



IFAD
INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT
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REPORT AND RECOMMENDATION OF THE PRESIDENT

TO THE EXECUTIVE BOARD ON A PROPOSED LOAN TO THE

HASHEMITE KINGDOM OF JORDAN

FOR THE

YARMOUK AGRICULTURAL RESOURCES DEVELOPMENT PROJECT



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CURRENCY EQUIVALENTS

Currency Unit	=	Jordanian dinar (JOD)
USD 1.00	=	JOD 0.708
JOD 1.00	=	USD 1.41

WEIGHTS AND MEASURES

1 kilogram (kg)	=	2.204 pounds (lb)
1 kilometre (km)	=	0.62 miles (mi)
1 metre (m)	=	1.09 yards (yd)
1 square metre (m ²)	=	10.76 square feet (ft ²)
1 acre (ac)	=	0.405 ha
1 hectare (ha)	=	2.47 acres
1 dunum (du)	=	0.1 ha

ABBREVIATIONS AND ACRONYMS

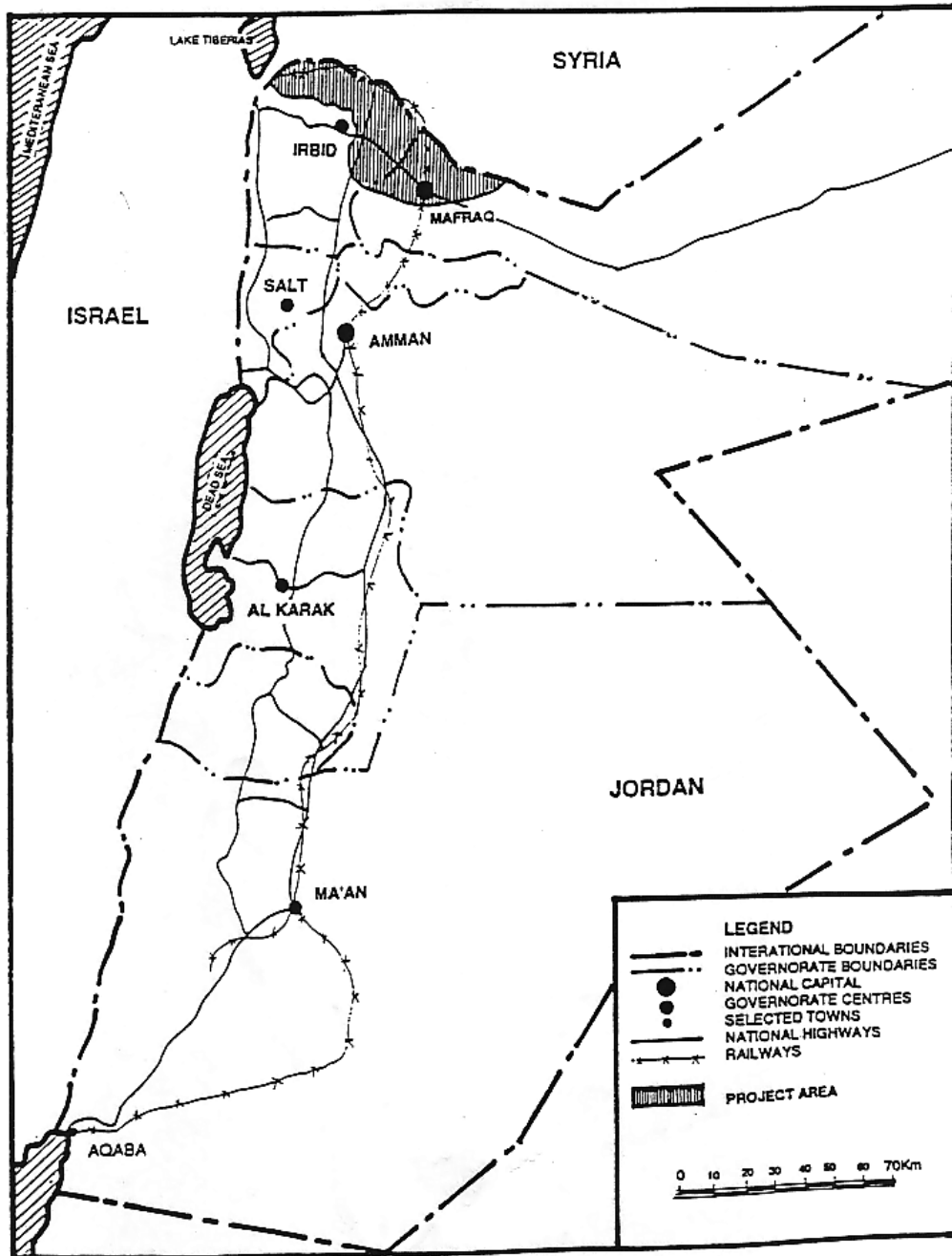
ACC	Agricultural Credit Corporation
AFESD	Arab Fund for Economic and Social Development
AWPB	Annual workplan and budget
IDP	Income Diversification Project
M&E	Monitoring and evaluation
MOA	Ministry of Agriculture
MOP	Ministry of Planning
O&M	Operation and maintenance
NGO	Non-governmental organization
PMU	Project Management Unit
PSC	Permanent Steering Committee
RACC	Regional Agricultural Coordination Committee
SPP	Social Productivity Programme

GOVERNMENT OF THE HASHEMITE KINGDOM OF JORDAN

Fiscal Year

1 January - 31 December

MAP OF THE PROJECT AREA



Source: IFAD.

The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.



THE HASHEMITE KINGDOM OF JORDAN
YARMOUK AGRICULTURAL RESOURCES DEVELOPMENT PROJECT

LOAN SUMMARY

INITIATING INSTITUTION:	IFAD
BORROWER:	The Hashemite Kingdom of Jordan
EXECUTING AGENCY:	Ministry of Agriculture (MOA)
TOTAL PROJECT COST:	USD 28.1 million
AMOUNT OF IFAD LOAN:	SDR 7.45 million (equivalent to approximately USD 10.1 million)
TERMS OF IFAD LOAN:	20 years, including a grace period of five years, with an interest rate of one half of the reference interest rate per annum as determined by the Fund annually
COFINANCIERS:	Arab Fund for Economic and Social Development (AFESD)
AMOUNT OF COFINANCING:	USD 12.6 million
CONTRIBUTION OF BORROWER:	USD 3.5 million
CONTRIBUTION OF BENEFICIARIES:	USD 1.9 million
APPRAISING INSTITUTION:	IFAD
COOPERATING INSTITUTION:	AFESD



PROJECT BRIEF

Project beneficiaries. The target group comprises the entire population of selected priority zones within the project area, where poorer farmers are in the majority. The project is expected to have a positive impact on the income and quality of life of 2 840 resource-poor rural households. The beneficiaries of soil and water conservation measures under the project will be about 2 625 households, 2 495 through direct project support and 460 through credit. The spring protection/rehabilitation programme will benefit about 214 households, and about 800 women will receive assistance under an income-generating programme to develop small-scale business enterprises. Further groups of households — conservatively estimated to be about 2 490 and 5 460, respectively — will benefit directly from credit and technology transfer programmes.

Causes of poverty. The incidence of poverty in the project area is one of the highest in the highlands of Jordan. This is due to high population density (256/km²), fragmentation and reduction of landholding and large family size with high dependency rates. Even where population pressure is less intense and the potential for agriculture more promising, agricultural incomes are low because of the small size of landholdings, limited use of inputs and access to credit, low levels of agricultural technology, and poorly developed markets.

Project assistance to the target group. The project will finance the development of soil and water conservation infrastructure to support land-use plans adopted with the consensus of all resource users in the selected priority areas. While the actual area covered and type of on-farm soil and water conservation measures used will depend on community and user group demand, it is anticipated that the project will support a variety of initiatives to develop an area of about 8 000 ha. About 2 000 ha are expected to be protected with contour stone walls, 1 800 ha with contour earth banks and *gradoni* (terraces) and 3 600 ha with contour guidelines to promote strip cropping. In addition, some 400 ha will be developed as tree basins and 600 ha as microcatchments. Approximately 152 000 m³ of cisterns will be provided to store rainwater for supplementary irrigation of orchards, particularly during the latter's early stages of development, and a selected number of public springs irrigating some 350 ha of fruit trees and vegetables in the project area will be rehabilitated and protected. Provision will also be made for seasonal, medium and long-term loans for improved crop and orchard production; for the establishment of orchards in project-supported soil and water conservation areas; and for the development of additional soil conservation measures and income-generating enterprises, particularly for rural women.

Beneficiary participation. The project will adopt a participatory approach to planning and implementation in order to increase the role of beneficiaries in planning and managing development needs, sharpen the farmers' sense of ownership and responsibility and thereby enhance the likelihood of sustainability. The beneficiaries will be encouraged to establish users' committees to be responsible for organizing community participation in planning, design and implementation, and for the future operation and maintenance (O&M) of the community-based and/or special interest group initiatives. The beneficiaries' financial or in-kind contribution to the project will amount to about USD 1.9 million (7.0% of total cost), of which some USD 1.4 million will be for investment in on-farm soil and water conservation measures and spring protection, and USD 0.5 million for the O&M of the works undertaken in the investment activities.



**REPORT AND RECOMMENDATION OF THE PRESIDENT OF IFAD
TO THE EXECUTIVE BOARD ON A PROPOSED LOAN TO THE
HASHEMITE KINGDOM OF JORDAN
FOR THE
YARMOUK AGRICULTURAL RESOURCES DEVELOPMENT PROJECT**

I submit the following Report and Recommendation on a proposed loan to the Hashemite Kingdom of Jordan for SDR 7.45 million (equivalent to approximately USD 10.1 million) on intermediate terms to help finance the Yarmouk Agricultural Resources Development Project. The loan will have a term of 20 years, including a grace period of five years, with an interest rate of one half of the reference interest rate per annum as determined by the Fund annually. It will be administered by the Arab Fund for Economic and Social Development (AFESD) as IFAD's cooperating institution.

