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PROJECT COMPLETION REPORT

REPUBLIC OF COTE D'IVOIRE

SECOND FORESTRY PROJECT  
(LOAN 2496-IVC)

AUGUST 13, 1993

MICROGRAPHICS

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**Agriculture Operations Division  
Occidental and Central Africa Department  
Africa Regional Office**

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### CURRENCY EQUIVALENTS

Currency Unit	=	CFA Franc (CFAF)a/
CFAF 435	=	US\$1.00b/
CFAF 1000	=	US\$2.30b/

### AVERAGE ANNUAL EXCHANGE RATES

<u>YEAR</u>	<u>CFAF</u>	<u>US\$</u>
1985	449	1.00
1986	346	1.00
1987	301	1.00
1988	298	1.00
1989	319	1.00
1990	308	1.00

### WEIGHTS AND MEASURES

Metric System

### ABBREVIATIONS AND ACRONYMS

CAA	Caisse Autonome d'Amortissement
CAISSTAB	Caisse de Stabilisation et de Soutien des Prix des Produits Agricoles (Agricultural Price Stabilization Fund)
CCCE	Caisse Centrale de Coopération Economique
CTFT	Centre Technique Forestier Tropical (Research Center for Tropical Forestry)
CDC	Commonwealth Development Corporation
EPA	Etablissement Public à caractère Administratif (Public Enterprise of an Administrative Nature)
EPIC	Etablissement Public à caractère Industriel et Commercial (Public Enterprise of an Industrial Nature)
MINAGRA	Ministère de l'Agriculture et des Ressources Animales
MINAGREF	Ministère de l'Agriculture et des Eaux et Forêts (Ministry of Agriculture and Forestry)
SODE	A State Development Company
SODEFOR	Société pour le Développement des Plantations Forestières (Forestry Plantation Development Company)

### FISCAL YEARS

Government and SODEFOR: January 1 to December 31

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- a/ The exchange rate for the CFAF Franc is fixed at a ratio of 50:1 with the French Franc, which is free floating currency.
- b/ This is the exchange rate quoted in the Staff Appraisal Report and it refers to the parity on November 5, 1984, at the start of negotiations.

THE WORLD BANK  
Washington, D.C. 20433  
U.S.A.

Office of Director-General  
Operations Evaluation

August 13, 1993

**MEMORANDUM TO THE EXECUTIVE DIRECTORS AND THE PRESIDENT**

**Subject: Project Completion Report on Cote d'Ivoire  
Second Forestry Project (Ln. 2496-IVC)**

Attached is the Project Completion Report of the Cote d'Ivoire Second Forestry Project (Loan 2496 IVC) prepared by the Africa Regional Office. The Borrower has not prepared a Part II, nor is one expected.

Implementation experience has not been satisfactory. This project and its immediate predecessor (Loan 1735-IVC) were "old style" forestry enclave projects. Natural forest was to be replaced by plantations, managed by public agencies for commercial purposes, and protected from encroachment by policing. Virtually none of this has worked because of ill-conceived designs and weaknesses in implementation.

Concern for the underlying causes of deforestation in Cote d'Ivoire--rapid population growth, rural poverty, farmers in the forests, and pricing policies which favored agricultural crops over forest products--were not addressed, and performance was constrained from the outset. Implementation was marked by shortfalls in counterpart funding, weak management of finances and accounts, and the failure of a large and costly technical assistance component. The unsatisfactory experience has, however, provided valuable lessons for Cote d'Ivoire's third forestry project, the Forestry Sector Loan (Loan 3816-IVC). This new project is innovative and progressive, and should mark a turning point in management of Cote d'Ivoire's forests.

The Second Forestry Project is rated unsatisfactory, and project sustainability judged unlikely. The Project Completion Report, while lacking some numerical data and Part II, is candid and well prepared.

The project may be audited together with the ongoing Forestry Sector Loan.

Robert Picciotto  
by H. Eberhard Köpp

Attachment

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PROJECT COMPLETION REPORT

REPUBLIC OF COTE D'IVOIRE

SECOND FORESTRY PROJECT

(LOAN 2496-IVC)

TABLE OF CONTENTS

Page No.

PRELACE . . . . .	i
EVALUATION SUMMARY . . . . .	iii
PART I: PROJECT REVIEW FROM BANK'S PERSPECTIVE . . . . .	1
1. Project Identity . . . . .	1
2. Background . . . . .	1
3. Project Objectives and Description . . . . .	1
4. Project Design and Organization . . . . .	2
5. Project Implementation . . . . .	4
6. Project Results . . . . .	6
7. Project Sustainability . . . . .	9
8. Bank's Performance . . . . .	10
9. Borrower's Performance . . . . .	12
10. Project Relationship . . . . .	12
11. Consulting Services and Studies . . . . .	13
12. Project Documentation and Data . . . . .	13
PART II: PROJECT REVIEW FROM BORROWER'S PERSPECTIVE . . . . .	
PART III: STATISTICAL INFORMATION . . . . .	14
1. Related Bank Loans and Credits . . . . .	14
2. Project Timetable . . . . .	14
3. Loan Disbursements . . . . .	15
4. Project Implementation . . . . .	16
5. Project Costs and Financing . . . . .	16
6. Project Results . . . . .	18
7. Status of Covenants . . . . .	21
8. Use of Bank Resources . . . . .	25

MAP IBRD 18136R1

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PROJECT COMPLETION REPORT

REPUBLIC OF COTE D'IVOIRE

SECOND FORESTRY PROJECT  
(LOAN 2496-IVC)

PREFACE

This is the Project Completion Report (PCR) for the Second Forestry Project in Cote d'Ivoire, for which Loan 2496-IVC in the amount of US\$31.3 million was approved on February 26, 1985. The Loan Agreement became effective on December 18, 1985. The Loan closed on December 31, 1990, six months behind schedule. The Special Account recovered 14 months later, in February 1992, and the undischursed amount of US\$684,479 (2% of total loan amount), canceled.

Parts I and III of the PCR were prepared by the Abidjan-based Agriculture Section of the Agriculture Operations Division of the Occidental and Central Africa Department. Neither the Borrower nor the project implementing agencies (SODEFOR, CTFT) have prepared a contribution to the PCR (Part II). However, their comments on Parts I and III of this report have been taken into consideration. The draft PCR was submitted to the project's cofinancing agency, the Commonwealth Development Corporation (CDC), which agreed with its findings and recommendations and had no comments.

The PCR is based, inter alia, on the Staff Appraisal Report; the Loan and Project Agreements; supervision reports; correspondence between the Bank and the Borrower; and internal Bank memoranda.

PROJECT COMPLETION REPORT

REPUBLIC OF COTE D'IVOIRE

SECOND FORESTRY PROJECT  
(LOAN 2496-IVC)

EVALUATION SUMMARY

Objectives

1. The project was a continuation of the Bank-financed First Forestry Project (Loan 1735-IVC) which was completed on December 1985. The principal objectives of the project were (a) to assist Government in meeting the country's domestic and export needs for timber; and (b) to strengthen forestry sector policies and institutional performance. The project was to be executed over a five-year period, on the same four sites as the first project. The project aimed to: establish 22,000 ha of timber plantations on logged over forest reserves; maintain all new and existing plantations, over an area of 57,300 ha; and provide technical assistance to SODEFOR (for plantation works) and the Ministry of Agriculture (in the areas of policy formulation, sector development, monitoring and evaluation).

Project Design

2. With the benefit of hindsight it is clear that the project was too narrowly conceived, failing to address the broader environmental and social issues associated with the rapid depletion of Cote d'Ivoire's natural forests. Because of very severe financial and managerial constraints, the project did not fully meet its physical targets for planting and maintaining trees. There was no significant institutional strengthening; the economic return was low and the environmental impact was globally negative.

Implementation Experience

3. Implementation was hindered by five principal factors. First, Government failed to provide counterpart funds on time and there was a significant shortfall in project financing, partly owing to dollar devaluation. Second, SODEFOR's financial management and accounting was inadequate. Third, there was a shortfall in the technical assistance provided and the quality of this assistance was severely impeded by recruitment delays, turn over and sometime incompetent personnel. Fourth, training was only partially successful, particularly since there was no opportunity for national counterparts to learn from expatriate experts. Fifth, SODEFOR's managerial capacities were severely restricted by financial difficulties and lack of operational autonomy resulting from its dependent relationship to Government; although the Bank made a change in the agency's legal status a condition of loan effectiveness, this was not enough by itself to ensure satisfactory performance.

Results

4. Because of these problems SODEFOR was only able to establish 16,703 ha of new plantations (76% appraisal targets) and maintenance of new and existing plantations was mediocre. Although yields projected at appraisal are expected to be met, only approximately 80% of the newly established plantations are projected to be fully productive because of losses due to fire and pests, and delayed maintenance. The completion economic and financial rates of return are respectively 6% and -1.3%, well below appraisal forecasts. Higher-value species formed a smaller proportion of the trees planted than initially envisaged. Returns may have been higher if cheaper, manual methods of land clearance had been used; but initial shortage of local contract labor encouraged mechanization. Proper accounting of the salvage value of logs removed prior to planting might boost final returns.

5. Owing to the inadequacies of the training and technical assistance package and SODEFOR's continuing operational difficulties, no significant contribution was made to institutional strengthening. However, lessons derived from the project undoubtedly fed into preparation of the 1988 Forestry Master Plan which marked a significant evolution in Government's approach to sector issues.

