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REPORT AND RECOMMENDATION
OF THE
PRESIDENT OF THE
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
TO THE
EXECUTIVE DIRECTORS
ON A
PROPOSED LOAN
IN AN AMOUNT EQUIVALENT TO US\$30 MILLION
TO THE
HASHEMITE KINGDOM OF JORDAN
FOR A
GREATER AMMAN WATER SUPPLY AND SEWERAGE PROJECT

December 5, 1984

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HASHEMITE KINGDOM OF JORDAN

CURRENCY EQUIVALENTS

	<u>Calendar 1983</u>	<u>August 1984</u>
Currency Unit	Jordan dinar (JD)	JE
US \$1.00	= JD 0.363	0.333
JD 1.000	= US\$2.74	2.61

Exchange rate used in the Appraisal Report JD1=US\$2.70

Fiscal Year = Calendar Year

ABBREVIATIONS AND ACRONYMS

AWSA	-	Amman Water and Sewerage Authority
LRAIC	-	Long Run Average Incremental Cost
MCM	-	Million Cubic Meters
NRA	-	Natural Resources Authority
PMCS	-	Project Management and Construction Unit
USAID	-	United States Agency for International Development
WA	-	Water Authority of Jordan
WSC	-	Water Supply Corporation

HASHEMITE KINGDOM OF JORDAN

GREATER AMMAN WATER SUPPLY AND SEWERAGE PROJECT

LOAN AND PROJECT SUMMARY

Borrower: The Hashemite Kingdom of Jordan.

Beneficiary: The Water Authority of Jordan (WA).

Amount: US\$30 million equivalent.

Terms: 15 years, including three years of grace, at the standard variable interest rate.

Relending Terms: Same as the Bank loan. The WA would bear the foreign exchange and interest rate risks.

Project Description: The project would improve the water supply and sewerage services in the Greater Amman area and would include: (i) extension and rehabilitation of about 100 km of water mains; (ii) construction of about 350 km of trunk and collection sewers; (iii) construction of two sewage treatment works; (iv) supply of operating and maintenance equipment; and (v) consultant services for engineering, project management and construction supervision. The project would continue the institutional development efforts started under two previous Bank loans. The main beneficiaries of the project would be the low and middle-income families in the project area. Because of the recent establishment of the WA, initial difficulties might be encountered in its institutional and organizational development. This risk is, however, minimized through the provision of adequate advisory staff in finance, management and technical matters.

<u>Estimated Cost*:</u>	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
	(US\$ Millions)		
Water Distribution Systems	0.97	2.25	3.22
Sewage Systems	7.35	17.11	24.46
Sewage Treatment Works	3.86	4.36	8.22
Operational and Maintenance Equipment	-	0.27	0.27
Consulting Services	1.11	0.32	1.43
Land Acquisition	<u>0.11</u>	<u>-</u>	<u>0.11</u>
Base Cost	<u>13.40</u>	<u>24.31</u>	<u>37.71</u>
Physical Contingencies	1.22	2.37	3.59
Price Contingencies	<u>2.27</u>	<u>4.16</u>	<u>6.43</u>
Total Cost	<u>16.89</u>	<u>30.84</u>	<u>47.73</u>
Interest During Construction	<u>-</u>	<u>8.67</u>	<u>8.67</u>
Total Financing Required	<u>16.89</u>	<u>39.51</u>	<u>56.40</u>
<u>Financing Plan:</u>			
Proposed World Bank loan	-	30.00	30.00
Government contribution	16.59	9.51	26.10
Funds from operations	<u>0.30</u>	<u>-</u>	<u>0.30</u>
Total Financing	<u>16.89</u>	<u>39.51</u>	<u>56.40</u>

Estimated Disbursements:

	<u>Bank FY</u>							
	<u>US\$ Millions</u>							
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>
Annual	0.6	7.5	8.8	5.2	2.9	1.0	2.4	1.6
Cumulative	0.6	8.1	16.9	22.1	25.0	26.0	28.4	30.0

Economic justification: Least cost program.

*/ Cost estimates do not include import duties and taxes, from which the project is exempt.

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 HASHEMITE KINGDOM OF JORDAN FOR A
GREATER AMMAN WATER SUPPLY AND SEWERAGE PROJECT

1. I submit the following report and recommendation on a proposed Bank loan to the Hashemite Kingdom of Jordan of US\$30 million equivalent to help finance a Greater Amman Water Supply and Sewerage Project. The loan would be for 15 years, including three years of grace, at the standard variable interest rate. The loan would be lent to the Water Authority of Jordan on the same terms and at the same rate as the Bank loan.

PART I - THE ECONOMY

2. A report entitled "Jordan Review of the Five-Year Plan" (No.4129-JO, dated May 1983) was distributed to the Executive Directors in June 1983. An economic mission visited the country in May/June 1983; its findings have been included in the present text. Country data sheets are attached as Annex 1.

Recent Economic Developments

3. Conscious of the country's limited natural resources, its relatively narrow productive base and the sensitiveness of the economy to changes in its oil-rich regional environment, the Government has pursued liberal, outward-looking policies in trade, labor migration and foreign exchange. This has enabled Jordan to alleviate the effects of a very high natural population growth rate (3.8 percent) through massive emigration stimulated by high salaries in the neighboring countries and through rapid expansion of domestic production fueled by an exceptionally high investment rate and rapidly growing export demand. At present, about 40 percent of Jordan's total workforce is employed abroad. In addition to sizable workers' remittance inflow, Jordan benefited from large inflows of grant aid from neighboring countries as well as a rapid increase in regional demand for its exports. During the period 1976-82 the yearly inflow of workers' remittances and grants reached on average close to two-thirds of Jordan's GDP. The abundant supply of these resources and favorable entrepreneurial climate enabled Jordan to maintain both very high consumption and investment rates.

4. As a result, the Jordanian economy expanded rapidly with an annual average GDP growth rate of over 10 percent in real terms during the 1976-82 period; almost full employment was reached. The overall balance of payments remained strong despite a large chronic deficit in merchandise trade. Although exports of goods and non-factor services (primarily agricultural products, manufactured goods, tourism and exports of the new commodities, fertilizers and potash) grew at a rapid rate of about 16 percent in real terms during 1976-82, its small base in relation to imports led to a continuous deterioration of the resource gap. These trade deficits, however, were almost fully compensated by factor income and transfers from abroad. Government-guaranteed external borrowing remained therefore within reasonable limits and borrowing on commercial terms was reduced to a modest level (para. 14).

5. Beginning in 1982, however, the economic slowdown in the neighboring countries has in many ways affected the Jordanian economy; it led to a slowdown of domestic economic activity and a reduction in the inflow of external transfers. The overall economic growth rate slowed down to about 5.5 percent (in real terms) in 1983, still a satisfactory performance considering the present unfavorable economic environment; foreign grant aid was about 30 percent lower, workers' remittances stagnated while exports of manufactured goods and services to neighboring countries declined. The effect of these factors was exacerbated by a marked decline in exports of raw and processed minerals. Imports also declined, in line with the sizable reduction in public and private investments. As a result, the current account deficit for 1983 showed only a slight increase to \$388 million. It was mainly covered by the proceeds of a \$225 million Eurodollar loan contracted in early 1983. Jordan also drew on its reserves which remained, however, equal to more than 3 months of imports.

6. With the decline in Government revenues from grants, public investment was reduced, and the Government has further intensified its domestic resource mobilization efforts through cuts in subsidies and improved collection of direct and indirect taxes (about 90 percent of recurrent expenditures is covered by domestic revenues).

7. The main concerns of monetary policy have been mobilizing savings and controlling domestic liquidity. Private savings have improved, but public savings have continued to be negative because of the high level of defense expenditures. To promote domestic savings, greater discretion is being allowed the Central Bank in adjusting interest rates and banking commissions. As a result of increases in deposit rates in 1983, savings deposits rose faster than the money supply. Together with a marked decline in inflation to 5 percent in 1983, these increases have resulted in interest rates becoming substantially positive again in real terms.

Medium-Term Prospects

8. Given the changed situation and outlook in the neighboring oil producing countries, continuing GDP growth in the 9-11 percent range as projected by the 1981-85 Plan would no longer appear feasible in the medium term; a rate in the neighborhood of 5 percent per annum in real terms appears more likely during the next Plan (1986-90). This projection assumes a reduction in the exceptionally high level of investments achieved during the early 1980s, which was mainly due to implementation of a number of major new projects such as potash, fertilizer and a refinery, now at initial stages of production. While the new major natural resource-based industries have provided some new employment opportunities in the short term, the economic slowdown is likely to change the manpower situation in Jordan from one of selective shortages to one of general excess supply requiring finding employment for a rapidly increasing domestic workforce (para. 12).

9. The industrial sector (including mining, manufacturing and construction) is expected to continue to lead the growth of GDP and exports. The new industries are expected to contribute more than one third towards incremental GDP during 1984-85. Together with an expansion of phosphate mining and cement production, total industrial output would grow at a brisk annual rate of about 10.8 percent for 1984-85 but slow down to an underlying rate of 7.5 percent per annum for the period 1987-90. Since the rapid

expansion of infrastructure and private housing during the boom years of the 1970s and early 1980s has slowed down substantially, the construction industry is likely to grow at a substantially lower rate (3 percent) during 1986-90. Thus, industrial growth during the next plan period will have to rely increasingly on development of more small and medium scale higher technology manufacturing, largely for exports. The projected 7.5 percent for industrial growth assumes that adjustment of the industrial sector in this direction will be achieved, inter alia through changes in protection policies and improvements in export incentives.

10. Curtailment in growth of public expenditures and the slowdown in domestic and foreign demand for banking and transportation services are expected to slow down growth of services to an average annual rate of little over 3 percent per annum for 1984-87. In particular it is expected that the transportation sector and the hotel industry, which at present are facing large surplus capacity, will undergo a period of consolidation. In the trade sector, efficiency gains from modernization would likely be offset by increased pressure from higher unemployment to expand the less efficient informal sector of trade. In contrast to the expected slow growth performance of traditional private services, the prospects are favorable to exploit Jordan's potential in skilled labor and meet the demand for special services in areas such as consulting, contracting, and maintenance. Agriculture is projected to continue to grow by about 5 percent per annum. Overall, the sectoral growth rates would enable Jordan to maintain a comfortable GDP growth rate of about 5 percent per annum for 1984-85, which would seem sustainable throughout the 1980s.

