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REPORT AND RECOMMENDATION OF THE PRESIDENT

TO THE EXECUTIVE BOARD ON A PROPOSED LOAN TO THE

REPUBLIC OF CÔTE D'IVOIRE

FOR THE

SMALL HORTICULTURAL PRODUCER SUPPORT PROJECT



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CURRENCY EQUIVALENTS

Currency Unit	=	CFA Franc (BCEAO) (XOF)
USD 1.00	=	XOF 600
XOF 1.00	=	USD .00167

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

AfDB	African Development Bank
ANADER	National Agency for Support to Rural Development
BNETD	Bureau national d'études techniques et de développement (National Office for Technical Studies and Development)
BOAD	West African Development Bank
CIDT	National Cotton Development Company
CMEC	Caisse mutuelle d'épargne et de crédit (Village Savings and Credit Banks)
CNRA	National Centre for Agricultural Research
COOPEC	Coopératives d'épargne et de crédit (Savings and Credit Cooperatives)
DRC	Domestic Resource Cost
GTZ	Gesellschaft für Technische Zusammenarbeit (Germany) (German Agency for Technical Cooperation)
M&E	Monitoring and Evaluation
MEF	Ministry of Economy and Finance
MINAGRA	Ministry of Agriculture and Animal Resources
NGO	Non-Governmental Organization
OPA	Organizations professionnelles des agriculteurs (Professional Farmers' Organizations)
PCU	Project Coordination Unit
PDRZ	Rural Development Project in the Zanzan Region
PNASA	National Agricultural Services Restructuring Project
WUAs	Water Users' Associations
SSI/WC	Small-Scale Irrigation/Water Control

GOVERNMENT OF THE REPUBLIC OF CÔTE D'IVOIRE

Fiscal Year

1 January - 31 December



MAP OF THE PROJECT AREA

CÔTE D'IVOIRE



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.



REPUBLIC OF CÔTE D'IVOIRE
SMALL HORTICULTURAL PRODUCER SUPPORT PROJECT
LOAN SUMMARY

INITIATING INSTITUTION:	IFAD
BORROWER:	Republic of Côte d'Ivoire
EXECUTING AGENCY:	Ministry of Agriculture and Animal Resources (MINAGRA)
TOTAL PROJECT COST:	USD 14.03 million
AMOUNT OF IFAD LOAN:	SDR 8.3 million (equivalent to approximately USD 11.17 million)
TERMS OF IFAD LOAN:	40 years, including a grace period of ten years, with a service charge of three fourths of one per cent (0.75%) per annum
COFINANCIERS:	None
CONTRIBUTION OF BORROWER:	USD 1.74 million
CONTRIBUTION OF BENEFICIARIES:	USD 1.11 million
APPRAISING INSTITUTION:	IFAD
COOPERATING INSTITUTION:	United Nations Office for Project Services (UNOPS)



PROJECT BRIEF

Who are the beneficiaries? The savannah zone has the highest concentration of rural poverty in Côte d'Ivoire. On this basis and in combination with other criteria including small irrigation potential and access to urban markets, the two savannah-zone regions – the Bandama Valley region and the Savannah region – have been selected as the project zone. Women and youth constitute the main target groups of this project. It is common to find small groups of women who have taken the initiative to cultivate small vegetable gardens near their villages. These initiatives are frequently undertaken without any external assistance, and the women often run up against problems related to insufficient water, lack of knowledge, poor-quality seed and lack of other necessary inputs. Young people often lack access to land, forcing them to migrate to urban areas where employment opportunities are rare or non-existent. Yet, in many cases they have the advantage of having had some level of schooling and are literate. The project will directly assist 35 000 people and indirectly an additional 65 000 people.

Why are they poor? The poor in Côte d'Ivoire are mostly concentrated among food crop and export crop producers. Access to land is also a major factor explaining patterns of rural poverty. On average, food crop-producing households have access to 2.8 ha of land, while access for export crop producers is nearly double at 5.2 ha. Educational levels among food crop producers are also lower. Women are among the most vulnerable in rural areas. They have limited or no decision-making power over allocation of land: they are fully dependant on men for granting of access. Therefore, in those zones where population pressure and environmental degradation have reduced overall access to productive land, women have generally been the first to feel the negative effects. Women depend more heavily than men on food crops for their livelihoods.

What will the proposed project do for them? The proposed project will be comprised of four components based on a flexible and participatory programming approach: grass-roots participatory planning and capacity-building; irrigation development; service provision for improving the productivity of production systems and the socio-economic environment; and project coordination. A strong pilot element will be built into design for the first four years of implementation. Project benefits will be in the form of increased and more stable incomes for targeted smallholders in the project zones, as well as strengthened grass-roots organization capacity to procure technical support services and manage small irrigation infrastructure. Farm-level productivity will be enhanced and the expansion of dry season vegetable production will boost rural employment and lead to the diversification of income sources. Linkages will also be built with existing microfinance institutions in the region in order to gain access to financial services for investing in production and marketing.

How will the beneficiaries participate in the project? Strong emphasis will be placed on the development of local-level capacity to manage and maintain irrigation investments and associated community-level investments. Building on approaches already practised under selected development projects in the region, the component will reinforce local capacity to diagnose development constraints; plan, monitor and manage community investments; and support strengthening of village development committees. Under the irrigation development component, sites for investment in valley bottom (*bas fonds*) and vegetable plot development will be selected in a participatory fashion. Periodic participatory surveys will also be carried out to seek beneficiary feedback on the services they have received from the project and ways to improve them.



**REPORT AND RECOMMENDATION OF THE PRESIDENT OF IFAD
TO THE EXECUTIVE BOARD ON A PROPOSED LOAN TO THE
REPUBLIC OF CÔTE D'IVOIRE
FOR THE
SMALL HORTICULTURAL PRODUCER SUPPORT PROJECT**

I submit the following Report and Recommendation on a proposed loan to the Republic of Côte d'Ivoire for SDR 8.3 million (equivalent to approximately USD 11.17 million) on highly concessional terms to help finance the Small Horticultural Producer Support Project. The loan will have a term of 40 years, including a grace period of ten years, with a service charge of three fourths of one per cent (0.75%) per annum. 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 Agricultural Sector

1. **The economy.** The Republic of Côte d'Ivoire is a low-income country, with a 1997 gross national product (GNP) per capita of about USD 710. Its economy is predominantly agricultural, with about two thirds of the active population engaged in farming, forestry and fishing. The agricultural sector, including forestry and agro-industries, accounts for about 40% of GDP while generating 70% of export revenues. The most important exports include cocoa, coffee and timber.

2. Côte d'Ivoire's population has grown 3.8% a year since the mid-1970s, reaching about 13.5 million by end-1994, of which about one half live in urban and semi-urban areas. High population growth coupled with economic decline has resulted in a steady fall in living standards. Since independence in 1960, Côte d'Ivoire has served as a subregional magnet, and there are significant numbers of first-generation migrants from the neighbouring countries of Burkina Faso, Guinea and Mali. The rural population totals about 6.3 million people, or 930 000 farm households with an average size of 6.6 people per household.

3. Since the 50% devaluation of the CFA franc in early 1994 and the implementation of accompanying adjustment measures, economic growth has accelerated at an average annual rate of 5-6%. After an initial surge just after the devaluation, inflation rates have stabilized at very modest levels. The Government has also made considerable progress in improving fiscal policy. It has consistently met fiscal and expenditure targets agreed with the International Monetary Fund (IMF), and signed an agreement with IMF for an Enhanced Structural Adjustment Facility in March 1998. In addition, also in March 1998, the IMF and World Bank executive boards approved a Heavily-Indebted Poor Countries Debt Initiative (HIPC DI) programme for Côte d'Ivoire, to which IFAD subsequently contributed.

4. **Agricultural-sector overview.** The agricultural sector contributes about 35% to GDP. Its crop production potential is divided between the forest areas in the south and the savannah in the north. About 65% of all farms are located in the south, covering a cultivated area of 3.9 million ha. About 530 000 farms cultivate an average 6 ha each, growing cocoa and coffee as their main cash crops, as well as paddy, maize, cassava and plantain as food crops. Cocoa and coffee cover 64% of the total cultivated area. In the north, the most important cash crop is cotton, while food crops include maize,

¹ See Appendix I for additional information.



rice, yams, sorghum, millet, groundnuts and cassava. Some 300 000 smallholders cultivate an average 3.6 ha each. Prior to the 1994 devaluation, production of most export crops had stagnated. However, since 1994 export performance has dramatically rebounded, with cocoa exports in particular attaining record levels.

5. The irrigation subsector constitutes about one fifth of the agricultural sector's contribution to GDP, but physical potential is far greater. However, smallholder crops such as rice and market-garden produce constitute only about half of this share; the remaining half is made up of industrial crops such as sugar, bananas and pineapples. While statistics are not very reliable, it is estimated that about 475 000 ha could be irrigated by surface water. Yet only 25 000 ha have received public investment.

6. At the national level, Ivoirian agriculture is highly competitive in world markets and is self-sufficient in most domestic food crops, with the exception of rice, wheat and sugar. Domestic resource cost (DRC) ratios calculated in the World Bank's 1994 *Agricultural Sector Review* indicated that Côte d'Ivoire was: a highly competitive producer of coffee, cocoa, rubber, cotton and palm oil; marginally competitive in rice production (depending largely on the choice of irrigation technology, with upland and *bas fonds* production far more competitive than cultivation via large irrigated schemes); and uncompetitive in sugar production and processing. It is notable that rice and sugar have received the lion's share of public investment for irrigated agriculture.

7. Aggregate national DRC ratios mask the major changes that have been occurring at the regional level within the country as a result of the institutional developments outlined below, the evolution of relative prices, and reduced land availability in some parts of the country. Despite continued strong supply response in the aggregate, in many zones in the north, farmer interest in cotton production has substantially waned. Prior to the devaluation, exchange rate overvaluation forced the National Cotton Development Company (CIDT) to set cotton prices extremely low. This created strong incentives for many farmers to diversify into other crops, most notably yams, rice, cashew nuts and vegetables. Although producer prices were increased after the devaluation, CIDT moved out of less commercially viable zones as it prepared for privatization. Therefore, shifts to alternate crops will, in all likelihood, become even more pronounced in the future.