6. The issue of farmer encroachment on the forest reserves was not addressed by the project. However, the planting program did not lead to significant evictions. From an environmental standpoint, establishment of the plantations was probably preferable to the likely "no project" option under which these degraded forest reserves could well have been clandestinely cleared for cropping. Compared to (food) crops, the plantations will eventually provide better protection from erosion and leaching and will help to enhance rainfall retention. Nevertheless, notwithstanding the conduciveness of this habitat to certain species of bushbucks, the establishment of plantations has resulted in a significant loss of biodiversity by comparison with natural forest. This loss would have been less marked if, before planting, the land had been cleared manually rather than by machine, mechanized clearing also facilitated the spread of weeds, aggravating fire hazard.

#### Sustainability

7. Although there was some carry-over of senior management and technical assistance, the project did not leave a strong institutional legacy. Protection and maintenance of the plantations is being sustained under the follow-up Forestry Sector Project which was approved by the Bank's Board in April 1990. The scope of this project is much broader than the first two forestry projects, addressing a range of social and environmental issues in the context of the total forest patrimony, not just industrial plantations. Priority will be given to conserving the country's remaining natural forests.

#### Findings and Lessons Learned

8. There are three lessons to be derived from this project. First, industrial plantations have a part to play in a balanced strategy for the development of the sector but their establishment and maintenance will not be enough to address the full gamut of social and environmental issues that are implicated in forest depletion: forestry projects need to be broader in conception, addressing such issues as land rights and the protection of biodiversity.

9. Second, the private sector should be involved in the sustainable management of logging concessions. Adequate forestry pricing and fiscal policies are an important pre-condition of the success of a commercial plantation operation. Productive "commercial" plantations are unlikely to be viable if undertaken by public entities because these entities often ignore cost effectiveness criteria. Plantations financed by public funds should be limited to areas where the returns from the "productive" aspects of the operations are supplemented by positive externalities derived from the protection of watersheds and natural forests.

10. Third, in designing plantation projects every attempt should be made to ensure that funding arrangements will permit adequate maintenance and fire protection. To this end the financing of recurrent costs should be based on a share of the proceeds from timber sales, minimizing dependence on funding from the government's general budget.

REPUBLIC OF COTE D'IVOIRE

SECOND FORESTRY PROJECT  
(LOAN 2496-IVC)

PART I: PROJECT REVIEW FROM BANK'S PERSPECTIVE

**1. Project Identity**

Name : Second Forestry Project  
Loan Number : 2496-IVC  
RVP Unit : Africa Region  
Country : Republic of Côte d'Ivoire  
Sector : Agriculture  
Sub-Sector : Forestry

**2. Background**

2.01 The project was a continuation of the First Forestry Project (Loan 1735-IVC), co-financed by the Bank and the Commonwealth Development Corporation (CDC), which was completed in December 1985 after establishing 20,000 ha of industrial plantations on four different sites. Its objectives were consistent with the strategy outlined in the National Development Plans of 1976-80 and 1981-85. According to these Plans, the Government sought (i) to manage 3.0 million ha of permanent forest reserve on a sustainable yield basis; and (ii) to create 0.5 million ha of short-rotation timber plantations, located on the more degraded parts of the forest reserve. The overall objective was to help meet the country's estimated long-term needs for timber and relieve pressure on natural forests.

2.02 When the project was appraised timber exports were Cote d'Ivoire's third largest export earner after cocoa and coffee. The project's prime rationale was to enhance the sustainability of the country's timber production, as timber output was dwindling. Indeed, Cote d'Ivoire has had the highest rate of forest depletion in Africa, with dense forest cover declining from 12 million ha in 1960 to under 3 million ha today. This devastation has been partly a consequence of commercial logging. But it also has much to do with the spread of extensive agriculture in the forest zone, fuelled by the high growth rate of the indigenous population and the influx of migrant labor from the savanna of Cote d'Ivoire and from the poorer Sahelian countries. Government's promotion of export crops also contributed to deforestation.

2.03 The Project was identified during the implementation of the First Forestry Project and prepared by the Government in 1982-83. It was jointly appraised by the Bank and the Commonwealth Development Corporation (CDC) in October 1983. Negotiations took place in November 1984 and the Board approved a loan of US\$31.3 million on February 26, 1985. The Bank loan was signed on March 18, 1985 and became effective on December 18, 1985. CDC, which was also cofinancier of the First Forestry Project, signed a loan of \$10.0 on November 18, 1985.

**3. Project Objectives and Description**

3.01 The project's principal objective was to meet the country's domestic and export needs for timber by complementing supplies from industrial plantations by those from natural forest. This was to be achieved, first, by maintaining and enlarging the plantations established under the First Forestry Project; second, by reinforcing the management capacity of SODEFOR, the forestry parastatal; and, third, by improving sector planning and policy-making.

3.02 This was to be a five-year project, centered on the same four plantation sites as the first project<sup>1</sup>, aiming to:

- (a) Mechanically clear and plant with high value species in short and medium rotation, 20,000 ha of logged-over forest reserve and replant 2,000 ha of plantations established under the First Forestry Project which had been destroyed by fire;
- (b) Thin and prune 17,800 ha of immature trees planted under the first project, and 17,500 ha of trees planted before this project; and maintain and protect the whole plantation area (57,300 ha);
- (c) Construct and maintain 1,760 km of forest tracks at the four plantation sites;
- (d) Provide 264 man-months of technical assistance to the Agriculture Ministry (MINAGREF) for studies in support of policy reform and for smallholder forestry programming, and for project's financial control;
- (e) Provide to SODEFOR 240 man-months of long-term technical assistance to assist in executing the planting and maintenance programs; and 50 man-months of short-term consultant services in marketing, organizational reform, fire control, and training; and
- (f) Support production-oriented research in vegetative propagation and small diameter wood utilization; provide in-service training for SODEFOR staff, including local and foreign study tours.

3.03 The cost of the project was estimated at US\$51.6 million, with foreign exchange costs of US\$29.5 million (57%). The project was to be financed by a Bank loan of US\$31.3 million and a CDC loan of US\$ 10.0 million equivalent, with Government providing the equivalent of US\$10.3 million.

#### 4. Project Design and Organization.

4.01 The project had a very narrow focus: its objective was the establishment and maintenance of industrial plantations on degraded natural forests. The main design efforts were in the area of institutional strengthening, aimed at increasing SODEFOR's effectiveness and enhancing Government's capacity for policy-making, planning and monitoring in the forestry sector. Environmental and social considerations had no impact on project design; in this respect, the lessons learned from the First Forestry Project were not properly assimilated.

4.02 Environmental Issues. An awareness of environmental issues was reflected in the section of the Staff Appraisal Report dealing with sectoral issues and risks. However, this awareness did not affect the design of the project. In particular, it was recognized that the "logged/degraded" forest to be cleared for establishing industrial plantations had an environmental value as forest cover. Because the forest had been logged several times, it was assumed to have only limited salvage value. Little consideration was given to its potential as a functioning and regenerating ecosystem which could be managed for sustainable timber production while continuing to provide valuable environmental services. As a result, potential returns from the management of the degraded natural forests were not examined as an alternative project design and the opportunity cost of land to be planted under the project taken to be nil.

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<sup>1</sup> The four plantation sites were established on degraded natural forest reserves (forêts classées) which had already been logged over. The four sites (Tene, Sangoue, Mopri and Irobo) are located between 120 and 290 km north-west of Abidjan (Map, IBRD 18136R).

4.03 The project supported the continuation of mechanized land clearing methods introduced under the First Project. It was assumed that, given labor shortages in forest areas, mechanization was the only way to meet the planting targets set under the project. This assumption was unsubstantiated--before the First Forestry Project, SODEFOR had been able to establish up to 3,000 ha/year on sites prepared by hand. Also, although there is much evidence of the poverty and fragile nature of tropical soils, there was no discussion of the potential adverse impact of mechanized clearing on soil structure and dynamics. Nor was any consideration given to the fire risk created by weed invasion following land clearance: fires on industrial plantations in 1982-83 appear to have followed the introduction of mechanized clearing in 1980.

4.04 Social Aspects. Like the First Project, the project design contained no immediate social goal. The SAR shows a growing awareness of the importance of social factors in forest policy and operations, emphasizing the need for a broader view in managing the sector. The problem of agricultural encroachment on gazetted forests was recognized in the SAR but given only cursory treatment in project design and social/economic appraisal. The project design was that of a typical enclave project and agricultural encroachment was seen as a "risk" to be contained through active investment in reforestation and through strengthened police action. Indeed, one of the main justifications of the project was that the alternative would have been complete degradation and conversion to agriculture, with the underlying assumption that it would have detrimental ecological consequences. While this would be true for food crops, it is not clear that forest plantations are superior to tree crop plantations for trapping CO<sub>2</sub>, producing O<sub>2</sub> and protecting soils, water tables and biodiversity. Strong police action by the State was unlikely because the government had consistently encouraged the growth of commercial agriculture, implicitly encouraging forest depletion. This contradiction in the government's position made it unlikely to take a strong line against indigenous populations in the vicinity of gazetted forest who continued to assert their customary claim to these lands.

4.05 Institutional Strengthening. The project's emphasis on institutional strengthening was a response to SODEFOR's management difficulties during the First Project. These difficulties were attributed mostly to its transformation, in 1980, into an Administrative Agency (Etablissement Public à Caractère Administratif - EPA) with bureaucratic procedures ill-suited to an institution with decentralized operations and a production-oriented mandate. Much hope was placed at appraisal on the positive impact of: (i) a change in SODEFOR's legal status to that of a somewhat more autonomous entity (Etablissement Public à Caractère Industriel et Commercial - EPIC) with greater flexibility to manage its own budget and implement its work plan (approval by Government of SODEFOR's new statutes was a condition of Bank Loan effectiveness); (ii) continued technical assistance in critical areas; and (iii) training of SODEFOR staff. However, these changes did not tackle the real weaknesses and constraints in SODEFOR's management. Indeed, SODEFOR remained, in spite of its changed statutes, totally dependant on budgetary funds for its operations and continued to be subjected to administrative procedures and controls for the management of its human and financial resources.