11. On the external balance side, the projections assume that exports of goods and non factor services would grow by an average rate of about 8 percent per annum in real terms for 1984-90. Exports from the output of previous and new industrial natural resource based projects to the world market would make the largest contribution to this growth performance. The export projections for the later 1980s assume that adequate measures are taken to develop Jordan's manufacturing exports. The external balance projections assume that imports would increase less rapidly because of the slow overall economic growth rate and the expected sizable reduction in the level of investments after completion of the major industrial projects. Even though merchandise exports are projected to maintain a high rate of increase while imports would grow at a significantly lower rate, the trade deficit could continue to increase and could exceed the \$2.4 billion mark in 1984. In relation to GDP, however, the resource gap is expected to show a further decline from about 56 percent in 1983 to about 41 percent in 1987. Unlike the past, net workers' remittances and foreign grants, which are likely to decline, may not be sufficient to meet the growing trade deficit. Jordan therefore would have to rely more on external borrowing (para. 15). In order to maintain its prudent build-up of external debt, Jordan will need to combine external borrowing with increasing efforts to mobilize domestic resources, particularly in the public sector.

Social Issues

12. Due to the substantial migration of Jordanian workers to neighboring countries and the rapid economic growth, the labor market situation has been characterized until recently by selective manpower shortages. However, according to recent manpower projections, supply of labor in Jordan in the

medium term is likely to show selective surpluses, particularly throughout certain categories of skilled professionals. In 1980, out of the approximately 800,000 Jordanians (including Palestinians from the West Bank) residing abroad, a little over 200,000 were estimated to be workers, compared to a total domestic employment of about 440,000. Domestic employment includes at present a relatively large number of foreign workers currently estimated at about 125,000, half of whom are unskilled. The country has expanded its education and training system rapidly, to meet both domestic and external needs. A comprehensive manpower and training plan is needed to help ensure that: (a) the economy does not suffer from shortages of crucial skills, while meeting prospective demand for skilled workers abroad; and (b) the potential labor force is utilized more fully—especially the seasonally idle workers in rainfed areas and women, whose participation, although growing fast, is still low.

13. The Government has emphasized social issues in the current Five-Year Plan (1981-85). Although the social indicators are relatively favorable in most sectors, social services are unevenly distributed across income groups and between urban and rural areas. Housing remains a problem despite the boom in 1978-80, mainly because housing costs have far exceeded the means of the lower income groups. The Government's concern about these issues has led to the setting up of the new Ministry of Social Affairs in November 1979 to define a coherent social development program.

External Assistance

14. With the large chronic trade deficit offset by inflows of remittances and foreign transfers, the current account of the balance of payments was on average in equilibrium through 1975-81. Net workers' remittances increased from about \$160 million in 1975 to about \$900 million in 1982 and 1983. Following the Baghdad Arab Summit Conference in November 1978, which pledged assistance of about \$1.2 billion per year over a 10-year period, net foreign grant aid rose from \$400-500 million in 1977-78 to about \$1.3 billion in 1980 and 1981; it declined to some \$0.8 billion in 1983. This decline was the main reason for the current account deficit of \$388 million in that year which was largely financed by external borrowing and partly by drawing on reserves. The external public debt outstanding and disbursed reached \$1.823 billion at the end of 1983 (about 45 percent of GNP). External debt service payments amounted to \$226 million in 1983 or 7.4 percent of total exports of goods and services.

15. Jordan's impressive growth, pragmatic economic and social policies and efficient economic management have helped to attract large amounts of foreign assistance. The grant component of this foreign assistance is projected to decline gradually in real terms over the next few years. The projections on that basis indicate a need for average gross external borrowing of about \$0.7 billion over the 1984-1990 period, mostly in later years. While bilateral and multilateral sources can be expected to provide the bulk of external resources, Jordan is likely to resort increasingly to the financial markets, and this would result in a hardening of loan terms. On these assumptions, the debt service ratio as a percentage of exports of goods and services is projected to reach 9 percent by 1987 and some 11 percent by 1990. Given this outlook and the country's record of prudent management, Jordan remains creditworthy for Bank lending.

PART II - BANK GROUP OPERATIONS 1/

16. Jordan has received 15 Bank loans totalling \$380.8 million and 15 IDA credits totalling \$86.1 million (net of cancellations) of which all the credits and two loans have been fully disbursed. Project implementation and disbursement performance have been generally satisfactory. In recent years, disbursements have amounted to about 60-70 percent of appraisal estimates. The IDA credits have financed projects in key sectors, such as education, highways, water supply and sewerage, power, irrigation and tourism. By mid-1978, Jordan had attained a stage of economic development where it could be considered creditworthy for Bank lending and had reached a GNP per capita level that exceeded IDA limits. IDA lending was thus discontinued after March 1978. IFC has made investments in Jordan with total commitments of \$94.2 million. Annex II contains a summary statement of Bank loans and IDA credits, and IFC investments as of September 30, 1984.

17. Bank group assistance to Jordan has been directed toward export-oriented projects on which the Bank Group has cooperated closely with the Government in project preparation and in the mobilization of large external financial assistance. In addition, the Bank Group has been assisting the Government in implementing its social objectives of improving the income and living standards of the rural and urban poor, as well as expanding manpower training, as enunciated in the first Five-Year Plan (1976-80) and emphasized in the second Five-Year Plan (1981-85). Bank assistance has also fostered the development of the power subsector to meet the demand from a rapidly growing economy.

18. In line with these objectives, the Bank Group has provided technical assistance for developing and implementing a plan for expanding phosphate rock mining. An engineering credit was made in FY75 to help prepare a large project for potash production from the Dead Sea via solar evaporation, for which a loan was approved in September 1978; the project has been successfully completed. In addition, further support for the Government's social and economic objectives was provided in recent years by loans for the Fifth and Sixth Education projects approved in March 1983 and February 1984, the Cities and Villages Development Bank (CVDB) project approved in March 1980, the Urban Development and Urban Transport projects approved in July 1980 and July 1983 respectively, the Fifth Power project approved in May 1982, the Zarqa/Ruseifa Water Supply and Sewerage and the Eight Cities Water Supply and Sewerage projects approved in December 1982 and May 1984, the Energy Development Project approved in December 1983 and the Multi-Mode Transport Project approved in July 1984. Projects under preparation include mining, transport, water supply/sewerage, urban and health development, energy and industry. IFC has provided loans and equity contributions for a major fertilizer project and for projects in the construction materials subsector. It has also assisted the capital market and leasing ventures.

1/ Substantially unchanged from Part II of the President's Report for the Multi-Mode Transport Loan (No. P-3851-J0), which was distributed to the Executive Directors on June 7, 1984.

19. In a parallel effort at the macroeconomic and sectoral levels, the Bank has assisted the Government by reviewing the 1981-85 Five-Year Plan, with emphasis on the industrial sector and manpower analysis. It has also helped review the energy, water supply, health and urban sectors, export strategy and promotion in manufacturing industries as well as issues relating to regional development and manpower and training. The reports entitled Energy Sector Study, Review of the Five-Year Plan (1981-85), Export Strategy and Export Promotion In Manufacturing Industries, Urban Sector Review, Health Sector Review and Water Sector Study were distributed to the Executive Directors in March 1983, May 1983, and June 1983 (both Export Promotion and Urban Sector Reviews) June 1984 and July 1984, respectively.

20. At the end of 1983, the actual Bank Group share in Jordan's total external public debt was estimated at 12 percent, and its share in debt service was 5 percent. By 1985, the Bank Group's shares in debt outstanding and in debt service are expected to be about 13 percent and 8.5 percent respectively.

PART III - THE WATER SUPPLY AND SEWERAGE SECTOR

The Setting

21. Water Resources. About 80 percent of Jordan's land area is desert. Availability of water depends largely on rainfall, ranging from moderate amounts (600 millimeters per year) in the northern uplands to negligible amounts in the southern and eastern deserts, over 85 percent of which is lost through evaporation. As the more conveniently located sources of municipal and industrial water supplies have become fully utilized, surface and groundwater in other areas, hitherto used for agriculture, will have to be transported at high cost over long distances and/or steep gradients to meet these needs. The rapid growth of the economy in recent years and the associated increase in municipal, industrial and agricultural water demands, coupled with Jordan's high rate of natural increase (3.8 percent), have put serious pressure on the country's limited water resources; and water scarcity may become a principal constraint to economic growth. In these circumstances, it is crucial for Jordan to realize the maximum benefits from its limited resources by the continued development and implementation of a sound sector strategy and through prudent water resource management.

22. Water Supply. About 85 percent of the urban population is supplied through house connections. However, due to source inadequacy, the supplies in many areas are intermittent; and over 30 percent of the water produced for municipal water supply is lost through leakage, due in part to corroded pipes in the major distribution systems. In 1979 about 60 percent of the rural population was provided with piped water supply, with the remainder supplied through private wells or tankers operated privately or by the Water Authority (WA); with ongoing extension works this is expected to reach about 80 percent by 1985. Even where public piped water supply exists, however, there is a danger that intermittent supplies can lead to contaminated water and effluents entering the system through leaks when it is depressurized. This risk is particularly acute where septic tanks and cesspits are used.

23. Sewage. At present, only four cities (Amman, Salt, Aqaba, and Jerash) have sewage collection and treatment systems, which serve about 30 percent of Jordan's population. Sewage systems are being constructed in

Irbid, Zarqa, and Ruseifa; and plans are underway for systems in ten medium size cities, six in north Jordan and four in the south, eight of which are included under the Bank financed Eight Cities Water Supply and Sewerage Project (Loan 2425-J0), which will provide services to another 20 percent of the country. In areas where sewage systems do not exist, the wastes are discharged in septic tanks, cesspools and similar facilities. Despite significant efforts to provide sewerage in recent years, rapid growth in urbanization, rising standards of living and extensive but uncoordinated land development have caused individual waste water disposal facilities to become inadequate, particularly in high density areas and in soils with limited percolation capacity. Occasionally, overflows or improper disposal of cesspool waste occur, creating major health hazards. Severe outbreaks of cholera have occurred in Jordan, the latest in 1981. The infant mortality rate has declined in recent years but still remains high (60 per 1000 live births in 1982) as does the incidence of water-related infectious diseases. This suggests the need for continuing efforts to improve water supply and sanitation conditions in the country.

Government Strategy in the Sector

24. The scarcity of water and the high cost of its development have long been recognized by the Government. Based on a number of studies over the years, including the recently completed Bank Water Sector Study (para. 31), available water resources are projected to be adequate to meet municipal and industrial needs beyond the turn of the century with a modest increase available for irrigation if the Government pursues appropriate policies in the following areas: (i) proper allocation of known resources and new resource development (which includes transfer of water from water surplus to deficit areas, continuing exploratory work for ground water sources and further development of remaining surface sources); (ii) prudent water resource management by strengthening the sector's institutional capability; (iii) quantity and quality control of water and wastewater; (iv) development of policies related to reuse of waste water; (v) development of appropriate cost recovery and other financial policies; and (vii) manpower planning and training.

