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PERFORMANCE ASSESSMENT REPORT

BENIN

**NATURAL RESOURCES MANAGEMENT PROJECT
(CREDIT-C2344)**

June 20, 2002

*Operations Evaluation Department
Sector and Thematic Evaluation Group*

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CURRENCY EQUIVALENTS

Exchange Rate Effective CFAF 480 (on average)

Currency Unit = CFA Franc (CFAF)

Average CFAF per US dollar

1992	241	1993	285	1994	568
1995	484	1996	513	1997	606
1998	594	1999	633	2000	680
2001	730				

ABBREVIATIONS AND ACRONYMS

AFD	<i>Agence Française de Développement</i>
CARDER	<i>Centre d'Action Regionale et de Développement Rural</i> (Rural Regional Development Operation Center)
CCCE	<i>Caisse Centrale de Cooperation Economique</i> (Central Economic Cooperation Fund)
CENAGREF	<i>Centre National de Gestion des Réserves de Faune</i> (National Center for Wildlife Management)
CENATEL	<i>Centre National de Teledetection</i> (National Remote Sensing Center)
CLUSA	Cooperative League for USA
DFRN	<i>Direction des Forêts et des Ressources Naturelles</i> (Regional Forest and Natural Resources Directorate)
DPP	<i>Direction de la Programmation et de la Prospective</i> (Directorate of Planning and Prospective)
EU	European Union
GEF	Global Environmental Facility
GERAM	<i>Groupe d'Expertise et d'Ingenierie Rural pour L'Auto Promotion du Monde Rural</i> (Rural Engineering and Expert Group for Rural Self-development)
GTZ	German Technical Cooperation Agency
IDA	International Development Association
INRAB	<i>Institut National de Recherche Agricole au Benin</i> (National Agricultural Research Institute of Benin)
KfW	<i>Kreditanstalt für Wiederaufbau</i> (German Agency for Reconstruction and Development)
MDR	<i>Ministère du Développement Rural</i> (Ministry of Rural Development)
NEAP	National Environmental Action Plan
NGO	Nongovernmental organization
NRM	Natural resources management
ONAB	<i>Office National du Bois</i> (National Wood Office)
PAFP	Participatory Forest Management Plan
PGRN	<i>Projet de Gestion des Ressources Naturelles</i> (Management of Natural Resources Project)
PGTRN	<i>Projet de Gestion des Terroirs et des Ressources Naturelles</i> (Land and Natural Resources Management Project)
PIU	Project Implementation Unit
PNGTER	<i>Projet National de Gestion des Terroirs et d'Equipement Rural</i> (Rural Land Management and Community Infrastructure Development Project)
PSR	Project Supervision Report
SAR	Staff Appraisal Report
UNDP	United Nations Development Program
UNSO	United Nations Sudano-Sahelian Office

FISCAL YEAR

January 1 – December 31

Director-General, Operations Evaluation	: Mr. Robert Picciotto
Director, Operations Evaluation Department	: Mr. Gregory Ingram
Manager, Sector and Thematic Evaluation	: Mr. Alain Barbu
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June 20, 2002

MEMORANDUM TO THE EXECUTIVE DIRECTORS AND THE PRESIDENT

**SUBJECT: Project Performance Assessment Report on Benin
Natural Resources Management (Credit C2344)**

Attached is the Project Performance Assessment Report on the Benin: Natural Resources Management Project, prepared by the Operations Evaluation Department (OED). The project was supported by a credit totaling US\$14.1 million, which became effective on November 25, 1992, and closed on June 30, 1999. The proceeds were used in their entirety.

This project was the first phase of a long term program to promote sustainable uses of agro-sylvo-pastoral resources to help stem the degradation of natural resources. Its main objectives were to build institutions related to the management of natural resources, in particular the Directorate of Forests and Natural Resources, and to implement pilot activities to promote sustainable land production and natural resources management systems in order to stop and eventually reverse the degradation of the environment. Specifically, the project aimed at applying the community land management (*gestion des terroirs*) approach on a pilot scale for different forests, watersheds and wildlife parks. It also attempted to design an approach to clarify land tenure under different ownership systems in different agro-ecological zones of the country.

The project outcome was assessed as **moderately unsatisfactory**. While the objectives were highly relevant, they were only achieved to a modest extent. On the institution building objective, some new natural resource laws have been enacted and prepared, but the key institution, the Directorate of Forests and Natural Resources, was not adequately strengthened to ensure compliance with the new law and support the implementation of sustainable land management systems on a large scale. In addition, while the project implemented most of the planned pilot activities, the absence of consistent monitoring information on their financial, economic and environmental performance has made it impossible to validate their economic and ecological justification, as would have been important to underpin future support for the long term program piloted by the project.

The sustainability of the project is **non evaluable**. While *ex ante* estimates suggest that most activities piloted under the project are potentially profitable and sustainable, they require follow-up that the Directorate of Forests and Natural Resources is presently unable to provide. Many of the village committees and associations created through the project have ceased to function or drastically curtailed their activities when the project closed, except in situations where other donors have financed NGOs to continue to support them. Nonetheless, provided the lessons from the project's experience are incorporated in the phase II project, this lack of demonstrated sustainability at the end of the pilot phase should not be construed as a failure of the community land management approach supported by the long term program.

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The institutional development impact of the project is rated as **modest**. The project contributed to the enactment of a new forest law, a new forest policy and the development of community-level institutions. Some of the basic land administration activities piloted in the project have been picked up by other donors for the second phase of the program and could contribute to the emergence of rural municipalities, facilitating the decentralization process being initiated in the rural area of the country. However, the project made only a limited contribution to the country's ability to manage its natural resources, mainly through its failure to significantly strengthen the Directorate of Forests and Natural Resources.

The PAR rates Bank performance as **unsatisfactory** and Borrower performance as **satisfactory**. The project's quality at entry was unsatisfactory because its design did not pay enough attention to the process of institutional reform, and the forest management plans did not anticipate eventual land tenure issues which should have been addressed in the course of project preparation. The supervision missions ended up with the partners and co-financiers going their own separate way. While this project was the pilot phase of a long-term undertaking, the World Bank was the only partner that could not ensure the proper transition to a second phase, jeopardizing the sustainability of the activities started in the first phase.

Experience with this project confirms several OED lessons:

- **The financial and economic performance of pilot project activities need to be carefully monitored:** The activities initiated by a pilot project need to be monitored from the start in order to be able to inform decisions on the design and implementation of the remaining phases of the program. Without such monitoring, the financial viability, and economic and ecological justification of the activities piloted by the project cannot be demonstrated. Such evidence would have been important to validate the justification of future phases of the program.
- **Organizational and social characteristics of the local communities and associations undertaking resources management activities need to be appraised, monitored and nurtured:** It is not enough for an activity to be potentially profitable to ensure its viability and sustainability. Social cohesion and some minimum level of organization in the local associations and communities implementing the activities are also required. Social cohesion seems to be greater when the association has been created in a transparent manner and has included a good representation of the village social spectrum, including the poorest. For the sustainability of the associations, different factors appear to be relevant, such as regular meetings of the members, rules concerning decision-making, votes, and allocation of duties, among others.
- **The implementation and supervision of pilot projects should emphasize the quality rather the quantity of physical targets.** In projects aiming at putting in place innovative ideas, efforts should be made to fine-tune new ways to reach given objectives, here sustainable resources management, rather than simply quantitative targets. The key monitoring indicators should focus on qualitative indicators of, for instance, institutional arrangements and the sustainability of the activities undertaken to foster economic development.

Attachment



Robert Picciotto
by Gregory K. Ingram

OED Mission: Enhancing development effectiveness through excellence and independence in evaluation.

About this Report

The Operations Evaluation Department assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, OED annually assesses about 25 percent of the Bank's lending operations. Assessments are conducted one to seven years after a project has closed. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons. The projects, topics, and analytical approaches selected for assessment support larger evaluation studies.

A Project Performance Assessment Report (PPAR) is based on a review of the Implementation Completion Report (a self-evaluation by the responsible Bank department) and field work conducted by OED. To prepare PPARs, OED staff examine project files and other documents, interview operational staff, and in most cases visit the borrowing country for onsite discussions with project staff and beneficiaries. The PPAR thereby seeks to validate and augment the information provided in the ICR, as well as examine issues of special interest to broader OED studies.

Each PPAR is subject to a peer review process and OED management approval. Once cleared internally, the PPAR is reviewed by the responsible Bank department and amended as necessary. The completed PPAR is then sent to the borrower for review; the borrowers' comments are incorporated into the document that is sent to the Bank's Board. When an assessment report is released to the Board, it is also widely distributed within the Bank and to concerned authorities in member countries.

About the OED Rating System

The time-tested evaluation methods used by OED are suited to the broad range of the World Bank's work. The methods offer both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. OED evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (complete definitions and descriptions of factors considered are available on the OED website: <http://wb1n1023.worldbank.org/oed/oeddoclib.nsf/232d43ae09e87ac985256966007cc257/acaeb95358e99e578525698c005190da?OpenDocument>).

Relevance of Objectives: The extent to which the project's objectives are consistent with the country's current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies). *Possible ratings:* High, Substantial, Modest, Negligible.

Efficacy: The extent to which the project's objectives were achieved, or expected to be achieved, taking into account their relative importance. *Possible ratings:* High, Substantial, Modest, Negligible.

Efficiency: The extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. *Possible ratings:* High, Substantial, Modest, Negligible.

Sustainability: The resilience to risk of net benefits flows over time. *Possible ratings:* Highly Likely, Likely, Unlikely, Highly Unlikely, Not Evaluable.

Institutional Development Impact: The extent to which a project improves the ability of a country or region to make more efficient, equitable and sustainable use of its human, financial, and natural resources through: (a) better definition, stability, transparency, enforceability, and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. Institutional Development Impact includes both intended and unintended effects of a project. *Possible ratings:* High, Substantial, Modest, Negligible.

