A contract between the Syrian Government and GERSAR-SCET for the preliminary feasibility study of the whole Project area and detailed feasibility study and engineering drawings for Zone 1 was ratified in January 1975 and work commenced in April 1975. The feasibility studies were completed in June 1977. Bank mission visited the Project area on four occasions during period of Consultants investigations.
- (b) Preliminary Project reports were presented to the Bank by Government in September 1976. Feasibility reports were presented during the appraisal mission of October 1977.
- (c) Government engaged GERSAR-SCET to commence the preparation of detailed drawings for Zone 1 on January 1, 1978.
- (d) Appraisal mission in field October 30, 1977.
- (e) Negotiation completed March 6, 1979. Negotiations were delayed by almost a year to allow further study and discussion of the likely effects of pumping saline drainage water into the Euphrates River. This required inter alia the provision of river flow data (para 49).
- (f) Effectiveness planned for June, 1979.

Section II - Special Bank Implementation Actions

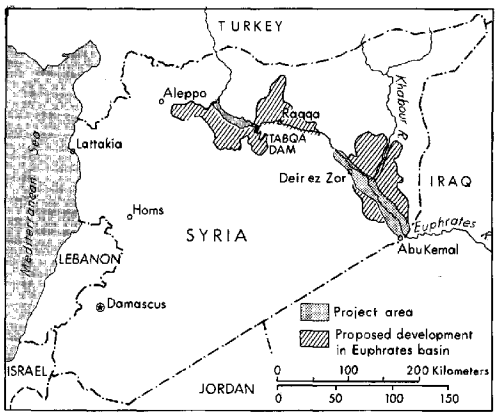
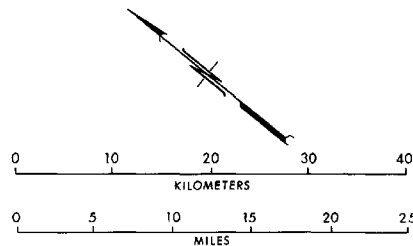
None

Section III - Special Conditions

- (a) Government to send to the Bank for its review the detailed proposals for forming a monitoring unit to check salinity levels in the River and soils in the Project area. After forming the unit, it would report to the Bank on this matter annually for five years after Project completion (para. 41).
- (b) Government to engage consultant to provide assistance to the General Administration for the Development of the Euphrates Basin (GADEB) in the preparation of designs and tender documents, supervision of construction and the development of operation and maintenance procedures for all three Zones in the Project area and in the evaluation of bids for tubewells (para. 31f).

SYRIAN ARAB REPUBLIC Lower Euphrates Drainage Project

- Project boundaries
- ▨ Non-saline lands
- ▤ Moderately and severely saline lands
- ▧ Abandoned lands
- Rivers
- - - Wadi
- Existing roads
- Main towns
- Other towns and villages
- ▬ Gypsum cliffs
- - - Sector boundaries
- International boundaries



This map has been prepared by the World Bank's staff exclusively for the convenience of the readers of the report to which it is attached. The denominations used and the boundaries shown on this map do not imply, on the part of the World Bank and its affiliates, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries.

