



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

PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA

FOR THE

**PILOT PROJECT FOR THE DEVELOPMENT OF MOUNTAIN AGRICULTURE IN
THE WATERSHED BASIN OF OUED SAF SAF**



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CURRENCY EQUIVALENTS

Currency Unit	=	Algerian Dinar (DZD)
USD 1.00	=	DZD 80
DZD 1.00	=	USD 0,0125

WEIGHTS AND MEASURES

1 kilogram (kg)	=	2.204 pounds (lb)
1 000 kg	=	1 metric tonne (t)
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

ABBREVIATIONS AND ACRONYMS

CDA	Community Development Agent
M&E	Monitoring and Evaluation
PMU	Project Management Unit

GLOSSARY

<i>Wilaya</i>	Province
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GOVERNMENT OF THE PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA

Fiscal Year

1 January - 31 December

MAP OF THE PROJECT AREA



ALGERIA

PILOT PROJECT FOR THE DEVELOPMENT OF MOUNTAIN AGRICULTURE IN THE WATERSHED BASIN OF OUED SAF-SAF



Source: Appraisal Report

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.

PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA

**PILOT PROJECT FOR THE DEVELOPMENT OF MOUNTAIN AGRICULTURE IN THE
WATERSHED BASIN OF OUED SAF SAF**

LOAN SUMMARY

INITIATING INSTITUTION:	IFAD
BORROWER:	The People's Democratic Republic of Algeria
EXECUTING AGENCY:	Ministry of Agriculture
TOTAL PROJECT COST:	USD 24.1 million
AMOUNT OF IFAD LOAN:	SDR 9.7 million (equivalent to approximately USD 12.5 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
CONTRIBUTION OF BORROWER:	USD 10.4 million
CONTRIBUTION OF BENEFICIARIES	USD 1.1 million
APPRAISING INSTITUTION:	IFAD
COOPERATING INSTITUTION:	United Nations Office for Project Services (UNOPS)



PROJECT BRIEF

Who are the beneficiaries? The project will benefit, both directly and indirectly, the 23 600 rural inhabitants of the project area. The direct beneficiaries will consist of 3 584 poor households living on small farms, from which they generate all or part of their income. The project will also target: (i) impoverished women heads of household to improve their living and working conditions; (ii) young out-of-school girls with some education who are willing to engage in off-farm income-generating activities; and (iii) young unemployed men interested in starting microprojects or acquiring training in agricultural and non-agricultural activities. Project activities such as the rehabilitation of rural and forestry roads, the dissemination of marketing information, the creation of rural financial services and support to local development committees will benefit, directly or indirectly, the majority of people in the project area. About 10 000 persons will benefit from agricultural development activities, including improvements in pastoral and sylvo-pastoral resources, animal husbandry and soil and water conservation programmes. All smallholders, rural women, landless people and local farmers' organizations will benefit from support to the development of microenterprises.

Why are they poor? Poverty in the project area derives from inadequate socio-economic services, poor infrastructure, and limited income opportunities due to the degraded resource base. Poor households tend to be large, with many children and a high dependency ratio. Unemployment ranges from 36 to 44% depending on the location. About 80% of farms have holdings of less than 10 hectares, with an agricultural production system based on rainfed cereal and livestock. The principal constraints beneficiaries face are derived from the lack of rural financial services and the low levels of remittances by community members living abroad. Other major constraints are the lack of rural road infrastructure, which makes many villages inaccessible and leads to limited transfer of appropriate technological packages and to marketing, storage and processing constraints; and poor agricultural services in terms of extension and advisory support.

What will the project do for them? The project will be implemented over seven years and will focus on: (i) strengthening participatory programming and capacity-building of grass-roots organizations and provincial local public administrations through the promotion of local groups and associations and the training of their technicians and board members in participatory development; and (ii) creating socio-economic and productive assets to which beneficiaries have access. This will involve rehabilitation of small-scale irrigation; land reclamation; the concession of state land (excluding collective land) for fruit trees promotion; soil and water conservation; improvement of productivity and management of sylvo-pastoral ecosystems; livestock production; rehabilitation of existing rural roads and water points and creation of new ones; support to rural financial services, microenterprise development and improved marketing; and improved access by beneficiaries to ongoing national support programmes for the development of agriculture.

How will beneficiaries participate in the project? The project approach will be focused primarily on the participatory formulation of local development plans and on decision-making by local groups and organizations in the villages concerned. The participation of rural communities will be enhanced in all phases of project development, from the analysis of the current situation to the choice of actions and the priority assigned to their implementation, to the definition of management options. Three fundamental principles underlie this approach: consultation, participation and the enhancement of beneficiary responsibility. In fact, project design was based on a participatory rural appraisal (PRA) during formulation to define the needs and priorities of the targeted population.

REPORT AND RECOMMENDATION OF THE PRESIDENT OF IFAD

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PILOT PROJECT FOR THE DEVELOPMENT OF MOUNTAIN AGRICULTURE IN THE

WATERSHED BASIN OF OUED SAF SAF

I submit the following Report and Recommendation on a proposed loan to the People's Democratic Republic of Algeria for SDR 9.7 million (equivalent to approximately USD 12.5 million) on intermediate terms to help finance the Pilot Project for the Development of Mountain Agriculture in the Watershed Basin of Oued Saf Saf. 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 United Nations Office for Project Services (UNOPS) as IFAD's cooperating institution.

PART I - THE ECONOMY, SECTORAL CONTEXT AND IFAD STRATEGY¹

A. The Economy and the Agricultural Sector

1. **Economic performance.** During the oil boom years in Algeria, social and economic indicators improved markedly, owing to important investments in education, health services and basic infrastructure, and to heavy subsidizing. Following the sharp drop in the price of oil in 1986, the country began a ten-year period of economic decline, with large reductions in per capita gross domestic product (GDP), household incomes and consumption. The average annual real rate of growth of gross national product (GNP) per capita fell annually by 1.0% over the 1990-98 period, while total GDP stagnated in real terms. During that difficult period, the share of agriculture in GDP grew at 3% annually, while industrial growth fell sharply. The Government implemented a structural adjustment programme with the International Monetary Fund (IMF) during 1994-98. Recently, the World Bank classified Algeria as a lower-middle-income country. The structure of the economy is dominated by industry, which in 1998 accounted for 47% of total GDP while services contributed 41%. The share of agriculture in GDP is only 12%, although the agricultural sector absorbs 20% of total employment.
2. **The agricultural sector** is characterized by yearly fluctuations in output related to rainfall variations. Since the land reforms in 1987, Algeria's agricultural sector has been moving towards a system based on small and medium-scale farmers, in which the private sector takes the lead not only in production but also in upstream and downstream activities. Almost all arable land is located in the northern part of the country, the Tell region. In the steppe areas, the principal activity is pastoralism. In the Saharan south, agricultural activities are being promoted using the large underground water reserves. Many factors threaten the natural resource base: soil erosion, deforestation, rangeland deterioration, dam siltation, soil salinization and sand encroachment.
3. **Agricultural production.** The country is dependent on imports of cereals, dairy products, sugar and edible oil. The area under cereal cultivation has increased over the last 20 years at the

¹ See Appendix I for additional information.



expense of perennial crops and pastoral lands. The area under vegetable crops is stagnating and the level of productivity is decreasing. Areas planted with fruit trees have contracted over the two last decades. Except for date-palm trees, production of all perennial crops has decreased. Livestock production accounts for about 50% of agricultural production and contributes significantly to the food security of the country in meat but not in dairy production. The small artisanal fishermen constitute the bulk of the fishing community. Fish production increased by 6-7% over the 1970-94 period, but has stagnated in recent years. Currently it is estimated at about 110 000 tonnes (t) per year – 69% of the potential sustainable annual catch.

4. Agricultural development. The Government is currently implementing its National Plan for Agricultural Development (NPAD), designed to: (i) improve food security at the household level; (ii) increase farm income; (iii) ensure the sustainability of investments; and (iv) promote the rational use of natural resources. To reach these objectives, it launched four programmes aimed at: (i) adapting agricultural production to the potential of various agro-ecological zones under a reconversion programme; (ii) privatizing land through a system of concessions; (iii) supporting rural financial systems through a government-sponsored credit system; and (iv) valorizing agricultural products through the promotion of microenterprises. Various funds support these programmes, including the *Fonds national de régulation du développement agricole* (FNRDA) (the national fund for the regulation of agricultural development), the *Fonds pour la mise en valeur des terres par la concession* (FMVTC) (which is a fund for the promotion of the land privatization programme by the system of concessions) and the credit funds linked through the National Fund for Mutual Credit.

B. Lessons Learned from Previous IFAD Experience

5. IFAD was one of the first international agencies involved in agricultural development projects in Algeria with a specific emphasis on smallholders and the integration of women in the development process. Its three past projects were conceived early in the transitional period (1986-90) when major agricultural reforms were being carried out and the country had initiated a fundamental transformation on many fronts. The projects were therefore geared towards supporting the Government's strategy and related reforms. The focus of this strategy has been to shift emphasis from a centrally planned agricultural sector to a market-oriented one driven by the private sector. On this basis and considering the limited capacity of existing agricultural support services, IFAD has so far concentrated on pilot interventions, which are potentially replicable country-wide, targeting lower-income groups and priority subsectors involving basic food products. As such, all of IFAD's projects so far have been area development projects, addressing the most important problems in: crop, livestock and artisanal fisheries production systems; watershed management; credit delivery to smallholders; and social infrastructure, including drinking water supply. Experience has shown that: (i) area development projects address the constraints of an entire region and its rural population; (ii) natural resource management activities that the projects have supported often need to be undertaken by an entire farming community, e.g. soil and water conservation works, sylvo-pastoral activities and watershed management; and (iii) a participatory approach cannot be applied only to one segment of the population, as larger farmers are often leaders in their own communities and play an important role as group managers. Under these conditions, the best alternative seems to be targeting through the selection of the project area among the poorer regions of the country; and within these regions, working in the more disadvantaged zones. Further targeting through the design of activities, mostly of interest to smaller farmers (e.g. small economic activities, ceilings on loans, etc.) may help to focus benefits on the poorer population.