PART I - THE ECONOMY, SECTORAL CONTEXT AND IFAD STRATEGY¹

A. The Economy and Agricultural Sector

1. Jordan has a small open economy of USD 7.0 billion per annum and a per capita income of USD 1 570 (World Bank Atlas, 1997). The country has limited natural resources and is highly dependent on imports, particularly oil and foodstuffs. The national economy is characterized by a dominant service sector (tourism, transport, finance and insurance) which accounts for over 71% of gross domestic product (GDP). Agriculture contributes about 3.5% directly and 28% indirectly to aggregate output.

2. The full economic response to stabilization and structural reform, under implementation since 1989, is still to be felt, but the initial impact — backed by international support — has been impressive. The 1987-97 GDP growth averaged 3.7% per year. Inflation fell from double-digit level during the economic crisis of 1986-92 to the 3-5% range. In 1997, Jordan's foreign debt stood at USD 7.7 billion, registering a reduction as a ratio of GDP from over 180% in 1991 to about 110%. External balances have improved: the trade deficit fell from 42% of GDP in 1993 to 35% in 1997, while the current account deficit, including official grants, has fallen from 12% to only 3%.

3. Agriculture contributes about 3.5% to Jordan's GDP and generates about 25% of total exports, principally in the form of food commodities and live animals, dairy products, eggs, fruits, nuts and vegetables. The agricultural sector provides a livelihood for 20% of the population and employs about 7% of the labour force. Although the sector is small in relation to the overall economy, it is important not only for the production of tradable goods but also for its strong up- and downstream linkages, as a result of which an estimated 28% of GDP is considered as agriculture-dependent.

¹ See Appendix I for additional information.



4. Of Jordan's total area of 8.9 million ha, only 4.3%, mainly in the highlands, is cultivable. Jordan is one of the world's driest countries with the lowest per capita availability of renewable water resources (175 m³ in 1996). Scarcity of water is becoming a major constraint on growth and represents a threat to the agricultural sector, which suffers from over-extraction of groundwater in the highlands and flow of polluted wastewater to the Jordan Valley. Present water use in Jordan exceeds renewable freshwater resources by more than 20%. After the year 2005, freshwater resources will be fully used up and there are no other known resources within the country to develop.

5. The livestock share of the agricultural sector's contribution to GDP has remained at around 50% over the past decade. Lack of grazing land and the high cost of imported feed means that only 30% of the red meat consumed is produced within the country.

B. Lessons Learned from Previous IFAD Experience in Jordan

6. The most important lessons learned from IFAD's experience in Jordan, relevant to this project, are that: (i) beneficiary participation in all aspects of project planning and implementation implies a partnership approach. Staff from supporting organizations should be encouraged and trained to work in partnership with farmers so as to build up mutual trust and confidence; (ii) the implementation of activities in a large geographical area, with many scattered villages, is difficult in terms of management, coordination and impact. Hence, future interventions should pay careful attention to the question of how to reconcile coverage of services with the needs of the beneficiaries; and (iii) non-governmental organizations (NGOs) with technical and social work capabilities and accomplishments are most effective in mobilizing communities and interest groups to participate in collective development activities. Hence there is a need to engage an NGO to mobilize and train project beneficiaries and to manage credit for rural women-oriented income-generating activities.

C. IFAD's Strategy for Collaboration with Jordan

7. **Jordan's policy for poverty eradication.** The Government is committed to reducing poverty by achieving a combination of sustainable economic growth and improved basic social services, especially measures to improve income, self-reliance, and the quality of life of the poorest segments of the population. Jordan has an extensive and multifaceted social safety net, supported by the Government and NGOs, that provides free education, cash transfers, health-care subsidies, food coupons and other in-kind support, assists the chronically poor, and increases employment through loans for income-generating projects. The Government has recently embarked on an ambitious Social Productivity Programme (SPP) for improving community and social infrastructure, expanding the coverage of the social safety net, and providing job-related skills training for the unemployed and microcredit schemes for income-generation among the poor.

8. **The poverty eradication activities of other major donors.** The first phase (1998-2000) of the SPP, estimated to cost USD 250 million, is funded by the Government of Jordan and international donor agencies, including the World Bank, the United Nations Development Programme (UNDP), AFESD, the Islamic Development Bank, Italy, the German Credit Institution for Reconstruction and the German Agency for Technical Cooperation. These donors are committed to cofinancing four components of Phase I of SPP, i.e.: (i) restructuring and expansion of national aid; (ii) a small and microenterprises development programme; (iii) a training and employment support development programme; and (iv) a community infrastructure development programme.

9. In addition, the World Food Programme has been supporting a participatory land improvement project through a USD 17 million grant covering the period 1997-2002. The long-term objectives of the project are to contribute to reducing environmental degradation and to secure the livelihoods of the poorest farmers and herders and women whose main activities are off-farm in the



poorest areas of the highlands. This will be achieved by systematically applying soil and water conservation techniques and through productive activities.

10. **IFAD's strategy in Jordan.** Jordan's agricultural sector is influenced greatly both by the scarcity of water and by poor land resources. About 80% of the country's staple foods, mainly cereals, are grown in rainfed areas where the majority of farmers are smallholders and much more disadvantaged than those living in the irrigated areas. The Government's agricultural/rural development policy recognizes the importance of democratization and decentralization, and a series of guiding principles constituting the framework within which agricultural policy objectives is being pursued and implemented. These include: (i) increasing the incomes of farmers and agricultural workers to equitable levels and improving their standard of living; (ii) encouraging public and private sector investment in rainfed agricultural areas; (iii) continuing to guide the attention of the public and private sectors in soil and water conservation; (iv) encouraging effective participation of individuals and target groups in policy formulation and decision-making processes; and (v) providing a favourable environment, including the necessary regulatory and monitoring framework, to ensure freely-functioning markets.

11. In line with the Government's policy, IFAD's strategy for development assistance in Jordan is based on the increasing scarcity of soil and water resources and the fact that the vast majority of the rural poor are rainfed producers. IFAD's strategy concentrates exclusively on rainfed rural development, with emphasis on fruit tree development, integration of small ruminant production with field crop production in the high rainfall areas, and development of pasture and range in the low rainfall areas. With one environmental dimension and one human dimension, the main thrusts of IFAD's strategy are the conservation and management of natural resources and the promotion of people's empowerment and participation. Pressure on natural resources, including soil, water and rangelands, should be relieved by investing in their improvement, rehabilitation and conservation. The integration of smallholders, including rural women, in the mainstream of rural development through decentralization and local participation in design, implementation, cost sharing and management of investment activities, has been increasingly pursued.

12. **Project rationale.** Poverty is most frequent in the northern highlands of Jordan where the project area is located. The majority of households are dependent on low-input farming, which generates limited output based on low and uncertain rainfall. Farming will continue to play an important role in sustaining the rural poor, suggesting that an agriculture-based programme to focus on rural poverty alleviation in the northern highlands would be consistent with national priorities.

13. The topographic and climatic characteristics of the highlands are such that rates of erosion are naturally high. Current cultivation practices and the increasing grazing pressure of livestock on rangeland vegetation are adding to the risk of erosion and accelerating the rates of soil loss. As a result, the already limited soil and water resources are being further degraded. In a country such as Jordan, where fertile soil and water resources are scarce and the pressure of population is mounting, the halting of resource degradation is of special importance. The proposed investments will help to arrest land degradation and erosion and restore soil fertility.

PART II - THE PROJECT

A. Project Area and Target Group

14. The project area is located in the extreme north-west corner of the country. It covers an area of about 1 230 km² in the south-western part of the Yarmouk River Basin in Jordan, at elevations ranging between 200 m below sea level and more than 1 150 m above sea level. The project area has



a total population of about 312 000, with an exceptionally high density of 256 persons/km² and a rural population of 26% (compared with the national average of 22%).

15. In general, the disadvantaged, resource-poor farmers in the project area include those who have limited access to alternative sources of off-farm income; few opportunities for diversification of farm enterprise due to physical farm circumstances (water/soils/topography); restricted access to the financial resources needed to invest in farm activities with higher income-generating potential; lack of land in which they are willing to make longer-term investments; average household sizes of seven persons; and a high dependency rate due to the large percentage of young and non-productive members (35% below 15 years of age) in the households.

16. The target group encompasses the entire population of selected priority zones within the project area, where poorer farmers are in the majority. The project is expected to have a positive impact on the income and quality of life of 2 840 resource-poor rural households. The beneficiaries of soil and water conservation measures under the project will be about 2 625 households, 2 495 of which through direct project support and 460 through credit. The spring protection/rehabilitation programme will benefit about 214 households and about 800 women will receive assistance under an income-generating programme to develop small-scale business enterprises. Further groups of households — conservatively estimated at about 2 490 and 5 460, respectively — will benefit directly from credit and technology transfer programmes.

17. Women represent one of the most vulnerable groups in the project area. Bearing the dual responsibilities for traditional household roles and farm production (due to large household size), they have neither the time nor the means to access available support services. Women's lack of title to land or solid collateral have limited their chances of meeting the eligibility criteria for credit.

B. Objectives and Scope

18. The principal objectives of the proposed project are to improve the food security and income levels of target group farmers by arresting degradation and restoring soil fertility for sustainable use of land and water resources through: (i) technical and financial support for the target group to put soil and water conservation measures in place and improve agricultural production; (ii) promotion and credit-funding of on- and off-farm enterprises; and (iii) strengthening the capacity of the agricultural directorates in the project area to provide the required technical support services and extension.

C. Components

19. The project will finance a series of interventions under five main components, namely: (i) resource development; (ii) agricultural development; (iii) rural roads; (iv) rural financial services; and (v) coordination and management. A summary description of the components is given below.