25. Aided by sound Government policies, water conservation is generally practised throughout the country. The Government has also made impressive strides in developing the sector. It has embarked on a program of large water projects to help relieve water shortages, particularly in the upland areas of northwest Jordan. During the current Five-Year Plan period (1981-85), almost 16 percent of public sector investment is allocated for water and irrigation, which is about seven times the corresponding actual investments in the previous plan period (1976-80). Furthermore, the Government has adopted a policy for adequately treating all sewage from industries and municipalities which are sewered so that effluents may be suitable for reuse in agriculture. The Government, with the assistance of the United States Agency for International Development (USAID), is in the process of developing a data management system, which will monitor quantities and physical and chemical qualities of water resources in the country. The newly created Water Authority (WA) (para. 26) will be responsible for maintaining and policing this system. In order to deal with the problems of intermittent water supply and leakage, the WA is developing a program to systematically detect and repair leaks and to improve water distribution (para. 33). These efforts should help reduce the risk of bacteriologically unsafe water.

26. Institutional Aspects. In the past, the sector was plagued with problems of inadequate coordination due to the large number of institutions involved in water production and supply for different user groups. This often led to duplication of efforts and sub-optimal investment decisions. As recommended in the Bank's Water Sector Study, an autonomous agency, the WA, was created to take over the responsibilities for providing water supply and sewerage services, water resource management and monitoring, planning, development and allocation, and water quality monitoring for the whole of Jordan. This has set the institutional framework necessary to better husband critically scarce water resources in order to sustain economic growth. The thrust of the WA's work will be to formulate policies and take appropriate measures to augment the country's usable water resources, to efficiently allocate these among the various competitive users and to ensure that the water allocated is used economically. The present organization of the WA is expected to evolve as it develops to fully assume its mandated role, and the WA is studying its organizational needs over the long-term in order to modify its organizational structure, if necessary. Bank funds have been provided for a management advisor to assist the WA in this work (para. 46).

27. In view of the growth of sector-related institutions and operational facilities, the demand for trained personnel has become an urgent matter. In the past most of the institutions involved in the sector had some training programs, and several educational institutions provided some sector-related training, but this was generally ad hoc, unfocussed and suffered from a lack of coordination. Many of those who were trained were siphoned off by the private sector or by neighboring countries where salaries are substantially higher. With the assistance of USAID, WA is in the process of implementing a national training program to tackle both short- and long-term problems in this area.

28. Tariffs for urban municipal water supply have generally been in line with the cost of these services, and sewerage charges have generally been adequate (para. 48). In Amman, the total income from water and sewerage revenues does cover total operating expenditures of water and sewerage and debt service. Ineffective control of groundwater extraction by industry and agriculture, where tariffs or extraction fees have not been imposed or are below costs of production, has resulted in serious depletion of groundwater in populated areas. Consequently, water for municipal supplies has had to be transported from distant locations at high costs. A tariff study for municipal and industrial water uses under the Zarqa/Ruseifa project will help develop the necessary financial strategies (para. 49).

IDA/Bank Role in the Sector

29. IDA commenced its assistance to the sector in the 1960s. The FY62 Credit 18-JO for \$2.0 million and FY64 Credit 43-JO for \$1.5 million supported water supply development respectively in Amman and in the cities of Ramallah-El Bira, Jerusalem, Nablus, Azraq, Irbid, and Zarqa. In the 1970s, the Government concentrated its efforts on developing the water supply and sewerage services of Amman, which also resulted in the creation of the former Amman Water and Sewerage Authority (AWSA). The FY73 \$8.7 million Credit 385-JO and FY78 \$14 million Credit 780-JO assisted in the development of AWSA and helped finance investments for Amman's rapidly expanding needs for additional water supply and sewerage facilities. These projects have been successfully completed, and completion reports for Credits 385-JO and 780-JO

have been prepared. No Performance Audit Reports have yet been prepared. The lessons learned from the above projects include the need for better coordination in planning and execution of projects and the particular importance of reducing unaccounted for water in a largely water deficit situation. The completion report for the FY73 project (Sec.79-491) also noted that while substantial efforts had gone into the institutional development of AWSA, weaknesses remained, particularly in its financial department. These factors have been taken into account in the design of later projects.

30. In FY83, the Bank provided further assistance through Loan 2213-J0 of \$17.0 million for the improvement of the water supply and sewerage services for the cities of Zarqa and Ruseifa. A prime project objective was to strengthen the Water Supply Corporation (WSC), the project implementing and operating agency, which was responsible for water supply and sewerage in areas outside Amman and the Jordan Valley Authority. Technical and financial advisors have already been engaged, and measures to improve operations and financial management are underway. With the recent reorganization of the sector, responsibility for the execution and operation of the project has been taken over by the WA, which will be assisted by these advisors in its organizational development. The Bank also approved in May 1984, a loan of \$30.0 million (Loan 2425-J0) to the WA for the Eight Cities Water Supply and Sewerage Project (para. 23).

Rationale for Bank Involvement

31. The Bank's recently completed Water Sector Study (Report No.4699-J0) made several recommendations concerning the sector's organization and financial policies; outlined a strategy to develop available water resources for meeting the needs of competing users; established general recommendations for appropriate waste water disposal; and formulated associated investment programs. Based on this, the Bank's overall strategy in the sector includes assistance to the Government in implementing policies to efficiently manage and allocate the country's scarce water resources, executing technically sound and economically feasible projects to increase usable water resources (including effluent reuse), strengthening sector institutions including training and establishing sound pricing policies to assure economic use and conservation of water and to allow operating entities to be financially viable and self-sustaining.

32. The proposed project has been designed to support the Bank's overall strategy. Specifically the project would play an essential role in providing assistance and advice, and in ensuring proper follow-up actions for (i) the development of appropriate management and organizational systems for the WA; (ii) judicious selection and formulation of potential projects and related investment strategies; and (iii) improvements in operational areas such as financial planning, accounting, auditing, manpower planning and training.

Project Area

33. The Greater Amman area (a 25 km radius from the city center) covers the municipality of Amman, 11 surrounding municipalities, two refugee camps and some minor villages. It has experienced rapid growth in the past two decades, and its economy has been characterized by a continuing shift from agriculture to the industrial and service sectors. The total population in 1979 was 1.27 million and is projected to increase to 2.06 million by 1990 and

2.99 million by 2000. Greater Amman is a water-deficit area presently supplied from local ground water wells and from well fields located to the east and south of the city. An additional water supply is being developed with water to be taken from the East Ghor Main Canal. This is scheduled to be commissioned by early 1985 and would satisfy projected water demand through 1990. About 85 percent of the population is connected to the public water supply system, the remainder being served by public taps (4 percent) and water tankers (11 percent). Water consumption for connected supply averages about 85 liters per capita per day (lcd). Water supply facilities are generally well operated and maintained, although some 6 percent of water samples being taken are bacteriologically unsatisfactory. Unaccounted for water is high (44 percent) because of corroded water mains; with improved water supply and distribution system pressure, the rate of leakage has increased. However, leaks are expected to be reduced through ongoing rehabilitation or replacement of older water mains. Furthermore, the WA with consultancy assistance is developing a program to reduce unaccounted for water to a target level of 25 percent by 1990.

34. The sanitary situation in Greater Amman is gradually deteriorating and sewage effluent is increasingly polluting the upper groundwater aquifer or overflowing into the streets, creating a health hazard. Untreated or insufficiently treated wastewater effluents are being discharged into the river streams which are used for irrigation. This situation, combined with rapid population growth and increasing density and industrialization, calls for urgent action. About 77 percent of Amman municipality is currently connected to the sewage system and only 4 percent in the outlying municipalities. The remaining population relies upon cesspool installations of various operational performance, with the effluent percolating into the ground. Maintenance costs (pump-outs) can be significant. The bulk of the sewage is treated in the Ain Ghazal Treatment Plant, which is heavily overloaded, partly due to high strength sewage influent. The WA is presently extending these facilities by the construction of stabilization ponds, which are scheduled to be completed in 1985 and would provide satisfactory treatment capacity up to the early 1990s. Thus, considering that the water supply requirements for Greater Amman and Amman municipality's sewage treatment facilities would be adequate, the priorities for Greater Amman are: to extend the sewage network in densely populated areas, to provide for sewage disposal facilities for areas outside the Amman municipality and to strengthen and rehabilitate the water distribution system. The proposed project would address these needs.

PART IV - THE PROJECT

Project History

35. The proposed project is based on the priorities developed in a phased Master Plan, financed by USAID. It was preappraised in November 1983 and appraised in June 1984. Negotiations were held in Washington D.C. during November 12 - 16, 1984. The Jordanian delegation was headed by Mr. Boulos Kefaya of the Ministry of Planning and included representatives of the Water Authority. A Staff Appraisal Report (No. 5260-JO) dated November 30, 1984 is being distributed separately. The main features of the loan and project are outlined in the Loan and Project Summary and in Annex III. A map of the project area is attached.

Project Objectives and Description

36. The project is expected to have a significant impact on living conditions and health standards in the project area, including lower income people in the Baqa'a Valley. Its major objectives include: (i) extension of sewerage services in the project area to about 94 percent of total population (in 1989) from present coverage of about 67 percent through rehabilitation and extension of the sewage systems; (ii) reduction of groundwater pollution by decreasing the infiltration of cesspool effluents within Greater Amman so that by 1989 only 45 percent of the population will be served by cesspools compared to 60 percent of the population in 1984; (iii) recycling of waste-water for agricultural purposes through the provision of satisfactory sewage treatment facilities; (iv) improvement of water supply services and reduction of water losses through distribution system rehabilitation; (v) continuation of assistance in the development of the WA and in the establishment of proper financial procedures in order to achieve financial self-sufficiency through adequate charges for water supply and sewerage services; and (vi) preparation of the next stage extension of water supply, sewerage and sewage disposal facilities on a priority basis.

37. The project includes the following major components: (i) about 100 km of water distribution network; (ii) about 350 km of trunk mains and secondary sewers; (iii) sewage treatment works for the Baqa'a Valley and Wadi es Sir drainage zones (two suburban areas in the Greater Amman area) with a first stage capacity of 8,000 and 2,400 m³/day (maximum flow), respectively; (iv) operation and maintenance equipment; and (v) consultant assistance for engineering, project management and construction supervision. The proposed treatment works at Wadi es Sir and Baqa'a Valley would utilize trickling filters, and the raw sludge from these works would be transported by tankers to the sludge treatment facilities at the Ain Ghazal Treatment Plant. The various alternatives selected and components recommended for the project represent the most feasible least-cost solutions. Effluent quality standards would be satisfactory and enable recycling of water for irrigation.