8. The performance of smallholder irrigation has been disappointing, largely due to government concentration on large, uneconomic irrigation schemes. Promoted via parastatals in the 1970s and 1980s, the approach taken was strictly "top-down" with minimal or no participation of small farmers in decision-making, or appreciation of existing land use patterns and ownership in irrigation scheme design. Heavy subsidies were also applied in establishing infrastructure and other capital investment, operations and maintenance, and provision of agricultural inputs. When these parastatals were dismantled in the late 1980s and early 1990s within the context of adjustment, many of the irrigation schemes were abandoned or underutilized. It is estimated that, of the 25 000 ha developed under state schemes, only about 10 000 ha are still being used.

9. **Agricultural-sector institutions.** Short- and medium-term agricultural policy objectives have been defined within the framework of the Agricultural Sector Adjustment Programme, which was initiated in 1989, and the Agricultural Sector Adjustment Credit, in place since 1995. These programmes included measures to improve sectoral competitiveness (including periodic review of agricultural tax levels), removal of non-tariff barriers on a range of commodities and inputs, market liberalization and privatization, improved management of forest resources, and improved public investment programming.

10. As mentioned above, until the early 1990s, government-promoted irrigation development was essentially carried out by large parastatal agencies, among the most important being SODESUCRE for industrial sugar, SODERIZ for rice development, and several crop-specific extension agencies that were the antecedents of the National Agency for Support to Rural Development (ANADER). Cutting across



all of these was the Directorate for Large Civil Works – now the National Office for Technical Studies and Development (BNETD) – which was in charge of large perimeter planning and design.

11. Adjustment led to major institutional changes and reorganizations in the rural sector beginning in the first half of the 1990s which are still ongoing. The Ministry of Agriculture and Animal Resources (MINAGRA), in charge of agriculture, forestry and livestock, was restructured in 1993 under the National Agricultural Services Restructuring Project (PNASA), and its role was redefined to concentrate its responsibilities in the areas of agricultural policy formulation and implementation, investment programming, and resource allocation within the sector. Agricultural extension was also completely reorganized. ANADER was established in 1993 (but only became operational in 1995), absorbing the three former parastatal agencies that supported food crop, livestock, and coffee and cocoa development. It has the legal status of a mixed enterprise, and there are plans to privatize the Government's share over the next few years. ANADER implements programmes in applied research, extension and support to farmer organizations. Advice is provided on all food crops and on major export crops. In 1998, a single National Centre for Agricultural Research (CNRA) was created after consolidating the two pre-existing research institutes for the savannah and forest zones.

12. With regard to irrigation, within MINAGRA there exists a Directorate for Rural Civil Works, whose mission is to identify infrastructure needs, produce proposed investments, and ensure quality control over studies and works. However, its capacity and financial means are very limited. An irrigation support unit has been established within ANADER, but it is currently quite understaffed, and it remains unclear how long it will take to get fully staffed. BNETD continues to have the function of carrying out civil engineering and technical studies. The most important agency responsible for water resources management is the national water utility, the Water Distribution Company of Côte d'Ivoire (SODECI).

13. Several donors are currently supporting irrigation investments in Côte d'Ivoire. The most important are the German Agency for Technical Cooperation (GTZ) (Korhogo in the north), the African Development Bank (AfDB) (in the West and Centre-West) region and the European Union (in the Centre region). All of these interventions have one thing in common: the main emphasis is on boosting rice production on perimeters generally superior to 20 ha in size. With the exception of a limited number of interventions by IFAD in the departments of Dabakala and Katiola in the Centre-North region and Bondoukou in the North-East region, and some non-governmental organization (NGO) activity, virtually no donor support has been oriented to micro-irrigation for vegetable production. Of the donors cited above, the GTZ experience in Korhogo is of particular interest because strong emphasis has been placed on the development of water users' associations (WUAs).

B. Lessons Learned from Previous IFAD Experience

14. **Project experience.** IFAD has financed five projects in Côte d'Ivoire, three of which are ongoing. The Artisanal Fisheries Development Project in the Aby Lagoon, which closed in 1994, assisted fishermen in managing, in a participatory manner, the fish resources in the lagoon, which were overexploited. It also improved navigation conditions, marketing modalities and the availability of public health facilities.

15. The Dabakala/Katiola Rural Development Project, cofinanced with the West African Development Bank (BOAD) and implemented by the cotton parastatal CIDT, became effective in 1987 and closed in June 1997. Its successor, the Marketing and Local Initiatives Support Project in the Centre-North region is a seven-year project, which became effective in May 1997. Its overall objective is to improve the living standards of women and smallholder households in the Centre-North region, mainly by the sustainable increase of agricultural cash income.

16. PNASAs were initiated by and are cofinanced with the World Bank. IFAD's support is concentrated in the savannah zone and focuses on the promotion of informal and formal farmers' groups, with activities



including the promotion of improved processing technologies, poultry development, creation and support of youth groups, farmer training, functional literacy, support to local initiatives, and provision of credit.

17. The Rural Development Project in the North East region, which closed in December 1998, was also cofinanced by BOAD and was initially implemented by CIDT. Upon CIDT's withdrawal from the project zone in early 1997 in preparation for its privatization, a small project coordination unit (PCU) took on management responsibilities. The objective of the project was to increase the productivity and incomes of the poorest smallholders in the North-East region through a mixture of support to cash and food crop development, and support to livestock production. While the project met with a number of problems, including major institutional changes in the rural sector due to structural adjustment, and a low disbursement rate, there were some notable successes, among which was substantial interest among women and youth for food crop and horticultural development in the *bas fonds*.

18. The follow-up to the North-East project is the Rural Development Project in the Zanzan region (PDRZ), covering the three departments of the Zanzan region (previously the North-East region) – Bondoukou, Bouna and Tanda. The target group includes smallholders, with particular emphasis on women and youth. Specific objectives include: increased, more stable and diversified rural incomes through investment in small irrigation schemes (3-5 ha maximum) for vegetable and horticultural production targeted to women and youth; improved health status of the most vulnerable populations, with special emphasis on women and children through potable water investment and accompanying sensitization in health, hygiene and nutrition; reduced isolation of villages contributing to improved conditions for agricultural marketing and stimulation of economic activity in the project zone through rural road rehabilitation; and access of rural populations to financial services through the creation of a sustainable credit/savings institution, thus contributing to higher incomes and increased savings.

19. **Lessons learned.** Lessons learned from IFAD experience in Côte d'Ivoire include: project design needs to be more realistic in its assessment of institutional capacity to carry out project components, and generally needs to have fewer and better-defined sets of activities; credit and savings interventions need to emphasize development of sustainable institutions, rather than targeting credit to specific pre-defined investments; the role of women in agriculture and off-farm activities is not sufficiently recognized, and support services need to redouble efforts to address their needs; the focus of public support services has been mostly on formal institutions, while there is considerable scope to work more closely with existing informal groups; special efforts need to be made to improve the performance of project monitoring and evaluation (M&E) units; investment operations need to have well-articulated strategies for implementation of diagnostic surveys during both the design and implementation stages to ensure that beneficiary constraints are properly understood so that appropriate interventions can be identified; and the feasibility of subcontracting project activities by small PCUs holds promise as a flexible delivery mechanism.

20. Project design has also drawn extensively on IFAD experience with small irrigation projects carried out elsewhere in Africa. As part of the comprehensive evaluation of the Special Programme for Sub-Saharan African Countries Affected by Drought and Desertification (SPA), a thematic study was carried out on small irrigation and water control activities. This study is a rich source of knowledge about IFAD experience and provides recommendations related to farmer's participation in the design and use of irrigation infrastructure, organizational and institutional issues, flexible project design, targeting and site selection, and technology choice. Among the most important and relevant lessons learned from the SPA experience of relevance to the design of this project are:

- Institutions that are likely to be involved in project implementation must be screened and carefully assessed, during the project formulation process, with regard to their capacity and capability to implement proposed activities effectively;



- The need for long lead times and generally slow rates of implementation for small-scale irrigation/water control (SSI/WC) projects should be anticipated and recognized in order to be consistent with the demand-driven approach. Flexibility, in terms of implementation scope, sequence and arrangements, should be the norm;
- The concept of participatory development should be explained through specific field training activities of direct relevance to field staff and farmer leaders at the start-up of the project. Moreover, project staff need to be trained in participatory implementation approaches and techniques so as to develop aptitude to identify emerging problems and to increase responsiveness to people's feedback;
- The existence of farmers' organizations capable of acting as responsible partners is essential, requiring rigorous assessment of farmers' capability and organizational skills at design;
- Project design should emphasize: (i) an intensive and wide range of training activities for WUAs to enhance and ensure their capacity; (ii) the definition of a clear and precise sharing of responsibilities between public institutions and WUAs; and (iii) the clarification of legal aspects; and
- Appropriate SSI/WC technology and advanced innovative technology should be designed on the basis of an in-depth analysis of local practices. Planners and engineers have to match this information with other technical analyses to propose the most appropriate technologies.

C. IFAD's Strategy for Collaboration with Côte d'Ivoire

21. **Strategic thrusts.** IFAD pursues a household food security approach in Côte d'Ivoire. The first concern of the poor in rural, largely subsistence, economies is to ensure household food security on a daily basis. Operationally, this implies: (i) measures to stabilize household food access across seasons and transitory shortages; (ii) support for activities that would sustain access in the long term; and (iii) attention to issues of well-being within agricultural households, including health, sanitation and nutrition. This also implies an explicit recognition of sources and uses of income within the household, disaggregated by gender. In addition, the full array of labour-consuming activities engaged in by rural households need to be considered in designing activities to alleviate food insecurity. Finally, given that rural men and women engage in different activities and have differential access to public and project goods and services, it is critical to be aware of these differences from the start and tailor project design accordingly. Carefully designed diagnostic surveys are important for gaining this understanding.

22. Priority intervention areas include: support to farmers' organizations for agricultural marketing; rural finance; technology development and transfer; and rural infrastructure.