Outcome: The extent to which the project's major relevant objectives were achieved, or are expected to be achieved, efficiently. *Possible ratings:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Bank Performance: The extent to which services provided by the Bank ensured quality at entry and supported implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of the project). *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower assumed ownership and responsibility to ensure quality of preparation and implementation, and complied with covenants and agreements, towards the achievement of development objectives and sustainability. *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

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This report was prepared under the supervision of Andres Liebenthal by Patrice Harou (Consultant), who visited Benin in May 2001. William B. Hurlbut edited the report. Soon-Won Pak provided administrative support.

Principal Ratings

	<i>ICR</i>	<i>ES</i>	<i>PPAR</i>
Outcome	Satisfactory	Marginally Satisfactory	Moderately Unsatisfactory
Sustainability	Likely	Likely	Non Evaluable
Institutional Development Impact	Negligible	Modest	Modest
Bank Performance	Satisfactory	Satisfactory	Unsatisfactory
Borrower Performance	Satisfactory	Satisfactory	Satisfactory

Key Staff Responsible

<i>Project</i>	<i>Task Manager/Leader</i>	<i>Division Chief/ Sector Director</i>	<i>Country Director</i>
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Completion	Talib Esmail, Nicolas Ahouissoussi	Joseph Baah-Dwomoh	Theodore D. Ahlers

Preface

This is a Project Performance Assessment Report (PPAR) on the Natural Resources Management Project, for which Credit 2344, in the amount of US\$14.1 million, was approved on March 24, 1992, and became effective on November 25, 1992. The credit was closed on June 30, 1999.

The PPAR presents the findings of a mission to Benin May 12–24, 2001 by the World Bank Operations Evaluation Department (OED). The mission gathered data and interviewed officials of the Government of Benin, staff of the project, the Bank, universities, NGOs, and co-financiers, as well as villagers. The cooperation and assistance of all stakeholders and government officials is gratefully acknowledged. In addition, the PPAR draws on the Staff Appraisal Report, Implementation Completion Report, and other related studies.

Following standard OED procedures, copies of the draft PPAR was sent to the relevant government officials and agencies for their review, but no comments were received.

1. Introduction and Background

Three quarters of the population of Benin lives off the land and natural resources, resources that are deteriorating rapidly. The Natural Resources Management Project was designed as the pilot phase of a long term program to help arrest this trend. This report evaluates the experience with the project and concludes with some directions for the follow-on Phase II project. In addition, the report examines two related questions: What is the potential profitability of the activities initiated by the project? And related to that, what institutional arrangements are needed to promote the continued implementation and operation of activities after the credit has closed?

1.1 Benin has an area of 113,000 km² and a population of 4.6 million, two-thirds of whom live in rural areas. The per capita income was US\$380 in 1999. The population is increasing at an average annual rate of about 3.2 percent. Its geographical distribution is very uneven. Population density varies from 340 inhabitants/km² on the Atlantic Coast to about 14 inhabitants/km² in Borgou. As a result, around two-thirds of the population is concentrated on 12 percent of the land area. The urban population accounts for around one-third of the total and is growing at 4 percent a year (8 percent in Cotonou).

1.2 Benin's development strategy has been broadly successful over the past decade, but the country continues to face significant challenges in reducing poverty. Benin's economic performance during the 1990s represents a striking turnaround after nearly two decades of stagnation. GDP growth (an average of 4.5 percent per year) generally exceeded that of other economies in the region, and productivity gains allowed per capita incomes to rise (by about 1.7 percent on average). Except in the immediate aftermath of the CFA franc devaluation (in 1994), consumer price inflation remained under 4 percent per annum. The government's structural adjustment program has been successful in establishing fiscal discipline, opening up the economy, privatizing most public enterprises, and strengthening private sector incentives. Most significantly, social indicators—particularly those for education and health—improved steadily throughout the 1990s. In addition, Benin's debt sustainability has markedly improved over the past decade as a result of strong international financial support, as well as strengthened economic management and a strong recovery in commodity exports, especially cotton. The country has received a high level of concessional financial assistance for investment projects and its adjustment program, and the debt relief granted under the Enhanced HIPC Initiative in July 2000, has secured its medium-term debt sustainability. Notwithstanding these impressive results, poverty remains a major issue—about one-third of the population remains below the poverty line.

1.1 Agriculture, the source of livelihood for 75 percent of the population, accounts for about 40 percent of GDP and over 50 percent of exports. Agricultural growth averaged 4.2 percent over the period 1980–88, but this was achieved mainly by more extensive land use. Owing to mounting demographic pressure, land productivity is steadily decreasing. The Ministry of Rural Development (MDR) has the main responsibility for agriculture, livestock, fisheries, water management, forestry, wildlife management, and agricultural research. Diffusion and implementation of agricultural development policies are entrusted to regional rural development agencies (CARDER) located in each Department, under the MDR. The Forestry and Natural Resources Directorate (DFRN), within MDR, is responsible for the management of forests and fauna and includes the management unit of the project. DFRN includes the Teledetection Center (CENATEL), which is responsible for remote sensing and environmental monitoring.

1.2 The competition between farming, stock raising and forestry, the spread of bush fires, the disappearance of the forest cover as a source of fuelwood, the decrease of soil fertility, possible climatic changes, the silting-up of lagoons and the consequent disappearance of fish resources,

are all being exacerbated by increasing demographic pressure. Shifting slash-and-burn cultivation is still the most common practice. Increasingly, fallow land is subject to bush fires or is overgrazed. The insecurity of the land tenure system, combined with the absence of cultivation practices designed to promote sustainable agriculture, has caused farmers and livestock breeders to lose interest in maintaining and managing their land. The State recognizes both traditional forms of ownership and individual ownership.

1.3 Constant land clearing is leading to the disappearance of forests and bush and to soil degradation. Low watershed seepage and heavy runoff result in soil losses that, together with riverbank erosion, silt-up watercourses and village wells. Farming is advancing further into wetter and more fertile but more distant bottomlands. Declining soil fertility is the challenge for tomorrow's agriculture, in an economic context in which access to chemical fertilizers is still limited (basically for cotton). Minerals are removed from the soil by cereals and root crops at a rate six times higher than replenishment through fertilizers. Further mineral losses result from erosion and bush fires. Agriculture, therefore, is "mining" the land in the absence of sufficiently long fallow periods. Given that at present rates the population of Benin will double in 20 years, the time has come to address the rapid exhaustion of the stock of uncultivated land.

1.4 The gazetted forests, along with the parks in the savannah region, are in theory protected by the authorities. In practice they suffer from poaching, grazing, bush fires, and encroachment by farmers. Furthermore, the farmers do not understand the reasons for gazettement of forests, and the government's protection policy has often been ineffective. The early (precautionary) burning policy in the parks is not always properly understood and well applied by the forestry authorities. Uncontrolled secondary fires attributable to hunters and poachers are common, with disastrous consequences for the fertility of soils and their capacity to regenerate the tree cover. The growing consumption of fuelwood is leading to deforestation all around the towns (Malanville, Boukoumbe, Ouake), desertification and a shortage of fuelwood. In southern areas, the density of the population and the near-complete occupation of the land by crops aggravate the problem. Currently, there is a scramble for fuelwood, and the sources of supply are shifting toward the last gazetted forests in the Oueme valley. There is also considerable laxity in the checking of export permits for logs and fuelwood, particularly for exports to Niger and Nigeria.

1.5 Range management is another important natural resource issue. Nomadic stock raising puts an increasingly heavier burden on the natural pastures. During the dry season it leads to bushfires and to tree lopping and pollarding, to allow the herds to browse among the new shoots. The straying of animals into agricultural land also gives rise to conflicts with farmers and makes tree plantation a risky operation. Controlling herd movements is a prerequisite for the integration of forestry into farming systems. While domestic transhumance is relatively well integrated into the national land use patterns, large-scale cross-border transhumance is difficult to control. It is extending further and further into the south of the country, where it is responsible for severe degradation and conflicts. Cross-border transhumance is in principle governed by the West African Livestock and Meat Economic Community (LMEC) regulations that allow the free movement of herds between Niger, Mali, Burkina Faso, Togo, and Benin. However, the articles of the agreement are not suited to the ecological and economic context of cross-border transhumance.

1.6 This PPAR first discusses the relevance of the project's objectives, efficacy, and efficiency to arrive at an assessment of the outcome. The sustainability of the outcome is then assessed and linked to the observed institutional development impact. Finally, Bank and borrower performance are assessed. The report concludes with the lessons learned and some directions for the future. Two issues are given special attention: What is the potential profitability of the activities initiated by the project? And related to that, what institutional arrangements are needed

to promote the continued implementation and operation of activities after the credit has closed? Both aspects are closely related to the sustainability of the project and to the design of activities for the second phase of what is to be a long-term program.

2. Project Objectives and Relevance

*The project's two main objectives—strengthening institutions and implementing pilot activities related to community land management—are substantially relevant and fit well with three of the interim CAS and PRSP objectives: managing natural resources sustaining the poorest segment of society, and decentralization. The project's relevance is rated **high**. However, the design of the project did not anticipate the process, time and commitment required to reform institutions.*

2.1 The Natural Resources Management (NRM) project (*Projet de Gestion des Ressources Naturelles*) evaluated in this PPAR was the pilot phase of a long-term program aimed at sustainably managing natural resources. The project had two main objectives. The first one was to build institutions to strengthen the planning, management, and monitoring and evaluation capacity of principally the Directorate of Forests and Natural Resources (DFRN), but also the National Remote Sensing Center (CENATEL) and the National Center for Wildlife management (CENAGREF), and to a lesser extent the National Agricultural Research Institute of Benin (INRAB) and the Rural Regional Development Operations Center (CARDER). The second objective was to undertake pilot activities to promote sustainable production and natural resource management systems in rural areas in order to stop and possibly reverse the degradation of renewable natural resources.

