

be completed by the end of 1985, the water front resort development should start around mid-1980s. To increase the attractiveness of the area, afforestation should be undertaken during the earlier half of 1980s. The area is suitable for olive and other tree crops.

i. Um Qeis Area

03.019 This area should emphasize tourism development by improving available resources, i.e., impressive Greco-Roman ruins, the hot spring at Hemma and beautiful scenery. Substantial excavation and restoration will be required for the ruins, while further boring and upgrading of facilities are needed at Hemma. Afforestation should be started especially around Um Qeis. An experimental fish culture is recommended near Hemma.

j. Kura and Taiyiba Area

03.020 The area has an annual precipitation of approximately 500 millimeters and is suitable for agricultural development. It is recommended to reclaim part of the largely unused land available in the area by removing boulders and gravels and providing better access roads. After reclamation, the land will be primarily planted to olive trees, with some intercropping of fodder.

k. General Area Without Specification of Location

03.021 Community service facilities such as schools, clinics, post offices should be provided or upgraded in places where access to these services still remains poor. Improvement of arterial and village roads should be undertaken in places where inadequacy of transportation are constraining development or hindering access to development centers. Afforestation should be pursued in areas other than those mentioned already. In addition, smaller forest parks should be provided in natural forests or afforested areas to meet the demand for recreation which has been expanding due to increased motorization.

3.3 Project Recommendations

3.3.1 Recommended Projects, 1981 to 1985

03.022 All the recommended projects are listed on Table 3.3 but the same projects rearranged by sector are listed again in Table 3.4. These are the projects recommended for the period of the next Five-Year Plan (1981 to 1985). It means that projects going on or to be implemented within the rest of the current Five-Year Plan period are excluded from the list of the recommended projects. This does not mean that we are neglecting the rest of the current Five-Year Plan period but we are assuming that the rest of the current Five-Year Plan period should be used to implement and complete the projects which are already financed or to be financed by the current Five-Year Plan scheme, and also that studies and planning work necessary for those proposed projects should be done in this period. In the following appears the rough specification of projects.

Table 3.4 List of Public Investment Projects by Sector,
Study Area , 1980 to 1985

| Sector | Public Investment Project 1981-1985 | Cost |
|---------------|--|------------|
| Manufacturing | 1. Irbid Industrial Estate (20 ha) <u>1/</u> | 0.8 |
| | 2. Yarmouk Industrial Estate (150 ha) | 3.8 |
| | { 3. Jerash Industrial Estate (5 ha) } | 0.6 |
| | { 4. Ramtha Industrial Estate (5 ha) } | |
| | { 5. Mafrag Industrial Estate (5 ha) } | |
| | 6. Industrial Free Zone (100 ha) | 2.5 |
| | 7. Sugar Factory at Irbid | <u>2.7</u> |
| | 10.4 | |
| Agriculture | 1. Livestock Promotion | 3.5 |
| | 2. Land Reclamation through Gravel Removal | 0.2 |
| | 3. Agricultural Service Road | 2.0 |
| | 4. Olive Promotion (5,000 ha) | 1.0 |
| | 5. Jerusalem Artichoke Experimentation Field | 0.3 |
| | 6. Fish Culture Experimentation Center | 1.0 |
| | 7. Afforestation (5,000 ha) | <u>1.0</u> |
| | 9.0 | |
| Tourism | 1. Jerash Tourism | 0.8 |
| | 2. Dibbin Park | 1.2 |
| | 3. Ajlun Tourism | 0.6 |
| | 4. Um Qeis Excavation | 1.6 |
| | 5. Irbid Touristic Improvement | 0.2 |
| | 6. Irbid Park System | 3.0 |

(To Continue)

Note: 1/ In Part III, this size is slightly modified to 26.6 ha.

Table 3.4 (Continued)

| Sector | Public Investment Project 1981-1985 | Cost |
|-------------------|---|------------|
| Tourism | 7. Ramtha Tourism | 0.2 |
| | 8. Small Forest Parks | <u>1.2</u> |
| | | 8.8 |
| Water Resources | 1. Samasdoud Wells | 3.7 |
| | 2. Water Import from Syria | 2.4 |
| | 3. Yarmouk - Irbid W.S. | 5.0 |
| | 4. Irbid Water Distribution | 8.0 |
| | 5. Maqarin Dam | 63.0 |
| | 6. Experimental Dam | 0.3 |
| | 7. Irbid Sewerage System | <u>4.7</u> |
| | 87.1 | |
| Transportation | 1. New Road: Route 11 from Rihab to R. 15 | 1.4 |
| | 2. Irbid Ring Road | 0.5 |
| | 3. Irbid Bus | 0.2 |
| | 4. New Road: Autostrada from F. Z. to R. 11 | 2.0 |
| | 5. Jerash by-pass | 1.1 |
| | 6. Road Improvement | 0.5 |
| | 7. Viillage Road Improvement | <u>1.1</u> |
| | 6.8 | |
| Telecommunication | 1. Amman-Irbid Route Extension | 0.5 |
| | 2. Expansion of Irbid Telephone System | 4.5 |
| | 3. Expansion of Husn Telephone System) | |

(To Continue)

Table 3.4 (Continued)

| Sector | Public Investment Project 1981-1985 | Cost |
|---|---|--|
| Telecommunica- tion | 4. Expansion of Jerash Telephone System) | |
| | 5. " Ajlun " ") | 5.0 |
| | 6. " Ramtha " ") | |
| | 7. " Mafraq " ") | |
| | 8. Rural Telephone Project | <u>4.2</u> |
| | | 14.2 |
| | <hr/> | |
| | Training | 1. Expansion of Irbid Vocational Training Centre |
| 2. Improvement of Jerash Vocational Training Centre | | 0.5 |
| 3. Improvement of Anjara Vocational Training Centre | | 0.5 |
| 4. Improvement of Mafraq Vocational Training Centre | | 0.5 |
| 5. Improvement of Ramtha Vocational Training Centre | | 0.5 |
| 6. Jerash Craft Center | | <u>0.5</u> |
| | 4.0 | |
| <hr/> | | |
| Urban Development | 1. Irbid New Town (2,000 Units) | 12.6 |
| | 2. Yarmouk New Town (2,000 Units) | 12.4 |
| | 3. Irbid Housing Site (1,000 ha) | 12.4 |
| | 4. Yarmouk Housing Site (450 ha) | <u>5.0</u> |
| | 42.4 | |
| <hr/> | | |
| Education & Health | 1. Yarmouk University | 50.0 |
| | 2. Education Facilities | 12.4 |
| | 3. Health Facilities | <u>8.1</u> |
| | 70.5 | |
| <hr/> | | |
| | Grand Total | 253.2 |