23. Regarding targeting, poverty remains acute in the savannah zone of the country. IFAD will continue to concentrate the bulk of its efforts and resources in the savannah zone for this and the following two reasons: with some rationalization of activities, the existing projects in that zone (in combination with this proposed project) have the potential to form a cohesive and mutually reinforcing whole; and as a small donor relative to others operating in Côte d'Ivoire, IFAD is wary of spreading itself too thinly across the country.

24. **Strategic partnerships.** IFAD's principal government interlocutor has always been MINAGRA, and more specifically the Directorate for Programming. Collaboration has also been frequent with MINAGRA's Directorate for Support to Farmers' Associations and Cooperatives. In addition, IFAD has worked with the Ministry of Solidarity and Womens' Affairs in the area of village water and sanitation and agricultural extension to women. These relationships have been mutually beneficial and productive and will continue.



25. The principal donors supporting agriculture and rural development in Côte d'Ivoire include, among the multilaterals, AfDB, BOAD, the European Union and the World Bank. The most important bilateral donors include Canada, France and Germany. IFAD works closely with a number of these agencies, either through formal relationships or through frequent contact and exchange of information. IFAD cofinances one World Bank-initiated project, while BOAD cofinances two IFAD-initiated projects. Previously, AfDB also supervised an IFAD-initiated project.

26. With two of these agencies in particular, IFAD has long-standing strategic alliances. IFAD has proven a valuable partner to the World Bank in agricultural development in the savannah, reinforcing the effectiveness of the World Bank-initiated National Agricultural Services Project by specific focus on the needs of women farmers and development of microfinance initiatives. This has not only occurred through IFAD cofinancing of the PNASA project, but by complimentary and coordinated efforts in area development projects in the Centre-North and North-East regions. Close collaboration has also occurred with BOAD, which has become a strong partner with IFAD in the area of technical and financial support to rural infrastructure investment (village water and roads).

27. More recently, the United Nations Children's Fund (UNICEF) has joined IFAD as a partner in implementation of the PDRZ. In collaboration with the Ministries of Health and Women's Affairs, UNICEF will assist in carrying out that project's village water and sanitation components.

28. Less formal, but nonetheless valuable, collaboration has occurred with the three bilateral donors mentioned above. French and Canadian technical assistance has had a strong role in bringing the savings and credit cooperatives (COOPEC) movement back to health, and IFAD has invested in village savings and credit banks (CMECs), some of which have graduated to COOPEC status. Canadian assistance has also made valuable contributions in the area of cooperative development and support to grass-roots organizations in both the savannah and forest zones. Germany is reinforcing project planning and monitoring capacity within MINAGRA, and IFAD-supported projects have become eager clients for these services.

29. NGO activity has historically been minimal in Côte d'Ivoire, but this is rapidly changing as the Government has become more open to their presence in recent years. There are a number of well-established NGOs in Côte d'Ivoire working to strengthen rural grass-roots organizations and pursuing participatory approaches to development. IFAD projects have availed themselves of some of their training services, and is currently supporting market development activities with one major NGO – INADES Formation – in the Zanzan Region.

30. In collaboration with FAO and the World Bank, IFAD has participated in the preparation of a draft national small irrigation strategy paper. This effort, initiated in mid-1999, is expected to continue, and with the design of this project, is well placed to contribute further to strategy design, as well as to draw other partners into the strategy dialogue as it evolves.

31. **Project rationale.** In the past, irrigation investment in Côte d'Ivoire took "top-down" approaches and was overly focused on large schemes for rice production. More recently, a number of donors (including IFAD) have worked with the Government to introduce more-participatory approaches that put greater emphasis on strengthening the capacity of professional farmers' organizations (OPAs) and WUAs. While this is a positive development, the bulk of investment remains concentrated in irrigation schemes of 20 ha and larger, with the principal objective being to boost rice production. Curiously and despite huge demand on the part of farmers, there has been almost no investment in truly small or micro-irrigation schemes for vegetables and horticulture. Yet in light of natural potential and the fact that micro-irrigation is often carried out by vulnerable women and youth, it is this category of investment that probably has the greatest scope for rural poverty-alleviation in Côte d'Ivoire.



PART II - THE PROJECT

A. Project Area and Target Group

32. Specific criteria have been employed in the selection of the project zone, including: evidence of significant concentration of rural poverty; significant production and marketing potential for vegetable crops; a land tenure situation whereby reasonable assurances are possible that security of tenure exists for potential project beneficiaries; no major donor project in the zone with substantial focus on micro-irrigation; and government agreement regarding these zones as priorities.

33. The savannah zone still has the highest concentration of poverty, and on this basis and in combination with the other criteria, the two savannah-zone regions – the Bandama Valley region (Béomi, Bouaké, Katiola and Sakassou departments) and the Savannah region (Boundiali, Ferkessedougou, and Korhogo departments) – have been selected as the project zone (see map of the project area).

34. The northern part of the project zone – the Savannah region – has unimodal rainfall and strong agricultural potential. The most important cash crop is cotton, but farmers are actively seeking to diversify revenue sources in light of the highly variable profitability. Major food crops include maize, rice and groundnuts, with secondary food crops including millet and sorghum. Average rainfall is in the range of 1 200-1 400 mm/year, but with major fluctuations. The Bandama Valley region is in part a transitional zone between the unimodal rainfall patterns of the north and the bimodal patterns of the south. Average rainfall attains 1 600 mm/year in Bouaké. Cotton is also an important cash crop in some parts of this zone, but in recent years, there has been a major move towards cashew nuts (and to some extent vegetables) as alternative cash crops. Important food crops include yams, maize, rice and groundnuts.

35. According to the recent 1998 census, the population of the project zone totals 1 825 300, of which about half live in rural areas. The Savannah region is dominated by the Senoufou ethnic group, while the Baoulé are most prominent in the Bandama Valley region. With an average of about six family members, there are roughly 160 000 rural households in the zone. It is estimated that the project will assist 35 000 people directly and an additional 65 000 people indirectly.

36. Women and youth constitute the main target groups of this project. It is quite common in the project zone to find small groups of women who have taken the initiative to cultivate small vegetable gardens near their villages, using shallow wells that frequently run out of water before the vegetables can be harvested. These initiatives are often undertaken without any external assistance in terms of technical advice or financial assistance, and the women regularly run up against problems related to insufficient water, lack of knowledge, poor-quality seed and lack of other necessary inputs. Young people often lack access to land, forcing them to migrate to urban areas, where employment opportunities are rare or non-existent. Yet they frequently have the advantage of having had some level of schooling and are functionally literate. Although not the primary target group, the project will also address some of the constraints faced by small traders and transporters, whose improved performance is critical to improving the conditions of vegetable-subsector production and marketing.

B. Objectives and Scope

37. The goal of the project is to enhance smallholder incomes, food security and agricultural productivity, particularly among poor women and youth. The project's purpose is to enhance the institutional, organizational and technical capacities of farmers' groups, the private sector, NGOs and public agencies to develop small and micro-irrigation in selected regions of Côte d'Ivoire. This will be achieved by providing technical and organizational assistance to farmers' groups to solicit and



oversee irrigation and related technical services from service providers; enhancing the capacity of farmers and service providers to construct, operate, and maintain low-cost microschemes efficiently and sustainably; and establishing a horticultural development fund to encourage competitive procurement of these services by farmers' associations.

C. Components

38. The proposed project will be comprised of four components based on a flexible and participatory programming approach. The project will build synergies with existing national and regional interventions in village-level planning, microfinance, technology development and transfer, and functional literacy. In addition, the project will contribute practical input to the ongoing dialogue related to formulation of the national small-irrigation strategy. Because this is the first project of its kind in Côte d'Ivoire, a strong pilot element will be built into design for the first four years of implementation. Project components include:

- **Grass-roots participatory planning and capacity-building.** Building on approaches already practised under selected development projects in the region, interventions under this component will include: the building of local capacity to diagnose development constraints, and plan, monitor and manage community investments; group creation and strengthening focused especially on capitalizing on existing informal structures; sensitization related to women's groups and structuring small-irrigation activities in ways conducive to their needs; functional literacy for women; and support to strengthening of village development committees.
- **Irrigation development** for valley bottom (*bas fonds*) and small vegetable plots. This component includes: participatory site selection and feasibility studies for creating new small-irrigation infrastructure and rehabilitation of existing infrastructure; and financing of the infrastructure itself through the contracting of local artisans and civil-works companies.
- **Horticultural subsector development support.** Activities under this component will improve the economic and social environment in ways that enhance the effectiveness of the production level and group development investments outlined above. Sub-components include: agricultural extension support for irrigation management, vegetable production and marketing; creation of linkages with existing microfinance institutions (COOPECs and CMECs); vegetable subsector strengthening in the form of assistance to the emergence of professional organizations of vegetable producers and the provision of market information.
- **Project coordination.** This component includes the: open and competitive contracting of a small cadre of professional staff; transport, office equipment and materials; short-term technical support; and establishment of an M&E system. In addition, the project coordination team will manage a horticultural development fund to support village-level investments to enhance agricultural production potential and improve well-being (eligible investments include civil works related to irrigation development, feeder-road rehabilitation and repair, storage facilities, and purchase of processing and drying equipment).

D. Costs and Financing

39. The costs of this eight-year project are summarized by component in Table 1. Total project costs amount to USD 14.03 million including all taxes as well as physical and price contingencies. Analysis of the cost structure highlights the importance of the irrigation development component, which constitutes 9% of baseline project costs. Horticultural subsector development support and project management (including M&E) amount to 47 and 33% of project cost, respectively.

40. As shown in Table 2, IFAD will finance USD 11.17 million, or 80% of the total project cost, while beneficiaries will contribute USD 1.11 million (8% of costs). The Government's contribution totals USD 1.74 million (12% of costs) and covers payment of internal taxes such as the value-added tax, payment of social security payroll contributions for project personnel, and exoneration from customs duties.