2.2 The institution-building activities included (a) reviewing and enacting new laws and policies governing the use of forests and wildlife resources; (b) reorganizing and strengthening the technical and human resource capacity of national institutions in accordance with their new roles and functions; (c) research and development; and (d) training of project personnel, villagers, and others in participatory approaches to natural resource management. Site-specific pilot activities included (a) watershed management and land tenure operations in four different agro-ecological zones; (b) forest management in three gazetted forests in the central and southern parts of the country; and (c) wildlife management and poaching control in sensitive buffer zones adjacent to two national parks in the northern parts of the country.

2.3 The project objectives were an appropriate response to the degradation of Benin's natural resources and they were not substantially modified after the Mid-Term Review. The PPAR mission found that these objectives remain relevant and are in step with the current CAS and PRSP strategies, both of which emphasize decentralization of administration and decision-making processes, a focus on the poorest of the poor in rural Benin, and halting the deterioration of natural resources.

2.4 **Project Design.** The NRM project drew upon lessons learned from a previous forestry project in Benin (Credit-1505-BEN/SF 024-BEN) and also from similar community land management (*Gestion des Terroirs*) projects in Burkina Faso and Mali. A major lesson from the earlier forestry project had been that future projects need to pay greater attention to the reform of forestry institutions and adopt a community-based approach to natural resources management. Both aspects were incorporated in the project design. Even so, the design of the NRM project did not fully anticipate the process, time, and commitment required to reform the forestry and other institutions concerned.

3. Efficacy

Although a new forest law was enacted, DFRN was not adequately strengthened to monitor compliance with the law. The expertise of CENATEL is not recognized by other government agencies, and most of the other national institutions that were to be strengthened through the project were not much improved. Many outputs of the institution building activities were achieved, but some ended when the project closed and others only continued due to the availability of other donor funding. An approach to foster community land management, "la gestion des terroirs", has been tested and is now well accepted to manage natural resources. Given the shortcomings in the achievement of both objectives, the efficacy of the project is rated modest.

3.1 The achievements of the project are summarized in the performance indicators and outputs listed in Table 1. The following paragraphs discuss the project's achievements in pursuit of the two main objectives, starting with the institutional aspects. In July 1993, the National Assembly approved the new forestry law that provides an enabling environment for collaborative forest management with local communities. The government in November 1994 adopted the new forestry policy, and a Presidential decree relating to the application of the law was issued in July 1996. The National Assembly is soon expected to approve a parallel law with respect to collaborative wildlife management that was prepared in 1998. However, DFRN does not have the capacity yet to provide the incentives and penalties for people to benefit and comply with the new law and its corresponding regulations. Nor does it have the capacity to plan new operations like those undertaken during the project. The project did build some capacity for planning, especially for the development of participatory forest management plans, but this capacity was largely restricted to some activities of the NRM project and was not transferred to the mainstream activities of DFRN.

3.2 The other targeted institutions were not adequately strengthened by the project. The expertise of CENATEL (*Centre National de Teledetection*, or National Remote Sensing Center) is not recognized by other government agencies, including DFRN, and the privatization status of ONAB (*Office National du Bois*, or National Wood Office) is still not clear. Most of the other national institutions less directly associated with DFRN, such as CARDER (*Centre d'Action Regional et de Developpement Rural*, or Regional Rural Development Operations Center), INRAB (*Institut National de Recherche Agricole au Benin*, or National Agricultural Research Institute of Benin), and CENAGREF (*Centre National de Gestion des Reserves de Faune*, or National Center for Wildlife Management) do not appear to have been strengthened by the project. CENAGREF was a Park unit within DFRN, but became autonomous in budget matters at the end of the project and now is helped by different donors in a new Program for the Conservation and Management of National Parks.

3.3 As regards the pilot activities, the PPAR mission found that the provisions for the monitoring of project activities and their results had barely been put in place by the end of the project. Hence no information is available to make a quantitative estimate of the impacts of this project even though this should have been a major contribution by CENATEL and INRAB to the understanding of the community land management approach, given its pilot nature. In addition, the PPAR mission observed that the results of the activities initiated under the project (and listed on Table 1), and the likelihood of their sustainability varied widely from one site or village to the next. Many activities begun by the associations and local institution have come to a standstill at the end of the project, except when donors have continued to finance them.

3.4 The watershed management and land tenure component, which was expanded to a fifth site in 1994, delivered most of its outputs. The participatory (rapid rural appraisal type) approach

employed during the project to produce the community land management plan has now become relatively well established. In some villages the beginning of a cadastre has been elaborated. These initial steps towards improved land administration are intended to build a basis to initiate a decentralized village/municipal administration.

Table 1. Performance Indicators from the Log Frame Matrix

<i>Indicator</i>	<i>Indicator Projected in Last (PSR)</i>	<i>Indicator Actual Estimate (ICR, 1998)</i>	<i>Indicator Actual (Performance Assessment, 2001)</i>
OUTCOME/IMPACT INDICATORS			
<i>Institution Building</i>			
New forest policy adopted, forest institutions reorganized accordingly, plan to strengthen forest institutions adopted	New forest policy adopted, forest institutions not reorganized	CENAGREF fully established; ONAB and CENATEL situation still not clarified, institutional audit under way	CENAGREF fully established and continues wildlife management activities with donor funding; ONAB to be privatized; CENATEL weak and expertise not recognized.
<i>Pilot Activities</i>			
DFRN & PGRN staff trained in participatory management techniques	100% of PGRN and DFRN staff trained	100% of PGRN and DFRN staff trained	Some of the project's staff went to implement the second phase with NGOs, others have no funds to use what they learned
Rural eco-development actions tested in villages adjacent to parks	90 beekeepers trained; 10 nurserymen trained; 300 women trained to use improved stoves	497 households use improved stoves; beekeeping generalized and more than 1181 liters of honey produced	Many activities stopped for lack of profitability after the project material had been depreciated due to the associations' organizational and social constraints
Control of bush fires	Bush fires significantly reduced.	Bush fires reduced about 40% compared to the situation before the project	Found no data corroborating this assertion
OUTPUT INDICATORS:			
Approach/methods of natural resources management put in place in villages	94 villages out of 117 have operational committees for natural resources management	94 villages have operational committees	Operational committees in some villages are no longer active for lack of activities owing to organizational and social constraints
Model of participatory management in the parks tested and put in place	41 village associations established for park participatory management	41 village associations fully operational, 500 people trained in park related jobs	Most associations active because donors are financing the second phase project
Participatory Forest Management Plan (PAFP) prepared and signed	One plan signed and under implementation	Second plan signed but not yet implemented	Some activities have stopped for lack of financing; implementation of the second plan not started yet; third forest management plan not yet initiated

Source: ICR and Performance Assessment mission.

3.5 The wildlife management and poaching control component developed participatory management plans in the two project areas, established 41 village management associations, trained local people in alternative income-generating activities, and reduced the incidence of poaching while providing extra income for the neighboring villages. GEF and different donors, AFD, the Netherlands, GTZ, and the EU, are continuing to support this component under the new

Program for the Conservation and Management of National Parks. The experience developed in the NRM project has been pursued and arrangements are being tested to involve the villagers in the management of the forest and to serve as guides for tourists and hunters coming from Europe and America.

3.6 The forest management component developed participatory management plans in two out of the three targeted forests. The third forest encountered acute tenure problems that have impeded the participatory preparation of a forest management plan, but it should be recognized that this particular forest was already heavily encroached at the initiation of the project and in fact selected for that reason. In the first forest, the plan is being implemented but is not followed closely due to a lack of funds for certain activities. Enrichment planting is an example of activity not being implemented because it is not profitable per se (see Efficiency section and Annex D). The deposit of forest harvesting revenues and other profits from forest operations into a local Forest Fund to support silvicultural and other investment type operations did not materialize as anticipated at project appraisal¹. The local Forest Funds were supposed to provide for the funding of forestry activities in the implementation of the forest management plan. A National Forest Fund was also planned to insure transfers among management units of a same forests or between gazetted forests. The Ministry of Finance has not allowed a National Forest Fund so far and the desirability of establishing such an earmarked fund is debatable. Artisanal gold mining has recently begun in the first managed forest. It could jeopardize the implementations of the forest management plan but could also open an opportunity to raise revenues to finance silvicultural operations in other parts of the forest. In the second forest, the plan was elaborated at the end of the project but had not yet been implemented at the end of the project.

4. Efficiency

The absence of monitoring information has precluded an economic analysis of the activities supported by the project. However, ex ante estimates of financial net returns by the National University of Benin suggest that most activities could be profitable, and that the organizational characteristics of the community associations charged with implementing these activities represent a major factor affecting their profitability. These findings are consistent with the PPAR mission's observations in the field. On this basis, the efficiency of the project is rated as modest.

4.1 Neither an NPV nor ERR was calculated at appraisal because the project was experimental in nature. Upon completion of the project, the absence of adequate monitoring information also precluded the possibility of validating the economic and financial viability of the activities supported by the project. On the other hand, ex-ante financial analyses for typical activities in different ecological areas were conducted at the University of Benin and the results are summarized in Table 2 (see also Annex D). Although most of these estimates were approximations based on representative assumptions based in part on the project's activities, the results suggest that most activities, except for forest enrichment operations, could be profitable. These findings are consistent with many of the PPAR mission's observations in the field.

¹ A report prepared after the PPAR mission, (dated September 2001) "Rapport de Mission d'Evaluation des Forêts Classées anciennement couvertes par le PGRN et prise en compte dans le cadre du service minimum pour la préparation du PGFTR", reports on the difficulty of governance and investments of two local funds (not recognized by the Ministry of Finance and not cleared by the National Assembly).

Table 2. *Ex Ante* Financial Analysis of Project-supported Activities

Activities	Aggregate NPW^a (CFA)	Aggregate IRR (%)	Compounded Revenue (CFA)
Old Plantations: teak	117,823	NA	519,140
Old plantations: cashew nuts	2,454,655	NA	5,407,704
Natural Forest Management	(19,739,996)	NA	3,840,000
Intensified agriculture, agroforestry	190,343,814	NA	1,386,667
Aulacodiculture ^b	60,441,695	83.2	1,320,960
Bee-keeping	167,415,974	NA	0
Nursery	402,990	44.4	130,000
Small-scale irrigation	94,035,125	66.4	693,333
Coll./proc./storage center: cassava mill	2,843,155	37.91	4,309,013
Coll./proc./storage center: honey processing	23,155,648	NA	7,975,893
Collections from use of zone culture land	NA	NA	7,906,000

a. Net present worth

b. Breeding of *Thryonomys swinderianus*, a rodent species also known as the grasscutter or cane rat, as a food source.