03.023 Although the above analysis and conclusions are based on projects recommended in Table 2.7, one more projects, which is an Irbid Sewerage System Project, is conceived to be of vital necessity by the Jordanian officials. This is decided to be given to an USA consultant for a study and is expected to be implemented during the next Five-Year Plan period. Thus, we accept the decision and expectation by the Jordanian officials and incorporate this project into the program for the period ending in 1985.

a. Manufacturing

- (1) Irbid Industrial Estate: This is the first stage of the expansion of the existing industrial estate which is located to the north of Irbid. The additional area will be 20 hectares incurring the cost of JD.0.8 million for construction and land acquisition at the 1977 prices.
- (2) Yarmouk Industrial Estate: This is a new industrial estate to the south-east of the New Yarmouk University for precision machines and knowledge intensive industries. Also, a distribution center can be located. This location is selected because of the wind direction and the close access to the expected Autostrada. The area is 150 hectares incurring the cost of JD.3.8 million.
- (3) Jarash, Ramtha and Mafraq Industrial Estates: These are small scale estates for small and medium scale industries, with a size of 5 hectares for each.
- (4) Industrial Free Zone: This is the Jordanian-Syrian joint project on the Syrian border at the intersection of Hijaz Railway and the border. Its size is 400 hectares plus 200 hectares housing development in total. In the next Five-Year Plan period, about half (200 hectares) will be implemented. Consequently Jordan's share of implementation is 100 hectares, incurring the cost of JD.2.5 million.
- (5) Sugar Factory in Irbid: This should be developed just after the result of the Jerusalem Artichoke experimentation on 2 hectares in Sama Sirhan, which is another proposed project, has proved to be successful. This is comprised of two factories; a fructose extracting factory and a granulating factory, incurring the cost of JD.2.2 million and JD.0.5 million respectively.

b. Agriculture

- (1) Livestock Promotion: This is to promote sheep raising in the relatively high rainfall area which has more than 500 millimeters per annum. They are Ajlun, Jarash, Kura

and Taiyiba areas. The Government is to select 10 families from one village and let one family raise one hundred sheep. To support these families, the Government will provide (1) one rain collecting well with a capacity of 500 tons which is enough for 1,000 sheep for 9 months in the dry season; and (2) 60 hectares of pasturage land on the governmental land to produce 600 tons of grass per annum for 1,000 sheep. Assuming that 50 villages will receive assistance, the total cost is JD.3.5 million.

- (2) Land Reclamation Through Gravel Removal: This is the reclamation of private farmers' land by Governmental effort through removal of gravels by bulldozers. 5,000 hectares is assumed to be reclaimed in the areas of Kura, Taiyiba and Ajlun, incurring the cost of JD.0.2 million.
- (3) Agricultural Service Road: In connection with the above project of reclamation, some lands require service roads to the land to be reclaimed. This project provides these service roads to farmers. 100 kilometers is assumed to be constructed incurring the cost of JD.2 million.
- (4) Olive Promotion: In order to promote olive raising, assistance must be given to farmers for expansion by providing nursery trees and waters, 5,000 hectares in the areas of Bani-Kinana, Irbid, Taiyiba, and Kura, is assumed to be assisted incurring the cost of JD.1 million.
- (5) Jerusalem Artichoke Experimentation Field: This is to raise Jerusalem Artichoke as an experiment on 2 hectares of land in Sama Sirhan village. If it is shown to be successful, it will be expanded up to 1,700 hectares, which is the necessary size of field for producing enough Artichoke to produce sugar by one factory. 2 hectares experimentation will cost JD.0.3 million excluding land cost. 1,700 hectares is assumed to be developed by private efforts.
- (6) Fish Culture Experimentation Center: This is the fish culture experimentation combined with dairy cattle raising located at Hemma. This will cost JD.1 million.
- (7) Afforestation: There is 5,000 hectares afforestation at various places for the purposes of retention of water for rivers and dams, soil improvement, land beautification and tourism development. This costs roughly JD.1 million.

c. Tourism

- (1) Jerash Tourism: This is a combination of (1) excavation and restoration, (2) folklore village, (3) routing and signs, (4) fencing and landscaping, and (5) hotel for the purposes of encouraging tourists to stay on the site for a longer period of time. This costs about JD.0.8 million.
- (2) Dibbin Park: This is a combination of (1) installation of a ropeway to Mt. Aqra, (2) construction of a recycled stream, (3) construction of chalets, (4) construction of a botanic garden, (5) general landscaping, and (6) natural trails and camp sites to enrich the area. This costs about JD.1.2 million.
- (3) Ajlun Tourism: This is a combination of (1) restoration of the Rabad Castle and reinforcement of its facilities, and (2) development of Rabad resort town, incurring the cost of JD.0.6 million.
- (4) Um Qeis Excavation and Restoration: This is the excavation and restoration of Um Qeis, incurring the cost of JD.1.6 million.
- (5) Irbid Tourism: This is a combination of (1) planting trees on streets and (2) establishment of Suq, incurring the cost of JD.0.2 million.
- (6) Irbid Park System: This is a combination of (1) parks in the Municipality of Irbid, and (2) park network between Irbid and Yarmouk University, incurring the cost of JD.3.0 million.
- (7) Ramtha Tourism: This is a combination of (1) planting trees on streets, and (2) development of a resthouse and information center, incurring the cost of JD.0.2 million.
- (8) Forest Parks: This is about 20 sites of forest parks each of which has about 5 hectares. The total cost of these is about JD.1.2 million.

d. Water Resources

- (1) Samasdoud Wells: This is to send additional 6 million tons of water per year to Irbid by digging wells and transferring the underground water to Irbid. The total cost will be JD.3.7 million.

