Report No. 1364-CM

Appraisal of Second SOCAPALM Project Cameroon

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Western Africa Projects Department

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CURRENCY EQUIVALENTS

US$1	=	CFAF 245
CFAF 1	=	US$0.0041
CFAF 1,000,000	=	US$4081.63

WEIGHTS AND MEASURES
(Metric System)

1 hectare (ha)	=	2.47 acres
1 kilometer	=	0.624 miles
1 kilogram	=	2.204 pounds
1 metric ton	=	2,204.6 pounds
1 liter	=	1.057 U.S. quart

ABBREVIATIONS

CAMDEV	=	Cameroon Development Corporation
CEC	=	Coastal Etates Company
FONADER	=	Fonds National de Developpement Rural
HEVECAM	=	Societe Hevea - Cameroun
PAMOL	=	Societe Pamol Cameroun (Unilever Group)
SAFACAM	=	Societe Africaine Forestiere et Agricole - Cameroun
SOCAPALM	=	Societe Camerounaise de Palmeraies

FISCAL YEAR

July 1 to June 30

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SUMMARY AND CONCLUSIONS

Background

i. The Government of Cameroon has asked the Bank to help finance a project which forms part of a continuing program of development of the southern parts of the country based on estate/smallholder tree crops. The project was prepared mainly by SOCAPALM, a state-owned oil palm development agency. This report is based on the findings of an appraisal mission, composed of Messrs. G. Losson, A. Osei and T. Winston, which visited Cameroon in June 1976.

Project Concept

ii. Cameroon has suffered from an overall deficiency in edible fats, despite a good potential for crops such as oil palm. Palm oil deriving from wild groves has long been a basic food staple for the peoples of southern Cameroon, an important source of edible oil in other parts of the country, and the basis for a small but growing soap and detergent industry. However, the traditional sector had never treated oil palm production as a cultivated crop, its production of palm oil had been haphazard, and it could therefore hardly be counted on to bring about the desired production increases rapidly. Therefore, in the 1960's the Government decided to develop industrial estates which could rapidly increase production but also serve as demonstration as well as provide nucleus infrastructure and services for sound smallholder oil palm development.

iii. To carry out this strategy, Government created two state-owned corporations, CAMDEV and SOCAPALM. These two have developed some 32,000 ha on five estates/oil mill complexes, foreseen to become nuclei for smallholder plantations. All these estates are in the western and south-central parts of the country, close to the main population and industrial centers. There is also a good potential for tree crops in the sparsely-populated and relatively undeveloped southwestern region, and Government is elaborating a long-term development plan for rubber, coconut and oil palm. A state-owned company, HEVECAM, is developing a rubber estate partly financed by the Bank loan (574-CM). The proposed project would have three objectives: (i) help meet a rising domestic demand for palm oil; (ii) inaugurate a smallholder development program; and (ii) carry forward the recently begun development of the southwest region.

iv. The Bank assisted the first stage of SOCAPALM's development with a US$7.9 million loan in 1969 and a supplemental loan of US$1.7 million in 1973. The original project was modified in 1972 when mechanical land clearing proved more expensive than expected and when one of the sites proved partly unsatisfactory. The revised project included i) the establishment of 6,000 ha of oil palms at M'Bongo and 2,500 ha at Eseka, to be concluded in the 1976 planting season and ii) construction of a palm oil mill for each estate and

relevant infrastructure investments. Slippage in project implementation from the nine to 13 years estimated at reappraisal has been caused by occasional lack of planting material, temporary labor shortages, and severe loss of young plants to rodents. The management of SOCAPALM has been strengthened, however, so that these problems are now under control. Although cost estimates are now some 29% over reappraisal estimates, increases occurred largely during the sudden increase in world inflation in the post-reappraisal period. A loan and credit to CAMDEV for a total of US$18 million, the first Bank Group operation in Cameroon, financed planting of oil palm, plus planting or replanting of rubber, tea and pepper on a total area of 10,500 ha. The objectives of the project have been largely attained and it can also be considered a success.

Project Areas and Summary Project Description

v. The new Kienke estate would be established in the southwest, northwest of the HEVECAM rubber concession, and would form part of the long-term tree crop development program for that region (para iii). Other investments would be made on the M'Bongo and Eseka estates which are in the south-central parts of the country. The smallholder program would also be centered on these estates.

vi. Over a five-year development period, the project would comprise:

(a) clearing about 6,850 ha and planting 6,000 ha with high-yielding selected oil palm trees on Kienke estate and maintaining these plantings during the five-year project period; and providing infrastructure to create an estate complex, including the first phase of a processing factory;

(b) establishing 2,000 ha of smallholder oil palm plantations under an outgrower program on land cleared by the farmers; and providing credit, management and extension services;

(c) clearing 1,000 ha and planting 1,330 ha (including 330 ha of land already cleared) of oil palm on M'Bongo estate; providing both M'Bongo and Eseka estates with harvesting equipment and staff housing; and expanding the processing mill at M'Bongo;

(d) providing for management and administration of Kienke, and administrative cost related to the immature areas at Eseka and M'Bongo estates; and

(e) providing a headquarters service complex in Douala, including office space and facilities such as a vehicle park, garage, and warehousing, that would be jointly owned by several estate-owning companies.

The project would only provide for maintenance of all the estate plantings during the five-year project period. Maintenance thereafter and necessary processing and collection equipment and certain infrastructural investments would be provided for under SOCAPALM's future investment program.

Project Execution

vii. All project components, with the exception of the Douala complex, would be managed by SOCAPALM, which is owned by the Government - 58.5%, the public-owned Societe Nationale d'Investissements (SNI) -- 10.5%, and the cocoa and coffee stabilization boards -- 17% and 14% respectively. Although a publicly-owned company, SOCAPALM operates on commercial lines with a Director-General responsible to a Board of Directors consisting of representatives of Government, local business, and the farming community. In order to strengthen SOCAPALM's management capabilities for this project, a qualified chief accountant and the Kienke Estate manager would be appointed. A list of qualified and possible candidates for the post of Executive Controller would also be assembled with a view to filling that post not later than February 28, 1978. The two other estates have experienced managers who have proved themselves capable of handling day-to-day affairs including on-the-job training for the estate cadre. These managers report to the Director-General through a Field Manager (Inspecteur des Plantations) based at headquarters. Kienke estate would have five sector chiefs for field development.

viii. Smallholder development is the responsibility of The Fonds National de Developpement Rural (FONADER), the government agency responsible for providing short and medium-term credit to the rural sector. Individual farmers and farmers' groups (including cooperatives) are eligible for such credit. As it has no regional offices, FONADER operates through other government agencies which have field staff. For the outgrower component of the proposed project, credit funds and such allowances provided by Government would be passed through FONADER, which would use SOCAPALM as its agent in managing the proposed component.

ix. The outgrower program would be the responsibility of a specialized outgrower development service (Service des Plantations Villageoises -- SPV) to be established within SOCAPALM. In the field, SPV personnel would operate independently of estate management, in sectors which would be attached to a mill and be under an experienced sector chief. Each outgrower would have an individual contract with SOCAPALM setting out the participants' obligations and the terms of the credit. Outgrower produce would be collected and bought by SOCAPALM.

x. The main tree crop companies in Cameroon intend to establish an interagency central organization to provide common services. The expected benefits would be increased specialization and efficiency and lower overheads. A 2.5 ha site in the Douala industrial zone has been granted to SOCAPALM by Government for a central service complex, which would entail construction of an office building, a vehicle park and garage facilities, and warehouse space. SOCAPALM plans to share these facilities with the other oil palm and rubber plantation companies. The legal form is expected to be a Coastal Estates Center company. The establishment of a satisfactory charter for this corporation and the conclusion of a subsidiary loan agreement, satisfactory to the Bank, between Government and this Coastal Estates Center company would be a condition of disbursement for the Douala complex.

Cost Estimates and Financing Arrangements

xi. Total project cost would be US$38.5 million including sales and excise taxes of about US$4.7 million; import taxes on items expressly imported for the project would be waived by Government and have therefore been excluded from project cost estimates. Foreign expenditures are expected to account for US$25.0 million or 65% of total project cost. Expected price increases occurring after the November 1976 base period would be US$9.1 million or 31% of base cost estimates plus physical contingencies.

xii. Two Bank loans totalling US$25 million would be made to Government and finance 74% of project cost net of taxes, equivalent to the foreign exchange component. The First Loan of US$18.0 million would have a 20-year term, including a 4-1/2 year grace period and an interest rate of 8.5%. A US$7.0 million Third Window loan would be for about 23-1/2 year-term with first repayment on January 15, 1983. The loans would be disbursed pari passu in the ratio 18:7 and be merged by Government before being passed on to the project entities: to SOCAPALM for plantation development and the outgrower program and to the Coastal Estates Center Company (CEC) for the Douala complex. Funds thus received by SOCAPALM on account of extension and supervision of outgrowers would be a grant from Government; otherwise both SOCAPALM and CEC would repay Government at the interest rate applicable to the First Loan. The balance of project net of tax cost (US$8.8 million) together with financial charges and working capital requirements during the development period (US$5.4 million) would be met by Government (US$10.5 million) and SOCAPALM self-generated funds (US$3.7 million). To maintain a satisfactory equity investment ratio above 30%, a part of Government contribution to SOCAPALM (US$8.2 million) would be an increase in equity investment, and the balance would be a loan for a 10-year term including a five-year grace period during which interest, at 9%, would be capitalized. Government would make a grant to FONADER equivalent to US$1.2 million to cover credit and cash grants for the outgrower program.

xiii. Credit in kind to outgrowers provided by FONADER (US$334/ha) would be for a 13 year term with a grace period of 6 years during which interest at 9% would be capitalized. Cash grants (US$198/ha) would be made only to outgrowers who derive more than 75% of their income from agriculture. Repayment by farmers would be at the time of collection of outgrower fresh fruit bunches by SOCAPALM, which would also deduct its actual processing, collection and supervision costs related to the outgrower program.

Procurement

xiv. Except for items specified below, procurement would be through international competitive bidding (ICB) following Bank guidelines. Goods and services subject to ICB -- largely machinery, vehicles and equipment, fertilizer and some construction work (Douala complex) -- are estimated to cost US$20.6 million. Contracts not exceeding US$100,000 would be let under competitive bidding procedures advertised locally and satisfactory to the Bank. Most land clearing, estate road building, plantation work and minor estate construction, estimated at US$10.9 million, would be done on force

account using equipment owned by SOCAPALM. The remaining project costs (US$7.0 million) would be mostly for staff and labor costs and operating expenses.

Disbursements

xv. Disbursements of the two Bank loans in combined disbursements at the ratio 18:7 would cover 67% of total expenditure for:

(a) vehicles, equipment and machinery for the development of the oil palm estates (US$7.4 million);

(b) civil works and construction for the development of the oil palm estates (US$3.8 million);

(c) estate field development, including land clearing, fertilizers, planting materials and other supplies and palm planting and maintenance (US$6.7 million);

(d) administrative cost of Kienke estate (US$1.1 million);

(e) civil works, vehicles, equipment and operating costs of SOCAPALM for the development of the outgrower program (US$0.6 million); and

(f) vehicles, equipment and civil works for the Douala complex (US$1.4 million).

US$4.0 million would be unallocated. Disbursements for (c) and (d) and operating costs included in (e) would be against certificates of expenditures, the documentation of which would be retained by SOCAPALM for inspection by Bank project supervision missions. Disbursements for (a), (b) -- except for small construction work to be done by force account --, (e) -- except for operating costs --, and (f) would be fully documented. An estimated schedule of disbursements is at Annex 7.

