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ECONOMIC DEVELOPMENT OF JORDAN

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## ECONOMIC DEVELOPMENT OF JORDAN

### HISTORICAL FRAMEWORK

#### Origins and Early Prospects

The modern Hashemite Kingdom of Jordan was formed as a consequence of the war between Arabs and Jews over the creation of Israel in 1948, when King Abdullah of Transjordan took over the "Old City" of Jerusalem and the West Bank of the Jordan. The state of Transjordan had been established as an emirate in 1921 to console Abdullah when his brother Faisal, denied the monarchy of Syria by the French, was given the throne of Iraq, previously intended for Abdullah. It was a simple, essentially tribal, pastoral economy of some 400,000 Arabs. The emirate, converted to a kingdom in 1946, relied heavily on British guidance and financial support for its modest administrative and military needs. Its small but effective army, the "Arab Legion" was British trained and officered. The end of the fighting which accompanied the termination of the British mandate over Palestine in 1948 and the establishment of the new state of Israel, found King Abdullah's Arab Legion in possession of a substantial area extending some 35 miles to the west of the Jordan River, so as to include the "Old City" of Jerusalem, and about 75 miles from north to south. Abdullah promptly took over this former Palestine territory, and Transjordan became the Hashemite Kingdom of Jordan on April 24, 1950 when both houses of the Transjordan Legislature unanimously accepted the incorporation of the West Bank into the kingdom. The resident Palestinian population of 400,000 were admitted immediately to Jordanian citizenship, as were some 600,000 refugees from the Israeli-occupied portions of Palestine. Thus, at one stroke, the population of Jordan more than tripled; inevitably, the problems confronting its government multiplied too.

The government, pressed to provide service for larger military and public security forces, enlarged requirements for food, shelter, clothing, and medicine for the refugees, required funds beyond the capacity of Jordan's meager resources and fiscal institutions.

Political tensions generated by these new conditions and by the emergence of the new state of Israel in the midst of the eastern Arab community of nations were running high. There was internal friction between the better educated West Bank Palestinians and the less educated East Bankers, who nevertheless controlled the country under Hussein. The Arab Legion had pride and aspirations. All these factions made political balances difficult to maintain. Out of these tensions came the assassination of King Abdullah in Jerusalem in 1951, a further blow to stability. To make matters worse, in the following year the United Kingdom experienced a sterling crisis at home and decided to cut back sharply on its aid to Jordan. The United States, concerned for the stability and friendly orientation of the Middle East, joined Britain in supporting the Government of Jordan to the extent necessary to prevent its becoming a source of general conflict in the area and of contention in East/West politics. The United Kingdom supported the Arab Legion and provided help with Jordan's road building program, and the United States began a small technical assistance grant program to promote land and water resource development, agricultural education, research and extension, road maintenance and industrial technical services. From 1949 to 1952, total U.S. assistance was less than \$5 million in all these fields. Between 1953 and 1957, total economic assistance from the United States, including \$4 million in donations of food grains to voluntary agencies, amounted to \$55 million.

Early surveys of post-1948 Jordan revealed little that was encouraging.<sup>1</sup> The Kingdom's finances were in chaos; there was general unemployment; only small industry existed, and the 1948 war and

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<sup>1</sup>For example, studies were undertaken by the U.S. Aid Mission to Jordan in connection with its first Technical Cooperation grant to Jordan of \$4.7 million in 1952. (Also, U.S. Operation Mission to Jordan, A Decade of Progress, published by U.S. Information Service, undated.) A few years later James Baster saw little hope for Jordan's economic future in "The Economic Problems of Jordan," International Affairs, January 1955. The World Bank (IBRD) was not much more encouraging in its description: IBRD, The Economic Development of Jordan, Johns Hopkins Press, Baltimore, 1957, especially pp. 3-5.

continuing unrest discouraged tourism. Agriculture had changed little since Biblical times, and was totally insufficient to support Jordan's swollen population.

Such roads as existed were poor, more suitable for animals than for automotive equipment. What educational system there was had been disrupted; many rural areas had no schools or teachers. Malaria was prevalent in the low-lying Jordan Valley; malnutrition was general in the whole country, and villagers and Bedouins alike seemed hopelessly unaware of the need for sanitation. Above all, there was little water. Irrigation was hardly practiced and then poorly; livestock died in drought years; and village growth was inhibited by dependent on springs and reservoirs, but these were often clogged and silted. Even the principal cities, Amman and Jerusalem, were without adequate water supplies, and suffered shortages annually.

On the positive side, the new Jordan had added significantly to its educated merchant, civil service, and professional groups as a result of the flight of educated Palestinians from the West Bank. These proved to be critical for future potential in a fairly high level of sophisticated leadership in government, banking, and general commercial and farm development activity. The farmers in the new state, comprising a large segment of the population, were receptive to foreign technical advisory services. The more enterprising had already made improved irrigation works patterned on the excavated ruins of earlier, more advanced civilizations in the region. The potential in underdeveloped water services, opening of new lands, and applying high return to farm inputs was yet to be exploited. In addition to its people, Jordan had a few other advantages. Old Jerusalem, holy city to three great religions, was included within Jordan, the 1948 truce line dividing the city partly along the line of old city walls, so was Bethlehem. Jordan had other interesting historical sites as well: Qumran of the Dead Sea Scrolls, Petra, Hebron, Jerash, Karak. Except for Bethlehem these were almost inaccessible, and no attempt was ever made to provide facilities for tourists. Part of the Dead Sea was within Jordan's frontiers, and its rich mineral content offered

possibilities for development of potash. Some primitive mining for phosphate and a very limited amount of light industry -- glass, pottery, knick-knacks -- in the Jerusalem area completed the picture. Development toward economic viability seemed a remote goal even to contemplate. The overriding need in 1952 was for action to relieve dire need and prevent social upheaval.

The list of problems demanding attention covered a very wide range. Water resources needed development, and throughout agriculture there were opportunities for improvement. Development of Jordan's human resources; assistance to education; programs to cut the high incidence of disease, parasites, and nutritional deficiencies were all potential areas for rapid improvement. Large and small capacity roads would permit a higher volume of economic intercourse. Industrial development, on a modest scale, could be useful in reducing Jordan's dependence on imports. Minerals, to the extent commercial deposits could be found, would also merit development.

Programs were initiated in these several fields designed both to raise the level of economic activity and to provide employment for the disturbingly large number of jobless and hungry laborers. The objective of U.S. technical assistance was initially largely one of holding off contending political forces. The most essential form of aid provided was support to cover the government's budget deficit. The United Kingdom provided this from the early days of the emirate until 1957, when Glubb Pasha was expelled from Jordan allegedly for excessive interference, after which the United States covered most of the budget gap until the June war. The total aid to Jordan from the United States, United Kingdom and other sources is indicated in Table 1.

With the help of the United Kingdom, the United States, other countries and the UN, Jordan developed rapidly through the 1950s, in spite of occasional political disturbances. Though dire assessments of the prospect of viability were common in the 1950s,<sup>1</sup> thinking began to change by 1960. Jordan's First Five Year Plan (1962-1967) promulgated in 1962 called for eventual phasing-out of United States budget support,

Table 1

TOTAL U.S. AND OTHER ASSISTANCE TO JORDAN  
(in \$ millions)

I. Total U.S. Aid to Jordan, FY 1951 - FY 1968

Loans	13.1
Grants	471.3
Food for Freedom	<u>90.8</u>
	575.2

Ex-Im Bank	1.6
Other U.S. Programs	<u>1.3</u>
	2.9

Military Assistance	
Grants	52.7
Excess Property <sup>a</sup>	(12.6)
Total	<u>630.8</u>

II. Aid from Other Donors to Jordan, 1960-1967

A. Official Economic Loans and Grants Bilateral Gross Expenditures as reported by Development Assistance Committee (DAC)

	<u>Calendar Years</u>			<u>Cumulative 1960-67</u>
	<u>1966</u>	<u>1967</u>	<u>1968</u>	
United Kingdom	7.3	5.9	2.4	63.3
Germany	1.2	3.5	5.6	23.7
Other	<u>0.1</u>	<u>0.2</u>	<u>0.1</u>	<u>0.7</u>
TOTAL	8.6	9.6	8.1	87.7

B. International Agency Commitments as reported by AID/W (PRB/SRD)

	<u>Fiscal Years</u>			<u>Cumulative 1946-68</u>
	<u>1967</u>	<u>1968</u>		
IDA	3.0	-		10.0
UNDP-Special Fund	2.9	0.9		7.3
UNDP-Technical Assistance	0.6	0.4		5.4
Other U.N.	<u>0.2</u>	<u>0.4</u>		<u>2.8</u>
TOTAL	6.7	1.7		25.5

<sup>a</sup>Not included in total.

Table 1 (Continued)

C. Payments Against Khartoum Pledge of \$105 Million Annually

	<u>1967</u>	<u>Calendar Years</u>		<u>Cumulative Total Thru April 1969</u>
		<u>1968</u>	<u>Estimate 1969 Thru April</u>	
Libya	6.2	24.8	6.2	37.2
Saudi Arabia	10.4	41.6	20.8	72.8
Kuwait	<u>10.2</u>	<u>39.5</u>	<u>14.0</u>	<u>63.7</u>
Total	26.8	105.9	41.0	173.7

D. Other Arab Assistance

	<u>1967</u>	<u>Calendar Years</u>	
		<u>1968</u>	<u>Cumulative 1963-68</u>
Total all other Arab assistance	78.4	17.6	155.7

Source:

Agency for International Development, Statistics and Reports Division, "U.S. Overseas Loans and Grants," March 29, 1968, supplemented with USFY 1968-1969 data, unpublished.

the first official indication from the Jordan Government that self-reliance was possible. Tourism, remittance, and other export earnings had increased several-fold since the early 1950s. Despite a heavy burden of military expenditures, Jordan's foreign exchange reserves began rising in the 1960s, and U.S. and U.K. policy shifted to one of cutting down on concessionary assistance (aid containing some grant element) as the country prospered. The GNP in real terms increased by about 8 to 10 percent a year for more than a decade prior to June 1967, and sufficient foreign exchange had accumulated for the United States to reduce and consider eliminating budget support. U.S. budget support was \$46 million in USFY 1959; \$30 million in USFY 1967, \$10.2 million in USFY 1968 and in USFY 1969 was eliminated, as oil rich Arab states contributed over \$100 million a year to Jordan to make up the need in accordance with the Khartoum agreement of August, 1967. (See Tables 1 and 2.)

The June 1967 war interrupted a short but impressively rapid economic development performance by a country that had been regarded a decade earlier as little more than a distress case. A brief review of the elements which describe the growth of Jordan in the recent past will help in understanding the future potential.

#### The Structure of Jordan's Economic Growth, 1954-1966

The non-agricultural sectors whose aggregate value added tripled from 1954 to 1966 accounted for about 82 percent of the increase of Jordan's GDP over that period. Agriculture, whose value added doubled, accounted for the remaining 18 percent. As a result, non-agricultural value added came to represent 82 percent of gross domestic product in 1966, up from about 73 percent in 1954. The increase in non-agricultural activity was undoubtedly spurred by the large inflow of foreign aid and by the rapid growth in tourism and remittance earnings from abroad, which helped provide the finance for the imports required for non-agricultural activity.

Within manufacturing, the subsectors food processing, textiles, petroleum refining, chemicals and products, non-metallic minerals, and basic metals contributed nearly 70 percent of the total value added from

Table 2

U.S. AID TO JORDAN  
(U.S. fiscal years, millions of dollars)

Program	Post-War Relief Period	Marshall Plan Period	Mutual Security Act Period					Foreign Assistance Act Period					Total 1946-69			
	1946-48	1949-52	1953-57	1958	1959	1960	1961	1962	1963	1964	1965	1966		1967	1968	1969
AID and Predecessor Agencies - Total	-	4.7	49.2	32.7	49.1	47.8	47.5	42.8	42.0	38.6	39.6	42.3	37.2	11.6	1.5	486.6
Loans	-	-	-	-	3.7	-1.0	1.0	-1.0	-	-0.2	1.6	7.9	1.8	-	-	13.8
Grants	-	4.7	49.2	32.7	45.4	48.8	46.5	43.8	42.0	38.8	38.0	34.4	35.4	11.6	1.5	472.8
Budget Support	-	-	5.0	27.5	40.7	40.5	40.0	37.0	36.0	34.0	33.0	32.0	30.0	10.2	-	365.9
Food for Freedom, Total	-	0.4	4.3	4.7	14.4	3.2	20.3	1.5	13.3	9.8	2.2	2.1	7.1	6.7	6.8	96.7
Export-Import Bank long-term loans	-	-	-	-	-	-	-	1.6	-	-	-	-	-	-	-	1.6
Other U.S. economic programs	-	0.1	1.2	-	-	-	-	-	-	-	-	-	-	-	-	1.3
Total Economic	-	5.2	54.7	37.4	63.5	51.0	67.8	45.9	55.3	48.4	41.8	44.4	44.3	18.3	8.3	586.2
Loans	-	-	-	-	3.7	-1.0	1.0	0.6	-	-0.2	1.6	8.5	6.5	-	-	20.7
Grants	-	5.2	54.7	37.4	59.8	52.0	66.8	45.3	55.3	48.6	40.2	35.9	37.8	18.3	8.3	565.5

## Source:

AID, Statistics and Reports Division, "U.S. Overseas Loans and Grants," March 29, 1968, and unpublished records for 1968, 1969.

1957 to 1967 in mining manufacturing.<sup>1</sup> Mining and quarrying alone contributed only 15 percent, all other manufacturers another 15 percent. The relative growth in sector activity is also seen from the growth rates of major sectors as follows:

<u>Sector</u>	<u>Percent Per Year Annual Growth 1954 - 1966</u>	<u>Value Added as Percent of GNP</u>	
		<u>1954</u>	<u>1966</u>
Construction	16.6		
Factor income from abroad	14.4		
Manufacturing	12.2		
Mining, quarrying	11.2		
Electricity, water	11.2		
Services	10.4		
Ownership of dwellings	10.0		
Transport	9.6		
Trade, banking	9.4		
Livestock	8.5		
Public administration and defense	8.3		
Crops and forestry	4.6		

These growth rates can be misleading in that some sectors are small in absolute terms relative to the total GNP. Construction, for example, is the smallest sector by value added, representing less than 3 percent of GDP in 1954, but grew rapidly on this low base to over 6 percent of GDP by 1966. Visitors to Jordan over the past 15 years have been impressed with the ubiquitous evidence of industrial, commercial, and government building activity. This activity, in turn, generates and spurs activity in many supply related enterprises, while the employment creates pervasive effects throughout the economy. Net travel (tourism) earnings grew from \$2.6 million in 1959 to \$19.7 million in 1966, gross travel from \$8 million to \$31.5 million, and remittances from \$12.9 to \$29.6 million.<sup>2</sup> The major lines responsible for the growth of manufactures

<sup>1</sup>Government of Jordan, Department of Statistics, The National Accounts, 1959-1967, p. 34.

<sup>2</sup>GOJ, National Accounts, p. 19.

have already been mentioned. In mining the major growth element was the impressive increase of phosphate mining from a little over 200,000 metric tons in the middle 1950s to over 1 million tons in 1967.<sup>1</sup> On the supply side this has been due partly to the development of new deposits at Al Hasa, and on the demand side to expanding exports to Yugoslavia, India, Japan, Italy, Pakistan, Turkey, and Czechoslovakia.<sup>2</sup> A potash plant at the south end of the Dead Sea has been in the planning stage, but its progress was interrupted by the war. A measure of quarrying activity is not available, but Jordan's marble products are of good quality and have been effectively developed for the tourist industry and to some degree for export. Marble, granite, porphyry, basalt, and other stone exports were valued at nearly \$1 million before the war with Israel in June 1967. The growth rates in electricity, water, services, ownership of dwellings, transport, trade, and banking are correlated with the general growth of activity reflected in the 8-10 percent average annual growth of GNP. The petroleum refinery, which began production in October 1960, is the largest single industrial unit in Jordan, with value added of \$6 million in 1966. Construction, mining and quarrying, and food manufacturing had value added of \$26 million, \$7 million, and \$6.5 million respectively, in 1966. The 1967 levels were not substantially different.<sup>3</sup>

Crop output in Jordan -- particularly wheat and barley -- fluctuates sharply with the rainfall. For example, when average rainfall was about 42 millimeters in the 1959-1960 season, Jordan's wheat crop was 43,600 tons. When rainfall reached 100 millimeters in the 1961-1962 season, wheat output was over 138,000 tons, then dropped to 76,000 tons in 1962-1963 when rainfall had dropped to about 64 millimeters, then rose again to 278,000 tons when rainfall exceeded 140 millimeters in 1964-1965.<sup>4</sup> In 1965, wheat represented 50 percent of the value added by

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<sup>1</sup>AID Statistics and Reports Division, Economic Data Book, January 1969.

<sup>2</sup>GOJ, Department of Statistics, External Trade Statistics, 1965.

<sup>3</sup>GOJ, Department of Statistics, The National Accounts, 1959-1967.

<sup>4</sup>R. Ward, "Focus in Jordan Agriculture", Land Economics, May 1966.

crops and forestry. Crops that are irrigated (tomatoes, other vegetables, and fruits) are less affected by rainfall fluctuations and these have grown in importance since 1954 with the development of the East Ghor Canal and other irrigation works.<sup>1</sup> The irrigated output has undoubtedly helped to reduce the effect of the drastic fluctuations in wheat output. The output values in Tables 3-6 below have been smoothed to eliminate seasonal effects of rainfall.<sup>2</sup> Grains and legumes, which are almost totally unirrigated, have had negligible growth, as compared with the doubling and tripling in vegetables, fruits, vines, and olives, a significant portion of which is irrigated.