Source: Tossou and Christophersen 1999, see also Annex D

4.2 Research carried out at the University of Benin found that even potentially profitable activities may fail to be sustainable when project funding stops, due to organizational problems in the village associations responsible for those activities (Tossou and Glin, n.d. – see Annex D). Of the 31 village associations established for participatory management of one of the forest with a management plan, 30 were found by the research team to be functional, and 10 were reviewed in great depth using participatory evaluation methods. The major conclusion of this review is that the profitability of the associations' activities was affected by such organizational characteristics as the level of interaction and information exchange within the associations' committees, the degree of participation in the decision-making process, the management and working methods, the duration of organizational life, and the type of activities carried out.

4.3 Overall, the study of Tossou and Glin concluded that profitability could be enhanced by organizational and social characteristics such as social cohesiveness within the association, level of agreement among the members of the association, reciprocity in social support, and the individual appropriation of and commitment to the common objectives of the group. Conversely, social conflicts, for instance between immigrants and residents, were found to influence negatively the profitability and sustainability of the activities undertaken. Associations are more effective in sustaining their activities when they have a harmonious relationship with their villages. In particular, they seem more likely to succeed if the different classes and ethnic groups in the village are represented in the association. Based on these considerations, about half the associations sampled in the study are judged by the research team to be cohesive and thus more likely to be profitable and sustainable. In the PPAR mission's view, these findings help explain why many project activities have ceased to function today. It also suggests that the implementation of the project should have emphasized these organizational and social aspects rather than the number of villages contacted or participating in the pilot project.

5. Outcome

While the project objectives are relevant, they were met to only a modest extent. On the institution building objective, some new natural resource laws have been enacted and prepared, but the key

*institution, the Directorate of Forests and Natural Resources, was not adequately strengthened to ensure compliance with the new law and to support the implementation of sustainable land management systems on a large scale. The strengthening of the other institutions is modest. In addition, while the project implemented most of the planned pilot activities, the absence of monitoring information on their financial, economic and environmental impacts has precluded a validation of their economic and ecological justification, which would have been important to underpin future support for the long term program piloted by the project. Based on the modest efficacy and efficiency of the project the outcome is rated as **moderately unsatisfactory**.*

5.1 The project achieved many output targets, such as those for villages contacted and associations created, but it only met its institution building and community land management objectives with significant shortcomings. The project facilitated the enactment of laws and policies that foster collaborative management for renewable natural resources, involving both government agencies and local communities. However, despite attempts at building managerial skills of some new associations members, the project largely failed to strengthen the planning, management, and monitoring and evaluation capacity of the target national-level institutions. Strengthening these aspects will ultimately be necessary to scale up this approach throughout the country. A GOB hiring freeze during the project was partly responsible for this state of affairs according to Bank staff. The project demonstrated the possibility of working out collaborative arrangements for watershed, forest, and wildlife management in some pilot areas. However the fact that the villages were contacted and associations created did not necessarily lead to any impact on the ground. Given the total absence of monitoring data, the PPAR mission could find no evidence of the impacts of the activities supported by the project in terms of more sustainable management of natural resources such as reduced poaching and soil erosion, fewer uncontrolled bush fires, and increased forest cover.

5.2 The lack of monitoring data also did not allow the PPAR mission to estimate an *ex-post* financial return of any component of the project. *Ex-ante* estimates of financial profitability of standard forest management activities show potential returns that were not realized since most of the activities ended with the close of the project. The mission concurs with the research results which have covered many of the project sites, implying that this state of affairs resulted more from organizational and social constraints of the associations involved rather than from an inherent lack of profitability of the project activities. This finding deserves particular attention now that the DFRN is preparing the forest management component of the second phase project for IDA financing.

6. Sustainability

*Ex-ante estimates suggest that most pilot activities initiated by the project are potentially profitable and sustainable, but they require follow-up that the Directorate of Forests and Natural Resources is presently unable to provide. As a result, many of the village committees and associations created through the project have ceased to function or drastically curtailed their activities when the project closed. Nonetheless, the change of attitudes toward participative resource management and securing property right over time through flexible arrangements are likely to be sustained. Some donors have continued support for the watershed, wildlife, and land tenure components. Provided the lessons from the project's experience are incorporated in the phase II project, this lack of demonstrated sustainability at the end of the program pilot phase, should not be construed as a failure of the sustainable land management approaches supported by the project. Looking upon it as the pilot phase of a long-term program, the sustainability of the project is considered **non evaluable** at this stage.*

6.1 The changes in the forestry policy and law supported by the project, which have enabled community involvement in the management of gazetted forests, are likely to be sustained. The policy and legal environment now provides for the community-based management of gazetted forests and for the retention of revenues generated from sustainable commercial management of forest-based resources by local communities. All income-earning enterprises and groups were expected to pay a tax to a locally managed fund that finances the implementation of the management plan but a national forest fund has not been established yet by the government. Tax revenues generated from sustainable forest management enterprises were to provide some incentive for the forestry administration to continue supporting the implementation of the management approach, but this is not yet the case. This incentive should provide the necessary impetus for other communities to replicate the approach followed in this pilot project and eventually over time to include all other gazetted forests, as envisaged when the policy and law were revised. The difficulties encountered with some experimental funds have been discussed elsewhere (see 3.6). However, financial incentives alone are not a guarantee for success. The experience so far indicates that only half the sampled associations which were created to manage one of the forests under the pilot project, have the proper organizational and social fabric to ensure the sustainability of otherwise potentially profitable activities.

6.2 The sustainability of the community-managed enterprises is rated likely but will depend upon their profitability. More follow-up and training for local associations—in bookkeeping, marketing, team building, financial management, and other areas—will be needed to help ensure sustainability. For example, honey and cashew production are potentially very profitable enterprises with a high market demand. Unfortunately, most of the current enterprises are not realizing the full potential of the market because of inadequate knowledge about prices and because of the organizational and social constraints mentioned earlier (see para. 4.2–4.3). Many enterprises initiated under the forest management component ended or were cut back because they were not able to generate a critical mass of income or employment opportunities without continued project funding.

6.3 Most of the other achievements under the watershed, wildlife management, and land tenure components are likely to be sustained for at least the next five years because they are being funded externally. CENAGREF continues the services provided under the wildlife management component, with a new project (Program for the Conservation and Management of National Parks) approved in 1998 and cofinanced by GEF, AFD, the Netherlands, KFW, GTZ, and the EU. The land tenure operations and watershed management activities are now managed by NGOs with the cooperation of the Ministry of Rural Development supported under the PGTRN that was approved in 1998 and is cofinanced by GTZ and AFD. Interesting land administration systems adaptable to the various situations encountered have been tried and are now being implemented in some villages (see 7.5). For these components, the second phase will attempt to link these village activities with the emergence of modern municipalities that are called for in the new decentralization policy. Overall, the participatory and decentralized community land management activities are here to stay, but their present institutional support remains in question.

7. Institutional Development

The institutional development impact of the project includes the enactment of the new forest law, the new forest policy and the development of community-level institutions. However, the DFRN was not strengthened enough to enable it to continue providing the necessary support to the resource management associations created during the project or to enforce compliance with the newly enacted laws. Administration units of the Ministry of Agriculture (CENATEL and CENAGREF) have benefited somewhat from the project experiences as have some of the staff

who have moved on to implement continuing project components with NGOs. Other ministries have been only marginally involved. The cadastre activity piloted in the project has been picked up by other donors for the second phase of the program and could contribute to the emergence of modern municipalities facilitating the decentralization process being initiated in the rural area of the country. In view of the limited extent to which the project contributed to the country's ability to promote sustainable land management practices so far, the institutional development impact is rated modest.

7.1 The major institutional development impact of the project relates to the changes in the forestry law (No. 93-009) and the forestry policy of 1994 allowing sharing of revenues with the communities. These changes provide the enabling environment to promote community-based management of gazetted forests and adjacent lands. The pilot activities in one of the three gazetted forests demonstrated that in those forests that have not been overly encroached by farmers it is possible to promote sustainable management of the natural forest resource. While the project was able to create the policy and legal environment for such activities, its major shortcoming was the inability to strengthen DFRN to enable it implement in a subsequent phase the new forestry policy in all the forests in Benin. As a consequence, it will be difficult at this stage to rapidly expand the community land management approach tested in the pilot phase to other forests and village communities.

7.2 The DFRN has not been able to follow up to the extent necessary the activities of the associations created or already existing at the beginning of the project to manage the gazetted forests. As noted earlier, the lack of organization and social cohesiveness in some organizations need to be corrected for the activities to continue. Likewise the DFRN does not have the financial resources to invest in the silvicultural operations that are carried out by these associations, jeopardizing the forest management activities and ultimately the forest itself. The local Forest Funds and the National Forest Fund planned at the beginning of the project to ensure the timely funding of silvicultural operations are not yet functional.

7.3 The NRM project did have a positive institutional impact on the capacity of NGOs. Most of the multi-disciplinary teams used by the project in the watershed management and land tenure components were staffed with employees on fixed-term contracts. These teams have now registered themselves as local NGOs that have been contracted by the Phase II project (financed by GTZ and AFD) to continue implementing some modified activities started under the NRM project.

7.4 During implementation of the wildlife component it became evident that the law governing the management of wildlife (No. 87-014) would need revision to facilitate sharing of revenues between the government and local communities. This law was revised during 1998, but is still awaiting approval by the National Assembly. In the interim, the component has been operating outside of the law, with CENAGREF sharing revenues from tourism unofficially with the village associations.