20. **Resource development.** The project will finance the development of soil and water conservation infrastructure to support land-use plans adopted with the consensus of all resource users in the selected priority areas of the Yarmouk River Basin.²

21. While the actual area covered and type of on-farm soil and water conservation measures used will depend on community and user group demand, it is anticipated that the component will support a variety of initiatives to develop an area of about 8 000 ha. About 2 000 ha will be protected with contour stone walls, 1 000 ha with contour earth banks and *gradoni* (terraces) and 3 600 ha with contour guidelines to promote strip cropping. In addition, some 400 ha will be developed as tree

² The eligibility criteria for the selection of the target group are given in Appendix VI.



basins and 600 ha as microcatchments. Approximately 152 000 m³ of cisterns will be provided to store rainwater for supplementary irrigation of orchards, particularly during the latter's early stages of development. The project will provide technical and financial support for on-farm works to be carried out by the user groups, in accordance with the master land-use plan developed in partnership with, and with the participation of, user groups in each priority area. The beneficiaries will be required to contribute at least 15% of the investment costs, in kind or in cash, and to make a commitment with regard to future maintenance of the works.

22. The off-farm works will consist of gully/wadi bank protection measures and construction of mini check dams. Selected public springs that irrigate some 350 ha of fruit trees and vegetables in the project area will be rehabilitated and protected. The works will be planned and implemented in partnership with, and with the participation of, beneficiaries, who will be required to contribute at least 25% of the investment costs, in kind or in cash. The formation of a spring water users' association and a firm commitment on the part of members with regard to future operation, maintenance and replacement of the works will be a precondition for assistance under the project.

23. **Agricultural development.** A programme of on-farm demonstrations, focused on orchard management practices, will be developed and representatives of farmer groups will be selected to demonstrate improved practices. Each extension agent will have overall responsibility for providing extension services to six farmer groups of around 20 farmers per year. Collectively, extension agents will work with 18 farmer groups per directorate per year and will assist each other according to their respective skills. From the farmer groups, farms/farmers will be selected to best demonstrate the specific practices to be introduced. Farmers will be expected to agree to implementing the full package of management practices to optimize yields and sustainability, while making the best use of benefits accruing from the demonstrations.

24. The project will strengthen the planning and implementation capacity of project-area Agricultural Directorates to provide extension services directed at rainfed orchard and field crop management practices. Current staffing levels of extension agents are low and insufficient to meet project requirements. Moreover, staff specialities do not coincide with farmers' needs, particularly in the area of orchard management. Therefore, provision will be made for the salaries and allowances of additional subject matter specialists to be recruited by the project. These specialists will comprise three teams of three horticulturists (integrated pest management; pruning; and extension/horticulture) and four crop specialists, one each in Bani Kenana, Irbid, Ramtha and Mafraq.

25. The project will support the establishment of new orchards on 3 850 ha in conjunction with soil and water conservation works. Farmers' preferences and technical considerations will determine the type and variety of tree crops to be planted. Project support will be limited to 35% of the costs of land preparation and planting, not exceeding JOD 30 per dunum. The eligibility criteria for project support will be the same as those for soil and water conservation measures.³

26. The project will depend on the ongoing IFAD-financed Income Diversification Project (IDP) to finance livestock development in the project area. The primary focus of IDP is on benefiting very poor livestock keepers in rainfed highland areas and thus it serves the same areas and beneficiaries as the present project. Coordination of IDP activities with those of the present project will thus enhance the farmers' income stability through integration of crop and livestock.

27. **Rural roads.** The project will support the construction of about 160 km of rural roads in the project area to facilitate transportation of agricultural goods and services and alleviate problems faced by the farmers. These roads will be built on the basis of community demand, in close

³ See Appendix VI.

coordination with the SPP. Provision will be made for the Directorates of Public Works in the project area to design the roads and supervise their construction by private contractors.

28. **Rural financial services.** Investments in soil and water conservation and extension will lead to greater demand for credit for intensive production. Therefore, revolving credit will be made available through the Agricultural Credit Corporation (ACC) for seasonal and development loans for improved crop and orchard production, establishment of orchards in the project-supported soil and water conservation areas, and for the development of additional soil conservation measures and income-generating enterprises.

29. In order to improve both accessibility to and the coverage of lending operations, the services of a qualified NGO will be employed to manage the line of credit for women-oriented income-generating activities, under the direct supervision of ACC.

30. **Coordination and management.** Support will be provided for the establishment in Irbid of a project management unit (PMU) responsible for project management and coordination in accordance with annual workplans and budgets approved by the Permanent Steering Committee (PSC) at the Ministry of Agriculture (MOA). The project will finance the salaries, allowances and incentives of the project manager and project staff, including a senior land-use planner, a civil engineer, a procurement officer, a monitoring and evaluation (M&E) officer, a sociologist/women-in-development officer, an accountant, and support staff. Provision will be made for on-the-job training for staff and for training in computer skills relative to project needs. Funds will be allocated to cover the services of a national consultant to develop and/or adopt an M&E system for the project, with emphasis on four core areas: (i) monitoring of physical progress and output of project-funded initiatives; (ii) sustainability of funded initiatives; (iii) efficient use of facilities; (iv) replicability of programmed activities; and, later, (v) socio-economic assessment of project activities on the target group. Provision will also be made for training the M&E officer.

D. Costs and Financing

31. **Project costs.** Total project costs, including contingencies, are estimated at USD 28.1 million. The foreign exchange component, investment costs and recurrent costs amount to USD 0.8 million, USD 20.5 million and USD 4.6 million, respectively, representing 3%, 82% and 18% of total base costs.

TABLE 1: SUMMARY OF PROJECT COSTS ^a
(USD '000)

Components	(JOD '000)			(USD '000)			% of Foreign Exchange	% of Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
Resource development	8 727.9	169.2	8 897.1	12 327.6	238.9	12 566.5	2	50
Agricultural development	2 012.7	145.9	2 158.6	2 842.7	206.1	3 048.8	7	12
Rural roads	2 682.1	-	2 682.1	3 788.2	-	3 788.2	-	15
Rural financial services	3 160.1	58.0	3 218.1	4 463.5	81.9	4 545.3	2	18
Coordination and management	537.3	195.9	733.2	758.9	276.7	1 035.6	27	4
Total base costs	17 120.1	568.9	17 689.0	24 180.9	803.6	24 984.5	3	100
Physical contingencies	991.1	-	991.1	1 399.9	-	1 399.9	-	6
Price contingencies	2 349.8	34.2	2 384.0	1 702.3	35.3	1 737.6	2	7
Total project costs	20 461.0	603.1	21 064.1	27 283.1	838.9	28 122.0	3	113

^a Discrepancies in totals are due to rounding up of figures.

TABLE 2: FINANCING PLAN ^a
(USD '000)

Components	IFAD		AFESD		Beneficiaries		Government		Total		Foreign Exchange	Local (Excluding Taxes)	Duties and Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
Resource development	2 913.7	19.8	8 354.3	56.7	1 957.3	13.3	1 513.2	10.3	14 738.5	52.4	248.2	14 435.9	54.4
Agricultural development	2 178.9	69.0	-	-	-	-	980.0	31.0	3 158.9	11.2	215.1	2 888.2	55.6
Rural roads	-	-	4 212.8	93.2	-	-	307.3	6.8	4 520.2	16.1	-	4 520.2	-
Rural financial services	4 426.5	96.3	-	-	-	-	172.2	3.7	4 598.7	16.4	85.1	4 491.0	22.7
Coordination and management	624.0	56.4	-	-	-	-	481.7	43.6	1 105.7	3.9	290.5	805.0	10.1
Total disbursement	10 143.1	36.1	12 567.2	44.7	1 957.3	7.0	3 454.5	12.3	28 122.0	100.0	838.9	27 140.3	142.9

^a Discrepancies in totals are due to rounding up of figures.





32. **Project financing.** The project will be financed by IFAD, AFESD, the Government of the Hashemite Kingdom of Jordan and the beneficiaries. IFAD's loan of about USD 10.1 million and AFESD's loan of USD 12.6 million will finance 36% and 44.6% respectively of total project costs. The Government's contribution of about USD 3.5 million (12.2%) will finance salaries, identifiable taxes and most of the recurrent costs. The beneficiaries will contribute about USD 1.9 million (7.0%) through labour for civil works and maintenance.

E. Procurement, Disbursement, Accounts and Audit

33. **Procurement.** Goods and services to be financed from the proposed IFAD loan will be procured in accordance with government regulations consistent with IFAD's procurement guidelines. In line with these guidelines, details of the goods and services to be procured under the project are as follows:

34. Each contract for the supply of goods and civil works, estimated to cost USD 100 000 equivalent or more, will be awarded following international competitive bidding procedures. Contracts for the supply of goods and civil works estimated to cost less than USD 100 000 equivalent but more than USD 50 000 equivalent will be awarded on the basis of competitive bidding advertised locally, in accordance with procedures satisfactory to IFAD. Contracts for the supply of goods and civil works estimated to cost in the range of USD 50 000 equivalent but more than USD 20 000 equivalent will be awarded on the basis of an evaluation and comparison of bids received from at least three eligible suppliers, in accordance with procedures acceptable to IFAD. Contracts for the supply of goods estimated to cost USD 20 000 equivalent or less will be awarded on the basis of an evaluation and comparison of bids received from at least three local suppliers, in accordance with procedures acceptable to IFAD.

35. Contracts for services to be provided by consultants and/or NGOs, local or international, will be in accordance with IFAD guidelines. Given the specialized nature of services to be rendered, consultants will be shortlisted and approached individually.

36. The award of any contract estimated to cost USD 50 000 equivalent or more will be subject to prior review by the cooperating institution. Contracts involving less than USD 50 000 will be subject to post review by visiting IFAD/cooperating institution missions and the annual audit of project accounts. All contracts with NGOs and consultants will be also subject to prior review.

37. **Disbursement.** The proposed IFAD loan of USD 10.1 million equivalent will be disbursed over a period of six years, in accordance with the procedures of the cooperating institution. Disbursements will be made on the basis of statements of expenditure for payments made under contracts of USD 20 000 or less. Related supporting documentation will be prepared and maintained by the financial controllers of MOA and ACC for examination by supervision missions and auditors. For all other expenditure, disbursements will be made following the submission of full documentation.