The future growth potential in output of both dry land and irrigated crops is substantial. Another study in this project estimates improved practices and varieties could increase wheat production more than threefold, barley by double its present level, lentils and other legumes fivefold, and fruits and vegetables by at least 50 percent.<sup>3</sup> The average value yield per area from fruits and vegetables is already several times as large as the yields from grains. The United States Agency for International Development, United Nations Teams, and other donors continue to assist Jordan in the improvement and further development of both dry land and irrigated cropping in Jordan.

#### ECONOMY AFTER THE 1967 WAR

Following the war with Israel in June 1967, Jordan lost, at least for the time being, the West Bank which had generated about 40 percent of Jordan's GNP, nearly all of its tourist earnings, and substantial foreign exchange earnings from remittances and agricultural exports. Nevertheless, the West Bank had been a net balance of payments deficit

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<sup>1</sup>This is developed by R. Ward and George Soussou, Priorities in Jordan Agriculture, USOM/Jordan, November 1961.

<sup>2</sup>Because of this smoothing, these tables produce aggregates somewhat different from later tables, which do not have smoothed data.

<sup>3</sup>Marion Clawson, Hans Landsberg, Lyle T. Alexander, The Agricultural Potential of the Middle East (unpublished), January 1969, pp. 17-9.

Table 3

## INDUSTRIAL ORIGIN OF GDP AND GNP -- J.D. MILLION

	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
1 Agriculture	13.5	11.4	17.0	14.7	15.3	17.09	18.85	18.75	22.42	23.08	24.12	26.77	27.18
2 VA in crops and forestry	9.0	9.4	9.6	10.1	10.7	12.12	13.48	14.48	14.70	15.12	15.60	15.71	15.51
3 Crops and forestry output	10.4	10.5	11.2	11.7	12.3	13.74	15.18	16.72	16.92	17.26	18.01	18.16	18.00
4 Intermediate costs	1.4	1.1	1.6	1.6	1.6	1.62	1.70	2.24	2.22	2.14	2.41	2.45	2.49
5 VA in livestock	4.5	2.0	7.4	4.6	4.6	4.97	5.37	4.27	7.72	7.96	8.52	11.06	11.67
6 Livestock output	5.1	2.9	8.3	5.2	5.8	5.86	6.20	5.05	8.69	9.11	9.83	13.22	14.19
7 Intermediate costs	.6	.9	.9	.6	1.2	.89	.83	.78	.97	1.15	1.31	2.16	2.52
8 Non-agriculture	37.3	40.5	46.3	53.6	61.2	70.09	74.82	85.57	87.72	95.58	101.38	116.84	122.09
9 Mining, manufacturing and Electricity	4.0	4.8	5.8	6.2	6.8	6.89	7.58	9.50	8.80	11.55	13.56	17.90	19.53
10 Construction	1.5	1.9	2.1	2.4	3.0	4.66	4.50	4.50	6.15	6.12	5.45	7.87	9.28
11 Transport	4.7	5.9	7.2	8.8	9.8	10.70	11.12	12.64	12.53	12.77	12.03	12.60	14.42
12 Trade and banking	10.9	10.9	12.3	14.1	16.9	18.81	20.44	25.55	25.09	27.78	29.52	33.54	31.69
13 Ownership of dwellings	3.5	3.5	4.4	4.7	5.0	6.30	7.13	8.01	8.58	9.38	9.93	10.69	11.20
14 Public administration and defense	8.5	9.0	10.7	12.4	14.5	14.95	15.79	16.74	17.06	17.61	19.70	21.41	22.03
15 Services	4.2	4.5	3.8	5.0	5.2	7.78	8.26	8.63	9.51	10.37	11.19	12.83	13.94
16 GDP at factor cost	50.8	51.9	63.3	68.3	76.5	87.18	93.67	104.32	110.14	118.66	125.50	143.61	149.27
17 Indirect taxes	4.0	4.9	5.6	6.2	7.0	8.36	8.86	9.27	10.28	11.39	13.43	16.66	20.89
18 GDP at market prices	54.8	56.8	68.9	74.5	83.5	95.54	102.53	113.59	120.42	130.05	138.93	160.27	170.16
19 Factor income from abroad	3.0	5.2	4.8	6.1	4.5	5.60	7.39	7.00	11.93	8.56	11.67	12.93	15.15
20 GNP at market prices	57.8	62.0	73.7	80.6	88.0	101.14	109.92	120.59	132.35	138.61	150.60	173.20	185.31

All figures are in current prices except for Row 3, the major components of which are in 1964 prices (see notes to Table 1).

## Sources:

Michael Mazun, unpublished Ph.D. Dissertation Material, M.I.T., Cambridge, Spring 1969, derived from R. S. Porter, Economic Trends in Jordan 1954-1959, Beirut, 1961 (mimeographed). Jordan Department of Statistics, The National Accounts 1959-1966, Amman, 1967. The differences in data is due to smoothing of agriculture data in this Table.

Table 4  
ANNUAL GROWTH RATES BY SECTORS

	1954/55 - 1965/66	1954/55 - 1959/60	1959/60 - 1965/66
1 Agriculture	7 %	7.5%	7 %
2 VA in crops and forestry	5	7	3.5
3 Crops and forestry output	5	6.5	4
4 Intermediate costs	6.5	6	7
5 VA in livestock	12	10	14
6 Livestock output	11.5	8.5	15
7 Intermediate costs	11	3	18
8 Non-agriculture	11	13	9
9 Mining, manufacturing and electricity	14	10.5	17
10 Construction	16	22	11
11 Transport	9	15.5	3.5
12 Trade and banking	10.5	12.5	9
13 Ownership of dwellings	11	14	8.5
14 Public administration and defense	8.5	12	6
15 Services	11	13	9
16 GDP at factor cost	10	12	8.5
17 Indirect taxes	14	14	14
18 GDP at market prices	10.5	12	9
19 Factor income from abroad	12	10	14
20 GNP at market prices	10.5	12	9

Note:

All growth rates are annual rates annually compounded.

Source:

Same as Table 1

Table 5

## ADJUSTED VALUE OF OUTPUT IN CROPS AND FORESTRY -- J.D. MILLION

	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
1 Grains and legumes	4.728	4.763	4.807	4.855	4.906	4.965	5.026	5.011	5.000	4.985	4.975	4.964	4.955
2     Wheat	2.964	3.047	3.133	3.222	3.311	3.405	4.501	3.502	3.502	3.502	3.503	3.503	3.504
3     Barley	.655	.662	.670	.679	.687	.696	.704	.679	.656	.633	.610	.588	.568
4     Others	1.109	1.054	1.004	.954	.908	.864	.821	.830	.842	.850	.862	.873	.883
5 Vegetables	2.364	2.514	2.596	2.969	3.510	4.572	4.892	6.809	6.912	7.016	7.477	7.350	6.610
6     Tomatoes	.693	.750	.751	.881	1.048	1.502	2.111	2.768	2.871	2.877	3.315	3.122	2.499
7     Cucumbers, melons and watermelons	.847	.965	1.098	1.251	1.424	1.622	1.847	1.846	1.846	1.845	1.844	1.844	1.843
8     Others	.824	.799	.747	.837	1.038	1.448	1.934	2.195	2.258	2.294	2.318	2.384	2.268
9 Fruits, vines and olives	2.521	2.456	2.784	2.852	3.229	3.428	3.873	4.150	4.417	4.728	4.869	5.084	5.443
10    Grapes	.663	.672	.756	.879	1.035	1.224	1.452	1.504	1.470	1.405	1.329	1.251	1.178
11    Olives	1.177	1.052	1.244	1.148	1.317	1.245	1.399	1.419	1.573	1.612	1.771	1.828	2.012
12    Citrus	.010	.015	.022	.030	.046	.086	.106	.243	.318	.577	.552	.699	.851
13    Other fruits	.617	.717	.762	.795	.831	.873	.916	.984	1.056	1.134	1.217	1.306	1.402
14 Construction on farms (labor)	.280	.280	.280	.260	.180	.100	.080	.160	.140	.290	.150	.220	.540
15 Tobacco	.160	.170	.420	.420	.270	.360	.110	.390	.290	.100	.410	.400	.310
16 Forest products	.320	.270	.270	.300	.200	.310	.200	.200	.160	.140	.130	.140	.140
17 TOTAL	10.373	10.453	11.157	11.656	12.295	13.735	15.181	16.720	16.919	17.259	18.011	18.158	17.998

Table 6

## ANNUAL GROWTH RATES OF VALUE OF OUTPUT IN CROPS AND FORESTRY

	1954/55 - 1965/66	1954/55 - 1959/60	1959/60 - 1965/66
1 Grains and legumes	0 %	1 %	0 %
2 Wheat	1.5	3	0.5
3 Barley	-1	1	-3
4 Others	-2	-5	1
5 Vegetables	10	16.5	5
6 Tomatoes	13	20	8
7 Cucumbers, melons and watermelons	6.5	14	1
8 Others	11	16	5.5
9 Fruits, vines and olives	7	8	6
10 Grapes	5.5	15	-0.5
11 Olives	5	3.5	6.5
12 Citrus	45.5	50	42
13 Other fruits	6	5	7
14 Construction on farms (labor)	5	-20	27
15 Tobacco	7	7	7
16 Forest products	-7	-3	-9.5
17 TOTAL	5	7	4

-15-

Note:

All growth rates are annual rates annually compounded.

Source:

Michael Wagner (See Tables 1 and 3).

area, although not to the same extent or proportion as the economy as a whole. Therefore, Jordan's balance of payments was relatively worsened as a result of the loss of the West Bank.<sup>1</sup> The deficit was more than covered, however, by large grants from the Arab oil states. Economic activity on both the East and West Banks declined sharply following the war, with the Arab banks on the West Bank closing down. There is some flow of trade from East to West Bank, but recession set in on both banks following the war. Activity on both banks has gradually resumed as the necessity to carry on became evident, but investment decisions are understandably cautious and moderate. Uncertainty is the deterrent to full resumption of activity in the sectors discussed above. Agriculture in the Jordan Valley has been disrupted by firing and intermittent hostilities across the Jordan River border between the occupied West Bank and the East Bank. On the other hand, exports of agricultural and other commodities do not seem to have been seriously affected by the splitup of the country.<sup>2</sup> Imports have declined sharply, however, reflecting the cautious spending outlook within the country in the face of the uncertainty. A sector breakdown of activity in the post-war

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<sup>1</sup>An article in Israel Economist, October - November 1967, "Is Jordan's Economy Dependent on the West Bank?" suggests that the East Bank's balance of payments position is better off because the West Bank normally ran a deficit of about \$10 million. The loss of the West Bank, therefore, it is argued, would save the East Bank this additional burden. This is a misleading assessment. In the past, Jordan has been running an annual deficit with the world of about \$50-\$60 million. Thus, if foreign capital inflow were allocated on a per capita basis, the West Bank should have been running at least a \$25 million deficit. In this sense, it might be argued that the West Bank was contributing \$15 million a year to the East Bank. In short, the West Bank was the more nearly viable part of Jordan. The simplistic assumption that divesting itself of the West Bank with a deficit will improve the East Bank economy overlooks the effects of the benefits of the larger volume of economic activity the united economy of Jordan generated, at least for both banks. While the West Bank may more than be compensated in new activity with Israel, the East Bank will not benefit, except to some extent indirectly, from West Bank/Israel economic intercourse (For discussion and conflicting views on this issue see E. Kanovsky, "The Economic Aftermath of the Six Day War, Part II," The Middle East Journal, Summer 1968; and criticism of the East Bank viability concept propounded by Kanovsky by R. Ward in the same journal, Summer 1969, pp. 285 ff.)

<sup>2</sup>AID Economic Data Book, July 1968, shows commodity exports at the 1966 level on 9 months of 1968 data and phosphate exports also keeping up with the 1966 level. The estimates are presumed to deal with both East and West Banks.

period is not available, but it would undoubtedly reflect a depressed economic situation on each Bank. The 1967 GNP for the two Banks combined, therefore, would be lower than that for 1966 when the country was united, although preliminary reports show it higher.<sup>1</sup> The unemployment situation on the East Bank is severely aggravated by the addition of at least 200,000 displaced persons from the West Bank who fled during the June 1967 war. Thus, if special post-war grants in aid are excluded and the added refugee burden is added, the East Bank economy is far from viable. The East Bank is able to function well only because of the contributions made to the GOJ by the oil rich Arab countries of over \$100 million a year.

Such, in brief, is the context within which further development in Jordan must take place. Once a political holding operation, in little more than a decade the prospects for eventual economic self-reliance became decidedly hopeful. Should peace and cooperation prevail between Israel and the Arabs, the opportunities for continued rapid growth and consequent assimilation of the unemployed are numerous. The refugee problem created by the 1948 war had by no means disappeared prior to June 1967, but with Jordan's real GNP growing at an average rate of about 10 percent a year for at least a decade, refugees were finding ways to supplement their welfare (UNRWA) income or rations or to leave their camps altogether for better jobs and housing. In some instances, the country's rapid growth reached into the refugee camps and was slowly transforming them into suburbs of larger cities or into separate town entities.

This growth process was interrupted by the June 1967 war with Israel. This study deals primarily with the post-June war era, and particularly with the prospects and problems relating to reconstructing or refashioning the pre-war development momentum. Resumption of Jordan's recent past growth would soon follow a genuine political settlement

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<sup>1</sup>Middle East Economic Digest, March 1969 7, p. 317, citing GOJ Department of Statistics, The National Accounts 1954-1967.

in the area, though eventually a somewhat slower growth rate could be expected. Without a political or de facto settlement, both the political and economic outlook for a truncated Jordan would seem problematic at best.

#### PROSPECTS AND PERSPECTIVES

The sections to follow will examine the prospects for Jordan under various assumptions, varying from optimistic (a generally favorable political settlement) to pessimistic (no Middle East political settlement) and a lower level equilibrium trap economically for the East Bank.

#### Prospects

The projections to 1980 presented in Table 7 assume a general Middle East political settlement in which (1) the West Bank is returned to Jordan by 1970-1971, (2) Jordan will still receive a share of the income generated from Jerusalem's unique tourist attractions, (3) more freedom of tourist traffic and trade will be permitted between Jordan and Israel. Under these assumptions Jordan would be able to resume the high rate of growth it experienced in the last decade.<sup>1</sup> The projections assume resumption or expansion of investment in developing accommodations and measures for attracting tourists to the area, promoting optimum development of vocational and higher educational programs that upgrade the quality of labor, thereby contributing to Jordan's manpower needs as the economy progresses, broadening employment opportunities for Jordanians in Jordan or abroad, and supporting projects designed to increase earnings and employment from agriculture and mineral resources, such as water and land development from manufacturing, and

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<sup>1</sup>There are differences of view on whether Jordan experienced any inflation in the decade prior to the June 1967 war. AID, Statistics and Reports official assumption has been that there was virtually no inflation, while Oded Remba in The New Middle East, March 1969, p. 28 reflects price changes of about 1 to 1.5 percent a year. The real growth of Jordan's GNP could, therefore, be assumed to be between 8-10 percent per annum in the decade prior to 1967. We have adopted the AID position that there was no inflation.

Table 7

## JORDAN'S GNP, ACTUAL AND PROJECTED

	Actual				Projected			
	1954	1959	1966	Percent Growth Per Year 1954-1966	Percent Growth to 1975	1975	Percent Growth to 1980	1980
GNP (current prices) <sup>a</sup> \$ millions	161.8	277.6	532.4	10.6	6.5 <sup>c</sup>	937.0	8.5	1405.5
Population <sup>b</sup>	1410	1636	1954	3.0	2.7	2491	3.0	2890
GNP per capita (\$)	115	170	272	7.6	3.8	376	5.0	486

## Notes:

<sup>a</sup>For 1954, R. S. Porter, Economic Trends in Jordan, 1954-1959, Middle East Development Division, Beirut, July 1961 (mimeographed). For 1959-1966: Government of Jordan, The National Accounts, 1959-1967, updated. The two series are not precisely comparable, but the statistical discrepancies have been adjusted to eliminate nearly all of the discontinuities. These figures differ from GNP data presented in Tables 3-6 due to smoothing in earlier tables of agriculture data and adjustment of indirect taxes. The official U.S. data on Jordan's GNP can be taken as the real GNP. (AID, Statistics and Reports Division, Economic Data Book.)

<sup>b</sup>No estimates of the 1954 or 1959 population are official, since the first census was not taken until 1961. The 3 percent growth per year rate is the 1961-1966 rate projected back to 1959 and 1954. Some reduction in growth is expected to result from emigration from the region as a result of the conflict with Israel. The rate is presumed to increase again as peace prevails.

<sup>c</sup>A lower growth is assumed to account for the years in which the country will have been divided and hence depressed between 1966 and 1975. A settlement and return of the West Bank is assumed, with an arrangement with respect to Jerusalem to enable Jordan to share in its revenues.

from export of potash and phosphate. A provision in the projection is also made for the possibility of Israel's granting Jordan free access to a Mediterranean Port.

Even before new programs and efforts are launched, Jordan could improve the effectiveness of present policies and programs with modest financial investment. With improved fiscal management in the Jordan Government resources available for development could be increased. Better enforcement of tax laws and reform of the tax structure to extend coverage and reduce waste, inefficient employment practice's and outlays for the military -- all these could make substantial resources available to the Government of Jordan for development. A program for promoting exports and checking the importation of luxuries and semi-luxuries would also improve the chances for long term balance of payments equilibrium.