- (2) Water Import from Syria: This is to import 5 million tons of water per year from Muzeirib spring-well fields in Syria to Irbid by constructing a 28 kilometers pipeline of 500 millimeters diameter. The cost will be JD.2.4 million.
- (3) Yarmouk-Irbid Water Supply Project: This is listed in the current Five-Year Plan. But it is not implemented yet. The estimated cost will be JD.5.0 million for pumping up 10 MCM/year of water from Yarmouk River to Irbid City.
- (4) Irbid Water Distribution: This is to improve and extend the existing distribution system benefitting more than 70,000 inhabitants, incurring the cost of JD.8.0 million.
- (5) Maqarin Dam: This is to construct a rockfill dam on the Yarmouk River with 125 meters height and a storage capacity of 275 million cubic meters. The project includes a hydro power station, a carrier canal to the East Ghor, irrigation systems, and others at the investment cost of JD.143 million, of which Maqarin Dam Construction (dam, spillway, powerplant and outlet works) amounts to JD.63 million.
- (6) Experimental Dam: This is the small concrete dam located with 5 to 10 meter height on Wadi Warren between Irbid and Ramtha in order to create a green zone of vegetables, olives, and a forest. The cost will be JD.0.3 million including the cost of 200 hectares afforestation.
- (7) Irbid Sewerage System: This is to construct a new sewerage system including storm drainage in the Irbid City in combination with the above (4) distribution project. It is assumed that served population will be 100,000. Being based on the appraisal report on "Amman Water Supply and Sewerage Project III" dated March 1978, required investment cost for a sewerage system can be estimated at US\$157 per capita. Thus, project cost is estimated to be US\$15.7 million, that is JD.4.7 million.

e. Transportation

- (1) New Road: Route 11 from Rihab to Route 15--This is to construct the part from Rihab to Route 15 of new highway Route 11. This is a 2-lane highway with 18 kilometers in length, incurring the cost of about JD.1.4 million.
- (2) Irbid Ring Road: This is a half-ring road at the distance of 1.5 kilometers from the center of Irbid, which will connect Route 23 at the north, Route 16, Route 11 and Route 23 at the south. 3.5 kilometers of road will cost about JD.0.5 million.
- (3) Irbid Bus: This is to establish a public bus corporation in order to reduce the heavy dependence on taxis. This requires about JD.0.2 million.
- (4) New Road: Autostrada from the Free Zone to Route 11-- This is one part of the international highway: Autostrada from the site of the Industrial Free Zone to Route 11. 27 kilometers will cost about JD.2.0 million.
- (5) Jerash Bypass: This is a bypass route around Jerash about on the top of the hill to the west of Jerash. With 10 kilometers in length, it will cost about JD.1.1 million.
- (6) Road Improvement: This is the project (1) widening of 3 kilometers near Irbid and resurfacing of about 20 kilometers between Irbid and Mafraq on Route 15, and (2) widening of the curve portions near Jerash on Route 15, incurring the cost of JD.0.5 million.
- (7) Village Roads: This is to construct new roads of 67 kilometers in total for the purposes of connecting about 32 isolated villages to activity centers. The cost is estimated to be JD.1.1 million.

f. Telecommunication

- (1) Amman-Irbid Telephone Route Extension: This is to expand the capacity of the existing microwave trunk line from 253 channels to 960 channel with a cost of JD.0.5 million.
- (2) Expansion of Telephone Systems in Irbid, Husn, North Shune, Jerash, Ajlun, Ramtha, and Mafraq: The project aims at increasing the existing subscribers lines of 5,000 to 15,000. And also additional 15,000 lines will be installed in each town with 6 new conveyable plants. The expected telephone penetration factors in Irbid and

others will be 20 percent and 15 percent respectively. The total estimated cost is approximately JD.9.5 million, of which JD.4.5 million goes to the extension works in Irbid city.

- (3) Rural Telephone Project: The project envisages to serve telephone service to 188 villages in the Northern District with the project cost will be JD.4.2 million.

g. Vocational Training

- (1) Expansion of Irbid Vocational Center: This is to expand the existing vocational training center, but the project in fact consists of establishing a separate premise around Sal to offer two-year training courses in electrical engineering, mechanical engineering, metal fabrication and agricultural processing and engineering. The facilities could be utilized for part time trainees in the afternoon shift. The cost estimated for the project is JD.1.5 million.
- (2) Improvement of the Vocational Training Centers at Jerash, Mafraq, Anjara and Ramtha: The project consists of (1) provision of advanced equipment for the existing workshops (in the fields of electrical works and plumbing) and (2) establishment of new workshops in the fields of (mechanical engineering and metal fabrication). The cost estimated for the project is JD.2 million.
- (3) A Craft Center for Girls at Jerash: The project is aimed at promoting ceramics and wood carving to take advantage of tourism development envisaged for the area. The cost estimated for the project is JD.0.5 million.

h. Housing

03.024 Original proposal of the Yarmouk New Town contained 4,000 units in it. This is only the public housing proposed during 1981 to 1985 and also our proposal on the provision of public housing for the entire Study Area is 4,000 units. It means all the public housing during the next Five-Year Plan period will be allocated to the Yarmouk New Town. This is unjustifiable under the acute pressure of population growth of the Municipality of Irbid. The 4,000 units are reallocated to the Yarmouk New Town and the Irbid New Town by 2,000 and 2,000 respectively.

- (1) Irbid New Town: This is a new town for 2,000 families or 12,000 inhabitants in the brackets of low and middle income. This will take up about 80 to 120 hectares and cost about JD.12.6 million excluding site preparation costs which will be covered by the site preparation project.

- (2) Yarmouk New Town: This is a new town for 2,000 families or 10,000 inhabitants mainly for students, staffs and the University related supporting peoples. This will cost roughly JD.12.4 million excluding site preparation costs which will be covered by the site preparation project.
- (3) Irbid Housing Site: This is the infrastructure preparation for about 1,000 hectares of land for the net population growth of the Municipality of Irbid from 1980 to 1985, which is estimated to be 39,000 people. The urban area should be prepared with enough rooms against the net land requirements, which is estimated to be 1 hectare per 100 persons, and therefore a low density per hectare is used for the calculation of necessary land. This project will cost about JD.12.4 million.
- (4) Yarmouk Housing Site: This is the infrastructure preparation for 450 hectares of land for about 6,000 families or 30,000 persons who are estimated to eventually live near the University. The cost is assumed to be JD.5.0 million.

i. Education and Health

- (1) New Yarmouk University: This is the new development of the Yarmouk University on its permanent site accommodating 20,000 students by the end of 1986. Its total cost is estimated to be JD.100 million, out of which JD.50 million is assumed to be used for its construction during the next Five-Year Plan period.
- (2) Educational Facilities: This is to construct additional 689 classrooms for compulsory schools, 749 classrooms for secondary schools and adequate number of classrooms for 2,067 students of vocational schools during the next Five-Year Plan period. This is estimated to be JD.12.4 million.
- (3) Health Facilities: This is to provide hospitals, health centers and polyclinics during the next Five-Year Plan period. The total cost is estimated to be JD.8.1 million.

3.3.2 List of Recommended Projects After 1985

03.025 The instrumental projects to achieve the recommended Combined Pattern of development after 1985 are listed in Table 3.5.