38. **Accounts.** In order to ensure timely availability of funds and facilitate implementation of the project, the Government will open and maintain Special Account "A" and Special Account "B" denominated in United States dollars in the name of the project in a bank acceptable to IFAD. The Special Accounts will be used to prefinance IFAD's share of project expenditures, on terms and conditions satisfactory to IFAD. They will also be used to make both foreign and local payments. Amounts withdrawn will be converted to the currency of expenditure at the rate of exchange prevailing on the date of withdrawal.



39. Special Account "A" will have an authorized allocation of USD 200 000 to facilitate implementation of the rural financial services component, provide the target group with timely credit and obviate any possible liquidity problems for ACC. Withdrawals by ACC will be subject to terms stipulated in the subsidiary loan agreement between the Ministry of Planning (MOP) and ACC, approved by IFAD and the cooperating institution.

40. Special Account "B" will be opened to speed up the implementation of other components, and to obviate possible liquidity difficulties for MOA. An authorized allocation equivalent to USD 500 000 will finance expenditures for all categories, except those related to rural financial services component.

41. **Audit.** All project accounts, including the Special Accounts, all accounts denominated in Jordanian dinars, and statements of expenditures for each fiscal year will be consolidated and audited in accordance with appropriate auditing principles and practices consistently applied by auditors acceptable to IFAD. The Government will furnish certified copies of audit reports to IFAD, with English translations, within six months of the end of fiscal year. A completion report, giving detailed information on the implementation and operations of the project, its costs and benefits and lessons learned, will be submitted to IFAD not later than six months after the loan closing date.

F. Organization and Management

42. The PSC at MOA will carry out the project coordination and control functions. Project activities at the district level will be coordinated by a Regional Agricultural Coordination Committee (RACC).

43. The Directorate of Projects at MOA will have overall responsibility for project implementation. Relevant MOA directorates at the national level and directorates of agriculture in Irbid and Mafraq Governorates will provide technical assistance and support. The project will be implemented by a PMU established in Irbid.

44. The ACC will provide rural financial services under a subsidiary loan agreement. The PMU and ACC will select a qualified NGO for administration of the income-generating line of credit, mainly to benefit women, according to procedures established for the procurement of services for the project. ACC will enter into a contract with the selected NGO and supervise its lending operations. The involvement of NGOs will be on a pilot basis and evaluated at project implementation mid-term.

45. **Reporting and supervision.** The project will be supervised by the cooperating institution every six months. One of the semi-annual supervision missions will be scheduled to coincide with the project's annual review workshop, which will provide an opportunity for the mission to work closely with all stakeholders to identify progress and/or constraints, and to facilitate review and approval.

46. The implementing agencies will submit six-monthly financial and progress reports to PSC as a condition for the release of funds for the ensuing period. The reports will record the financial and physical activities against annual workplan and budget (AWP/B) targets and encompass the report of the financial controller. The project manager will prepare the reporting formats and be responsible for the compilation of six-monthly and annual reports for submission to PSC, the cooperating institution and IFAD. The reports will be submitted within two months from the end of the reporting period.



G. Economic Justification

47. The project will increase the farm income of target group farmers in the project area through incremental farm productivity and crop yields. Increases in farm productivity will be derived from the combined effect of improved technology and on-farm soil and water conservation activities. More importantly, investments in terracing and associated planting of olive orchards will provide the rural poor with livelihood security for generations.

48. The institutional strengthening of the directorates of agriculture in the project area will have many short and long-term benefits. The introduction of participatory methodology and improved extension techniques will serve as a model for replication elsewhere in Jordan. As the use of participatory planning is new to Jordan, lessons learned during project implementation will be valuable for the evolution of future soil and water conservation and extension programmes.

49. The economic rate of return is calculated at 17.3%, without taking account of benefits derived from income-generating activities. The results of the economic analysis were tested for sensitivity of the economic internal rate of return (EIRR) to changes in the level of costs and benefits and to the timing of the benefit flows. The findings indicate that the model can cope both with significant increases in project costs and with decreases in benefits. A 20% increase in costs lowers the EIRR to 15.0%, and a 20% drop in benefits decreases it to 14.5%, which are acceptable levels. A two-year delay in benefits will reduce the EIRR to only 14%.

H. Risks

50. There are no risks associated with the technical practices and innovations to be promoted and supported by the project. The technologies have been tested widely under field conditions in Jordan and elsewhere, and do not include sophisticated techniques or require advanced management skills beyond the capabilities of the farmers. Adoption of the recommended soil and water conservation measures will not increase, but rather reduce, the risk of devastating crop failures.

51. The project is designed to be implemented through a participatory approach, which will require close collaboration between the project agencies and beneficiaries. As such, these modes of operation will always carry institutional and technical risks relating to beneficiary participation, adoption of improved farming practices and sustainability of project actions. The project has been designed to gain the trust and involvement of beneficiaries and to generate a sense of ownership of project activities, which will minimize the risk of weak participation.

I. Environmental Impact

52. The project will have a positive environmental impact through a process of participatory planning and investments in soil and water conservation works, and the introduction of new farm management practices through extension and credit. Soil and water conservation works and farm management will help reduce further degradation of the fragile ecosystem, restore natural vegetation cover, reduce run-off and soil loss, and improve soil fertility and resistance to erosion. The project will focus on introducing a complete and improved orchard management package to farmers. The supplementary project interventions in construction of mini earth dams and small-scale water harvesting will have minimal negative environmental side effects. The proposed project interventions relating to the protection of springs will increase water-use efficiency and prevent waterlogging, particularly at the sources of springs.

J. Innovative Features

53. The project will introduce an innovative participatory approach to management and conservation of soil and water resources so as to ensure sustainable agricultural production. The



proposed participatory approach has been designed on the basis of recent experience with innovative measures to ensure empowerment of the poor, providing them with access to productive resources and to decision-making. The project will be carried out in priority areas predominantly inhabited by the poor. Soil and water conservation initiatives will be based on a sustainable land-use plan prepared with the participation and approval of the communities, by consensus. The project will finance only those initiatives proposed as priorities by the user groups, within the framework of the approved land-use plan. The beneficiaries will be encouraged to form user groups, participate in design and implementation, contribute at least 15% of the costs and make a commitment regarding future maintenance of the works.

54. Another innovative feature of the project is the management by NGOs of the credit line for income-generating enterprises, on a pilot basis. This approach was designed to facilitate access to credit by the rural poor, especially women, who may not have land as collateral.

PART III - LEGAL INSTRUMENTS AND AUTHORITY

55. A loan agreement between the Hashemite Kingdom of Jordan and IFAD constitutes the legal instrument for extending the proposed loan to the borrower. A summary of the important supplementary assurances included in the negotiated loan agreement is attached as an annex.

56. The Hashemite Kingdom of Jordan is empowered under its laws to borrow from IFAD.

57. I am satisfied that the proposed loan will comply with the Agreement Establishing IFAD.

PART IV - RECOMMENDATION

58. I recommend that the Executive Board approve the proposed loan in terms of the following resolution:

RESOLVED: that the Fund shall make a loan to the Hashemite Kingdom of Jordan in various currencies in an amount equivalent to seven million four hundred and fifty thousand Special Drawing Rights (SDR 7 450 000) to mature on and prior to 15 July 2019 and to bear an interest rate of one half of the reference interest rate per annum as determined by the Fund annually, and to be upon such other terms and conditions as shall be substantially in accordance with the terms and conditions presented to the Executive Board in this Report and Recommendation of the President.

Fawzi H. Al-Sultan
President



SUMMARY OF IMPORTANT SUPPLEMENTARY ASSURANCES INCLUDED IN THE NEGOTIATED LOAN AGREEMENT

(Loan Negotiations concluded on 19 March 1999)

1. The PMU will prepare draft AWPBs for each project year. The draft AWPBs will include, *inter alia*, a detailed description of planned project activities during the coming project year, and the related sources and uses of funds, based on the respective workplans and budgets prepared by each of the project parties. The PMU will submit the draft AWPBs to the steering committee for approval. Once approved, the MOA will submit each draft AWPB to IFAD for its comments and approval no later than 30 days before the beginning of the relevant project year. If IFAD fails to comment on the draft AWPB within 30 days of receipt, the AWPB will be deemed approved. The steering committee will adopt the AWPBs substantially in the form approved by IFAD, and the PMU will provide copies to IFAD as soon as the national budget has been approved by the Parliament of Jordan.
2. In addition to the proceeds of the loan, the Government of the Hashemite Kingdom of Jordan ("the Government") will promptly make available to MOA and ACC such funds, facilities, services and other resources as may be required from time to time to carry out the project in accordance with the loan agreement. For this purpose, the Government will make budgetary allocations for each fiscal year equal to the counterpart funds called for in the AWPB for the relevant project year and make such allocations available to MOA annually in advance. The Government will ensure that the proceeds of the AFESD loan are made available to MOA in accordance with the AWPBs.
3. MOA and IFAD will jointly carry out a review of project implementation no later than the third project year, based on terms of reference prepared by MOA and approved by IFAD. *Inter alia*, the mid-term review will consider the achievement of project objectives and related constraints, and recommend such reorientation as may be required to achieve the objectives and remove constraints. The Government will ensure that the recommendations of the mid-term review are subsequently implemented in a reasonable period of time and to the satisfaction of IFAD.
4. After consultation with the Government regarding appropriate remedial action, IFAD may suspend, in whole or in part, the right of the Government to request withdrawals from the loan account upon occurrence of any of the following events:
 - (a) on or after the date of effectiveness, the AFESD agreement has failed to enter into full force and effect by the date or dates specified therein, or by a later date or dates established by AFESD, and substitute funds are not available to the Government on terms and conditions acceptable to IFAD.
 - (b) the right of the Government to draw the proceeds of the AFESD loan has been suspended, cancelled or terminated, in whole or in part, or the AFESD loan has become due and payable prior to the agreed maturity date; or any event has occurred which, with notice or the passage of time, could result in any of the foregoing.
 - (c) the credit regulations of ACC, or any provision thereof, have been waived, suspended, terminated, amended or otherwise modified without the prior consent of IFAD, and IFAD has determined that such waiver, suspension, termination, amendment or modification has had, or is likely to have, an adverse material effect on the rural financial services component.