Jordan's farmers could increase the productivity of lands already under irrigation by planting more than one crop a year.<sup>1</sup> Agriculturalists in Jordan believe that with such an effort, output of vegetables could increase at least by 50-60 percent in 5 or 7 years. As indicated earlier, programs now under way in improving methods of growing wheat in Jordan through summer fallowing, fertilizer use, weed control, and improved seed varieties could triple wheat output.<sup>2</sup>

#### Implications of Projections

These projections are optimistic in assuming a peaceful Middle East and Jordan's capacity to continue to benefit from effective promotion of tourism, trade and exploitation of water, mineral, commercial and other potentials in the area. Given this assumption the projections in Tables 7-11 are plausible expectations. As projected in Table 8, the total investment, both private and public, required to generate the GNP growth to 1980 indicated in Table 7, is roughly equivalent, in proportion to GNP increase, to the projected in Jordan's Seven Year

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<sup>1</sup>Richard J. Ward, "Focus in Jordan Agriculture."

<sup>2</sup>Cf. Clawson, et al., 17-9.

Table 8

CONSUMPTION AND INVESTMENT IN JORDAN PAST AND PROJECTED TO 1980  
(\$ Millions or percent per annum)

	Current Prices			% Growth Per Year 1959-1966	Projected Growth to 1975 % p.a.	1975	Projected Growth to 1980 % p.a.	1980
	1959	1965	1966					
Private Consumption	243.8	386.6	424.9	8.0	5.5	692.9	7.0	996.9
Current Govt. Consumption	71.3	103.0	106.9	5.5	6.0	183.0	7.5	268.5
Private Fixed Capital Formation	36.5	37.9	44.7	6.5	7.0	82.0	8.5	128.8
Government Fixed Capital Formation	14.1	28.9	36.8	6.5	7.0	67.4	9.0	109.8
Change in Stocks	-15.4	10.9	5.2	-	-	-	-	-
Consumption Plus Investment	350.3	567.3	618.7	-	-	1025.3	-	1466.0
Current Account Deficit	-72.7	-61.8	-86.5	-	-	-80.4	-	-70.2
Expenditure on GNP	277.6	505.5	532.2 <sup>a</sup>	9.7	6.5	944.9	8.5	1428.8
<u>Relationships</u>								
Total Capital Formation <sup>b</sup>	35.2	77.7	86.7	6.5	9.3	149.4	9.3	233.6
Domestic Saving	21.3	60.4	37.5	14.2	10.0	90.0	9.0	198.0
Government	13.7	5.7	15.7	-	-	-	-	-
Private	7.6	54.7 <sup>c</sup>	21.8	-	-	-	-	-
Saving as % GNP	7.7	11.9	7.0	-	-	9.5	-	13.8
Saving as % Capital Formation	60.5	77.7	43.3	-	-	60.2	-	84.7

Footnotes (Table 8)

Notes:

<sup>a</sup>GOJ official accounts show \$520 million, but we have averaged 1965 and 1966 agriculture due to wide fluctuation. The difference (\$12 million) is allocated as follows: private consumption \$6 million, current government consumption, government, and private capital formation each \$2 million. As this is the agriculture sector it is reasonable to assume most of the difference would be on-farm consumption.

<sup>b</sup>Private plus government investment based on a 3 to 1 capital/output ratio. A sector breakdown could show differing c/o ratios, but data are inadequate to make useful investment estimates by sector.

<sup>c</sup>GOJ, National Accounts, 1959-1966, shows private savings of \$55 million for 1965 which is drastically above 1963 or 1964. Credit to savings may have been given for temporary crop and livestock holdings, which fluctuate widely.

Plan, 1964-1970. It is somewhat above the actual levels achieved in the recent past but would certainly be attainable in a politically stable environment. The projected investment and GNP levels also reflect an overall capital output ratio of about 3 to 1, which is typical for countries in Jordan's stage of development, though greater than was characteristic of Jordan from 1959 to 1966.<sup>1</sup> To help finance the required investment, domestic savings are projected to rise from 43 percent of investment in 1966 to 60 percent of investment by the year 1975. This may be somewhat ambitious but it is a legitimate target for a country seeking self-sustaining growth.

Achievement of these targets could produce about an 80 to 85 percent increase in Jordanian per capita income in real terms by 1980 (Table 7). Inflation has not been a serious problem in Jordan in the past.

The distribution of the projected growth by economic sectors is indicated in Table 9. Growth rates of these sectors between 1966 and 1975 are projected lower than their long term trends because of the disruptions and repercussions of the 1967 Arab-Israeli war. With a settlement assumed by 1970 more rapid rates of growth in most sectors are assumed thereafter, averaging out to 6.5 percent for 1966-1975. GNP growth at constant prices is projected at 6.5 percent from 1966 to 1975 and about 7 percent per year between 1975 and 1980. This roughly coincides with the growth projected independently in Table 2, using local force and productivity assumptions. As Jordan acquires characteristics of a developed economy, resource constraints will probably reduce the more rapid opportunities for growth, the economic base will be larger and competition for foreign markets intensified. Beyond 1980, therefore, lower rates of growth, say 6 percent a year, could be expected. These are still optimistic but not unrealistic growth projections.

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<sup>1</sup>Others argue for a smaller ICOR for Jordan on the basis of the high aid input and import deficit (See J. Vanek, "Toward a Better Understanding of the Incremented Capital -- Output Ratio," Quarterly Journal of Economics, August 1968, p. 463; also "Preliminary Report on Palestine Refugees," December 2, 1968, unpublished document.

Table 9

PROJECTION OF JORDAN NATIONAL ACCOUNTS BY SECTOR, 1975, 1980  
(\$ Millions, Current Prices)<sup>a</sup>

Factor Costs

	1959	1966	% of Total (1966)	Actual % Growth Per Year 1959-1966	% Growth Projected to 1975	1975	% Growth p.a. to 1980	1980
Agriculture	42.2	89.5	16.8	11.2	8.0	179.0	8 <sup>b</sup>	272.1
Crops, forestry	28.4	60.3	11.3	11.2		-		
Livestock	13.9	29.2	5.5	11.0		-		
Manufactures, mining <sup>c</sup>	17.4	48.4	9.2	15.9	4.0	69.2	10	112.1
Construction <sup>d</sup>	13.0	26.0	4.9	10.4	5.0	40.6	9	62.9
Electricity and Water <sup>e</sup>	1.8	6.3	1.2	19.5	5.0	9.0	15	19.6
Transport <sup>f</sup>	30.1	40.4	7.6	4.2	3.0	52.9	5	67.7
Wholesale, retail trade <sup>f</sup>	50.4	81.0	15.3	7.5	5.0	126.3	8	185.7
Banking	2.2	7.8	1.5	20.0	5.0	12.2	15	24.4
Ownership of dwellings	17.6	31.4	5.9	8.5	7.0	57.1	9	88.5
Public administration, defense <sup>g</sup>	41.9	61.7	11.7	5.6	6.0	104.9	6	141.6
Services <sup>h</sup>	21.8	39.0	7.3	8.5	7.0	71.0	7	100.1
Indirect taxes <sup>i</sup>	23.4	58.5	11.1	14.0	9.0	128.7	9	199.5
Net foreign income	15.7	42.4	8.0	15.2	9.0	93.2	11	154.7
GNP	277.6	532.4	100.0	9.7	6.5	944.9	8.5	1,428.9

Footnotes to Table 9

Source of Basic Data: GOJ Department of Statistics, The National Accounts, 1959-1966

Notes:

<sup>a</sup>In view of wide fluctuations in agriculture output average of three years, 1964, 1965, 1966 used. Total GNP figure therefore differs from GOJ official accounts.

<sup>b</sup>The lower growth rate is based on the period of disruption caused by the Arab-Israeli war of June 1967. The growth rates to 1980 assume emigration from the agricultural sector at a more rapid pace.

<sup>c</sup>See Table

<sup>d</sup>Based on slowdown during 1967-1968 crisis years and lag in resumption of activity until 1970. The post 1975 growth assumes full resumption of activity, though at a slower rate.

<sup>e</sup>The growth rate 1966-1975 reflects the post June 1967 war disruption of activities due to West Bank split off and conflict in Ghor Valley. The growth rate to 1980 assumes full resumption of activity, plus larger and more rapid implementation of projects arising out of a peace settlement.

<sup>f</sup>Assumes some trade between Jordan and Israel and free flow of tourists across borders.

<sup>g</sup>The 1975 projections assumes that due to added unemployment caused by the refugee situation, reduction in army forces cannot take place. Value added from defense expenditures are projected to grow to 1975 at slightly above the earlier rate. This will allow for a 5 percent per year increase to 1970 in value added from other public administration and a somewhat higher growth per year from 1970-1975. Beyond this year the growth in defense expenditures could be less than the growth in other public administration outlays.

<sup>h</sup>Much of this is tourist related and therefore was severely undermined at least in 1967 and probably also in 1968. The low growth rate allows for some recovery after a peace settlement. The 1970-1975 forecast assumes full resumption of the high growth rate of the past as tourist travel is stimulated by an assumption of open border arrangements -- an assumed element of a political settlement.

<sup>i</sup>The projection to 1975 is derived from ratio of indirect taxes to total current revenue of government which was fairly steady at about 30 percent from 1959 to 1964. It rose in 1965. Over the longer run period to 1980 and 2000 the growth in this item is expected to slacken as direct taxes pick up a greater share of the tax burden.

Jordan's balance of payments (Table 10) is projected as showing a relative improvement up to 1980, but the deficit on goods and services will probably continue to be significant on an absolute basis at \$70 to \$80 million a year. To keep the deficit in goods and services down to this level will require substantial expansion of receipts from tourism, remittances, and commodity exports, to meet the expansion of imports that can be expected from the growth of GNP. The projected 80 percent increase in imports should contribute significantly to the country's development and standard of consumption.

Finally, projections of the productivity of labor at rates commensurate with recent growth implies that Jordan will be able to generate close to 300,000 jobs at constant prices between 1966 and 1980 (Table 11). It is estimated that labor productivity increased by 3.8 percent a year from 1961-1966 in our estimate. This rate should be sustainable and we have projected it to 1980, as indicated in Table 11, Column 4. The relative growth patterns by economic sectors are shown in the projections of national accounts by sector. This should accommodate the natural growth in the labor force and absorb a large part of the unemployment largely associated with the refugees. To some extent, emigration to countries in the region, to Europe or other areas, should help reduce the level of unemployment and underemployment that prevailed in 1966. A political settlement with Israel would also involve some plan for repatriation of some refugees to Israel and a compensation plan would aid resettlement in newly developed areas. Israel's employment of the estimated 15,000 Jordanians and several thousands Gajans in an economy still needing labor may be indicative of the potential. Labor force data are extremely tenuous, but given the GNP, population, and other growth expectations indicated in these tables, there are fairly good grounds for projecting a rate of creation of job options over the long run adequate to absorb the natural growth in the labor force and the unemployed (including the refugees), particularly if Jordanians continue to take advantage of the job opportunities elsewhere in the Middle East, in Israel, and in Europe. Though these

Table 10

JORDAN BALANCE OF PAYMENTS ACTUAL AND FORECAST<sup>a</sup>  
(\$ Million)

	1965 <sup>b</sup>	1966 <sup>c</sup>	1967 <sup>d</sup>	1968 <sup>e</sup>	1970 <sup>f</sup>	1975 <sup>g</sup>	Growth Projected 1975-1980 % p.a.	1980
1. Total Foreign Exchange Earnings	<u>81.04</u>	<u>91.59</u>	<u>57.70</u>	<u>34.09</u>	<u>113.10</u>	<u>167.90</u>	<u>8.5</u>	<u>255.22</u>
A. Commodity Exports <sup>h</sup>	<u>27.75</u>	<u>29.10</u>	<u>21.00</u>	<u>39.93</u>	<u>46.10</u>	<u>72.00</u>	<u>7.0</u>	<u>106.43</u>
Minerals	<u>6.80</u>	<u>8.80</u>	<u>6.00</u>	<u>11.42</u>	<u>19.60</u>	<u>30.00</u>	<u>7.0</u>	<u>106.43</u>
Phosphate	6.80	8.80	6.00	11.42	19.60	27.50	8.0	40.43
Potash	-	-	-	-	-	2.50	-	5.00
Agricultural Goods	<u>13.72</u>	<u>12.14</u>	<u>8.80</u>	-	<u>16.50</u>	<u>26.00<sup>q</sup></u>	<u>8.0</u>	<u>40.00<sup>t</sup></u>
Tomatoes	2.32	5.32	3.86	-	-	-	-	-
Lentils	2.08	.57	.42	-	-	-	-	-
Watermelons	1.43	.56	.36	-	-	-	-	-
Cigarettes (Tobacco)	1.16	.90	.66	-	-	-	-	-
Egg Plant	.99	.79	.57	-	-	-	-	-
Broad Beans	.15	.32	.23	-	-	-	-	-
Other Vegetables	1.47	.70	.53	-	-	-	-	-
Bananas	.56	.80	.58	-	-	-	-	-
Other Fruits	1.07	.20	.14	-	-	-	-	-
Wool, Hides, Animals	.59	.79	.58	-	-	-	-	-
All Other Agriculture	1.90	1.19	.87	-	-	-	-	-
Miscellaneous <sup>j</sup>	<u>7.23</u>	<u>8.16</u>	<u>6.20</u>	-	<u>10.00</u>	<u>16.00</u>	-	<u>21.00</u>
B. Tourism/Travel (Net)	<u>15.46</u>	<u>16.90</u>	<u>9.80</u>	<u>-6.70</u>	<u>23.00</u>	<u>37.00</u>	<u>9.7</u>	<u>74.60</u>
C. Remittances <sup>k</sup>	<u>24.67</u>	<u>29.59</u>	<u>19.40</u>	<u>+3.90</u>	<u>30.00</u>	<u>40.00</u>	-	<u>50.00</u>

Table 10 (Continued)

	1965 <sup>b</sup>	1966 <sup>c</sup>	1967 <sup>d</sup>	1968 <sup>e</sup>	1970 <sup>f</sup>	1975 <sup>g</sup>	Growth Projected 1975-1980 % p.a.	1980
D. Other Services (Net) <sup>m</sup>	<u>14.42</u>	<u>16.00</u>	<u>11.20</u>	<u>-3.04</u>	<u>14.00</u>	<u>18.90</u>	<u>5.0</u>	<u>24.19</u>
2. Imports <sup>n</sup>	<u>-156.16</u>	<u>-190.98</u>	<u>-154.10</u>	<u>-158.51</u>	<u>-190.00</u>	<u>-242.00</u>	<u>6.0</u>	<u>-325.40</u>
3. Balance on Goods, Services	<u>-75.12</u>	<u>-99.40</u>	<u>-77.84</u>	<u>-124.42</u>	<u>-76.90</u>	<u>-80.39</u>	-	<u>-70.18</u>
4. Financing the Deficit	<u>85.53</u>	<u>95.16</u>	<u>151.77</u>	<u>156.80</u>	<u>64.50</u>	<u>72.00</u>		<u>61.00</u>
U.S. Budget Support	29.20	27.60	18.00	-	-	-	-	-
U.K. Budget Support	3.92	3.64	2.80	2.50	2.00	-	-	-
U.S. Technical Assistance	4.34	4.80	3.13	3.00	7.00	5.00	-	1.00
Arab Grants	5.00	24.00	100.20	117.90	10.00	10.00	-	-
UNRWA, Other UN	16.83	15.74	13.44	15.00	10.00	-	-	5.00
Development Loans								
U.S. (Incl. 104(g))	1.00	2.50		2.00	10.00	15.00	-	10.00
U.K.	1.96	2.24	2.52	2.80	2.50	2.00	-	-
Kuwait, Other Arabs	15.64	2.58	5.00	5.60	10.00	20.00	-	20.00
All Other	.14	4.64	1.00	5.00	5.00	10.00	-	10.00
Private Capital	7.50	7.42	5.58	3.00	8.00	10.00	-	15.00
5. Balance	<u>+8.00</u>	<u>-4.24</u>	<u>+73.93</u>	<u>+32.38</u>	<u>-12.40</u>	<u>-8.39</u>	-	<u>-9.18</u>
Errors and Omissions	<u>+2.80</u>	<u>+14.30</u>	<u>+14.30</u>	<u>+3.64</u>				
6. Change in Reserves	<u>+10.80</u>	<u>+10.06</u>	<u>+88.23</u>	<u>+36.02</u>				

Footnotes to Table 10

<sup>a</sup>Forecast based on a political settlement.

<sup>b</sup>Aggregate data for 1965 on earnings, tourism, remittances, other services from AID data. Phosphate and agricultural data from GOJ, Statistical Yearbook, 1965. The miscellaneous item is a residual in 1965, 1966, and 1967. To get GOJ reserve additions in 1965, 1966, transfers of assets from Commercial Banks to the Central Bank must be taken into account. International Financial Statistics Bulletin of the IMF shows Central Bank reserves up \$64 million, but Commercial Bank foreign assets down \$41 million. Recent IMF corrections show net reserves of \$8 million in 1965. A similar correction is made in 1966. Also GOJ, National Accounts, 1959-1966.

<sup>c</sup>Aggregate data for 1966 from U.S. AID Mission in Jordan message, October 26, 1967. Agricultural and phosphate data from GOJ, Department of Statistics, Quarterly Bulletins of Current Statistics, 1966. Data for individual products tends to fluctuate considerably from year to year, but these levels or two year average thereof used as basis for projection. Net other services is based on government, investment income, freight and insurance and other transportation income, and other services exclusive of remittance earnings. Trade Data, INIF, IFS Bulletin, May 1969.

<sup>d</sup>From June 30 on, the 1967 figures assume East Bank only, due to division of country. The phosphate figure is an AID/Washington estimate. The Agricultural figure is based on division of these exportables between East and West Bank. Of these products, it is estimated the East Bank produces about 45 percent (it would be higher if wheat and barley were included) and this is the percent assumed of one-half of the previous year's export level of agricultural products. The first half year is assumed to be half of the 1966 figure. This same method is used for each agricultural product.