6. Institutional instability and the lack of decentralized decision-making processes have been constraints encountered during project implementation. Under the present economic reforms, it is essential to create or strengthen local institutions and grass-roots organizations that will take responsibility for operating and maintaining project-financed investments. An additional constraint has been the absence of an appropriate legal framework for grass-roots institutions other than cooperatives. Two projects included credit components for short- and medium-term loans to



smallholders. Implementation of these projects has been constrained by unclear institutional arrangements at the national level. Accordingly, there is a need to: (i) adequately assess the legal framework vis-à-vis activities promoted in future projects; (ii) streamline institutional integration of projects within the current, continuously changing, institutional framework; and (iii) seek the commitment of high-level decision-makers to project objectives and simultaneously support the Government in its decentralization efforts.

7. In addition to the institutional issues indicated above, a number of management-related lessons were learned during project design, including the need to: (i) streamline disbursement procedures through shorter channels between project management and the cooperating institution; (ii) develop human resources through management training, the exchange of experiences among project staff and community development; and (iii) provide staff incentives and develop clear job descriptions for staff at all levels to attract and retain qualified people.

C. IFAD's Strategy for Collaboration with Algeria

8. **Algeria's policy for poverty eradication.** Algeria's poverty programmes have largely consisted of social protection systems, with both contributive and non-contributive components. The contributive component encompasses social insurance (*sécurité sociale*) and provides cash benefits in the form of retirement, disability and survivors' pensions; health care; and unemployment insurance. The non-contributive component includes implicit and explicit consumer price subsidies, family benefits and social assistance programmes. To reduce unemployment, the Government has placed high priority on the promotion of broad-based, sustainable economic growth through changes in the economic structure. At the same time, it is promoting a variety of labour-intensive programmes, designed to generate large numbers of jobs. These include a multisectoral programme of public works, mainly roadside maintenance, rural infrastructure, forestry, water supply and sanitation. The Government is also studying similar programmes in agriculture and housing. In a complementary strategy, the Government is seeking to develop the private sector and encourage bottom-up decision-making for public works programmes and sector development through decentralization. It is in this vein that there are now a number of good opportunities for IFAD to collaborate with the Government. Investment opportunities in agriculture can be jointly identified to assist the rural poor.

9. **Rationale for IFAD's assistance to Algeria.** There are two main reasons that justify intensifying IFAD's involvement in Algeria. The first and most important one is that due to the economic crisis a serious impoverishment process has affected a large portion of the rural population over the last ten years. Despite efforts to alleviate poverty through social safety nets, actual transfers remain modest and substantial numbers of people do not benefit from them. This is especially true among the rural population, including the unemployed (who are not heads of household) and smallholders. In some rural areas, large segments of the rural population no longer enjoy food security because of unemployment and the decline in real income. The second reason is that Algeria could capitalize on the valuable experience that IFAD has already gained from its three projects in the country, from its expertise on rural poverty alleviation in the region and worldwide, and from the approaches that it has developed in other countries in transition.

10. **IFAD's future strategic framework.** IFAD's future strategy in Algeria will be aimed at increasing the productivity and incomes from sustainable activities undertaken by both women and men of the target group. The Fund will concentrate its efforts on three agro-ecological zones where the incidence of poverty is higher than the national average and where alternatives to agriculture are limited – the mountain regions in the north, the steppes and the Saharan areas in the south – and on the artisanal fisheries subsector. It will focus on: (i) addressing the basic needs and aspirations of the target group to create a favourable environment for growth and stronger linkages with their milieu through an area-based development approach; (ii) promoting devolved/decentralized planning and implementation through support for the creation and strengthening of local institutions and grass-roots



organizations; (iii) strengthening the target group's access to productive resources, including land, water, technological expertise and financial services; and (iv) furthering natural resource management linked to rural development through the creation and strengthening of rural financial and technical support services accessible to the target group.

PART II - THE PROJECT

A. Project Area and Target Group

11. **Location.** The project will be located in the eastern part of Algeria, in the Tellian Atlas mountain range parallel to the Mediterranean coast. It will cover parts of four disadvantaged rural communes: Zardezas; Ouled Habeba and Es Sebt in the province (*wilaya*) of Skikda; and Zighout Youcef in the Constantine *wilaya*. The project area will encompass the catchment basin of the Oued Saf-Saf, upstream of the Zardezas Dam. It extends over a total area of 34 110 hectares (ha), of which about half covered by state-owned forests and collective rangelands. More than 17 000 ha are cultivated areas, mainly planted to fruit trees and cereals.

12. **Agricultural production systems.** The variable conditions of agricultural production are reflected in the agricultural production systems, which are prevalently smallholdings that barely allow families to meet subsistence needs. Systems in the cultivated area differ by altitude and geomorphology/soils. Some 51% of the cultivated area, located in the high valley zones, is essentially based on arboriculture, barley, corn and forage crops; small livestock production; and the use of forest products. Irrigated cereals and vegetables cover about 3% of the area. The remaining 46%, mainly in the elevated zones, is characterized by an extensive production system, with 65% of the surface area under fallow and the rest in cereals, olive trees, vegetables and forage crops, with a fair amount of livestock production.

13. **Target groups.** The population of this zone is among the poorest in both *wilayas*; 20% of the rural population live below the poverty line. The project target group will comprise an estimated 3 584 households who are among the most vulnerable and marginalized of the 23 600 inhabitants in the area. Some 80% of farms range from 5-10 ha under rainfed conditions. A particular emphasis will be on subsistence farmers, women and youths.

14. **Constraints and opportunities.** The findings of the participatory rural appraisal (PRA) carried out during formulation, and validated at appraisal, confirmed that poverty in the project area derives from inadequate socio-economic services and limited income opportunities because of the degraded resource base. Poor households tend to have large families with many children and a high dependency ratio. Unemployment ranges from 36 to 44% depending on the location. Farming systems are based on cereal and small livestock production with poor conditions for optimizing the use of water resources. The targeted populations live in difficult conditions and face a series of constraints that hinder their development. These include the lack of rural road infrastructure, which make villages inaccessible and lead to poor marketing, storage and processing possibilities; poor social services; limited transfer of appropriate technological packages; and poor agricultural extension and advisory support. Despite these constraints, potential opportunities exist for improving the income levels and living conditions of the population. The people in the project area have shown both tenacity and determination when confronted with adversity and have a strong attachment to their native land. In addition, they have the motivation to engage in more intensive and diversified production systems.

B. Project Rationale and Approach

15. **Project rationale.** Within the framework of its new strategy, the Government attaches great importance to reducing social disparities between rural and urban areas and combating poverty and exclusion. The project has been designed as a pilot intervention for the development of mountain



areas with a high incidence of poverty. It will contribute to testing and validating various conceptual approaches for subsequent scaling up and replication in the country's other mountain areas (which cover around 4.5 million ha, spread over 12 provinces). The project will also seek to promote higher levels of beneficiary participation through decentralization and the creation and strengthening of local institutions with a special focus on gender issues. In addition, it will create socio-economic productive assets and facilitate beneficiary access to them by linking to ongoing national programmes for agricultural and rural development. Given the social and institutional constraints involved, substantial efforts will be required in such areas as training, transfer of appropriate technologies and institution-building. As such, the project will serve as a platform for policy dialogue with the Government on various issues of relevance to the rural poor, including decentralization of decision-making, the creation of pro-poor local institutions, and the access of the rural poor to assets such as land, water, new technology and financial services.

16. **Project approach.** The approach will be focused primarily on the participatory formulation of local development plans, with a strong emphasis on decision-making by local groups and grass-roots organizations in the targeted villages. The participation of rural communities will be enhanced in all phases of the project, from the analysis of the current situation, to the choice of actions and the priority assigned to their implementation, to the definition of management options. Furthermore, the project will improve the target group's access to benefits deriving from the ongoing national agricultural development and agricultural credit programmes.

C. Objectives and Scope

17. **Objectives.** The overall objective of the project will be to contribute to the sustainable socio-economic development and hence to better living conditions of the disadvantaged rural populations of the mountain zones of Skikda and Constantine *wilayas*. It will seek to do so by improving and diversifying sources of income linked to the development of sustainable systems of natural resource management (see the logical framework in Appendix III).

18. Specific development objectives will be to introduce approaches and mechanisms for: (i) strengthening the participatory capacities and involvement in project implementation of grass-roots organizations, in particular those linked to the targeted groups; (ii) improving the productivity of agricultural and livestock production systems, increasing the value of their products and facilitating marketing; (iii) rehabilitating, protecting and rationally managing natural resources; (iv) improving farmers' access to ongoing national support programmes and rural financial systems by supporting the creation of local rural financial services linked to the mutualist credit system promoted in the new government strategy; (v) increasing and diversifying agricultural and non-agricultural income through the development of income-generating activities that, in particular, benefit women and the young; and (vi) facilitating access of the poorest rural communities to basic socio-economic infrastructure, namely domestic water supply and rural roads. The project design will fit in the overall framework of the ongoing government policies and strategies.

D. Components

19. To reach its objectives, the project will implement four main components over a period of seven years: (i) strengthening of local capacities; (ii) support to local development; (iii) rural finance and microenterprise development; and (iv) project management unit (PMU).