Markets and Prices

xvi. Present per capita consumption of palm oil in Cameroon is 9.4 kg and growing at an estimated 4.5% per year. This domestic market would absorb about 85% of the project-produced palm oil (about 29,000 t per annum at full development). There is a large and growing market for oil palm products in Nigeria, Cameroon's more affluent neighbor to the west; furthermore, industrial products of Cameroonian origin enjoy preferential tariff treatment in the Central African Customs Union (UDEAC). Project-produced palm kernels (about 6,000 t per annum at peak production) are assumed to be exported, or crushed locally when domestic crushing capacity is expanded. In summary, project-produced oil and kernels should find a ready market at reasonable prices.

Financial and Economic Benefits and Justification

xvii. The direct benefit from project-financed investments would consist of increased palm oil production mostly to meet local demand which would otherwise have to be satisfied through imports or not at all. There would also be an increase in kernel production for home consumption or export. The ex-harbor value of incremental oil and kernel production at peak production would be some US$11.0 million equivalent per annum, of which about 55% would represent domestic value added.

xviii. Smallholders participating in the outgrower program would stand to benefit from much higher cash incomes than otherwise. It takes some five years for palms to enter into production; after that, net cash incomes would grow per manday worked from about US$1.80 initially to US$11.20 in Year 8.

xix. For SOCAPALM's shareholders, the investments would show a healthy return. On the basis of current revenue and cost projections, the annual cash return to Government and other public agency investments in SOCAPALM would be some US$16.3 million by 1996 from project plantings alone and about US$28.5 million from existing plantings.

xx. The economic rates of return for the main project components are as follows: 14% for the Kienke estate which represents 62% of total project costs excluding price contingencies; 23% for the Outgrower Program which is 6.5% of total costs; 17% for the extension of M'Bongo which accounts for 8% of total costs; and 14% on the M'Bongo and Eseka estates the completion of which accounts for 17% of total project costs. The weighted average rate of return is about 15%. If costs were to be 20% higher than estimated, the overall rate of return as well as the rates of return for individual components would fall by 2-3 percentage points. The risk that the project would not meet its objectives is small.

Recommendation

xxi. With the major assurances and conditions outlined in Chapter 8, the project is suitable for a Bank and a Third Window loan amounting to US$25 million.

I. INTRODUCTION

1.01 The Government of Cameroon has asked the Bank to help finance an oil palm development project that would: (i) help to meet a rising domestic demand for palm oil; (ii) inaugurate a smallholder development program; and (iii) carry forward a recently begun development of the southwest region.

1.02 The proposed project essentially would cover a five-year tranche of a long-term program to develop estate/outgrower plantings of perennial tree crops under the management of the state-owned Societe Camerounaise de Palmeraies (SOCAPALM). Since 1968, SOCAPALM has developed three oil palm estate complexes in Eastern Cameroon; two of these estates were partially financed by the Bank (Loans 593/886-CM), and the third by the European Community. The proposed project would finance: (i) the first 6,000 ha of a fourth estate; (ii) estate plantings of 1,330 ha and necessary investments, including processing facilities, to continue the development of the two estates covered by the first-stage Bank project (Loans 593/886-CM); (iii) a headquarters service complex that SOCAPALM would share with other companies in the estate sector; and (iv) 2,000 ha of smallholder plantings attached to SOCAPALM estates. Such smallholder development is the responsibility of FONADER, the Government's agricultural credit agency, which would entrust management of this project component to SOCAPALM.

1.03 The project was prepared mainly by SOCAPALM. The appraisal mission, composed of Messrs. G. Losson, A. Osei, and T. Winston, visited Cameroon in June 1976.

1.04 The SOCAPALM first-stage development project -- namely, the East Cameroon Oil Palm Project -- involved two loans, one of US$7.9 million in 1969 (Loan 593-CM) and, following reappraisal, one of US$1.7 million in 1973 (Loan 886-CM); the main change was to reduce plantings from 9,000 to 8,500 ha; the project was satisfactorily completed in June 1976. More details are in para 2.12 and Annex I.

1.05 The Bank Group has also assisted the CAMDEV oil palm and rubber plantation project (Loan 490-CM for US$7.0 million and Credit 100-CM for US$11.0 million in 1967). This project has been satisfactorily completed. In addition, the Bank Group has given assistance to four other agricultural projects in Cameroon: the Semry rice project (Credit 302-CM for US$3.7 million in 1972); a livestock project (Loan 978-CM for US$11.6 million in 1974); a cocoa project (Loan 1039-CM for US$6.5 million in 1975); and the Niete rubber project (Credit 574-CM for US$16.0 million in 1975). The Semry project has been satisfactorily completed, and all of the other projects are progressing satisfactorily. Two new projects, Plaine des M'Bo and Technical Assistance, were approved by the Board in December 1976.

II. BACKGROUND

A. General

2.01 Cameroon has a population of about 7.3 million (mid-1975) and covers an area of 475,000 km^2. Average per capita income is US$270. Since 1971, growth of real GDP has been less than 3% per annum. This was caused by factors largely outside Cameroon's control, such as falling prices for its exports, drought, and rapidly rising import prices. The Government reacted by stepping up public investment, which increased by 50% to reach annual averages of about US$190 million in constant 1974 dollars during the Third Development Plan (1972-76). At the same time, greater emphasis has been placed on agricultural output. Under the Fourth Plan (1977-81), it is anticipated that growth of GDP will be 5-6% per annum in real terms, slightly lower than achieved during the 1960s. However, if the Government can maintain a high volume of public investment and further expand and diversify the country's production base, more satisfactory rates of growth can be obtained in the early 1980s.

B. The Agricultural Sector

2.02 Agriculture plays a major role in the Cameroon economy, providing a livelihood for about 85% of the population and accounting for 35-40% of GDP and over 75% of the value of exports. The farming sector can be divided into traditional agriculture and industrial plantations. The traditional subsector accounts for over 85% of agricultural output. It comprises some 1 million smallholders cultivating plots averaging about 2 ha each, using family labor. Smallholders produce food crops for subsistence and for the local market, and cocoa, coffee, cotton and groundnuts for export. The industrial plantation subsector comprises several large government-owned and a few private industrial estates (foreign-owned), producing palm oil (mainly for domestic consumption) and rubber (for export). Output of cocoa and coffee increased considerably during the 1960's, at annual rates of about 3.5% for cocoa, 5.5% for robusta coffee and 9% for arabica coffee. Additionally, the country has vast forestry resources which are only partially tapped, and there is good livestock potential in the north.

2.03 Cameroon is largely self-sufficient in foodstuffs, with production expanding at an annual rate of 3-3.5%, ahead of population growth. This expansion results from a rapid growth of non-traditional foodstuffs, especially vegetables, beans and potatoes. However, Cameroon has been deficient in edible fats and there is a serious stagnation of output of traditional staples (plantains, millet, sorghum, maize and cassava), resulting from factors such as lack of adequate supporting services to smallholders, all-weather transport, and marketing organization (which, however, is reasonably well organized for export crops).

2.04 Farm incomes and services to farmers are unevenly distributed. The highest income areas are the central savannah and the western and coastal lowlands (US$130-140 per capita); the poorest areas are the northern plains and the western highlands (US$70-80), which are densely populated. The weakness of extension and credit services is particularly evident in the lowest income areas. However, prospects are good for developing smallholder agriculture and Government now intends to increase its support for the smallholders by making available to this subsector more investment funds as well as improving institutions involved with the preparation, implementation and monitoring of projects in this subsector.

2.05 In agriculture, the Bank has been able to help the Government further diversify production by financing its oil palm and rubber plantations in the east and west, and rice irrigation and livestock in the north. The ongoing cocoa project is helping modernize cocoa growing by smallholders and raise rural productivity in areas south and west of the capital. The rubber project approved in June 1975 will develop the southwest coastal region. Preparation work for rural development projects in populated but poor regions is underway with the assistance of the Bank. The Plaine des Mbo Rural Development Project, recently presented to the Board, will help finance studies and three-year trial activities required before a full-scale rural development program can be launched. Preparation of the Zapi East Integrated Rural Development Project is nearly completed and the project is scheduled to be presented to the Board during FY78. Also scheduled for presentation is a tree crop estate and smallholder development project in the west, a follow-up of the Bank Group-financed CAMDEV I project. Field appraisal of the Rural Development Fund Project was completed in November 1976. Besides promoting much needed foodstuff production, increased Bank Group lending for agriculture will support the Government's effort to focus on rural development in order to improve income distribution and to achieve a better balanced regional development.

Development of Rubber and Oil Palm

2.06 Historically, the major source of palm oil for the domestic market has been collection of fruit from wild palms. But productivity per tree is low (less than a fourth that of organized plantings) and the oil produced is of poor quality; thus, the traditional subsector has proved unable to satisfy a growing demand for vegetable oils and is now rapidly losing ground to cultivated oil palm. Whereas in 1970 collection from wild palms contributed about 62% of the country's total palm oil production, by 1975 it produced 38%, and its share is projected to be about 5% in 1985.

2.07 The main estate crops are oil palm and rubber: about 78,000 t of palm oil (including that from wild palms) and 20,000 t of rubber were produced in 1975. The existing estate plantations are: the state-owned CAMDEV (14,000 ha, rubber; 16,000 h, oil palm) and SOCAPALM (15,500 ha, oil palm); and the private SAFACAM (6,000 ha, mainly rubber) and PAMOL (9,000 ha, mainly oil palm). A third state-owned company, HEVECAM, was recently established. At present the estate crops are being developed mainly by these large

state-owned companies. A joint Coastal Estates Center is being set up, including both private and public companies (para 3.32).

2.08 The proposed project would be the second step, following the Niete rubber estate project underway (Credit 574-CM), of a large program for the sparsely populated southwest region. Preparation of a master plan for development of the area is being financed under the rubber project. SOCAPALM will initially develop oil palm and coconut, and HEVECAM the rubber sector.

Institutions

2.09 SOCAPALM was established in 1968 to implement the East Cameroon Oil Palm Project (Loans 593/886-CM), which financed the creation of two estates, M'Bongo (6,000 ha) and Eseka (2,500 ha). This first-stage project, now completed, is discussed in para 2.14. A third estate at Dibombari (6,500 ha) was established under a parallel project financed by the European Economic Community; investments still required at Dibombari and the proposed financial arrangements (separate to the project appraised in this report) are detailed in Annex 1. As SOCAPALM has only recently begun commercial operations, it is not yet a fully mature enterprise but its present management is fully qualified to carry forward the corporation's development.

2.10 SOCAPALM is passing through a difficult financial phase as oil palm development requires a long-term gestation period. From the beginning of its activities in this sector, SOCAPALM investments have been secured by equity contributions from Government, grants, and long-term borrowing from external sources (FED, BEI, IBRD, CCCE). Because of factors largely outside its control, rapid price inflation, adverse exchange rate variations, and higher interest rates, the costs of its program have exceeded estimates (para 2.14); and as a result SOCAPALM ran into financial difficulties in 1976 which resulted in a shortfall between available long-term funds and investments temporarily financed with short-term bank facilities (Annex 1, Table 1) of CFAF 217 million (US$0.9 million) in September 1975 and of CFAF 870 million (US$3.6 million) in February 1976.