All figures are presumed to be calendar year totals. A fourth quarter U.S. budget support payment in JFY 1967 was not made, but a \$3 million U.S. grant for feasibility studies is included in the U.S. Technical Assistance (TC) figure for 1967. Other Trade totals are IMF, IFS Bulletin, May 1969.

The 1968, 1970, 1975 U.K. figures are an AID/W estimate.

The large Arab grant figure includes \$24 million from the Arab League of March 1967; \$45 million in Arab emergency aid from June-August 1967; \$4.2 million in development grants; \$28 million in October based on the Khartoum Summit offer of \$112 million.

<sup>e</sup>IMF, International Financial Statistics, May 1969 for all data. The Fund includes the West Bank. The Fund shows debits for government and bank goods and services which is partly reflected in the negative "other services" category.

Footnotes to Table 10 (Continued)

<sup>f</sup>By 1970 it is assumed that the West Bank will be returned to Jordan and some growth from the pre-war (1966) level can be expected. The tourism figure would have to assume an opening of borders between Israel and Jordan and some formula which would give Jordan its share in a larger tourism volume. The import level with inclusion of the West Bank is sharply upward, but uncertainty and rehabilitation problems are assumed to keep the figure below the 1966 level. As part of a peace settlement we assume more active marketing of phosphate will take place. The agriculture figure assumes that when the West Bank is returned exports after 1966 will achieve about the equivalent of two years of its previous growth rate of 10 percent per year. An arrangement for passage of goods through Israel may not have had time to affect these elements, but opening of borders should spur tourism and a resumption of remittances. An agreement of facilitating the flow of workers abroad may not be in effect by then, but more Jordanians will have fled abroad during the upheavals of 1967-1969 and this should help bring the remittance level back to the 1966 level. Imports should surpass the 1966 level as activity begins to expand, depleted inventories get restocked and new business opportunities and optimism return with assurances of foreign assistance with water development, education and other possibilities for growth.

There are deficits in the balance of payments, but with reserves still available, the size of the deficits is not serious.

<sup>g</sup>By 1975, the water development projects, open borders for tourists and trade, the initiation of potash sales, and resultant spurs to each of the elements in the balance of payments -- all should provide Jordan with a chance to reach close to a self-sustaining growth pattern, assuming no budget support but continued development loan assistance.

The physical and market capacities are there for phosphate, potash, agricultural exports, tourism and remittances, if a forceful development effort, adequately funded, can be mounted.

The 1975 agriculture estimate assumes that 50 percent of the value added as of 1966 and after results from irrigated lands. Assuming that water development could bring a tripling of this income, while the remaining value added continued to grow at 8-10 percent for 9 years (1966-1975), which is a little less than the prime exports have grown since 1959, the 1975 figure would be:

		<u>1966 Level (\$12.14 million in Table)</u>	
Irrigated (a)	.5	(\$12.14 million x 3) = \$18.21 million	
Non-irrigated (b)	or	{ 6.07 x .10 (9 yrs compound) = \$14.40 million	
		{ 6.07 x .08 (9 yrs compound) = \$12.00 million	
Total 1975 Agriculture Income Range =		\$30.21	- \$32.61 million

A \$30 million figure for 1975 agricultural exports could be taken as a lower limit based on extension of past growth of agriculture at 10 percent a year, based on the 1966 level. An upper limit could be

Footnotes to Table 10 (Continued)

determined by the number of irrigation projects brought into effect by 1975 and 1980.

Growth in remittances assumes a renewed effort in vocational education which will supply a continued flow of Jordanian teachers and laborers not only to the Middle East countries, but to European and other countries.

Imports are projected to grow at 5 percent a year from 1970-1975, on the assumption that the 1970 level was high and that some restraint will have to be exercised to avoid a serious balance of payments deficit.

The development grant and loan inputs are drawdown estimates from amounts pledged by various donors as part of a peace settlement to support accelerated growth in the area.

<sup>h</sup>Projections to 1980 represent an approximate extension of the 1970-1975 growth rates. Potash development, which may only barely get underway by 1975, is projected to double by 1980 and again by 2000.

<sup>i</sup>According to AID engineers, 143,000 acres could be irrigated and brought into use if all prospective water projects were developed. I have assumed a net value per acre of \$250 as an average of the new revenues per acre shown in column 8 of Table 10. This net is higher than those used by the World Bank in its 1957, The Economic Development of Jordan, but agrees with the more current USAID Mission Study noted in the source footnote to Table 9, and with AID/Washington Engineering recommendations. Gross yields per unit of land vary sharply from bananas at \$221 per dunum or \$884 per acre, to tomatoes \$116 per dunum or \$464 per acre to wheat at \$18 per dunum or \$72 per acre and sesame at \$11 per dunum or \$44 per acre. The net figure of \$250 would generate additional gross income on 140,000 acres of about \$35 million to Jordan's economy as a whole. Added to previous levels and normal growth of both irrigated and dry land farming exports, I have assumed that something over one-half of the irrigated output is exported (calculation in footnote g), the remainder of the export projection is made up of dry land exports. By 1980 it is reasonable to expect exports of agricultural goods to rise; I have assumed this figure to be \$45 million. If we assume that 50 percent of the total increase of \$130 million in value added in the agriculture sector (Table 3) was due to irrigated agriculture, this would be \$65 million, of which the \$35 million here would represent the newly irrigated areas and \$30 million would represent the growth in already existing areas, while the other \$65 million would represent the increase in value added from dry land farming.

<sup>j</sup>1975-1980 assumed to grow by about \$1 million a year, a little less than 1970-1975 rate to 1980. These include textiles, shoes, batteries, animals, cereals, beverages, cigarettes, tobacco, quarry products, other.

Footnotes to Table 10 (Continued)

<sup>k</sup> Predicting the outflow of Jordanians who work abroad rests on so many nebulous factors that this has to be an arbitrary projection of past. The rate of growth is assumed to decline as conditions at home improve, Jordanians living abroad settle permanently there. Even so, the estimate of \$70 million in 2000 may be conservative, given the ample opportunities for employment in European economies.

<sup>m</sup> Average growth of other services from average of 1959-1960 to average of 1965-1966 was 6.5 percent a year. A rate of 6 percent a year is assumed between 1970-75, 5 percent a year 1975-1980. Includes net interest and dividends.

<sup>n</sup> These growth rates in export earnings are somewhat constrained by the longer term resources limitations of Jordan's mineral and agricultural areas, by increased consumption at home as incomes and population rise by increased competition abroad. This will increase balance of payments pressure as imports decline in growth somewhat less than the decline in the growth rate of total foreign exchange earnings. Tourism, however, should continue to grow at a good rate. As reserves are drawn down, foreign borrowing will have to increase and/or greater marketing efforts required to increase the value of exports.

<sup>p</sup> The projected growth of imports to 1975 is about 4.8 percent, assumed lower than usual because of disruptions since 1966 attributed to the Arab-Israel war. The rate projected to 1980 of 6 percent a year, approximates the 1959-1966 growth in imports. This may be somewhat high, in view of the low historic base, but a dynamic development drive evolving out of a Middle East development makes this a reasonable expectation.

Table 11  
PRODUCTIVITY AND EMPLOYMENT, ACTUAL, FORECAST<sup>a</sup>

	GDP <sup>b</sup> (\$ millions)	Population <sup>c</sup> (000)	Working Labor Force <sup>d</sup>	Income Produced Per Worker in Labor Force (\$)	Per Capita GDP (\$)
	(1)	(2)	(3)	(4)	(5)
1961	292	1706	390,000	749	171
1962	-	-	-	-	-
1963	-	-	-	-	-
1964	-	-	-	-	-
1965	-	-	-	-	-
1966	418	1954	465,000	899	214
1961-1966 % p.a.	7.7	2.8	3.5	3.8	4.9
1966-1980 % p.a.	7.7	3.0	3.5	3.8	4.7
1975 <sup>e</sup>	810	2560	637,100	1261	316
1980 <sup>e</sup>	1170	2970	763,000	1528	394

Notes:

<sup>a</sup>Current prices but assumes no inflation. Also assumes reunited Jordan, with a mutually favorable arrangement with Israel on Jerusalem and trade relations.

<sup>b</sup>1975 and 1980 from Table 7, above. 1961, 1966 from Table 1 above, using smoothed data for agriculture.

<sup>c</sup>1961, Government of Jordan, Department of Statistics, First Census of Population and Housing (November 1961), August 1964, xxii; 1966 AID, Economic Data Book, July 1968. The population growth rate is kept down to some extent by Jordanian emigration.

<sup>d</sup>The IBRD Report, The Economic Development of Jordan, Johns Hopkins Press, Baltimore, 1957, gave a labor force estimate of 370,000 for 1955, but this appears to have been too high when compared to the 1961 census data labor force figure (for example, it would produce a growth of less than 1 percent a year in the labor force between 1955 and 1961). Unemployment estimates also vary widely. The World Bank estimated 61,000 refugees unemployed in 1955, but the Seven Year Plan (1964-1970) document refers to a conflict in the census between 27,300 unemployed in 1961 and 68,000 "economically inactive". If the first figure is compared to the 1955 estimate a clear reduction in unemployed was taking place. If the 68,000 census figure is used, it was getting worse.

<sup>e</sup>The growth projections for 1966-1980 in the labor force, column (3) and in income produced per worker are assumptions. The GDP projections of 1975 and 1980 are thus derived by multiplying columns (3) and (4) of 1975 and 1980. The productivity projections may seem a little high, but they balance the possible decline in productivity of the working labor force with a continued reduction in unemployment which boosts productivity.

estimates were derived independently, they support the Jordan Seven Year Program projection of annual job creation of 20,000-24,000.<sup>1</sup>

## SECTOR PROBLEMS AND IMPLICATIONS

### Alternative Investments

Ideally, a long range investment program for a country would seek to channel scarce investment funds to highest priorities first. In setting priorities, account may be taken of other considerations as well as of economic criteria. However, a benefit-cost measuring rod provides at least one relevant consideration. Jordan's economy is significantly dependent on a progressing agriculture for its future growth potential at least in the next decade or two. Middle East agriculture is in turn heavily dependent on water supplies. The optimistic growth projections in the first section of this paper, therefore, have assumed full exploitation of Jordan's water potential. Some water projects have, of course, higher returns than others. As a means of identifying the sequency in which water projects might be initiated, benefit/cost estimates have been made of the potential water project investments in Jordan. Table 12 indicates the ratio of annual revenue to annual costs of various prospective water projects, as suggestive of the priority sequence in which such investments should take place.

Investment in water development, however, should also be compared with the return on investments in other sectors. For example, scarce resources might find a greater marginal return in tourism or manufacturing. Table 13 indicates the high growth prospects for a reunited Jordan in tourism over the next 30 years. Some schematic review of investments in these and other sectors is necessary if a rational long range investment program for Jordan is to be developed. A simplified attempt at such a list of alternative investment outlays is indicated in Table 14. This list suggests that tourism investment would yield

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<sup>1</sup>That is, employment for 300,000 workers between 1966 and 1980 is equivalent to the 20,000-24,000 a year projected in Jordan's Seven Year Plan.

Table 12

## BANKING OF RETURNS ON ALTERNATIVE WATER INVESTMENTS IN JORDAN

Projects <sup>b</sup>	At \$300 Revenue Per Acre <sup>a</sup>							At \$500 Revenue Per Acre <sup>a</sup>				
	Annual Capital Charges <sup>c</sup> (\$ 000)	Total Acres <sup>d</sup>	Annual Capital Cost Per Acre <sup>e</sup> (\$)	G & M Cost Percent of Revenue <sup>f</sup>	Annual Revenue Per Acre Minus O & M <sup>g</sup> (\$)	Annual Revenue Per Acre Minus All Water Costs <sup>h</sup> (\$)	Average Net Revenue Per 12 Acre Farm (Col 6 x 12) <sup>i</sup> (\$)	Annual Revenue Per Acre Minus All Water Costs <sup>j</sup> (\$)	Average Net Revenue Per 12 Acre Farm (Col 8 x 12)	Gross Annual Revenue All Acreage (Col 2 x \$500)	Gross Annual Water Cost All Acreage <sup>k</sup> (\$ 000)	Ratio of Annual Gross Revenue to Annual Costs (Col 10 ÷ Col 11)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Ghor Safi (E Bk)	200	2,500	80	20	240	160	1,920	320	3,840	1,250	450	2.8
Jordan River (Both Bks)	500	8,000	63	25	225	162	1,944	312	3,744	4,000	1,504	2.7
Wadi Wala (E Bk)	1,050	7,000	150	10	270	120	1,440	300	3,600	3,500	1,400	2.5
Groundwater (E Bk)	200	3,500	57	30	210	153	1,836	293	3,516	1,750	725	2.4
Groundwater (W Bk)	200	3,000	67	30	210	143	1,716	283	3,396	1,500	651	2.3
Groundwater (E Highlands)	2,200	31,000	71	30	210	139	1,668	279	3,348	15,500	6,820	2.3
Yarmouk River (E Bk)	11,800	59,000	200	10	270	70	840	250	300	29,500	14,750	2.0
Wadi Mujib (E Bk)	1,100	5,000	220	10	270	50	600	230	276	2,500	1,350	1.9
Zerka River (E Bk)	2,200	9,000	244	10	270	26	312	206	247	4,500	2,646	1.7
Small Wadis (E Bk)	3,400	10,000	340	10	270	-70	-840	110	132	5,000	3,900	1.3
Local Supplies (W Bk)	1,700	5,000	340	10	270	-70	-840	110	132	2,500	1,950	1.3
Desalting Water <sup>m</sup>	-	-	515	-	-	-215	-	-15	-180	-	-	.9

## Notes:

<sup>a</sup>Revenues of \$300 or \$500 per acre used in this table represent sales proceeds per acre. No account is taken of agricultural production costs other than for water. These would not influence the relative stunding of the various projects.

<sup>b</sup>Provided by IECA/Engineering Section of Agency for International Development, Washington, D.C.

<sup>c</sup>Based on Agency for International Development studies. No annual carrying cost breakdown provided. This is based on water generated and supply and distribution costs, with opportunity cost of capital of 8 percent over 50 years for supply costs and 8 percent, 20 years life for distribution costs.

<sup>d</sup>This is total acreage each project is expected to irrigate.

<sup>e</sup>Column 1 ÷ Col 2.

<sup>f</sup>Operations and maintenance are higher on groundwater than on dams. Data on these comparisons are scarce, so estimates are used, based on Government Reports.

<sup>g</sup>This figure is \$300 minus Column 4 x 300. By today's standards \$300 per acre may be low, but may prevail on some of the poorer lands.

<sup>h</sup>This is the \$300 earnings per acre minus Column 5.

<sup>i</sup>AID uses 50 dunums or 12.5 acres as average size farm. Larger farms may be required to make poorer lands pay.

<sup>j</sup>Assumes a \$500 per acre yield which could be the average for all these lands by completion of these projects. Yields of \$500 per acre already prevail on some lands in highly fertile East Ghor Safi project, but these yields are not expected to prevail in all newly irrigated acreage. This is \$500 minus Column 3 and minus (Col 4 x \$500).

<sup>k</sup>This is Column 2 x (Col 3 ÷ Col 4 x \$500).

<sup>m</sup>See Footnote G, Table 8. O & M costs are included in the \$515 cost per acre. This produces a negative return.

Table 13

PROJECTION OF TOURISM FOREIGN EXCHANGE EARNINGS 1970, 1975, 1980 - JORDAN AND ISRAEL COMPARED  
(assuming a total political settlement)  
(\$ Millions)

	1959	1965	1966	Growth 1956-66 % Per Yr	1970	Growth 1966-70 % Per Yr	Growth 1970-75 <sup>c</sup> % Per Yr	1975	Growth 1975-80 % Per Yr	1980
<u>Jordan<sup>a</sup></u>										
Earnings	7.98	27.47	31.54	22.0	42.9 <sup>b</sup>	8.0	10.0	69.1	10.0	111.3
Jordanian Spending Abroad	5.40	12.01	14.64	-	19.9	8.0	10.0	32.1	10.0	51.7
Net Tourism/Travel	2.58	15.46	16.90	33.0	23.0	8.0	10.0	37.0	10.0	59.6
Gain from Open Borders					5.0			10.0		15.0
Total					28.0			47.0	9.7	74.6
<u>Israel<sup>d</sup></u>										
Earnings	16.2	55.0	59.0	24.0	86.9	10.0 <sup>f</sup>	12.0	153.8	10.0	249.2
Israeli Spending Abroad <sup>e</sup>	6.9	43.7	48.8	-	-	-	-	-	-	-
Net Tourism/Travel	9.3	11.3	10.3	-	-	-	-	-	-	-

Notes:

<sup>a</sup>Historical data, Jordan Development Board, Seven Year Plan, 1964-1970. Subsequent Jordan earnings assume an agreed sharing between Jordan and Israel of the Jerusalem tourist earnings. 1966 data based on USAID/Jordan message October 26, 1967.

<sup>b</sup>JDB, Seven Year Plan projected \$74 million or 22 percent per year growth from 1965. However, war and uncertainty leads us to reduce this, assuming West Bank occupied 1968, most of 1969. Sharing of tourist earnings from Jerusalem included.

(Footnotes continued Page 37)

Footnotes to Table 13 (Continued)

<sup>c</sup>Assumes a peace settlement in which open tourist travel permitted across boundaries and sharing of Jerusalem earnings. These growth rates may be conservative in view of past performance, but low levels are partly responsible for growth rates, 1959-1966.

<sup>d</sup>Historical data, Bank of Israel Annual Reports, 1963, 1966.