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

Components	Local	Foreign	Total	% of Foreign Exchange	% of Base Costs
Participatory planning/capacity-building	1 053.6	115.2	1 168.8	10	10
Irrigation development	931.9	160.8	1 092.7	15	9
Horticultural development	5 036.9	504.6	5 541.6	9	47
Project management/M&E	3 513.8	391.8	3 905.6	10	33
Total base costs	10 536.3	1 172.4	11 708.7	10	100
Physical contingencies	618.9	108.4	727.3	15	6
Price contingencies	1 499.0	90.6	1 589.6	6	14
Total project costs	12 654.2	1 371.4	14 025.6	10	120

^a Discrepancies in totals are due to rounding.

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

Components	IFAD		Govnmt		Beneficiaries		Total		For. Exch.	Local (Excl. Taxes)	Duties and Taxes
	Amt.	%	Amt.	%	Amt.	%	Amt.	%			
Participatory planning/capacity-building	1 195.4	87.2	176.1	12.8	-	-	1 371.6	9.8	132.6	1 062.9	176.1
Irrigation development	1 142.7	88.8	144.6	11.2	-	-	1 287.3	9.2	184.8	957.9	144.6
Horticultural development	5 018.2	73.1	733.8	10.7	1 111.8	16.2	6 863.8	48.9	601.8	5 528.2	733.8
Project management/M&E	3 817.4	84.8	685.5	15.2	-	-	4 503.0	32.1	452.3	3 365.1	685.5
Total disbursement	11 173.7	79.7	1 740.1	12.4	1 111.8	7.9	14 025.6	100.0	1 371.4	10 914.1	1 740.1

^aDiscrepancies in totals are due to rounding.

E. Procurement, Disbursement, Accounts and Audit

41. Procurement of civil works, goods and consulting services will be carried out according to government, IFAD and UNOPS procedures. To the greatest extent feasible, goods will be bulked into packages to obtain the best price quotations. Vehicles and motorcycles will be procured through international competitive bidding (ICB) procedures. Other goods and services valued at more than USD 100 000 will also be procured through ICB. Contracts for goods and equipment exceeding USD 50 000, up to a total of USD 100 000, will be subject to local competitive bidding procedures. For contracts valued at less than USD 50 000, but more than USD 10 000, prudent shopping based on at least three quotations will apply. Procurements for less than USD 10 000 will be made by direct purchase from local suppliers. Contracts for short-term consultants (including auditors and external trainers) will be awarded following UNOPS guidelines based on terms of reference, qualifications and conditions of service satisfactory to UNOPS and IFAD. One external long-term consultant contract (for administering pilot aspects of the irrigation development component) is envisaged and will be processed following ICB procedures. Contracts for goods, services and consultants in amounts of USD 100 000 and greater will be sent to UNOPS for prior review before being signed.



42. To facilitate project implementation, a Special Account for the IFAD loan will be opened at the Ivoirian Treasury. The authorized allocation from the IFAD loan of XOF 400 million (roughly equivalent to USD 610 000) will be deposited upon effectiveness. In conformity with government procedures, the Special Account will be managed directly by the Ministry of Economy and Finance (MEF), which will retain check-signing responsibility, while all other project-level financial management responsibilities will rest with the PCU.

43. The Government will also open a project account into which it will deposit its counterpart-fund contribution. These funds will be used to defray internal taxes such as the value-added tax and social security payroll contributions for project personnel. The initial counterpart-fund contribution will total XOF 50 million and will be an initial condition of loan disbursement.

44. All expenditures will be fully documented except for operating costs, salaries and indemnities, studies, local contracts and local training, for which statements of expenditure (SOEs) will be used. SOEs will be sent to MINAGRA for verification and onward transmission to the MEF's Directorate for Investments. Agreement will be reached each year between MEF, MINAGRA, UNOPS and IFAD on an annual budget, based on an agreed programme of work. All the relevant supporting documentation for reimbursement claims under SOEs will be retained for inspection by supervision missions as well as for certification during annual audits.

45. The consolidated annual accounts will be audited by an independent auditor acceptable to IFAD. All implementing agencies will grant the auditor access to the accounts for the component(s) they implement. The audited accounts and the auditor's report, the latter with a separate opinion on the SOEs, will be forwarded to IFAD not later than six months after the end of each fiscal year.

F. Organization and Management

46. The project will be under the overall responsibility of MINAGRA. On a semi-annual basis, a steering committee comprised of representatives from participating ministries and beneficiaries will meet to review workplans and major strategic issues related to implementation. A semi-autonomous PCU (based in Korhogo, the capital of the Savannah region) will carry out day-to-day project management. In line with the practice of other PCUs of ongoing IFAD projects in the country, the PCU's role will be to provide strategic guidance, subcontract operations to service providers, and carry out standard administrative aspects of project implementation. Professional-level staff will consist of a project coordinator, and specialists in the areas of participatory rural development (for coordination of sensitization and training interventions), civil engineering, vegetable development, M&E and accounting. As mentioned above, in its first four years, the project will take a pilot approach, and a mid-term evaluation in the fourth project year (PY4) will provide input in orienting the expansion phase over the remaining implementation period.

47. **Monitoring and evaluation** . The M&E system will be guided by several key principles. First, the logical framework² will serve as the terms of reference for the M&E system, and the PCU will be responsible for updating it within the context of the annual workplan and budget exercise. Secondly, the project will capitalize on the evaluation system that has operated in MINAGRA for all its rural development projects since 1993 with technical support from GTZ. An M&E unit within the Programming Department carries out quarterly external reviews that monitor project implementation progress and impact, and formulate recommendations for improving implementation. Third, M&E will make extensive use of surveys of beneficiary satisfaction for tracking field-level effectiveness and the extent to which village-level planning exercises and irrigation activities are truly participatory.

² See Appendix III.



G. Economic Justification

48. Due to the highly participatory nature of the project and the imperative to go at the pace of the beneficiaries, no overall internal rate of return or standard economic analysis has been carried out. However, detailed financial analysis has been carried out for the different types of irrigation interventions in order to verify the potential profitability of these investments to small farmers, and to keep investment and operating costs at modest and affordable levels. Depending on the choice of technology, financial rates of return at farm level range from 16% to more than 60%.³

49. The project will benefit approximately 65 000 rural inhabitants of six departments of the Savannah and Bandama Valley regions. Benefits will be in the form of increased and more stable incomes for targeted smallholders in the project zones, as well as strengthened grass-roots organization capacity to procure technical support services and manage small irrigation infrastructure. Farm-level productivity will be enhanced and the expansion of dry-season vegetable production will boost rural employment and lead to the diversification of income sources.

50. The project is particularly well placed to address the needs of women. Small-irrigation investment will target those women's groups that, with little or no prior outside assistance other than technical advice, have already shown a degree of capacity and commitment to working in this area. In addition, a major benefit of the project will be the testing and introduction of appropriate labour-saving technologies for water-lifting. At present, those engaged in vegetable production typically fill buckets and kitchen bowls at water sources and haul them to their plots. This is very time-consuming and is a major constraint to expanding production.

H. Risks

51. The most important risk is that the Government and implementing agencies revert to a "top-down" engineering and purely "output-oriented" bias rather than adopting participatory methods of working with farmers' organizations. This risk is being addressed through emphasis at design on grass-roots capacity-building, stressing the need for accountability of service providers to the farmers' organizations, carefully designing the irrigation services fund so that procurement is competitive and service providers responsive, and effectively monitoring not only logical framework inputs and outputs, but also purpose and goal-level indicators. This issue will require careful monitoring during supervision missions and during the proposed mid-term evaluation.

52. Implementation delays could reduce project benefits and result in frustration on the part of all major project actors. Due to an array of factors, implementation delays have been a recurrent problem for IFAD projects in Côte d'Ivoire. Among other things, delays have resulted in low disbursement rates. The current bottleneck caused by the centralization of project accounts in the MEF constitutes a major problem for ongoing projects, one that needs to be solved as soon as possible and is being discussed within the context of implementation of ongoing IFAD projects in the country.

I. Environmental Impact

53. The project has been classified as Category "B," as potential environmental impacts identified can be addressed through ensuring an environmentally sensitive design. With regard to groundwater utilization, feasibility studies will be undertaken as part of the site selection process to ensure that extraction rates are balanced with recharge. Through careful site selection, care will be taken to ensure minimization of risks related to waterlogging and salinization. In addition, a training programme on environmental issues, including the safe use of pesticides, will be offered by the project to staff of ANADER other relevant agencies and to beneficiaries.

³ See Appendix VI for detailed discussion of financial and economic analysis.



J. Innovative Features

54. The project has a number of innovative aspects. First, this is IFAD's first thematic project on small irrigation related primarily to vegetable production and marketing in West Africa. Second, a systematic effort has been made to build synergies with existing national and regional projects operating in the project zone. At village level, the project builds on village-level planning exercises mounted within the context of several other ongoing projects funded by the France, Germany, the World Bank as well as IFAD. Linkages with microfinance networks and national functional literacy programmes will also be developed. The project will, moreover, create linkages with an IFAD-financed regional technical assistance grant with the West African Rice Development Association (also being presented to the Sixty-Ninth Session of the Executive Board). In addition, experience gained during implementation will enable IFAD to be a credible contributor to the ongoing process of formulating a national small-irrigation strategy.

55. Third, to maximize the responsiveness of service providers, a competitive bidding system will be introduced for as many project activities as possible. Activities that have in the past simply been assigned to public agencies (such as extension, research, market information and infrastructure provision) will all be contracted out and periodically assessed for performance. A system to involve project beneficiaries in the selection of service providers and subsequent approval of their work will also be put in place. Through these means, the project will be more effective at addressing the needs of beneficiaries.