Table 3.5 List of Recommended Projects,
Study Area, 1986 to 2000

| Sector | Development Instruments 1986-2000 |
|-----------------|--|
| Manufacturing | <ol style="list-style-type: none"> 1. Industrial Free Zone Expansion 2. Yarmouk Industrial Estate Expansion 3. Irbid Industrial Estate Expansion 4. Three cities Industrial Estate Expansion 5. White cement by private undertaking |
| Agriculture | <ol style="list-style-type: none"> 1. Livestock promotion 2. Land Reclamation 3. Olive Promotion 4. Jerusalem Artichoke Promotion 5. Afforestation |
| Tourism | <ol style="list-style-type: none"> 1. Maqarin Resort Development 2. Convention Hall Near Yarmouk 3. Continuation of Jerash, Um Qeis and Ajlun Tourism 4. Ajlun Resort Development |
| Water Resources | <ol style="list-style-type: none"> 1. Irbid and Yarmouk Waste Water Irrigation 2. Rural Water Supply 3. Yarmouk - Irbid Water Supply: Stage II |
| Transportation | <ol style="list-style-type: none"> 1. 2-Lane Addition to Route 11 2. Improvement of R 23 and R 16 3. New Road: Irbid to Ramtha 4. Yarmouk Distribution Center 5. Second Ring Road of Irbid |

(To Continue)

Table 3.5 (Continued)

| Sector | Development Instruments 1986-2000 |
|-----------------------------|---|
| Power and Telecommunication | <ol style="list-style-type: none"> 1. Power Improvement 2. Telephone and Telex Expansion 3. Rural Telephone continuation |
| Training | <ol style="list-style-type: none"> 1. Expansion of Polytechnics 2. Management Training Schools |
| Urban Development | <ol style="list-style-type: none"> 1. Yarmouk N.T. Expansion 2. Yarmouk Housing Site Preparation 3. Irbid Housing Site Preparation 4. Irbid N.T. Expansion 5. Site and Community Facility Preparation for Amman Satellite Towns at Jerash (40,000 inhabitants x 3 towns) 6. Irbid Urban Renewal |
| Higher Education | <ol style="list-style-type: none"> 1. Yarmouk University completion |

3.4 Sectoral Allocation and Investment Program of the Public Resources

3.4.1 Sectoral Allocation

03.026 The recommended sectoral allocation of the public investment is presented in Table 3.6.

Table 3.6 Recommended Sectoral Allocation of Public Investment by Central Government and Municipalities, Study Area, 1981 - 1985

(Unit: JD Million at 1972 Prices)

| Sector | Amount Million JD | Share % |
|---|----------------------|---------|
| Industry and Mining | 10.4 | 4.1 |
| Agriculture, Livestock, Fishery and Forestry | 9.0 | 3.6 |
| Tourism | 8.8 | 3.5 |
| Water Resources | 87.1 | 34.4 |
| Transportation | 6.8 | 2.7 |
| Power and Telecommunication | 14.2 | 5.6 |
| Training | 4.0 | 1.6 |
| Urban Development | 42.4 | 16.7 |
| Education and Health | 70.5 | 27.8 |
| Total | 253.2 | 100.0 |

Source: Table 3.4

3.4.2 Investment Program

03.027 The recommended investment program of the public investment for the next Five Year Plan period is presented in Table 3.7. Total amount of the public investment during the period is estimated to be about JD.249 million which is 25 percent more than the basic projection of the available resources presented in Section 2.1 of Chapter II of Volume 2. In this program, the projects which are urgently needed are given the earliest date in investment. At the same time a consideration is given to the availability of the resources, that is the public development expenditures. The timing of investments is designed so that the total

Table 3.7 Budget Program, Study Area, 1981 to 1985

(Unit: JD Million)

| Sector | Public Investment Project | Budget Program | | | | Total 80-85 | | |
|---------------|-----------------------------------|----------------|------|------|------|----------------|------|-----|
| | | 1979 | 1980 | 1981 | 1982 | | | |
| Manufacturing | 1. Irbid Industrial Estate | 0.3 | 0.5 | | | 0.8 | | |
| | 2. Yarmouk Industrial Estate | | | 1.8 | 2.0 | 3.8 | | |
| | 3. Jerash Industrial Estate | | | 0.1 | 0.1 | | | |
| | 4. Ramtha Industrial Estate | | | 0.1 | 0.1 | 0.6 | | |
| | 5. Mafraq Industrial Estate | | | 0.1 | 0.1 | | | |
| | 6. Industrial Free Zone | | | 1.1 | 1.4 | 2.5 | | |
| | 7. Sugar Factory at Irbid | | | 2.4 | 0.3 | 2.7 | | |
| | Sub Total | 0.3 | 1.6 | 1.7 | 1.8 | 2.3 | 10.4 | |
| Agriculture | 1. Livestock Promotion | | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 3.5 |
| | 2. Land Reclamation | | | | | 0.1 | 0.1 | 0.2 |
| | 3. Agricultural Service Roads | | | | | 1.0 | 1.0 | 2.0 |
| | 4. Olive Promotion | | | 0.2 | 0.2 | 0.2 | 0.2 | 1.0 |
| | 5. Jerusalem Artichoke Exp. Field | | | 0.1 | 0.2 | | | 0.3 |
| | 6. Fish Culture Exp. Center | | | | 0.4 | 0.6 | | 1.0 |
| | 7. Afforestation | | | 0.1 | 0.2 | 0.2 | 0.3 | 1.0 |
| | Sub Total | | 0.9 | 1.6 | 1.7 | 2.3 | 2.5 | 9.0 |

(To Continue)

Table 3.7 (Continued)