<sup>e</sup>Rise in Israeli spending abroad in 1965 and 1966 partly due to Cyprus conflict, diverting Israelis to more distant places. These will no doubt continue.

<sup>f</sup>Reduced growth due to uncertainties during 1967, 1968, 1969. Bank Leumi had forecast of 15 percent rate.

Table 14

RATIO OF ANNUAL EARNINGS TO ANNUAL COST OF<sup>a</sup>  
SELECTED ALTERNATIVE INVESTMENTS IN JORDAN

	Annual Gross Revenue (\$ 000)	Annual Capital and Operation and Maintenance Costs (\$ 000)	Ratio of Annual Revenue to Annual Cost, Capital and Operation and Main- tenance (Col 1 ÷ Col 2) <sup>b</sup>
<b>1. Tourism<sup>c</sup></b>			
A. Medium estimated revenue, capital costs 10%, 40 Years Life	354,000	50,000	7.0
B. Medium revenue, capital costs 12%, 30 Years Life	354,000	54,000	6.6
C. Low estimate revenue estimate, capital costs at 12%, 50 Years Life	148,000	36,000	4.1
<b>2. Illustrative returns (due to education) from employment per 100 men:</b>			
A. In Kuwait Cost @ 10%, 30 Yrs	400 <sup>d</sup>	168.0 <sup>e</sup>	
Repercussions factor 2	800 <sup>f</sup>		4.8
B. In Jordan Cost @ 10%, 30 Yrs	200	168.0	
Repercussions factor 2	400 <sup>f</sup>		2.4
<b>3. Ranking water, mineral returns<sup>g</sup></b>			
A. Ghor Safi (E Bk)1,250		450	2.8

Table 14 (Continued)

	Annual Gross Revenue (\$ 000)	Annual Capital and Operation and Maintenance Costs (\$ 000)	Ratio of Annual Revenue to Annual Cost, Capital and Operation and Main- tenance (Col 1 ÷ Col 2) <sup>b</sup>
B. Jordan River (Both Bks)	4,000	1,504	2.7
C. Wadi Wala (E Bk)	3,500	1,400	2.5
D. Groundwater (E Bk)	1,750	725	2.4
E. Groundwater (W Bk)	1,500	651	2.3
F. Groundwater (East High- lands)	15,500	6,820	2.3
G. Phosphate <sup>h</sup>	10,400	5,200	2.0
H. Yarmouk River (E Bk)	29,500	14,750	2.0
I. Wadi Mujib (E Bk)	2,500	1,350	1.9
J. Zerka River (E Bk)	4,500	2,646	1.7
K. Potash	16,500	10,500	1.6
L. Small Wadis (E Bk)	5,000	3,900	1.3
M. Local supplies (W Bk)	2,500	1,950	1.3
N. (Desalting Jordan Water Per Acre, High Yields) <sup>i</sup>	500	515 (per acre)	.9
O. (Desalting, Low Yields)	300	515 (per acre)	.6

Footnotes to Table 14

Notes:

<sup>a</sup> These are rough estimates based on the incomplete data available, but they seem to coincide with what one would conceptualize about these alternatives. The rate of return on Jordan hotels, for example, is about 20 percent, and on education leading to a Kuwaiti job about 18 percent. The returns on water investments are bound to be less than these rates. Adding the necessary refinements to these data (particularly production costs) will change some of the magnitudes and ranking of particular projects, but we would not expect these schematic arrangements of the sector priorities to change.

<sup>b</sup> Operating costs (production costs) other than for operation and maintenance of capital.

<sup>c</sup> Source: Battelle Memorial Institute, The O & M costs represent an average spread over different types of facilities as well as a pro rata proportion of the commodity returns on retail outlets which benefit from tourist trade. The facilities other than hotels are restaurants, roads, publicity agencies, airport maintenance, travel agencies, tourist police, shops, etc. The Battelle Memorial Institute Report on Jordan Tourism calculates that for every \$28 spent per day per tourist, \$16-\$20 represents the cost per day of all the facilities need to accommodate each tourist. We will assume the cost to be \$18 per tourist per day. This produces a ratio of revenue per tourist per day over cost per tourist per day of 1.6 to 1. However, difficulties in applying production costs to all of these alternatives have led us to omit them, dealing only with capital and O & M costs. On this basis, if we assume tourist facility production costs average out at approximately 50 percent of gross revenues (a level indicated by some sources), this would reduce costs per tourist per day by about \$14, leaving a ratio of revenues to capital and O & M cost per tourist per day of 7.0 to 1. The Battelle Report makes three estimates of the level of anticipated tourist expenditures which can be achieved ultimately (1986) by Jordan. These range from \$502 million a year to \$148 million a year, with a median (and Battelle's preferred) estimate of \$354 million. If we assume Battelle's preferred estimate of tourist earnings and apply the 7 to 1 ratio, the annual capital and O & M costs would be about \$50 million, of which about one-half would represent the carrying costs of the capital investment (the opportunity cost of capital in Jordan is no doubt at least 10 percent and is spread over the life of the facility, assumed to be 40 years). The total investment necessary to accommodate this assumed level of tourist earnings is expected by the Battelle Report to total \$235 million. Using a rate of 12 percent over 30 years on the opportunity cost of capital instead of 10 percent over 40 years would produce a ratio of annual revenue to annual cost of about 6.6 to 1 (1.B. in the table).

Even assuming that for the total investment of \$235 million we could expect only the minimum tourist spending indicated in the

Footnotes to Table 14 (Continued)

Battelle Report and a 12 percent cost of capital over 50 years, with O & M double the annual carrying cost of capital, the ratio of annual revenue over annual cost over the estimate life of the facilities would be higher than on any of the water projects (I.C. in the table). (Data from Battelle Memorial Institute, "Jordan Airports Feasibility Study," July 1967, especially IX-15, 16, 17.) This is another way of saying that the 20 percent estimated return on investment in, for example, Jordan hotels, and the 18 percent return on education of Jordanians leading to a job in Kuwait which returns remittances cannot be matched by investments in water development. This does not suggest that investment in water projects must not proceed, but that a better appreciation of their alternative costs is useful.

<sup>d</sup>Salary per hundred men. With a total four year cost per men of \$16,000 the Kuwait salary produces an 18 percent gross rate of return (an increase in income of \$3,000 over an income in Jordan without a college degree, but with secondary schooling, assuming an average of rising income to be expected over the period to \$4,000 a year in Jordan), as compared with the 10-11 percent calculated for education in the United States (Theodore W. Schultz, The Economic Value of Education, Columbia University Press, New York, 1963; quoted in J. Hanson and Brembeck, Education and the Development of Nations, Holt, Rinehart, Winston, New York, 1966, p. 135. Also a rate referred to by F. Harbison and Meyers in Education, Manpower and Economic Growth, McGraw Hill, New York, p. 9). Considering the fact that Kuwait's per capita income is roughly equivalent to the U.S. per capita and that the scarcity effects on teacher demand, costs of education, income forgone, and real purchasing power are commensurately adjusted, this rate of return is not surprising. These calculations ignore other costs incidental to obtaining and maintaining a job outside the country (travel, higher relative living costs, etc.), just as other alternatives in this list ignore some other costs. This ranking requires refinement, but is suggestive of the probable priority ordering of investment alternatives.

<sup>e</sup>Cost per year over 30 year working life. Assumes a cost of \$4,000 a year for each of 100 Jordanians, including income forgone each year for four years while getting a BA degree, total cost of \$1,600,000 @ 10 percent for 30 years. A study undertaken by AID's Education Division (Bureau for Near East, South Asia), November 1967, supports these estimates. The program there for developing the potential in Jordan education assumes an investment of \$72 million. The annual cost of this input @ 10 percent for 30 years would be about \$7 million. To get a 5/1 ratio on gross Kuwaiti earnings per year would take about 8,750 Jordanians. The 1961 census estimated that over 60,000 Jordanians were working abroad. By now this figure is probably higher, conceivably by 12 percent or more. If this figure is 75,000, the 8,750 required to meet the earnings level to produce the 5/1 ratio would represent roughly a 12 percent increase in workers abroad earning an income at the Kuwaiti level (not necessarily in Kuwait). Thus, a 20 percent increase in Jordanian workers abroad is not beyond reach by 1975. Not all Jordanians

Footnotes to Table 14 (Continued)

need to go abroad to produce a return on the investment of \$72 million in Jordanian educational infrastructure, but it would take more Jordanians working in Jordan to produce the same yield, as their marginal productivity is lower than when they go abroad to work. One could assume that although not all the income earned abroad is returned to Jordan, the advantages that accrue to Jordan by reducing unemployment and by a higher net gain in receiving a more scarce form of currency (foreign exchange) make up for the portion of his income the Jordanian worker spends abroad. These are conjectures at this point, but point to direct orientation of education investment toward end results that can produce higher returns.

<sup>f</sup>It is common knowledge that education has contributed significantly to economic growth. The increase in physical capital per worker accounts for "only a rather small percentage of the increased output per man" (R. Gill, Economic Development: Past and Present, Prentice Hall, 1963, p. 74). Technological change contributes significantly more. This is to a large degree the contribution of education. Schultz (see note d) refers to studies that attribute 21 percent of U.S. growth between 1929 and 1957 to education. This "repercussions factor" is the term I have used to reflect the multiplier or secondary effects of education on the Jordan economy. There is no way to attribute this effect precisely to individual incomes, but the effect is certainly there and is probably no less than twice the initial income effect. The factor of 2 applied to the Kuwaiti income also reflects the relative importance of foreign exchange to Jordan. The education a teacher receives also has a higher secondary effect because of the number of students influenced over the period we are dealing with, whereas an engineer, for example, may affect only his particular enterprise. An estimate of the return to Jordan's education investment over the past decade has yet to be made, but the budget allocated about \$100 million to the Education Ministry and private investment must add considerably to this.

<sup>g</sup>See Tables 12 and 18 and footnotes for origin of these numbers.

<sup>h</sup>This over-simplifies by using one-half the investment of \$103 million called for in the potash plant (AID Potash Loan Paper, May 24, 1967), since phosphate operations are already functioning. Present plans call for a 2 million ton output, but both marketing and transportation constraints remain to be worked out (the desert road is inadequate to handle 2 million tons).

<sup>i</sup>According to AID reports, a desalination plant would produce 118 million cubic meters of water a year covering 39,000 acres (2.45 acre feet per acre) at a cost of 17 cents per cubic meter, or \$20 million. This is equivalent to \$515 an acre for the capital and O & M cost of the water alone. Set against a \$500 per acre yield which might be assumed for Jordan higher value crops, this would still produce a negative return of \$15 per acre, excluding production costs. If we assume production costs of 20 percent of the gross revenue per acre (a ratio

Footnotes to Table 14 (Continued)

regarded as appropriate for Jordan in a number of studies), this would add another \$100 per acre in costs. This would make the total loss about \$115 per acre. This estimate of the negative return on desalination, arrived at independently with tentative estimates of costs and yields, compares with estimates of the subsidy an Israel desalting plant would require made by other experts, although both Israeli yields and at least the O & M costs would probably be higher. A \$615 O & M and production costs per acre, set against a \$500 per acre gross earnings, produces a gross loss on the 39,000 acres presumed to be irrigated by the plant of about \$4.5 million. One report refers to a \$52 million subsidy required for the plant, which at 10 percent over the life of the plant (say 50 years) is about \$4.9 million, or if at 8 percent, 30 years is \$4.6 million. Obviously, at \$300 per acre gross yield, the losses would be larger by 7.8 million.

the highest return among these alternatives. Next comes investment in education, which enables young Jordanians to seek jobs in rich neighboring states or in Europe. This substantially raises their salaries, much of which they send home. As more educated Jordanians become available than needed, this is not a brain drain in the usual sense.<sup>1</sup> Finally, investment in water development produces varied returns, depending on the cost and return assumptions of Table 6. The relative returns on investment in mineral development — phosphate and potash — is also assessed and found to rank lower than tourism, education and groundwater development. The list is not exhaustive but indicates the current priority of development sectors in Jordan. The order of priority would presumably change over time. Conceivably desalination schemes involving energy centers and industrial islands (petrochemicals, fertilizer plants, etc.) might become more economical after 1980, but that remains to be seen.

To summarize, the principal areas of most effective investment for indigenous and foreign resources in Jordan under the assumption of an optimum Jordan-Israel settlement, in order of priority established by the ratio of revenue to costs, would be:

- (1) in developing accommodations and measures for attracting tourists,
- (2) in supporting manpower planning for vocational and higher education programs which increase productivity of labor and help generate remittance earnings from regional or more distant employment, or improve the capabilities and acceptance of people for resettlement,
- (3) in supporting projects designed to increase earnings and employment from agriculture and mineral resources, such as water and land development and export of potash and phosphate, and

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<sup>1</sup>See OECD Study, Immigrant Workers Returning to Their Home Country, especially Parts II, III, Paris, 1967.

- (4) in addition to these investment programs economic gains could be achieved, if the political situation permitted, through easing border restrictions between Jordan and Israel, possibly with a free corridor to an access port for Jordan on the Mediterranean, in order to promote gains from regional trade.

Success in the above areas could help Jordan become self-sustaining within a reasonable time span and promote economically rewarding relationships between Jordan and Israel, while helping to provide employment for refugees more rapidly than in the past. Tourism earnings over costs and investment in education which leads to employment abroad show higher economic returns than any water investment, but the latter are essential to agricultural development. The economic feasibility of water projects indicates that investment in low capital intensive surface and groundwater will provide the highest positive return, while development of water resources requiring expensive dams relative to the arable acreage likely to be irrigated will bring lower returns.

Any of the measures for developing additional water for Jordan would cost much less per acre foot of water than any type of desalination facility now contemplated. A plant in Jordan for desalting certain brackish waters would bring negative returns even if one assumes annual crop yields higher than those now typical of most irrigated acreage in Jordan. The major economic difficulty with proposed nuclear desalination "energy centers" is their high costs, as well as the difficulty of promoting adequate demand for the power and the other products such complexes must sell in order to justify their size economically. Use of fossil fuels in Middle East desalination complexes would reduce the cost but assuring adequate demand across political boundaries for power and the products will remain an important deterrent in the immediate future. It appears that desalination of Mediterranean or other Middle East waters as a means of developing complex energy sources will not be economically feasible for some years.

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<sup>1</sup>Cf. Clawson et al., Report, also refer to high cost desalination.

### The Tourist Potential

Jordan's gross annual earnings from tourism rose from about \$9 million in 1960 to over \$31 million in 1966. The increase in Israel over the same period was from \$27 million in 1960 to nearly \$60 million in 1966. For Jordan, gross tourist earnings in 1966 represented nearly one-third of its foreign exchange earnings from goods and services; for Israel it represented about 7 percent. The disparity in degree of dependence is even wider on net tourist/travel earnings (19 percent as compared with 1 percent of current account earnings). Jordan's net tourism/travel earnings actually exceeded Israel's in the two years prior to the 1967 conflict.

Therefore, the matter of access to tourism earnings will probably be a most vital economic factor for Jordan in any political settlement. Israel's tourism earnings would almost certainly increase with or without a political settlement, but Jordan's can be of renewed major significance only with a settlement of the Middle East political problem.

A number of situations could materialize out of the present situation. Among these are (1) a settlement that returns the West Bank to Jordan, but not Jerusalem, no sharing arrangement on tourism, but an open border policy; (2) a settlement in which the West Bank is returned to Jordan and that permits Jordan to earn annual tourist income from Jerusalem approximately equal to its pre-June war share, but with no open border policy; (3) a settlement where the West Bank is returned, Jordan shares in Jerusalem generated income and there is an open border policy; and finally (4) no settlement, where Jordan does not get back the West Bank, has no share in Jerusalem earnings, but earns some tourism foreign exchange from East Bank antiquity sites.

Jordan's non-Jerusalem tourism earned roughly \$15 million or 50 percent of its total tourism earnings in the pre-conflict year 1966. We assume that with an open border policy by 1975 the non-Jerusalem level would again reach \$15 million plus another 10 percent spillover from Israel's \$150 million gross level, making \$30 million in all. This figure could be higher, but until animosities and tensions subside and attitudes change, Jewish tourists may not feel comfortable

traveling far into Jordan for some time. Under assumption (1), therefore, total net Jordanian tourism earnings might not reach the most optimistic targets.

Under assumption (2), however, Jordan's 1975 earnings from Jerusalem tourism might well reach \$20 million a year. At the same time, tourists would be allowed to pass from Jerusalem into Jordan only under the rules that prevailed before the June conflict, but other tourists would enter Jordan directly through the Jerusalem Airport or by arriving via Beirut, Damascus, Cairo, etc. Based on past experience, another \$5-\$10 million could be added to Jordan tourism exchange earnings in this way. Altogether a total earnings figure of perhaps \$30 million for Jordan by 1975 is possible under this assumption.

Under (3), the most optimistic assumption (reflected in Table 13), a political settlement would allow for a sharing of Jerusalem earnings of up to \$30 million by 1975, while another \$30-\$40 million is possible from non-Jerusalem tourist travel on West and East Bank Jordan, based on past trends. As a result of an open border policy and improvement in attitudes to allow Jewish tourist travel, Jordan could also get a \$20-\$25 million share in Israel's estimated 1975 gross tourism earnings of \$150 million. This arrangement could produce gross earnings for Jordan of up to about \$70 million by 1975 and even with reasonable growth up to over \$100 million by 1980. Net travel earnings would be about \$50 million to \$75 million respectively.

With no peace settlement (4), Jordan would be deprived of the West Bank and Jerusalem earnings, but could conceivably attract about 10% of the gross tourist income potential -- or about \$10 million for East Bank tourist travel.