Project Costs and Financing Plan

38. The total cost of the proposed project, including physical and price contingencies (in mid-1984 prices) is about \$48 million, of which about \$31 million (65 percent) is in foreign exchange. In addition, interest and other charges during construction amount to about \$9 million. Cost estimates do not include import duties and taxes, from which the project is exempt. The project cost includes physical contingencies of about 10 percent of the total cost. The price contingencies for both civil works and material and equipment for foreign cost components have been estimated at 7.5 percent for 1984, 7 percent for 1985 and 6 percent thereafter; and for local cost components at 7.5 percent in 1984, 7 percent in 1985 and 6 percent thereafter. The engineering, project management and construction supervision costs correspond to about 420 manmonths and include overheads, travel and subsistence.

39. The proposed Bank loan of \$30 million would cover about 53 percent of the total financing requirements. The balance would be financed by Government as equity contributions and from internal sources of the WA (Loan Agreement, Sections 3.01(a) and (b)). The Bank loan would be made to the Government for 15 years, including a three-year grace period. The Government would onlend it on the same terms and conditions to the WA, under a subsidiary loan agreement

satisfactory to the Bank, the execution of which would be a condition of effectiveness (Loan Agreement, Sections 3.01(c) and 6.01). The WA would bear the foreign exchange and variable interest rate risks. The onlending rate would be significantly positive in real terms, as the current domestic inflation rate is about 5 percent per annum.

40. Procurement and Disbursements. Procurement arrangements are summarized below:

<u>Project Element</u>	<u>ICB</u>	<u>LCB</u>	<u>Other</u>	<u>TOTAL</u>
	\$ Million			
Water Distribution Network	1.56 (1.00)	2.56 (1.64)	-	4.12 (2.64)
Sewage Systems	25.02 (15.88)	6.25 (4.04)	-	31.27 (19.92)
Treatment Works	10.42 (6.74)	-	-	10.42 (6.74)
Operational Equipment	0.38 (0.38)	-	-	0.38 (0.38)
Consulting Services	-	-	1.43 (0.32)	1.43 (0.32)
Total	37.38 (24.00)	8.81 (5.68)	1.43 (0.32)	47.62 (30.00)

Note: Figures in parenthesis are the respective amounts financed by the Bank.

41. It is estimated that 15 civil works and equipment supply contracts would be subject to International Competitive Bidding (ICB) and would have an aggregate value of about 80 percent of total costs. For the sewage treatment works one contract would be awarded for civil works, equipment supplies and installation. Equipment supply contracts estimated to cost more than \$550,000 and civil works contracts estimated to cost more than \$1.4 million would be procured through ICB in accordance with Bank Group guidelines. Bank guidelines would also be applied in the recruitment of consultants (Project Agreement, Sections 2.03 and 2.04). Documents and awards for all contracts under ICB would be subject to prior review by the Bank. Other equipment supply and civil works contracts with an aggregate cost not exceeding \$2.0 million and \$7.0 million, respectively, would be awarded on the basis of local competitive bidding procedures, which are satisfactory to the Bank. For material and equipment to be procured under ICB, a domestic preference of 15 percent or the import duty, whichever is lower, would be used for the purpose of bid evaluation. For civil works' contracts expected to last more than 24 months, price adjustment provisions would be included.

42. The proposed loan would be disbursed over a period of approximately seven and a half years as follows: equipment, material supplies and equipment, 100 percent of foreign and 85 percent of local expenditures; civil works, 100 percent of foreign and 60 percent of local expenditures; and consultant services, 100 percent of total expenditures. The estimated disbursement schedule in the Loan and Project Summary takes into consideration the standard disbursement profile for Jordan and reflects the advanced state of project preparation, the relative efficiency

of the implementing agency and is about the same as the Regional profile for water supply and sewerage projects. In order to expedite disbursements, a revolving fund of \$1.5 million (equivalent to an average of about 3 months disbursements) would be opened by the Government and would be replenished on the basis of standard documentation for eligible reimbursable expenditures. Contracts below \$10,000 equivalent may be claimed under statements of expenditures (Loan Agreement, Section 2.02 (b), Schedule 4; Project Agreement, Sections 4.01 (b)(i), 4.02 (b)(ii)). The loan closing date would be December 31, 1991. The extension of water and sewage systems in Greater Amman is a continuous process. For these contracts, retroactive financing is recommended in order not to delay critically needed improvements. Such financing is proposed for expenditures incurred after July 1, 1984 for an amount of up to \$3.0 million (10 percent of the total Bank loan). Contracts would be awarded according to local procurement procedures satisfactory to the Bank, and disbursement would be fully documented.

Project Execution

43. The WA has established a separate project management and construction unit (PMCS), which has also been responsible for preparing the project (Project Agreement, Section 2.02). The PMCS would be assisted by engineering consultants for project management, tender evaluation and preparation of contract documents, finalization of detailed engineering, and project supervision. These consultant services are expected to be provided by the same firms undertaking the engineering design. A local consulting firm (MIMAR) in association with Howard Humphreys, U.K. is preparing the final designs for the sewerage treatment works, which are scheduled to be completed in December 1984. Preliminary designs for the water distribution and sewage systems have already been prepared, and final design will be completed as the works are executed. The WA is in the process of acquiring land for the sites of the sewerage treatment works, which is scheduled to be completed by end-1984. Based on past experience, no difficulties are expected. The WA has sewer regulations that require properties to be connected to the sewage system when it is constructed. While sewerage is generally desired, the expense required for sewer connections may pose financial hardships for lower income groups to be served. The WA has agreed to assist low-income families with appropriate arrangements (Project Agreement, Section 3.04). Arrangements under consideration include the phasing of connection charges. The project is expected to be completed by December 31, 1990.

The Implementing Agency

44. The WA (para. 26), the beneficiary of the proposed loan, is an autonomous agency which reports to the Prime Minister's office and enjoys independent financial and administrative status. Operations and maintenance of water supply and sewerage is carried out in three regional offices, each under a manager, but supervised by related headquarters' departments and subject to control by Water Councils composed of public and private sector representatives. The WA has already taken over the Amman Water and Sewerage Authority (AWSA), the Water Supply Corporation (WSC), the water resources branch of the National Resources Authority (NRA), the water department of the Jordan Valley Authority and all of the agencies within the Greater Amman area. Additional agencies, including some 300 municipal water supply departments, will be transferred to the WA on a phased basis, before end-1985.

45. The number of staff in the different water and sewerage related organizations now incorporated into the WA total about 3,000 people, which corresponds to about 12 employees per one thousand connections served, which is reasonable given the fact that the WA's responsibilities are spread over the whole country and the population density outside Amman is low. Furthermore, the water resources branch of the NRA, previously responsible for water exploration and hydrogeological studies, has been transferred to the WA. Through the creation of the WA, many overlapping functions are being eliminated and staff from separate organizations brought together to work in consolidated units. While this will contribute to increased productivity, additional staff will still have to be recruited to operate the new sewerage systems being built under this project and others. By 1990, WA staff are projected to grow to about 5,000. Attracting and retaining technical staff do not pose problems, as salary levels are competitive. However, salary levels for financial staff are substantially lower, and there is a general shortage in Jordan of qualified accounting skills (para. 46).

46. Institutional Development and Training. Institutional assistance is being provided to the WA by the Bank under the Zarqa/Ruseifa Project (Loan 2213-JO) and by the USAID, with which the Bank cooperates closely. Bank funds under Loan 2213-JO are being used for a management advisor to assist the WA develop its organizational structure, establish staffing and training needs, develop an appropriate management information system and propose personnel policies (including those relating to salary levels of financial staff). A technical advisor has been engaged to assist the WA to improve operating and maintenance practices, to set up a data collection system for project planning purposes, and to prepare major projects. USAID funds are being used to engage financial advisors to assist the WA develop its accounting and financial management systems, and to provide three local consulting firms with technical assistance to design water supply and sewerage systems in ten cities, eight of which are included in the Eight Cities Project.

47. The WA has an ongoing training program financed largely by USAID. The program provides for training of managerial and professional staff abroad and operating staff at local institutions. The financial advisors are providing on-the-job training to the accounting staff in implementing a public utility accounting system. Several facilities in Jordan now provide training for technicians in civil, mechanical, electrical and chemical engineering. Programs have been or are being developed for training in water supply and wastewater engineering and specifically for sewage treatment plant operators, in view of the number of plants to be commissioned in the near future.

Financial Position

48. The financial position of the WA should be seen in the context of the past performance of the organizations (AWSA and WSC) it has taken over. It reflects the nationwide scope of its operations; the scarcity of water, which makes it imperative to protect sources and to treat (and where feasible to recycle) effluents; low average consumption levels; the locational mismatch between water sources and consumption centers, which necessitates the transportation of water over long distances and steep gradients; and relatively high construction costs. The WA's tariffs are

proposed by its Board of Directors and approved by the Council of Ministers. Water tariffs are high. For its piped water systems, the WA derives most of its revenues from water and sewerage charges based on metering. In small communities without a piped water supply and for a large nomadic population, the WA provides a tanker supply or a free supply from water points. The unit costs of providing these services are up to ten times higher than those in larger centers. Tariffs in line with such costs would be totally unaffordable; thus, costs of these operations exceeding the corresponding revenues are covered by the Government. The WA charges for its sewerage operations through a combination of surcharges on water consumption and connection fees and an annual tax based on property rental values, which is collected by the Government and passed on to the WA. On this basis, the WA's net revenues have been sufficient to cover its operating costs, debt service and a small portion of its investment costs. At the end of 1983, the WA had a current ratio of 2.6 and a debt/equity ratio of 24/76, which reflects the significant role of the Government in the financing of the WA's facilities.

49. As part of the Bank's loan for the Zarqa/Ruseifa Project, it was agreed that a tariff study would be carried out for WSC (now absorbed by the WA) which would propose various combinations of tariffs, user charges and levies for the Government's consideration, taking into account the need for water conservation, affordability to the poor and the financial viability of the WA. The scope of this tariff study has now been expanded to cover the WA's entire operations. The study is being carried out by the WA's Financial Advisor with consultancy assistance. The results of the study are expected to be submitted to the Bank for review by the end of 1985. The study will serve as a basis for establishing a new tariff policy.