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5. IFAD may terminate the right of the Government to request withdrawals from the loan account if, in addition, the mid-term review has recommended that the project be terminated.
6. IFAD may declare the outstanding principal amount of the loan, together with all accrued and unpaid interest, immediately due and payable if, in addition, the AFESD loan has become due and payable prior to the agreed maturity date, or any event has occurred which, with notice or the passage of time, could result in the same.
7. A PMU will be established in Irbid within MOA by ministerial decree. The PMU will be composed, *inter alia*, of the project manager, a land use planner, a community development officer, a sociologist/women-in-development officer, an extension officer, a civil engineer, a monitoring and evaluation officer, an accountant and necessary support staff.
8. The Government will appoint a project manager before the date of effectiveness, through local competitive bidding procedures, subject to the prior approval of IFAD. The project manager will be appointed with qualifications and experience acceptable to IFAD. The Government may only remove the project manager after prior consultation with IFAD.
9. The directorates of agriculture in the project area, including Irbid, Bani Kenana, Ramtha and Mafraq, will support project activities through their existing technical units: extension, livestock and technical services. The project will establish a soil and water conservation unit in each directorate and a spring development unit in Bani Kenana to support soil and water conservation, and spring protection/rehabilitation activities.
10. The ACC credit line activity of the rural financial services component will be administered by ACC through its branch offices in Bani Kenana, Irbid, Mafraq and Ramtha. ACC will be responsible for the approval, disbursement, supervision and recovery of loans to the target group. Based on criteria to be established by the project, the PMU will identify eligible beneficiaries for the loans. ACC will evaluate the technical and financial viability of the loans, and the creditworthiness of the applicants, and will make the final selection of eligible borrowers.
11. The Government will enter into an agreement with ACC, which, *inter alia*, will provide for the following: (a) the Government will transfer available funds for the rural financial services component to ACC as a loan, in accordance with terms and conditions acceptable to IFAD; and (b) ACC will declare its commitment to the objectives of the project and, in furtherance of these objectives, it will undertake to implement the rural financial services component in accordance with the loan agreement and credit regulations. The Government will submit a draft of the ACC subsidiary agreement to IFAD for comments and approval before signature.
12. ACC will prepare draft credit regulations for the rural financial services component as soon as practicable, but in no event later than 60 days after the date of effectiveness. ACC will submit the draft credit regulations to the Government for approval. Once approved by the Government, ACC will submit the draft credit regulations to IFAD for comments and approval. The ACC will adopt the credit regulations, substantially in the form approved by IFAD, for application to all credits extended to project beneficiaries under the rural financial services component which are financed (directly or indirectly) by the loan. ACC will provide copies of the credit regulations to IFAD promptly after adoption.
13. The income-generating credit line activity of the rural financial services component will be administered by the PMU, assisted by a qualified NGO and disbursed through ACC. The PMU will select the NGO on the basis of the procedures for the procurement of consultant services specified in the loan agreement. The PMU will apply the following eligibility criteria: (a) the NGO must have relevant



experience in Jordan; (b) the NGO must have experience in small enterprise development; and (c) the NGO must have experience in providing small income-generating loans. The selection will be subject to prior review and approval by IFAD.

14. The PMU, assisted by the NGO, will administer the income-generating credit line and ensure that it primarily benefits women. The NGO will be involved on a pilot-basis and subject to positive evaluation at the mid-term review.

15. The PMU will enter into an agreement with the NGO, whereby the NGO will assist the PMU in implementing the income-generating credit line activity of the rural financial services component in accordance with the loan agreement. The PMU will submit a draft of the agreement with the NGO to IFAD for comments and approval before signature.

16. ACC will establish and maintain a revolving fund into which all net revenues from credits extended to project beneficiaries under the rural financial services component financed (directly or indirectly) by the loan will be deposited. ACC will use the revolving fund to fund further credits to project beneficiaries in accordance with the loan agreement, at least until such a date as is specified in the ACC subsidiary agreement or, if no date is specified, until all loan service payments have been made in full.

17. The Government will insure all project personnel against health and accident risks in accordance with the laws of Jordan.

18. The activities of the Support Participatory Land Improvement Project (SPLIP) will be transferred to locations outside the project area in accordance with a time frame to be agreed between the Government and IFAD.

19. The key eligibility criteria for selection of the target group for soil and water conservation and spring protection/rehabilitation will be: (a) a willingness to participate in the planning and implementation of project initiatives and a commitment to their future maintenance; (b) a willingness to form a user group; and (c) a contribution of at least 15% of the cost of soil and water conservation or 25% of spring protection/rehabilitation initiatives, in cash or kind. Farmers with landholdings of up to 100 *dunums* will be eligible to receive project support for soil and water conservation initiatives for the first 25 *dunums* of their land.

20. Assessment will be made of the socio-dynamic profile of the target communities, as well as the contact group farmers to be involved. The profile will include aspects relevant to farming systems development. The following methods and resources will be used: analysis of existing socio-economic studies on related subjects; and, 'mapping' of the target groups and contact farmer groups, including limited surveys to fill knowledge gaps. The data will be analysed and summarized in a short report, then validated by a competent partner. The resulting profiles will enable the extension agents to identify points of resistance to the proposed changes and areas of support for the changes.

21. No withdrawals will be made from the loan account in respect of expenditures:

- (a) for each project year, until the AWPB has been submitted to IFAD for comment;
- (b) for each year, until the AWPB for the Income Diversification Project, financed by IFAD (Loan No.329-JO), has been approved by IFAD; and
- (c) under incremental credit, until the draft ACC subsidiary agreement has been approved by IFAD; a copy of the signed ACC subsidiary agreement, substantially in the form so



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approved and certified as true and complete by a competent officer of the Government, has been delivered to IFAD; the signature and performance of the Government and ACC have been authorized or ratified by all necessary corporate, administrative and governmental action; and all conditions prior to effectiveness have been fulfilled.

22. The following are additional conditions prior to effectiveness of the loan:

- (a) a project manager, with qualifications and experience acceptable to IFAD, has been appointed by MOA and approved by IFAD;
- (b) the PMU has been established in Irbid; and
- (c) a soil and water conservation unit has been established in each agricultural directorate of the project area.

COUNTRY DATA – JORDAN

Land area (km² thousand) 1995 1/	89	GNP per capita (USD) 1997 2/	1 570
Total population (million) 1996 1/	4	Average annual real rate of growth of GNP per capita, 1990-96 2/	4.0
Population density (people per km²) 1996 1/	50	Average annual rate of inflation, 1990-96 2/	4.0
Local currency	Jordanian Dinar (JOD)	Exchange rate: USD 1 =	JOD 0.7
Social Indicators		Economic Indicators	
Population (average annual population growth rate), 1980-96 1/	4.3	GDP (USD billion) 1997 1/	7.0
Crude birth rate (per thousand people), 1996 1/	31	Average annual rate of growth of GDP 1/	
Crude death rate (per thousand people), 1996 1/	5	1980-90	2.6
Infant mortality rate (per thousand live births), 1996 1/	30	1990-96	7.6
Life expectancy at birth (years), 1996 1/	71		
Number of rural poor (million) 1/	n.a.	Sectoral distribution of GDP, 1996 1/	
Poor as % of total rural population 1/	n.a.	% agriculture	5.5
Total labour force (million), 1996 1/	1	% industry	30.1
Female labour force as % of total, 1996 1/	21.9	% manufacturing	16.2
		% services	64.5
Education		Consumption, 1996 1/	
Primary school gross enrolment (% of relevant age group), 1995 1/	94.0	General government consumption (as % of GDP)	23.2
Adult literacy rate (% of total population), 1995 3/	86.6	Private consumption (as % of GDP)	65.9
		Gross domestic savings (as % of GDP)	10.9
Nutrition		Balance of Payments (USD million)	
Daily calorie supply per capita, 1995 3/	2 726	Merchandise exports, 1996 1/	1 466
Index of daily calorie supply per capita (industrial countries=100), 1995 3/	86	Merchandise imports, 1996 1/	4 293
Prevalence of child malnutrition (% of children under five years of age), 1990-96 1/	10.0	Balance of merchandise trade	-2 826
Health		Current account balances (USD million)	
Health expenditure, total (as % of GDP), 1990-95 1/	7.9	before official transfers, 1996 1/	-2 040
Physicians (per thousand people), 1994 1/	1.6	after official transfers, 1996 1/	- 206
Percentage population without access to safe water, 1990-96 3/	2	Foreign direct investment, 1996 1/	16
Percentage population without access to health services, 1990-95 3/	3		
Percentage population without access to sanitation, 1990-96 3/	23	Government Finance	
Agriculture and Food		Overall budget surplus/deficit (including grants) (as % of GDP), 1995 1/	1.1
Food imports as percentage of total merchandise imports, 1996 1/	20.8	Total expenditure (% of GDP), 1995 1/	31.6
Fertilizer consumption (hundreds of grams per ha of arable land), 1994-96 1/	503	Total external debt (USD million), 1997 1/	7667
Food production index (1989-91=100), 1994-96 1/	148	Present value of debt (as % of GNP) 1996 1/	109.5
		Total debt service (% of exports of goods and services), 1996 1/	12.3
Land Use		Nominal lending rate of banks, 1996 1/	9.5
Agricultural land as % of total land area, 1994 4/	13.4	Nominal deposit rate of banks, 1996 1/	6.0
Forest area (km ² thousand), 1995 1/	0		
Forest area as % of total land area, 1995 1/	0.5		
Irrigated land as % of cropland, 1994-96 1/	18.2		
n.a. not available.			

Figures in italics indicate data that are for years or periods other than those specified.