(Unit: JD Million)

| Sector | Public Investment Project | Budget Program | | | | | Total 80-85 | | |
|-----------------|--------------------------------|----------------|------|------|------|------|----------------|------|------|
| | | 1979 | 1980 | 1981 | 1982 | 1983 | | 1984 | 1985 |
| Tourism | 1. Jerash Tourism | | | 0.3 | 0.5 | | | 0.8 | |
| | 2. Dibbin Park | | | | | 0.5 | 0.7 | 1.2 | |
| | 3. Ajlun Tourism | | | 0.2 | 0.4 | | | 0.6 | |
| | 4. Um Qeis Excavation | | | | | 0.5 | 0.6 | 1.6 | |
| | 5. Irbid Touristic Improvement | | | 0.2 | | | | 0.2 | |
| | 6. Irbid Park System | | | 0.5 | 0.6 | 0.7 | 0.6 | 3.0 | |
| | 7. Ramtha Tourism | | | 0.2 | | | | 0.2 | |
| | 8. Small Forest Parks | | | | | 0.4 | 0.4 | 1.2 | |
| | Sub Total | | | 1.4 | 1.5 | 1.6 | 2.0 | 2.3 | 8.8 |
| Water Resources | 1. Samasoud Wells | | 1.7 | 2.0 | | | | 3.7 | |
| | 2. Water Import from Syria | | | | 1.2 | 1.2 | | 2.4 | |
| | 3. Yarmouk-Irbid W.S. | | | | | 2.0 | 3.0 | 5.0 | |
| | 4. Irbid Water Distribution | | | | 1.6 | 1.8 | 2.1 | 2.5 | 8.0 |
| | 5. Maqarin Dam | | | 10.0 | 10.0 | 10.0 | 15.0 | 18.0 | 63.0 |
| | 6. Experimental Dam | | | | 0.3 | | | | 0.3 |
| | 7. Irbid Sewerage System | | | | 1.1 | 1.2 | 1.2 | 1.2 | 4.7 |
| | Sub Total | | 1.7 | 12.0 | 14.2 | 14.2 | 20.3 | 24.7 | 87.1 |

(To Continue)

Table 3.7 (Continued)

(Unit: JD Million)

| Sector | Public Investment Project | Budget Program | | | | | Total 80-85 | | |
|-------------------|-----------------------------------|----------------|------|------|------|------|----------------|------|------|
| | | 1979 | 1980 | 1981 | 1982 | 1983 | | 1984 | 1985 |
| Transportation | 1. New Road: R.11 from Rihab | | 0.6 | 0.8 | | | | 1.4 | |
| | 2. Irbid Ring Road | | | | 0.2 | 0.3 | | 0.5 | |
| | 3. Irbid Bus | | | 0.2 | | | | 0.2 | |
| | 4. New Road: Autostrada | | 0.9 | 1.1 | | | | 2.0 | |
| | 5. Jerash By-pass | | | | | 0.5 | 0.6 | 1.1 | |
| | 6. Road Improvement | | | | 0.2 | 0.3 | | 0.5 | |
| | 7. Village Road Improvement | | | | 0.5 | 0.6 | | 1.1 | |
| | Sub Total | | 1.5 | 2.1 | 0.9 | 1.2 | 0.5 | 0.6 | 6.8 |
| Telecommunication | 1. Amman-Irbid Route Extension | | | 0.2 | 0.3 | | | | 0.5 |
| | 2. Expansion of Irbid Tel: System | | | 1.0 | 1.0 | 1.0 | 1.5 | | 4.5 |
| | 3. " Husn | | | | | | | | |
| | 4. " Jerash | | | | | | | | |
| | 5. " Ajlun | | | | | | | | |
| | 6. " Hamtha | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 5.0 |
| | 7. " Mafraq | | | | | | | | |
| | 8. Rural Telephone Project | | | | 1.0 | 2.2 | 1.0 | | 4.2 |
| | Sub Total | | 0 | 2.2 | 2.3 | 3.0 | 4.7 | 2.0 | 14.2 |

(To Continue)

Table 3.7 (Continued)

(Unit: JD Million)

| Sector | Public Investment | Budget | | | | | Program | Total 80-85 | | |
|----------------------|------------------------------|--------|------|------|------|------|---------|----------------|------|-------|
| | | 1979 | 1980 | 1981 | 1982 | 1983 | | | 1984 | 1985 |
| Training | | | | | | | | | | |
| | 1. Expansion of Irbid VTC | | | 0.7 | 0.8 | | | 1.5 | | |
| | 2. Improvement of Jerash VTC | | | | 0.5 | | | 0.5 | | |
| | 3. " " Anjera " | | | | 0.5 | | | 0.5 | | |
| | 4. " " Mafrag " | | | | 0.5 | | | 0.5 | | |
| | 5. " " Ramtha " | | | | 0.5 | | | 0.5 | | |
| | 6. Jerash Craft Center | | | | 0.5 | | | 0.5 | | |
| | Sub Total | | | 0.7 | 1.3 | 2.0 | | 4.0 | | |
| Urban Development | | | | | | | | | | |
| | 1. Irbid New Town | | | 2.4 | 2.8 | 3.4 | 4.0 | 12.6 | | |
| | 2. Yarmouk New Town | | | | 2.5 | 2.9 | 3.2 | 12.4 | | |
| | 3. Irbid Housing Site | | | 3.0 | 4.0 | 5.4 | | 12.4 | | |
| | 4. Yarmouk Housing Site | | | | | 2.0 | 3.0 | 5.0 | | |
| | Sub Total | | | 5.4 | 9.3 | 11.7 | 9.2 | 42.4 | | |
| Education and Health | | | | | | | | | | |
| | 1. Yarmouk University | | | 6.0 | 8.0 | 10.0 | 13.0 | 50.0 | | |
| | 2. Educational Facilities | | | 1.8 | 2.1 | 2.4 | 2.8 | 12.4 | | |
| | 3. Health Facilities | | | 0.9 | 1.2 | 1.5 | 2.0 | 8.1 | | |
| | Sub Total | | | 8.7 | 11.3 | 13.9 | 17.8 | 70.5 | | |
| | GRAND TOTAL | | | 3.5 | 35.0 | 44.1 | 52.0 | 58.6 | 60.0 | 253.2 |

Source: Study Team

amount of investment will grow in accordance with the growth of the available resources. Within a sector, there is some fluctuation in the amount of investments during the period due to the necessity on the side of projects.

3.5 Recommended Planning Organization for the Study Area

3.5.1 General

03.028 Viable organization building must be an integral part of any development planning in order to have the resulting recommendations and proposals implemented as envisaged. For the Study Area, it is necessary to have a planning organization which will perform the following functions:

- (1) Planning, including the finalization of the regional plan proposed in this Study with revisions and modifications as may be required by changes of basic conditions and assumptions in the process,
- (2) Coordination and integration of projects proposed or to be proposed by the sectoral ministries for the Study Area, so as to maximize the total development impact on the Area accruing from these projects,
- (3) Independent studies and surveys for identifying feasible projects for the Study Area,
- (4) Administratively effective project recommendation and endorsement, specifically instrumental to have the proposed projects in this Study, by sectoral ministries, and/or of its own incorporated into a succession of national development plans.