4.06 Surprisingly, project design did not include any monitoring and evaluation component, except for the strengthening of the Ministry of Agriculture's capability (through the provision of a specific technical assistance) to exert a stricter control over SODEFOR and project's financial management. Only scant attention was paid to strengthening SODEFOR's internal technical follow-up and cost-accounting systems to closely monitor the effectiveness of field operations at each of the four planting sites and take remedial action if necessary. Moreover, no attempt was made to obtain baseline data and set up the monitoring mechanisms for assessing the project's impact either on the environment or on the various population groups affected by the project.

## 5. Project Implementation

5.01 The project's achievements fell significantly short of the objectives set at appraisal, both in terms of physical targets and of economic and institutional impact. This poor performance was the result of (i) weaknesses in project design and (ii) financial, management and institutional problems that plagued SODEFOR throughout the project period.

5.02 Inadequate Project Funding. During the entire project period, SODEFOR suffered from increasingly acute financial problems due to Government's inability to provide the expected counterpart funds. For a while, SODEFOR managed to keep operations going by running down ISRD's special account, withholding taxes and payroll deductions due to the State and running suppliers credit up to unsustainable limits. Bank supervision missions discovered that Bank's funds were sometimes diverted to non-project (although legitimate) activities. As a result, the Bank requested that each withdrawal application be separately audited. Although this procedure was necessary, it also lengthened disbursements delays and aggravated the liquidity position of SODEFOR. By 1989, the latter's financial situation was critical, suppliers stopped delivery and operations came to a virtual standstill. Planting was continued at a very slow rate maintenance was drastically reduced (all pruning and thinning stopped) and the fire protection system virtually collapsed.

5.03 SODEFOR's Statutes. Contrary to expectations, the change in SODEFOR's legal status did little to enhance its operating efficiency. In its new form (EPIC), SODEFOR was to have considerable autonomy over day-to-day running and financial management, with major strategy decisions being left to Board of Directors (Conseil Consultatif de Gestion). However, this Board did not convene once during the life of the project. Consistent with SODEFOR's new statutes, Government appointed an Agent Comptable to SODEFOR to be the its chief accountant. However, this person reported solely to the Finance Ministry and soon came into direct conflict with SODEFOR's (expatriate) Director of Resources, a conflict that aggravated SODEFOR financial management difficulties. SODEFOR's budget and operations was to be defined by an annual contract to be negotiated with Government but since counterpart funds were so slow to materialize, the contract counted for little and negotiations were meaningless.

5.04 SODEFOR's Management. Problems arising from the lack of counterpart funds and the difficulties in dealing with the "Agent Comptable" were exacerbated by SODEFOR's poor accounting and financial management. Improper reconciliation of accounts and lack of internal controls were the subject of repeated qualifications of annual audit reports; these reports were produced with considerable delays and their recommendations mostly went unheeded. SODEFOR's internal management information system remained very weak, and a low priority, until the end of the project. A cost accounting system was set up but mostly used to budget for next year's operations and not as a management tool. Forest operations data were collected but not presented in a form which could enable managers to understand and control operations fully. Only towards the end of the project was SODEFOR able to produce (partial) comparative studies on the returns to different species and establishment costs at different project sites. Comparisons of the cost-effectiveness and relative performance of mechanized and manual clearing methods are still to be completed. By the project's end, owing to the lack of an effective management information system, SODEFOR was able to provide only incomplete information on project costs, technical performance and environmental and social impact.

5.05 Technical Assistance. Two of the seven technical assistance positions (Financial Controller at Ministry of Agriculture and Civil Engineer at SODEFOR) were never filled. The village plantation specialist at the Ministry left after one year and was never replaced. There were long delays in hiring the project's remaining technical assistants, due to bureaucratic procedures and a Government-imposed cap on TA positions. The Ministry's forestry planner and SODEFOR's marketing specialist were hired only in 1988, two and a half years after effectiveness. In total, 219 man-months of long-term technical assistance were provided under the project instead of the 550 envisaged. These delays, the lack of proper monitoring of TA performance, including by the Bank, and the absence of Ivorian

counterparts to be systematically trained severely limited the institutional impact of the project's technical assistance component. In addition, Government's decision (in 1983) to take over from the Bank the management of technical assistance experts resulted in a substantial increase in its costs--the average monthly cost of TA was \$13,000, compared to \$5,000 during the First Project. This was because experts were contracted through consulting firms instead of being hired individually.

5.06 Technical, Environmental and Social Issues. Effective implementation was limited by weaknesses in technical management at chantier level where much data was collected but not used, management and motivation of staff were poor and internal control systems inadequate. There is evidence that inadequate maintenance and poor timing of operations has reduced the expected performance of the plantations. A number of environmental problems were not properly dealt with: loss of top soil, soil compaction, loss of biodiversity and weed infestation, all of which were exacerbated by mechanized land clearing, a procedure which also increases fire risk. However, there was no serious attempt to reassess clearing methods. The few attempts to deal with the problems tackled the symptoms (increased weeding) rather than the causes.

5.07 Throughout implementation, illegal settlers continued to be perceived as the main project risk. SODEFOR--assisted by the World Food Program--tried to encourage settlers to leave the chantiers. These efforts were largely unsuccessful (possibly counterproductive in certain cases because the distribution of free food may have encouraged people to move into the chantiers). Where settlers were successfully expelled, there was no attempt by SODEFOR at proper resettlement. Throughout the project there was no serious attempt to understand the attitudes of the rural population towards forests or the complex relationships between indigenous groups and migrants; no consideration was given to involving local populations in the management of forest resources.

5.08 Training and Research. Although generally effective, SODEFOR's in-service training program was slow to start. Study tours could have been more relevant and better organized. Accurate records of these activities were not kept. A major opportunity for in-service training was missed as no attempt was made to appoint counterpart staff for working closely with technical assistance experts. The research contract with the Forestry Research Institute (CTFT) was not signed until May 1988, two and a half years after loan effectiveness. The delay resulted from a combination of poor communications between SODEFOR and CTFT and diverging views over what legal form the contract should take. Even the reduced program (CFAP440 million over two years instead of CFAP870 million over five years) could not be completed because of SODEFOR's financial difficulties.

5.09 The Ministry of Agriculture failed to guide or monitor SODEFOR's activity, either directly or through SODEFOR's Board (which never met). The financial controller charged with monitoring the project's implementation and financial management was never recruited. The smallholder forestry specialist stayed only one year and was never replaced. The only positive development of the project at the level of the ministry was the development of a long-term National Forestry Plan and Action Program. The preparation of the National Plan, started in 1984 under the First Forestry Project, permitted a very critical assessment of the country's dwindling forest reserves, the government's forestry policy and the exploitative attitudes of farmers and the forestry industry. This analysis provided the basis for a much broader approach to sector issues, shifting the emphasis from industrial plantations to the conservation of the country's remaining natural forest for the sustainable production of timber and environmental protection.

## 6. Project Results

6.01 Neither physical nor institutional objectives were fully met under the project. Physical achievements were as follows:

<u>New Plantations</u>	<u>Area Planned (ha)</u>	<u>Actual Area (ha)</u>	<u>Productive (ha)</u>	<u>Mean Incremental Yield (m<sup>3</sup>/ha/yr)</u>		<u>Mean Inc. Yield Final Cut (m<sup>3</sup>/ha/yr)</u>	
Teak	7,500	6,050	4,800	9.1	11.4	2.8	3.8
Frake/Framire	5,500	6,350	5,200	11.9	11.1	5.8	5.2
Gmelina	5,200	2,400	2,100	13.3	15.2	8.5	7.3
Cedrelda	1,100	800	650	17.9	14.0	4.5	4.2
Samba	1,100	400	350	12.3	11.3	3.5	4.6
Pine	1,600	700	500	19.2	9.8	12.0	4.0
<b>Total</b>	<b>22,000</b>	<b>16,700</b>	<b>13,600</b>				
	100%	76%	62%				
<u>Maintenance</u>	57,300	40,000	-				
	100%	70%	-				

6.02 The planting targets were met at 76% and the maintenance targets at 70%. This shortfall in planting appears proportional to that of the CFAF value of external project funds owing to the depreciation of the dollar during the project period (US\$1 = CFAF435 at appraisal and CFAF308 on average for actual IBRD loan disbursements). However, actual plantation establishment costs were substantially higher, in CFAF terms, than estimated at appraisal. There was a significant shortfall in other project components (Technical Assistance, Research, Training) and the corresponding savings were used to finance planting operations. The total CFAF cost of plantations established under the project was in line with appraisal estimates (CFAF9.5 billion), even though the area actually planted was significantly less than projected. The unit cost of establishment and maintenance operations, was, in CFAF terms, about 20-25% higher than appraisal estimates. The non-attainment of maintenance objectives reflects the priority that SODEFOR gave to achieving planting targets. Poor maintenance had a negative impact on the project's output. Of the 16,700 ha of new plantations, it is estimated that only 81% (13,600 ha) will be really productive owing to the effect of fire, pests and losses from poor maintenance.