2.11 However, SOCAPALM now has secured adequate financing to replenish its working capital and to insure the financing of its investment program (US$11.1 million) and debt service (US$7.8 million) until 1981, when self-generated funds would be sufficient to meet future financing requirements. From 1977 to 1980, SOCAPALM is to receive US$3.8 million in grant and loan funds from FED to complete the Dibombari estate; US$5.2 million from BEI to finance the Dibombari oil mill; and US$1.2 million from CCCE to cover investments at Eseka and M'Bongo not included in the proposed project. In the same time period, operating surpluses would amount to US$11.1 million. A cash flow analysis is at Annex 6.

2.12 FONADER (Fonds National de Developpement Rural) was created in 1973 primarily to provide credit to the rural sector. It is financed mainly from funds provided by the Price Stabilization Fund and some allocations from the central budget. FONADER acts as the bulk purchaser for most fertilizer imported by Cameroon; it also buys pest control products, with pest control measures executed by the Ministry of Agriculture. Operating under the general supervision of the Ministry, FONADER has been given responsibility for smallholder development. However, since FONADER has no regional offices, it operates through existing institutions, as would be done under the proposed project.

2.13 Research, technical advice and oil palm seed were until recently provided by IRHO (Institut de Recherches pour les Huiles et Oleagineux) a French research institute which is well staffed and operates on an international scale. However, the Cameroon station, La Dibamba, has been taken over by the new National Research Organization, ONAREST: the arrangements appear reasonable but, as a firm judgment cannot yet be made, research will be kept under constant review. Technical advice in practice is provided by an IRHO Agent under contract with SOCAPALM, and this contract would be continued under the project. A new oil palm seed garden was recently established, under IRHO supervision, on CAMDEV's Mondoni oil palm estate, and seed for the proposed project would come from this source.

C. The First-Stage Project

2.14 The East Cameroon Oil Palm Project, which covered the first stage of SOCAPALM's development, is analyzed in Annex 1, the main points being taken from a Completion Report dated August 16, 1976. As appraised in 1969, the first-stage project consisted of: (a) the establishment of 4,500 ha of oil palms each at M'Bongo and Eseka estates, and (b) the construction of a palm oil mill at each of the estates, as well as roads, buildings and other infrastructure. After mechanical land clearance proved more expensive than expected and the site at Eseka proved partly unsatisfactory, a reappraisal took place in May/June 1972. As a result, additional planting areas were identified at M'Bongo and a reduced area at Eseka was scheduled for hand clearing. The revised project included (i) the establishment of 6,000 ha of oil palms at M'Bongo and 2,500 ha at Eseka, to be concluded in the 1976 planting season; and (ii) proportionate adjustments in the infrastructure. At the time the second-stage project was appraised, some 330 ha of cleared land remained to be planted and some complementary investments such as housing for estate workers had not been completed, nor had some other essential investments such as processing facilities considered premature in the first-stage package. Total project implementation is expected to take 13 years instead of nine estimated at reappraisal. The slippage has been caused by occasional lack of planting material, temporary labor shortages, and severe loss of unprotected young palms to rodents -- 1,200 ha had to be replanted. All of these problems, aided by a strengthening of estate management, now are under control. The latest cost estimates are about 68% and 29%, respectively, over appraisal and

reappraisal estimates. Considering that reappraisal took place before an unexpected upsurge of world inflation, the project's cost performance since reappraisal is reasonable. The economic rate of return on the reappraised project is expected to be adequate (about 14%). As a general conclusion, it seems clear that SOCAPALM management has shown its ability to cope reasonably well with the inevitable problems which arise in any new enterprise, and this augurs well for the future. The first-stage project was based on established principles governing such undertakings, and the second-stage project would follow those same principles.

III. THE PROJECT

A. The Project Areas

The Kienke Estate Concession Area

3.01 The new Kienke estate, in the southwest region (para 2.08), would be established within an area extending northwest from the boundary of the Niete Rubber Estate concession, in the Lobe River basin. The concession of 22,300 ha is comprised of two zones separated by the Kribi-Ebolowa road; a corridor along this road about 2 km wide is excluded to allow for future settlement. The northern zone covers 6,900 ha, the southern zone 15,400 ha. The concession boundaries are shown on Map 12429. The concession would be provided to SOCAPALM by a presidential decree under existing legislation governing such matters, that would make ownership by SOCAPALM provisional upon the concession property being successfully developed. An assurance was received that Government would promptly make the land available to SOCAPALM.

3.02 The concession is very thinly populated, and the predominant vegetation is light forest on logged-over land. Climatic and soil conditions are suitable for oil palm. There are some seasonally flooded and marshy areas that would not be planted. It is estimated that 50-60% of the concession area is plantable to oil palm. Details are at Annex 2.

3.03 Communications and Utilities. The estate's two planting zones would be connected to the national road network, and thus to each other, by a short access road to be built under the project. The estate headquarters would be very close to the existing Kribi airfield, which would be used for purposes of the project. Transport links to the Douala-Yaounde transport corridor, and also the network within the southwest region, are to be reviewed in 1977 in the light of a major study of the corridor nearing completion. As the palm oil output would not by itself justify such infrastructural investments, the external transport needs of the proposed project would be subordinate to the overall development program foreseen for the region (including evacuation routes for forestry schemes in the southeast). Since the Bank is actively involved in Cameroon's transport sector, and

since a Government assurance was obtained under the Niete rubber project (Credit 474-CM) that it would take all measures necessary to improve the roads and bridges to assure year-round through traffic between Douala and Kribi, transport is unlikely to be a problem. The national railway - which owns an existing limited-load rail/road crossing over the Sanaga River - will be requested to grant crossing permission for essential loads of over 10 tons; a similar arrangement exists for the First Project. Most palm oil produced on the estate would be transported by large cistern trucks to Douala, for local customers. An outside supply of electricity would not be essential for the project. The estate headquarters and factory would be located in close proximity to a permanent and adequate water supply.

3.04 Labor and Social Services. HEVECAM has been more successful than expected in recruiting its initial workforce in the area, and SOCAPALM should be able to do the same. However, most of the estate labor force would have to be recruited in the more populated regions of Cameroon. Some of the established estates elsewhere in Cameroon have done so, and the same supply areas could be tapped (Annex 2). Wages would be attractive, and there would be provision for social infrastructure to serve the needs of the resident laborers and their families: villages, schools, hospital facilities, and housing for staff would have to be provided; and a range of social activities such as sports and cinema would have to be organized. It is foreseen that SOCAPALM would share the hospital facilities constructed under the adjacent rubber estate project under a common services agreement with HEVECAM (para 3.32).

3.05 All salaries and wages paid by the estate would be subject to relevant Government legislation. The minimum legal wage (presently CFAF 325/day - US$1.32) would be the predominant wage during the planting period. In later years, there would be substantial employment of skilled workers.

The Outgrower Project Areas

3.06 The outgrower plantings would be in the vicinity of the existing estate complexes at M'Bongo/Edea and Eseka, and thus would have growing conditions that have been thoroughly investigated and proved suitable for oil palm. As individual land tenure rights are traditional and not codified, assurances have been obtained that each outgrower would have a personal usufruct on his plantings when they are completed. The outgrower development areas are within the command zone of the Douala - Yaounde "transport corridor" (para 3.03). Aside from small-scale food crop farming, the main economic activities in these areas are the SOCAPALM estate/oil mill complexes, commercial forestry exploitation, collection of fruit from wild palm, and some cocoa production. Rural population densities are in the 5-10/km^2 range, but are much higher in the vicinity of passable roads along which outgrowers would be recruited (para 3.16). Surveys in these areas have identified some 500 farmers who are interested in becoming outgrowers, and this pool of potential candidates bodes well for success of the project.

B. Summary Project Description

3.07 The project would finance planting of a total of 9,330 ha with oil palm. It would have two major physical objectives: (a) to initiate a program of smallholder development in the tree crop sector, in conjunction with established estates; and (b) to establish the first phase of a new oil palm estate, to be called Kienke, which would eventually expand to 12,000 ha with additional surrounding outgrowers. The project would be carried out by the Société Camerounaise de Palmeraies (SOCAPALM), excepting part (e) to be implemented by a Coastal Estates Center company (para 3.32). Specifically, the project would comprise a five-year investment period involving:

(a) clearing about 6,850 ha and planting 6,000 ha with high-yielding selected oil palm trees on Kienke estate and maintaining these plantings during the five-year period; and providing infrastructure to create an estate complex, including the first phase of a processing factory;

(b) establishing 2,000 ha of smallholder oil palm plantations under an outgrower program on land cleared by the farmers; and providing credit, management and extension services;

(c) clearing 1,000 ha and planting 1,330 ha (including 330 ha of land already cleared) of oil palm on M'Bongo estate; providing both M'Bongo and Eseka estates with harvesting equipment and staff housing; and expanding the processing mill at M'Bongo;

(d) providing for management and administration of Kienke, and administrative costs related to the immature areas at Eseka and M'Bongo estates ; and

(e) providing a headquarters service complex in Douala, including office space and facilities such as a vehicle park, garage, and warehousing, that would be jointly owned by several estate-owning companies.

The project would only provide for maintenance of all the estate plantings during the five-year project period. Maintenance thereafter and necessary processing and collection equipment and certain infrastructural investments would be provided for under SOCAPALM's future investment program; an assurance to this effect was received (para 4.05). All oil palm estates involved in the project would be owned by SOCAPALM. The outgrowers program would be managed by SOCAPALM under a contract with FONADER (para 2.12).

C. Detailed Features

Kienke Estate

3.08 Planting Program. The planting season would begin in March-April. The 6,000 ha of project plantings would be divided into five sectors. Plantings

would begin in the southern zone (para 3.01), close to where the estate center would be located, and in the fourth year the plantings would shift to the northern zone. Plantings the first year would cover 750 ha; the yearly rate would then accelerate to 1,750 ha. After three years, there would be three sectors, averaging 1,400 ha each, in the southern zone.

3.09 For land preparation, the project would follow the precedent of the Niete rubber estate project in the same region, where the option of mechanical clearance on force account was adopted because of lower costs and technical advantages. Therefore, 20 heavy duty tractors and supporting equipment would be provided under the project. The technical features of land preparation, planting, protection against rodents, and maintenance requirements are outlined at Annex 2.

3.10 Utilities, Housing and Amenities, and Infrastructure. Under the project, construction of the central village would begin in PY 1 and provide accommodation for managerial staff and labor; offices and stores; an infirmary; initially one school; water supply and generating equipment. The factory, located at this site, would have its own generating capacity because steam in large quantities is required for processing purposes; factory byproducts, fibre and shell, would provide the fuel. Four satellite villages, also constructed under the project, would have basic utilities, a market and shops, and a social meeting hall. Amenities for staff would include one club house built under the project.

3.11 The estate center would have good initial access to most parts of the concession via existing logging trails. About 360 km of plantation roads would be built under the project, including the main access road (para 3.03); these roads would be built to minimum standards, and upgraded in later years.

3.12 Processing Equipment. The proposed project would finance the first 20 ton/hour capacity of a scheduled 40 ton/hour palm oil processing factory. The first line would come into operation in about 1982/83, the second year of production (the first year's small production could probably be used by the Estate's commissariat -- para 3.13). The second line would need to be constructed in 1984/85 -- i.e. ready for use in 1985/86 -- and the third line constructed in a satellite shed in 1986/87. Harvesting and collection equipment would have to be provided in keeping with this schedule.

3.13 Labor Recruitment and Food Supply. The oil palm estate labor requirement would reach a plateau of about 1,100 field workers in PY 4. Labor supply would require an organized recruitment effort. There would also have to be an organized effort to provide the estate workers and their families with a steady supply of food by a commissariat operation. Both of these functions probably would be organized jointly with HEVECAM, as there would be no advantage to competitive, uncoordinated efforts.