03.029 These functions could be performed either by one of the existing organizations which are already equipped to handle them, or by a new organization modelled after those agencies which have been created to perform similar functions for a specific region, or a combination of these. As for the existing organizations, for instance the Governorate Office and the National Planning Council are two of the obvious choices. However, the former organization does not currently perform the functions stated above, especially the region-wide planning function (although it has its own planning and development section). The NPC, on the other hand, are equipped to perform all these functions. However, the Council is primarily responsible for national planning and is unlikely to assume a similar responsibility for a particular region over and above other regions. As for the agencies which have been created to manage regional development, there are two examples in Jordan, that is, the Jordan Valley Authority (JVA) and the Amman Urban

Region Planning Group (AUPRG). The former is basically the implementing agency of development projects identified for the Valley, while the latter AUPRG has been functioning primarily as a planning agency for the area covering a major part of the Amman Governorate.

03.030 Taking careful note of the range of functions performed by the above-mentioned and other government or public organizations concerned with development, it is judged necessary to create a new organization for the Study Area. In the following sections, several alternatives will be examined in order to recommend a viable institutional set-up for the new organization so that it will be able to carry out its prospective functions effectively.

3.5.2 Objectives and Functions of the New Organization

03.031 The new planning organization, tentatively named the Irbid Regional Planning Group and referred to as the IRPG below, is to be established to achieve the following objectives: (1) to formulate a regional development plan in accordance with the long-range development perspectives and strategies which the IRPG deems requisite for the Area; (2) to coordinate and integrate various individual projects proposed by the respective sectoral ministries; and to expedite the implementation of the proposed projects.

03.032 The IRPG should perform the following functions to achieve the above objectives:

- (1) Framework building
- (2) Plan making
- (3) Project finding and selection
- (4) Budgetal allocation

Framework building consists of (1) setting a long term direction which the development of the Study Area should take and identifying a suitable strategy to gear the development efforts toward that direction, and (2) integrating and coordinating various sectoral programs and projects in accordance with the regional strategy. Plan making consists of (1) preparing relevant data and information and undertaking studies, if necessary, for planning and (2) formulating regionalized plans for socio-economic and physical development. Project finding and selection is deemed necessary to complement the integration and coordination of sectoral projects and programs proposed by respective ministries for the Study Area. Budgetary allocation consists of (1) estimating the amount of available financial resources, (2) estimating crude project (3) formulating a budget allocation plan for the proposed projects, and (4) recommending the allocation plan to the relevant government agencies. The IRPG performs these functions to recommend its findings for decision-making by other appropriate government organizations and to endorse the regional relevancy of sectoral programs and projects being proposed by these organizations.

Table 3.8 Evaluation of Six Alternative Institutional Set-ups

| Criterion | Regional Office of NPC | Regional Office of MMRA | Section of Irbid Gov. Office | Independent Authority NPC and MMRA | Consolidated Lower Apparatus to NPC, MMRA & Dept. of Budget |
|--|--|------------------------------------|--|---|---|
| 1. Framework Building | -OK | -NO | -OK | -OK | -OK |
| a. Direction & Strategy Setting | | | | | |
| b. Coordination & Integration of Projects | | | | | |
| c. Link to Implementation & Auditing | | | | | |
| 2. Plan Making, Socio-Economic and Physical | -Difficulty in physical planning | -Difficulty in economic planning | -Difficulty in economic planning | -Advantage in consolidating physical to economic planning | -Same as the left |
| 3. Project Finding & Selection | -OK | -NO | -OK | -OK | -OK |
| 4. Budgetary Allocation for Development Projects | -Difficulty in making budget recommendations for projects not financed by foreign assistance | -No access to budgetary allocation | -Indirect access to budget allocation | -Accessible to budgetary allocation | -No access to budgetary allocation |
| 5. Institutional Feasibility | -Easy to establish | -Easy to establish | -Advantage in strengthening the function of the local autonomous body. A prerequisite is to make the Gov. be a local autonomous body | -Easy to establish functions with NPC and MMRA | -Difficulty in coordinating three agencies |

Source: The Study Team.

3.5.3 Alternative Institutional Set-ups for the IRPG

03.033 The most important factor which will determine the effectiveness of a new organization is undoubtedly the position it will be assigned within the administrative structure of the government. In the case of the IRPG, six alternative set-ups are presented below for evaluation:

- (1) a regional office of the National Planning Council;
- (2) a regional office of the Ministry of Municipal and Rural Affairs;
- (3) a section in the Governorate Office;
- (4) an independent authority empowered to implement as well as to plan and directly accountable to the Prime Minister;
- (5) a consolidated lower apparatus to the NPC and the MMRA; and
- (6) a consolidated lower apparatus to the NPC, the MMRA and the Department of Budget.

03.034 The results of the evaluation of the above alternatives are shown on Table 3.8. As seen from the table, the criteria used for the evaluation, which could be many more, are (1) the degree to which the expected outputs of the IRPG can be assessed in proper perspective as to its feasibility and relevance on the regional and national levels and then streamlined to the decision-making and implementation stage, and (2) institutional feasibility, or the degree to which the new organization can be made viable without creating unnecessary redundancy and duplication and without inordinate shuffling of the overall government structure.

03.035 The Alternative 3 is the ideal one, since a regional development plan should be best prepared by a regional government in principle. However, the present Governorate Office is not sufficiently autonomous and staffed to undertake the region-wide planning functions. Unless the structure of local administration is drastically changed, this alternative is untenable.

03.036 The Alternative 4 is suitable for any of the functions required for the IRPG to perform, but it involves extensive duplication of functions vis-a-vis the NPC. The MMRA and sectoral ministries and agencies which might jeopardize the coordination between these organizations. Therefore, this alternative is not commendable.

03.037 The Alternative 1 is most suitable for framework building and socio-economic planning and easier to establish, but it will require coordination and deliberation with other organizations over budgetary

allocation for projects not financed by foreign assistance and over physical planning. On the contrary, the Alternative 2 is suitable for physical planning and easier to establish, but it will meet difficulty over economic planning and budgetary allocation.