6.03 Species selection was geared towards the general climatic conditions of each of the four "chantiers" in accordance with lenders' recommendations. However, the results of soil surveys carried out before land preparation were not used to match species with site conditions. With the exception of pine plantations, expected yields from the productive plantations are in line with appraisal estimates (both for total yields and for yields in final marketable cuts). As envisaged at appraisal, teak was planted over 36% of the area. However, there was some reduction in the overall value of the species mix as the higher-value Gmelina was planted on 15% of the area (down from 24%) while the lower-value Framire/Frake covered 36% (instead of 25%). The collapse of SODEFOR pruning and thinning operations in 1988/89, if not quickly corrected, will have a negative impact on timber quality and the fire protection system should be strengthened to reduce the very real danger of catastrophic fire damage.

6.04 The rates of return estimated at appraisal have not been achieved. The financial rate of return (FRR) of the project, not computed at appraisal, is estimated to be a negative - 1.3%, and the re-estimated overall economic rate of return (ERR) over the period 1986/2038 stands at 6% compared to 12% predicted at appraisal. In line with the methodology used at appraisal, the re-estimated ERR does not consider an opportunity cost for land nor does it include the social and environmental costs of the project. This is indefensible. The potential value of forest land, either under sustainable management of the degraded natural forest or through conversion to cropping represents an opportunity cost that should have been included in the economic analysis. Taking these costs into consideration would clearly further reduce the project's overall ERR.

6.05 There are several reasons for this shortfall in project's net benefits. They include overoptimistic assumptions at appraisal about wood utilization and prices, and underestimation of risks due to pests and fire. However, a large part of the shortfall appears to be due to cost overruns, the non-realization of projected revenues from salvage and thinning as well as the negative impact of poor maintenance on wood quality, all of which were within SODEFOR's management control. A better selection of species according to commercial criteria, increased attention to the cost effectiveness of different land clearing and planting techniques, tighter cost control at chantier level and better silvicultural and maintenance operations would have made a significant difference in the financial and economic viability of plantations.

6.06 The short-term social and environmental impact of the project was mixed. The project has created a forest cover which serves to preserve hydrological functions, particularly rain infiltration and ground water recharge, protects the soil from erosion and allows organic material and nutrient cycling to develop. These are positive impacts if set against a "no project" option of agricultural development (with a large share of annual food crops through slash and burn techniques). However, if set against the natural forest that was cleared and which performs these functions better, the ecological impact of the project is clearly negative. The soil has been visibly degraded by erosion and the top soil damaged during mechanical site clearance. Mechanical preparation and complete clearance also encouraged invasion by dominating Eupatorium weed which created a serious fire risk and reduced the level of floral diversity. One of the project's significant negative impacts has been a loss of biodiversity. Although plantations support moderate densities of some mammals locally valued as game (bushbucks for example) the number of species of plants, birds and mammals found in plantations is greatly reduced compared to natural forest, manually prepared plantations and even old fallow land.

6.07 The project did have some positive social effects, mostly on the standard of living of SODEFOR's employees. It also created jobs in the chantiers for temporary workers. It supplied certain social services (primary education, health care, water supply) and infrastructure (roads) to the local population. Although the project did not develop a sustainable policy to deal with agricultural encroachment, there was at least no forceful eviction of farmers. On balance, there is no evidence of an adverse impact on population's welfare.

6.08 The impact of institutional strengthening measures was also much less than expected at appraisal. Although project design took account of the problems encountered during the First Forestry Project, the corrective measures introduced (essentially a change in SODEFOR's statutes and a continuation of technical assistance) did little to remove the constraints on SODEFOR's operating flexibility and did not contribute to a real change in its management philosophy. Cumbersome financial systems, problems of internal control and low staff morale continued to plague operations.

6.09 The impact of technical assistance on operations and transfer of know-how was very limited. None of the TA provided the training of counterparts necessary to ensure sustainability. Finally, research activities were severely curtailed and did not lead to better plantation performance. Research programs started late and were left unfinished because of SODEFOR's financial difficulties. There were also poor linkages between SODEFOR and CTFT and the latter's emphasis on academic/long-term research was of less value to SODEFOR than applied research, focusing on the practical problems of plantation establishment and maintenance.

6.10 The project had one (indirect) positive impact. SODEFOR's acute financial and management difficulties raised awareness of the need for tighter planning and controls, emphasizing the importance of cost minimization, choice of tree species and choice of plantation techniques. The continuing difficulties with farmer encroachment also drew attention to the need to address the social dimension of forestry. This sounder approach to forest conservation, environmental protection and sector management, derived in large part from the Second Project's operations and

difficulties, has been embodied in the country's National Forestry Plan and is being supported under the Bank-financed Forestry Sector Loan.

## 7. Project Sustainability

7.01 Little is known about the long-term sustainability of tropical hardwood plantations in Africa using mechanical land clearance techniques. The damage to the soil and the loss of biodiversity appear to recover to some extent following site clearance. There is no indication that the plantations will not grow successfully until harvesting. However, even if this proves to be the case, the expected financial and economic rates of return are low and the prospects for sustainability are poor. Moreover, even these low rates of return will not be attained unless SODEFOR's performance improves. Substantial efforts are needed to make SODEFOR cost-conscious and responsive to market signals. Management of the chantiers has to be strengthened, internal controls tightened and monitoring and evaluation mechanisms set up. Valuable technical experience has been acquired during the project which could reduce costs and improve silvicultural practices and yields. It is imperative to reform the financial relationship between SODEFOR and Government, ensuring that SODEFOR receives adequate and timely funding for maintenance and forestry protection.

7.02 Available evidence shows that, in mechanized plantations, the level of biodiversity will remain low, even if species adapted to the simplified ecosystem can be sustained. Manual "understory" plantation methods are far superior to mechanized plantations in terms of protecting biodiversity, conserving soil fertility and reducing fire risks; these methods perform at least as well in terms of timber productivity and are less expensive. They should therefore be favored if plantations are to make an economically and ecologically sustainable contribution to the supply of timber for the country's future needs.

7.03 The other major risk to project sustainability stems from demographic pressure from land-hungry farmers. SODEFOR has so far shown little ability to control agricultural encroachment. In the future, these pressures will increase, as the population of Cote d'Ivoire is growing at close to 4% p.a., and will interfere with the management of existing plantations as well as severely reduce the scope for further plantation development. It is unclear whether the government will be able to devise and implement effective and socially acceptable measures to relieve plantations and gazetted forests from these pressures.

7.04 Concerns raised by, and lessons learned from, the Second Forestry Project have been taken into consideration in the formulation of the government's National Forestry Plan and the design of the Bank-financed Forestry Sector Loan (3186-IVC). Under this project, SODEFOR has switched back to manual land clearance and planting methods and is implementing a strengthened program to catch up with three years of neglected plantation maintenance and improve its fire prevention system. SODEFOR management structure is being decentralized while effective internal control systems are being set up. The government has granted SODEFOR a reasonable level of financial security by allowing it to retain part of the proceeds from log exports to finance its operations. A reform of forestry fiscal policies has been implemented, substantially increasing the stumpage price of timber. Finally, an innovative mechanism has been initiated (Commissions Paysans/Forêts) to associate local populations in the management and conservation of natural forests and plantations. These measures have improved markedly the prospect for long-term sustainability of the plantations established under the (First and) Second Forestry Project.

## 8. Bank's Performance

8.01 Strengths and Weaknesses. The Bank's overall performance was poor. Several concerns were identified at preparation and appraisal, on the basis of experience from the First Forestry Project: SODEFOR's management weaknesses, illegal intrusions in forest reserves, ecological issues. However, project design did little to address these issues. The measures taken to correct SODEFOR institutional weaknesses were essentially cosmetic; they did not entail the structural reforms

needed to ensure adequate flexibility and autonomy in management and sustained improvement in the technical efficiency and cost effectiveness of operations. Also, the choice of mechanized clearing and planting was never questioned, although its adverse ecological impact was already visible at appraisal, essentially because manual clearing was judged impractical for a project of the size envisaged. There was no consideration of alternative use of land. There was no consideration of alternative methods of plantation establishment. Social issues were overlooked, even though farmer encroachment was considered a serious problem and in spite of a growing recognition within the Bank of the importance of social factors in forestry project design and implementation. Finally, the appraisal did not envisage any mechanism to monitor the technical, environmental and social aspects of the project.

8.02 The Bank's performance during implementation was also weak: reactive rather than pro-active. When issues were identified, recommendations were aimed more at treating symptoms than causes. Admittedly, project management was constrained by factors beyond SODEFOR's or Bank's control: exchange rate changes and the government's budgetary difficulties. However, the Bank should have made more forceful attempts to rectify internal management problems, the weaknesses of the technical assistance program and the lack of coordination and complementarity between SODEFOR's activities and the project's research component. Also, as ecological and environmental issues became more pressing, and Government's forestry sector policies focused more on forest conservation through the preparation of the National Forestry Plan, Bank supervisions should have tried to reorient the project toward more environmentally-friendly techniques of plantation establishment. However, the ecological and social impacts of the project were hardly discussed during implementation nor was specialized expertise requested for supervision. There was no mention during the project period of the need to set up a research or monitoring program to guide management on environmental or social issues.