1/ World Bank, *World Development Report*, 1998

2/ World Bank, *Atlas Method*, 1998

3/ UNDP, *Human Development Report*, 1998

4/ World Bank, *The World Development Indicators CD-ROM*, 1998



PREVIOUS IFAD LOANS TO JORDAN

Loan No.	Project Title	Initiating Institution	Cooperating Institution	Terms of Loan	Approval Date	Effectiveness Date	Actual Closing Date	Loan Amount SDR million	Disbursements as at 3.2.99	
									SDR million	%
ONGOING PROJECTS										
468-JO	National Programme for Rangeland Rehabilitation and Development - Phase I	IFAD	AFESD	Intermediate	04.12.97	04.09.98	30.06.2003	2.9	0.25	9
392-JO	Agricultural Resource Management Project in the Governorates of Karak and Tafila	IFAD	AFESD	Intermediate	06.12.95	11.07.96	30.06.2003	8.7	1.9	22
329-JO	Income Diversification Project	IFAD	AFESD	Intermediate	06.04.93	06.06.94	31.12.2001	7.3	2.1	29
Subtotal								18.9	4.254	22
CLOSED LOANS										
067-JO	Cooperative Development of Rainfed Agriculture	IFAD	AFESD	Intermediate	08.09.81	1.10.81	30.09.90	9	9	100
115-JO	Small Farmers Credit Project	IFAD	AFESD	Intermediate	10.12.82	01.03.83	31.12.92	11.3	11.3	100
Subtotal								20.3	20.3	100
TOTAL								39.2	25.0	64

LOGICAL FRAMEWORK

Factor	Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Assumptions/ Risks
Overall Objective	Increase food security and income levels of target group where soil and water conservation (SWC) measures will be undertaken.	Household farm production (ton/crop) and farm profit	<ul style="list-style-type: none"> • Baseline and follow-up surveys; Rapid Rural Appraisals (RRA) 	<ul style="list-style-type: none"> •
Immediate Objectives	(a) Sustainable use of land and water resources. (b) Increased off-farm income. (c) Improve rural transport.	(a) - Area treated (du) and maintained. (b) - Average annual field and tree cropped areas (du), and yields (kg/du). (c) Level of off-farm income. (d) Transport cost.	<ul style="list-style-type: none"> • RRAs, supervision and periodic progress reports, M&E. • Surveys • Surveys 	<ul style="list-style-type: none"> • Lack of user group commitment to maintain infrastructure and manage resources according with the adopted plans.
Outputs	(a) Terraces, contour guidelines, tree basins, water-harvesting systems constructed and operational. (b) Mini earth dams; cisterns constructed and operational. (c) Flood protection structures constructed and operational. (d) Springs protected and used by beneficiaries. (e) Olive and fruit orchards established/rejuvenated. (f) Field crops developed. (g) Rural roads constructed (h) Institutional capabilities enhanced. (i) Income-generating enterprises promoted. (j) Beneficiaries empowered	(a) Area equipped (du), and number of beneficiaries. (b) Storage capacity (m ³); and number of beneficiaries. (c) Structure volume (m ³). (d) Annual flow of water (m ³), area irrigated (ha); number of beneficiaries. (e) Area (du); number of beneficiaries. (f) Area (du); number of beneficiaries. (g) Length of rural roads (km). (h) h1) Number of field visits, meetings, demonstrations. (i) h2) Number of trained agents/ staff on the jobs trained. (j) i1) Number and amounts of loans by category. (k) i2) Number and type of enterprises, and amount of loan. (l) Number and frequency of group meetings, number of subprojects planned and executed by the groups.	<ul style="list-style-type: none"> • Supervision and periodic progress reports, M&E. 	<ul style="list-style-type: none"> • Possible weak beneficiary participation and slow progress. • Low rate of adoption by intended beneficiaries.

Activities	<ul style="list-style-type: none"> (a) On-farm soil and water conservation treatments on 8 000 ha. (b) Wadi bank and flood protection. (c) Construction of 30 mini earth dams. (d) Spring protection/rehabilitation. (e) Extension services; and demonstrations on farmers' fields. (f) Construction of 160 km of rural roads. (g) Technical assistance. (h) Studies and research on water harvesting. (i) Support to directorates of agriculture. (j) NGO support for income-generating line of credit, and promotional campaigns. (k) Beneficiary participation. (l) Training of staff / rural poor and women. (m) Establishment of PMU. (n) Project coordination and management. 	<ul style="list-style-type: none"> (a) Number and amount of contracts awarded. (b) Number and amount of contracts awarded. (c) Number and amount of contracts awarded. (d) Number and amount of contracts awarded. (e) Number of farmers contacted; number and type of demonstrations given; mass media diffused. (f) Number and amount of contracts awarded. (g) Type, number and amount of contracts awarded. (h) Number and amount of contracts awarded. (i) Training and logistic support provided. (j) NGOs selected, number and amounts of contracts awarded. (k) Number of meetings held; mass media produced and diffused; number of groups formed by type and gender. (l) Number trained by category and gender. (m) Office supplies and equipment provided, staff recruited. (n) Inception and annual review workshops, number and frequency of PSC and RACC meetings held. 	<ul style="list-style-type: none"> • Annual workplan and budget, annual review workshops, supervision and periodic progress reports, M&E. 	
Inputs	<ul style="list-style-type: none"> (a) Provide funds. (b) Vehicles and equipment. (c) Labour, materials, equipment, and workmanship. (d) Studies and research. (e) Technical assistance. (f) Training. (g) Provide credit. (h) Management and field staff. (i) Recurrent expenses. (j) Beneficiary participation. (k) Beneficiary contribution. 	<ul style="list-style-type: none"> (a) AWP&B/ amounts disbursed. (b) Numbers / types procured. (c) Amount and number of contracts awarded. (d) Number of person months provided. (e) Number of person months provided. (f) Number of trainees identified, trainers trained. (g) Amounts of credits disbursed/ recovered. (h) Number of staff provided. (i) AWP&B/ amounts disbursed. (j) Number of eligible beneficiaries. (k) Amounts collected and pledges made for in-kind contributions. 	<ul style="list-style-type: none"> • AWP&B, progress reports, financial audits, supervision reports and mid-term review. 	<ul style="list-style-type: none"> • Timely availability of counterpart funds.

QUANTITATIVE INPUTS, TARGETS AND KEY PROJECT FACTORS

	1999	2000	2001	2002	2003	2004	Total	Instruments	Beneficiaries	
Inputs (USD '000)										
- Civil works	270	2 237	4 348	5 207	2 916	799	15 778	- local bidding	- SWC: 2 840 households	
- Equipment and materials	288	-	-	-	-	-	288	- international/local bidding	- Credit: 2 490 households	
- Vehicles	299	40	-	-	-	-	339	- international/local bidding	- Agricultural dev.: 5 460 households	
- Support to orchard development	-	50	245	489	571	275	1 631	- local bidding	- Small income-generation: 800 women	
- Provision of credit	127	179	528	1 066	1 154	599	3 655	- line of credit	- Average cost per household: USD 2 450	
- Studies	171	6	168	6	6	3	360	- local bidding		
- Training	91	74	64	67	63	64	424	- local/international		
- Technical assistance	232	244	160	4	1	5	648	- local/international		
Outputs										
- Countour stone wells (ha)	60	294	574	686	280	106	2 000			
- Earth banks (ha)	30	132	222	308	240	68	1 000			
- Gradoni terraces (ha)	6	57	107	133	74	23	400			
- Tree basins (ha)	12	30	120	140	48	20	370			
- Contour guidelines (ha)	108	510	970	1 190	623	210	3 610			
- Micro catchments (number)	-	-	40	100	300	160	500			
- Cisterns (m ³)	4 330	21 600	40 400	50 400	26 470	8 800	152 000			
- Wadi bank protection (m ³)	330	3 750	6 760	8 190	4 780	1 490	25 300			
- Spring protection (ha)	10	48	108	126	42	6	350			
- Earth dams (units)	-	-	2	5	15	8	30			
- Roads (km)	-	28	54	54	24	-	162			
Total Project Cost (USD million)			Financing (USD million)				EIRR			
1. Resource development	15.0	(53%)	IFAD	10.1	(36%)	- Base run	17%			
2. Agricultural development	3.1	(11%)	AFESD	12.6	(45%)	- 20% Cost increase	15%			
3. Rural roads	4.5	(16%)	Government	3.5	(12%)	- 20% Benefits decrease	14.5%			
4. Rural financial services	4.5	(16%)	Beneficiaries	2.0	(7%)	- Two years' lag	14%			
5. Coordination/management	1.1	(4%)	Total	28.2	(100%)					
Total	28.2	(100%)								

COSTS AND FINANCING
Expenditure Accounts by Financiers
(USD '000)