Under assumptions (1) through (4) the range of potential gross tourism earnings for Jordan is therefore from \$10 million with no settlement to \$70 million with a settlement in which Jordan shares earnings from Jerusalem, and with the help of open borders and softening attitudes, earns revenues from both Arab and Jewish travel.

In sum, with Jordanians traveling abroad the net tourism gains to Jordan under an optimistic assumption of a peace settlement would reach nearly \$50 million by 1975 and, \$80 million by 1980. This is roughly equivalent to a projection of 10 percent a year growth rate for tourism earnings, about half the 1959-1966 rate, applied to past Jordanian earnings, plus a conservative \$10 million earnings slice of Israel's tourism business (Table 13). These earnings would still represent about one-third of the total foreign exchange earnings.

These growth projections for tourism are highly conservative in comparison with the estimates made for Jordan by the Battelle Memorial Institute in their AID-financed Report on tourism, Jordan Airports' Feasibility for Accomodity, July 1967. In that study a median gross tourist expenditure estimate of air travelers alone (normally about 60 percent of all tourist visitors to Jordan) was projected to reach about \$70 million by 1975 and \$355 million by 1985.<sup>1</sup> The tourist industry capital investment called for in the Battelle Report totals \$235 million over the 1968-1975 period, covering airports, hotels, and other facilities. Even assuming the minimum gross tourism expenditure that the Battelle Report uses (\$148 million for 1975) the annual revenue/annual capital and O & M cost ratio (assuming 12 percent annual cost of capital, and 50 years life of the capital investments) would be about 4 to 1, still well above returns to be expected on any of the water investments (Table 8). At an 8 percent cost of capital the rate sometimes used for desalination plants for the area, the ratio of revenues to annual capital and from both tourism and education tied to remittance generation would be higher.

A peace settlement between Israel and Jordan, and even more so, a broader Arab-Israeli settlement, might permit these very significant potentials in tourism income to be developed from a commitment of investment funds and cooperation in this sector.

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<sup>1</sup>Battelle Memorial Institute, Research Report: "Jordan Airports Feasibility Study," July 1967, IX-15. The higher estimates in this report are unrealistic, but the minimum gross return is possible.

On the other hand, the absence of political settlement will deprive Jordan of West Bank tourism earnings and will reduce earnings to East Bank tourism, which could conceivably, as an upper limit, reach only about \$10 million by 1975, or 10 percent of the gross tourist income potential that a settlement might bring.

#### EDUCATION OR MANPOWER PLANNING FOR HIGHER INCOMES

Although emphasis is frequently planned on water development and tourism, Jordan's largest single source of non-aid foreign exchange earning was from remittance of Jordanian professionals, teachers, technicians, and other workmen working abroad. In 1965, such remittance earnings were nearly double net tourism earnings to Jordan. This is partly because Jordanian workers employed in the many foreign countries tend to be well educated (teachers, officials, other professionals, skilled and semi-skilled workers) and therefore relatively well paid. Although we have projected a modest growth for remittances, the potential here is probably nearly equal, and could, depending on efforts to exploit it, exceed the potential in tourism. What this means is that investment in educating, training, seeking jobs for, and even transporting Jordanian workers might bring returns to both families and to Jordan as a whole that could have a more significant income and employment impact than investment in mineral or water development. It is conceivable that effective training programs and measures for helping Jordanians who wish to find jobs in Europe or elsewhere can bring a sharp increase in remittances to Jordan, while significantly ameliorating the unemployment or underemployment problem.

These workers obtain much higher salaries in the affluent Arab states than in Jordan. For example, the salaries obtained by Jordanian teachers in Kuwait are about double the salaries they receive in Jordan. Without a bachelors degree, Jordanians would receive incomes at home of less than one-half the salary scale of non-degree holders and less than 25 percent of a Kuwait salary they could earn with a BA. Still, a secondary school education opens up additional opportunities both at home and abroad. They also could be assisted in obtaining higher paying

jobs in Western countries.<sup>1</sup> Not all income earned abroad is returned to Jordan, however, and some allowance has to be made for those who re-settle abroad with their families, thereby terminating some remittance flows. Still, the remittance figure will grow even if half the income of those abroad is sent home, while filling the job abroad reduces the unemployment or underemployment pressure on the Jordan economy. This is also foreign currency earning, which may have higher marginal value to Jordan, in terms of self-sustainment, than some internal investments which directly or indirectly generate import demand without having export earning capacity. If the Jordanians working abroad are made up of unskilled, semi-skilled, and professionals, the teacher salary scale may be close to the average of all Jordanian workers abroad, which broadens the implications of the specific category of workers used here. The Kuwaiti and other Middle East markets for Jordanians is by no means unlimited.

This effort would merely be a continuation and extension of a process that has been going on for some time in the area. It recognizes that education and training of workers in the area broadens their options, so that whether they remain to work at home or seek work abroad, their higher productivity will benefit themselves as well as their home economy. This argues for a more pragmatic educational system than has prevailed in nearly all but the vocational schools in Jordan.

The encouragement to work or availability of jobs abroad need not act as a serious drain of professional or skilled workers for the local economy. Observation of past experience seems to indicate that (1) the economy has benefited greatly from Jordanians who worked abroad for some years and then returned to their mother country with their improved productivity learned abroad, (2) there is an abundant supply of trainable manpower in Jordan, and (3) remittance earnings have been invested

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<sup>1</sup> Educating 100 Jordanians (say at the American University of Beirut) at a cost of \$4,000 a year could produce returns equivalent to those on tourism, depending on the carrying cost of capital assumed. To raise Jordan University outside Amman to an adequate academic level would cost more. The tourism -- remittance comparison is in Table 14 items 1 (A, B, C) and 2(A).

in the industries and enterprises of many sectors of the Jordan economy, creating additional job opportunities for others and a system of on the job training for workers at all levels of skill as well as for professional and managerial personnel.

As for settlement or employment opportunities outside of the Middle East (based on recent patterns of migration), the opportunities in Europe found by other nationalities are theoretically available as well to Arabs who meet the requirements. According to OECD Reports, the demand is great.<sup>1</sup> It would be more feasible to move workers rather than families for permanent resettlement, as Turkey's \$100-\$125 million current earnings from workers, remittance suggests. Germany might be persuaded to include the Arab refugees in its search for foreign workers.

These comparisons are approximations, but they indicate the several advantages derived from effective education which broaden the job horizons for workers in the area.

#### WATER DEVELOPMENT AND AGRICULTURE

With a Political Settlement. With or without a peace settlement, agriculture would probably need to be developed to its full economic potential. Jordan has the technical capability for proceeding with low capital cost surface or groundwater development, as this appears to be the most profitable area for water investment (Table 14). With a political settlement, either Jordan, other Arab countries, or a consortium of donors might be prepared to invest additional resources in developing Ghor Safi, Jordan River, groundwater, and other potentially fruitful water-agriculture areas. One report from the Agency for International Development indicates that with a total capital expenditure of \$233 million 143,000 additional acres could be brought under cultivation, but not with uniformly profitable returns. The highest priority is in promoting the rapid development of the low capital intensity surface or groundwater resources noted in Table 12. Investment in more expensive irrigation works to bring water to the land will

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<sup>1</sup>See Appendix.

require higher value per acre cropping patterns and better practices than are now average in Jordan.

Assuming that the numerous technical and economic problems can be worked out, and that most of the proposed projects and related outputs will become a reality in the next 10-15 years, the foreign exchange earnings from agricultural output could reach \$30 million by 1975 and \$45 million by 1980, a 2.5 to 4 fold increase over the 1966 level, with a commensurate increase in the value added by the agricultural sector to the Jordan economy. Such a broad program for water development would require coordinated planning, particularly as higher cost water projects are developed, since high value cropping patterns, improved techniques and assured marketing of the higher yields would be essential to the success of these efforts. No attempt has been made to calculate differences of the return per unit of water use in specific crops or to project earnings from individual crop output levels prevailing in Jordan prior to the conflict. The aggregate value projections derived here are consistent with UN crop acreage and production projections. Some idea of the relative importance of crops is reflected in the balance of payments. Although earnings from export of tomatoes exceeds all others, per acre earnings on citrus, bananas, and other fruits are considerably higher than per acre earnings on vegetables, and per acre earnings on grains (wheat, barley) have been less than 10 percent of those on fruits and would appear to be too low to support the supply, distribution, and maintenance costs of some of the more expensive irrigation works, except in a system of rotation.

These wide variations in crop yields cannot be neglected in implementing capital water projects where such differences can mean the difference between a liability or a profit to the economy. Some high gross yield crops are lower net yield crops because they require more water, fertilizer, or other inputs, or because they are a biennial rather than annual or semiannual crop. Taking recent data on net per dunum yields and projecting each Jordan crop into a 12-acre typical farm shows that tomato income per farm could be 5.5 times that of wheat, 2.7 times that of eggplant, about 1.4 times more than bananas or citrus, and so forth (Table 15). Gross income on citrus and bananas is higher,

Table 15

## RECENT DATA ON YIELDS PER UNIT OF LAND AND PER FARM, JORDAN, 1964/65

	Percent of Area Planted <sup>a</sup>	Net Income <sup>b</sup> Per Dunum (JD)	Net Income Per Acre (JD)	Net Income Per Acre (\$)	Net Income Per Farm <sup>c</sup> (JD)	Net Income Per Farm <sup>c</sup> (\$)
Tomatoes	20.4	23.9	95.6	267.7	1147.0	3211.6
Wheat	16.7	4.4	17.6	49.3	211.2	591.4
Bananas	10.5	17.7	70.8	198.2	849.6	2378.9
Potatoes	8.9	11.5	46.0	128.8	552.0	1545.6
Citrus	8.6	20.0	80.0	224.0	960.0	2688.0
Eggplant	6.0	8.6	34.4	96.3	309.6	866.9
Cauliflower	5.9	8.5	34.0	95.2	408.0	1142.4
Cucumber	4.3	6.7	26.8	75.0	321.6	900.5
Marrow	3.7	5.6	22.4	62.7	268.8	752.6
Corn	3.7	16.6	66.4	185.9	796.8	2231.0
Broadbeans	2.9	1.2	4.8	13.4	57.6	161.3
Watermelon	1.9	9.5	38.0	106.4	456.0	1276.8
Lettuce	1.7	10.6	42.4	118.7	508.8	1424.6
Sesame	1.7	1.6	6.4	17.9	76.8	215.0
Cabbage	1.6	6.0	24.0	67.2	288.0	806.4
Green Pepper	.7	4.1	16.4	45.9	196.8	551.0
Green Onion	.5	6.9	27.6	77.3	331.2	927.4
Jews Mellow	.2	67.3	269.2	753.8	3230.4 <sup>d</sup>	9045.1
Peas	.1	27.5	110.0	308.0	1320.0	3696.0
<b>TOTAL</b>	<b>100.0</b>					

Footnotes to Table 15

Notes:

<sup>a</sup>Total area studies 2,003 dunums or 501 acres.

<sup>b</sup>JD = \$2.80.

<sup>c</sup>If it is assumed farms are 12 acres and are all planted with this crop. The above source report calculates the total expenses per dunum (roughly 4 dunum per acre) to obtain the yields indicated in this Table.

<sup>d</sup>Jews Mallow is an herb, probably with a limited market, but obviously there is incentive to produce considerably more.

Source:

USAID/ Jordan, "Agricultural Production and Income" (In the East Ghor Project: Pre and Post Canal), August 1967, p. 19.

but the cost of inputs to these crops reduces their net return. The marketing problems implied in these larger yields would require considerable attention.

The manpower and population absorption potential of the newly irrigated lands could reach from 25,000-30,000 workers and about 40,000-50,000 other family members, based on an assumption of total optimum development of all of these project lands (assuming 125,000 acres of the total new irrigated lands, 12-acre farms with 5 member families including 2 workers per farm). Net absorption on lands already occupied may attain less than half the above figures. A 30 dunum minimum size farm was used by A. Watson, East Jordan Valley: A Social and Economic Survey, 1961, for the East Ghor area. Our report assumes a 12 acre farm. This size farm is about standard for Jordan which averages 60 dunum or 15 acres per farm. An UNRWA study (Jordan Valley Agricultural Economic Survey, mimeographed, Amman, 1953) used 68 dunum or 17 acres as the average Jordan farm size. These differences would affect yield per farm significantly. Most of the newly irrigated lands are inhabited and utilized prior to any improvements, so that in fact these labor absorption figures may be high, despite the displacement from arable use of an assumed 18,000 acres out of the total 143,000 acres for irrigation works, roads, housing, sheds, etc. This level would not be reached for some years, possibly 15 at best, and no doubt represent an outside maximum to be expected. This figure is consistent with growth in the agricultural labor force resulting from the value added increase in this sector (Table 9) and a projecting of the 196 sector shares in the labor force (Table 16, 17). In view of the likely changes in sector labor force percentages, these must remain as rough orders of magnitude checks.

With No Political Settlement. In the absence of a peace settlement it is possible that the entire West Bank of Jordan would remain in Israeli control. The resultant loss of most of Jordan's tourist earnings would make it imperative for the East Bank to develop, where economical, all of its available mineral, water, and other resources. Many of the water resources remaining to be developed in Jordan are located on the

Table 16

ESTIMATES OF MEN EMPLOYED ACCORDING TO ECONOMIC  
SECTOR AND PROVINCE, JORDAN, 1961  
(Percentages of all the men employed in the province)

Branch	Shehem	Jerusalem	Hebron	Total of West Bank	Amman	Total of Jordan <sup>a</sup>
Total	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture	46.4	26.0	44.0	37.1	14.0	33.0
Industry <sup>b</sup>	10.0	11.7	11.5	11.6	14.0	12.0
Building	7.6	14.8	10.6	10.4	12.2	11.0
Electricity and water	0.3	0.5	0.2	0.4	0.7	0.4
Trade (wholesale, retail)	9.1	8.3	8.6	8.2	10.2	8.4
Communications	2.4	3.0	2.4	2.5	4.1	3.2
Services	11.3	15.3	11.1	14.6	15.1	13.5
Unspecified	12.9	20.4	11.6	15.2	29.7	18.5

Notes:

<sup>a</sup>The labor force of Jordan was estimated in the source survey at 390,000, of which 7 percent was unemployed. These ratios have undoubtedly changed since 1961. Recent data of this kind are not available.

<sup>b</sup>Includes mining.

Source:

Population and Housing Census, Jordan 1961.

Table 17

PROJECTION OF JORDAN MANUFACTURING AND MINING IN 1970, 1975

	1959	1965	% Growth Per Year		1975	% Growth Per Year
			1959-65	1970		1970-75 <sup>a</sup>
1. Manufacturing (\$ millions)	14.2	36.3	17.0	28.0	38.7	6.6
2. Mining (\$ millions)						
Phosphate	3.2	9.1		19.6 <sup>b</sup>	27.5 <sup>c</sup>	-
Potash	0	0		0	2.5 <sup>d</sup>	-
Marble	-	.05		.2	.5	-
3. Total Employment Added	-	-	-	-	5,950 <sup>e</sup>	-
Total manufacturing, mining (\$ millions)	17.4	45.4	17.2	64.0	69.2	

Notes:

<sup>a</sup>JDB, Seven Year Plan projected a 15 percent per year growth, but disruptions and setbacks due to the war and split of the economy drastically reduced activity in 1967 and 1968. With return of West Bank to Jordan and more Israel-Jordan trade, growth between 1970-1975 should resume, but at a lower rate.

<sup>b</sup>JDB, Seven Year Plan 1964-1970. With new deposits at Al Hasa this seems possible.

<sup>c</sup>Derived from Mission estimate of \$28 million for 1977. All Phosphate is on the East Bank and is shipped through Aqaba and would be whether Jordan had Mediterranean access or not.

<sup>d</sup>The Ghor Safi Potash facility is estimated to produce \$25 million in earnings for Jordan eventually. The production of potash is not likely to proceed before 1973 or 1974. This seems a reasonable estimate of value added, but by 2000 could reach \$35 million.

<sup>e</sup>Using growth from 1970 of 2.5 percent p.a. as compared to 2.9 percent used by JDB for 1965-70 period Seven Year Plan. The additional employment from phosphate and potash would probably not exceed 200.

East Bank. The potential from irrigating new lands and from improvement in dry land farming could, with optimum assumptions on yields, provide work for 10,000-15,000 individuals, who with their other family members would thus institute to a total of 35,000 additional persons, with multiplier effects on other sectors of the economy resulting from developing these and other resources (mainly potash and phosphate), these activities combined with investment in other sectors (Table 14) could help significantly in ameliorating the refugee unemployment problem. This, however, will also take possible at least a decade to bring to fruition. Meanwhile, both the East Bank government budget and balance of payments would suffer from large deficits which, once reserves were drawn down, would have to be financed from new external sources of assistance. If the Khartoum Arab Summit payments of \$112 million are omitted, and there is no guarantee that they will continue to be paid, Jordan would then face its large deficits with only its reserves to draw on. With Jordan's reserves of about \$270 million (June 1969), a ratio of reserves to imports (1.5 years) seldom reached by developed or underdeveloped economies, the East Bank economy could function for some time, but chronic deficits would remain, though undoubtedly at less than the 1969 level. Only full development of the potentials in agriculture, education leading to broader employment horizons, potash, phosphate, and what remains of tourist attractions could bring economic independence for the East Bank ultimately within focus, but probably at a lower per capita income than the \$240-\$250 per capita level now prevailing. The alternative to a strong development effort on the East Bank would be a continued large refugee relief program and a reduced overall standard of living, commensurate with a relatively stagnant, largely agricultural state for the citizens of the East Bank. This could hasten the emigration of these seeking better opportunities, as the economy gradually settled into some semblance of the Transjordan of pre-1948, though considerably more advanced and assisted by some trade and tourism.