8.03 Lessons Learned. The project demonstrated the limit of "enclave" plantation operations in addressing structural problems in forestry sector development. It also drew attention to the importance of the policy environment in ensuring sustainability. The main lessons from the project are as follows:

- The project did not make a major contribution to decreasing the rate of forest depletion and/or reproducing forest assets. Clearing secondary natural forests (providing multipurpose uses) to establish artificial plantations should be avoided. Although it can be argued that plantations helped in preserving areas that would otherwise be depleted today, they provide only some of the environmental benefits derived from "degraded" forests. Also, given the high establishment and maintenance costs, planting rates are small in comparison to existing depletion rate (a rate of 1/50) and cannot make a dent in the depletion problem.
- Productive "commercial" plantations are unlikely to be viable if undertaken by public entities. If the implementing agency is insulated from commercial pressures, there is a real danger that critical decisions (species choices, planting techniques, marketing arrangements) will not be related to cost effectiveness or commercial considerations.
- Plantations financed by public funds should be limited to areas where the returns from the "productive" aspects of the operations are supplemented by positive externalities due to a clear protective role (watershed management, protection of natural forests). Purely productive plantations should be considered as one of several land-use alternatives. The latter choice is best left to private operators in the context of an adequate institutional policy and incentive framework.
- The promotion of private interests in commercial plantations, and their sustainability, is crucially dependent upon the policy context in the sector. If commercial logging of natural

forests is allowed and forestry taxes are much less than the real stumpage value of timber, the financial viability of plantations will be undermined. Adequate forestry pricing and fiscal policies are an important pre-condition of the success of a commercial plantation operation.

- Specialized input at appraisal and during implementation of the plantation project is necessary for a proper perception of ecological issues (soil degradation, hydrology, biodiversity, fire risk) and is therefore an important element in the success and ultimate sustainability of the project.
- Plantation projects cannot be viewed in isolation from their social context. Given their long gestation period, severe conflicts over access to land are likely to arise. These can only be mitigated by proper land tenure and agricultural sedentarization policies; and by full participation of the local population in the management of resources and derived benefits.
- The sustainability of plantations critically depends on proper maintenance and fire protection. The institutional appraisal should therefore pay particular attention not only to the cost effectiveness of plantation establishment and maintenance but also to ensuring financing of current costs. Direct finance from Government general budget should be avoided if possible with minimum funding based on a share of timber sale proceeds or other revenues generated by the sector.

#### 9. Borrower's Performance

9.01 Borrower's performance was mixed at best. The government's inability to provide counterpart funds constantly undermined project implementation and finally brought the project to a stand-still. It also indicated that the project was not a high priority in the government's investment program. The policy environment of the project was not favorable to sustainability. The government's promotion of commercial agriculture led to competition over land use; yet local officials and political figures were reluctant to tackle the associated issue of encroachment. The Ministry of Agriculture provided no guidance or monitoring. SODEFOR's Board of Directors never met. Weaknesses in SODEFOR's financial management and long delays in the production of audits--all heavily qualified--elicited no response from Government. To date, neither SODEFOR nor Government has made an effort to prepare a completion report. Government's only achievement under the project, albeit a major one, was the preparation of National Forestry Plan.

#### 10. Project Relationship

10.01 On technical matters, a good rapport was established between SODEFOR and Bank staff. SODEFOR implemented technical recommendations made during Bank and CDC supervision missions. However, the project's severe institutional and counterpart funding problems sometimes placed a strain on relations with Government. Research cooperation between SODEFOR and CTFT was not as productive as expected. CTFT programs were hampered by SODEFOR's financial difficulties and CTFT was not truly responsive to SODEFOR's requirements for applied research. Relations between the Bank and CDC were excellent. CDC mostly relied on Bank staff for information about institutional and financial issues while the Bank relied on CDC's expertise in technical forestry matters.

#### 11. Consulting Services and Studies

11.01 There were considerable delays in recruiting technical assistants and the quality of their work was poor. Neither Government nor the donors properly supervised technical assistance activities. Work on smallholder forestry and the establishment of an efficient cost accounting system did not yield any tangible results. Work on the marketing of plantation timber yielded limited results only at the end of the project. Short term consultants were hired in 1986 and 1987 to (i) study the

management of SODEFOR's human resources; and (ii) make soil surveys and train the soil survey team. However, the National Forestry Plan--which was strongly influenced by the lessons learned from project implementation--is a major strategic document providing the framework for reforms undertaken in the sector under the Agricultural Sector Adjustment Program supported by the Bank (Ln 3127-IVC) and the Forestry Sector Loan.

## 12. Project Documentation and Data

12.01 SODEFOR regularly prepared project implementation reports which, although of a general nature, were of adequate content and quality. However, detailed technical and cost data, even when collected in the field, were not analyzed or used by management. Financial reporting and accounting was poor and annual audits systematically late. SODEFOR has not prepared a completion report. An invaluable source for the analysis of the project's achievements and shortcomings is the CDC-ODA Joint Evaluation Study (1991) which contains sound analysis of the technical, institutional, environmental and social issues pertaining to the project.

- 12 -

PART II.

Not yet received from the Borrower.

**PART III: STATISTICAL INFORMATION**

**1. Related Bank Loans and Credits**

<u>Loan/Credit Title</u>	<u>Year of Approval</u>	<u>Purpose</u>	<u>Status</u>
Forestry Project (Loan 1735-IVC)	1979	Plantation of 20,000 ha of forest plantations and strengthening forestry management and planning capabilities in SODEFOR and Government.	Completed
Forestry Sector Project (Loan 3186-IVC)	1990	Protection and sustainable management of 1.5 million ha of natural forest establishment of 9,000 ha of new plantations and maintenance of 60,000 ha of existing ones, applied research and sector policy reforms.	On-going

2. Project Timetable

<u>Item</u>	<u>Date Planned</u>	<u>Date Revised</u>	<u>Date Actual</u>
- Identification			1986
- Preparation			03/82-02/83
- Project Brief (EPS)	01/83	01/27/83	08/26/83
- Preparation	11/83	11/18/83	09/15/83
- Appraisal Mission	03/84	09/22/83	09/22/83
- Loan Negotiations	06/84	01/15/84	11/05/84
- Board Approval	09/84	10/25/84	02/26/85
- Loan Signature	N.S.	03/18/85	03/18/85
- Loan Effectiveness	10/84	12/18/85	12/18/85
- Loan Completion	N.S.	12/31/89	06/30/90
- Loan Closing	10/89	06/30/90	12/31/90

Comments:

Policy issues raised at last stage curtailed substantial revisions at Yellow and Green Covers. The time lapse between Board and Effectiveness is due to a much weaker institutional environment than at appraisal.

**3. Loan Disbursements**

		Disbursements (in US\$ '000) Loan 2496-IVC			
<u>Bank Fiscal Year and Quarter</u>		<u>Estimated Cumulative</u>	<u>Actual Cumulative</u>	<u>Actual as % of Estimated</u>	<u>Actual as % of Loan Amount</u>
1985	3	0	1,545	0	5
	4	0	2,253	0	7
1986	1	0	3,669	0	12
	2	4,400	5,515	125	18
	3	5,450	6,941	127	22
	4	6,500	11,280	174	36
1987	1	7,750	11,425	147	37
	2	9,050	13,560	150	43
	3	10,450	15,896	152	51
	4	11,850	19,004	160	61
1988	1	13,100	20,267	155	65
	2	14,350	21,845	152	70
	3	15,750	22,133	141	71
	4	17,150	23,592	138	75
1989	1	18,700	25,354	136	81
	2	20,250	26,193	129	84
	3	21,550	26,915	125	86
	4	22,850	27,734	121	89
1990	1	25,150	28,169	112	90
	2	27,450	28,419	104	91
	3	28,650	29,098	102	93
	4	29,650	29,372	99	94
1991	1	30,550	30,616	100	98
	2	31,300	30,616	98	98
	3	31,300	30,616	98	98
	4	31,300	30,616	98	98

**Effective Date: 12/18/85; Closing Date: 12/31/90;  
 Date of final Disbursement: 01/14/92  
 Source: LOA1071 Disbursement Report**

4. Project Implementation

<u>Ha Planted (by species)</u>	<u>Appraisal Estimates</u>	<u>Actual</u>	
		<u>Ha Planted</u>	<u>Ha productive</u>
Teak	7,500	6,050	4,800
Gmelina	5,300	2,400	2,100
Pine/other	1,500	700	500
Framire/Frake	5,500	6,350	5,200
Samba	1,100	400	350
Cedrella	1,100	800	650
	<u>22,000</u> *****	<u>16,700</u> *****	<u>13,600</u> *****
<u>Ha Maintained</u>	57,300	40,000	
<u>Technical Assistance (Man-Months)</u>			
MINAGRA	264	37	
SODEFOR	290	182	
	<u>554</u> ***	<u>219</u> ***	

5. Project Costs and Financing

A. Project Costs

	<u>Appraisal Estimates</u>		<u>Actual</u>	
	<u>(CFA m)</u>	<u>(US\$ m) a/</u>	<u>(CFA m)</u>	<u>(US\$ m) b/</u>
Vehicles & Equipment	6,090	14.0	3,434	11.1
Land clearing and plantation costs	9,483	21.8	9,445	30.7
Consultants & Tech. Assistance	1,305	3.0	770	2.5
Research & Testing	1,174	2.7	296	1.0
Study tours	391	0.9	5	-
Operating costs	<u>4,002</u>	<u>9.2</u>	<u>3,230</u>	<u>10.5</u>
	<u>22,446</u> *****	<u>51.6</u> ****	<u>17,180</u> *****	<u>55.8</u> ****

a/ At US\$1 = CFAF 435 as per SAR estimates.

b/ At US\$1 = CFAF 308, average rate actually realized on IBRD loan disbursements.