	IFAD		AFESD		Beneficiaries		Government		Total		For. Exch.	Local (Excl. Taxes)	Duties and Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
I. Investment Costs													
A. Civil Works													
Soil & water conservation	1 786.6	16.3	7 912.4	72.1	1 275.8	11.6	-	-	10 974.4	39.0	-	10 974.4	-
Spring development	-	-	442.0	75.0	147.3	25.0	-	-	589.3	2.1	-	589.3	-
Rural roads	-	-	4 212.8	100.0	-	-	-	-	4 212.8	15	-	4 212.8	-
Subtotal Civil Works	1 786.6	11.3	12 567.2	79.7	1 423.2	9.0	-	-	15 776.5	56.1	-	15 776.5	-
B. Equipment and material	245.3	85.0	-	-	-	-	43.3	15.0	288.5	1.0	178.8	75.0	34.8
C. Vehicles	288.2	85.0	-	-	-	-	50.9	15.0	339.1	1.2	288.2	-	50.9
D. Support to orchard establishment	1 631.4	100.0	-	-	-	-	-	-	1 631.4	5.8	-	1 631.4	-
E. Credit/revolving fund	3 796.7	100.0	-	-	-	-	-	-	3 796.7	13.5	-	3 796.7	-
F. Studies, Training & Technical Assistance													
Studies	360.2	100.0	-	-	-	-	-	-	360.2	1.3	112.5	247.6	-
Training	424.4	100.0	-	-	-	-	-	-	424.4	1.5	5.2	419.2	-
Technical assistance	507.0	100.0	-	-	-	-	-	-	507.0	1.8	139.7	367.3	-
Subtotal Studies, Training & Technical Assistance	1 291.6	100.0	-	-	-	-	-	-	1 291.6	4.6	257.5	1 034.1	-
Total Investment Costs	9 039.4	39.1	12 567.2	54.3	1 423.2	6.2	94.1	0.4	23 123.8	82.0	724.5	22 313.7	85.7
II. Recurrent Costs													
A. Salaries, Allowances and Incentives													
Salaries and allowances	-	-	-	-	-	-	2 880.0	100.0	2 880.0	10.2	-	2 880.0	-
Incentives	698.1	100.0	-	-	-	-	-	-	698.1	2.5	-	698.1	-
Subtotal Salaries, Allowances and Incentives	698.1	19.5	-	-	-	-	2 880.0	80.5	3 578.1	12.7	-	3 578.1	-
B. Operation & Maintenance													
Civil works O & M	-	-	-	-	534.1	56.6	408.8	43.4	942.9	3.4	-	942.9	-
Equipment O&M	53.2	85.0	-	-	-	-	9.4	15.0	62.6	0.2	18.8	34.4	9.4
Vehicles O&M	270.9	85.0	-	-	-	-	47.8	15.0	318.7	1.1	95.6	175.3	47.8
Office O & M	81.5	85.0	-	-	-	-	14.4	15.0	95.9	0.3	-	95.9	-
Subtotal Operation & Maintenance	405.6	28.6	-	-	534.1	37.6	480.4	33.8	1 420.1	5.0	114.4	1 248.5	57.2
Total Recurrent Costs	1 103.7	22.1	-	-	534.1	10.7	3 360.3	67.2	4 998.2	17.8	114.4	4 826.6	57.2
Total Disbursement	10 143.1	36.1	12 567.2	44.7	1 957.3	7.0	3 454.5	12.3	28 122.0	100.0	838.9	27 140.3	142.9

**Expenditure Accounts by Components - Totals Including Contingencies
(USD '000)**

	Resource Development	Agricultural Development	Rural Roads	Rural Financial Services	Coordination and Management	Total
I. Investment Costs						
A. Civil Works						
Soil & water conservation	10 976.4	-	-	-	-	10 976.4
Spring development	589.3	-	-	-	-	589.3
Rural roads	-	-	4 212.8	-	-	4 212.8
Subtotal Civil Works	11 563.7	-	4 212.8	-	-	15 776.5
B. Equipment and material	138.5	45.5	-	90.1	14.4	288.5
C. Vehicles	138.3	137.5	-	39.3	24.0	339.1
D. Support to orchard establishment	-	1 631.4	-	-	-	1 631.4
E. Credit /revolving fund	-	-	-	3 796.7	-	3 796.7
F. Studies, Training & Technical Assistance						
Studies	97.5	-	-	-	262.6	360.2
Training	36.9	31.4	-	333.8	22.3	424.4
Technical Assistance	250.3	-	-	110.8	145.9	507.0
Subtotal Studies, Training & Technical Assistance	384.7	31.4	-	444.7	430.8	1 291.6
Total Investment Costs	12 225.2	1 845.8	4 212.8	4 370.7	469.2	23 123.8
II. Recurrent Costs						
A. Salaries, Allowances and Incentives						
Salaries and allowances	1 344.5	924.4	-	145.4	465.7	2 880.0
Incentives	361.8	200.8	-	33.0	102.4	698.1
Subtotal Salaries, Allowances and Incentives	1 706.3	1 125.2	-	178.4	568.1	3 578.1
B. Operation & Maintenance						
Civil Works O & M	635.6	-	307.3	-	-	942.9
Equipment O&M	43.7	14.4	-	-	4.5	62.6
Vehicles O&M	65.4	173.5	-	49.6	30.3	318.7
Office O & M	62.4	-	-	-	33.5	95.9
Subtotal Operation & Maintenance	807.0	187.8	307.3	49.6	68.3	1 420.1
Total Recurrent Costs	2 513.3	1 313.1	307.3	228.0	636.4	4 998.2
Total Project Costs	14 738.5	3 158.9	4 520.2	4 598.7	1 105.7	28 122.0
Taxes	54.4	55.6	-	22.7	10.1	142.9
Foreign exchange	248.2	215.1	-	85.1	290.5	838.9



COORDINATION, MANAGEMENT AND IMPLEMENTATION ARRANGEMENTS

Coordination

1. The PSC will carry out project coordination and control functions. This high-level committee, established within MOA in 1986, is chaired by the Minister of Agriculture. In addition to the Secretary-General of MOA, the PSC includes representatives from the MOP, the Ministry of Finance (MOF), ACC, Jordan Cooperative Corporation (JCC), the University of Jordan and the private sector.
2. Project activities at the district level will be coordinated by RACC, the membership of which will include the heads of the four directorates of agriculture in the project area; representatives of Irbid and Mafraq Governorates; managers of ACC branches, as required; directors of public works and housing in Irbid and Mafraq Governorates; the director of the Nature and Land Conservation Department of the General Corporation for Environmental Protection; and a representative of the Farmers' Union. The project manager, appointed to run the day-to-day activities of the project, will also be a member of RACC and serve as its secretary. The chairman of RACC will be selected by the members. Other members may include representatives of NGOs and of similar ongoing projects in the area.

Implementation Arrangements and Responsibilities

3. The Directorate of Projects at MOA will have overall responsibility for implementing the project. Relevant MOA directorates at the national level and the directorates of agriculture in Irbid and Mafraq Governorates will provide technical assistance and support.
4. The project will be implemented by a PMU established in Irbid. The PMU will be responsible for all aspects of project implementation, for identifying beneficiaries and for setting up contact programmes for soil and water conservation, flood control and spring protection and rehabilitation. The PMU will organize and administer workshops, surveys and reviews.
5. The PMU will be headed by a project manager who will be accountable, through the Director of the MOA Projects Department, to the PSC. The project manager will be assisted by professional officers, including a land-use planner, a community development officer, a sociologist/women-in-development officer, an extension officer, a water resources engineer, an M&E officer and an accountant, and by support staff. The PMU will be supported by technicians and extension agents from directorates of agriculture in the project area. The PMU will establish contact with suitable NGOs to assist in the implementation of community-based activities such as construction of wadi bank structures and mini dams, spring rehabilitation, and income-generating activities for women.
6. The directorates of agriculture in the project area, including those in Irbid, Bani Kenana, Ramtha and Mafraq, will support the activities of the project through their technical units - extension, livestock and technical services. The project will establish a new soil and water conservation unit in each directorate and a new spring development unit in Bani Kenana to support the soil and water conservation and spring protection/rehabilitation activities.
7. The key eligibility criteria for selection of the target group for soil and water conservation and spring protection/rehabilitation will be: (i) willingness to participate in planning and



implementation of project initiatives and a commitment with regard to their future maintenance; (ii) willingness to form user groups; and (iii) contribution of at least 15% of the costs of soil and water conservation, or 25% of spring protection/rehabilitation initiatives, in cash or in kind. Given that landholdings are largely in the shape of narrow strips along the hillsides, with varying soil quality down the slopes and often in different locations, farmers with holdings of up to 75 du will be eligible to receive project support for soil and water conservation initiatives for the first 25 du of their land.

8. An assessment will be made of the socio-dynamic profile of the target communities and of the contact group farmers to be involved. The profile will include aspects relevant to farming systems development. The following methods and resources will be used: analysis of existing socio-economic studies on related subjects; and “mapping” of the target groups and contact farmer groups, including limited surveys to fill knowledge gaps. The data will be analysed and summarized in a short report, and validated by a competent partner. The resulting profiles will enable the extension agents to identify both points of resistance to the proposed changes and areas of support to them.

9. **Rural roads.** The Ministry of Public Works and Housing through its directorates in Irbid and Mafraq Governorates will be responsible for implementing the rural roads component. The roads will be selected according to PSC procedures and guidelines. The directorates of public works will design and supervise the construction of the roads by private contractors.

10. **Rural financial services.** The ACC will provide rural financial services under a subsidiary loan agreement. Through its branch offices in Mafraq, Irbid, Ramtha and Bani Kenana, ACC will be responsible for approval, disbursement, supervision and recovery of the loans. Identification of eligible beneficiaries will be initially carried out by the PMU, based on criteria established by the project. ACC will be responsible for evaluating the technical and financial viability of the loans, credit-worthiness of the applicants and final selection of eligible borrowers.

11. ACC will select a qualified NGO to administer the income-generating line of credit, mainly to benefit women, according to procedures established for the procurement of services for the project. ACC will enter into a contract with the selected NGO and supervise its lending operations. The involvement of NGOs will be on a pilot basis and evaluated at project implementation mid-term.

12. **The annual workplan and budget** will be prepared by each implementing agency, in conformity with government financial regulations and with the timing for budgetary submissions, including detailed expenditure estimates by both recurrent and investment costs by implementing agency and by source of financing. The AWP/B will be submitted also to the PSC, IFAD and the cooperating institution for review and approval, prior to submission to MOP for inclusion in the national budget. The AWP/B will accompany a report on the physical and financial performance of the previous year; a description of planned activities; procurement and disbursement projections; a training programme for staff and beneficiaries; and an administrative and operational budget by project cost category.

Participation Arrangements

13. The project will be implemented following a flexible participatory process approach, with periodic M&E. The process and approaches will be revised, adjusted and improved on the basis of lessons learned from ongoing implementation practices.

14. Community participation will be in the preparation and adoption of master land-use plans for the priority areas and the planning of community-based initiatives, including off-farm soil and water conservation works and rural roads. Project staff will be trained and fielded to bring residents of poor

**APPENDIX VI**

communities together to explain the project's opportunities and potentials and to assist them in identifying their priorities. Specialized NGOs will be employed for the first two years of project implementation to carry out the services and provide training for project staff.

15. For on-farm soil and water conservation and spring protection/rehabilitation works, the beneficiaries will be encouraged and assisted to form user groups, or water users' associations, to participate as a group in planning, design and implementation, contribute towards the initial costs of the works, and make a commitment regarding their future O&M.