Strengthening of Local Capacities

20. The project will strengthen local capacities by introducing mechanisms for consultation with the beneficiaries through the development of associations and local farmers' organizations, thereby increasing beneficiary ownership of and participation in project activities. It will establish three



outposted units in the communes of Ouled Habeba, Zighout Youcef and Zardezas/Essebt to implement a communication, information programme in support to all project components. This will potentially ensure that beneficiaries have equal access to ongoing national programmes, such as FNRDA and FMVC, rural financial services and microenterprise development. The project will also provide support to rural women individually or in groups through extension activities carried out by women community development agents (CDAs). Support will include training in specific skills by a specialized non-governmental organization, advice on the creation of income-generating activities, and improved access to microfinance services.

Support to Local Development

21. This component will cover the priority activities that village communities identified during the PRA and will retain as they evolve their local development plans. Development activities have been grouped under four categories: agricultural development; soil and water conservation; water resources development; and rural roads.

22. **Agricultural development.** The strategy is to increase farm incomes rapidly by converting production systems. This will involve the promotion of arboriculture; mobilization of water resources for the irrigation of horticultural crops; improvement in annual crop and livestock production and the productivity of sylvo-pastoral ecosystems; and the promotion of apiculture, poultry and cuniculture. The promotion of arboriculture will consist of planting fruit trees on an estimated 5 560 ha, land preparation (including clearing 2 100 ha), nursery development through private microenterprises, field trials for extension purposes, and training. The project will strengthen the productivity of sylvo-pastoral ecosystems by establishing 500 ha of improved pastures, planting about 700 ha of fodder shrubs, lying fallow 1 200 ha of *matorral* (bush) and 1 800 ha of forest, and organizing beneficiaries. In addition, it will enhance livestock production through prophylactic measures, improved watering conditions, genetic improvements, extension and training. It will promote apiculture by distributing 300 units of 10 beehives each; poultry and turkey production by distributing 400 units of 10 animals each; and cuniculture by distributing 400 units of five reproductive rabbits each.

23. **Soil and water conservation.** Activities will include protection against water erosion by constructing countoured stone terraces on some 600 ha of cultivated land, planting hedges of opuntia on 400 ha, rehabilitating 290 ha of rangeland, improving sylvo-pastoral ecosystems and reforesting 150 ha and 50 ha respectively. The project also envisages the mechanical treatment of gullies (240 ha), the installation of gabions (3 000 m³), the rehabilitation of terraces (960 ha), the development of bench terrace structures supporting fruit tree plantations (1 050 ha) and the establishment of fruit tree orchards (600 ha).

24. **Water resources development.** The project will carry out a number of small-scale irrigation activities, including the rehabilitation and equipment of 27 existing wells; and the creation of 70 new wells with storage tanks capable of irrigating 1 ha each, 10 storage tanks of 10 000 m³ each, five intakes on seasonal wadi and an irrigation distribution network. To improve drinking water supply, it will rehabilitate 27 waterpoints and the existing water distribution network of Ouled Habeba.

25. **Rural roads.** Based on beneficiary demand and in an effort to improve accessibility of remote communities, the project will finance the construction of 139 km of new rural tracks and the rehabilitation of 43 km of existing ones.

Rural Finance and Microenterprise Development

26. The project will seek to facilitate access of the target groups to rural financial services in general and to sources of financing under the ongoing national support programmes in particular, and



to further the creation of microenterprises. In support of the Government's strategy to promote self-owned and managed rural financial institutions, it will assist in the creation of three local savings and loans associations – *Caisse Mutuelle de Proximité* (CMPs) – in collaboration with the *Caisse Nationale de Mutualité Agricole* (CNMA). It will also strengthen CNMA's capacity in rural microfinance activities and help the line agencies in the financial sector to update the legal framework and prudential norms accordingly. Furthermore, it will finance studies on the demand for rural microfinance and the various financial products to be provided by these local funds.

27. Activities promoting the creation of microenterprises will include the: (i) financing by the CMP within the project area of all or part of the personal financial input required to have access to government support programmes; (ii) creation of three units for continuing support and advice to microentrepreneurs (*cellules d'appui, de développement et d'accompagnement des microentreprises*); (iii) recruitment of a microenterprise specialist within the PMU; (iv) financing of six man-months of technical assistance for training project staff and the first microentrepreneurs; and (v) financing of sectoral marketing studies for potential microenterprise development.

Project Management Unit

28. The project will finance the creation of a PMU, based in El Harrouch, consisting of a project manager, six subject matter specialists, one information management specialist responsible for monitoring and evaluation (M&E), an administrator/financial manager, an accountant, two technical staff and six men and women CDAs. It will also finance the procurement of vehicles, office equipment and furniture; training and study tours; the rehabilitation of office buildings; M&E of project activities; and impact assessment studies.

E. Costs and Financing

Project Costs

29. Total project costs, including physical and price contingencies, are estimated at USD 24.1 million over the seven-year implementation period. The foreign exchange component will account for about 18% (or USD 4.4 million) of total costs, while duties and taxes will account for 14% (USD 3.3 million). Project costs by component are summarized in Table 1.

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

Components	Local	Foreign	Total	% of Foreign Exchange	% of Base Costs
A. Strengthening of local capacities	0.6	0.1	0.7	18	3
B. Support to local development	15.6	2.8	18.4	15	83
1. Agricultural development	10.5	1.3	11.8	11	53
2. Soil and water conservation	1.0	0.1	1.1	5	5
3. Water resources development	1.4	0.4	1.8	20	8
4. Rural roads	2.7	1.0	3.7	28	17
C. Rural finance and microenterprise development	0.7	0.6	1.3	45	6
D. Programme management unit	1.1	0.6	1.7	37	8
Total base costs	18.0	4.1	22.1	19	100
Physical and price contingencies	1.6	0.4	2.0	15	9
Total project costs	19.6	4.5	24.1	18	109

a. Discrepancies in totals are due to rounding.



Financing

30. The project will be financed by an IFAD loan of USD 12.5 million representing 52% of total costs. The Government's contribution including taxes will be equivalent to USD 10.4 million or about 43% of total project costs. The beneficiaries' contribution is estimated at about USD 1.1 million (4.8% of total costs) mainly consisting of their share of on-farm investments in agricultural activities. The financing plan is presented in Table 2.

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

Components	IFAD		Government		Beneficiaries		Total		Foreign Exchange	Local (Excl. Taxes)	Duties and Taxes
	Amt.	%	Amt.	%	Amt.	%	Amt.	%			
A. Strengthening of local capacities	565.1	69.6	247.0	30.4	-	-	812.2	3.4	144.8	528.2	139.2
B. Support to local development											
1. Agricultural development	5 136.9	39.6	6 836.4	11.8	1 006.3	7.8	12 980.3	53.9	1 451.7	9993.0	1 535.6
2. Soil and water conservation	996.2	83.0	204.0	17.0	-	-	1 200.3	5.0	54.3	941.9	204.0
3. Water resources development	678.1	34.7	1 132.4	16.6	143.2	7.3	1953.8	8.1	392.2	1 237.4	324.2
4. Rural roads	3 357.1	84.5	616.6	15.5	-	-	3 973.7	16.5	1 100.1	2 257.0	616.6
C. Rural finance and microenterprise development	805.4	60.9	516.5	39.1	-	-	1 321.9	5.5	581.8	560.2	179.9
D. Programme management unit	963.5	52.5	871.2	47.5	-	-	1 834.6	7.6	663.3	845.8	325.5
Total disbursement	12 502.3	51.9	10 424.9	43.0	1 149.5	4.8	24 076.7	100.0	4 388.0	16 363.6	3 325.0

^a Discrepancies in totals are due to rounding.

F. Procurement, Disbursement, Accounts and Audit

31. **Procurement.** For IFAD-financed expenditure, procurement of goods will be undertaken in accordance with IFAD guidelines. To the extent possible, vehicles, materials, equipment and contracts for rural infrastructure will be bulked into sizeable packages for bidding. Goods for a value equal to or more than USD 250 000 equivalent will be procured on the basis of international competitive bidding procedures while the procurement of goods valued at less than USD 250 000 equivalent but equal to or more than USD 50 000 equivalent will follow local competitive bidding procedures. Goods amounting to less than USD 50 000 equivalent will be procured following local shopping procedures. Contracts for infrastructure and construction/rehabilitation of buildings and for consultancy services for a value equal to or more than USD 50 000 equivalent will follow local competitive bidding procedures, while for those valued at less than USD 50 000 equivalent, local shopping procedures on the basis of three quotes will apply. With regard to the recruitment of consultants to be financed from the loan, the procedures of the cooperating institution (UNOPS) will apply.

32. **Disbursement.** The project will be implemented over a seven-year period. Withdrawals from the loan account with respect to soil and water conservation, rangeland development and operating expenses will be made against statements of expenditure (SOEs). The project will retain the relevant documentation justifying such expenditure and make it available for inspection by supervision missions and external auditors. All other withdrawals from the loan account will be made on the basis of full supporting documentation.

33. The Government will open a special account designated in United States dollars with the Bank of Algeria in the name of the project. Upon loan effectiveness, IFAD will make an initial deposit of



USD 1.0 million, corresponding to six months of average project expenditure. The special account will be replenished in accordance with established IFAD procedures.

34. **Accounts and audit.** The PMU will maintain financial records relating to project activities both for the project and for the various contractual partners. It will ensure that records are maintained in accordance with government practices and with procedures acceptable to IFAD. The General Inspectorate of Finance will audit financial records annually. Certified audit reports, which will include a statement on the adequacy of the executing agency's accounting systems and internal controls and contain a separate opinion in respect of the SOEs and the special account, will be transmitted to IFAD no later than six months after the end of the fiscal year.

G. Organization and Management

35. The overall responsibility for project implementation lies with the Ministry of Agriculture, who will in turn entrust project management and coordination to its General Directorate of Forestry (DGF). A national steering committee, headed by the Minister of Agriculture, represented by the secretary-general and composed of the directors of the different departments and institutions involved, will approve annual work plans and budgets (AWP/Bs) and policy issues.