PART III - LEGAL INSTRUMENTS AND AUTHORITY

56. A loan agreement between the Republic of Côte d'Ivoire 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.

57. The Republic of Côte d'Ivoire is empowered under its laws to borrow from IFAD.

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

PART IV - RECOMMENDATION

59. 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 Republic of Côte d'Ivoire in various currencies in an amount equivalent to eight million three hundred thousand Special Drawing Rights (SDR 8 300 000) to mature on and prior to 15 December 2039 and to bear a service charge of three fourths of one per cent (0.75%) per annum, and to be upon such 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 28 April 2000)

1. The Public Debt Directorate of the Ministry of Economy and Finance of the Republic of Côte d'Ivoire shall open and thereafter maintain with the Autonomous Sinking-Fund Office (CAA), or other commercial banking institution acceptable to the Government of the Republic of Côte d'Ivoire (the Government) and IFAD, a Project Account held in CFA francs for all operations relating to the project.
2. The Government shall provide the lead project agency with counterpart funds in CFA francs in an aggregate amount equivalent to USD 1 740 000, in accordance with customary national procedures for development assistance. To that end, within a reasonable period of time but no later than 30 days following the date of loan effectiveness, the Government shall make an initial deposit of CFAF 50 million into the Project Account for the first year of the project. For successive project years, the Government shall, on a yearly basis, make budgetary allocations for counterpart funds as called for in the annual workplan and budget (AWPB) for the relevant project year, and shall make such annual budgetary allocations available to the lead project agency in accordance with customary national procedures for development assistance and in a manner satisfactory to IFAD.
3. For the purpose of implementing the project, the Government shall ensure that the proceeds of the loan shall be made available to the lead project agency, in accordance with the provisions of the AWPB and with customary national procedures for development assistance.
4. The Government shall ensure that the project management unit (PMU) shall be set up within a reasonable period of time but not later than 90 days following the date of loan effective, and that it shall maintain a suitable system for managing the project on a day-to-day basis. The PMU shall provide the following information on the impact of the project, the achievement of its objectives and the specific indicators provided in the Logframe: (i) expected changes in beneficiary behaviour that contribute to achieving the desired project impact; (ii) physical results achieved by the main project operators; and (iii) budgetary achievements.
5. Moreover, the Government shall ensure that the project benefits from the external monitoring and evaluation system of the Planning Directorate (PD) of the lead project agency and that the recommendations of PD's periodic review missions are taken into account in the decision-making process at the national level.
6. The Government shall ensure that the accounting system set up by the project is operational within the PMU prior to the first disbursement of loan proceeds, in accordance with modalities approved by IFAD.
7. The Government shall be responsible for the payment of all taxes and duties incurred under the project and of all social charges on project salaries from the counterpart funds that it is expected to provide.
8. All things being equal, the Government undertakes to give priority to female candidates for senior positions within the project.
9. 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.

10. The following are specified as additional conditions for disbursement of the proceeds of the loan:

No withdrawals shall be made from the Loan Account:

- (a) until such time as the Project Account and a Special Account will have been opened with CAA and until such time as the Government shall have made an initial deposit of counterpart funds into the Project Account;
- (b) until such time as the project operations manual will have been prepared to the satisfaction of IFAD, especially with regard to the management system that the Government installs within the PMU;
- (c) a suitable auditing firm shall have been appointed in accordance with local selection procedures approved by IFAD; and
- (d) a separate accounting system for the project shall have been designed and approved by the Government and IFAD.

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

- (a) the steering committee will have been established by ministerial decree setting out its composition and responsibilities;
- (b) the PMU will have been established by ministerial decree setting out its composition, responsibilities and working methods;
- (c) the project coordinator and other staff of the PMU will have been selected in accordance with procedures approved by IFAD;
- (d) the loan agreement will have been duly signed by an authorized representative of the Government; and
- (e) a favourable legal opinion, issued by the Supreme Court and acceptable in both form and substance shall have been delivered by the Government to IFAD.

COUNTRY DATA

CÔTE D'IVOIRE

Land area (km² thousand) 1996 1/	318	GNP per capita (USD) 1997 2/	710
Total population (million) 1997 1/	14.2	Average annual real rate of growth of GNP per capita, 1990-97 2/	0.9
Population density (people per km²) 1996 1/	44	Average annual rate of inflation, 1990-97 2/	9.3
Local currency	CFA Franc BCEAO (XOF)	Exchange rate: USD 1 =	XOF 600
Social Indicators		Economic Indicators	
Population (average annual population growth rate) 1980-97 1/	3.2	GDP (USD million) 1997 1/	10 251
Crude birth rate (per thousand people) 1997 1/	37	Average annual rate of growth of GDP 1/ 1980-90	0.7
Crude death rate (per thousand people) 1997 1/	16	1990-97	3.0
Infant mortality rate (per thousand live births) 1997 1/	87	Sectoral distribution of GDP, 1997 1/	
Life expectancy at birth (years) 1997 1/	47	% agriculture	27
Number of rural poor (million) (approximate) 1/	n.a.	% industry	21
Poor as % of total rural population 1/	n.a.	% manufacturing	18
Total labour force (million) 1997 1/	5.7	% services	51
Female labour force as % of total, 1997 1/	33	Consumption, 1997 1/	
Education		General government consumption (as % of GDP)	12
Primary school gross enrolment (% of relevant age group) 1996 1/	71	Private consumption (as % of GDP)	65
Adult literacy rate (% of total population) 1995 3/	40	Gross domestic savings (as % of GDP)	23
Nutrition		Balance of Payments (USD million)	
Daily calorie supply per capita, 1995 3/	2 494	Merchandise exports, 1997 1/	4 279
Index of daily calorie supply per capita (industrial countries=100) 1995 3/	79	Merchandise imports, 1997 1/	3 042
Prevalence of child malnutrition (height for age % of children under 5) 1992-97 1/	24	Balance of merchandise trade	1 237
Prevalence of child malnutrition (weight for age % of children under 5) 1992-97 1/	24	Current account balances (USD million)	
Health		before official transfers, 1997 1/	385
Health expenditure, total (as % of GDP) 1990-97 1/	3.5	after official transfers, 1997 1/	35
Physicians (per thousand people) 1990-97 1/	0.1	Foreign direct investment, 1997 1/	327
%age population without access to safe water 1990-96 3/	18	Government Finance	
%age population without access to health services 1990-95 3/	70	Overall budget surplus/deficit (including grants) (as % of GDP) 1996 1/	n.a.
%age population without access to sanitation 1990-96 3/	61	Total expenditure (% of GDP) 1996 1/	n.a.
Agriculture and Food		Total external debt (USD million) 1997 1/	15 609
Food imports as %age of total merchandise imports 1997 1/	17	Present value of debt (as % of GNP) 1997 1/	141
Fertilizer consumption (hundreds of grams per ha of arable land) 1995-97 1/	229	Total debt service (% of exports of goods and services) 1997 1/	27.4
Food production index (1989-91=100) 1995-97 1/	119.2	Nominal lending rate of banks, 1997 1/	n.a.
Land Use		Nominal deposit rate of banks, 1997 1/	n.a.
Arable land as % of land area, 1996 1/	9.1		
Forest area (km ² thousand) 1995 1/	55		
Forest area as % of total land area, 1995 1/	17.2		
Irrigated land as % of cropland, 1994-96 1/	1.0		

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*, 1999

2/ World Bank, *Atlas*, 1999

3/ UNDP, *Human Development Report*, 1998

PREVIOUS IFAD LOANS IN CÔTE D'IVOIRE

<i>Project Loan</i>	<i>Project Name</i>	<i>Initiating Institution</i>	<i>Cooperating Institution</i>	<i>Lending Terms</i>	<i>Board Approval</i>	<i>Loan Effectiveness</i>	<i>Current Closing Date</i>	<i>Currency</i>	<i>Approved Loan Amount</i>	<i>Disbursement (as % of approved amount)</i>
L-I-145-IC	Artisanal Fisheries Development in the Aby Lagoon	IFAD	AfDB	I	04 Apr 84	01 Apr 85	31 Mar 94	SDR	2 700 000	49%
L-I-189-IC	Dabakala/Katiola Rural Development	IFAD	WB/IDA	O	17 Sep 86	23 Jul 87	30 Jun 97	SDR	5 650 000	72%
L-I-284-CT	Rural Development in the North East	IFAD	BOAD	I	04 Apr 91	28 Jul 92	31 Dec 98	SDR	10 350 000	26%
L-I-337-CI	National Agricultural Services Restructuring	WB/IDA	WB/IDA	I	02 Dec 93	31 Aug 94	31 Mar 00	SDR	7 050 000	16%
L-I-419-CI	Marketing and Local Initiatives Support	IFAD	UNOPS	HC	11 Sep 96	26 May 97	30 Sep 04	SDR	7 250 000	12%
L-I-479-CI	Rural Development in the Zanzan Region	IFAD	UNOPS	HC	10 Sep 98	16 Sep 99	31 Mar 06	SDR	8 300 000	



LOGICAL FRAMEWORK

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions
<p>Overall objective: To enhance smallholder incomes, food security and agricultural productivity, particularly poor women, youth and migrants in two regions (Savanes and Bandama Valley) of Côte d'Ivoire</p>	<p>Agricultural incomes increased via intensification and diversification into irrigated crops Nutritional status and household food security improved General household well-being improved</p>	<p>Studies of project impact Mid-term and final evaluations</p>	<p>Stable macroeconomic and institutional framework for rural development</p>
<p>Development objectives: 2.1 Reinforce capacity of women and youth groups, and village development committees</p>	<p>Womens' and youth groups capable of planning and effectively negotiating with buyers Groups participate actively in the design of investments, and effectively organize themselves to manage and maintain the investments Groups have an effective voice in choosing service providers, entering into contracts with them, overseeing work, and approving payments Group leaders acquire a sufficient level of capacity in financial management and simple calculations</p>	<p>Internal project monitoring reports Ad hoc surveys/assessments Reports of service providers on training and participation General assembly meeting minutes</p>	<p>Strong adhesion to objectives of participation on the part of villagers after training sessions completed, and to rules and procedures established for group decision-making</p>
<p>2.2 Increase and diversify revenue sources for women and youth and increase their productivity as a result of the introduction of improved irrigation techniques</p>	<p>Dry season cultivated areas increased Agricultural yields increased and stabilized Time devoted to watering substantially reduced Soil fertility improved Artisanal maintenance systems functional, and breakdown rates at acceptable levels</p>	<p>Internal project monitoring reports Ad hoc surveys/assessments</p>	<p>Appropriate technologies available and adaptable to local conditions Qualified service and equipment providers available in sufficient numbers Markets able to absorb incremental production</p>
<p>2.3 Level of activities and revenues of target groups increased through improved access to agricultural inputs and increasing value-added from production and marketing</p>	<p>Marketed vegetable output increased Production systems diversified and better adapted to market conditions Storage and processing systems developed Fertilizers/pesticides used appropriately/safely Extension agents provide timely and useful advice Regional agricultural federations participate more fully in the horticultural subsector A portion of group savings placed in microfinance institutions, and they receive credit in sufficient amounts</p>	<p>Internal project monitoring reports Ad hoc surveys/assessments at production and marketing level Internal reports of professional agricultural associations</p>	<p>Same as above</p>



Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions
<p>Results: 1. Grass-roots participatory planning and capacity-building component implemented</p>	<p>Approximately 160 women's and youth groups receive assistance in areas of group management and overseeing service providers Village groups validate existing local development plans Land use agreements formulated and agreed upon in all villages where valley bottom (<i>bas-fonds</i>) development carried out Feasibility studies carried out for irrigation development Study tours and farmer-to-farmer exchanges organized Functional literacy programme established and implemented in selected villages</p>	<p>Local development plans Internal project monitoring reports Reports of service providers on training and participation</p>	<p>Training programmes relevant to needs of participants Messages/themes promoted are fully understood by group officers and members Villagers agree on priority of training women and youth Complimentarity and synergy with activities of other development projects operating in the regions</p>
<p>2. Irrigation development component implemented</p>	<p>Pilot programme established for testing <i>bas fonds</i> development technical and managerial approaches at 10 sites <i>Bas fonds</i> developed and/or rehabilitated at an additional 70 sites for a total of 1 500 ha Small gardening plots developed at 50 sites for a total of 100 ha Water users' associations established Regional/departmental ANADER irrigation support units strengthened through training and provision of resources Appropriate technologies identified and promoted in the areas of water-lifting and distribution, and well construction Training and guided visits implemented in the areas of contracting and irrigation services provision for small consulting businesses and local artisans</p>	<p>Internal project monitoring reports Reports of service providers on training and participation</p>	<p>Training programmes relevant to needs of participants Technologies promoted are easily understood by beneficiaries and are financially realistic in light of farmer labour and cash constraints Sufficient number of small enterprises exist and are interested in participating</p>
<p>3. Horticultural development component implemented</p>	<p>Training of extension agents carried out Adaptive research carried out in collaboration with national and regional institutes Training for beneficiaries provided in production technologies, storage, drying and marketing Market information services provided Farmer-trader linkages established through workshops and field visits Linkages created between beneficiary groups and microfinance networks (COOPEC and CMEC)</p>	<p>Internal project monitoring reports Reports of service providers on training and participation</p>	<p>Training programmes relevant to needs of participants</p>



Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions																							
4. PCU, monitoring/evaluation system and horticultural development fund established	Personnel recruited, procedures manual written and approved, materials and equipment ordered, etc. National steering committee and department-level consultation committees established Service providers selected on a competitive basis to greatest extent possible Horticultural development fund established and disbursing	Internal project monitoring reports Annual work programme and budget	Programmeme of work achieved																							
Activities/components: 1. Participatory planning and capacity building 2. Irrigation development 3. Horticultural development 4. Project management, monitoring/evaluation	Budget (USD millions): <table border="1" data-bbox="640 472 1563 654"> <thead> <tr> <th>Gov't</th> <th>IFAD</th> <th>Beneficiaries</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td>0.18</td> <td>1.20</td> <td>0.00</td> <td>1.37</td> </tr> <tr> <td>0.14</td> <td>1.14</td> <td>0.00</td> <td>1.29</td> </tr> <tr> <td>0.73</td> <td>5.02</td> <td>1.11</td> <td>6.86</td> </tr> <tr> <td>0.69</td> <td>3.82</td> <td>0.00</td> <td>4.50</td> </tr> <tr> <td>1.74</td> <td>11.17</td> <td>1.11</td> <td>14.03</td> </tr> </tbody> </table>	Gov't	IFAD	Beneficiaries	TOTAL	0.18	1.20	0.00	1.37	0.14	1.14	0.00	1.29	0.73	5.02	1.11	6.86	0.69	3.82	0.00	4.50	1.74	11.17	1.11	14.03	Loan and grant agreements signed Disbursement rates Counterpart fund allocations by the Government
Gov't	IFAD	Beneficiaries	TOTAL																							
0.18	1.20	0.00	1.37																							
0.14	1.14	0.00	1.29																							
0.73	5.02	1.11	6.86																							
0.69	3.82	0.00	4.50																							
1.74	11.17	1.11	14.03																							



COST AND FINANCING

Table 1: Components Project Cost Summary

	(XOF '000)			(USD '000)			% For. Exch.	% Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
A. Participatory planning/capacity-building	687 710.0	75 190.0	762 900.0	1 053.6	115.2	1 168.8	10	10
B. Irrigation Development	608 260.0	104 940.0	713 200.0	931.9	160.8	1 092.7	15	9
C. Horticultural Development								
1. Agricultural extension support	568 016.0	78 424.0	646 440.0	870.3	120.2	990.4	12	8
2. Provision of market information	295 290.0	14 410.0	309 700.0	452.4	22.1	474.5	5	4
3. Linkages with microfinance institutions	92 400.0	1 600.0	94 000.0	141.6	2.5	144.0	2	1
4. Assistance to professional organizations	217 600.0	-	217 600.0	333.4	-	333.4	-	3
5. Horticultural development fund	2 114 307.0	234 923.0	2 349 230.0	3 239.3	359.9	3 599.2	10	31
Subtotal	3 287 613.0	329 357.0	3 616 970.0	5 036.9	504.6	5 541.6	9	47
D. Project Management, M&E	2 293 440.0	255 760.0	2 549 200.0	3 513.8	391.8	3 905.6	10	33
Total BASELINE COSTS	6 877 023.0	765 247.0	7 642 270.0	10 536.3	1 172.4	11 708.7	10	100
Physical contingencies	403 981.5	70 733.5	474 715.0	618.9	108.4	727.3	15	6
Price contingencies	978 383.5	59 136.8	1 037 520.3	1 499.0	90.6	1 589.6	6	14
TOTAL PROJECT COSTS	8 259 388.0	895 117.3	9 154 505.3	12 654.2	1 371.4	14 025.6	10	120

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**Table 2: Components by Financier
(USD '000)**

	Government		IFAD		Beneficiaries		Total		Foreign Exchange	Local (Excl. Taxes)	Duties and Taxes
	Amount	%	Amount	%	Amount	%	Amount	%			
A. Participatory planning/capacity-building	176.1	12.8	1 195.4	87.2	-	-	1 371.6	9.8	132.6	1 062.9	176.1
B. Irrigation Development	144.6	11.2	1 142.7	88.8	-	-	1 287.3	9.2	184.8	957.9	144.6
C. Horticultural Development											
1. Agricultural extension support	161.4	14.0	990.1	86.0	-	-	1 151.6	8.2	137.9	852.3	161.4
2. Provision of market information	64.2	11.5	492.9	88.5	-	-	557.2	4.0	25.7	467.2	64.2
3. Linkages with microfinance institutions	8.7	5.4	152.5	94.6	-	-	161.2	1.1	2.6	149.8	8.7
4. Assistance to professional organizations	39.9	10.0	359.4	90.0	-	-	399.3	2.8	-	359.4	39.9
5. Horticultural development fund	459.5	10.0	3 023.3	65.8	1 111.8	24.2	4 594.5	32.8	435.6	3 699.5	459.5
Subtotal	733.8	10.7	5 018.2	73.1	1 111.8	16.2	6 863.8	48.9	601.8	5 528.2	733.8
D. Project Management, M&E	685.5	15.2	3 817.4	84.8	-	-	4 503.0	32.1	452.3	3 365.1	685.5
TOTAL DISBURSEMENT	1 740.1	12.4	11 173.7	79.7	1 111.8	7.9	14 025.6	100.0	1 371.4	10 914.1	1 740.1

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ORGANISATION ET GESTION

A. Organisation du projet et intervenants

1. **Principes d'organisation.** L'agence d'exécution du projet sera le MINAGRA, représenté par sa Direction de la programmation. Un Comité d'orientation et de pilotage du projet (COP), réunissant les représentants des bénéficiaires et des institutions impliquées, sera principalement chargé de l'approbation des programmes annuels d'action (PAA) techniques et financiers, et de l'examen de leur réalisation. Une Unité de gestion du projet (UGP) sera créée et sera en charge de la coordination technique et financière du projet, par délégation de la Direction de la Programmation. Cette UGP bénéficiera de l'autonomie technique et financière et résidera dans la zone du projet. Le Coordonnateur du projet sera nommé par le MINAGRA et sera le responsable de l'UGP, en résidence à Korhogo. L'exécution des composantes sera contractée à des opérateurs principaux qui pourront sous-traiter certaines actions à des opérateurs secondaires. Un Fonds de développement du maraîchage (FDM) sera institué pour l'attribution de subventions aux investissements éligibles des groupes cibles.

2. **Opérateurs principaux et secondaires.** Le projet confiera par contrat l'exécution des trois composantes à des opérateurs principaux. Le coût des contrats pluriannuels passés avec ces opérateurs sera financé par le projet. Ces opérateurs pourront sous-traiter certaines de leurs actions à des opérateurs locaux, privés, associatifs ou publics. La matrice présente l'organisation proposée pour l'exécution de chaque composante et sous-composante, comprenant l'opérateur principal, les opérateurs secondaires possibles, les partenariats à développer (hors contrat), ainsi que l'institution ou entité pérenne où pourraient être domiciliées à terme les fonctions remplies par le projet.

3. Trois opérateurs principaux interviendraient dans la mise en œuvre du projet sur le terrain:

- l'ensemble des deux composantes 1 et 3 (renforcement des capacités des groupes cible, et appui au développement de la filière maraîchage) sera confié à deux opérateurs régionaux, l'un couvrant la région des savanes (Korhogo) et l'autre la région du centre-Nord (Bouaké); et
- la composante 2 (amélioration des techniques et pratiques de petite irrigation) sera confiée à un opérateur spécialisé.