**B. Project Financing**

**1. Bank Disbursements**

<u>IBRD Expenditure Category</u>	<u>Original Allocation (US\$)</u>	<u>1st Amendment 03/02/88 (US\$)</u>	<u>2nd Amendment 07/03/90 (US\$)</u>	<u>Actual Disbursements (US\$)</u>
(1) Vehicles and equipment	7,460,000	4,600,000	6,100,000	6,334,403
(2) Land clearing, soil preparation, planting, maintenance and protection of forest plantations under Part A of the Project	12,100,000	16,300,000	18,300,000	17,504,118
(3) Consultants and management staff recruited for Parts B, C and D of the Project	3,200,000	2,800,000	2,400,000	2,387,829
(4) Research under Part B.1 of the Project	1,000,000	800,000	800,000	721,719
(5) Testing under Part B.2 of the Project	100,000	100,000	0	0
(6) Study tours under Part C.4 of the Project	200,000	200,000	10,000	7,197
(7) Local staff costs, office supplies, fuel and lubricants for Parts A, C.3 and C.4 of the Project:				
(a) until June 30, 1987	1,000,000	1,000,000	1,508,463	1,604,805
(b) until May 31, 1990	1,600,000	3,000,000	1,420,000	1,906,919
(c) after May 31, 1990			760,537	640,962
(8) Ceiling Special Account	1,540,000	2,500,000	0	(492,430)
(9) Unallocated	<u>3,100,000</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	31,300,000	31,300,000	31,300,000	30,615,522
Canceled	0	0	0	684,478
Undisbursed	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
TOTAL	<u>31,000,000</u> *****	<u>31,000,000</u> *****	<u>31,000,000</u> *****	<u>31,000,000</u> *****

Source: LOA1071 Disbursement Report and Monthly Disbursement Summaries.

**2. Project Financing Plan**

	<u>Planned</u>		<u>Actual (%)</u>	
	<u>(CFA m)</u>	<u>(US\$ m) a/</u>	<u>(CFA m)</u>	<u>(US\$ m) b/</u>
IBRD	13,616	31.3	9,441	30.6
CDC	4,350	10.0	4,141	13.4 c/
Government	<u>4,480</u>	<u>10.3</u>	<u>3,598</u>	<u>11.7</u>
	22,446	51.6	17,180	55.7
	*****	****	*****	****

a/ At US\$1 = CFAF 435 as per SAR estimates.

b/ At US\$1 = CFAF 308 exchange rate actually realized on IBRD loan disbursements.

c/ The CDC loan was disbursed in Pound Sterling. The "excess" (of US\$ 3.4 m). probably reflects the differences in exchange rates.



B. Economic Impact

	<u>Appraisal</u> <u>Estimate</u> %	<u>Actual</u> <u>(AT end of Implementation)</u> %
<u>Economic</u> <u>Rate of Return</u>	12.0	6.0
Teak		7.2
Gmelina		7.6
Framire		7.0
Frake		3.5
Samba		2.5
Cedrella		2.5

Underlying  
Assumptions:

The analysis was based on the following assumptions:

- Costs. Establishment and maintenance costs were based on actual costs during project implementation as recorded by SODEFOR for new plantings and the maintenance and protection of existing plantations, and maintenance norms provided by SODEFOR.
- Benefits. They were estimated as follows:
  - growth rate and yields (total and final cuts) based on data from SODEFOR's plantations and mission estimates.
  - Estimates of losses due to fire or pests (it is assumed that 1% of plantings will be lost each year during the first 10 years).
  - Re-estimated stumpage values of products for the different species. It has been assumed that teak price would increase by 2% p.a. in real terms and those of other species would increase at 1% p.a.
- The treatment of the economic value of salvage logging and of non-wood production (essentially bushmeat) under the project critically depends on the assumed "non-project situation". If slash and burn agriculture had destroyed the standing timber, the economic value of salvage logging should be a benefit of the project. If the trees had been logged (either before agriculture or through sustainable management of natural forests) then salvage logging is not a benefit of the project. Given the uncertainty about the "non-project" situation, no additional benefits has been ascribed to the project from salvage logging.
- Also, although it was assumed in keeping with appraisal assumption that the opportunity cost of land was zero. This is most probably not correct. Since benefits could have been derived either from sustainable management of the degraded forests (wood and non-wood products) or its conversion to agriculture. Including a positive opportunity cost of land in the analysis would diminish further the economic viability of the project and of industrial plantations in general.

C. Financial Impact

	<u>Appraisal Estimate</u>	<u>Actual</u>
Financial Rate of Return	Not Estimated	-1.3%

Comments: The decline in financial rate of return is due to the following factors: (a) a shortfall in total area cleared for new plantations (76% of appraisal target: 16,192 versus 22,000 ha; (b) losses from fire and pestilence, difficult soil conditions (bottomlands, excessive vegetation) and poor maintenance practices which have reduced yields to approximately 79.63% or 12,894 ha of plantations established (Annex 1 and Table 1); (c) final cuts currently estimated around 50% of forecasts as a result of mixed species planted - commercial and revenue earnings considerations were not the determining criteria in the species selected; and (d) limited awareness of the salvage value of already existing forest - CFAF 2,00/m<sup>3</sup> maintained as an approximate value (Annex 7).

D. Studies

<u>Studies</u>	<u>Status</u>	<u>Impact of Study</u>
Plan Directeur Forestier	Completed	The study was proposed by MINAGREF Consultant financed under the project. It had a major impact in changing the attitudes of the Government in focussing on broader sectorial issues concerning forest conservation and changes in policy framework for the sector.

7. Status of Covenants

SECTION	DESCRIPTION: LOAN AGREEMENT	STATUS
	<p>The Borrower will:</p>	
3.01 (a)	<p>Carry out Parts C.1 and 2 and D.2 of the Project through MINAGREF and cause SODEFOR to carry out Parts A, B.1 and 2, C.3 and 4, and D.1 of the Project, all with due diligence and efficiency in conformity with appropriate administrative, financial, forestry and research practices, and provide, promptly as needed, the funds, facilities, services and other resources required for the purpose.</p>	<p>Full compliance</p>
3.01 (b)	<p>Cause SODEFOR to perform in accordance with the provisions of the Project Agreement all the obligations of SODEFOR therein set forth, take or cause to be taken all action, including the provision of funds, facilities, services and other resources, necessary or appropriate to enable SODEFOR to perform such obligations, and not take or permit to be taken any action which would prevent or interfere with such performance.</p>	<p>Full compliance</p>
3.01 (c)	<p>Establish and maintain at the CAA a revolving project account in CFAF in the name of SODEFOR and (i) make an initial deposit therein of CFAF 225,000,000; and (ii) thereafter replenish said account as and when required to ensure that, on the first day of each calendar quarter during each year the project is executed, an amount equal to at least the initial deposit is available to SODEFOR in that account to finance its estimated expenditures in CFAF for the Project during the following calendar quarter.</p>	<p>(i) Full compliance (ii) Govt's contribution towards the Project was irregular due to treasury problems. CAA took 6-8 months to reimburse expenditures drawn on the revolving project account, inducing SODEFOR to run heavy supplier's credit and suspension of field operations under the Project, in 1989.</p>
3.02	<p>Employ (i) a financial controller to control the budget and expenditures of SODEFOR on behalf of the Borrower; (ii) an economist and a planner to assist the Borrower in carrying out Part C.1 of the Project; (iii) a Forester to assist the Borrower in carrying out Part C.2 of the Project; and (iv) consultants and experts to carry out Part D.2 of the Project; such controller, economist, planner forester, consultants and experts to have qualifications, experience and terms and conditions of employment satisfactory to the Bank.....</p>	<p>(i) Not complied with: the Director of Resources assumed this role with the approval of the Bank and CDC; (ii) responsibilities were dropped for fear of conflicts between MINARA and SODEFOR. Incumbent served as Statistician instead; (iii) and (iv) Full compliance but with delays.</p>
3.03	<p>Not later than October 31 of each year, submit to the Bank for its review, the Contract Plan for the following year.</p>	<p>Could not be complied with on a regular basis: Contract Plan was substituted by "Fiches de Projet" reflecting approved 3-year budget in the BSIE.</p>
3.04 (a)	<p>Furnish to the Bank, for its review and discussion, not later than (i) April 30, 1985, a draft National Forestry Plan and Action Plan for the years 1986-1990; and (ii) December 31, 1985, said National Forestry Plan and Action Plan in its finalized form.</p>	<p>Full compliance</p>
3.04 (b)	<p>Implement said National Forestry Plan in accordance with a timetable established in cooperation with the Bank.</p>	<p>Full compliance</p>
3.05	<p>...Define the scope and terms of reference and establish a timetable, in cooperation with the Bank, for the studies to be carried out within the framework of the National Forestry Plan referred to in Section 3.04 above.</p>	<p>Full compliance</p>
3.06 (a)	<p>...Undertake to insure, or make adequate provision for the insurance of, the imported goods to be financed out of the proceeds of the Loan against hazards incident to the acquisition, transportation and delivery thereof to the of use or installation, and for such insurance any indemnity shall be payable in a currency freely usable by the Borrower to replace or repair such goods.</p>	<p>Full compliance</p>
3.06 (b)	<p>Cause all goods and services financed out the proceeds of the Loan and allocated to Parts C.1 and 2, and D.2 of the Project to be used exclusively for such Parts.</p>	<p>Full compliance</p>