MINERAL AND MANUFACTURING DEVELOPMENT

Whether or not there is a political settlement, Jordan's potash and phosphate resources can be exploited. The potash facility could yield an estimated \$5 million in foreign exchange by 1975 (Table 17), but at its full output the potential could yield \$35 million, possibly more.<sup>1</sup> The absence of a political settlement with continued disruptions of the peace and continued uncertainty could permanently discourage the participation of Western private business interests in the potash project, thereby denying Jordan this source of income for some time. On the other hand, a peace settlement would help to get this project underway more rapidly.

The phosphate potential is considerable, capable of producing more than a three-fold increase of earnings by 1975 over 1965, with more potential beyond. The development of this resource need not await a political settlement. Rumania has already shown an interest in a fertilizer project near Agaba. Issues which a peace settlement could consider or propose for study concerning these resources are whether a joint Jordan-Israeli marketing arrangement could be mutually beneficial or contain elements for bargaining, or whether a fertilizer production complex using Jordan and Israel supplies would be beneficial or contain bargaining elements. Some of the broader aspects of this latter proposal are considered in studies undertaken by other agencies of the U.S. Government and independent organizations.

Jordan manufacturing potential would be reduced substantially (possibly by 40 percent or more) with the loss of the West Bank. With a political settlement, growth in income from manufacturing might resume its growth. However, the June 1967 war and its aftermath will likely dampen the average annual growth to 1975. Continued growth might involve the need to develop new markets, possibly some in Israel, for the output of Jordan's manufactures. Most of the growth, however,

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<sup>1</sup>AID, Jordan Arab Potash Company, Capital Assistance Paper (AID-DLC/P-573), May 24, 1967, Annex 8.

would likely occur through the broadening of Jordan's internal markets as economic development progresses.

#### A SETTLEMENT AND TRADE OPTIONS

With a peace settlement leading to opening of the Jordan-Israel border to trade, and possibly a concession by Israel to permit Jordan access to a Mediterranean port, some opportunities for mutually beneficial commercial transactions and expanded through-traffic trade from countries east of Jordan might materialize. There are, however, not many current non-competing commodities in the Jordan-Israel trade pattern to include within this general relationship (Table 18). Israel might well be able to satisfy part of Jordan's import needs for textiles, including man-made fibers, pharmaceuticals, fats, dairy products, fertilizer, and possibly other items, including tourist related imports of goods and services. At the same time, Jordan may be able to satisfy some of Israel's import needs for cereals in the future, tobacco, soap, or even other competing goods where Jordan's prices are lower and quality is either currently satisfactory or can be improved with Israeli cooperation. In many cases the opening of trade channels bring about adaptations to new markets that cannot be foreseen or projected. Based on the products referred to (Table 18, 19) this total trade could reach a level of \$20-\$25 million, with unforeseen potentials that might exceed this level considerably. This Jordan-Israel trade potential estimate provides only a rough order of magnitude, and additional study is required before more realistic estimates can be provided.

The opening of trade lanes through Jordan and Israel to the Mediterranean for countries east of Jordan (Iraq, Saudi Arabia, Yemen and S. Yemen, Kuwait and other states in the area) also offers some opportunities for increased trading activity, though estimating the level of this potential would be difficult. Table 20 shows that Jordan's dependence on regional trade for its exports is much higher than that of any other Arab country, even in the non-oil category.

Table 18

Matching Israeli Imports with Jordan  
Exports, 1965

Matching Jordan Imports With Israeli  
Exports, 1965<sup>a</sup>

(Millions)

	Israel Imports	Jordan Exports	Israel Exports	Jordan Imports		
1. Raw Diamonds, net	95.5	-	2.0	11.6	Boilers, machinery, mechanical Appliances	1.
2. Machinery	95.2	2.0	.1	11.5	Iron and steel	2.
3. Other raw materials	81.0	1.0	.8	9.3	Vehicles, not railroad	3.
4. Iron, steel	54.9	-	10.0	9.1	Mineral fuels, oils	4.
5. Fuel	53.2	-	20.0	7.0	Cotton, textiles, yarns	5.
6. Automotive vehicles	48.0	-	1.0	6.2	Electrical machinery, parts	6.
7. Chemicals	45.4	-	74.2	6.0	Edible fruits, nuts, melons, preserved fruits	7.
8. Cereals, rice	43.7	.4	19.0	-	Sugar, sugar confectionery	8.
9. Ships and aircraft	36.4	-	.7	5.9	Man-made fibers	9.
10. Generators, electrical equipment	31.2	.4	1.9	5.4	Cereals	10.
11. Wood	30.8	-	.1	4.9	Coffee, tea, spices	11.
12. Oilseeds	29.7	.6	.7	4.0	Pharmaceuticals	12.
13. Meat, fish	21.9	-	2.2	3.8	Wool, other animal hair	13.
14. Non-ferrous metals	17.7	-	.6	3.6	Live animals	14.
15. Communication Equipment	16.6	-	1.1	3.4	Animal, vegetable fats, oils	15.
16. Yarns	15.0	-	7.3	3.2	Rubber, synthetic and other	16.
17. Other food and beverages	9.2	.2	-	3.2	Paper and paper board	17.
18. Edible oils, fat	8.9	.3	.7	3.1	Dairy produce	18.
19. Cotton	8.4	-	4.7	3.0	Vegetable, edible plants	19.
20. Coffee, tea, cocoa	7.0	1.9	2.6	2.4	Tobacco	20.
21. Other textiles	7.0	.1	-	2.0	Fertilizer	21.
22. Sugar, honey	6.0	.9	13.7	1.0	All Other	22.
23. Milk, milk products	5.7	.1	265.7	47.3		
24. Electrical household appliances	4.8	-	429.1	156.9		
25. Unprocessed tobacco	4.1	1.2				
26. Furniture	2.9	-				
27. Miscellaneous	36.8	12.6				
<u>Total</u>	<u>877.0</u>	<u>21.7</u>				
Adjustments	22.6					
Net Imports	794.0					

## Notes:

<sup>a</sup>There are some Israel exports, such as fertilizer (\$14 or \$15 million) that may be able to take some Jordan raw materials if the industry is expanded.

## Source:

Statistical Abstract of Israel, 1966; GOJ External Trade Statistics, 1965.

Table 19

WEST BANK EXPORTS OF MAJOR PRODUCTS OUTSIDE OF JORDAN  
ACCORDING TO INDUSTRY 1966

	Thousands of Dollars	Percentage
<u>Industrial Exports</u>		
Cigarettes	420.0	27.4
Plastics	196.0	12.7
Jewelry	196.0	12.7
Soap and products	98.0	6.3
Sheep wool	70.0	4.5
Bran, cottonseed oil and products	56.0	3.6
Clothing	53.2	3.5
Sheep leather	44.8	2.9
Leather products	42.0	2.7
Other products and price adjustment <sup>a</sup>	364.0	23.7
Total industrial exports	1540.0	100.0
<u>Agricultural Exports</u>		
Watermelons and melons	1456.0	29.8
Tomatoes	784.0	16.0
Various kinds of vegetables	300.0	17.1
Citrus	386.4	7.9
Cucumbers	207.2	4.2
Kernel fruit	131.6	2.7
Potatoes	117.6	2.4
Grapes	70.0	1.4
Almonds	70.0	1.4
Olives	44.8	0.9
Figs	25.2	0.5
Other products and price adjustment <sup>a</sup>	767.2	15.7
Total agricultural exports	4900.0	100.0
Total exports	6440.0	

Note:

<sup>a</sup>The figures were adjusted to a price change in 1966.

Source:

Derived from Jordan Department of Statistics data.

Table 20

TOTAL AND INTRAREGIONAL NON-OIL EXPORTS OF  
VARIOUS MIDDLE EAST COUNTRIES  
(millions of dollars and percentages)

Country	Period (1)	Annual Average		
		Total Exports (2)	Regional Exports (3)	Share of Regional <sup>a</sup> in Total Exports (4)
Iraq	1951-1953	61	11	17 <sup>b</sup>
	1959-1961	25	6	22 <sup>b</sup>
	1962-1964	48	9	19
Jordan	1951-1953	4	4	95 <sup>b</sup>
	1959-1961	10	5	50
	1962-1964	16	11	68
Kuwait	1959-1961	24	9	38
	1962-1963	26	10	39
Lebanon	1951-1953	24	14	61 <sup>b</sup>
	1959-1961	40	20	49 <sup>b</sup>
	1962-1963	58 <sup>c</sup>	27 <sup>c</sup>	46
Saudi Arabia	1951-1953	- <sup>c</sup>	- <sup>c</sup>	
	1959-1961	2	1	65
	1962-1963	4	1	25
Syria	1951-1953	88	34	38 <sup>b</sup>
	1959-1961	108	43	40 <sup>b</sup>
	1962-1964	176	51	29
UAR	1951-1953	473	6	1 <sup>b</sup>
	1959-1961	457	37	8
	1962-1963	458	17	4
TOTAL	1951-1953 <sup>b</sup>	649	69	11
	1959-1961 <sup>b</sup>	643	111	17
	1959-1961	667	121	18
	1962-1964	786	125	16

Notes:

<sup>a</sup>Discrepancies between figures in column (4) and quotients of column (3) by column (2) figures are due to rounding.

<sup>b</sup>Excluding Kuwait.

<sup>c</sup>Less than \$0.5 million.

Source:

UN (Economic and Social Office, Beirut), "Studies on Selected Development Problems in Various Countries in the Middle East," New York, 1967, p. 16.

Impact on Employment

The Jordan Seven Year Plan, 1964-1970, assumed that if all of its planned activities were successfully implemented unemployment in Jordan would be virtually eliminated by 1970. The plan would create 20,000 to 24,000 new jobs annually projected from the 1961 population census. The plan estimated an economically active population of 390,000 in the year 1961 of which only 27,300 or about 7 percent were unemployed and seeking work, but with another 68,000 men between the ages of 15 and 64 "economically inactive" and not seeking work. This economically inactive group are presumably refugees living in camps and relying almost entirely on UNRWA support. In view of the nearly one million refugees who came to Jordan after the 1948 war, these figures, though requiring verification, tend to support the contention that the refugees were, in fact, being amalgamated into the Jordan economy as a result of its growth at a rate of about 8-10 percent per year over the last decade. Recent reports of the number of refugees who fled the West Bank following the June 1967 war indicated that the economically inactive workers among the new refugees probably reached 40,000-50,000. However, this level now appears exaggerated. Job opportunities are turning up sharply (as of June 1969). The relatively low unemployment rate given for the pre-June 1967 period suggests that most of the 1948 refugees were being supported by incomes from some source in addition to UNRWA, from wage earners working either within Jordan or abroad.

With a Political Settlement. A settlement in the Middle East in which most of the new refugees who fled the West Bank returned to their homes, a projection of the increase in the labor force which prevailed in 1965 to 1975 at 3.5 percent a year would indicate that a total of at least 170,000 new jobs would have to be created between 1966 and 1975, nearly 300,000 by 1980. As agriculture has been supporting from 60-70 percent of the population (or 30 percent of the labor force) in Jordan, it is to be expected that continued growth in this sector, resulting from a concerted development effort, will be responsible for a substantial share of the increased employment, partly through additional employment in agriculture itself (about 20,000) and partly through the

secondary effects of agricultural growth on all the other sectors of the economy.<sup>1</sup>

If with a settlement the number of farms materialized on even one-half of the acreage that would result from utilizing the water from Jordan's water potential as reflected in projects listed in this report, it would represent about 10,000 typical farm units and therefore 10,000 to 20,000 employment opportunities. The growth in manufacturing projected (Table 17) would provide jobs for another 5,000, while development in all the other sectors of the economy (See Table 14) would open up many other employment opportunities. Commercial, trade and services activities, a good share of it tourist related, will be responsible for much of the employment increase. Assumptions about the future growth of Jordan in other sector activities (tourism, etc.) should lead to employment possibilities for all of those seeking work in the country. Employment generated in the non-agricultural sectors sufficient to absorb the labor force would have to reach about 150,000 by 1975, as Table 11 indicates, total new employment by all sectors must reach 300,000 between 1966 and 1980. This employment potential constitutes one of the major long range benefits that could follow from a peace settlement in which investment in economic development and growth, represented by the sector possibilities listed in Table 14, were given top priority. Unemployment and underemployment will still be present in 1980, but if peace prevails and development follows the projections indicated, it should not be serious.

Any possibility of absorbing Gaza refugees on the West Bank will depend upon (1) the willingness of Israel to accept them on the West Bank in the absence of a settlement, (2) Jordan's willingness to accept some of them into its economy with a settlement. Conditions on the West Bank have been somewhat depressed since the June war, but a gradual

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<sup>1</sup>For more on this potential labor absorption in agriculture, refer to R. Ward, "Absorbing More Labor in LDC Agriculture." The impact of a thriving agricultural sector on all other sector employment is significant, as the agricultural revival in India in 1968 and 1969 has demonstrated. Each of the other sectors of the economy makes its own investment, which also has inter-sector impact.

revival is taking place. The defense effort in Israel has contributed to reducing unemployment and 15,000-20,000 workers from the West Bank have found employment in Israel. Jordan will have serious employment and rehabilitation problems for some time, even with a settlement, but eventually, depending upon assumptions made about external assistance and the pace of development, might be willing to accept some Gazans. Of the 312,000 refugees in Gaza, 202,000 were estimated to be in camps and about 187,000 were over 15 years of age. We could assume that about 60 percent of these or 112,000 are in the labor force, able to work or to migrate for work. Some trained women could be included in a slightly larger figure. Several thousand of these have already found work in Israel.

Over at least the next five years, it would seem useful for Gazans to have the opportunity to obtain jobs elsewhere in the Middle East or in Europe, if they choose. Meanwhile, so long as these opportunities do not materialize, it would be difficult for them to leave Gaza. Recent reports from Gaza have pointed to its prosperity compared with Egyptian villages. This "prosperity" has been based on citrus exports and remittances of Gazan (Palestinian) workers abroad and Egyptian tourists, and was artificially stimulated by expenditures of UNEF and UNRWA. A gradual program wherein Gazan refugees would have the opportunity with other refugees to move into the more affluent Arab states, to Europe, or elsewhere in the world would seem to have more chance of success than confining their options to Israel or Jordan, with or without a peace settlement. The Gazans should have knowledge of all the options, in any case.<sup>1</sup>

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<sup>1</sup>An alternative though remote possibility for the Gazan as well as for Arab refugees in Jordan is for Syria and Iraq to permit settlement of refugees in the Tigris-Euphrates area. The World Bank, (Report on International Water Problems, December 1965) estimates that construction of the Keban Dam in Turkey, the Haditha Dam in Iraq, and suitable complementary works to irrigate surrounding territories in Turkey, Syria, and Iraq could bring a total of 5,125,000 additional acres into cultivation. About 2.7 million acres would be in Turkey, 904,000 acres would be in Syria and 1.5 million acres would be in Iraq. Thus, in Syria and Iraq, 2.3 million acres of new acreage could conceivably be opened up for Arab refugee settlement. Assuming 10 acres per farm and 5 persons

Without a Middle East Settlement. Without a settlement unemployment on the East Bank, sharply increased by the addition of 40,000-50,000 refugees to the labor force and 200,000-300,000 in total population, would be seriously out of proportion to the economic growth potential for some time. Without the new refugees, a little less than 60 percent of the population resided on the East Bank. Assuming 60 percent of the labor force on the East Bank, the labor force growth on the East Bank would be about 60,000 between 1965 and 1975. Growth in East Bank agriculture (the (E) item in Table 14) could create employment for about 15,000-20,000, with secondary effects creating as many more in other sectors of the economy. Other sector activities (potash, phosphate, some tourism, remittances) would generate additional jobs directly and indirectly, but not sufficiently to absorb the estimated 100,000 addition or more to the labor force by 1975. This being the case, the East Bank of Jordan would require a substantial relief operation for some time to come, more actively modern but not entirely unlike the early post-1948 Jordan. Ample opportunity exists on the East Bank in a more dynamic development of East Bank agriculture in the Jordan Valley and in perennial stream Wadi areas, a vigorous effort to improve dry land methods in wheat and other crops, development of potash and phosphate, some small industry expansion and tourism and untried opportunities in developing the Aqaba region. But it would not likely be adequate to absorb the swollen refugee population nor calm the troubled political waters that loss of the West Bank to Jordan will inevitably bring in its wake. The West Bank could fare better in a closer trade and open border arrangement with Israel, at least as long as the political climate remained calm.

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per farm (typical in Jordan), these new lands could support 230,000 farms and over one million persons. One hundred thousand refugees would represent only 10 percent of the number of persons these lands could support. There are undoubtedly many technical problems to be examined here, not to mention the political problems, but the very substantial potential involved between now and the year 2000 makes the Tigris-Euphrates project a plausible alternative from an economic standpoint.

## PROBLEMS AND POLICIES

### The Social Framework

Until 1948 Transjordan was populated almost entirely by descendants of Arabian tribes. About half of the population of about 500,000 had settled in such municipalities as Amman, Es Salt, Irbid, or Kerak, and the other half continued to live nomadic or semi-nomadic lives. Ethnically, the population was largely Arab and Moslem, but there were also small groups of christian Arabs, Circassians, Armenians, Shishans, Druzes, and Baha'is. The population was strongly traditional and conservative in its religious, social, and political outlook. Tribal authority and loyalty was a binding and pervasive force. As a result of the 1948 war, the population under Jordanian rule tripled, bringing better educated Palestinian Arabs, many trained abroad or in the British civil service under the Mandate. This group was much less tradition-oriented and more susceptible to modernizing influences than the Eastern Arabs and provided a strong basis in talent for the development of modern Jordan. The remaining third of the population of post-1948 Jordan were Palestinian refugees who were settled in camps and who relied heavily on assistance from UNRWA.