Outgrower Development

3.14 Under an assurance given with the first-phase SOCAPALM project, Government financed studies that recommended smallholder development be based on outgrower arrangements. These studies outlined an initial program for oil palm covering a total of 10,000 ha, over about 15 years, in three sectors: the Eseka Area, 2,000 ha; the Dibombari Area, 4,000 ha; and the M'Bongo-Edea Area, 4,000 ha. An additional smallholder component for the Kribi area, in conjunction with Kienke estate, should be possible within this time span as the local rural population increases. The recommended rate of development would be 200 ha/year for each sector, based on experience in other countries. To spread overhead costs, the three sectors ready for development would be initiated at the same time. Outgrower development in the Dibombari area, however, would be under a separate project that FED has been asked to finance. The project proposed for Bank financing would cover 1,000 ha of smallholdings in the Eseka area and 1,000 ha in the M'Bongo area. An estimated 1,000 smallholders would be involved by the end of five years.

3.15 Outgrower plantings would be confined to a radius of 25 km from the relevant oil mill complex and limited to existing passable roads; farms would be within 500 m from a chosen road. All participants would be qualified farmers, who would agree to follow, throughout the development period, the technical advice provided by SOCAPALM (para 3.27).

3.16 Land would be cleared by the participating farmers, either individually or by a cooperating group (para 3.31). Planting material and maintenance would be as described in Annex 2. Seedlings, cover crop seed, and fertilizer, would be supplied on credit by SOCAPALM; cash advances based on labor requirement would also be made available either as a grant or on credit depending on farm family income (para 4.06); protection against rodents would be provided by the farmer. SOCAPALM would supervise all operations. Since this would be an inaugural outgrower program, the project would provide for the housing and equipment of SOCAPALM's outgrower extension service.

Douala Complex

3.17 A suitable site is available in the Douala industrial district for location of a functional service complex. The project would provide for construction of an office building, a vehicle park and garage facilities, and warehouse space. SOCAPALM would share these facilities with the other oil palm and rubber plantation companies (CAMDEV, SAFACAM, HEVECAM and PAMOL -- para 2.07), under a separate corporate arrangement, and substantial savings could be achieved through the spreading of overhead costs. Construction would be under the present project for reasons of convenience.

Completion of M'Bongo and Eseka Estates

3.18 As discussed in para 2.14, the proposed project would provide for the replanting of 330 ha damaged by rodents at M'Bongo estate which had been cleared under the first-stage project. For M'Bongo and Eseka (para 2.09), the

proposed project would provide for harvesting and collection equipment, and some staff housing not provided for under the first-stage project. The collecting equipment would comprise eight tractors with special crane attachments, six heavy trucks, and ancillary equipment. The project would also finance the final line to complete the 40 ton/hr oil mill at M'Bongo.

Extension of M'Bongo Estate

3.19 The expansion of M'Bongo estate from the original 6,000 to 7,000 ha is justified in view of the improved capability of the M'Bongo estate management, available land, and the expanded capacity of the M'Bongo processing factory. Under the proposed project, the planting schedule would be 500 ha each in PY 2 and 3. The marginal cost of this expansion would be low (e.g. no additional staff housing would be required). Methods and procedures, including maintenance requirements, would be essentially those described in Annex 2. Five tractors and ancillary equipment would be provided under the proposed project.

D. Organization and Management

Societe Camerounaise de Palmeraies (SOCAPALM)

3.20 SOCAPALM is a development corporation owned 58.5% directly by the Government, and the balance by three public agencies: the Societe Nationale d'Investissement (10.5%), and the cocoa and coffee price stabilization funds (17% and 14%, respectively). SOCAPALM's 11 directors were selected to provide a blend of Government, local business, and farmer representatives. The present Chairman is the Minister of Agriculture. The General Manager is appointed by the Board of Directors on the recommendation of the Minister of Economy and Planning and is responsible, under the control of the Board Chairman, for day-to-day management. His performance has been satisfactory. Second in command is the Field Manager.

3.21 To date, SOCAPALM has relied on a minimum cadre of high level staff, mostly men with multiple talents. The company plans to evolve along the lines of the conventional organization structure shown on Chart 17055.

3.22 Except for the participation of a Government Commissioner in its affairs, SOCAPALM functions as a normal commercial entity, subject to the Cameroon Investment Code. As already agreed, the Commissioner's legal right to suspend action on corporate decisions while referring the matter to the responsible Ministry would be restricted to cases that might increase the obligations of Government under the Loan Agreements; details are in Annex 1.

3.23 Estate Management and Training. All existing SOCAPALM estate managers are experienced oil palm specialists who have proved their capacity to control day-to-day management. On Kienke Estate, the field organization would comprise five sector chiefs, each in charge of about 1,200 ha of oil

palm. There is satisfactory evidence throughout the estates sector that a pool of experienced Cameroonian cadre is being established through *on-the-job* training. A qualified Cameroonian is now being sought for the post of Deputy Director. It would be a condition of effectiveness that the Kienke estate manager and the Chief Accountant had been appointed, and that a list of qualified and possible candidates for the post of Executive Controller had been established; an assurance was received that this post would be filled by February 28, 1978. To consolidate this effort, the Government is currently organizing, with the assistance of consultants, a training program for agricultural staff that would augment the on-the-job training programs of the individual companies.

3.24 Key Posts. Management personnel essential to the project's success would be the Director General, Deputy Director General, Field Manager, Executive Controller, Chief Accountant, Kienke and M'Bongo estate managers, and the manager of the outgrower program (see below). An assurance was received at negotiations that these eight key posts would be filled at all times (including the Deputy General Director's post after it is activated - para 3.22) by persons with qualifications and experience acceptable to the Bank.

Management of the Outgrower Program

3.25 SOCAPALM would be the managing agency, on behalf of FONADER, for outgrower development in the areas commanded by its oil mills (para 3.06). An outline agreement covering both the FONADER/SOCAPALM and the subsidiary SOCAPALM/Outgrower relationship was discussed and agreed at negotiations. A guiding principle would be to make the project a training ground for FONADER in undertaking its responsibility for smallholder development. It would be a condition of disbursement against this component that a satisfactory credit administration agreement had been signed by FONADER and SOCAPALM.

3.26 For the outgrowers program, SOCAPALM would establish a specialized service, Service des Plantations Villageoises (SPV). At the headquarters level, SPV would have technical and administrative divisions. In the field, SPV would work independently of the estates, and be organized initially in three sectors, each attached to an existing mill. SPV chiefs would be trained in oil palm work by SOCAPALM personnel, and this practical training would include participants from FONADER. There would be one controller for about 80 outgrowers and about 300 ha of palm, a coverage designed to ensure the effective use of funds provided for outgrowers. As far as possible, the SPV would seek to intensify the plantings in each sector to improve control efficiency and lower harvest transport costs. These arrangements are similar to those which have proved successful in Ivory Coast.

Outgrower Selection, Size of Holdings and Credit Arrangements

3.27 Based on a survey made during preparation (para 3.06), SOCAPALM would have a good choice of candidates in the initial phase of outgrower development covered by the project. In keeping with experience elsewhere in

West Africa, it is assumed for the proposed project that initial plantings would average about 1.5 ha of oil palm. In later years, it is expected that satisfied outgrowers would increase their plantings to about 4 - 4.5 ha on average without exceeding family labor availability when palms are in bearing. There would be a minimum of 1 ha and maximum of 10 ha per participant. It is expected that 90% of the farmers selected to participate in the program would derive 75% of their income from agricultural activities. The balance of 10% would be people with land rights whose principal activity is non-agricultural but who have nevertheless retained a close association with the village.

3.28 Prospective participants would complete, with the assistance of SOCAPALM agents, a form giving prescribed data on their farming operations, family situation, and references. For suitable candidates, the selection procedure would involve an enquiry as to the farmer's reputation, and an examination of the planting site. Participation would be dependent upon the potential outgrower becoming associated with a group of farmers (para 3.30). An assurance was received that the contract to be entered into by participating farmers with SOCAPALM would follow a model satisfactory to the Bank.

3.29 Prior to January 1 of each year, SOCAPALM would prepare a report for FONADER on its outgrower development program for the upcoming campaign. This report would be reviewed by FONADER and lead to a mutually agreed program; an assurance was received that the Bank would be given an opportunity to comment on this report until all trees are in bearing. On the basis of this program, FONADER would provide SOCAPALM with the funds and/or goods (e.g. fertilizer) required for the establishment of outgrower palms. SOCAPALM would deliver inputs, maintain credit accounts, and provide processing and marketing services. Outgrowers under contract would receive long-term financing in cash and in kind to cover establishment costs, and once production begins, the outgrowers' produce would be sold to SOCAPALM. Terms of the credit arrangements are outlined in para 4.06.

3.30 Outgrower Groups. While each outgrower would have an individual contract and account with SOCAPALM, membership in an outgrower group with a minimum of five members would be required. Voluntary groupings would be arranged by each SOCAPALM agent among the available candidates. Members would have co-responsibility for the group's plantings. The main initial function would be to provide a means for group efforts, for instance in land clearing. Details are at Annex 3.

Coastal Estates Center

3.31 The main tree crop companies in Cameroon (para 2.07), with the active support of the Bank, intend to establish a Coastal Estates Center (CEC) to provide common services and functions of common interest. The expected benefits would be increased specialization and efficiency, and lower overheads. The organization is described in Annex 1. Arrangements would be tailored to each common service for any combination of companies. For the central service complex, the legal form is expected to be a co-owned

real estate corporation (Societe Immobiliere). The establishment of satisfactory charter and the conclusion of a subsidiary loan agreement, satisfactory to the Bank, between the Government and the new corporation would be a condition of disbursement against the Douala common services complex. Other common services might be: port clearance; estate medical services; recruitment of estate labor; food supply; a pool of experts, such as for project preparation and technological advice; air transport; statistical services; land clearing; and radio communications.

IV. PROJECT COSTS AND FINANCIAL ARRANGEMENTS

A. Project Costs

4.01 Project costs are based on November 1976 prices, and over the five years investment period, are estimated at CFAF 9.5 billion (US$38.5 million), of which the foreign exchange component would be CFAF 6.1 billion (US$25.0 million) or 65%.

4.02 It is the intention of Government to exempt from duties all items imported expressly for the project; such duties are therefore excluded from project cost estimates. Cost estimates include indirect taxes of about US$4.7 million; therefore, project costs would be US$33.8 million net of taxes. The following contingencies have been computed:

a) physical contingencies of 10% on base cost estimates; and

b) price contingencies, based on the expected rate of general inflation in Cameroon, have been calculated on base cost estimates plus physical contingencies in each year, compounding estimated price increase factors in prior years and one-half of the price increase factor in the year concerned. Effective compound rates are 6.8% in 1977, 18.1% in 1978, 27.6% in 1979, 37.8% in 1980 and 48.8% in 1981.

Total contingencies calculated on the foregoing basis amount to 31% of the total project costs or 44% of base-line cost estimates. Detailed cost estimates are in Annex 4. A summary is presented in the table on page 15.