50. Future Financial Performance. By the year 1990 the WA's volume of water sales are expected to increase 60 percent and volumes billed for sewerage almost 300 percent. The volume of water supplied to rural areas would not increase very much. Based on projected tariffs, revenues from water sales and sewerage services would go up about 160 percent and 500 percent, respectively. In the same period operating expenses would increase about 2.5 times for both water and sewerage. The difference between revenues and expenses would leave a margin which would enable the WA to meet its financial obligations. As under the Bank loan for the Eight Cities project, the WA has agreed that from fiscal year 1985 onwards it would: (i) for its metered water services, maintain or adjust tariffs to provide sufficient revenues to cover operating and maintenance expenses, the greater of debt service or depreciation, and increased working capital, to finance not less than 5 percent of the average annual investment cost in 1987 and 1988, and 10 percent in 1989 and thereafter; (ii) for its sewerage operations, implement a system of sewerage user charges, fees and levies sufficient to cover operating and maintenance expenses and the greater of debt service or depreciation; and (iii) provide the Bank three months before the beginning of each fiscal year with copies of its forecast budget for the fiscal year, financial projections for the following two years as well as any proposals for adjustments in tariffs (Project Agreement, Sections 4.03 and 4.05). In addition to the above revenue measures, the Government would continue to compensate the WA for any deficits resulting from the operation of its services by tankers and at water points (Loan Agreement, Section 4.02; Project Agreement, Section 4.04). Based on the substantially higher revenue base in the future, the WA would be able to

service all its debts and contribute increasingly towards its future expansion programs from internally generated funds.

51. Billing and Accounting. The WA's efforts in the area of billing/ collection and accounting are generally satisfactory and are being improved. The WA is planning to expand its own computer facilities, and by 1985 all billing is expected to be done in-house. The accounts receivable for the overall operations is about four months of sales. The management of the WA is devising measures to improve bill collection. These include a system of incentives for bill collectors and using the meter reading facilities of the power companies, which are more efficient. The WA's accounting system in its Amman operations follows the standard public utility format on an accrual basis and is reasonably well kept; that outside Amman is on a cash basis, as prescribed for government agencies. The latter is not entirely satisfactory from an operational point of view, and the WA has decided to introduce an appropriate accounting system, which will be computerized for all of its operations. The financial advisor provided under the Zarqa/Ruseifa Project has already prepared a manual of accounts for implementation in early 1985, and accounting personnel are being trained.

52. Audit. The WA's Amman operations are audited annually by a local independent auditing firm and are of acceptable quality. Operations outside Amman have until now been subject to a system of expenditure control and final audit by the Government Auditing Department. These operations follow a different accounting system, and the scope of the audit undertaken by the auditing department is also different from normal public utility practice. Since the accounting system for all WA operations will be converted into a standard public utility format beginning in 1985, from that time the WA will arrange for its accounts to be audited by independent auditors acceptable to the Bank and experienced in public utility accounting systems. Audit reports and financial statements will be forwarded to the Bank within six months after the end of the fiscal year (Project Agreement, Section 4.02).

Affordability of Water

53. The cost of water supply and sewerage services in Jordan is high. The long-run average incremental cost (LRAIC) of water at a discount rate of 10 percent varies between JD 0.370/m³ in areas where water is locally available to JD 0.490/m³ for areas such as Amman, where part of the water has to be pumped over long distances. However, the water tariffs and sewerage charges as projected would not impose any serious burden on even the lowest income population. The lowest quintile of average monthly household income in the Amman area is about JD 108. Assuming an average household size of five persons and an average per capita water consumption of 65 liters/day, the average water and sewerage bill would be about JD 5 per month, which represents about 4.6 percent of the household income and is considered affordable. By comparison, a household would pay up to JD 5 per month for emptying cesspools alone. On the other hand, at present more than 30 percent of water sold is charged at the highest block tariff, which exceeds the LRAIC. This confirms the present appropriateness of tariff levels and establishes a willingness to pay for the actual costs of the water.

Project Benefits and Risks

54. The proposed project is the least-cost solution for improving the sewage collection and disposal systems and the water distribution network in the Greater Amman area, which have come under tremendous pressure in recent years. The project would provide sewerage services to about 150,000 urban poor or about 30 percent of the population covered under this project. The benefits accruing from the project would be substantial but cannot be meaningfully quantified. In assessing these benefits, reducing the incidence of waterborne infectious diseases and the pollution of waters used for various purposes and improvements in the quality of life are all important factors. Using the revenues from sewerage as a proxy of the benefits accruing from this project, the economic rate of return would be about 8 percent. However, this does not take adequate account of important socio-economic benefits to be derived from this project including: (i) improved water supply and extended sewage collection systems, which would result in enhanced hygienic standards and subsequently have a favorable impact on general health conditions; (ii) the reduction in cesspool effluents percolating into the ground to enable the continued use of groundwater sources for domestic water supply thus avoiding replacement by far more costly alternatives; and (iii) the use of treated effluents for irrigation purposes which would contribute to agricultural development and improve the use of Jordan's scarce water sources.

55. The project would continue the Bank's assistance to Jordan in strengthening sector institutions started under previous credits and loans. The creation of the WA was supported by the recent water sector study and is the principal step towards rationalization and higher efficiency in the use of water. Given the favorable response of Jordan to the Bank's analysis of sector issues and policy recommendations, it is appropriate that the Bank continue to play an active role in the future evolution of the WA and the sector. The project would provide a continuing opportunity to help develop the technical and financial management capabilities of WA staff through association with supervision consultants and Bank staff.

56. Risks. Major project risks relate to: (i) initial difficulties that could be encountered in the development of the WA, which could affect the timing of project execution; and (ii) the possibility of not achieving the projected number of sewer connections which could affect the WA's income and overall financial viability. The possibility of delays and resulting higher costs have been taken into account in preparing the project schedule and cost estimates. Furthermore, all necessary actions have been or will be taken in order to assist the WA in the timely completion of the project such as the appointment of qualified staff, advisors and consultants. Present trends indicate a willingness among the population to connect to the sewage system which in general would also provide cost savings. An improved tariff structure would make related costs for the water supply and sewerage services more affordable to the lower income group and subsequently enable projected revenues to be realized. Thus, the risks have been reduced to a reasonable level through the precautionary measures included in the project.

PART V - LEGAL INSTRUMENTS AND AUTHORITY

57. The draft Loan Agreement between the Hashemite Kingdom of Jordan and the Bank, the draft Project Agreement between the Bank and the Water Authority of Jordan (WA), and the Report of the Committee provided for in Article III, Section 4(iii) of the Articles of Agreement of the Bank are being distributed separately.

58. Special conditions of the project are listed in Section III of Annex III. A special condition of effectiveness of the Bank loan is the execution of the subsidiary loan agreement between the Government and the WA (Loan Agreement, Section 6.01).

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

PART VI - RECOMMENDATION

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

A. W. Clausen
President

Attachments

Washington D.C.
December 5, 1984

JORDAN JORDAN	- SOCIAL INDICATORS DATA SHEET				
				REFERENCE GROUPS (WEIGHTED AVERAGES) /a	
	1960/b	1970/b	MOST RECENT ESTIMATE/b	MIDDLE INCOME N. AFRICA & MID EAST	MIDDLE INCOME LAT. AMERICA & CAR
AREA (THOUSAND SQ. KM)					
TOTAL	97.7	97.7	97.7	.	.
AGRICULTURAL	12.0	14.0	14.8	.	.
GDP PER CAPITA (US\$)					
	..	390.0/c	1690.0 /c	1149.6	2108.6
ENERGY CONSUMPTION PER CAPITA (KILOGRAMS OF OIL EQUIVALENT)					
	127.0	211.0	706.0	622.1	993.5
POPULATION AND VITAL STATISTICS					
POPULATION, MID-YEAR (THOUSANDS)	1693.0	2299.0	3127.0	.	.
URBAN POPULATION (% OF TOTAL)	42.7	50.5	59.9	48.2	66.5
POPULATION PROJECTIONS					
POPULATION IN YEAR 2000 (MILL.)			6.2	.	.
STATIONARY POPULATION (MILL.)			16.2	.	.
POPULATION MOMENTUM			2.0	.	.
POPULATION DENSITY					
PER SQ. KM.	17.3	23.5	30.9	36.3	35.7
PER SQ. KM. AGRI. LAND	141.4	164.2	203.9	461.7	92.4
POPULATION AGE STRUCTURE (%)					
0-14 YRS	44.4	45.8	46.1	43.6	39.9
15-64 YRS	51.5	51.0	51.5	53.1	56.0
65 AND ABOVE	4.1	3.1	2.6	3.3	4.1
POPULATION GROWTH RATE (%)					
TOTAL	3.1	3.0	2.6	2.8	2.4
URBAN	5.2	4.7	4.0	4.5	3.6
CRUDE BIRTH RATE (PER THOUS)					
	47.4	47.6	44.8	40.4	31.3
CRUDE DEATH RATE (PER THOUS)					
	19.9	15.5	8.1	11.5	8.1
GROSS REPRODUCTION RATE					
	3.5	3.5	3.2	2.8	2.0
FAMILY PLANNING					
ACCEPTORS, ANNUAL (THOUS)	..	..	..	.	.
USERS (% OF MARRIED WOMEN)	..	22.0 /d	25.0 /e	22.2	40.3
FOOD AND NUTRITION					
INDEX OF FOOD PROD. PER CAPITA (1969-71=100)					
	220.0	79.0	70.0	97.3	114.3
PER CAPITA SUPPLY OF					
CALORIES (% OF REQUIREMENTS)					
	93.0	93.0	102.0	110.8	110.6
PROTEINS (GRAMS PER DAY)					
	61.0	55.0	64.0	70.1	67.3
OF WHICH ANIMAL AND PULSE					
	15.0	15.0	16.0 /f	17.8	36.1
CHILD (AGES 1-4) DEATH RATE	26.3	12.5	6.0	14.6	5.7
HEALTH					
LIFE EXPECT. AT BIRTH (YEARS)					
	46.9	54.1	64.0	57.5	64.7
LIFESPAN MORT. RATE (PER THOUS)					
	135.5	97.5	64.6	101.5	60.6
ACCESS TO SAFE WATER (%POP)					
TOTAL	21.3	..	80.0 /c	59.7	65.4
URBAN	48.6	..	..	84.5	78.1
RURAL	2.1	..	..	38.4	46.2
ACCESS TO EXCRETA DISPOSAL (% OF POPULATION)					
TOTAL	..	..	78.0 /c	..	52.9
URBAN	..	..	..	..	67.0
RURAL	..	..	..	..	24.5
POPULATION PER PHYSICIAN					
	5800.0	3780.0	1700.0	4345.1	1917.7
POP. PER NURSING PERSON					
	1930.0 /g	1480.0	1180.0	1831.1	815.8
POP. PER HOSPITAL BED					
TOTAL	560.0	1350.0	1080.0 /h	632.9	367.2
URBAN	..	1120.0	680.0 /i	545.5	411.5
RURAL	..	3440.0	..	2513.5	2636.3
ADMISSIONS PER HOSPITAL BED					
	..	36.5	45.7 /j	26.2	27.3
HOUSING					
AVERAGE SIZE OF HOUSEHOLD					
TOTAL	5.3	6.1	6.7 /c,1	..	..
URBAN	5.3	..	..	..	..
RURAL	5.1	..	..	..	..
AVERAGE NO. OF PERSONS/ROOM					
TOTAL	..	..	6.5 /c,1	..	..
URBAN	..	..	..	..	..
RURAL	..	..	..	..	..
ACCESS TO ELECT. (% OF DWELLINGS)					
TOTAL	17.0	..	66.0 /c,1	46.2	..
URBAN	39.2	..	90.0 /c,1	77.7	..
RURAL	1.4	..	30.0 /c,1	16.1	..