SECTION	DESCRIPTION: LOAN AGREEMENT (Continued)	COMPLIANCE
3.07 (a)	<p>(i) Maintain records and procedures adequate to record and monitor the progress of Parts C.1 and 2 and D.2 of the Project (including their cost and benefits to be derived from them), to identify the goods and services financed out of the proceeds of the Loan, and to disclose their use in Parts C.1 and 2, and D.2 of the Project.</p> <p>(ii) Enable the Bank's representatives to examine the goods financed out of the proceeds of the Loan and any relevant records and documents.</p> <p>(iii) Furnish to the Bank at regular intervals all such information as the Bank shall reasonably request concerning Parts C.1 and D.2 of the Project, their cost and, where appropriate, the benefits to be derived from them, the expenditure of the proceeds of the Loan allocated to Parts C.1 and 2, and D.2 of the Project and the goods and services financed out of such proceeds.</p>	<p>Full compliance</p> <p>Full compliance</p> <p>Fully complied with although not on a regular basis.</p>
3.07 (b)	<p>Promptly after completion of Parts C.1 and 2, and D.2 of the Project, but in any event not later than six months after the closing date or such later date as may be agreed for this purpose between the Borrower and the Bank, prepare and furnish to the Bank a report, of such scope and in such detail as the Bank shall reasonably request, on the execution and initial operation of Parts C.1 and 2 and D.1 of the Project, their cost and the benefits derived and to be derived from them, the performance by the Borrower and the Bank of their respective obligations under the Loan Agreement and the accomplishment of the purposes of the Loan.</p>	<p>Not complied with. Information to be provided in SODEFOR's PCR not yet submitted.</p>
3.08	<p>Following the completion of the Project, maintain or cause to be maintained the plantations included in Part A of the Project in conformity with sound technical practices, until maturity of the timber, and shall provide promptly as needed, the funds, facilities, services and other resources required for the purpose.</p>	<p>The plantation program is being maintained and supervised under the follow-up Forestry Sector Project.</p>
4.02 (a)	<p>...Maintain or cause to be maintained separate accounts adequate to reflect in accordance with consistently maintained appropriate accounting practices the operations, resources and expenditures in respect of Parts C.1 and 2, and D.2 of the Project, of the departments or agencies of the Borrower responsible for carrying out such parts of the Project or any part thereof.</p>	<p>Despite Bank efforts, MINAGRA has never been able to produce separate accounts for Parts C.1 and 2 and D.2 of the Project. However, expenditures under these relate to expatriate technical assistance and studies for which Bank has made direct payments.</p>
4.02 (b)	<p>(i) Maintain or cause to be maintained separate accounts reflecting all expenditures on account of which withdrawals are requested from the Loan Account on the basis of SOEs; (ii) retain, until one year after the Closing Date all records ....evidencing the expenditures on account of which withdrawals are requested from the Loan Account on the basis of SOEs; (iii) enable the Bank's representatives to examine such records.</p>	<p>Complied with: however, Project account at CAA was improperly kept. Because of treasury problems, SODEFOR used funds from the Project account to meet its most urgent payments (salaries, small suppliers) and deferred payment to major suppliers as long as possible.</p>
4.02 (c)	<p>(i) Have the accounts referred to in paras (a) and (b) of this Section for each fiscal year audited, in accordance with appropriate auditing principles consistently applied, by independent auditors acceptable to the Bank; (ii) furnish to the Bank, as soon as possible, but not later than six months after the end of such year, a certified copy of the report of such audit...; and (iii) furnish such other information concerning said accounts, records and expenditures and the audit thereof as the Bank should from time to time reasonably request.</p>	<p>No audit report for MINAGRA was received during the life of the project - see Section 4.02 (a) above.</p> <p>Full compliance with delays in the case of SODEFOR.</p>

SECTION	DESCRIPTION: PROJECT AGREEMENT	COMPLIANCE
2.01	<p><b>SODEFOR will:</b></p> <p>Carry out Parts A., B.1 and 2, C.3 and 4 and D.1 of the Project... with due diligence and efficiency and in conformity with appropriate administrative, financial, research and forestry practices.</p>	<p>Not satisfactorily complied with: SODEFOR's overall financial management, internal control and accounting were inadequate. Lag in availability of counterpart funds aggravated SODEFOR's cash flow.</p>
2.02 (a)	<p>...Employ an operational methods engineer, a civil engineer, a marketing expert and an accountant whose qualifications, experience and terms and conditions of employment satisfactory to the Bank...</p>	<p>Full compliance with delays. However, Civil Engineer post was swapped for an Agro-Forestry Engineer with consent of the Bank; Marketing Expert post filled only in 1988 and was replaced frequently.</p>
2.02 (b)	<p>(i) Enter into a contract with scientific institution specialized in tropical forestry, satisfactory to the Bank, providing for the research referred to in Part B.1 of the Project; and</p> <p>(ii) Contract with a scientific institution specialized in tropical forestry, satisfactory to the Bank, providing for the testing referred to in Part B.2 of the Project...</p>	<p>Full compliance with delays; contract drafted 1985 was signed three yrs later, thus, only 6 out of 12 areas of work were completed.</p> <p>Full compliance</p>
2.03	<p>Prepare and furnish to the Bank for approval before August 31 of each year until completion of the project: (i) a work program for land clearing, soil preparation, planting, maintenance and protection to be carried out during the next Fiscal Year under Part A of the project, together with a budget therefor and a Contract Plan for the Fiscal Year; and (ii) a program of training and study tours to be carried out during the next Fiscal Year under Part C.4 of the Project, together with a budget therefor.</p>	<p>Full compliance with delays; Contract Plan was substituted by "Fiches de Projet" reflecting 3 years budget approved in the BSIE.</p>
2.04	<p>....Procurement of the goods and civil works required for the Project and to be financed out of the proceeds of the Loan to be governed by the provisions of Schedule 1 to the Project Agreement.</p>	<p>Full compliance</p>
2.05 (a)	<p>Insure, or make adequate provision for the insurance of the imported goods to be financed out of the proceeds of the Loan and made available to it by the Borrower against hazards incident to the acquisition, installation, and for such insurance any indemnity payable in a currency freely usable by SODEFOR to replace or repair such goods.</p>	<p>Full compliance</p>
2.05 (b)	<p>Cause all goods and services financed out the proceeds of the Loan and made available to SODEFOR by the Borrower to be used exclusively for the purposes of the Project</p>	<p>Full compliance</p>
2.06 (a)	<p>Furnish to the Bank, promptly upon their preparation, the plans, specifications, reports, contract documents and work and procurement schedules for the Project, and any material modifications thereof or additions thereto, in such detail as the Bank shall reasonably request.</p>	<p>Full compliance</p>
2.06 (b)	<p>(i) Maintain records and procedures adequate to record and monitor the progress of Parts A, B.1. and 2, C.3 and 4 and D.1 of the Project....to identify the goods and services financed out of the proceeds of the Loan and the Project.</p> <p>(ii) Enable the Bank's representatives to visit the facilities and construction sites included in Parts A, B.1 and 2, C.3 and 4 and D.1 of the Project and to examine the goods financed out of the proceeds of the Loan and any relevant records and documents.</p>	<p>Full compliance with delays.</p> <p>Full compliance</p>

SECTION	DESCRIPTION: PROJECT AGREEMENT (Continued)	COMPLIANCE
2.06 (b)	(iii) Furnish to the Bank at regular intervals all such information as the Bank shall reasonably requested concerning Parts A, B.1. and 2, C.3 and 4 and D.1 of the Project, their cost and, where appropriate, the benefits to be derived from them, the expenditure of the proceeds of the Loan and the goods and services financed out of such proceeds.	Fully complied with although not on a regular basis.
2.06 (d)	Promptly after completion of Parts A, B.1 and 2, C.3 and 4 and D.1 of the Project, but in any event not later than six months after the closing date or such later date as may be agreed for this purpose between SODEFOR and the Bank, prepare and furnish to the Bank a report, of such scope and in such detail as the Bank shall reasonably request, on the execution and initial operation of Parts A, B.1 and 2, C.3 and 4 and D.1 of the Project, their cost and the benefits derived and to be derived from them, the performance by SODEFOR and the Bank of their respective obligations under the Project Agreement and the accomplishment of the purposes of the Loan.	Not yet complied with: SODEFOR's PCR not yet submitted to the Bank.
2.06 (e)	Enable the Bank's representatives to examine all plants, installations, sites, works, buildings, property and equipment of SODEFOR and any relevant records and documents.	Full compliance
2.07 (a)	Exchange views with the Bank with regard to the progress of Parts A, B.1 and 2, C.3 and 4 and D.1 of the Project, the performance of its obligations under this Agreement and other matters relating to the purposes of the Loan.	Full compliance
2.07 (b)	Promptly inform the Bank of any condition which interferes or threatens to interfere with the progress of Parts A, B.1 and 2, C.3 and 4 and D.1 of the Project, the accomplishment of the purposes of the Loan, or the performance by SODEFOR of its obligations under this Agreement.	Full compliance
4.01 (a)	Maintain records adequate to reflect in accordance with consistently maintained appropriate accounting practices the operations and financial condition including, without limitation to the foregoing, separate accounting reflecting all expenditures on account of which withdrawals are requested from the Loan Account on the basis of SOEs.	Fully complied with: however, Bank SPN missions identified misuse of Bank funds to non-project operations due to delays in receiving counterpart funds. Since Feb. 1989, W/A were therefore audited and certified prior to any reimbursement to the Special Account.
4.01 (b)	Retain, until one year after the Closing Date, all records (contracts, orders, invoices, bills, receipts and other documents) evidencing the expenditures on account of which withdrawals are requested from the Loan Account on the basis of SOEs, and shall enable the Bank's representatives to examine such records.	Full compliance
4.02 (a)	Have its accounts and financial statements ...for each year audited, in accordance with appropriate auditing principles consistently applied, by independent auditors acceptable to the Bank.	Full compliance with delays (months): FY85 by 11.9; FY86 by 12.9; FY87 by 4.8; FY89 by 1.9; FY90 by 6.0; Up to Jun 92 in progress.
4.02 (b)	Furnish to the Bank as soon as available, but in any case not later than six months after the end of each such year: (i) certified copies of its financial statements for such year as so audited; and (ii) the report of such audit by said auditors of such scope and in such detail as the Bank shall have reasonably requested, including, without limitation to the foregoing, separate opinions by said auditors in respect of the expenditures and records referred to in Section 4.01 (b) of this Agreement, as to whether the proceeds of the Loan made available to it and withdrawn from the Loan Account on the basis of SOE have been used for the purpose for which they were provided.	Full compliance with delays
4.02 (c)	Furnish to the Bank such other information concerning said accounts, financial statements, records and expenditures, as well as the audit thereof, as the Bank shall from time to time reasonably request.	Full compliance