PROJECT COST SUMMARY

	Local	Foreign	Total	Local	Foreign	Total	% of Total Project Cost
	CFAF Million			US$ Million			
1. Oil Palm Estate Development							
Field Establishment	975	1041	2016	4.0	4.2	8.2	
Constructions	266	493	759	1.1	2.0	3.1	
Vehicle, Equipment	159	901	1060	0.6	3.7	4.3	
Oil mills	251	1303	1554	1.0	5.3	6.3	
Management/Administration	227	128	355	0.9	0.6	1.5	
Subtotal	1878	3866	5744	7.6	15.8	23.4	60.9
2. Outgrower Program							
Extension/Supervision	155	55	210	0.6	0.2	0.8	
Field Establishment	102	101	203	0.4	0.4	0.8	
Subtotal	257	156	413	1.0	0.6	1.6	4.1
3. Douala Complex							
Construction	142	214	356	0.6	0.9	1.5	
Vehicle, Equipment	6	54	60		0.2	0.2	
Subtotal	148	268	416	0.6	1.1	1.7	4.4
Total base cost	2283	4290	6573	9.2	17.5	26.7	69.4
Contingencies							
Physical	228	429	657	1.0	1.7	2.7	
Price	825	1409	2234	3.3	5.8	9.1	
	1053	1838	2891	4.3	7.5	11.8	30.6
Total Project Cost	3336	6128	9464	13.5	25.0	38.5	100

B. Financial Arrangements

4.03 The project would be financed by the proposed Bank loans, SOCAPALM self-generated funds, and Government. The proposed financing plan is detailed at Annex 5 and Annex 6, Table 1, and summarized below, after having allocated part of the contingencies to each project component.

Proposed Financing Plan
(US$ million)

	IBRD	Government	SOCAPALM	Total
a) Project Cost				
Plantation development	19.0	9.3		28.3
Outgrower program	0.6	1.2		1.8
Douala complex	1.4	0.7		2.1
Contingencies	4.0	2.3		6.3
Subtotal	25.0	13.5		38.5
b) Working capital requirement		0.7		0.7
c) Financing Charges		1.0	3.7	4.7
Total Financing Requirement	25.0	15.2	3.7	43.9

4.04 Two Bank loans totalling US$25 million would be made to Government and would finance the foreign exchange expenditure -- 74% of project cost net of identifiable taxes. A US$18 million First Loan would be for a 20-year term including 4-1/2 year grace period and bear interest rate at 8.5%. A US$7 million Third Window loan would be for about 23-1/2 year term with first repayment on January 15, 1983 and the last on January 15, 2001. The loans would be disbursed pari passu in the ratio 18:7 and passed on to the project entities: to SOCAPALM for plantation development and the outgrower program and to the Coastal Estates Center Company for the Douala complex. Funds received by SOCAPALM on account of extension and supervision of outgrowers would be a grant; otherwise these recipients would repay Government at the single interest rate of 8.5% (on terms similar to the Bank Loans). The balance of project costs (US$13.5 million) together with financial charges and working capital requirements during the development period (US$5.4 million) would be met by Government (US$15.2 million) and by SOCAPALM self-generated funds (US$3.7 million).

4.05 SOCAPALM's self-generated funds would be devoted to meeting finance charges in the course of the development period. Government's contribution would be passed on to project entities as follows:

(a) an increase in equity investments in SOCAPALM of CFAF 2 billion (US$8.2 million) in order to allow SOCAPALM to maintain a satisfactory equity to total capitalization ratio of 30%;

(b) a loan of CFAF 1.2 billion (US$4.7 million) to SOCAPALM which would have a 10 year term including a five year grace period during which interest, at 9%, would be capitalized. Funds provided in (a) and (b) above would complement Bank loans and SOCAPALM's self-generated funds in meeting investment requirements, servicing debt and increasing working capital in respect of estate operations financed under the project;

(c) a grant of CFAF 97 million (US$0.4 million) to SOCAPALM to cover part of extension and supervision cost for the outgrower's program during the development period;

(d) a grant of CFAF 292 million (US$1.2 million) to FONADER which would be passed on to smallholders in the form of credit and cash grants. Smallholder credit would be on the terms and conditions outlined in para 4.06. These conditions are reflected in the cash flow analysis in Annex 3 and Annex 6; and

(e) finally a contribution to the capitalization of the Coastal Estates Center in the form of equity amounting to CFAF 184 million (US$0.7 million) which together with part of the proceeds of the Bank loans would cover the construction and equipment for the Douala complex.

Assurances have been obtained from Government that it would provide, or cause to be provided, finance for the above requirements and that it would guarantee any funds in excess of the amounts specified in this report required for the completion of SOCAPALM's investment program. SOCAPALM has agreed, under a Government guarantee, to maintain its liquid assets at a level equivalent to its cash expenditures during the three preceding months or CFAF 450 million, whichever is more, or such other level as shall be established from time to time by agreement with the Bank.

4.06 The Bank loans would be deployed as follows: (a) US$19.0 million would go for SOCAPALM investments in its own estates; (b) US$0.6 million would go to SOCAPALM's newly-established outgrower development unit, SPV, to finance

extension and supervision costs for the outgrower program; (c) US$1.4 million would be for the Douala common services complex; and (d) US$4.0 million would be unallocated.

Outgrower Program Costs and Cost Recovery

4.07 To ensure the success of the first phase outgrowers program, Government has decided to provide outgrowers with both credit and grants. Credit over the five year development period would be about CFAF 82,000 (US$335) per ha in constant 1976 prices and would cover planting material, fertilizers, a set of hand tools for harvesting. Interest would be at 9% per annum to be capitalized over a six year period. Principal and capitalized interest would be recovered at the time fresh fruit bunches (ffb) are collected by SOCAPALM for each outgrower over 7 years. A cash advance of CFAF 48,600 (US$198) per ha in constant 1976 prices would cover the equivalent of 80% of the labor cost required for plantation development. This cash advance would be on a grant basis to smallholders earning more than 75% of their income from agricultural activities but on a credit basis on the same terms as above for others (see para 3.27). The extension and supervision costs would be about CFAF 295 million (US$1.2 million) over the 5 year development period and financed by a Government grant to SOCAPALM and part of the proceeds of the IBRD loans. Subsequently, extension and supervision costs would be recovered via the annual bareme together with processing and transport costs. These arrangements are satisfactory since they insure adequate revenues to outgrowers (see para 5.05) and to Government which would effectively recover development cash grants from the sales taxes on outgrowers' oil palm products. Details of the outgrower program, including cost and cost recovery arrangements are at Annex 3. During negotiations, assurances were received that credit arrangements to be provided in the credit administration agreement between FONADER and SOCAPALM would be acceptable to the Bank.

C. Procurement and Disbursement

4.08 Except for items specified below, procurement would be through international competitive bidding (ICB) following Bank guidelines. Goods and services subject to ICB -- largely machinery, vehicles and equipment, fertilizer and some construction work (Douala complex) -- are estimated to cost US$20.6 million. Contracts not exceeding US$100,000 would be let under competitive bidding procedures advertised locally and satisfactory to the Bank. Most land clearing, estate road building, plantation work and minor estate construction, estimated at US$10.9 million, would be done on force account using equipment owned by SOCAPALM. The remaining project costs (US$7.0 million) would be mostly for staff and labor costs and operating expenses.

4.09 Disbursements of the two Bank loans in combined disbursements at the ratio 18:7 would cover 67% of total expenditure for:

(a) vehicles, equipment and machinery for the development of the oil palm estates (US$7.4 million);

(b) civil works and construction for the development of the oil palm estates (US$3.8 million);

(c) field development, including land clearing, fertilizers, planting materials and other supplies and palm planting and maintenance (US$6.7 million);

(d) administrative cost of Kienke estate (US$1.1 million);

(e) civil works, vehicles and equipment and operating costs of SOCAPALM for the development of the outgrower program (US$0.6 million); and

(f) vehicles, equipment and civil works for the Douala complex (US$1.4 million).

US$4.0 million would be unallocated. Disbursements for (c) and (d) and operating costs included in (e) would be against certificates of expenditures, the documentation which is not submitted for review but would be retained by SOCAPALM for inspection by Bank project supervision missions. Disbursements for (a), (b) -- except for small construction work to be done by force account -- (e) -- except for operating costs -- and (f) would be fully documented. An estimated schedule of disbursements is at Annex 7.

D. Accounts and Audit Arrangements

4.10 Since the company has been largely in a development phase, accounting has been mainly concerned with capital expenditures. However, as plantings are now beginning to produce, it is essential that SOCAPALM be capable of providing accurate data in a timely manner to interested parties, including IBRD. A start has been made in this direction, through: (a) the appointment of a Chief Accountant (para 3.23), and (b) the installation of a financial reporting system, based on the practices of established estate mangement companies. With these two changes, SOCAPALM's accounting and auditing procedures would satisfy the requirements of the project proposed here.

4.11 The outgrower credit program for oil palm production, however, is new to SOCAPALM and to the country. The success of this program will depend critically on keeping proper accounts, because the management company would have to operate on a small margin between the price paid for outgrower ffb and the realized prices for oil and kernels. The recommended method of calculating the producer price is outlined in Annex 3, Table 2. The separate smallholder accounts would be designed by SOCAPALM and be the object of a separate opinion of SOCAPALM's external auditors. The auditing of all of

SOCAPALM's accounts would be by independent auditors as at present; and the reports of such audits would include a separate opinion on the smallholder program and would be submitted to the Bank annually within six months after the close of SOCAPALM's financial year. An assurance to this effect was received.

Perpetuation of Estates

4.12 An oil palm estate is normally expected to replace its plantings just as much as its machinery and equipment. SOCAPALM has agreed to adopt a policy that recognizes the future budgetary need to replant its estates on a regular basis as from 1988. As agreed during negotiations, such replanting would cover an average of 4% per year of the area in bearing, the generally accepted target among long established estates.

V. YIELDS AND OUTPUT, MARKETS AND PRICES

A. Yields and Output

5.01 Expected yields are in line with the experience of the first-stage project and relevant experience elsewhere: for oil palm outgrowers, an average ffb yield of 13 tons/ha when their oil palm are at peak production, nine years after planting; and for estates, 15 tons/ha. The oil extraction rate and kernel content are forecast respectively at 21.5% and 4.5% of ffb from fully mature palms on estate and smallholder plantations alike. Total production from all plantings financed under this project would amount to some 29,000 t of oil and 6,000 t of kernel by 1990/91.

B. Markets and Prices

5.02 As a result of the rapid expansion of oil palm acreages in Malaysia, Indonesia and the Ivory Coast during the sixties, which will account for the bulk of palm oil supplies that will come on the market between now and the early eighties, the Bank's commodity analysts project that palm oil will increase its share in the international trade of fats and oils from 3.7% in 1975 to 22.9% in 1985.

5.03 The demand for soft vegetable oils (soybean and cottonseed oil) is projected to increase faster than the demand for hard oils (palm oil, coconut oil) and animal fats. At the same time production of hard oils will expand rapidly. Oil palms produce more oil per unit of land than any other oil crop, at low production costs, and thus have a competitive advantage over other oils and fats. However, although hard oils compete with soft oils in many end uses, the potential market for soft oils is considerably larger than that for hard oils. Continued expansion of hard oil supplies, mainly

palm oil, will therefore depress their prices relative to those for soft oils. Thus, in 1976 constant dollars, the price of soya bean oil is projected to increase from US$376/ton in 1976 to US$482/ton in 1985 whereas the price of palm oil is expected to increase only very slightly from US$370/ton in 1976 to US$390/ton in 1985. The real price of palm kernels is forecast to increase from US$170/ton in 1976 to US$281/ton in 1985 (see Annex 8).