4. Le profil, le rôle et la procédure de sélection des deux **opérateurs régionaux** seront les suivants:

- ONG, bureau d'étude ou organisme public d'envergure sous-régionale ou nationale, disposant d'une pratique confirmée de gestion de projets locaux pour l'appui au développement local et le développement de filières agricoles;
- l'opérateur devra concevoir une stratégie détaillée pour la mise en œuvre des composantes 1 et 3, portant notamment sur la sélection des bénéficiaires, les méthodes d'appui aux promoteurs de base et aux OPA, la formation à la maîtrise d'ouvrage, le conseil agricole, l'accès aux facteurs de production et la diffusion de l'information économique;
- l'opérateur développera un réseau de partenariats locaux avec les projets existants;
- l'opérateur sous-traitera une partie des actions à des opérateurs secondaires locaux, sous forme de contrats de courte durée, renouvelables en fonction de leurs performances; et
- l'opérateur sera sélectionné par appel d'offre restreint, pour une période de deux années renouvelables.

5. Le profil, le rôle et la procédure de sélection de l'**opérateur spécialisé en petite irrigation** seront les suivants:



- ONG ou bureau d'étude d'envergure internationale ou sous-régionale, bénéficiant d'une pratique confirmée de la conception et de la mise en œuvre sur le terrain de techniques et d'aménagements de petite irrigation, dans la sous-région Afrique de l'ouest;
- l'opérateur aura à concevoir et organiser en détail, puis à conduire sur le terrain, le programme de recherche action sur les aménagements de petits aménagements de bas-fonds;
- il conduira également le programme d'adaptation des techniques ainsi que la formation des différents corps de métiers impliqués;
- l'opérateur sous-traitera une partie des actions à des opérateurs secondaires locaux, sous forme de contrats de courte durée, renouvelables en fonction des performances des prestataires;
- compte tenu de la spécificité du profil recherché, il est recommandé que l'opérateur soit contracté de gré à gré; et
- l'opérateur sera sélectionné par appel d'offre international restreint, pour une période de trois années renouvelables.

B. Pilotage, coordination et gestion du projet

6. **Ministère de l'agriculture et des ressources animales (MINAGRA).** Conformément aux dispositions en vigueur, le MINAGRA sera le maître d'ouvrage et l'organisme de tutelle du projet. A ce titre, il approuvera les conventions et les contrats passés avec les opérateurs et les sous-traitants du projet. Il donnera sa non-objection sur les programmes et rapports d'exécution annuels préparés par l'UGP et approuvés par le Comité d'orientation et de pilotage. Il approuvera les demande de paiement du projet et les transmettra au Ministère de l'économie et des finances (MEF). Le MINAGRA sera responsable de l'évaluation externe du projet. Il facilitera la tenue périodique d'ateliers de planification et programmation du projet.

7. **Comité d'orientation et de pilotage (COP).** Le COP sera chargé de la conduite du projet et se réunira au moins deux fois par an, alternativement à Korhogo et à Bouaké, sous la présidence du Directeur de la DRARA correspondante. La localisation du COP au niveau régional contribuera à renforcer le processus de déconcentration administrative en cours.

8. Le comité de pilotage sera notamment chargé des aspects suivants:

- approbation de la stratégie de ciblage et de concentration géographique du projet;
- approbation des programmes annuels d'activité du projet;
- approbation des rapports d'exécution annuels;
- examen des rapports d'évaluation externe de la DP du MINAGRA, et mise en œuvre des éventuelles mesures correctives proposées; et
- appui à la solution des conflits pouvant survenir lors de l'exécution du projet.

9. Le Comité pourrait comprendre les représentants des institutions suivantes:

- présidence: directeur de la DRARA (présidence alternative);
- représentant des deux DRARA (MINAGRA) de la zone du projet;
- représentant des autres ministères et organismes impliqués (MEF, Plan, MSPF, MIE);
- représentants des populations bénéficiaires (désignés par groupes de base/comités d'usagers de l'eau et leurs unions; les fédérations régionales; les CMEC et COOPEC); et
- bailleur de fonds et institution coopérante (observateurs).



10. **Unité de gestion du projet (UGP).** L'UGP, basée à Korhogo, sera l'entité chargée de la programmation et du suivi technique et financier du projet, par délégation du MINAGRA. L'UGP bénéficiera de l'autonomie de gestion technique et financière, dans le cadre de la réglementation en vigueur. Elle sera notamment chargée des aspects suivants:

- élaboration de la stratégie, du ciblage détaillé et de la programmation générale du projet;
- préparation des appels d'offres et des contrats passés avec les opérateurs principaux;
- recrutement de consultants pour appuis et études ponctuelles;
- coordination et préparation des programmes annuels d'activité (sur la base des propositions des opérateurs);
- supervision des activités des opérateurs spécialisés; approbation des contrats passés avec les opérateurs secondaires;
- secrétariat et gestion administrative et comptable du Fonds de développement du maraîchage (FDM);
- vérification et transmission des factures et décomptes présentés par les opérateurs principaux;
- comptabilité financière générale et analytique du projet;
- suivi interne; et
- production de rapports annuels d'exécution du projet.

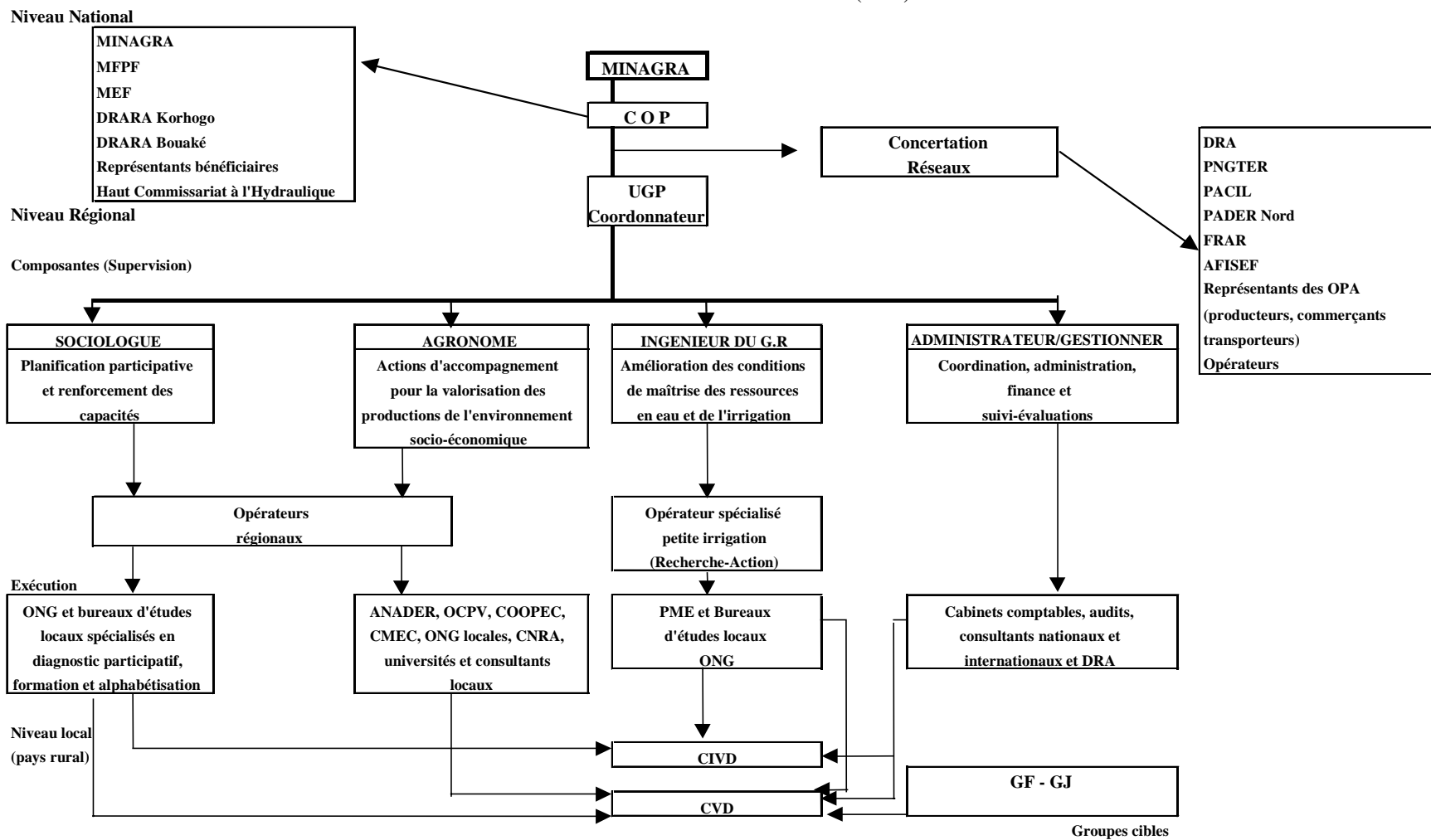
11. Le rôle de l'UGP se concentrera sur la conception, la programmation et le suivi technique, socio-économique et financier des composantes, en laissant l'exécution sur le terrain aux trois opérateurs principaux. En conséquence, l'équipe de cadres de l'UGP sera de taille réduite, composée de 5 cadres et de 3 techniciens.

12. Une procédure compétitive de sélection et de recrutement des cadres de l'UGP devra être élaborée et mise en œuvre avant le démarrage du projet. Cette procédure sera similaire à celle utilisée pour les projets PACIL et PDRZ. Le personnel de l'UGP et certains cadres administratifs régionaux (DRARA) pourront si nécessaire bénéficier d'une formation pratique pour pouvoir remplir leur fonctions dans le projet.