7.5 The pilot operation of initiating some kind of cadastre to ensure the security of land ownership in some communities has been made possible by the inter-ministerial decree of January 11, 1994. The decree allowed the project to favor the establishment of some security of land ownership in rural areas and, in the long term, the creation of a land law to regulate flexibly land ownership over time. The project, by testing methods of recording land ownership, has provided experience that is useful in writing such a law and is documented in "*Manual de Procedure du Plan Foncier Rural*", PGTRN 2000.

7.6 Overall, this was a complex institutional reform project involving several cofinanciers and a number of components, from changing national laws and policies, to restructuring the government's administration to conform to these new legal frameworks, and to building capacity at the local, community level. The risk involved was much greater than anticipated at appraisal, including the risk of coordinating different donors activities. The lessons learned during the NRM project will need to be incorporated in the design of the second phase project of what is to be a long-term program. The new programming approach for lending fits well with the long-term approach necessary to manage natural resources. It is also hoped that the activities managed by the communities will provide the base on which to build a modern rural municipal administration to implement the new national decentralization policy.

8. Bank Performance

*The quality at entry and project supervision was unsatisfactory. The project was not solidly grounded in sector work, the quality at entry was inadequate in regard to the planning of activities for the medium to long term, and the forest management plans did not anticipate eventual land tenure issues. The supervision missions ended up with the partners and cofinanciers going their own separate way. While this project was the pilot phase of a long-term undertaking, the World Bank was the only partner that could not ensure the proper transition to a second phase, jeopardizing the sustainability of the activities started in the first phase. Overall, the Bank's performance was **unsatisfactory**.*

8.1 The project's quality at entry was unsatisfactory. The design of the project did not anticipate the process, time, and commitment required to reform institutions, and did not take into account unresolved land tenure issues in the gazetted forests, which should have been addressed at the time of project preparation. As stated in the ICR, the objectives of the project had been too broadly defined in the SAR. At midterm, the partners could not agree on the necessary project reforms and decided to pursue independently some specific components for the remainder of the project with minimal coordination and synergy. However, the midterm review did consolidate the 10 project components into 4 main activities reducing somewhat the complexity of the project.

8.2 The Bank's performance in supervision was unsatisfactory. The frequency of supervision missions (two per year on average) and the decentralization of the task management were adequate, but the missions did not focus enough on the institutional aspects. When the project encountered land tenure issues in the development of at least one of the forest management plans, it should have addressed them in line with relevant Bank policies, even if this had not been recognized during the preparation of the project. The supervision of the project was not helped by the high turnover of the project task managers. The cooperation between the Bank and the other actors involved, including the other donors, was unsatisfactory. PPAR mission interviews with partners and the project management unit of the DFRN, indicate that only a limited number of the supervision missions were carried out with local representatives from GTZ and AFD, and that partners found the World Bank somewhat distant.

8.3 Research shows that the success of associations for forest management is sensitive to organizational and social factors, yet no social impact assessment was carried out before or during the project to ensure smooth implementation and transition toward the end of the project. It was not anticipated that a management plan could not be proposed for the third forest because of land tenure and population relocation issues.

8.4 Finally, the long time to prepare the second phase project of the forest management component, which had not yet been appraised at the time of the PPAR mission, could possibly

jeopardize the effort already invested into the creation of the forest management associations during the first phase project. The initial phase raised expectations. The discontinuity of the forest management activity in one forest and the absence of activities after having spent several years preparing a management plan in the second forest could entice the surrounding population to seek other alternatives for the forest land.

9. Borrower Performance

The borrower performance is rated satisfactory under the difficult circumstances of the project, but the PIU could have provide stronger leadership to coordinate the complex tasks and partners in this exercise. The strengthening of the management unit did not benefit much the rest of the Department. Monitoring and Evaluation of the project activities was not done. CENATEL's work is not recognized by other government agencies, and the other institutions were not markedly improved by the project.

9.1 Counterpart funds were made available as necessary, even though the actual disbursement of the counterpart funds was a problem. The implementing agency, the Directorate of Forests and Natural Resources, was responsible for implementation through a specially created PIU consisting of civil servants and contractual personnel. A National Monitoring Committee (NMC) including representatives from key ministries involved in the forestry sector and other donors theoretically oversaw the implementation of the project. The PPAR mission found that the DFRN was not strengthened much by the project. The PIU could have been incorporated in the ministry's administration. This would have helped strengthen the entire institution. Today not much is left of the PIU unit, but some of its members went on to head NGOs implementing similar donor activities under the phase two project. This approach is more likely to be followed under the new programming/budgeting approach now widely adopted by governments, bilateral, and multilateral organizations.

9.2 The PIU's performance was marginally unsatisfactory in part owing to its poor leadership in coordinating the partners. On the positive side, the unit followed up adequately on the recommendations of Bank and co-financier's supervision missions. Regarding the financial management, the audits raised no major issues during implementation, and auditors' recommendations for improving the financial management were systematically followed. The National Monitoring Committee (NMC)'s performance is rated unsatisfactory, as its contribution to the implementation was minimal. The performance of the DFRN is rated marginally satisfactory. The DFRN was supportive of the project but considered, appropriately so in the PPAR mission's view, that the project had been designed as an external entity, rather than fully integrated in the DFRN, which could have strengthened its capacity. The reorganization of the forestry sector is not yet achieved because of insufficient commitment to support sector reforms. The committee in charge of proposing reforms did not enjoy a high level of political backing and was unable to outline a strategic vision for the sector.

10. Lessons

Two questions were given particular attention in this PPAR. The first question relates to the pilot project activities' profitability. While the absence of monitoring data does not allow us to confirm the ex-ante profitability of most representative activities, research on the characteristics of the forest village associations show clearly that profitability depends to a great extent on their organizational and social characteristics. The second question relates to what institutional

arrangements are needed to sustain community land management associations. This assessment concludes that the strengthening of these associations depends on the support they can draw on at the beginning of their existence in technical and managerial skills but also in group harmony and their ability to resolve internal conflicts (see Annex D). The government institutions in charge of developing community land management were not strengthened enough during this pilot phase to nurture these associations and insure their survival at project end. The phase II project will have to carefully design the different components. Some future directions are provided to that aim.

10.1. The first lesson from the project is that the activities initiated by a pilot project need to be monitored from the start in order to be able to inform decisions on the design and implementation of the remaining phases of the program. Without such monitoring, the potential financial and economic viability of the activities implemented by the community-based land management activities piloted by the project associations or communities cannot be demonstrated. While some insights can be gained from the *ex ante* financial estimates that were done, the availability of environmental monitoring information would have made it possible to assess the economic justification for this approach, which should be essential to underpin the case for public (and World Bank) intervention in support of the community land management approach, even if it was not financially viable in some ecological zones. Phase II should pay particular attention to monitoring the financial, economic and environmental impacts of the activities.

10.2 A second lesson from the pilot project seems to indicate that it is not enough for an activity to be potentially profitable to ensure its profitability and sustainability. Social cohesion and some minimum level of organization in the associations and local communities implementing the activities are also required. Social cohesion seems to be greater when the association has been created in a transparent manner and includes a good representation of the village social spectrum, including the poorest. For the sustainability of the associations different factors appear to be relevant, such as regular meetings of the members, rules concerning decision making, votes, duties among others (see Annex D). So it is important to monitor the factors contributing to the cohesiveness of the associations implementing project activities, in addition to monitoring the financial and environmental aspects of these activities.

10.3 A third lesson that emerges is that the implementation and supervision of pilot projects should emphasize the quality rather the quantity of physical targets. In projects aiming at putting in place innovative ideas, efforts should be made to fine-tune new ways to reach given objectives, here sustainable resources management, rather than merely quantitative targets. The indicators of achievement should focus on qualitative indicators of, for instance, institutional arrangements and the sustainability of the activities undertaken to foster economic development.

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Annex A. Basic Data

MANAGEMENT OF NATURAL RESOURCES (CREDIT 2344-BJ)

Key Project Data (amounts in US\$ million)

	Appraisal estimate	Actual or current estimate	Actual as % of appraisal estimate
Total project costs	24.4	25.04	102
Loan amount	14.1	14.14	100
Cofinancing	8.0	9.43	118
Cancellation	na	na	
Economic rate of return	na	na	

Project Dates

	Original	Actual
Preparation	07/01/1988	
Appraisal	05/27/1991	
Board approval	03/24/1992	
Signing		
Effectiveness	10/08/1992	11/25/1992
MTR	11/30/1995	01/15/1996
Closing	12/31/97	06/30/1999

Staff Inputs (staff weeks)

	Total Weeks	Total US\$ '000s
Pre-appraisal	77.7	186.4
Appraisal and Negotiations	32.8	67.5
Supervision	134.2	348.1
Other	10.6	30.5
Total	255.3	632.5

Mission Data

	Date (month/year)	No. of persons	Staff days in field	Specializations represented	Performance rating		Rating trend	Types of problems
					Impl. Progress	D.O.		
Identification	07/88	4		AG, FO, ID, NRM	S	S		
Preparation	04/90	2		2 AG	S	S		
Appraisal/Negotiation	05 and 12/91	6		2AE, FO, FA, OT, NRM	S	S		
Supervision	05/92	2		AE, FO	HS	HS		
	12/92 03/93 10/93	1		AE	HS	HS		
	04/94	2		AE, AG	HS	HS		
		3		AE, AG, FO	HS	HS		
	04/95 01/96	4		AE, AG, FO, RS	S	S		
				NRM, AG, GS				
	10/96 03/97	3		NRM, OT, FA,	S	S		
		7		GTZ	S	S		
	01/98			2AE, NRM				
		3		2AE, NRM, EC AS	S	S		
	01/99	5		AE, AS, GS, FA,	S	S		
				NRM, OP				
	06/99	6		AE, AS, FA, DA	S	S		
		4		AE, AS, FA	S	S		
		3			S	S		
ICR	08/99	3		AE, FE, RD	S	S		

AG -agriculturalist agronomist

AE -agricultural economist/economist

AS -agricultural services specialist

DA -disbursement assistant

EC -ecologist

FA -financial analyst

FO -forestry specialist

GS -geographical information specialist

GTZ - GTZ specialists

ID -institutional development specialist

NRM - natural resources management ecologist

OP - operations officer

OT - other watershed management, adaptive research, land dev. specialist, training specialist

RD -rural development specialist

RS -remote sensing specialist

Other Project Data

Borrower/Executing Agency:

FOLLOW-ON OPERATIONS

Operation

Credit no.