JORDAN	- SOCIAL INDICATORS DATA SHEET				
	1960/ ^b	1970/ ^b	MOST RECENT ESTIMATE/ ^b	REFERENCE GROUPS (WEIGHTED AVERAGES) / ^a (MOST RECENT ESTIMATE) / ^b	
				MIDDLE INCOME N. AFRICA & MID EAST	MIDDLE INCOME LAT. AMERICA & CAR
EDUCATION					
ADJUSTED ENROLLMENT RATIOS					
PRIMARY: TOTAL	77.0	72.0	103.0 / ^c	88.3	105.4
MALE	94.0	79.0	105.0 / ^c	102.5	106.3
FEMALE	59.0	65.0	100.0 / ^c	73.6	104.5
SECONDARY: TOTAL	25.0	33.0	77.0 / ^c	43.0	43.2
MALE	36.0	41.0	79.0 / ^c	52.3	41.3
FEMALE	13.0	24.0	76.0 / ^c	33.0	44.5
VOCATIONAL (% OF SECONDARY)	2.7	3.0	6.1 / ^c	10.3	33.6
PUPIL-TEACHER RATIO					
PRIMARY	34.0	39.0	31.0 / ^c	30.3	30.1
SECONDARY	20.0	23.0	21.0 / ^c	23.1	16.8
ADULT LITERACY RATE (%)					
	32.4	..	70.0	43.5	79.5
COMMUNICATION					
PASSENGER CARS/THOUSAND POP	3.7	6.7	30.7	17.8	46.0
RADIO RECEIVERS/THOUSAND POP	37.8	160.9	185.4	138.8	225.6
TV RECEIVERS/THOUSAND POP	..	20.0	38.5	46.1	107.2
NEWSPAPER ("DAILY GENERAL INTEREST") CIRCULATION PER THOUSAND POPULATION	18.3	24.4	31.3 / ^e	31.2	63.5
CINEMA ANNUAL ATTENDANCE/CAPITA	3.2	0.9	5.3 / ^f	1.7	2.8
LABOR FORCE					
TOTAL LABOR FORCE (THOUS)	432.0	569.0	754.0	.	.
FEMALE (PERCENT)	5.0	5.6	6.6	10.8	23.2
AGRICULTURE (PERCENT)	44.0	34.0	20.0	42.4	31.5
INDUSTRY (PERCENT)	26.0	9.0	20.0	27.9	23.9
PARTICIPATION RATE (PERCENT):					
TOTAL	25.5	24.7	24.1	26.2	32.2
MALE	46.7	45.5	43.5	46.4	49.3
FEMALE	2.7	2.8	3.3	5.8	15.2
ECONOMIC DEPENDENCY RATIO					
	1.9	2.0	2.0	1.8	1.4
INCOME DISTRIBUTION					
PERCENT OF PRIVATE INCOME RECEIVED BY					
HIGHEST 5% OF HOUSEHOLDS	..	..	..	..	..
HIGHEST 20% OF HOUSEHOLDS	..	..	..	..	..
LOWEST 20% OF HOUSEHOLDS	..	..	..	..	..
LOWEST 40% OF HOUSEHOLDS	..	..	..	..	..
POVERTY TARGET GROUPS					
ESTIMATED ABSOLUTE POVERTY INCOME LEVEL (US\$ PER CAPITA)					
URBAN	..	..	230.0 / ^e	274.6	288.2
RURAL	..	..	100.0 / ^f	177.2	184.0
ESTIMATED RELATIVE POVERTY INCOME LEVEL (US\$ PER CAPITA)					
URBAN	..	..	206.0 / ^e	402.6	522.8
RURAL	..	..	135.0 / ^f	284.9	372.4
ESTIMATED POP. BELOW ABSOLUTE POVERTY INCOME LEVEL (%)					
URBAN	..	..	14.0 / ^g	..	..
RURAL	..	..	17.0 / ^g	..	..
.. NOT AVAILABLE					
. NOT APPLICABLE					

NOTES

- /a The group averages for each indicator are population-weighted arithmetic means. 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; "Data for 1970" between 1969 and 1971; and data for "Most Recent Estimate" between 1980 and 1982.
- /c East Bank; /d 1972; /e 1976; /f 1977; /g 1962; /h 1978; /i 1979.

DEFINITIONS OF SOCIAL INDICATORS

Notes: Although the data are drawn from sources generally judged the most authoritative and reliable, it should also be noted that they may not be internationally comparable because of the lack of standardized definitions and concepts used by different countries in collecting the data. The data are, nonetheless, useful to describe trends of magnitude, indicate trends, and characterize certain major differences between countries.

The reference group are (1) the same country group of the subject country and (2) a country group with somewhat higher average income than the country group of the subject country (except for "High Income SEI Exports" group where "Middle Income North Africa and Middle East" is chosen because of stronger socio-cultural affinities). In the reference group data the coverage are population weighted arithmetic means for each indicator and shown only when majority of the countries in a group has data for that indicator. Thus the coverage of countries among the indicators depends on the availability of data and is not uniform, caution must be exercised in relating coverage of one indicator to another. These averages are only useful in comparing the value of one indicator of a time against the country and

AREA (thousand sq. km.)

Total surface area comprising land area and inland waters; 1960, 1970 and 1981 data.

Agricultural - Estimates of agricultural area used temporarily or permanently for crops, pasture, market and kitchen gardens or for tillage; 1960, 1970 and 1981 data.

GDP PER CAPITA (1981) - GDP per capita estimate at current market prices, calculated by same conversion method as World Bank Atlas (1980-82 basis); 1960, 1970, and 1982 data.

ENERGY CONSUMPTION PER CAPITA - Annual apparent consumption of commercial primary energy (coal and lignite, petroleum, natural gas and hydro-, nuclear and geothermal electricity) in kilograms of oil equivalent per capita; 1960, 1970, and 1981 data.

POPULATION AND VITAL STATISTICS

Total Population (Mid-Year Estimate) - As of July 1; 1960, 1970, and 1982 data.

Urban Population (percent of total) - Ratio of urban to total population; different definitions of urban areas may affect comparability of data among countries; 1960, 1970, and 1982 data.

Population Projections

Population in year 2000 - Current population projections are based on 1980 total population by age and sex and their mortality and fertility rates. Projection scenarios for mortality rates comprise of three levels assuming life expectancy at birth increasing with country's per capita income level, and female life expectancy stabilizing at 77.5 years. The percentage for fertility rate also have three levels assuming decline in fertility according to income level and past family planning performance. Each country is then assigned one of these three combinations of mortality and fertility trends for projection purposes.

Vitality Statistics - In one in which age- and sex-specific mortality rates have not changed over a long period, while age-specific fertility rates have simultaneously remained at replacement level (net reproduction rate of population in which the birth rate is constant and equal to the death rate, the sex structure is also constant, and the growth rate is zero. The stationary population size was estimated on the basis of the projected characteristics of the population in the year 2000, and the rate of decline of fertility rate to replacement level.

Population Momentum for tendency for population growth to continue beyond the time that replacement-level fertility has been achieved; that is, even after the net reproduction rate has reached unity. The momentum of a population in the year t is measured as a ratio of the ultimate stationary population to the population in the year t, given the assumption that fertility remains at replacement level from year t onward, 1981 data.

Population Density

Per sq. km. - 75-year population per square kilometer (150 hectares) of total area; 1960, 1970, and 1981 data.

Per ha. - Agricultural density - Computed as above for agricultural land only; 1960, 1970 and 1981 data.

Population Age Structure (percent) - Children (0-14 years), working-age (15-64 years), and retired (65 years and over) as percentage of mid-year population; 1960, 1970, and 1982 data.

Population Growth Rate (percent) - Annual growth rates of total mid-year population for 1970-81, 1960-71, and 1970-81.

Population Growth Rate (percent) - urban - Annual growth rates of urban population for 1970-81, 1960-71, and 1970-81.

Crude Birth Rate (per thousand) - Annual live births per thousand of mid-year population; 1960, 1970, and 1982 data.

Crude Death Rate (per thousand) - Annual deaths per thousand of mid-year population; 1960, 1970, and 1982 data.

Crude Reproduction Rate - Average number of daughters a woman will bear in her current reproductive period if the experience present age-specific fertility rates; usually five-year average ending in 1960, 1970, and 1981.

Family Planning - Acceptors (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 who are practicing or using birth-control devices, practicing any form of contraception in all married women. Users of child-bearing age are generally women aged 15-49, although for some countries contraceptive usage is measured for other age groups.

FOOD AND NUTRITION

Index of Food Production per Capita (1960=100) - Index of per capita annual production of all food commodities. Production includes food and feed and is on calendar year basis. Commodities cover primary goods (e.g. sugarcane instead of sugar) which are edible and contain nutrients (e.g. coffee and tea are excluded). Aggregate production of each country is based on national average producer price weights; 1961-81, 1970, and 1982 data.

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 change in stock that supplies include 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 distribution of population, and allowing 10 percent for waste at household level; 1961-81, 1970 and 1982 data.

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 minimum allowance of 60 grams of total protein per day and 20 grams of animal and palm 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 on an average for the world, proposed by FAO in the Third World Food Supply; 1961-81, 1970 and 1982 data.

Per capita protein supply from animal and palm - Protein supply of food derived from animal and palm in grams per day; 1961-81, 1970 and 1977 data.

Child (ages 1-14) Death Rate (per thousand) - Annual death rate per thousand in age group 1-14 years; for children in this age group; for most developing countries data derived from life tables; 1960, 1970 and 1981 data.

HEALTH

Life Expectancy at Birth (years) - Average number of years of life remaining at birth; 1960, 1970 and 1982 data.

Infant Mortality Rate (per thousand) - Annual deaths of infants under one year of age per thousand live births; 1960, 1970 and 1981 data.

Access to Safe Water (percent of population) - total, urban, and rural - Number of people in total, urban, and rural who have access to safe water supply (includes treated surface waters or untreated but uncontaminated water such as that from protected herculines, springs, and sanitary wells) as percentage of their respective populations. In an urban area a public fountain or standpipe located not more than 200 meters from a house may be considered as being within reasonable access of the house. In rural areas reasonable access would imply that the household 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 Sewage Disposal (percent of population) - total, urban, and rural - Number of people (total, urban, and rural) served by sewerage disposal as percentage of their respective populations. Sewerage disposal may include the collection and disposal, with or without treatment, of human excreta and water-carrier by water-borne system 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, assistant nurses, practical nurses and nursing auxiliaries.