36. Project implementation at the field level will be under the responsibility of a PMU (see paragraph 28), which will report directly to the DGF. The PMU will coordinate project activities and will, more specifically, be responsible for project management, administrative and financial management (including accounting) and M&E. Subsidiary agreements between the PMU and the regional administrations will define the precise responsibility of various local administrations involved in the implementation of project activities. The organization chart of the project is presented in Appendix V and details of organization and management in Appendix VI.

H. Economic Justification

37. **Targeted beneficiaries.** Activities such as rehabilitation of rural roads and forest tracks, the collection and dissemination of market information, the establishment of local financial institutions and support to local development committees will benefit the entire population in the project area, estimated at 23 600 rural people (or about 3 584 households). It is expected that about 40% of the existing farms will have adopted the improved technological packages by the seventh project year (PY). The agricultural development and soil and water conservation subcomponents will target about 9 500 persons. The creation of rural microenterprises will benefit local farmers' groups, the landless, unemployed youth and women, among others.

38. **Benefits.** Activities strengthening the capacities of local institutions and farmers, promoting financial and marketing services and supporting the production of cash crops will give new momentum to other agricultural and economic activities. The latter are constrained by high transaction costs (difficult access to markets, financial services, new technologies and information). The economic benefits and impact will result from the: (i) increase in and diversification of the agricultural production base (an increase of 13 000 t of fruit, 2.5 million t of forage, 3 300 t of vegetables, and 700 t of leguminous crops) and a concomitant increase in incomes as a result of the adoption of improved technologies, irrigation development, the extension of the cropped area, reduced fallow and a shift to higher-value crops (mainly from cereals to fruit crops); (ii) reduction of commercial transaction costs thanks to better access to financial services, to marketing information, and to markets through the rehabilitation of rural roads; (iii) increased investment capacities through a greater value-added kept at the local level; (iv) better access to training and adapted technologies for the poorer groups in general and women in particular; (v) enhancement of producers' negotiation skills; (vi) improvement in the living conditions of women and furthering of their participation in local development and group management; and (vii) reduction in natural resource degradation.



39. Farms and activity models have been prepared to assess the financial viability of the various agricultural and microenterprise investments. All models show that the proposed investments are likely to increase incomes per farm by three to as much as 23 times. An economic analysis has been carried out over a 30-year period. It took exclusively into account the benefits accruing from agricultural development (excluding microenterprise development, reduction of transaction costs and other non-quantifiable benefits such as those accruing from rural roads and drinking water supply and other socio-economic infrastructure). If all project costs are taken into account, the project will yield an economic internal rate of return (EIRR) of about 13.2%. If the investment and recurrent costs of the rural roads subcomponent are excluded, the EIRR will stand at 14.9%. The sensitivity analysis showed a robust EIRR, which will remain at around 10% even if benefits are reduced by 20% and total costs increased by 20% simultaneously.

I. Risks

40. One of the major risks that the project is likely to face relates to the difficulty of effectively promoting a participatory approach that involves beneficiaries in decision-making processes. The reasons for this are multiple but insufficient understanding of this kind of approach among beneficiaries and administrative staff is the most salient. To minimize this risk, the project will promote community development activities, including information, communication and sensitization and will provide training in participatory approaches to staff involved in project implementation. Other risks are related to the instable security situation in the project area. To mitigate the delays caused by this risk, a seven-year project implementation period was adopted.

J. Environmental Impact

41. The proposed project has been given a Category B classification. Soil and water conservation and rangeland development initiatives are expected to have a positive impact through erosion control, long-term maintenance of soil fertility and protection of downstream water availability. These results will derive from a higher level of farmer and herder adherence to improved management practices for the natural resources promoted by the project

K. Innovative Features

42. The project has several innovative features. It will empower beneficiaries grouped at the level of homogeneous socio-territorial units (*mechta*) to implement participatory local development plans. It will develop a local rural financial infrastructure for the mobilization of savings and delivery of credit; and it will contribute to the definition of an appropriate strategy for the development of the country's mountain areas in general and watershed basins in particular, which could be scaled up and replicated throughout Algeria.

PART III - LEGAL INSTRUMENTS AND AUTHORITY

43. A loan agreement between the People's Democratic Republic of Algeria 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.

44. The People's Democratic Republic of Algeria is empowered under its laws to borrow from IFAD.

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

PART IV - RECOMMENDATION

46. 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 People's Democratic Republic of Algeria in various currencies in an amount equivalent to nine million seven hundred thousand Special Drawing Rights (SDR 9 700 000) to mature on and prior to 15 September 2021 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."

Lennart Båge
President

SUMMARY OF IMPORTANT SUPPLEMENTARY ASSURANCES INCLUDED IN THE NEGOTIATED LOAN AGREEMENT

(Negotiations concluded on 2 November 2001)

1. In addition to the proceeds of the loan and as and when required, the Government of the People's Democratic Republic of Algeria (the Government) shall make available to the Ministry of Agriculture (the lead project agency) the facilities and services that will enable it to implement the project in accordance with the terms of the loan agreement. Without prejudice to the foregoing, during the course of project execution, the Government shall make available to the lead project agency counterpart funds from its own resources in an aggregate amount equivalent to approximately USD 10.45 million, in accordance with customary national procedures. Such counterpart funds shall include all taxes and duties, salaries, the National Fund for the Regulation of Agricultural Development (FNRDA) funds and the *Caisse Nationale de Mutualité Agricole* (CNMA) credit. To that end, the Government shall make budgetary allocations for each fiscal year equal to the counterpart funds called for in the annual work plan and budget (AWP/B) for the relevant project year, and, in accordance with customary national procedures for development assistance, provide the funds in advance on a yearly basis to the lead project agency.
2. The Government shall ensure that the support funds provided by FNRDA and associated credit funds managed by CNMA are made available throughout the life of the project.
3. The Government shall ensure that the lead project agency undertakes, from its own budget, a programme for the creation of forest roads, identified by the lead project agency in collaboration with IFAD, within a time frame compatible with the rural roads programme foreseen under the project.
4. Within the framework of its own national programme, the Government shall ensure that the lead project agency arranges for protective reforestation activities to be undertaken for the purpose of preventing and containing floods, as part of the catchment basin management activities foreseen under the project.
5. The Government shall ensure that the national animal health programme in the *wilayas* of Constantine and Skikda accords priority to the project area and that the programme is undertaken during the first four years of the project.
6. As part of maintaining sound environmental practices as required by the General Conditions, the Government shall maintain appropriate pest management practices under the project. To that end, the Government shall ensure that pesticides procured under the project do not include any pesticide either proscribed by the International Code of Conduct on the Distribution and Use of Pesticides of the Food and Agriculture Organization of the United Nations, as amended from time to time, or listed in Tables 1 (Extremely Hazardous) and 2 (Highly Hazardous) of the World Health Organization's Recommended Classification of Pesticides by Hazard and Classification 1996-97, as amended from time to time.
7. Project monitoring and evaluation (M&E) shall be the responsibility of the General Directorate of Forestry (DGF) of the lead project agency. These tasks will be entrusted to the project director and the PMU's information management specialist responsible for M&E, who will be charged with collecting data from subject matter specialists. The performance and impact indicators, as well as studies and surveys, will be contracted out to specialized consulting firms identified on the basis of competitive selection procedures approved by the cooperating institution. The PMU will be responsible for preparing project M&E reports in collaboration with the relevant consulting firm. Based on the logical framework of the project, and assisted by the consulting firm, the responsible

ANNEX

PMU specialist will design an M&E system and draw up indicators of project performance, impact, physical and financial progress, and specify the timing of M&E operations and methods for the collection, diffusion and use of data. Key M&E indicators will be limited to criteria governing the use and reliability of the information, and the cost of collecting and processing it. Particular attention will be paid to establishing procedures for participatory M&E. The M&E system thus designed will form an integral part of the responsibilities included in the service contract between the project and the consulting firm.

8. The Government shall insure project staff against health and accident risks, in accordance with current national laws pertaining to working conditions.

9. All things being equal, the Government undertakes to privilege women's applications for the positions created during project implementation.

10. The following are specified as conditions for the disbursement of funds from the loan:

- (a) the Special Account shall have been opened with the Bank of Algeria; and
- (b) a framework agreement shall have been signed between the lead project agency and CNMA for operationalizing the three *Caisse Mutuelles de Proximité* (CMPs) in the project area, with the approval of IFAD and the cooperating institution.

11. The following are specified as additional conditions to loan effectiveness:

- (a) the Government shall make office accommodation available to the PMU, the CMPs, the units charged with supporting the project's microenterprise, and the units charged with participatory project development;
- (b) the project director and eight PMU specialists shall have been appointed on the basis of competitive selection procedures, in accordance with the provisions of the loan agreement;
- (c) a written undertaking by CNMA to set up the three CMPs shall have been received by IFAD;
- (d) the loan agreement shall have been signed, and the Government shall have forwarded to IFAD a presidential decree of approval for its implementation; and
- (e) the Secretary-General of the Government shall have forwarded to IFAD a favourable legal opinion, in form and substance acceptable to IFAD.