5.04 Historically, palm oil production in Cameroon has been predominately for the domestic market with minor quantities being exported in surplus periods. During the 1960's an average of 8,000 tons per annum was exported representing 18% of estimated production. In the period 1970 to 1975 exports averaged 7,000 tons per annum or 11% of production and ranged from a high of 18,000 tons in 1974 to lows of about 1,000 tons in 1972 and 1971. A similar situation is expected to hold during the 1980's. Gross consumption which has increased during the last decade by about 4.5% per annum is expected to continue to increase at about the same rate. Total production, including the ongoing and Government proposed future developments of oil palm estates is projected to grow at about 6% per annum attaining 105,000 tons in 1980 and 138,000 tons by 1985. These figures compare with consumption forecasts of 85,000 tons in 1980 and 106,000 in 1985 representing margins for export of 20,000 tons and 31,000 tons respectively or exports as percentages of production of 19% and 23%. Allowing for incomplete realization of Government expansion plans, an average future export margin of about 15% for palm oil is considered a realistic estimate and this has been used in the financial and economic calculations for this project. No difficulties are anticipated in finding a market for any production which is surplus to domestic requirements. Demand in adjacent west African countries is growing rapidly and Nigeria is expected to require imports in excess of 140,000 tons by 1985. Further details on Cameroonian production, consumption and trade of palm oil are at Annex 8, paras 41 to 45. Palm kernel oil is used in the domestic soap manufacturing industry, and processing facilities for kernel oil will probably be expanded. However, in the financial and economic analysis it is assumed that all palm kernel output is exported.

5.05 In the financial analysis, SOCAPALM's revenue (net of taxes) per ton of oil is assumed to be CFAF 96,000 (between the export value and the present official price for domestic sales); for kernels the corresponding revenue per ton is CFAF 46,000, based on export prices (Annex 9). Assurances were obtained that Government would set the producer price for ffb at a level which would provide for the recovery of processing, collection and extension service cost incurred by SOCAPALM when the palms come in bearing; and, further, would consult the Bank prior to changing this price. Government has indicated that the outgrower would receive the actual difference between the net value of ffb and actual costs incurred by SOCAPALM and credit charge. At full development the price paid to outgrowers could be about CFAF US$16 per kilo of ffb (before credit repayment). However, farmers' cash flow are based on a conservative price of CFAF 12 per kilo of ffb with the remainder to be distributed subsequently as a bonus.

VI. FINANCIAL RESULTS

A. Outgrower Benefits

6.01 An illustrative farm budget, in constant 1976 prices, is at Annex 3, Table 3, which incorporates the following assumptions: (a) yields as at para. 5.01 above; (b) producer prices of CFAF 12/kg of ffb based on the "bareme" or cost schedule calculated at Annex 3, Table 3, and (c) credit terms as outlined in para. 4.06 above. In the first year of production (fifth year after planting), net cash income would be about CFAF 19,600 (US$80) per ha or CFAF 450 (US$1.80) per manday. This is in line with wages earned by unskilled workers on industrial estates and higher than returns from the alternative cash crops of coffee and cocoa at comparable stages of development. At peak production, some eight years later when the development credit would have been repaid, net cash income would climb to about CFAF 2,750 (US$11.20) per manday. This rate compares favorably with other crops such as coffee and cocoa (about US$2.50/manday).

B. Financial Results for SOCAPALM

6.02 The investments to be financed by the proposed IBRD loan would complement other investments that SOCAPALM plans to make over the next five years, particularly on its Dibombari estate. At the end of this five-year period, viz by 1981, only some 63% of SOCAPALM's total oil palm hectarage would be in production and, because of lower yields in earlier years, ffb production would be only 50% of what would be forthcoming from these same areas when total production reaches its peak in about 1986. Consequently, the company's cash generation capability through 1981 would be below its financing needs and external financing would therefore be required.

6.03 The proposed project would ultimately consolidate the financial situation of SOCAPALM. The PCR of the first project indicates that the financial rate of return on that investment would be about 9.5%. With the investment proposed under the project, the overall financial rate of return would increase to about 13.4%. The rate of return on the marginal investments made to expand SOCAPALM would be about 18%.

6.04 A cash flow analysis for the project (Annex 6) shows operating surpluses from project-financed activities beginning in 1982 and reaching a peak in 1990, when all project plantings would be at full production. By 1984, SOCAPALM's operating surplus from project plantings would be adequate to meet investment costs related to the project. Project-related debt service obligations and capital expenditures would be about CFAF 1,300 million (US$5.3 million) by 1986 when incremental operating surplus would be CFAF 1,315 million (US$5.4 million). In 1990, at peak production, such operating surplus would amount to about CFAF 2,100 million (US$8.6 million) in constant 1976 prices.

C. Financial Impact on Government and Participating Public Agencies

6.05 The ownership of SOCAPALM is split between the Government and three of its financial agencies. Including the financing proposed in this report, equity investments by these entities in SOCAPALM would total CFAF 3,200 million (US$13.0 million) (excluding the book value of estate land) by the end of 1981. The returns on this investment would be, first, the operating profits of SOCAPALM. In addition, the federal treasury would benefit from export and domestic sales taxes on SOCAPALM-produced oil and kernels as well as income and turnover taxes to which SOCAPALM would become liable after its standard tax-exemption privileges run out. Although the basic revenue and cost projects are necessarily tentative, it is expected that by 1996 the sum of such returns to public agencies annually would be about CFAF 4 billion (US$16.3 million) from project plantings alone, and about CFAF 7 billion (US$28.5 million) from existing plantings.

6.06 Government expenditures for the outgrower program would consist of funds passed through FONADER to smallholders as cash grants and/or credit as well as grants to SOCAPALM to cover extension and supervision costs during the development period. In addition to credit repayments, Government would recover these funds through export and sales taxes on oil and kernel derived from smallholder produce. The financial rate of return to Government would be about 9% but would be over 18% if Government keeps the margin between the producer price and the value of oil and kernel from smallholder produce (para 5.05).

6.07 FONADER which would act as the channel for the credit operation would receive capital grants from Government to constitute an oil palm smallholders development fund. As outgrower oil palms enter production and their credit repayments start, these funds would be available for further expansion of smallholder oil palm development. After 1985, these funds could finance credit to smallholders for an annual program of about 500 ha on the basis of present cost and credit arrangements (Annex 3, Table 5).

VII. ECONOMIC BENEFITS AND JUSTIFICATION

7.01 At peak production the project would produce about 29,000 tons of palm oil and 6,000 tons of kernel per annum. It is estimated that about 85% of the palm oil would be consumed domestically and that, with the exception of minor quantities of kernel oil used locally for soap manufacture, kernels would be exported. (Annex 8 para 45 provides trade projections for Cameroon). At peak production the total ex-harbor value of palm oil import savings and of kernel and palm oil exports would amount to about CFAF 2.8 billion (US$11.5 million) per annum in 1976 terms, of which an estimated 55% would be domestic value added.

7.02 With the assumptions given below, separate rates of return were calculated for the Kienke estate, the M'Bongo estate extension and the Outgrower program, and a combined rate of return for all three components. These three components represent 76% of the project base costs. The estimated rates of return of the various components are as follows:

Component	Rate of Return %	Percent of Total Project Cost /a %
Kienke Estate	14	67
Outgrower Program	23	7
Eseka and First Stage M'Bongo Estate development /b	14	18
Extension of M'Bongo	17	8
Total Project /c	15	100

/a Excluding Douala Complex.
/b Rate of return is the overall rate of return for the entire investment on M'Bongo and Eseka estates(See para 7.04).
/c Weighted overall rate of return for the combined Kienke estate, outgrower program and M'Bongo extension project components.

7.03 Major assumptions used in the rate of return calculations are presented below. Further details on output prices and analytical assumptions, and the economic cash flows are presented in Annex 9.

(a) Benefits: Yields, production and milling percentages for oil and kernel are as in Chapter V. Kernel and oil values are based on the treatment of 85% of palm oil production as import substitutes and the remaining oil and all kernel as exports; prices are based on the average of 1980 and 1985 expected world market prices in 1976 constant dollars. No separate benefits are attributed to social infrastructural investments on oil palm estates.

(b) Costs: All development and operating costs, including physical contingencies but excluding identifiable taxes, have been taken into account. Prices are based on those ruling as of November 1976.

(c) Project Life: Taken at 30 years; the estimated economic life of an oil palm plantation.

(d) Foreign Exchange: The exchange rate used is CFAF 245 = US$1.0, which reflects the market rate as of November, 1976.

7.04 Rates of return for the Douala complex and the M'Bongo/Eseka completion have not been calculated. The Douala complex which represents 6.5% of project costs (excluding price contingencies) will be shared by a number of companies. The overall rate of return on the M'Bongo and Eseka estates was calculated in the SOCAPALM I project completion report (August, 1976) to be 14%. The incremental rate of return on the completion of these estates can be expected to be higher but would be difficult to estimate accurately in view of

the problem of allocating an appropriate share of benefits to the additional investments. An incremental rate of return for the M'Bongo/Eseka completion has therefore not been calculated. The M'Bongo/Eseka completion would represent about 17% of total project costs (excluding price contingencies).

Sensitivity and Risks

7.05 Sensitivity tests are presented in Annex 9. As concerns the assumptions inducing a reduction in the rate of return: a 20% increase in costs or decrease in benefits would induce a fall in each rate of return of about 3 percentage points, and if all the palm oil is valued at export equivalent prices the rates of return would fall by between 1 and 3 percentage points. Yields and costs are based on previous SOCAPALM experience and are considered realistic particularly when related to the strengthening of SOCAPALM management proposed under this project. Market access is not considered a problem. The risk that the project would not meet its objectives is small.

Other Benefits

7.06 Other benefits, not easily quantified, would accrue from project investments, especially the social infrastructure investments on plantation workers' villages. Direct employment of 1,100 workers would be provided, mostly coming from the poorer regions of the country (paras 2.04 and 3.04) where basic social amenities such as schooling, and medical and social facilities as provided by the project are sometimes entirely lacking. In addition, SOCAPALM management would gain valuable experience in developing a high priority subsector of the economy, and training Cameroonian cadre for this subsector. The Douala complex would also allow for better communication and coordination between the various corporations in the tree crop sector. Finally, the involvement of FONADER in the project would provide a useful lead in for the future involvement of FONADER in the provision of credit to tree crop farmers.

VIII. AGREEMENTS REACHED AND RECOMMENDATION

8.01 The following points were agreed upon during negotiations:

(a) Government would promptly make the land required for the Kienke estate available to SOCAPALM (para 3.01);

(b) each outgrower would have a personal usufruct on his plantings when they are completed (para 3.06);

(c) the post of Executive Controller would be filled by February 28, 1978 (para 3.23);

(d) the six key project posts would be filled at all times (with the exceptions noted) by persons with qualifications and experience acceptable to the Bank (para 3.24);

(e) the contract to be entered into by participating farmers and SOCAPALM would follow a model satisfactory to the Bank (para 3.28);

(f) the Bank would be given an opportunity to comment on the annual program report that SOCAPALM would prepare for FONADER (para 3.29);

(g) Government would provide or cause to be provided financing in the amounts and on the terms outlined in para 4.05 and that it would guarantee any funds in excess of the amounts specified in this report required for the completion of SOCAPALM's investment program (para 4.05);

(h) SOCAPALM would maintain its liquid assets at a level equivalent to its cash expenditures during the three preceding months or CFAF 450 million, whichever is more, or such other level as shall be established in agreement with the Bank (para 4.05);

(i) the Credit Administration Agreement between Government, FONADER and SOCAPALM would be acceptable to the Bank (para 4.07);

(j) auditing of SOCAPALM's estate accounts and of its smallholder program accounts would be by independent auditors as at present; and the reports of such audits would include a separate opinion on the smallholder program and would be submitted to the Bank annually within six months after the close of SOCAPALM's financial year (para 4.11);

(k) SOCAPALM would adopt a policy for replanting a mutually agreeable percentage of the total hectarage each year beginning in 1988 (para 4.12); and

(l) Government would set the producer price for fresh fruit bunches (ffb) at a level which would provide for the recovery of processing, collection and extension service costs incurred by SOCAPALM, and would consult the Bank prior to changing this price (para 5.05).