Amount
(US\$ million)

Board date

The second phase project financed by the World Bank has not yet been appraised at the time of the Performance Assessment Mission

na

Annex B. Benin Environmental indicators

Benin	Benin	Region	Low-income group
Population (millions), 1999	6.1	643	2,417
Urban population (% of total), 1999	41.5	33.8	31.4
GDP (\$ billions), 1999	2.4	324	1,033
GNI per capita, Atlas method (\$), 1999	380	490	420
Environmental strategy or action plan (year prepared)	1993		
Agriculture			
Land area (,000 sq. km)	111	23,605	33,008
Agricultural land (% of land area)	21.7	7.3	14.4
Irrigated land (% of crop land)	0.6	4.2	26.6
Fertilizer consumption (100 grams/ ha of arable land)	222	134	670
Food production index (1989-91=100)	154.2	131.6	130.9
Population density, rural (people/ sq km of arable land)	207	369	507
Forests			
Forest area (,000 sq. km)	27	6,436	8,840
Forest area (% of total land area)	24.0	27.3	26.8
Annual deforestation (% change, 1990-2000)	2.3	0.8	0.8
Biodiversity			
Mammal species, total known	188		
Mammal species, threatened	7		
Bird species, total known	307		
Bird species, threatened	2		
Nationally protected area (% of land area)	7.0	6.2	5.7
Energy			
GDP per unit of energy use (PPP \$ per kg of oil equivalent)	2.4	2.4	3.4
Commercial energy use per capita (kg of oil equivalent)	377	700	550
Traditional fuel use (% of total energy use)	89	63	30
Energy imports, net (% of commercial energy use)	13	..	-9
Electric power consumption per capita (kWh)	45.9	453.6	362.3
Share of electricity generated by coal (%)	..	71.2	43.5
Emissions and pollution			
CO ₂ emissions per unit of GDP (kg per PPP \$ of GDP)	0.2	0.6	0.6
Total CO ₂ emissions, industrial (,000 kt)	1.0	501.8	2,527.5
CO ₂ emissions per capita (mt)	0.2	0.8	1.1
Suspended particulate in capital city (microgr/m ³)
Passenger cars (per ,000 people)	7	14	5

Benin	Benin	Region	Low-income group
Water & Sanitation			
Access to improved water source(% of total population)	63	55	76
Access to improved water source (% of rural population)	55	41	70
Access to improved water source (% of urban population)	74	82	88
Freshwater resources per capita (cubic meters)	4,220	8,248	6,203
Total freshwater withdrawal (% of total water resources)	0.6		
Withdrawal for agriculture (% of total freshwater withdrawal)	67	87	87
Access to sanitation in urban areas (% of urban population)	46	81	79
Access to sanitation in rural areas (% of rural population)	6	41	31
Under-5 mortality rate (per ,000 live births)	145	161	116
National accounting aggregates - 1999			
Gross domestic savings (% of GDP)	6.4	15.3	20.3
Consumption of fixed capital (% of GDP)	7.2	9.3	8.3
Net domestic savings (% of GDP)	1.0	6.0	12.0
Education expenditure (% of GDP)	2.7	4.7	2.9
Energy depletion (% of GDP)	0.0	4.3	4.0
Mineral depletion (% of GDP)	0.0	0.6	0.4
Net forest depletion (% of GDP)	0.3	1.1	1.5
CO ₂ damage (% of GDP)	0.3	0.9	1.4
Genuine domestic savings (% of GDP)	3.2	3.8	7.6

Annex C. Financial Analyses of the Forest Management Related Activities

Old Plantations

Table A.1: Old Plantations, Teak

	Volumes				Revenues			Total	Aggr. Contr.	Aggregate
	Management	Sawlogs	Poles	Charcoal	Sawlogs	Poles	Charcoal			
Year	Costs	m3	m3	No. sacks	FCFA	FCFA	FCFA	Benefits	to Mgt. Fund	NCF
1-15	901,284	12	72	144	360,514	1,081,541	144,205	1,586,260	648,924	36,051
NPV										117,823
IRR										NA

Table A.2: Old Plantations, Cashew Nuts

	Volumes			Revenues			Total	Aggr. Contr.	Aggregate
	Management	Cashew Nuts	Fruit	Cashew Nuts	Dried Fruit				
Year	Costs	Tons	Tons	FCFA	FCFA	Benefits	to Mgt. Fund	NCF	
1-15	19,527,820	451	0	27,038,520	0	27,038,520	6,759,630	751,070	
NPV									2,454,655
IRR									NA

Natural Forest Management

Table A.3: Natural Forest Management

Year	No. Sacks		Aggr. Contr.	Aggregate
	Charcoal	Madriers		
1-15	24,000	8,000	4,800,000	(6,040,000)
NPV				(19,739,996)
IRR				NA

Agroforestry, Intensified Agriculture

Table A.4: Intensified Agriculture, Costs per Hectare

Year	Planting and Replanting Seedlings	Planting and Replanting Labor	Improved Fallow Seeds	Improved Fallow Labor	Fertilizer Application	Total Cost
1	16,250	10,000	0	0	14,400	40,650
2	3,250	2,000	0	0	14,400	19,650
3	0	0	0	0	14,400	14,400
4	0	0	0	0	14,400	14,400
5	0	0	3,000	20,000	0	23,000
6	0	0	3,000	20,000	0	23,000
7	0	0	0	0	14,400	14,400
8	0	0	0	0	14,400	14,400
9	0	0	0	0	14,400	14,400
10	0	0	0	0	14,400	14,400
11	0	0	3,000	20,000	0	23,000
12	0	0	3,000	20,000	0	23,000
13	0	0	0	0	14,400	14,400
14	0	0	0	0	14,400	14,400
15	0	0	0	0	14,400	14,400
PV						75,308

Table A.5: Intensified Agriculture, Benefits and Costs Per Hectare

Year	Total Revenues	Total Costs	Contribution To Mgt. Fund	NCF
1	179,500	40,650	2,000	136,850
2	91,764	19,650	2,000	70,114
3	137,165	14,400	2,000	120,765
4	181,750	14,400	2,000	165,350
5	52,250	23,000	2,000	27,250
6	2,250	23,000	2,000	(22,750)
7	131,750	14,400	2,000	115,350
8	44,014	14,400	2,000	27,614
9	87,165	14,400	2,000	70,765
10	131,750	14,400	2,000	115,350
11	2,250	23,000	2,000	(22,750)
12	2,250	23,000	2,000	(22,750)
13	131,750	14,400	2,000	115,350
14	44,014	14,400	2,000	27,614
15	87,165	14,400	2,000	70,765
NPV				302,699
IRR				NA

Table A.6: Intensified Agriculture, Additional Production, Contribution to Fund

Year	Hectares	Tons			m3		Aggr. Contr. to Mgt. Fund	Aggr. Net Cash Flow
		Ignam	Maize	Manioc	Ignam	FW		
1	200	370	0	0	0	0	400,000	27,370,000
2	400	370	0	0	0	0	800,000	41,392,750
3	600	370	80	283	0	300	1,200,000	65,545,750
4	800	370	80	283	370	600	1,600,000	98,615,750
5	1,000	370	80	283	370	900	2,000,000	104,065,750
6	1,000	0	80	283	370	1,200	2,000,000	72,145,750
7	1,000	370	0	283	370	1,500	2,000,000	81,193,000
8	1,000	370	0	0	370	1,500	2,000,000	62,562,750
9	1,000	370	80	283	0	1,500	2,000,000	43,645,750
10	1,000	370	80	283	370	1,500	2,000,000	61,265,750
11	1,000	370	80	283	370	1,500	2,000,000	61,265,750
12	1,000	0	80	283	370	1,500	2,000,000	33,645,750
13	1,000	370	0	283	370	1,500	2,000,000	51,193,000
14	1,000	370	0	0	370	1,500	2,000,000	42,562,750
15	1,000	370	80	283	0	1,500	2,000,000	33,645,750
NPV								190,343,814
IRR								NA

Aulacodiculture**Table A.7: Aulacodiculture, Costs Single Producer**

Year	Building and Enclosures	Building Maintenance	Reproduction Stock	Equipment & Replacement	Labor	Feed Cost	Total Cost
1	240,000	0	38,000	5,000	84,000	12,000	379,000
2	0	6,000	0	1,250	168,000	36,000	211,250
3-15	0	6,000	0	1,250	252,000	120,000	379,250
PV							1,139,869

Table A.8: Aulacodiculture, Benefits Single Producer

Year	Meat Sold	Reproduction Units Sold	Total Revenues	Contribution to Mgt. Fund	Net Cash Flow
1	0	0	0	0	(379,000)
2	42,000	0	42,000	840	(170,090)
3-15	210,000	912,000	1,122,000	22,440	720,310
NPV			2,164,803		981,638
IRR					83.27%

Table A.9: Aulacodiculture, Aggregate Volumes, Contributions to Management Fund

Year	No. Producers	Meat Tons	Reproduction Units	Aggr. Contr. to Mgt. Fund	Aggr. Net Cash Flow
1	20	0.0	0	0	-7580000
2	40	0.8	0	16,800	-10981800
3	60	5.0	480	465,600	3424400
4	80	9.2	960	914,400	17830600
5	100	13.4	1,440	1,363,200	32236800
6	100	17.6	1,920	1,812,000	54223000
7-15	100	21.0	2,400	2,244,000	72031000
NPV					60,441,695
IRR					83.24%

Bee-Keeping**Table A.10: Bee-Keeping, Costs Single Producer**

Year	Hives	Hive Maint. & Replacem.	Improved Bee Stock	Replace Queen Bees	Equipment & Replacement	Labor	Total Cost
1	280,000	0	100,000	0	200,000	33,000	613,000
2-15	0	28,000	0	0	50,000	30,000	108,000
PV							782,679