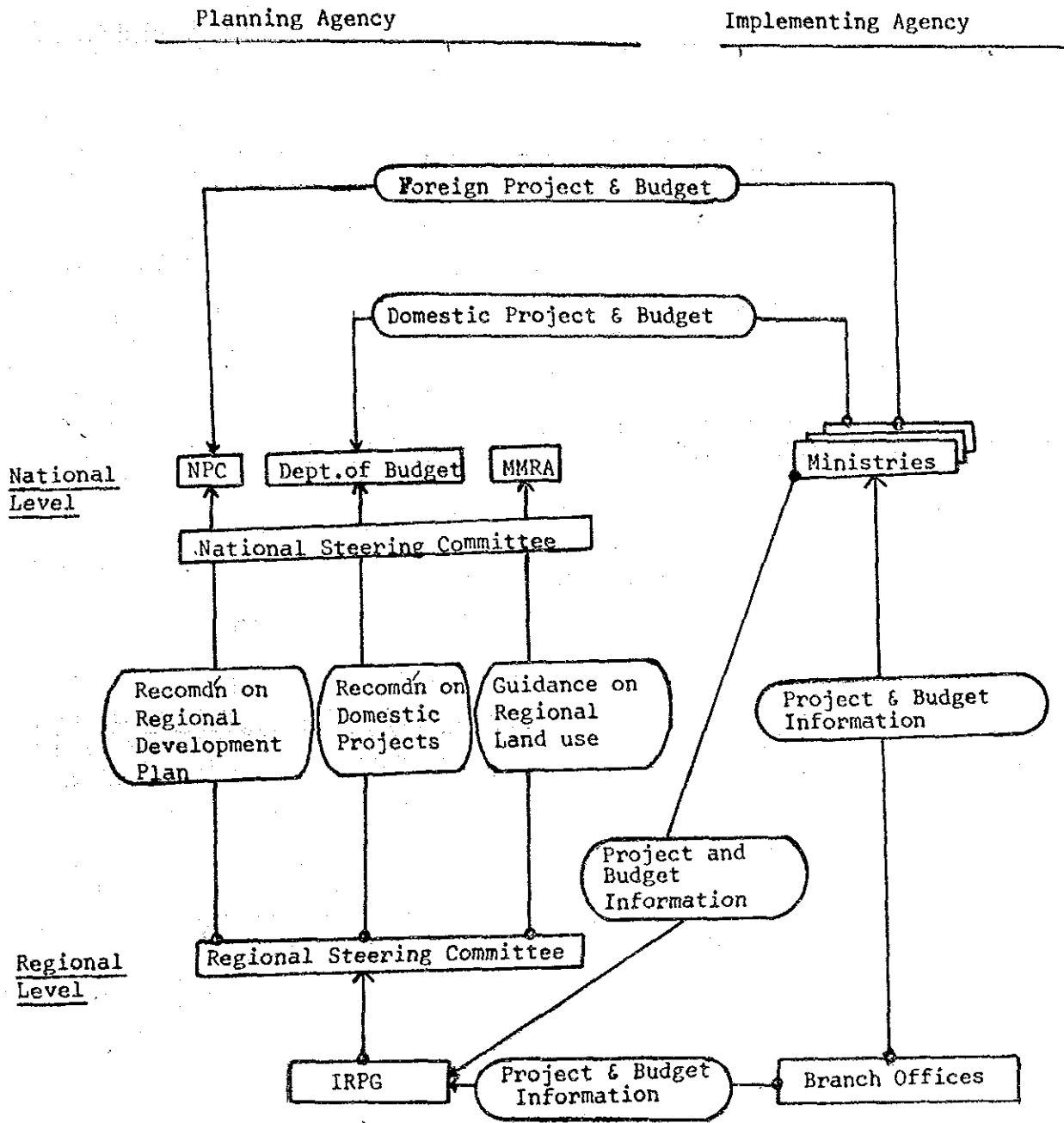
03.038 The drawbacks in Alternatives 1 and 2 will be solved in Alternatives 5 and 6. Because Alternative 5 will be weak in budgetary allocation, Alternative 6 appears to be the best of the alternative, except that the viability of the new organization will be affected by the effectiveness of coordination between the NPC, the MMRA and the Department of Budget. This problem can be solved by establishing a steering committee by three agencies concerned. Moreover, the steering committee will be able to coordinate with other government agencies concerned with development. Therefore, Alternative 6 is recommendable for the IPRG.

3.5.4 Description of the IRPG

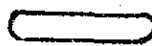
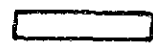
03.039 Given objectives, the position within the government structure and the principal functions defined in the preceding sections, the range of activities expected of the IRPG should be explained in detail. As shown on Figures 3.4 and 3.5, the prospective IRPG will undertake following activities.

- (1) To receive all informations on specifications and costs of development projects from branch offices and headquarters of the ministries. In other words, ministries or their branches must submit a list of development projects and their costs to the IRPG.
- (2) To formulate and submit
 - 1) a new regional development plan or a revised plan to the NPC;
 - 2) a list of recommended development projects for government financing to the Department of Budget; and
 - 3) An regional land-use plan to the MMRA.
The regional development plan should be revised every year and submitted to the NPC for review. The IRPG will produce a land use plan but not a land use regulation map, because the latter should be prepared by the implementing organizations such as the MMRA and Municipalities.
- (3) To monitor the project implementation, once their recommendations are approved by the NPC, the MMRA and the Department of Budget and transmitted to the respective implementing government organizations.
- (4) To create a good collaboration between the public and private sectors to facilitate the success of a regional development plan.