8. Use of Bank Resources

<u>Stage of Project Cycle</u>	<u>Planned (Average)</u>	<u>Revised</u>	<u>Final</u>	<u>Comments</u>
Through Appraisal	52.0	34.0	22.3	Projects: 15.0 Other: 7.3
Appraisal through Board Approval	56.0	74.7	66.8	Projects: 59.5 Other: 7.3
Board Approval through Effectiveness	...	0.0	13.1	Other: 13.1
Supervision	...	<u>70.0</u>	<u>57.4</u>	Projects: 48.0 Other: 9.4
<b>TOTAL</b>		<b>178.7</b> *****	<b>159.6</b> *****	Projects: 196.7 Other: 37.1

... = Not available

Source: Africa Region TRS Data Run 05/08/92

**B. Missions**

<u>Stage of Project Cycle</u>	<u>Month/Year</u>	<u>Number of Persons</u>	<u>Days in Field</u>	<u>Specialization Represented a/</u>	<u>Performance Rating Status b/</u>	<u>Types of Problems c/</u>
Through Appraisal	Feb 15, 1983	2	1	ECN, AGR	N/A	Technical <u>1/</u>
	Apr 25-May 6, 1983	2	12	ECN, AGR	N/A	Technical, Management <u>2/</u>
Appraisal through Board Approval	Sep 22-Oct 14, 1983	4	27	ECN, FS, AGR, FA	N/A	Technical, Management <u>3/</u>
	Oct 7-30, 1983	2	23	GR, FA	2	Management, Technical <u>4/</u>
	May 2-11, 1984	3	9	AGR, FA, FS	2	Management <u>5/</u>
Board Approval through Effectiveness	Mar 11-09, 1985	1	8	AGR	N/A	Financial <u>6/</u>
Supervision	Mar 15, 1986	2	15	AG, FA	2	Management, Financial <u>7/</u>
Supervision	Dec 09, 1986	1	9	SFA	2	Management <u>8/</u>
Supervision	June 01, 1987	1	10	SFA	3	Financial, Management <u>9/</u>
Supervision	Jan 16, 1988	1	12	SFA	3	Financial <u>10/</u>
Supervision	Jun 27, 1988	1	2	FS	3	Financial <u>11/</u>
Supervision	Feb 18, 1989	2	10	SFA, FS	3	Financial <u>12/</u>
Supervision	Oct 02, 1989	2	6	SFA, FS	3	Financial <u>12/</u>
Supervision	May 28, 1990	3	11	SFA, AG, FS	3	Financial <u>12/</u>

a/ Key to Specialization: AGR = Agronomist, FA = Financial Analyst, ECN= Economist, SFA = Senior Financial Analyst.

b/ Key to Status: 1 = Project free or minor problems; 2 = Moderate problems; 3 = Major problems; N/A = Not applicable.

c/ Types of problems:

1/ Technical assessment of fire damage at Tene and Sangoué forest plantations; and farmers intrusion.

2/ Forest fire prevention and control measures; and SODEFOR management and operations.

3/ Revision of the project. Policy issues raised at last stage curtailed substantial revisions at Yellow and Green Covers.

4/ Role and legal status of SODEFOR in plantation and exploitation; implementation of SODEFOR reorganization proposed by Management Audit; and forest fire risk.

5/ Implementation of SODEFOR reorganization; and Change of SODEFOR statutes as a result of Ministerial reorganization in Nov 1983.

6/ Financial difficulties affecting project execution and effectiveness: breakdown of SODEFOR accounting system which resulted in failure to draw down funds from CDC and WB Ln accounts; lack of counterpart funds; land preparation, nursery operations and weeding were delayed or neglected.

7/ Cooperation between Agent Comptable and Administrative Service of SODEFOR; depreciation of the \$ against the CFAF; and lack of counterparts because of salary scale imposed on SODEFOR as EPIC (Decree 85-132 of Feb 20, 1985).

8/ Project Management.

9/ Availability of counterpart funds; marketing; shortcomings in accounting control.

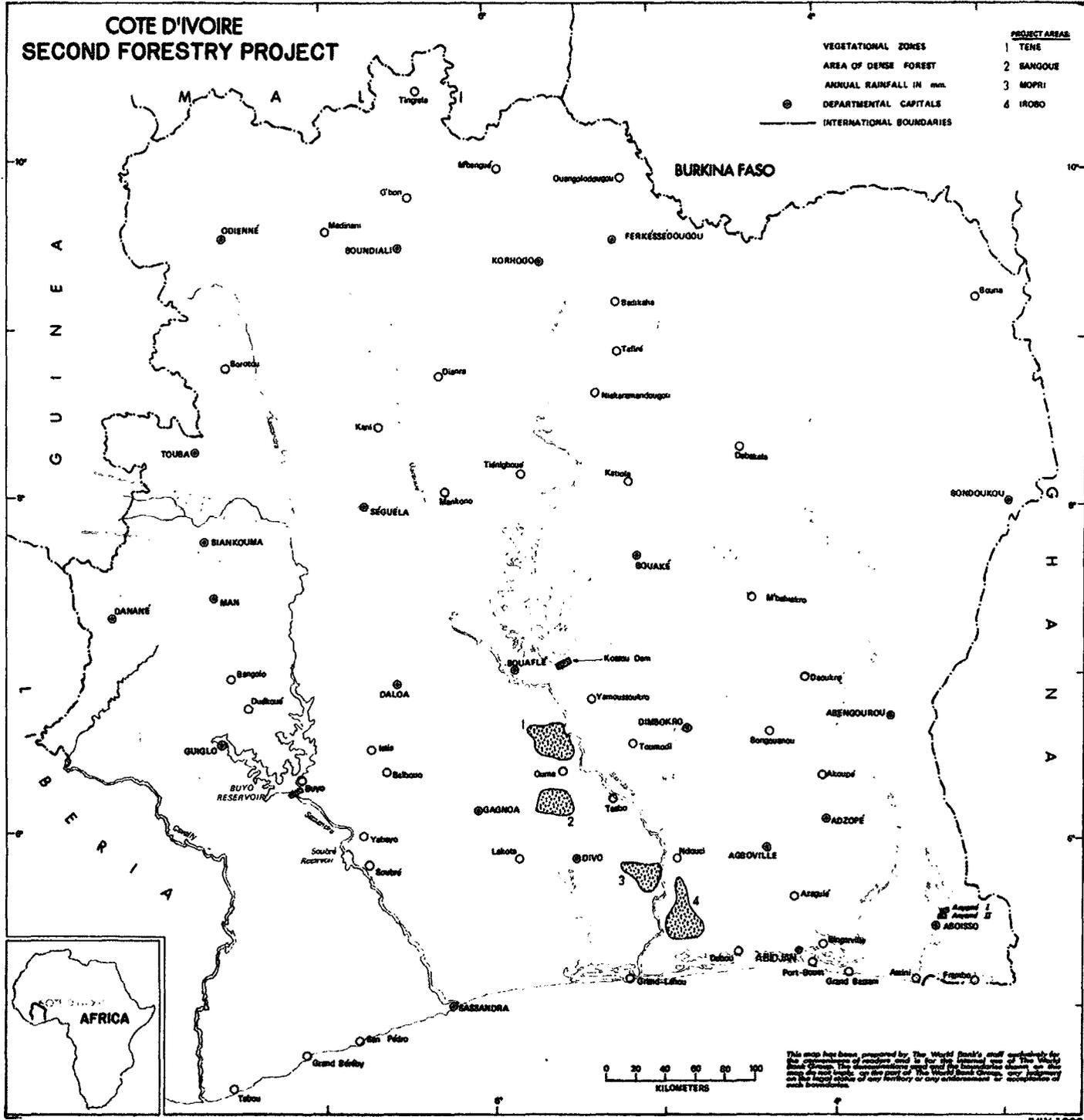
10/ Severe liquidity problems due to cessation of CDC disbursements due to non-payment of debt and CCCE completion of its project.

11/ Lack of counterpart funds.

12/ Funding due to lack of counterpart funds, suspension of CCCE financing and delays in processing disbursements.

# COTE D'IVOIRE SECOND FORESTRY PROJECT

<b>VEGETATIONAL ZONES</b>	<b>PROJECT AREAS</b>
AREA OF DENSE FOREST	1 TENE
ANNUAL RAINFALL IN mm.	2 SANGOUE
○ DEPARTMENTAL CAPITALS	3 MOPRI
— INTERNATIONAL BOUNDARIES	4 IROBO



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