Table A.11: Bee-Keeping, Benefits, Net Cash Flow, Single Producer

Year	Honey Sold	Wax Sold	Resin Sold	Total Revenues	Net Cash Flow
1	342,000	0	4,500	346,500	(266,500)
2	912,000	0	9,000	921,000	813,000
3	1,710,000	72,000	9,000	1,791,000	1,683,000
4	1,710,000	0	9,000	1,719,000	1,531,000
5	1,710,000	0	9,000	1,719,000	1,611,000
6	1,710,000	72,000	9,000	1,791,000	1,683,000
7	1,710,000	0	9,000	1,719,000	1,611,000
8	1,710,000	0	9,000	1,719,000	1,531,000
9	1,710,000	72,000	9,000	1,791,000	1,683,000
10	1,710,000	0	9,000	1,719,000	1,611,000
11	1,710,000	0	9,000	1,719,000	1,611,000
12	1,710,000	72,000	9,000	1,791,000	1,603,000
13	1,710,000	0	9,000	1,719,000	1,611,000
14	1,710,000	0	9,000	1,719,000	1,611,000
15	1,710,000	72,000	9,000	1,791,000	1,683,000
NPV				4,149,072	3,366,392
IRR					NA

	No.	Honey	Wax	Resin	Aggr. Net
Year	Producers	Tons	Kilos	Kilos	Cash Flow
1	16	5.8	0	64	(4,264,000)
2	32	21.1	0	192	8,744,000
3	48	49.9	768	320	35,672,000
4	64	78.7	768	448	60,168,000
5	80	107.5	768	576	85,944,000
6	80	130.6	1,536	640	117,136,000
7	80	144.0	1,536	640	129,904,000
8	80	144.0	768	640	127,472,000
9	80	144.0	1,536	640	129,904,000
10	80	144.0	1,536	640	129,904,000
11	80	144.0	768	640	128,752,000
12	80	144.0	1,536	640	128,624,000
13	80	144.0	1,536	640	129,904,000
14	80	144.0	768	640	128,752,000
15	80	144.0	1,536	640	129,904,000
NPV					167,415,974
IRR					NA

Year	Addit. Capital Investments	Infstr. Maint. Costs	Transport & Oper. Cost	Motor Repl. & Maint. Costs	Bags, Equip. & Replacem.	Labor	Total Cost
1	1,720,000	0	0	0	1,330,000	1,200,000	4,250,000
2-15	0	34,400	0	0	1,334,000	1,200,000	2,568,400
PV							9,687,612

Year	Costs	Benefits	Aggr. Contr. to Mgt. Fund	Net Cash Flow
1	4,250,000	3,250,000	162,500	(1,162,500)
2-15	2,568,400	3,250,000	162,500	519,100
NPV				402,990
IRR				44.4%

[illegible]

Table A.16: Small Scale Irrigation, Aggregate Results Per Annual Development

Year	Tomatoes Tons	Piment Tons	Total Costs	Total Revenues	NCF/Year
1	700	45	345,920,000	174,750,000	(171,170,000)
2-15	700	45	60,920,000	174,750,000	113,830,000
NPV			418,330,197	571,119,911	152,789,714
IRR					66.4%

Table A.17: Small Scale Irrigation, Cumulative Aggregate Results

Year	Ha Devel.	Tomatoes Tons	Piment Tons	Total Costs	Total Benefits	Aggr. Contr. to Mgt. Fund	Aggregate NCF/Year
1	20	140	9	69,184,000	34,950,000	200,000	(34,234,000)
2	40	280	18	81,368,000	69,900,000	400,000	(11,468,000)
3	60	420	27	93,552,000	104,850,000	600,000	11,298,000
4	80	560	36	105,736,000	139,800,000	800,000	34,064,000
5	100	700	45	117,920,000	174,750,000	1,000,000	56,830,000
6-15	100	700	45	60,920,000	174,750,000	1,000,000	113,830,000
NPV				263,451,825	357,486,950		94,035,125
IRR							66.4%

Collection and Processing Centers

Table A.18: Manioc and Maize Milling Complex, Costs

Year	Bldg. for Milling/Store & Maint.	Manioc Mill, Press, Separ.	Maize mill, Separator,	Mainten. of All Equipment	Replacement of All Equipment	Labor	Total Cost
1	12,800,000	3,340,000	6,400,000	0	0	6,240,000	28,780,000
2-15	256,000	0	0	487,000	974,000	6,240,000	7,957,000
PV							42,022,849

Table A.19: Manioc/Maize Milling, Aggregate Volumes and Net Cash Flows

Year	Manioc Processed	Maize, Rice and Sorgho Processed	Gari Stored	Total Benefits	Total Costs	Net Cash Flow to Mgt. Fund
1	7,200,000	4,608,000	1,920,000	13,728,000	28,780,000	(15,052,000)
2-15	7,200,000	4,608,000	1,920,000	13,728,000	7,957,000	5,771,000
NPV						2,843,155
IRR						37.91%

Table A.20: Honey Extraction and Mixing, Costs

Year	Bldg. for Honey Extr. & Maint.	Extractor, Mixer, Generator	Mainten. of All Equipment	Replacement of All Equipment	Labor	Total Cost
1	6,400,000	10,600,000	0	0	2,600,000	19,600,000
2-15	128,000	0	530,000	1,060,000	2,600,000	4,318,000
						25,867,521

Table A.21: Honey Extraction and Mixing, Volumes and Net Cash Flows

<i>Year</i>	<i>Tot. Benefits Liters Honey Processed</i>	<i>Total Costs</i>	<i>Net Cash Flow to Mgt. Fund</i>
1	15,000,000	19,600,000	(4,600,000)
2-15	15,000,000	4,318,000	10,682,000
NPV			23,155,648
IRR			NA

Annex D. Organizational and Social Analysis of the Forest Associations

Méthodologie

Cadre de l'étude

La forêt classée de Tchaourou-Toui-Kilibo se situe dans la zone soudano-guinéenne à cheval entre les départements des Collines et du Borgou et dans les sous-préfectures de Ouèssè (dans les Collines) et Tchaourou (dans le Borgou). Elle s'étend le long de la frontière du Nigéria et couvre une superficie totale de 48.000 hectares. Dans le cadre de son aménagement, quatre unités d'aménagement ont été créées en tenant compte des principaux villages riverains à savoir Kokoro, Kilibo, Toui et Papanè. La superficie des unités varie de 9.487 à 16.504 hectares. Les unités d'aménagement constituent les bases des activités de cogestion. Cette forêt est composée aussi bien de végétation naturelle (forêt claire soit d'*Isoberlina*, d'*Anogeissus*, ou soit de *Daniella*) que de plantations domaniales (teck et anacardier essentiellement). Enfin, elle est traversée par le fleuve Okpara qui constitue une source de protéines de par la quantité et la qualité des poissons qui y sont pêchés mais surtout il constitue une opportunité de trafic de contrebande entre le Bénin et le Nigéria

On distingue quatre types de villages riverains de la forêt classée de Tchaourou-Toui-Kilibo : des villages d'implantation anciennes ; des villages créés autour des infrastructures coloniales comme le réseau ferroviaire ; des villages créés avec la politique de 'retour à la terre' initiée avec les indépendances ; et des villages d'implantation récente créés par des immigrants à la recherche de terres fertiles.

Les principales activités économiques exercées sont l'agriculture, le commerce et le petit élevage surtout pratiquées par les populations autochtones ainsi que le gros élevage qui est l'apanage des peuls surtout transhumants et la pêche pratiquée par les Nigériens. La cueillette des fruits et miel constituent également des activités non négligeables. En effet, malgré son interdiction, la récolte du miel sauvage continue d'être pratiquée dans la forêt. Enfin, outre ces activités très anciennes, d'autres d'introduction récente sont à souligner : l'apiculture pour freiner la récolte du miel sauvage, l'aulacodiculture, la production de plants, l'enrichissement, l'exploitation du bois d'œuvre, la carbonisation etc. Ces activités ont été suscitées dans le cadre de la gestion participative de ladite forêt et sont en général exercées par des groupements créés à cet effet. Au total, trente-un (31) groupements sont actuellement fonctionnels dans la forêt classée de Tchaourou-Toui-Kilibo et regroupent aussi bien des hommes que des femmes.

Démarche et composition de l'échantillonnage de l'étude.

Deux types d'échantillon ont été utilisés au cours de l'étude : un échantillon pour l'enquête générale, donc la phase exploratoire et un pour l'enquête fine.

L'échantillon ayant servi de base pour l'enquête générale est composé de 30 des 31 groupements identifiés comme fonctionnels soit un taux de sondage de 96,78%. Il s'agit de 17 groupements de fabrication de charbon de bois, 7 groupements de pépinière/enrichissement, 3 groupements d'apiculture et 3 groupements d'exploitation de bois d'œuvre. Cet échantillon de groupements concerne au total 269 personnes (dont 25,65% de femmes exerçant dans 69,56% des cas dans la fabrication du charbon de bois). L'objectif de cette enquête générale est de collecter des informations générales sur les groupements (genèse, fonctionnement, organisation des activités, relations avec l'extérieur, perception des membres, problèmes majeurs rencontrés, caractéristiques socio-démographique des membres etc.). Dans ce cadre, des entretiens de groupe ont été réalisés. Aussi, une fiche d'identification a été conçue et administrée pour la collecte des données socio-démographiques.

L'enquête fine, quant à elle, est basée sur un échantillon de 10 groupements tirés de façon aléatoire de l'échantillon de l'enquête générale, soit un taux de sondage de 33,33%. L'objectif étant de faire figurer dans l'échantillon toute la diversité des groupements, le choix des groupements a été pondéré selon l'importance de chaque type de groupement dans les activités d'aménagement. Ainsi, le type d'activités pratiqué, l'importance de chaque type d'activités ainsi que la répartition spatiale des groupements au niveau des différentes unités d'aménagement ont été les critères majeurs utilisés. L'enquête fine a permis de collecter les données nécessaires à l'analyse sociométrique, à l'appréciation de la cohésion interne des groupements ainsi que celles relatives au temps de travaux, les investissements, la production et les revenus des différentes activités. Un questionnaire structuré a été élaboré, testé avant d'être administré à cet effet.