COUNTRY DATA

PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA

Land area (km² thousand) 1997 1/	2 382	GNI per capita (USD) 1999 4/	1 550
Total population (million) 1999 4/	30.0	Average annual real rate of growth of GNP per capita, 1990-98 2/	-1.0
Population density (people per km²) 1998 1/	13	Average annual rate of inflation, 1990-98 2/	21.1
Local currency	Algerian Dinar (DZD)	Exchange rate: USD 1 =	DZD 80
Social Indicators			
Population (average annual population growth rate) 1980-98 1/	2.6	Economic Indicators	
Crude birth rate (per thousand people) 1998 1/	26	GDP (USD million) 1999 4/	47 872
Crude death rate (per thousand people) 1998 1/	6	Average annual rate of growth of GDP 1/ 1980-90	2.7
Infant mortality rate (per thousand live births) 1998 1/	35	1990-98	1.2
Life expectancy at birth (years) 1998 1/	71	Sectoral distribution of GDP, 1998 1/ % agriculture	12
Number of rural poor (million) (approximate) 1/	3.7	% industry	47
Poor as % of total rural population 1/	30	% manufacturing	11
Total labour force (million) 1998 1/	9.9	% services	41
Female labour force as % of total, 1998 1/	26	Consumption, 1998 1/ General government consumption (as % of GDP)	18
Education			
Primary school gross enrolment (% of relevant age group) 1997 1/	108 a/	Private consumption (as % of GDP)	55
Adult literacy rate (% age 15 and above) 1998 3/	65	Gross domestic savings (as % of GDP)	27
Nutrition			
Daily calorie supply per capita, 1997 3/	2 853	Balance of Payments (USD million)	
Prevalence of child malnutrition (height for age % of children under 5) 1992-98 1/	18	Merchandise exports, 1998 1/	n.a.
Prevalence of child malnutrition (weight for age % of children under 5) 1992-98 1/	13	Merchandise imports, 1998 1/	n.a.
Health			
Health expenditure, total (as % of GDP) 1990-98 1/	4.6	Balance of merchandise trade	n.a.
Physicians (per thousand people) 1990-98 1/	0.80	Current account balances (USD million) before official transfers, 1998 1/	n.a.
Percentage population without access to safe water 1990-98 3/	10	after official transfers, 1998 1/	n.a.
Percentage population without access to health services 1981-93 3/	n.a.	Foreign direct investment, 1998 1/	5
Percentage population without access to sanitation 1990-98 3/	9		
Agriculture and Food			
Food imports as percentage of total merchandise imports 1998 1/	n.a.	Government Finance	
Fertilizer consumption (hundreds of grams per ha of arable land) 1995-97 1/	80	Overall budget surplus/deficit (including grants) (as % of GDP) 1997 1/	2.9 a/
Food production index (1989-91=100) 1996-98 1/	129.4	Total expenditure (% of GDP) 1997 1/	29.2 a/
Land Use			
Arable land as % of land area, 1997 1/	3.2	Total external debt (USD million) 1998 1/	30 665
Forest area (km ² thousand) 1995 1/	19	Present value of debt (as % of GNP) 1998 1/	66
Forest area as % of total land area, 1995 1/	0.8	Total debt service (% of exports of goods and services) 1998 1/	42.0
Irrigated land as % of cropland, 1995-97 1/	6.9	Nominal lending rate of banks, 1998 1/	n.a.
		Nominal deposit rate of banks, 1998 1/	n.a.

n.a. not available.

a/ Data are for years or periods other than those specified.

1/ World Bank, *World Development Report*, 20002/ World Bank, *Atlas*, 20003/ UNDP, *Human Development Report*, 20004/ World Bank, *World Development Indicators database*, 2001

PREVIOUS IFAD LOANS

Loan No	PROJECT TITLE	Initiating Institutions	Cooperating Institutions	Terms Of Loans 1/	Approval Date	Effectiveness Date	Actual Closing Date	Loan Amount SDR million	Disbursements as at 31.8.2001	
									SDR million	%
ONGOING PROJECTS										
276 AL	Artisanal Fisheries Pilot Development Project	IFAD	UNDP/OPS	o	12.12.90	01.08.92	<u>30.6.01</u>	6.3	5.7	90%
Sub-Total										
CLOSED LOANS										
226 AL	Pilot Project in Algeria and Tunisia for the Integrated Rural Development of the Mellegue Watershed	IFAD	AFESD	o	15.09.88	09.09.89	16.06.00	10.9	5.7	52%
197-AL	Cereal and Livestock Smallholder Development Project in the <i>wilay</i> of Tjaret	IFAD	AFESD	o	03.12.86	24.09.87	22.04.99	8.4	4.4	52%
Sub-Total										
Total										

1/

o: ordinary

CADRE LOGIQUE

Résumé descriptif	Indicateurs objectivement vérifiables	Sources d'information	Hypothèses (H) – risques (R)
1. OBJECTIF GLOBAL			
1.1. Contribuer à l'allégement de la pauvreté rurale ainsi qu'à la restauration et à la gestion durable des ressources naturelles.	<ul style="list-style-type: none"> - Le revenu moyen des ménages a augmenté - La sécurité alimentaire des populations s'est améliorée - La tendance de dégradation des ressources naturelles est inversée 	<ul style="list-style-type: none"> - Statistiques agricoles de la wilaya - Études et enquêtes anthropométriques - Études d'impact socio-économiques - Revue à mi-parcours du projet - Rapports d'achèvement et d'évaluation finale du Projet 	<ul style="list-style-type: none"> - ((R) Absence ou insuffisance de textes réglementaires concernant la propriété foncière. - (R) Divergences entre les responsables administratifs locaux et les populations rurales
2. OBJECTIFS SPECIFIQUE			
2.1. Renforcer les capacités locales de planification à la base de gestion du développement rural, de conception et mise en œuvre de microprojets.	<ul style="list-style-type: none"> - Des PDM sont élaborés par 60% des mechtas ciblées et approuvées par le projet - Les capacités d'organisation et de gestion des populations rurales sont renforcées - 40% des populations sont en mesure de préparer leur programme de développement des exploitations (PDE) 	<ul style="list-style-type: none"> - Études et enquêtes de suivi et évaluation - Études d'impact socio-économiques - Revue à mi-parcours du projet - Rapport d'achèvement du projet 	<ul style="list-style-type: none"> - (H) Bon niveau d'adhésion des bénéficiaires aux objectifs et aux actions du projet - (R) Influence excessive des agents techniques dans l'élaboration des PDM et des PDE au détriment de l'expression des populations
2.2. Diversifier les sources de revenu et faciliter l'accès aux services financiers de proximité.	<ul style="list-style-type: none"> - Des microentreprises génèrent des revenus pour le groupe cible ; - L'arboriculture et l'élevage contribuent significativement aux revenus des agriculteurs; - Les femmes et les jeunes accèdent aux services financiers 	<ul style="list-style-type: none"> - Statistiques agricoles de la wilaya - Études et enquêtes de suivi et évaluation - Revue à mi-parcours du projet - Rapport d'achèvement du Projet 	<ul style="list-style-type: none"> - (H) Bon niveau d'information et de sensibilisation sur les potentialités du Projet - (H) Mise à disposition des populations de technologies acceptables et adaptables à leurs besoins

Résumé descriptif	Indicateurs objectivement vérifiables	Sources d'information	Hypothèses (H) – risques (R)
3. RESULTATS OU PRODUITS			
3.1. Un processus de programmation participative est mis en place et est progressivement pris en charge par les acteurs locaux.	<ul style="list-style-type: none"> - Nombre de programme de développement des exploitations (PDE) préparés par les populations - Nombre de microprojets (MP) présentés au financement - Nombre total de MP financés 	<ul style="list-style-type: none"> - Études et enquêtes de suivi et évaluation - Études d'impact socio-économiques - Revue à mi-parcours du projet - Rapport d'achèvement du Projet 	<ul style="list-style-type: none"> - (R) Influence excessive des agents techniques dans l'élaboration des PDE au détriment de l'expression des populations
3.2. La participation des femmes et des jeunes au développement local et à la gestion des investissements est accrue.	<ul style="list-style-type: none"> - Nombre de MP financés pour les femmes et les jeunes - Nombre d'associations d'intérêt économique fonctionnelles créées par les femmes et les jeunes 	<ul style="list-style-type: none"> - Études et enquêtes de suivi et évaluation - Revue à mi-parcours du projet - Rapport d'achèvement du Projet 	<ul style="list-style-type: none"> - (H) Correspondance des MP financés avec les besoins réels des femmes et des jeunes - (R) Qualité de l'appui et du conseil n'est pas au niveau
3.3. Des systèmes de production agricoles durables et protecteurs de l'environnement sont adoptés.	<ul style="list-style-type: none"> - Les actions de reconversion ont touché 50% des terres agricoles - 40% des exploitations ciblées par le projet ont amélioré leurs systèmes de production en sec ou en irrigué ; 	<ul style="list-style-type: none"> - Enquêtes de suivi et évaluation - Revue à mi-parcours du projet - Rapport d'achèvement du Projet 	<ul style="list-style-type: none"> - (R) Adoption limitée par les agriculteurs des systèmes de production conservateurs des ressources
3.4. Un système de financement de proximité est mis en place à titre pilote. et pris en charge par la population.	<ul style="list-style-type: none"> - Trois Caisses mutuelles de proximité mises en place et fonctionnelles - Nombre total de demandes de microcrédits - Nombre demandé/accordé de microcrédits pour les femmes et les jeunes - Taux de remboursement des microcrédits par catégories de demandeurs 	<ul style="list-style-type: none"> - Études et enquêtes de suivi et évaluation - Revue à mi-parcours du projet - Rapport d'achèvement du Projet 	<ul style="list-style-type: none"> - (H) Bonne appropriation par le groupe cible du système de microfinance mis en place par le Projet - (R) Faible taux de remboursement des prêts
3.5. L'accès aux zones de production et aux marchés est facilité et le niveau des infrastructures sociales amélioré	<ul style="list-style-type: none"> - Nombre de mechtas désenclavées - Nombre de km de pistes rurales ouvertes/réhabilités - Nombre de points d'eau potable créés/réhabilités 	<ul style="list-style-type: none"> - Études et enquêtes de suivi et évaluation - Revue à mi-parcours du projet - Rapport d'achèvement du Projet 	<ul style="list-style-type: none"> - (R) Lenteur du processus de désenclavement - (R) Entretien des points d'eau faiblement assuré par la population.