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. Hospital care establishments permanently staffed by at least one physician. Establishments providing essentially curative 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.

Admission per 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 own meals. A boarder or lodger may or may not be included in the household for statistical purposes.

Average number of persons per room - total, urban, and rural - average number of persons per room in all urban, and rural unoccupied conventional dwellings, respectively. Buildings include non-permanent structures and temporary parts.

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

EDUCATION

Adjusted Enrolment Ratios

Primary school - total, male and female - Gross total, male and female enrollment of all ages on the primary level as percentage of respective primary school-age population; normally includes children aged 6-11 years but adjusted for differences in length of primary education for countries with unnormal educational enrollment age around 150 percent since some pupils are below or above the official school age.

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

Tertiary enrollment (percent of secondary) - Tertiary level instruction includes technical, industrial, or other programs which operate independently or as departments of secondary institutions.

Teacher-student ratio - primary and secondary - Total students enrolled in primary and secondary levels divided by number 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.

COMMERCE

Passenger Cars (per thousand population) - Passenger cars comprise motor cars having less than eight persons; excludes ambulances, hearse, 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 on 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 reporting general news. It is considered to be "daily" if it appears at least four times a week.

Crude Annual Attendance per Capita per Year - Based on the number of tickets sold during the year, including admissions to drive-in cinema as well as units.

LABOR FORCE

Total Labor Force (thousands) - Economically active persons, including armed forces and unemployed but excluding householders, students, etc., covering population of all ages. Definitions in various countries are not comparable; 1960, 1970 and 1982 data.

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; 1960, 1970 and 1981 data.

Industry (percent) - Labor force in mining, construction, manufacturing and electricity, water and gas as percentage of total labor force; 1960, 1970 and 1981 data.

Participation Rate (percent) - total, male, and female - Participation or activity rates are computed as total, male, and female labor force as percentages of total, male and female population of all ages respectively; 1960, 1970, and 1981 data. These are based on 15+ participation rates reflecting age-sex structure of the population, and long term trend. A few estimates are from national sources.

Sex-ratio (percent) - Ratio of population under 15 and 45 and over to the working age population (those aged 15-64).

INCOME DISTRIBUTION

Percentage of Income (from cash and kind) - Measured by richest 5 percent, richest 20 percent, poorest 20 percent, and poorest 40 percent of households.

POVERTY THRESHOLD

The following estimates are very approximate measures of poverty levels, and should be interpreted with considerable caution.

Estimated Absolute Poverty Income Level (USD per cap/yr) - urban and rural - Absolute poverty income level in that income level below which a minimal nutritionally adequate diet plus essential non-food requirements is not affordable.

Estimated Relative Poverty Income Level (USD per cap/yr) - urban and rural - Local relative poverty income level in one-third of average per capita personal income of the country. Urban level is derived from the rural level with adjustment for higher cost of living in urban areas.

Specialized Estimates: Sales and/or Service Income - Local (percent) - urban and rural - Percent of population in urban and rural who are absolute poor.

JORDAN - ECONOMIC INDICATORS

Population: 2.6 million (1983) ^{1/}
GNP per capita: US\$ 1,710 (1983) ^{1/}, ^{2/}

Indicator	Amount (million US\$ at current prices) 1983	Annual Growth Rates										
		Actual (at 1980 prices)							Projected (at 1980 prices)			
		1977	1978	1979	1980	1981	1982	1983 ^{3/}	1984	1985	1986	1987
NATIONAL ACCOUNTS												
Gross domestic product	4,098	12.4	21.5	9.1	10.8	7.4	7.1	5.5	5.0	5.5	5.0	5.0
Agriculture	273	1.0	25.0	-29.0	39.0	11.6	9.7	12.6	5.0	5.0	5.0	5.0
Industry	1,134	24.2	27.0	19.2	11.5	13.2	0.3	3.8	10.8	10.7	8.0	7.0
Services	2,223	10.1	18.9	10.2	7.9	4.3	8.9	4.8	2.4	3.0	3.5	3.7
Consumption	4,760	15.3	18.9	17.3	-7.6	6.4	3.8	4.9	1.7	4.5	5.1	5.0
Gross Investment	1,621	28.3	5.6	10.5	17.2	24.2	2.4	-5.7	1.0	-5.6	-7.0	-1.3
Exports GNFS	1,760	19.2	10.4	20.4	24.1	24.9	1.5	-9.1	9.0	10.1	9.4	7.0
Imports of GNFS	4,043	21.8	9.7	26.4	-1.7	27.4	-0.8	-6.2	1.4	3.0	3.5	4.4
Gross National Product	4,056	13.1	18.2	7.7	6.8	8.2	7.4	1.2	4.0	5.0	4.2	4.3
PRICES												
GDP Deflator		67.9	72.8	82.5	100.0	116.5	123.7	129.9				
Exchange Rate		3.04	3.26	3.33	3.35	3.07	2.84	2.76				

	Share of GNP at Market Prices (%) (at current prices)			Average Annual Increase (at constant prices)		
	1975	1980	1985	1978-83	1984-87	1987-90
	Gross Domestic Product	96.0	100.8	97.8	10.3	5.1	4.9
Agriculture	7.8	6.6	6.3	10.2	5.0	5.0
Industry	21.8	26.7	34.5	14.1	9.1	7.5
Services	59.7	57.9	57.1	8.9	3.2	3.3
Consumption	123.8	109.8	114.5	7.4	4.9	4.0
Gross Investment	26.5	40.8	38.6	8.8	-3.2	4.2
Exports of GNFS	35.5	47.9	58.0	13.6	8.8	7.0
Imports of GNFS	90.1	97.2	102.5	9.7	4.1	4.9
Gross National Product	100.0	100.0	100.0	8.0	4.6	4.3
Net Factor Income	4.1	-0.8	2.2	-	-	-
Gross National Savings	-23.8	-9.8	-14.5	-	-	-

PUBLIC FINANCE	As % of GNP (at current prices)		
	1975	1980	1985
	Domestic Revenues	24.8	22.8	23.4
Current Expenditures	37.6	33.9	23.4
Budgetary Savings	-12.8	-10.0	0.0
Capital Expenditures	23.6	22.9	12.7
Foreign Financing	34.8	27.7	11.8
of which foreign grants	30.0	20.5	7.0

OTHER INDICATORS	1978-82	1984-87
	ICOR	5.4	5.9
Marginal Gross National Savings Rate	-2.8	3.8
Import Elasticity (goods)	1.2	0.6

^{1/} East Bank only.

^{2/} Preliminary estimate based on the revised series of national accounts to be discussed with the Government, which excludes remittances from long term residents abroad that are considered capital transfers.

^{3/} Preliminary estimate.

JORDAN - EXTERNAL TRADE

Indicator	Amount (million US\$ at current prices) 1983	Annual Growth Rates										
		Actual (at 1980 prices)						Projected (at 1980 prices)				
		1977	1978	1979	1980	1981	1982	1983 2/	1984	1985	1986	1987
EXTERNAL TRADE												
Merchandise exports ^{1/}	461	27.3	6.7	22.5	22.9	31.1	2.1	-8.0	10.1	10.9	9.5	8.5
Primary	255	13.1	5.5	16.1	26.2	18.5	-3.2	-8.0	14.0	10.5	9.6	8.7
Manufactures	155	73.9	9.1	35.6	17.0	59.0	8.5	-8.1	5.0	11.5	9.4	8.3
Merchandise imports	3,066	26.2	-1.3	10.5	7.8	27.4	-1.0	-6.2	1.4	3.0	3.5	4.4
Food	497	-14.2	25.8	8.9	7.1	31.6	6.4	-6.0	1.5	4.0	4.0	4.5
Petroleum	585	19.1	-13.2	30.3	42.3	19.3	22.0	1.1	3.0	4.0	4.0	4.0
Machinery and equipment	723	43.5	-3.5	-11.7	13.6	56.6	-13.0	-18.0	1.0	1.0	1.0	1.0
Other	1,239	39.5	-9.8	27.5	-3.4	19.3	0.5	9.1	1.4	3.0	3.5	4.4
PRICES		(1975 = 100)						(1980 = 100)				
Export price index	—	86.1	85.8	90.2	106.9	107.5	113.2	90.3	97.5	106.1	112.4	118.6
Import price index	—	112.2	114.8	133.5	150.4	113.6	119.4	94.2	97.5	105.3	112.1	118.1
Terms of trade index	—	76.7	74.7	67.6	71.1	94.6	94.8	95.9	100.0	100.8	100.3	100.4

	Composition of Merchandise Trade (%) (at current prices)			Average Annual Growth Rates (at constant prices)	
	1975	1982	1987	1978-83	1986-87
	Exports ^{1/}	100.0	100.0	100.0	11.9	9.8
Primary	79.8	46.8	57.8	8.2	10.7
Manufactures	20.2	53.2	42.2	19.2	8.6
Imports	100.0	100.0	100.0	6.6	3.1
Food	22.2	16.7	18.3	9.7	3.5
Petroleum	10.6	21.0	24.3	16.8	3.8
Machinery and equipment	31.6	28.0	23.7	3.9	1.0
Other	35.5	34.3	33.8	9.0	3.1

DIRECTION OF TRADE	Share of Total Exports (%)		Share of Total Imports (%)	
	1975	1983	1975	1983
	Developed market economies	17.6	4.9	62.6	46.3
Developing market economies	70.2	82.0	29.2	46.5
of which Arab countries	42.4	63.3	19.8	48.6
Centrally planned economies	12.2	13.1	8.2	7.3

1/ Excluding re-exports
2/ Preliminary estimate.