Méthodes retenues pour l'analyse de la viabilité des groupements

Dans l'analyse de la fonctionnalité des groupements forestiers, trois dimensions de la viabilité ont été prises en compte : organisationnelle, économique et sociale. Différentes méthodes ont été utilisées pour apprécier chaque type de viabilité comme indiquées dans le tableau 1.

En dehors de ces techniques et outils spécifiques à chaque dimension de la viabilité des groupements, une analyse de perception a été conduite avec les responsables de groupements et autres personnes ressources. Les résultats de cette analyse ont permis de valoriser les expériences des acteurs de ces groupements et de compléter les résultats issus de l'analyse des différentes dimensions de la viabilité.

De tout ce qui précède, il se dégage qu'une approche participative et multidimensionnelle a été adoptée dans la collecte des données ayant servi de base pour la rédaction de cet article.

Tableau 1 : Méthodes et outils utilisés pour l'analyse des différentes dimensions de la viabilité des groupements forestiers de la forêt classée de TTK.

Dimensions de viabilité	Méthodes et outils
Viabilité organisationnelle	<ul style="list-style-type: none"> ◆ collecte des données au niveau des groupements à évaluer; ◆ exploitation et analyse des données qui ont abouti à l'élaboration d'une typologie provisoire de niveau de viabilité organisationnelle; ◆ validation de cette typologie; ◆ élaboration d'une typologie définitive à l'aide de cette appréciation d'ensemble qui correspond, au moins approximativement, aux diverses perceptions.
Viabilité économique	<ul style="list-style-type: none"> ◆ rentabilité économique des activités des groupements (revenu net, cash flow, revenu net par journée de travail); ◆ efficacité des activités; ◆ risque de saturation des activités.
Viabilité sociale	<ul style="list-style-type: none"> ◆ analyse sociométrique; ◆ calcul du coefficient de cohésion interne; ◆ analyse de l'interface pour évaluer la cohésion externe.

Analyse de la viabilité organisationnelle des groupements

Nous définissons la viabilité organisationnelle comme la capacité du groupement à assurer une organisation interne transparente suivant des principes réglementaires bien définis favorisant: un partage et un contrôle des processus de prise de décision, leur mise en œuvre et la répartition équitable des bénéfices éventuels, par les membres concernés.

Typologie des groupements selon la viabilité organisationnelle

La typologie des groupements selon le degré de viabilité organisationnelle est présentée dans le tableau 2. Il ressort du tableau 2 que près de la moitié (46,67 %) des groupements forestiers de la forêt classée de Tchaourou-Toui-Kilibo ont une viabilité organisationnelle inférieure à la moyenne et 20 % une viabilité organisationnelle forte. Ainsi, un besoin de renforcement de la capacité organisationnelle de ces groupements s'impose afin d'accroître la chance de leur succès et les disposer à un véritable auto-développement.

Tableau 2 : Typologie des groupements selon leur degré de viabilité organisationnelle

	<i>Faible</i>	<i>Moyenne</i>	<i>Forte</i>	<i>Total</i>
Nombre de groupements	14	10	6	30
Pourcentage	46,67	33,33	20	100

Source : Résultats de terrain, 1999.

Pour mieux visualiser les aspects précis sur lesquels devront s'orienter les actions pour mieux renforcer la viabilité organisationnelle des groupements, une évaluation de la performance des groupements a été faite à l'aide de critères choisis à cet effet.

Performances organisationnelles des groupements

Le tableau 3 récapitule les degrés de réalisation de chacun des critères de performance organisationnelle.

Tableau 3: Performances organisationnelles des groupements

<i>Critères de performances organisationnelles</i>		<i>Nombre de groupements</i>	<i>Pourcentage (%)</i>
Evolution de la taille	Augmentation	7	23,33
	Stabilité	10	33,33
	Diminution	13	43,33
Existence de règlement intérieur	Oui	20	66,67
Forme d'organisation du travail	Non	10	33,33
	Collectif uniquement	10	33,33
	Individuel et collectif		
	ou avec entraide	15	50
	Individuel uniquement	5	16,67
Niveau d'organisation de la gestion	Cahier de réunion	13	43,33
	Cahier dépenses et recettes	9	30
	Cahier de pointage	6	20
	Carnet de compte	7	23,33
Existence de bureau	Oui	27	90
	Non	3	10
Mode d'élection	Election (à main levée)	10	37,03
	Consensus	14	51,85
	Désignation	3	11,11
Niveau de renouvellement	de Renouvelé	6	22,22
	Non renouvelé	21	77,78
Niveau de concertation au sein du bureau	Hebdomadaire	0	0
	Par quinzaine	4	14,81
	Mensuel	11	40,74
	Rare ou sporadique	12	44,44
Niveau d'implication des membres	Mensuel	5	16,67
	Bimestriel	6	20
	Trimestriel	5	16,67
	Rare ou sporadique	14	46,67

Source : Résultats de terrain, 1999

Viabilité sociale des groupements

Cohésion interne des groupements

Nous définissons la cohésion interne comme le degré d'harmonie et de solidarité qui prévaut au sein des groupements. Elle traduit «l'unité d'esprit des membres d'un groupe provenant de

l'attraction exercée par le groupe sur eux" (MUCCHIELLI, 1983 : 102). Elle est fondée sur la qualité du lien d'appartenance de ses membres. La cohésion interne des groupements est un déterminant important de leur viabilité à long terme.

L'étude sociométrique menée pour appréhender le degré de cohésion interne a été faite au sein d'un échantillon réduit de 10 groupements. Elle nous a permis de dégager le tableau synoptique de la situation interne des groupements et surtout, de saisir les différents attributs affectant positivement ou négativement la sérénité, la confiance et la solidarité au sein des groupements. Nous présentons successivement la typologie des groupements et les déterminants de la cohésion interne des groupements.

Typologie des groupements selon le degré de cohésion interne

Au total sur les 10 groupements étudiés, on a :

- 2 (soit 20 %) ayant une cohésion interne faible;
- 3 (soit 30 %) ayant une cohésion interne moyenne;
- 5 (soit 50 %) ayant une cohésion interne forte.

un autre groupement et 1 ayant purement et simplement démissionné.

Auto-évaluation de la viabilité des groupements par les membres des groupements étudiés

L'auto-évaluation se réfère à la perception que les acteurs ont de leur groupement. La perception, quant à elle, est le processus de prise de connaissance des objets et des événements par les sens. Cette perception est sélective, elle projette, donne un sens et une forme à l'objet ou l'idée perçue. Ainsi, l'homme perçoit de préférence des choses qui ont une signification subjective, qui sont favorables à ses besoins, qui le sécurisent, qui semblent conformes à ses objectifs, ses attentes et ses expériences (van den BAN, 1994). Ainsi, l'analyse de la perception permet non seulement de cerner le sens et la forme donnés à l'objet ou l'idée mais aussi d'appréhender les références sur lesquelles ce jugement est construit.

Pour ce qui est de cette étude, l'objectif poursuivi est de voir comment les membres entendent la capacité de survie dans le temps de leur groupement, eu égard aux expériences de ces groupements, aux références individuelles et aux projections dans l'avenir. En analysant ainsi sur un plan général les difficultés auxquelles les groupements ont dû faire face dans le passé et celles qui sont anticipées pour le futur, les membres des groupements dégagent des perspectives complémentaires sur la question de la viabilité. L'analyse des résultats nous a permis de constater que les membres des groupements fondent leur jugement sur deux considérations essentielles. La première concerne la cohésion existant ou non entre les attentes initiales individuelles et les résultats des groupements. Ces attentes étaient à la fois économique (amélioration du revenu) et sociales (échanges d'idées, envie d'apprentissage, solidarité). La seconde considération est relative aux problèmes spécifiques qui se posent au sein du groupement.

Après analyse et synthèse des opinions des membres de chacun des 10 groupements de l'enquête fine, quatre catégories de tendances ont été dégagées.

1. L'évolution du groupement est très bonne et satisfaisante. Les membres ont trouvé une réponse complète à leurs attentes. Il se dégage en outre un tableau positif de la situation actuelle et des perspectives à venir : d'après eux l'expérience dans le

groupement a été très satisfaisante. Le groupement apparaît comme viable même sans appui extérieur. Cette tendance est observée dans 2 groupements (20%).

2. Les membres du groupement ont tous répondu positivement aux attentes initiales. Par contre, les résultats actuels moyennement positifs, vont de pair avec une vision un peu pessimiste de l'avenir où les problèmes ne semblent pas toujours pouvoir se résoudre sans appui extérieur. Toutefois, l'espoir de pouvoir s'en sortir est encore très fort. Les membres sont disposés à continuer l'expérience. Le groupement apparaît comme viable mais ayant des problèmes difficiles à surmonter sans l'appui des forces extérieures. C'est le cas dans 4 groupements (40%).
3. La situation est plutôt contrastée. Des jugements très variés (de très bien à très mauvais) sur l'évolution du groupement se combinant avec une vision de l'avenir qui varie entre un certain optimisme et un pessimisme grandissant. Le groupement apparaît comme viable pour certains membres mais nécessitant encore de l'aide pour les problèmes à venir et pour d'autres il n'offre aucune bonne perspective. Cette tendance s'observe dans 2 groupements (20%) .
4. L'insatisfaction face à l'évolution du groupement est nettement remarquable et ce, même dans les perspectives futures, très pessimistes : des résultats peu brillants, une viabilité qui n'est pas assurée sans appui, une incapacité à résoudre les problèmes à venir. L'expérience vécue dans le groupement est nettement décevante. Elle combine les plus mauvais résultats et les membres sont prêts à quitter en cas d'alternatives plus sécurisantes. Deux (2) groupements (soit 20% des groupements étudiés) se retrouvent dans cette situation.