COÛTS ET FINANCEMENT

Catégories de décaissement par source de financement
(USD '000)

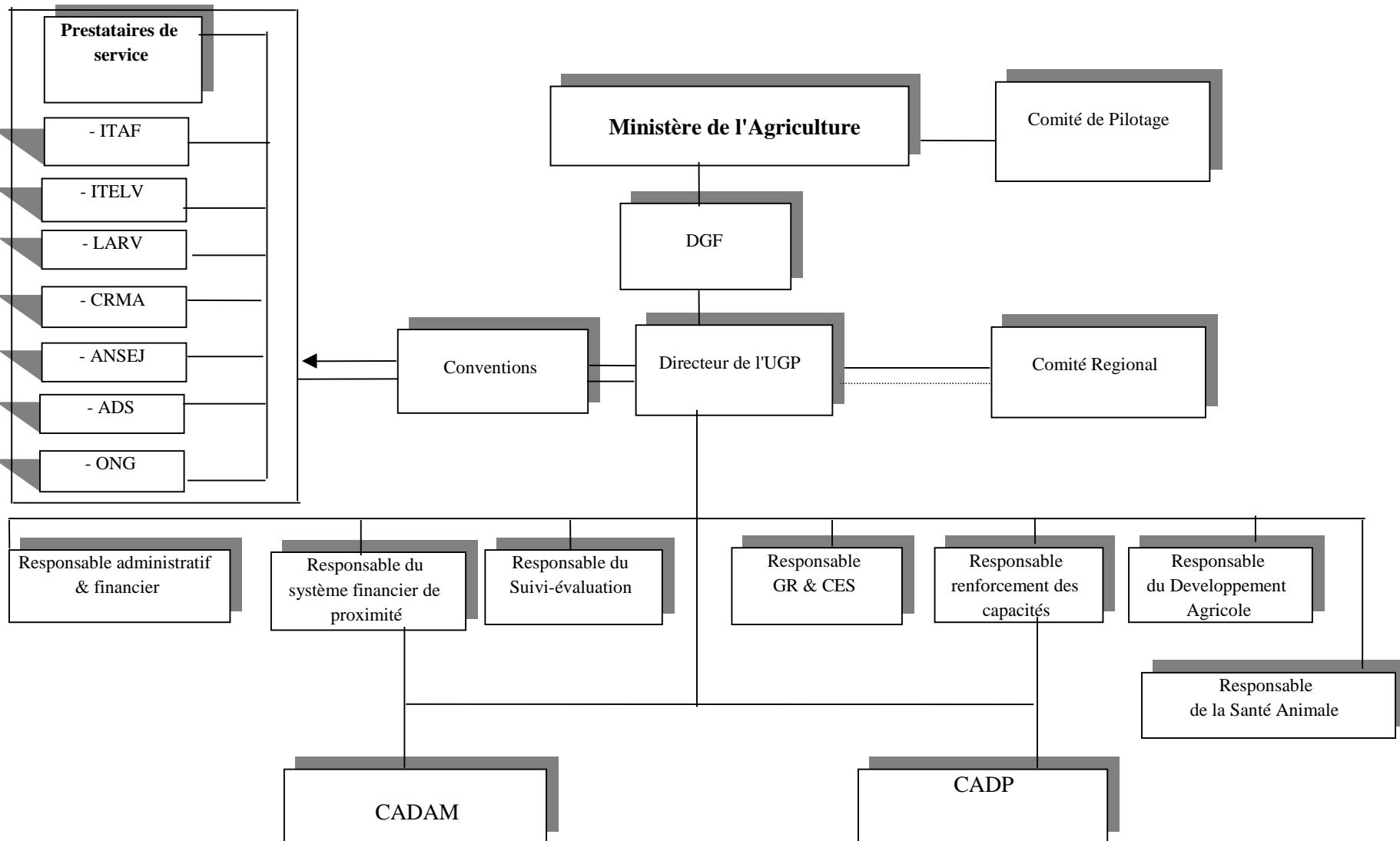
	FIDA		Bénéfic.		Gouvernement		Total		Local (Excl)	Droits de Douanes et Taxes	
	Montant	%	Montant	%	Montant	%	Montant	%	Devises	Taxes)	
A. Coûts d'investissement											
Etudes	235.7	85.1	-	-	41.2	14.9	277.0	1.2	21.2	214.5	41.2
Genie Civil	8 631.9	57.8	331.9	2.2	5 976.9	40	14 940.7	62.1	1 896.7	10 622.9	2 421.1
Moyens de transport	368.2	71.1	-	-	149.3	28.9	517.5	2.2	352.9	15.3	149.3
Équipement	492.9	35.5	49.5	3.6	845.1	60.9	1 387.5	5.8	627.5	508.5	251.4
Assistance technique	821.5	97.7	-	-	19.3	2.3	840.8	3.5	714.3	107.1	19.3
Formation	626.0	88.3	-	-	83.2	11.7	709.1	2.9	67.4	558.6	83.2
Fonds	391.4	78.8	-	-	105.1	21.2	496.5	2.1	320.9	70.4	105.1
Sous-total	11 567.5	60.3	381.3	2.0	7 220.2	37.7	19 169.1	79.6	4 000.9	12 097.4	3 070.7
B. Coûts de fonctionnement											
Personnel	32.7	2.7	-	-	1 198.2	97.3	1 223.3	5.1	-	1 022.8	208.1
Couts de fonctionnement	233.9	83.5	-	-	46.2	16.5	280.1	1.2	56.0	177.9	46.2
Entretien des investissements	668.2	19.7	768.2	22.6	1 960.3	57.7	3 396.6	14.1	331.1	3 065.5	-
Sous-total	934.7	19.0	768.2	15.7	3 204.7	65.3	4 900.0	20.4	387.1	4 266.2	254.3
	12 502.3	51.9	1 149.5	4.8	10 424.9	43.3	24 069.1	100.0	4 388.0	16 363.6	3 325.0



Table 2: Catégories de dépenses par composantes – Coûts de base
(USD million)

Renforcement des capacités locales	Appui aux programmes de développement locaux						Appui aux microentreprises et à la commercialisation	Appui aux systèmes et gestion du financement ruraux	Coordination et gestion du Projet	Total				
	Développement Agricole	Conservation des eaux et des sols	Mobilisation hydraulique	Désenclavement		Micro-entreprises								
I. Investment Costs														
A. Etudes	-	-	0.0	0.0	-	-	-	0.1	0.2	0.3				
B. Génie Civil														
Aménagements hydroagricoles	-	-	-	1.8	-	-	-	-	-	1.8				
Aménagements agricoles	-	8.2	-	-	-	-	-	-	-	8.2				
Aménagements fonciers	-	-	1.2	-	-	-	-	-	-	1.2				
Pistes	-	-	-	-	3.6	-	-	-	-	3.6				
Construction/Aménagement de locaux	-	0.1	-	-	-	-	-	-	0.0	0.1				
Subtotal	-	8.3	1.2	1.8	3.6	-	-	-	0.0	14.9				
C. Moyens de transport														
Véhicules	0.1	-	-	0.0	-	-	-	-	0.4	0.5				
D. Équipement														
Équipement agricole	-	1.2	-	-	-	-	-	-	-	1.2				
Équipement informatique	0.0	-	-	-	-	-	-	0.0	0.0	0.0				
Matériel et mobilier de bureau	0.1	-	-	0.0	-	-	-	-	0.0	0.1				
Matériel de démonstration	-	0.1	-	-	-	-	-	-	-	0.1				
Subtotal	0.1	1.3	-	0.0	-	-	-	0.0	0.0	1.4				
E. Assistance technique														
AT nationale	0.1	0.0	-	-	-	-	-	0.0	-	0.1				
AT internationale	-	0.2	-	-	-	-	-	0.3	0.3	0.7				
Subtotal	0.1	0.2	-	-	-	-	-	0.3	0.3	0.8				
F. Formation	0.3	0.3	-	-	-	-	-	0.1	0.0	0.7				
G. Fonds														
Capitalisation des CMP	-	-	-	-	-	-	-	0.4	-	0.4				
Appui à l'investissement local	0.1	-	-	-	-	-	-	-	-	0.1				
Subtotal	0.1	-	-	-	-	-	-	0.4	-	0.5				
	0.6	10.0	1.2	1.9	3.6	-	-	0.9	1.0	19.2				
A. Personnel														
Salaires	-	-	-	-	-	-	-	-	0.7	0.7				
Indemnités (per diem)	0.1	-	-	-	-	-	-	0.4	0.0	0.6				
Subtotal	0.1	-	-	-	-	-	-	0.4	0.7	1.2				
B. Coûts de fonctionnement														
Fonctionnement véhicules	0.0	-	-	0.0	-	-	-	0.0	0.1	0.1				
Fonctionnement équipements	0.1	-	-	-	-	-	-	0.0	0.1	0.2				
Subtotal	0.1	-	-	0.0	-	-	-	0.0	0.1	0.3				
C. Entretien des investissements														
-	3.0	-	0.1	0.3	-	-	-	-	-	3.4				
0.2	3.0	-	0.1	0.3	-	-	-	0.4	0.8	4.9				
0.8	13.0	1.2	2.0	4.0	-	-	-	1.3	1.8	24.1				
Taxes	0.1	1.5	0.2	0.3	0.6	-	-	0.2	0.3	3.3				
Foreign Exchange	0.1	1.5	0.1	0.4	1.1	-	-	0.6	0.7	4.4				

ORGANIGRAMME DU PROJET



LARV: Laboratoire régional vétérinaire

ORGANISATION ET GESTION

1. Le projet sera placé sous la tutelle administrative du Ministère de l'Agriculture (MA) représenté par la Direction Générale des Forêts compte tenu de sa mission d'exécution des programmes de mise en valeur des bassins versants et de préservation des terres contre l'érosion. Le mode d'organisation et de gestion devra répondre aux principes i) d'utilisation rationnelle des ressources humaines dont le projet dispose et ii) de maîtrise de l'exécution des activités et de la gestion du projet. Par conséquent, le Projet limitera ses fonctions à celles relatives à la programmation, l'organisation, la gestion et le suivi-évaluation et en sous-traitant les activités d'exécution aux administrations concernées et par le recours à des appels d'offre selon la réglementation en vigueur.