13. **Phase préparatoire (avant mise en vigueur du prêt FIDA).** Dès l'approbation du prêt par le FIDA, un ou plusieurs consultants devront être recrutés pour contribuer au bon démarrage du projet (le coût des prestations correspondantes sera financé sur le don SOF), en se basant sur l'expérience acquise dans les autres projets, notamment ceux appuyés par le FIDA en Côte d'Ivoire. Ces consultants, spécialistes en gestion de projets, seraient particulièrement chargés des tâches suivantes:

- rédaction des termes de référence détaillés des cadres de l'UGP;
- appui à la conception et au lancement de la procédure de sélection et de recrutement des cadres; recrutement d'un cabinet spécialisé;
- préparation du cahier des charges pour l'acquisition des véhicules et des équipements du projet; appui au lancement des appels d'offres correspondants;
- rédaction du manuel détaillé des procédures du projet (y compris les procédures du FDM);
- lancement de la procédure de sélection de l'opérateur international, incluant: appel à manifestation d'intérêt, rédaction des termes de référence détaillés; proposition d'une liste courte; préparation du dossier d'appel d'offre; et
- appui au MINAGRA pour l'organisation de l'atelier de démarrage du projet.

**ORGANIGRAMME DU PROJET
UNITE DE GESTION DU PROJECT (UGP)**



LEGENDE

- Relations hiérarchiques
- Relations fonctionnelles ou contractuelles



ANALYSE ÉCONOMIQUE ET FINANCIÈRE

1. L'objectif attendu est l'intensification des systèmes de production maraîchère, et accessoirement la culture du riz, grâce à la maîtrise de l'eau et à la valorisation en aval des produits. Des comptes d'exploitation prévisionnels ont été préparés pour illustrer les rendements escomptés ainsi que les revenus brut et net et la valorisation de la main d'œuvre. Le Tableau 1 montre les principaux paramètres des modèles de culture.

2. Les revenus augmentent de façon significative pour tous les modèles. Grâce aux améliorations prévues par le projet (amélioration des conditions d'exhaure et introduction de pompes manuelles ou à pédale), une économie de main-d'œuvre de près de 50% serait obtenue et les femmes pourraient soit étendre les superficies cultivées (400 à 500 m²) ou s'occuper du petit commerce.

Tableau 1 Rendements des cultures et main-d'œuvre requise (par hectare)

Spéculation	Rendement t/ha		Main d'œuvre requise Homme-jour		Valorisation de la main-d'œuvre FCFA/jour		Revenu additionnel Milliers FCFA/ha	
	Sans/avec projet	Sans	Avec	Sans	Avec	Sans		Avec
Maraîchage semi-intensif/Irrigation par exhaure amélioré								
Oignon		15,0	20,0	2 865	1 388	690	1 881	646.6
Tomate		7,0	13,0	2 365	1 315	380	1 310	823.0
Gombo		4,5	7,5	1 775	1 057	635	1 107	423.3
Aubergine		7,0	11,0	1 440	860	399	988	276.3
Piment		4,0	5,5	1 250	780	538	1 113	195.3
Maraîchage semi-intensif/Irrigation gravitaire								
Oignon		15,0	20,0	385	408	5 101	6 399	646.6
Tomate		7,0	13,0	385	435	2 337	3 960	823.0
Gombo		4,5	7,5	295	327	2 532	3 578	423.3
Aubergine		7,0	11,0	210	230	2 733	3 696	276.3
Piment		4,0	5,5	270	290	2 492	2 894	195.3
Riz maîtrise totale		1,5	3,5	200	270	710	1 197	181.4
Riz fil eau		1,2	3,0	165	200	650	1 276	147.8
Riz bas-fonds		1,0	2,2	220	245	410	890	127.4

3. L'utilisation de la superficie irriguée varie selon le type d'aménagements comme ci-dessous:
- pour les aménagements de bas-fonds en maîtrise totale il a été considéré que 80% (10,2 ha) de la superficie serait destinée à la culture du riz et seulement 20% (1,8 ha) serait destinée aux cultures maraîchères (oignon, tomate, aubergine, gombo et piment). Le coût d'investissement retenu est de 1,2 millions de FCFA/ha (y compris frais d'étude et de supervision travaux);
 - pour les bas-fonds en maîtrise partielle, la superficie totale (12 ha nets) sera partagée de la même manière sauf que le maraîchage sera irrigué à partir de la nappe et le coût de l'aménagement du micro périmètre sera ajouté à celui du bas-fonds. Le coût retenu est 1 million FCFA/ha; et
 - pour les micro périmètres maraîchers (2 ha bruts, 1,8 ha cultivés), l'intensité culturale varie entre 122% à 133% (tomate 27 à 40%). Pour les périmètres semi-intensif le réaménagement coûtera environ 1,3 millions de FCFA par hectare et pour les nouveaux périmètres il coûtera environ 2,3 millions de FCFA/ha.

4. L'intensité culturale plus importante sur les micro périmètres irrigués par rapport aux bas-fonds aménagés s'explique par une plus forte densité d'exploitants:

- 34 pour 12 ha sur bas fonds aménagés (0,35 ha/exploitant);
- 45 pour 1,8 ha sur petit périmètres (0,04 ha/exploitante femme en semi-intensif); et
- 30 exploitants jeunes pour 1,8 ha (0,06 ha par exploitant).

5. Les principaux résultats des modèles d'aménagement sont présentés au Tableau 2 suivant.

Tableau 2: Valorisation de la main-d'œuvre et place du revenu des cultures irriguées dans le revenu agricole global du ménage

Modèle	Superficie cultivable par périmètre	Nombre exploitants par périmètre	Superficie exploitation irriguée	Revenu net * FCFA/exploit	Valorisation main-d'œuvre*	Revenu *** pluvial	Revenu parcelle irriguée/ferme pluviale
SAVANES	Ha		Ha	FCFA/an	FCFA/JT	FCFA/an	%
Aménagement aval Barrage collinaire	12,0	34	0,35	238 715	2 180	239 675	100%
Bas-fonds maîtrise Submersion	12,0	34	0,35	144 605	1 080	239 675	60%
Micropérimètres Maraîchers (semi-intensif)	1,8	45	0,04	85 460	1 410	239 675	36%
Micropérimètres maraîchers (intensif)	1,8	30	0,06	180 250	2 180	239 675	75%
BANDAMA							
Aménagement aval Barrage collinaire	12,0	34	0,35	190 198	1 900	647 225	29%
Bas-fonds prise au fil de l'eau	12,0	34	0,35	141 090	1 400	647 225	22%
Bas-fonds maîtrise Submersion	12,0	34	0,35	134 560	1 055	647 225	21%
Micropérimètres maraîchers (semi-intensif)	1,8	45	0,04	70 510	1 330	647 225	11%
Micropérimètres maraîchers (intensif)	1,8	30	0,06	177 940	2 200	647 225	27%

* Revenu net avec projet en régime de croisière.

** Revenu par personne/journée de travail (y compris la main-d'œuvre pour l'irrigation).

*** Pour les calculs, le revenu des cultures pluviales est estimé constant en situation sans et avec projet car le projet ne prévoit d'interventions à ce niveau (voir modèle de fermes pluviales - Document de travail 7).

6. Le tableau montre que les revenus nets des parcelles irriguées varient d'un maximum de 239 000 FCFA/an pour une parcelle de 0,35 ha sur un aménagement en aval d'un barrage collinaire en zone de savanes, à un minimum de 70 500 FCFA/an pour une parcelle de 400 m² sur un périmètre irrigué dans la vallée de Bandama. Ces revenus représentent respectivement 11% à 100% du revenu agricole tiré des cultures pluviales. Le pourcentage est nettement plus élevé en région des savanes par rapport à la vallée de Bandama ce qui témoigne de l'importance des cultures de contre-saison pour l'économie des régions des savanes.

7. Les résultats présentés auparavant montrent en effet que les investissements proposés en matière d'aménagements de petite irrigation entraîneront des augmentations appréciables des revenus à l'hectare et de la rémunération du travail agricole. Afin de comparer ces bénéfices avec les coûts d'investissement, quatre analyses coûts/bénéfices ont été entreprises, qui montrent que **le taux de rentabilité interne financier** des projets de base, pour les bénéficiaires, varie de **16% à plus de 60%**. Les calculs sont résumés dans les tableaux 3 et 4 suivants:

**Tableau 3: Viabilité financière des investissements de petite irrigation proposés:
Région des savanes**

Activités	Coût moyen d'investissement (FCFA/ha) ^{a/}	Valeur nette de la production FCFA/ha ^{b/}	Taux de rentabilité interne (TRI en%)
Réaménagement en aval de barrages existants (15 ha brut)	1 200 000	676 000	27%
Aménagement de bas-fonds avec diguettes en courbes de niveau (15 ha brut)	1 100 000	410 000	18%
Micropérimètres maraîchers (2 ha brut) semi-intensifs	1 300 000	2 131 000	3%
Micropérimètres maraîchers (2 ha brut)-intensifs	2 300 000	3 004 000	58%

^{a/} Y compris les frais d'études et de supervision des travaux.

^{b/} En année de croisière.

**Tableau 4: Viabilité financière des investissements de petite irrigation proposés:
Région de la vallée du Bandama**

Activités	Coût moyen (FCFA/ha)	Revenu net ('000 FCFA)	Taux de rentabilité interne (TRI en%)
Réaménagement en aval de barrages existants (15 ha brut) t	1 200 000	539 000	22%
Aménagement de bas-fonds avec prise au fil de l'eau (15 ha brut)	1 300 000	400 000	16%
Aménagement de bas-fonds avec diguettes en courbes de niveau (15 ha brut)	1 100 000	381 000	17%
Micropérimètres maraîchers (2,0 ha brut) – semi-intensifs	1 300 000	1 763 000	56%
Micropérimètres maraîchers (2,0 ha brut) – intensifs	2 300 000	2 966 000	58%

8. Ainsi, dans les conditions de rendements, de prix et de coûts d'investissement évoquées ci-dessus, les différents types d'aménagement proposés apparaissent financièrement viables avec une bonne marge d'erreur quant aux coûts initiaux. Cependant, il conviendrait d'adapter ces modèles d'analyse aux conditions spécifiques et locales de chaque investissement proposé, en particulier en ce qui concerne les prix des produits agricoles et les coûts d'investissement variables d'un endroit à l'autre.