8.02 A condition of effectiveness would be that an additional qualified estates manager and the Chief Accountant, acceptable to the Bank, had been appointed, and that a list of qualified and possible candidates for the Executive Controller post had been assembled (para 3.23).

8.03 A condition of disbursement against the smallholder component would be that a satisfactory Credit Administration Agreement had been signed by FONADER and SOCAPALM (para 3.25).

8.04 A condition of disbursement against the Douala common services complex would be the establishment of a satisfactory charter for the Coastal Estates Center and the conclusion of a subsidiary loan agreement, satisfactory to the Bank, between Government and this new corporation (para 3.31).

8.05 With the above assurances and conditions, the proposed project is suitable for Bank loans totalling US$25.0 million -- a First Loan of US$18 million and a Third Window Loan of US$7 million.

CAMEROON

SECOND SOCAPALM PROJECT

PROJECT ENTITIES

A. Societe Camerounaise de Palmeraies

General

1. The Corporation was established in 1969 under the name of SOPAME -- Societe des Palmeraies de M'Bongo et d'Eseka -- to execute the Bank-financed project called East Cameroon Oil Palm Project. This was in effect the first-stage development project for the successor corporation, SOCAPALM -- Societe Camerounaise de Palmeraies. The objects of the company include the creation and operation of oil palm enterprises, the processing and selling of oil palm and kernels, and assistance to smallholders engaged in growing oil palms in the vicinity, including provision of processing facilities. The first nucleus oil palm estates were developed at M'Bongo and Eseka, the areas after which the initial Corporation was named. The addition of a third area, Dibombari, led to the change in name.

2. Initially, the Government owned 48% of the equity; the remaining shares were subscribed by Societe Nationale d'Investissement - SNI (12%) and the cocoa and coffee price stabilization funds (20% each). Following augmentations of capital, the ownership has become 58.5% Government, 10.5% SNI, 17% cocoa fund, and 14% coffee fund. This percentage breakdown ignores the nominal value of the estate land which is ascribed to Government's shareholding.

3. SOCAPALM is a Development Corporation, and therefore is subject to the following provisions of the D.C. Act:

- At least 20% of the share capital must be held by the state, public bodies and/or other development corporations.

- Authorization may be given by decree for the inclusion of a development corporation under the Investment Code of the Cameroon or the granting of industrial and/or commercial monopolies.

- The corporation is bound by the commercial code of the Cameroon.

- State control is exercised through the Minister of Agriculture through the appointment of a Government Commissioner for the corporation.

4. The articles of association provide for administration by a Board of Directors consisting of 9 to 12 members. The Board currently consists of 11 directors, including 4 senior government officials, the Director General of SNI, the Chairmen of the Chambers of Commerce and Agriculture, who also have other local business interests, and two representatives from the management committees of the cocoa and coffee price stabilization funds. The Board appoints a Chairman, and if required a Vice-Chairman from among its members. The General Manager is appointed by the Board of Directors on the recommendation of the Minister of Agriculture. The General Manager's powers are determined by the Board of Directors.

5. The Government Commissioner participates in directors' and other meetings in an advisory capacity. All documents for, and minutes of such meetings, are submitted to the Commissioner, who also has power to investigate company records and premises. If, as in the case of SOCAPALM, the Government holds more than 50% of the share capital, the Government Commissioner would have the power to suspend action on decisions made at general and other meetings to enable him to refer to the Minister of Agriculture for approval or reconsideration of the decision. To ensure that the Commissioner's powers of suspension would not hamper the effective operation of SOCAPALM, or affect the day-to-day management of the company, assurances were obtained from the Government under Loans 593/886-CM that the right of suspension would be limited to decisions on general policy matters which might increase the charges and obligations of the Government under the Loan Agreement (e.g., decisions relating to new investment, indebtedness, etc.).

6. As required by law, 5% of new profits are allocated to a reserve fund until the total reserve fund is equal to one-tenth of the total share capital. The company statutes provide for a non-cumulative dividend on paid-up capital of 6%, after allocation (if any) to the reserve fund, but payment would be subject to cash requirements and availability. Further distribution of profits would be subject to recommendation by the directors and approval by the shareholders.

The First-stage Project and its Implementation

7. The SOCAPALM first-stage development project -- namely the East Cameroon Oil Palm Project -- involved two loans, one of US$7.9 million in 1969 (Loan 593-CM) and following reappraisal one of US$1.7 million in 1973 (Loan 886-CM). The project was jointly financed by the Government, the Bank, the Caisse Centrale de Cooperation Economique (CCCE, France), and the Fonds d'Aide et de Cooperation (FAC, France).

8. The project originally consisted of the establishment of 4,500 ha of oil palms at M'Bongo and 4,500 ha at Eseka; the construction of a palm oil

mill at each of M'Bongo and Eseka; and roads, buildings and other infrastructure. As field work progressed at Eseka, it became evident that, because of swamps, ravines and numerous small streams, land clearing would be too costly and that the original objective of planting 4,500 ha at Eseka would not be attainable. The mechanical land clearing method recommended by the consultants was also too expensive. Reappraisal took place in May/June 1972. As a result, an additional suitable area was identified at M'Bongo to offset the area not suitable for planting at Eseka and some 1,500 ha were retained for hand clearing. The revised project included inter alia (i) the establishment of 6,000 ha of oil palm at M'Bongo and 2,500 ha at Eseka and (ii) an adjustment in the capacity of the oil mills to be built at each estate to reflect the respective change in planted areas. Other features were maintained.

9. The project objectives consisted mainly in increasing the estate production of oil palm products in Cameroon and in laying the foundations for smallholder schemes. These objectives are in tune with the Government's development strategy and are well on the way to being met.

10. By the end of June 1976, some 8,280 ha of oil palms had been planted and another 380 ha was scheduled for planting during 1976/77, for a total of 8,660 ha. The last plantings will thus start producing only in 1980/81 and total project implementation will take 13 years instead of 9. The major factors having contributed to this slippage since reappraisal are occasional lack of planting material, temporary shortages of labor, and severe loss of unprotected young palms due to rodents -- 1,200 ha had to be replanted. Inadequate planning, weak estate management and insufficient supervision of individual estates have been largely responsible for these problems in the past, except for labor shortages which were mostly beyond the control of management. All of these problems are now under control.

11. Supervision of Estates. The General Manager, Plantation Inspector, and the general administrative and accounting services are located at Douala. In the early years of the project, there was an imminent question as to whether the General Manager should reside on one of the estates. This question has been reduced in importance by the improvement of estate management -- i.e., all of the existing estate managers are well quantified individuals. The more fundamental question regarding supervision of estates is the need for reliable communication between the estates and between these and the administrative centers of Douala and Yaounde. The proposed second-stage project would provide for a reasonable amount of light aircraft usage; further, an air service is one of the activities envisaged for the common services organization discussed later in this annex. The joint radio facilities envisaged by that organization would also be of considerable benefit. Since there is adequate evidence that the past problems of estate supervision are under control, the Bank has no objection to the General Manager residing at Douala.

12. Perpetuation of Estates. An estate is normally expected to replace its plantings just as much as its machinery and equipment. To ensure that this would be done, the Loan Agreement required the Borrower "... to establish and maintain a replanting fund at such a level as shall be necessary to carry out the replanting ... of the estates included in the Project...". However, it seems that the high level of inflation which prevailed at the time of reappraisal made the fund impractical, and the fund was not set up. As the fundamental reasons for replanting an estate have not disappeared, an adequate mechanism should be installed. An approach favored by long established estate companies is to aim at replacing an average of about 4% of the total hectarage every year. A timetable for phasing into such a program cannot be specified, as factors such as relative performance of estate managements, planting block productivity, and old versus new varieties cannot be predicted. SOCAPALM has agreed that, at the latest in 1988, budgetary allocations would be made for a replanting program.

13. Cost at Completion. Since its formation in 1969, SOCAPALM has prepared cost-at-completion reviews three times, namely before reappraisal in 1972, in July 1974, and in June 1976 during the Completion Review Mission of the Bank. During the proposed project implementation these would be performed at least once a year.

14. The June 1976 estimate of the project cost at completion amounts to CFAF 5,760 million; it is made up of CFAF 4,196 million of expenditures actually incurred up to June 30, 1976 and CFAF 1,564 million, or 27% of total, of expenditures to be incurred after June 30, 1976. The latter will be needed to plant the last 330 ha of oil palms during 1976/1977 to bring existing plantings to maturity up to 1979/80, and provide the necessary oil processing capacity. The estimate of future expenditures includes contingencies as per Bank Guidelines.

15. The latest cost estimates at completion are about 68% and 29% respectively over appraisal and reappraisal estimates. Considering that reappraisal took place before the world petroleum crisis and the ensuing accelerated period of inflation, the project's cost performance since reappraisal is reasonable. It should be noted that the cost elements as presented in the appraisal and reappraisal documents do not correspond to the accounts and budgets of the Borrower; consequently, comparisons should only be viewed as a broad indication of cost variances.

16. The actual/forecast cost difference of CFAF 1,282 million since reappraisal is due roughly 24% to net foreign exchange losses actually incurred through June 1976, 40% to increased labor rates, 5% to destruction of young palms by rodents, and the remainder to general price increases.

17. Yields and Production. Current assumptions as to yields and the projected production of ffb, oil and kernels during the life of the project are slightly less favorable than forecast at reappraisal. At full production, yields are estimated to be 15 tons/ha. Production at M'Bongo reached 20,000 tons in 1975/76 and at Eseka reached 6,000 tons.

18. Rates of Return. The completion review mission estimated the financial rate of return at 9.5%, compared with 10% at reappraisal. The economic rate of return was estimated at about 14%; this compares with a rate of 12% calculated on a similar basis at reappraisal.

19. General Conclusion. The difficult tasks of setting up a new company and developing its first plantations are behind. SOCAPALM management has shown its ability to cope reasonably well with the inevitable problems which arise in any enterprise, and this augurs well for the future. Project implementation occurred in a period of high inflation but, on a conservative basis, the financial and economic viability of the project seems to be assured.

The Completion of Dibombari Estate

20. The Dibombari estate complex consists of a 6,295 ha oil palm plantation, partly financed by the Fonds Europeen de Developpement (FED), and an oil mill, partly financed by the European Investment Bank (EIB). This estate is owned by SOCAPALM and managed on an integral basis with its other estates, M'Bongo, Eseka, and Kienke (in the future), which are partially financed by the Bank.

21. Implementation of the Dibombari program began in 1972, under a first FED-financed project, and the first phase ended with the 1975/76 fiscal year. For the estate to be completed, plantings must be maintained to maturity, processing and collection equipment provided, and the trees put into production. Over the next five-year period, 1976-81, total funding of CFAF 2.8 billion (US$11.6 million) will be required. Financing has been arranged as follows:

(a) From FED, a U.C. 2.5 million (CFAF 650 million) "Pret a conditions speciales", at 1% interest rate and 10 years grace and reimbursable over 25 years.