JORDAN - BALANCE OF PAYMENTS, EXTERNAL CAPITAL AND DEBT
(millions US\$ at current prices)

Indicator	Actual								Projected				
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1990
BALANCE OF PAYMENTS													
Exports of goods & services	1001	1203	1222	1819	2691	3205	3174	3036	3557	4039	4488	4973	6774
Of which: Merchandise f.o.b.	207	269	297	402	574	742	749	579	694	832	960	1083	1517
Workers remittances	411	470	520	600	792	1042	1081	1108	1286	1402	1515	1635	2559
Imports of goods & services	1330	1714	2065	2872	3657	4550	4564	4235	4518	4951	5505	6070	8102
Of which: Merchandise f.o.b.	1020	1376	1497	1957	2393	3237	3229	3030	3181	3499	3849	4233	5634
Workers remittances	20	46	65	80	154	159	175	200	212	201	192	183	174
Net transfers ^{2/}	381	504	347	1046	1335	1321	1055	811	568	500	500	500	500
Current account balance	52	-7	-280	-7	374	-26	-335	-388	-393	-412	-517	-597	-828
Private direct investment	-10	11	56	26	31	67	91	24	50	110	118	127	157
MLT loans (net)	71	190	189	193	232	274	242	219	213	184	491	565	1010
Official	70	86	112	143	240	283	271	164	148	129	344	396	707
Private	1	104	77	50	-8	-9	-29	55	65	55	147	170	303
Other capital	-54	-21	278	20	-266	-398	-290	3	-	-	-	-	-
Changes in reserves	-59	-173	-243	-232	-371	83	292	136	130	118	-92	-95	-339
International reserves	567	740	983	1215	1536	1503	1211	1075	945	827	919	1014	1353
Of which: Gold	80	81	81	82	208	198	194	200	200	200	200	200	200
Reserves as months of imports	5.0	5.1	5.6	5.2	5.5	4.5	3.2	3.1	2.5	2.0	2.0	2.0	2.0
EXTERNAL CAPITAL AND DEBT													
Gross disbursements	91	214	223	250	306	407	374	331					
Concessional loans	80	94	119	151	133	126	184	224					
IDA	6	9	6	13	9	3	4	-					
Other	74	85	113	138	124	123	180	224					
Non-concessional loans	11	120	104	99	173	282	191	97					
Official export credits	3	3	8	2	97	159	94	10					
IBRD	-	-	-	4	22	19	11	33					
Other multilateral	-	-	-	7	14	6	30	15					
Private	8	117	96	86	40	98	56	49					
External debt													
Debt outstanding and disbursed	410	623	841	1048	1266	1481	1685	1823					
Official	361	469	609	765	993	1226	1464	1282					
Private	49	154	232	283	273	254	221	550					
Undisbursed debt	274	559	825	863	1221	995	831	521					
Debt service													
Total service payments	27	38	58	96	133	182	193	226					
Interest	8	15	24	40	58	81	61	98					
Payments as % exports ^{1/}	2.7	3.2	4.0	5.3	5.4	5.7	6.1	7.4					
Average interest rate													
of new loans (%)	2.4	6.0	6.3	5.3	6.8	5.3	6.0	7.0					
Average maturity													
of new loans (years)	25.6	14.4	18.1	21.4	14.8	17.7	20.1	17.0					
Average grace													
of new loans (years)	6.6	3.5	5.6	4.7	3.8	4.3	5.0	4.1					

As % of Debt Outstanding
at end of Most Recent Year (1983)

Maturity structure of debt outstanding	
Maturities due within 5 years	39.0
Maturities due within 10 years	58.9
Interest structure of debt outstanding	
Interest due within first year	6.0

- Data not available.

^{1/} Exports of goods and services including remittances.

^{2/} Excluding unrequited transfers by long term resident workers abroad.

THE STATUS OF BANK GROUP OPERATIONS IN JORDAN a/

A. STATEMENT OF BANK LOANS AND IDA CREDITS

(As of September 30, 1984)

<u>Number</u>	<u>Fiscal Year</u>	<u>Borrower</u>	<u>Purpose</u>	<u>Amount (less cancellations)</u>	
				<u>Bank</u>	<u>IDA Undisbursed</u>
				<u>US\$ Million</u>	
Fifteen credits fully disbursed		Jordan		86.1	-
Two loans fully disbursed		"		50.0	-
1781	1979	Jordan	Education III	19.0	7.9
1826	1980	"	CVDB	10.0	5.3
1893	1980	"	Urban Development	21.0	15.6
1986	1981	"	Power IV	25.0	7.9
2068	1982	"	Education IV	25.0	21.7
2162	1982	"	Power V	35.0	27.4
2213	1983	"	Water Supply and Sewerage	17.0	16.9
2246	1983	"	Education V	18.8	18.7
2334	1983	"	Urban Transport	30.0	30.0
2371	1984	"	Energy Devt. I	30.0	30.0
2378	1984	"	Education VI	40.0	40.0
2425	1984	"	Eight Cities Water Supply and Sewerage	30.0	30.0
2463	1985	"	Multi-Mode Transport	30.0	30.0
TOTAL				<u>380.8</u>	<u>281.4</u>
of which has been repaid				<u>1.9</u>	<u>2.8</u>
Total now held by Bank/IDA b/				<u>378.9</u>	<u>83.3</u>

a/ The status of the projects listed in Part A is described in a separate report on all Bank/IDA financed projects in execution, which is updated twice yearly and circulated to the Executive Directors on April 30 and October 31.

b/ Includes exchange rate adjustments.

B. STATEMENT OF INVESTMENTS
(As of September 30, 1984)

<u>Year</u>	<u>Obligor</u>	<u>Type of Business</u>	<u>Loan</u>	<u>Equity</u>	<u>Total</u>
			<u>US\$ Million</u>		
1974	Jordan Ceramic Ind. Co. Ltd.	Ceramic Tiles	1.6	0.2	1.8
1975/ 78/81/82	Jordan Fertilizer Ind. Co.	Phosphatic Fertilizer	79.5 <u>1/</u>	8.7	88.2 <u>1/</u>
1979	Jordan Lime and Silicate	Building Materials	2.5	0.7	3.2
1979	Jordan Securities Corp.	Money & Capital Market		0.7	0.7
1980	Jordan Leasing Co. Ltd.	Leasing	—	<u>0.3</u>	<u>0.3</u>
	Total Commitments		83.6 <u>1/</u>	10.6	94.2 <u>1/</u>
	Less Commitments Repaid, Sold or Cancelled		<u>59.0 <u>1/</u></u>	<u>0.7</u>	<u>59.7 <u>1/</u></u>
	Total Commitments now held by IFC		<u>24.6</u>	<u>9.9</u>	<u>34.5</u>
	Total Undisbursed		—	—	—

1/ Includes a \$50.0 million loan managed by IFC on behalf of other participants.

ANNEX III

HASHEMITE KINGDOM OF JORDAN

GREATER AMMAN WATER SUPPLY AND SEWERAGE PROJECT

SUPPLEMENTARY PROJECT DATA SHEET

Section I: Timetable of Key Events

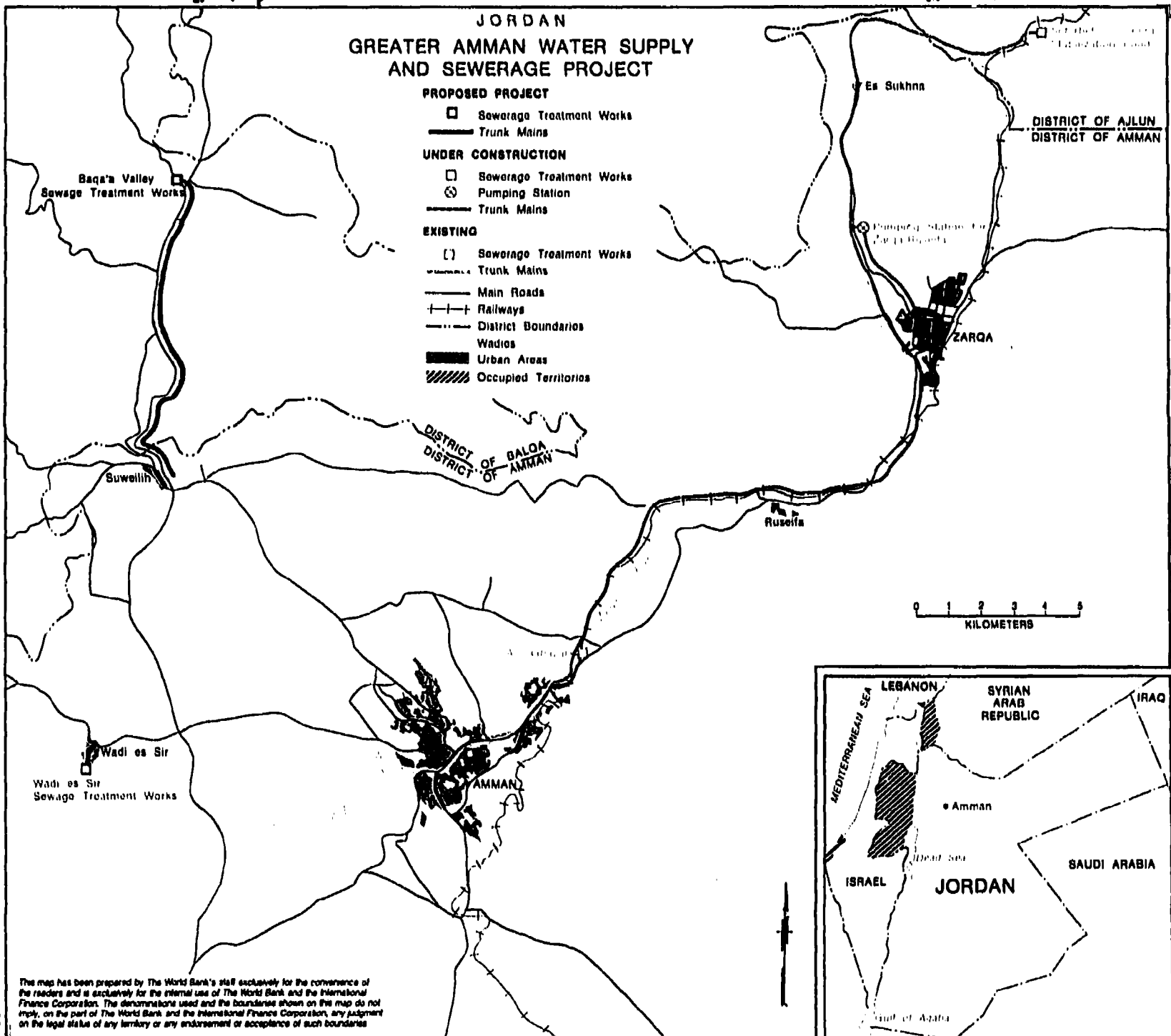
- | | |
|--|---------------------------------------|
| (a) Time taken by agency to prepare the project: | 7 months (November 1983 to June 1984) |
| (b) Agency which prepared the project: | Water Authority of Jordan (WA) |
| (c) Date of first presentation to the Bank: | November 1983 |
| (d) Date of departure of appraisal mission: | June 1984 |
| (e) Date of completion of negotiations: | November 12, 1984 |
| (f) Planned date of effectiveness: | June 1985 |

Section II: Special Bank Implementation Actions

None

Section III: Special Conditions

- (a) WA to assist low-income families with appropriate arrangements for sewer connections (para. 43).
- (b) WA to observe agreed revenue conditions for water supply and sewerage operations (para. 50).
- (c) Government to compensate WA for any deficits from operations of its tankers and at water points (para. 50).



August 1984

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