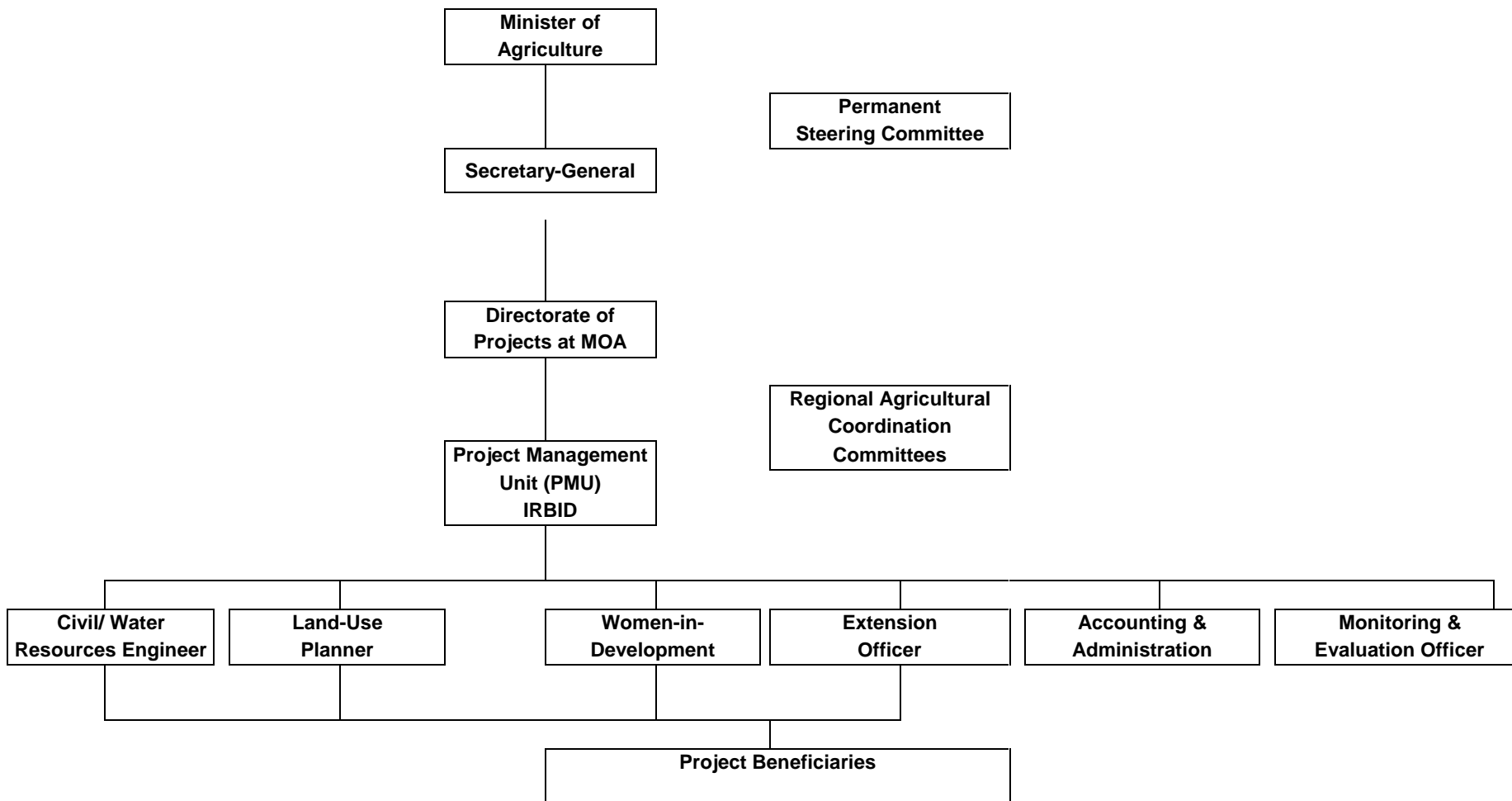
Monitoring and Evaluation

16. The PMU will be responsible for project monitoring in accordance with the provisions of the loan agreement. The monitoring programme will be focused on the rate of implementation against planned objectives as set out in the AWP/B and, in particular, in the programme budgets. A set of key input and output indicators will be developed, based on the activities set out in the AWP/B.

17. Effective impact monitoring will require a wider database. The PMU will carry out a baseline survey during the course of which it will establish, with the directorates of agriculture at governorate level and other sectoral agencies, data standards and methods of future collection. On the basis of the survey, which will be designed by the M&E specialist, the PMU will set the monitoring indicators and carry out a regular programme of impact monitoring. Diagnostic studies will be conducted on specific issues as and when required. The lessons learned from the ongoing IFAD-financed Agricultural Resource Management Project in the Governorates of Karak and Tafila will be used to set up the monitoring programme for the proposed project. Impact indicators will include: (i) increased farm production and profits; reduced household food costs; (ii) area treated and maintained; (iii) ratio of area maintained by users to area treated; (iv) number of farmers adopting recommended techniques; (v) average annual field and tree cropped areas, and yields; and (vi) number of financially rewarding income-generating enterprises.

18. A mid-term review will be conducted at the end of project year 3 to assess the progress, achievements of, and constraints on, project implementation to date and make recommendation for the remaining period of disbursement. In particular, the mid-term review will review the staffing, performance and cost-effectiveness of soil and water conservation measures in Ramtha and Mafraq and evaluate the suitability of continuing such activities during the remaining life of the project. Special attention will be paid to an in-depth review of the participatory implementation approach, the effectiveness of planning and budgeting procedures and the flow-of-funds management.

**PROJECT MANAGEMENT UNIT
ORGANIZATIONAL CHART**





ECONOMIC AND FINANCIAL ANALYSIS

1. In order to determine the impact of the project on individual farmers, detailed financial analysis of crops and farm budgets were conducted on typical farm models. Seven farm models were developed and used to arrive at incremental incomes at farm level due to project interventions. The models are based on the following parameters: (a) average farm size has been estimated to be 20 du for soil and water conservation and extension models and 10 du for spring development, which are the average farm sizes for the IFAD target group; (b) the farm models reflect changes in cropping patterns; and, wherever deemed practicable, intensification and diversification through introduction of existing crop mix.
2. **Farm Model 1.** “Orchard Establishment” is a representative model of a present 20 du in the high rainfall areas (above 350 mm) and includes land preparation and irrigation during the early life of trees. This model represents 3 850 ha in the project area. In this model, wheat is cultivated between the newly-planted trees for the first five years. Fodder is cultivated as a cover crop in the 10 du model, shown with one dairy cow.
3. **Farm Model 2.** “Olive Orchard Production” and rejuvenation is a representative model of a present 20 du in the high rainfall areas (above 350 mm). This model represents 4 000 ha in the project area. In this model, 15 du of orchards are in full production with ages ranging from 10 to more than 50 years, and 5 du of orchard needs rejuvenation. This model is shown with 15 shami goats.
4. **Farm Model 3.** “Olive and Field Crop Model” is a representative model of a present 20 du and represents 1 000 ha. This model is shown with 11 awassi sheep.
5. **Farm Model 4.** “Wheat, Barley Model” is representative of a present 20 du and represents 1 450 ha in the lower rainfall areas (less than 300 mm).
6. **Farm Model 5.** “Field Crop Model” is a representative model of a present 20 du and represents 2 700 ha in the less steep lands of the project area with average rainfall (200 mm-400 mm). The model is shown with five fattening calves.
7. **Farm Model 6.** “Spring Development in Yarmouk Valley” is a representative model of a present 10 du and represents 210 ha of irrigated orchards (olive, banana and citrus) located mainly in the district of Bani Kenana.
8. **Farm Model 7.** “Spring Development in the Highlands” is a representative model of a present 10 du and represents 140 ha of irrigated pomegranate and figs.
9. The stream of net economic benefits has been determined for both the “without” and the “with” project situations. These net benefits were derived by taking the difference between the “with” and the “without” project net value of production and deducting the inputted cost of farm labour.

Farm Models	Gross Value of Production	Operating Costs	Farm Family Benefits
Model 1			
Without	420	290	105
With	5 292	2 049	3 069
Model 2			
Without	4 238	2 795	1 205
With	5 663	3 269	2 116
Model 3			
Without	3 326	1 349	1 862
With	4 269	1 539	2 600
Model 4			
Without	1 610	1 292	208
With	3 136	1 119	1 922
Model 5			
Without	685	493	150
With	3 003	904	2 072
Model 6			
Without	2 705	2 040	491
With	4 681	2 040	2 467
Model 7			
Without	2 000	1 027	886
With	5 000	1 027	3 886

10. Regarding the economic assessment of project viability, a 30-year period has been used. The project cost stream comprises all component costs with the exception of seasonal loans in the credit component which are incorporated into the farm model analysis. The economic project costs have been derived from the financial cost of the incremental investment and recurrent costs by applying the appropriate conversion factors. Price escalation and taxes were excluded from the economic analysis. The economic prices of project main produce (barley and wheat) and fertilizers were derived from information contained in the World Bank Commodity Price Forecast. In order to arrive at constant May 1998 prices, appropriate adjustments were made for quality differentials, freight and insurance, and other internal costs. For other project products and inputs, which are non-traded items, economic values were derived from the financial values, i.e. prices at which they are sold at the local market. All prices are assumed to remain constant in real terms throughout the life of the project. The labour is shadow-priced at approximately 75% of the financial rate of JOD 4 per day. The phasing of the farm models into the benefit analysis is based on the timing of soil and water conservation treatments and planting of orchards and field crops. It is assumed that benefits for field crops will commence the year following soil and water conservation treatments and for olive orchards after five years.

11. The economic rate of return is calculated at 17.3%, without taking account of benefits derived from the income-generating activities. The results of the economic analysis were tested for sensitivity of the EIRR to changes in the levels of costs and benefits and to the timing of the benefit flows. The findings indicate that the model can cope both with significant increases in project costs and with decreases in the benefits. A 20% increase in costs lowers the EIRR to 15.0%, and a 20% drop in benefits decreases it to 14.5%, which are acceptable levels. A two-year lag in project benefits will reduce the EIRR to only 14%.