A. Coordination et gestion

Coordination nationale et régionale

2. Le Comité national de pilotage (CNP) sera chargé de la supervision générale du projet pour lequel il exercera des fonctions d'orientation. Il constituera aussi un cadre de dialogue et de concertation entre le MA et les principaux acteurs impliqués dans la mise en œuvre du projet. Il sera présidé par le Ministre de l'agriculture, représenté par le Secrétaire Général, et sera constitué des directeurs des différents départements intéressés des Ministères concernés par le Projet (Agriculture, Finances, Intérieur, Travaux publics et Ressources en eau) ainsi que des institutions impliquées (Banque algérienne de développement (BAD), Caisse nationale de mutualité agricole (CNMA), Agence nationale de soutien à l'emploi des jeunes (ANSEJ) et Agence de développement social (ADS)). Le CNP se réunit au moins une fois par an, pour l'analyse et l'approbation du bilan d'activité annuel du projet ainsi que l'examen du Programme de travail et budget annuel (PTBA).

3. Au niveau de la zone du projet, une Commission régionale (CR) sera constituée. Elle sera présidée à tour de rôle par le Wali ou son représentant de Skikda et de Constantine et comprend les représentants des Walis de Skikda et de Constantine (Direction des services agricoles (DSA), Conservation des forêts (CF) et DHW), des Daïra, des Assemblées populaires communales (APC), des Caisses régionales de mutualité agricole (CRMA) et des Chambres d'agriculture. La CR sera chargée de la coordination du projet au niveau régional et donnera par conséquent un avis sur les PTBA, les rapports d'activité et sur la gestion des différentes conventions et contrats qui lient le projet aux différents prestataires de service. Elle émettra des recommandations au CNP. Les réunions de cette Commission auront lieu deux fois par an, soit alternativement à Skikda et à Constantine, soit au Siège du Projet.

Unité de gestion du projet (UGP)

4. L'UGP sera basée à Constantine compte tenu des avantages offerts i) par la présence des différents prestataires de service potentiels (bureaux d'étude, stations de recherche développement..) et ii) par les facilités de recrutement de personnel qualifié. L'UGP jouira de l'autonomie de gestion administrative et financière lui permettant, dans la limite des PTBA approuvés, de signer des contrats avec les opérateurs sélectionnés pour l'exécution des activités et des conventions avec les institutions et organismes intervenant dans des activités du projet. L'UGP répondra hiérarchiquement au Directeur général des forêts et fonctionnellement au CNP.

5. Une cellule au sein de la DGF et composée du personnel de la DGF suivant : le sous-directeur chargé des aménagements des bassins versants, le financier de la Direction de la Planification et un représentant des services administratifs, assurera la liaison entre l'UGP et la DGF.

6. L'UGP sera animée par un Directeur assisté par 6 experts-matière, un informaticien responsable du Suivi et Évaluation et un responsable administratif et financier. Les 6 experts matière sont respectivement: a) un agronome/sylvo-pastoraliste, b) un vétérinaire, c) un spécialiste en conservation des eaux et des sols (CES) et génie rural (GR), d) un spécialiste en microentreprise, e) un spécialiste en microfinance et f) un sociologue rural. Tous les cadres rendront compte de leurs activités au Directeur de l'UGP au moyen de rapports mensuels. L'UGP mobilisera également a) un aide-comptable, b) deux techniciens supérieurs spécialisés en arboriculture et en élevage, c) 6 animateurs (3 hommes et 3 femmes) et 5 personnels de soutien.

7. L'UGP implantera dans la zone du projet, 3 Centres d'Aide, de développement et d'assistance aux micro-entreprises (CADAM) qui joueront le rôle de guichet unique pour les micro-entrepreneurs en assurant le soutien à la constitution des dossiers de création de la microentreprise, et le suivi et l'accompagnement des entrepreneurs. Ils seront créés au niveau des Caisses Mutuelles de Proximité (CMP). Par ailleurs, il sera créé au sein de la zone du projet trois Centres d'animation pour le développement participatif (CADP) situés respectivement dans les communes de Zighout Youcef et de Ouled Habeba et dans la zone de Zardezas/Essebt. Ces centres sont composés d'un bureau pour la coordination des activités des animateurs (trices) et des formateurs (trices) et d'une salle de classe équipée pour 20 élèves. Ces centres seront chargés i) de l'organisation , du suivi et de l'évaluation des actions d'animation, de formation et d'appui technique, et ii) de l'alphabétisation fonctionnelle des bénéficiaires. Sur le terrain, l'UGP bénéficiera du soutien de personnel détaché de l'ANSEJ et de l'ADS pour l'appui à la promotion et à la constitution de micro-entreprises. En outre, la CNMA appuiera le responsable de la microfinance au sein de l'UGP, par une formation adéquate et un suivi rapproché des opérations.

B. Mise en œuvre du Projet

8. **Partenariats scientifiques.** Un nombre relativement important d'activités de recherche-développement seront engagées ou poursuivies avec l'appui du projet. La relation entre le projet et les Instituts techniques spécialisés de recherche au développement sera formalisée par une relation de partenariat scientifique matérialisée par: i) une convention-cadre de partenariat scientifique définissant les objectifs généraux de la coopération, les modalités de définition, de programmation, d'exécution, de suivi, d'évaluation applicables à chaque objectif de recherche, et ii) des conventions programmes annuelles par activité de recherche développement, précisant l'objectif et les résultats attendus, les moyens et le budget affectés par le projet, les modalités de programmation, d'exécution, de suivi, d'évaluation applicables à chaque activité de recherche et le calendrier indicatif d'exécution. Dans ce cadre trois Instituts sont particulièrement concernés : l'ITELV, l'ITAF et l'INPV.

9. **Partenariat en appui conseil.** De la même façon que pour la recherche développement, des conventions cadres ainsi que des conventions programmes annuelles définiront le contenu, la programmation, le suivi et l'évaluation des activités de soutien technique que réaliseront les Instituts techniques aux bénéficiaires du projet.

10. **Composante : Renforcement des capacités locales.** L'approche participative sera mise en œuvre par 3 animateurs, 3 animatrices et 6 spécialistes matières recrutés par l'UGP. Les animateurs (trices) mèneront leurs activités à partir i) des 3 Centres d'animation pour le développement participatif (CADP) situés à proximité des populations, gérés par le sociologue rural, responsable du renforcement des capacités et disposeront des moyens de transport et de travail (outils informatiques...) nécessaires. Afin de mener l'animation du programme de promotion de la microentreprise, trois animateurs (trices) seront détachés aux trois Cellules d'appui, de développement et d'accompagnement des microentreprises (CADAM), gérées par le Responsable/spécialiste en microentreprises et dotées des moyens matériels nécessaires.

11. Il est prévu un programme d'alphabétisation fonctionnelle destiné en priorité aux femmes qui bénéficient des actions du projet et aux membres et responsables d'associations ou de groupements à caractère économique. Ce programme sera réalisé dans un cadre contractuel, par une organisation non gouvernementale (ONG) spécialisée avec la participation des animatrices qui mèneront des actions de sensibilisation et d'animation auprès des femmes.

La mise en œuvre des programmes de développement

12. Développement agricole. Les actions de transformation des systèmes de production seront précédées par des activités de sensibilisation et d'animation menées par les animateurs (trices) du projet appuyés par les spécialistes matières. Elles aboutiront à i) l'identification des populations cibles qui adhèrent au projet ii) une élaboration participative de plans de développement des mechtas et des exploitations et iii) une définition participative des actions prioritaires. Avec la participation des bénéficiaires, un programme de réalisation de travaux d'aménagement, d'appui technique et de recherche développement est élaboré pour son exécution dès la deuxième année du projet. Sur cette base, des conventions et programmes annuelles seront signées entre le projet et les Instituts techniques d'arboriculture fruitière (ITAF), l'Institut technique d'élevage (ITELV) et l'Institut national de la protection des végétaux (INPV). Le programme de recherche développement doit refléter les préoccupations des agriculteurs et s'inscrit dans la stratégie et les objectifs du projet. Le contrôle et la réception des travaux d'aménagement sylvo-pastoraux réalisés à l'entreprise seront sous-traités aux Conservations des forêts des deux Wilayas.

13. Petite et moyenne irrigation. Les futurs bénéficiaires des sous-projets de fonçage de puits, de bassin d'accumulation, d'équipement de pompage et de réseau d'irrigation, seront aidés par les animateurs du projet et l'ingénieur GR de l'UGP pour i) obtenir l'accord préalable de la subdivision de l'hydraulique sur la base de la note technique préparée en concertation avec la subdivision de l'hydraulique, ii) formuler les sous-projets d'investissement et les présenter à la subdivision des services agricoles pour bénéficier du soutien du Fonds National de régulation du développement agricole (FNRDA), iii) suivre et contrôler la réalisation des études d'avant-projet détaillées des bassins d'accumulation et iv) rédiger les cahiers spéciaux des charges. Le contrôle de la réalisation des travaux ainsi que leur réception, se feront par les agents de la DSA et des subdivisions de l'hydraulique appuyés par l'ingénieur GR du Projet. Les bénéficiaires resteront impliqués dans la réalisation des sous-projets depuis l'identification jusqu'à l'exécution des travaux et ensuite pour la gestion et l'entretien.