Figure 3.4 Planning Process of the Regional Plan and IRPG's Function

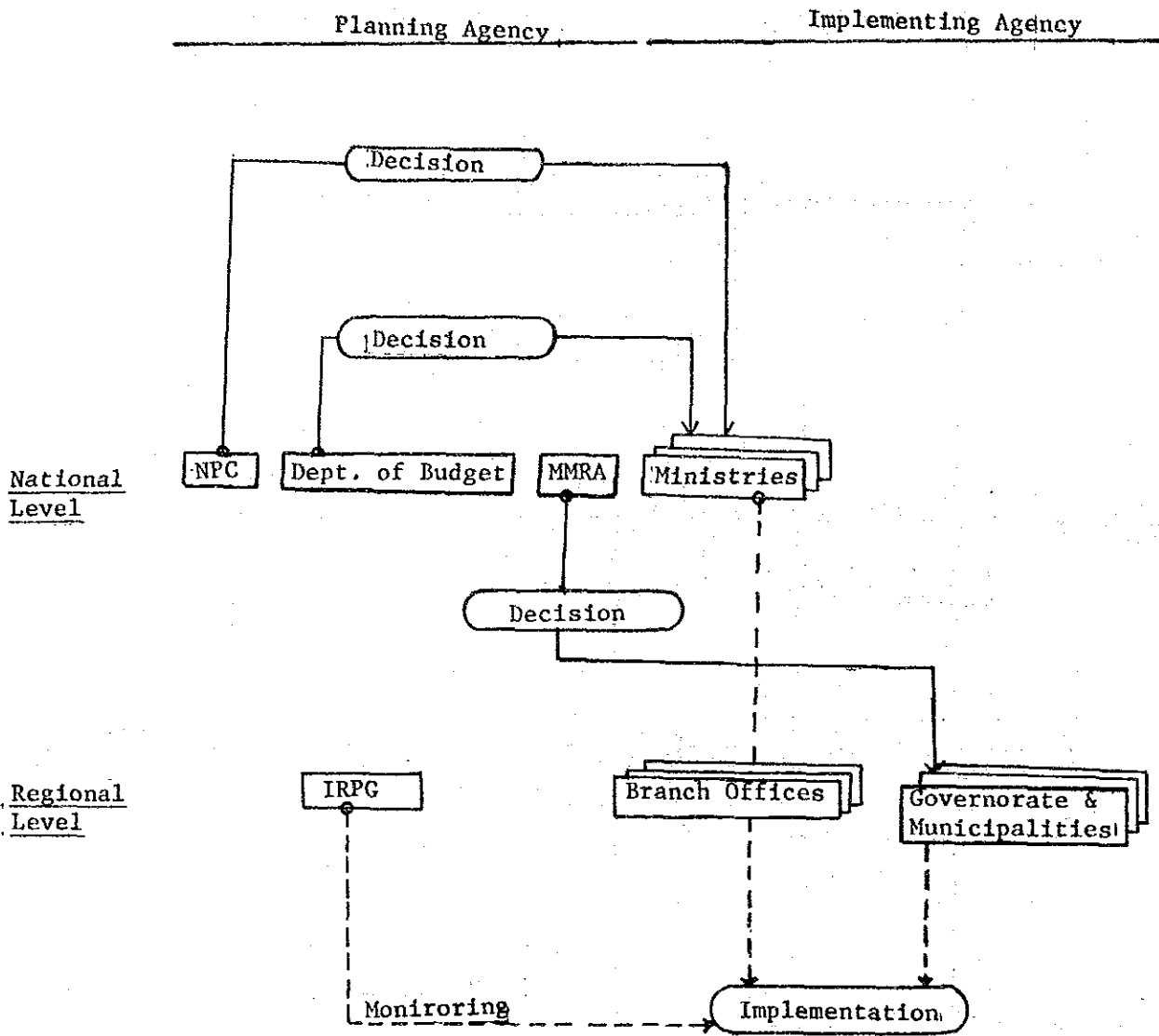


Legend

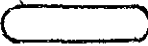
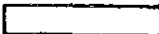
-  indicates products and informations
-  indicates an organization

Source: Japanese Team

Figure 3.5 Implementation and Monitoring Process



Legend

-  Indicates products and informations
-  indicates an organization

Source: Japanese Team

03.040 As shown on Figure 3.4, two steering committees will be set up for the operation of the IRPG. The regional steering committee, like the Sub-committee established for the AURPG, is responsible for decision-making and approval over the technical issues involved in the IRPG operations. It is recommended that the committee be chaired by the undersecretary of the NPC and represented by the Deputy Director of the Department of Budget, the Undersecretary of the MMRA, the Governor of Irbid, Director of the Yarmouk University, Mayor of Irbid, Director of the IRPG, and heads of the branch offices of other sectoral ministries in the Irbid Governorate. The National Steering Committee decides and approves policy issues and those technical issues relevant for national planning and development. The functions of the national committee can be assumed by the Ministerial Development Committee which was already established for the purpose of highest decision making for the national development program.

03.041 In addition to the Regional Steering Committee where the Governor of Irbid is a permanent member, the IRPG should have a forum to communicate with local government bodies. It is recommended that the IRPG holds a monthly meeting to confer with the heads of municipalities over the issues which are relevant to its planning operations. Representatives from the private sector in the Study Area can also be invited to express their opinion whenever necessary.

03.042 As for the geographical jurisdiction of the IRPG, it should follow the regional division of the country recently proposed by the Amman Urban Regional Planning Group to the Government of Jordan.

03.043 As for the financing, the IRPG should receive a lump-thumb budget allocation from the three organizations to which it is directly accountable and use it to finance its independent undertakings such as studies and surveys.

03.044 Immediate actions to be taken by the IRPG are: (1) to establish itself firmly, (2) to re-examine the strategy and projects proposed in this report, and (3) to prepare the final development strategy and projects for the region by the time limit which is set for the preparation of the next Five-Year Plan, or probably by the beginning of 1980.

3.5.5 Staff and Budget Requirement

03.045 Although it is of tentative nature, Table 3.9 presents a list of staffs required for the new organization. It needs 17 persons including a supporting staff of 7. Table 3.10 presents a crude estimation of the cost required for the establishment and operation of the IRPG. The IRPG requires roughly JD.134,000 per annum for the first two years, and JD.74,000 from the third year on.

Table 3.9 Tentative List of Staff Requirement for the IRPG

| Position | Number |
|-------------------------------------|----------|
| 1. Director/Regional Planner | 1 |
| 2. Economist | 1 |
| 3. Human Resource Specialist | 1 |
| 4. Land Use Planner | 1 |
| 5. Agriculture Specialist | 1 |
| 6. Industry Specialist | 1 |
| 7. Tourism Specialist | 1 |
| 8. Water Resource Specialist | 1 |
| 9. Transportation Specialist | 1 |
| 10. Community Facilities Specialist | <u>1</u> |
| Sub-Total | 10 |
| 11. Draftman | 1 |
| 12. Secretary/Typist | 2 |
| 13. Driver | 2 |
| 14. Messenger/Janitor | <u>2</u> |
| Sub-Total | <u>7</u> |
| Total | 17 |

Source: Study Team

Table 3.10 Crude Estimation of Cost Requirement
for the IRPG

| Items | Amount 1000 JD | Note |
|---|-------------------|-----------------------|
| <u>For the First Two Years</u> | | |
| Current Expenditure | 55 | |
| Personnel Cost | 41 | 17x200 JDx12 months |
| Office Lental Cost | 6 | Our Office |
| Other Current Exp.on Office Maint. | 8 | 20% of Personnel Cost |
| Capital Expenditure | 67 | |
| Furnitures & Equipment | 12 | 30% of personnel cost |
| Initial Capital Exp. on Building, Machines, etc. | 55 | 100% of Current Exp. |
| Contingency | 12 | 10% of the total |
| Grand Total | 134 | |
| <u>After the Second Year</u> | | |
| Current Expenditure | 55 | |
| Capital Expenditure | 12 | |
| Contingency | 7 | |
| Grand Total | 74 | |

Note: These figures are based on 1978 prices, but are close to 1977 prices, because the inflation rate over the two years has been very small. Estimates include neither expected inflation nor the relative change in prices, nor special project expenditures such as a photogrmmetry cost.

JICA