The educated Palestinians who fled to Jordan or who lived in Jerusalem and the West Bank formed the civil service in government, the bankers, lawyers, and other professionals as well as the entrepreneurs of the new Jordan. Many had college degrees from Western universities and the American University of Beirut. These, together with the educated East Bankers, including British educated King Hussein, have provided the drive behind Jordan's development efforts since 1950. With their influence, Jordan expanded rapidly, accepted foreign aid and foreign advisors, issued its First Five Year Plan in 1962, promoted vigorous private enterprise activity and trade, and took a fairly progressive outlook on modernization in many other fields. The gap in social standards and outlook between the tribal-oriented "East Bankers" and the Palestinian "newcomers" from the West Bank remains pronounced, but with modern films, radio, increased travel, and exposure to tourists and

Western education and technicians, the commitment to modernization is now sufficiently broadly accepted by the government and people to provide a firm basis for rapid growth, so long as political stability prevails.

#### The Institutional Framework

Jordan is a constitutional monarchy in which a strong Western orientation coexists ambivalently with strong anti-western sentiment inspired by western support of the State of Israel. It is basically a free market oriented economy, with few formal restrictions against private business activity. Foreign investment is not large, but it is encouraged. The repressive land tenure prevailing in some less developed countries is not a problem in Jordan. The government, through its Development Board and Ministries, promotes planning for development. The government's role and commitment in public investment is nearly as significant as total private investment. Public investment is typical in road building, municipal buildings and works, communications, power, and other infrastructural fields. To assist development in industry, the government's financial share in enterprise is significant largely even if silent, in cement production, radio and television, phosphate, the railroad, the petroleum refinery, vegetable oils, tanning, and other commercial operations. The Jordan Government's stated philosophy about its share ownership in these operations is that such concerns could not have begun without government capital, and that eventually the government's shares will be sold.

Jordan's Development Board has benefited from foreign technical advisors financed by the Ford Foundation. The effectiveness of the Board has depended on the quality of its leadership, which has on the whole, not been impressive. Western and other foreign professional economists are on the staff, but the jealousy of Ministries intent on furthering their own programs has hampered the effectiveness of the Board.

Jordan established its first Central Bank in 1966, after many years of competent training under the British Currency Board System. The Bank is only beginning to use its full powers, and the government has had a conservative policy in this respect. A new Jordan Banking

Law, however, permits borrowing by the government thus relaxing the long standing and inhibiting 100 percent sterling currency backing practice. This could also provide a flexible source of development funds in the future, but may also lead to inflation as well.

Jordan has established its first university and had, before the 1967 conflict with Israel, a fairly extensive teacher training program throughout the country. The most extensive of these are now in the occupied West Bank area. The massive refugee population on the East Bank creates a serious problem in educational strategy. With a political settlement in the area, a resumption of the pre-war progress would help, but other problems remain. Primary, secondary, and even Jordan University curricula are still tradition-oriented, with heavy emphasis on Arabic culture and history and not enough on science orientation and training to meet the needs of a modernizing economy. School buildings are grossly inadequate and the supply of adequately trained teachers continues to be undermined by the lure of higher salaries in nearby oil rich states. A new strategy of educational development, adequate to meet the needs of hundreds of thousands of refugees and poorly motivated villagers, is an obvious requirement for future growth of the society.

#### Resources: Capital, Manpower, and Technology

Given its ample reserves and continued availability of foreign assistance from many sources Jordan is adequately endowed with sources of investment capital to eliminate this as a bottleneck per se.<sup>1</sup> Besides aid from Arab countries, the UN, the United Kingdom, West Germany, the United States and numerous private voluntary organizations commit funds to Jordan which contribute to the economy and to savings. To the extent a bottleneck exists it is in the willingness of the government and people to mobilize the resources available, or to invest in development rather than in questionable non-developmental activities. Without a political

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<sup>1</sup>The Jordan Seven Year Plan, 1964-1970, has estimated the capital requirements for each of the public and private sectors over the Plan period. The amounts are shown in Table 21.

Table 21  
GROSS PUBLIC AND PRIVATE CAPITAL FORMATION BY SECTOR, JORDAN  
1964 - 1970

Public Sector	\$000	Private Sector	\$000
Ministry of Information	826	Agriculture	44,968
Tourism Authority	4,614	Fishing	588
Antiquities Department	2,386	Potash	54,600
Education	12,118	Marble	266
Social Affairs and Labor	470	Industry	22,820
Ministry of Agriculture	1,044	Hotels	27,160
Forestry Department	3,620	Electricity	7,924
Veterinary Department	540	Trades and services	19,796
Agricultural Extension Department	2,450	Housing	88,816
Agricultural Research Dept.	333	Transportation	34,440
Agricultural Marketing	1,795	Hospitals	2,058
Public Works - Roads	30,150	Schools, university	5,950
Public Works - Gov't Bldgs.	3,998	Oil exploration	8,540
National Economy (including statistics)	361	Sport stadium	2,800
Post, Telephone and Telegraph	16,268	Unallocated investment plus increase in stocks	41,020
Civil Aviation & Meteorology	15,512	Total	361,746
Ministry of Finance	21,199		
Railway - Ma'an to Medina	5,180		
Railway - Ma'an to Aqaba	37,439		
Health	6,152		
East Ghor Canal Authority	3,326		
Central Water Authority (including Wadi Shu'eib and Kufrein and excluding municipal water projects)	54,337		
Yarmouk (including Side Wadi Dams)	84,706		
Mining Exploration	4,284		
Phosphate	8,565		
Port of Aqaba	9,528		
Electricity (including Yarmouk)	15,968		
Village Development (including Housing)	10,825		
Potash	8,400		
Total	366,399		

Source:

Jordan Development Board, Seven Year Program for Economic Development of Jordan, 1964-1970, pp. 37, 28.

settlement capital will be scarce, as investors hoard and seek safer alternatives. The ability to tax will also be compromised. With a political settlement in the area, economic activity will resume, tax revenues can be sought out of a growing GNP, including out of a hitherto little taxed agricultural sector. Accumulated reserves will enable the country to weather the first waves of re-stocking, rehabilitation, and expansion. Foreign sources of assistance will undoubtedly resume. The budget department, after years of technical budgeting and auditing advice from British and American technicians, is capable of organizing its income, customs, and other tax collecting procedures to considerably improve tax yields to the government. Within the context of a peaceful political settlement, both foreign and domestic private investment should be forthcoming in all sectors of the economy, particularly in providing tourist accommodations; in construction, agri-businesses, small manufactures, and marketing.

Providing adequate skilled manpower is a problem closely tied to projected sector development on one hand and educational requirements on the other. The area has been studied before, and estimates have been made in Jordan's Seven Year Plan, 1964-1970. The complexity of this problem is such, however, that we have not made the attempt for this study. Jordan, as with other underdeveloped economies, has abundant surplus labor and a substantial foundation for developing adequate facilities for manpower training to meet its sectoral development needs. This is an area in which a consortium of Jordanian and foreign assistance could make an effective contribution to development in the area. The rate of technological or innovational advance is closely tied to the facility with which vocational and professional skills are upgraded. Western concepts of technology have a substantial foothold in Jordan, through exposure by Jordanians to European and American education, travel, and concepts of modernization. The absence of natural resources is a basic constraint in furthering technology in manufacturing, while economies of scale are inhibited by limited markets. The most dramatic breakthrough in technology would appear to fall within the priority areas of potential development -- in water resource development, providing tourist accommodations, mining and marketing phosphate

and potash, and in the myriad benefits to be derived from a more dynamic development-oriented education program. Some indeterminate number of years from now, fossil or nuclear fueled desalination centers at Aqaba or in cooperation with Israel on the Mediterranean might become an economical base for breakthroughs in power-petrochemical-fertilizer-agricultural development, but these seem too remote to be of effective relevance until beyond the period projected in this study.

#### Markets and International Trade

Two of Jordan's largest potential foreign exchange earners are tourism and remittances from Jordanians working abroad. It is difficult to foresee the nature of constraints that will inhibit the growth we have projected for these sources of earnings. The most obvious constraints on tourism will be political instability in the Middle East. This is by far the most serious deterrent to tourist travel in the area. The second category of constraints is in providing adequate accommodations, including travel, hotel, food, and other services, particularly in the peak seasons. The study deals with some aspects of the capital investment called for in this sector.

The bottlenecks to rising remittance earnings could be in providing education to enable Jordanians to sell their skills abroad, in the possible reaction in the oil rich states to a felt oversupply of Jordanian as opposed to local talent, in the possibility of more Jordanians withholding remittances if Jordan is politically unstable or in Jordanians taking up permanent residence abroad, in the loss of talents needed in Jordan for these educated persons which could have offsetting growth effects at home.

The constraints in Jordan's exports of agricultural commodities -- vegetables, bananas, citrus fruits -- are probably less in the ability to produce or in the size of regional markets than in the ability of Jordan to compete in quality of product and in marketing techniques. More distant markets offer more intensive problems of quality competition, but transportation costs will be even more critical. Regional markets offer the best potential and the constraints indicated are by no means insurmountable.

The potential markets for Jordan phosphate and potash over the long run should be more than adequate. If Jordan potash production is on stream by 1975, world markets for both phosphate and potash could be among Jordan's principal foreign exchange earners. This is particularly true if the agricultural revolution in use of fertilizers, new miracle seeds, and irrigation complexes continues at its present pace. For example, Pakistan's fertilizer use increased from 30,000 nutrient tons in 1960 to an anticipated 420,000 tons in 1969. India's chemical fertilizer consumption was negligible in 1960 but reached over 2 million tons in 1968. Turkey's fertilizer consumption increased fourfold between 1964 and 1967. These are all potential markets for Jordan's phosphate and potash. At present, Western and Japanese supplies of fertilizer are in excess, so that expansion of Jordan's export will have to be won in highly competitive circumstances. Nevertheless, there is every reason to expect world demand of fertilizers to continue its rapid growth as food production continues to increase, so that by 1980 the market should be ripe for Jordan's products.

Jordan also exports a long list of miscellaneous items -- marble, cement, shoes, batteries, tobacco, cigarettes, beverages, wheat in surplus years, miscellaneous Holy Land artifacts, and other small manufactures. Exports of these should continue to grow, particularly in an atmosphere of political stability, open borders, and thriving trade.

All of these considerations are implicit in the projection of foreign exchange earnings indicated in Table 10.

#### SUMMARY

Certainly the principal obstacle to a resumption of the rapid growth performance experienced in Jordan in the decade preceding the June 1967 war with Israel is the political instability in the area. If this should be resolved, the prospects for development, not only of Jordan, but of the whole area, are good. All of the prospects for growth indicated in the projections of this study assume a political settlement.

In the absence of a settlement between Jordan and Israel, Jordan would be denied the West Bank, the bulk of its former tourism earnings, any benefits which might have accrued in trade opportunities from an opening of borders or easing of border restrictions with Israel, and the opportunity to develop its share of the Yarmouk River waters, in view of its proximity to the troubled border. Capital flight would probably take place, emigration of educated Jordanians would increase. In the absence of a settlement, some measures, nevertheless, could be taken to:

- (1) continue planning for feasible development activities and to use its substantial accumulated reserves, and receipts from oil-rich Arab countries for development purposes,
- (2) develop East Bank water resources in order of most economic return,
- (3) start education programs to upgrade the skills of the large surplus manpower to reap the potential in remittance earnings. A Western consortium of countries could assist with this program including helping with an education/training program. Information on job opportunities outside of the Middle East could be made available to those interested.
- (4) hasten the implementation of the potash facility,
- (5) seek new markets or arrangements to increase earnings from Jordan phosphates,
- (6) proceed with developing tourism on the East Bank where possible,
- (7) consider ways in which the Port of Aqaba may benefit the economy through further development.
- (8) Improve dry land farming techniques.

Even with these steps, the economy would gradually take on the characteristics of the old Transjordan, except that a contingent of about 250,000 new refugees -- jobless, homeless and with inadequate education -- would have to be accommodated. Some development would continue, but the quest for economic self-sustainment would have little meaning, unless the refugees were permitted to return to the West Bank

or largely emigrated to other countries. Subtracting the refugee numbers, the East Bank economy could function as an entity, with continued foreign assistance for some time, until it settled into some more modernized semblance of the agricultural-desert-village oriented society it was before 1948. The standard of living would be lower than at present, Western influences would continue to have some effect. The loss of most of its tourists, and some of its remittances and services income from abroad, would deprive the economy of nearly 50 percent of its foreign exchange earnings which would take some time to recover in the form of new earnings from agricultural, potash, phosphate, or other exports.

Appendix

EMPLOYMENT POTENTIAL FOR REFUGEES IN EUROPE

The most likely potential for employment options for refugees outside of the Middle East is in Europe, although South America, North America, Africa and Australia should not be excluded as possibilities. Data on migration of workers are scarce and variable among reports. One recent report indicated that there were 7-8 million foreigners residing in Western Europe, representing 5.6 percent of the active population. The upward trend began to accelerate about a decade ago. The distribution by countries of origin and destination are as follows:

Origin of Immigrants in Western Europe  
(000 Persons)

Countries	<u>Countries and Areas of Emigration</u>									
	Non-Mediterranean Europe	<u>Mediterranean Basin</u>					Africa South of the Sahara	Americas and Asia	Total	
		Italy	Spain	Greece	Portugal	North Africa				
Germany	304	309	166	175	8	7	107	4	31	1,111
France	460	645	431	9	130	600	16	40	134	2,465
Belgium	123	200	27	10	2	8	10	6	5	391
Luxembourg	15	14	-	-	-	-	-	-	-	29
Netherlands	86	13	20	2	2	6	9	-	47	185
Switzerland	166	474	82	-	-	-	3	-	-	725
Austria	19	2	1	-	-	-	3	-	-	25
Sweden	149	5	3	4	-	-	1	-	-	162
Norway	15	-	-	-	-	-	-	-	-	15
United Kingdom	1,041	81	21	7	-	-	-	30	1,086	2,266
TOTAL	2,378	1,743	751	207	142	621	149	80	1,303	7,374

Foreign workers constitute only up to 2 percent of the labor force of Denmark, Norway, Austria and the Netherlands, but made up from 4 to 10 percent of the labor force of Germany, Sweden, France, United Kingdom, and Belgium. In Luxembourg and Switzerland, from 22-31 percent of the total labor force is made up of foreign workers.

The occupational distribution of the foreign workers is diverse, but this varies from one country to another. In Switzerland, where

Italian immigrant workers are prominent, 33 percent of the workers are in industry, 75 percent in building and civil engineering, and 20 percent in services. Actually, these categories include factory employment in food, tobacco, beverage, processing, textiles, paper, printing, leather, rubber, chemical, metals, watches, musical instruments, stone, cement, and a number of other fields. Surprisingly, significant numbers of foreigners are in a high occupational strata. For example, 16 percent of Switzerland's biologists are foreign, 22 percent of its electrical engineers, 26 percent of its electrical engineers, and 19 percent of its university teachers. One would not expect Switzerland, with its large foreign professional community associated with the UN and other international organizations, to be typical. Yet, over 60 percent of the immigrant workers in West Germany are employed in the mechanical engineering, construction, and chemical industries, a third of foreign workers in France were or are employed in building and civil engineering works, 20 percent in agriculture. A large segment of Belgian and German foreign workers also work in the mines. It is said that 1 out of 5 miners in ECSC (European Coal and Steel Community) mines is a foreign worker. In the United Kingdom, foreign workers fill an appreciable number of the medium and lower grade jobs in hospitals, maternity homes, and other institutions. Despite the diversity in these jobs, it is also evident that the majority of the foreign workers in Western Europe get the worst -- most laborious -- jobs in these categories, but need not remain in these jobs if their skills improve.

Data on remittances returned by foreign workers in Europe are scarce, but the OECD (Desclotres) reports as follows:

Over the first 10 months of 1962 Spanish emigrants living in 13 countries, including European countries, sent back to Spain 2,364 million pesetas;

Transfers of money from immigration countries often amount to half a million lire per year for each Italian emigrant's family.

Between 1950 and 1959, 118,000 Greek emigrants transferred to their country of origin savings totalling \$493.5 million; in 1963 Greece earned as much from emigration as from its Merchant Navy, and almost one and a half times as much as from tourism, for example, \$128 million.

In 1960 Algerian immigrants in France sent home NF 700 million, twice the amount transferred in 1956;

Between 1946 and 1957 official transfers of savings from immigration countries into Italy amounted to about \$1,200 million, thus covering an average of 5 percent of imports and almost 15 percent of the deficit in the trade balance.

The OECD reports see a continuing and growing need for foreign workers in Europe. The need is reflected in the criterion of manpower requirements laid down by France (The Foreign Worker, p. 38).

- (a) "The employment of foreign workers is no longer an economic measure of a temporary or provisional character; in many occupations it has become a continuing necessity.
- (b) "Foreign workers constitute neither a 'reserve' nor a supplementary labor force, but a part, sometimes an essential part, of the country's manpower resources.
- (c) "It is becoming increasingly difficult to recruit foreign workers in neighboring countries; there is increasingly lively competition between countries which recruit foreign manpower.
- (d) The introduction of foreign workers consequently demands a greater effort with regard to both recruitment and the reception and adaptation of workers."

The supply of jobs and the categories most available to foreign workers are elaborated at length in OECD publications.

(R. Desclotres (OECD)), The Foreign Worker, Paris, 1967, pp. 33, 34, 36, 54. Data not available for Denmark. According to this report, the forecast of requirements for foreign workers in Europe during the 1960s was Germany, 1.2 million; France, 720,000; Belgium, 75,000; Switzerland, 600,000. The OECD has made other studies of foreign labor migration, but this data is most recent. Also OECD, Emigrant Workers Returning to Their Home Country.