14. Eau potable. Les femmes seront les premières intéressées à participer aux débats avec les animateurs et animatrices du projet, et pour donner leur avis sur le type de ressource, l'équipement et la localisation du point d'eau. L'ingénieur GR de l'UGP en concertation avec la subdivision de l'Hydraulique préparera un dossier d'étude comprenant i) la note technique, ii) le plan de l'ouvrage à réaliser et iii) les clauses administratives et techniques du cahier spécial des charges pour les travaux exécutés à l'entreprise. Une entreprise de travaux publics sera désignée après appel d'offre national pour exécuter les travaux. La gestion journalière et l'entretien courant du point d'eau collectif seront pris en charge par les bénéficiaires, sous forme d'une association d'usagers d'eau (AUE).

15. Pistes rurales. Le choix des pistes rurales à ouvrir ou à aménager sera fait progressivement en cours de projet dans un processus participatif entre le Projet et les bénéficiaires. Ce choix tiendra compte des critères de degré d'enclavement, du nombre de populations concernées, des avantages économiques pour la zone et de l'engagement formel des bénéficiaires pour s'organiser afin d'assurer l'entretien courant de la piste. Quand un premier lot de pistes rurales sera programmé, un bureau d'études sera désigné après appel d'offres établi sur base de termes de référence précis pour effectuer les études d'exécution. La passation des marchés, le contrôle et la réception des travaux seraient sous-traités aux Conservations des forêts des deux Wilayas. Le responsable CES/ingénieur G.R. suivra de près le processus et sera responsable des cette sous-composante. Le contrôle des travaux sera confié à

un bureau spécialisé. Après la réception définitive des travaux, les bénéficiaires devront s'organiser avec l'appui du projet pour effectuer au moins annuellement l'entretien courant sous forme de travaux de cantonnage.

16. Conservation des eaux et des sols. Les actions de CES au niveau mechta seront identifiées durant la phase de programmation participative et d'élaboration des plans de développement des mechtas (PDM) qui seront opérationnels une fois adoptés par les représentants des bénéficiaires et les autorités communales. Les PDM sont traduits en contrat-programme (CP) annuel, l'exécution et la réception des travaux se fera conjointement avec les représentants des bénéficiaires, le responsable GR/CES du Projet et les agents des Conservations des forêts. Compte tenu de la taille des chantiers, de la nature juridique des terres et du niveau technologique exigé, différentes formules d'intervention sont recommandées pour les différentes activités retenues: l'intervention individuelle pour les actions d'épierrage, de réhabilitation des banquettes, de plantation arboricole et d'opuntia réalisés sur les exploitations individuelles ; l'organisation collective pour les travaux de régénération de parcours, d'aménagements sylvo-pastoraux et de traitement de ravines et les marchés de travaux pour les reboisements de protection et la correction torrentielle.

17. Systèmes financiers décentralisés et promotion de la microentreprise. Dès la première année, le projet développera des actions de sensibilisation et de mobilisation des communautés de la zone du projet au concept des CMP. Dès que la première CMP est créée à Ouled Habeba, les sociétaires et membres élus des organes de gestion et de contrôle des CMP recevront une formation adaptée, dispensée par l'Expert en Services financiers décentralisés (SFD) (expert international, recruté pour 6 mois par l'UGP), les cadres de la CRMA et le responsable SFD de l'UGP . Le projet appuiera chaque CMP par un apport de USD 100,000 en quasi-capital proportionnel à l'apport effectif des sociétaires sous forme de capital et d'épargne bloquée à plus de 6 mois afin d'augmenter les ressources financières dévolues au financement des demandes émanant des sociétaires et tiers usagers. Les Cellules d'Appui, de Développement et d'Accompagnement des Micro-entreprises, (CADAM) implantées par le projet au niveau de chaque CMP répondent au critère de proximité nécessaire pour assurer la promotion de la micro-entreprise et de la micro-finance et pour assurer l'appui conseil, le suivi et l'accompagnement des entrepreneurs.

C. Suivi-évaluation

18. Le suivi-évaluation au niveau du projet sera assuré par le Directeur du projet et l'informaticien/statisticien, responsable du suivi-évaluation qui devrait assurer la collecte des données auprès des responsables de l'UGP chacun dans son domaine. L'ensemble du suivi-évaluation des indicateurs de performance et d'impact, y compris les études et enquêtes sera sous-traité à des bureaux d'études spécialisés, sélectionnés sur la base d'appels d'offre. Le responsable du S&E au sein du projet sera chargé en relation avec le bureau d'études retenu, de la rédaction des rapports de suivi et d'évaluation du Projet. Avec l'appui d'un consultant international et conformément au cadre logique du programme, il définira le système de S&E, comprenant les indicateurs de performance du projet. Les résultats du S&E seront largement diffusés, sous une forme adaptée, aux bénéficiaires et aux partenaires et prestataires de service, afin de faciliter la coordination du projet, de mieux impliquer les bénéficiaires, et d'améliorer leurs performances et par conséquent la mise en œuvre du projet. En fait, les rapports du S&E constitueront l'élément majeur pour juger de la bonne exécution des contrats par les partenaires et le personnel du projet et justifier leur renouvellement.

ANALYSE ECONOMIQUE ET FINANCIERE

Analyse financière

1. Quatre modèles de ferme ont été retenus. Le modèle de ferme "A" constitue de loin le modèle dominant, il représente les petites exploitations des hauts piedmonts, de taille moyenne de 7,4 ha ils constituent l'essentiel des fermes de la zone du projet (près de 80% du total) ; ii) le modèle de ferme "A'" est identique au modèle "A" avec une petite sole irriguée de 0,5 ha en moyenne avec un nombre estimé à 156 ; iii) le modèle de ferme "B" représente les petites exploitations irriguées. Elles sont situées en général sur des terrasses d'oueds proches du fond de la vallée ou au niveau d'enclaves montagneuses pourvues en eau. L'exploitation a une dimension moyenne d'environ 3,7 ha, et tire le principal de son revenu à partir d'une sole irriguée de quelques ares (maraîchage et fruitiers associés), utilisant de l'eau de source ou de puits ; iv) le modèle de ferme "C" représente les moyennes à grandes exploitations agro-pastorales, de taille moyenne estimée à 44 ha et faisant vivre plusieurs familles d'indivisaires. Ces exploitations sont surtout fréquentes à des niveaux d'altitude élevés, sur des piémonts ou des plateaux calcaires en altitude, mais les terres y sont généralement de faible fertilité, caillouteuses et gagnées péniblement sur la forêt par défrichement.

2. Le tableau 6 ci-dessous montre que les marges d'exploitation escomptées en situation après projet augmentent de façon significative pour tous les modèles.

Tableau 6: Modèles de ferme: marges d'exploitation après financement
(chiffres arrondis)

Modèle de ferme	Surface cultivée (ha)		Marge sans Projet	Marge avec projet à 7 ans	Marge avec projet à 30 ans	Coefficient multiplicateur
	Total	irrigué	(mille DA)	(mille DA)	(mille DA)	
A	7,4	0	60	645	1380	23
A'	7,4	0,5	138	482	1580	11,5
B	3,7	1,5	219	404	708	3,2
C	47,3	0	301	1121	3728	12,3

Taux de rentabilité économique

3. L'analyse économique a été conduite sur une période de trente ans au cours de laquelle un taux de change constant de 80 DA par USD a été adopté. La valorisation des augmentations de la production a été faite sur la base de prix économiques.

Tableau 7 : Taux de rentabilité économique (en%)

Hypothèses testées	Bénéfices				
	Coûts	Totaux	- 10%	- 20%	Retardé d'1 an
Totaux	13,2	12,3	11,2	12,2	11,3
+ 10%	12,3	11,4	10,4	11,4	10,6
+ 20%	11,6	10,7	09,7	10,7	09,9

4. Le taux interne de rentabilité économique (TRE) serait de 13,2% en considérant l'ensemble des coûts du projet. Si l'on exclue des coûts totaux du projet les coûts d'investissement et les coûts

récurrents des pistes, le TRE serait de 14,9%. Ce taux reste très satisfaisant malgré la sous-estimation des bénéfices du projet, car pour certaines composantes aucune estimation de bénéfice n'a pu être faite. Il s'agit principalement des infrastructures socio-économiques, de la CES et de l'appui au système financier décentralisé et aux microentreprises. De même, d'autres bénéfices non tangibles n'ont pas été évalués ; il s'agit de l'amélioration des conditions de vie et d'hygiène par l'équipement des points d'eau, des puits, et des sources, la réduction de la corvée d'eau pour des catégories plus vulnérables (femmes, jeunes filles), les actions d'alphanétisation . L'accroissement de la production agricole aurait un effet bénéfique sur l'amélioration du bilan nutritionnel, notamment des populations pauvres.

5. Les analyses de sensibilité montrent que le TRE n'est pas très sensible aux variations de coûts et de bénéfices. C'est ainsi que si les coûts sont majorés de 20% ou si les bénéfices baissent de ce même pourcentage, le taux reste supérieur à 11%. Une augmentation des coûts de 10% jumelée à une réduction de même grandeur des bénéfices donne également un taux supérieur à 11%. Il faut une réduction des bénéfices de 20% et une augmentation simultanée des coûts identique pour faire baisser le taux en dessous de 10% soit à 9,7%. La sensibilité du TRE aux retards d'exécution du projet montre que celui-ci n'est pas sensible à un retard des bénéfices d'une année et reste acceptable à un retard de 2 années puisqu'il reste supérieur à 11 %.