(b) From EIB, specifically for processing facilities, a "Pret sur capitaux a risque" of U.C. 2.3 million (CFAF 600 million), at 2% interest during the investment period and 6.5% thereafter, with four years grace, and reimbursable over 10 years.

(c) From Government, CFAF 800 million, as equity.

(d) The balance, CFAF 802 million, would come from self-generated funds. Completion of the estate will require four further years, and additional funding of CFAF 700 million. A year by year breakdown by category, is given in Table 4.

B. FONADER

22. The Fonds National de Developpement Rural (FONADER) was created in 1973 to provide short and medium term credit to the rural sector and to implement and operate on its own account projects of general interest in the agricultrual sector (such as processing facilities). It is financed mainly from funds provided by the price stabilization funds and some allocations from the central budget (Table 5). FONADER finances the purchase of fertilizers by farmers (short term credit), but only for programs involving subsidized fertilizer. It also acts as the bulk purchaser for all fertilizer imported by Cameroon, irrespective of whether it extends credit to the ultimate user or not. FONADER buys pest control products with funds provided by the price stabilization funds; the pest control measures are executed by the Ministry of Agriculture. FONADER is operated under the general supervision of that Ministry.

23. FONADER gives credit to individuals, to pre-cooperative groups like the Groupements d'Agriculteurs Modernes (GAM) and to cooperatives. Credits made to the cooperatives may be passed on to individual members; in this case, however, cooperatives remain liable for repayment. Until June 1976, credits amounting to about CFAF 1.4 billion (US$5.6 million) had been approved, of which about two-thirds had been disbursed. In the future, FONADER expects to be able to extend credits of about CFAF 1 billion annually but the necessary finance has not yet been secured.

24. For 1976/77, FONADER plans a large water supply credit program; 114 wells are to be developed, in several parts of the country, both for human consumption and for pastoral uses, and 26 pipe-borne water systems are to be constructed. Execution will be entrusted to the Genie Rural.

25. FONADER's basic weakness is that it has no regional offices and thus relies entirely, for both the appraisal and the supervision of credits, on local staff of the Ministry of Agriculture or the Delegation Provinciale, which are ill equipped for this task. Furthermore, decisions are made at the central office on Yaounde only, which leads to long delays in the processing of requests. FONADER is about to attach at least an accountant to each of the Provincial Delegations for current administrative purposes but this does not alleviate the problems concerning credit appraisal and supervision in the field.

26. FONADER is aware of these structural problems. Since these cannot be overcome in the short run, FONADER is anxious to operate through existing development institutions to ensure the efficient use of its funds.

C. COASTAL ESTATES CENTER

General

27. A cooperative organization for the tree crop development corporations has already been proposed, under the aegis of CAMDEV and including PAMOL and SOCAPALM as founding members, with these initial objectives:

(a) the exchange of information on the cultivation, processing, sale and distribution of oil palm products;

(b) representation of the industry in consultations with the government or its agencies on matters of national importance relative to the industry; and

(c) a sharing of information on market opportunities.

To qualify for membership in this organization, it was proposed that a minimum of 1,000 ha of oil palms and an oil mill producing palm oil be required. The statutes of this group have been drawn up, but not yet officially approved. To better meet the needs of Cameroon's estate sector, it has been agreed that all companies with industrial perennial plantations (e.g. rubber and coconuts) would be eligible for membership. This would bring in SAFACAM and HEVECAM.

Types of Common Services Activity

28. Joint Offices and Facilities. SOCAPALM needs to build an office since it is still only renting temporary accommodations. Because CAMDEV's activity at Tiko in Western Cameroon has diminished, and ships call there only very infrequently, this company would benefit from a unit in Douala for customs clearance and transit purposes. HEVECAM is also renting temporary office space, and needs to find accommodation for its Douala unit. And SAFACAM will need to establish permanent office space in Douala in the near future. Under these circumstances, it would be logical to construct a building specifically designed to meet the needs of all the companies after completion of their expansion plans.

29. A central radio service for all the plantations could be set up in this Douala complex, as a single radio network would be more economical than three or four poorly equipped individual networks. Another important component of the Douala complex activities would be a joint purchasing service with a single customs clearance and transit warehouse.

30. Product Sales. The concerted promotion of product sales on the domestic market would improve distributional efficiency and reduce marketing overheads. For exports, volume operations should lead to sizable shipping discounts; the organization of a quality control system also would be possible with quality labeling.

31. Medical Services at Plantations. There are two clear cases where joint hospital services should be established. The hospital at Dizangue (SAFACAM) was too big initially, and is now closed in favor of using medical facilities at Edea. It would be advisable to reopen the hospital to serve Dizangue, which is now reaching a planted area of 8,000 ha, and also M'Bongo (SOCAPALM), which has 6,000 ha located nearby. With staffing paid jointly by the two estates, better services would be available at an acceptable unit cost. Likewise, a joint medical service with a resident physician is the logical solution for the Kribi region, with SOCAPALM and HEVECAM sharing the costs.

32. Recruitment. Most of the plantation companies, as they develop, will need to recruit labor from densely populated regions. The best way to avoid recruitment problems would be to have a joint recruitment organization. In this way, people could be grouped together by place of origin, if desired. A sociologist with a good knowledge of the problems involved in transporting people and other attendant problems should be included in such an organization.

33. Food Crop Production. The production of food crops to meet the needs of the estate labor forces and the development of protein sources should be organized jointly in the Kribi region, where experiments are being carried out under Loan 574-CM. A similar effort could be planned in the Edea region, to meet all the food crop requirements at Dizangue (SAFACAM) and M'Bongo (SOCAPALM), which often are met only erratically.

34. Technical Cooperation. With the development of large estate companies in Cameroon, highly competent technical specialists will be required for efficient operation of the estates sector. Experienced technicians are in short supply and are expensive. It would be difficult and costly for each group to employ the exclusive services of a complete team of agricultural, industrial and research specialists. Furthermore, for the state-owned companies, there would be substantial benefits from coordinating processing and planting policies. For example, CAMDEV's Mondoni oil mill and SOCAPALM's mill at Dibombari are only a few kilometers apart and are separated only by the Mungo river. As they are roughly the same size and have the same type of equipment, they should pursue the same management and maintenance policies. Technical specifications for much of the equipment required by the various companies should in fact be determined by jointly employed technicians, who also would know the specific needs of each of the companies. This would make it possible to maximize the standardization of equipment and spare parts inventories.

35. Land Preparation. Land clearing for estate development is highly specialized work requiring heavy and costly equipment, together with maintenance equipment and a large stock of parts, etc. In the Kribi region, for example, two companies -- HEVECAM and SOCAPALM -- will be planting for 20 consecutive years at an annual rate of approximately 2,500 ha each. A single mechanized unit, employing qualified (and therefore costly) engineers who

would be responsible for preparing the 5,000 ha each year, would normally be more effective and less costly than two parallel organizations, each working on 2,500 ha, with their own engineers, maintenance stocks, and workshops.

36. Manufacture of Polybags. The overall planting program will require the use of some 8 million polyethylene bags each year. These bags, which are manufactured locally, are currently subject to a tax on the raw materials and a tax on the services provided. The manufacture of these bags by the users themselves as a group, using imported pellets and simple machinery, could lead to a savings of some CFAF 100 million (US$408,000) annually for this relatively minor supply item.

37. Statistical and Data Processing Unit. The only effective way to gather statistical information relating to the plantation sector is through centralization. Data processing could also be included, once the volume of information justifies such a move. It will be some time before this point is reached, but the need for such a system in the long term needs to be recognized. The data processing unit would also provide information required for discussions with the authorities regarding problems affecting the plantation sector.

38. Air Transport. A light plane service is needed as soon as possible. With the necessity to commute to the Kribi region, involving a long and tedious road journey, particularly in the rainy season, such a service is absolutely essential. None of the existing plantations is more than 30 minutes flying time from Douala by light plane. Under current conditions, some plantations are not visited often enough. Once a central radio service is operating, the air service could also provide emergency ambulance service, especially for the more isolated plantations.

Practical Organization

39. The guiding principle should be that taking part in joint activities should be voluntary, thus leaving each company with full responsibility for the management of its own affairs. Coordination of the various joint activities will have to be very flexible. Special agreements governing each particular operations can be drawn up between the companies involved. Thus the principal aim is to facilitate the horizontal development of a series of individual cooperative activities with limited objectives. A centralized organization with a vertical structure, which would inevitable involve a large and therefore costly bureaucracy -- potentially stultifying in its impact -- is a danger to be avoided at all costs.

40. Since at least a minimum administrative infrastructure is needed, there should be regular meetings of the company directors within the framework of a joint ownership of the Douala complex to be constructed under the proposed project. Decisions should be taken through a simple majority vote. A Chairman would be elected annually, but the regular scheduling of meetings would reduce the pre-eminence that this position might otherwise carry. A secretary general would be responsible for managing the central joint service

operations. The cost of joint services would be paid for through regular allocations of the expenses incurred.

41. Some specialized technicians suitable for common services duty are already employed by companies in the estate sector, for instance under visiting contracts covering a certain number of months each year. The administrative rights of old and new joint service staff (seniority, insurance, pension funds, etc.) will have to be protected in each case. Regulations and cost sharing will have to be worked out covering such items as flying time, specialist days, hectares worked, tonnages of products transported or handled (in factories or in transit), joint goods purchased, etc. Pragmatism must prevail.

42. Statutes and Objectives. The Statutes could be basically those of a joint ownership real estate company. In addition to the normal definitions given to such a company, objectives could be stated in broad terms, such as:

(a) the exchange of information on the cultivation, processing, marketing, and distribution of oil palm, coconut palm and rubber products;

(b) the promotion of cooperative activities relating to the cultivation of oil palm, coconut palm, rubber and industrial crops in general, including the purchase and apportionment of unprocessed or processed goods, the purchase of real estate, the registering of trade marks, etc.

Since operations would be nonprofit, care should be taken in drawing up the statutes to avoid any tax liability with respect to the services provided under the joint activities program or the apportionment of goods.

Annex 1
Table 1

CAMEROON

SECOND SOCAPALM PROJECT

SOCAPALM UNAUDITED BALANCE SHEET (JUNE 30, 1976)
(CFAF'000)

ASSETS			
1.	Fixed Assets (net of depreciation)		
	Plantations	5,514,988	
	Buildings	414,630	
	Industrial Installations	931,765	
	Vehicles	213,326	
	Other Assets	3,484	
	Subtotal		7,078,193
2.	Current Assets		
	Prepaid Items	118,357	
	Inventories	204,092	
	Accounts Receivable	233,261	
	Cash Items	103,033	
			658,743
	LESS		
	Short term liabilities		1,027,260
	Subtotal		(368,517)
	Net Assets		6,709,676
LIABILITIES			
	Equity Capital	1,824,004	
	LESS Accumulated losses	(478,728)	
	Grants	1,078,578	
	Subtotal		2,432,843
	Long term loans		4,285,833
	Total Liabilities		6,709,676

CAMEROON

SECOND SOCAPALM PROJECT

Economic Rate of Return - First Socapalm Project

		First Alternative 1/			Second Alternative 2/		
Fiscal Year	Revenues	Fixed Assets	Operating Costs	Net(Costs)Benefits	Fixed Assets	Operating Costs	Net(Costs)Benefits
1968- 1969	-	243.9	-	(243.9)	237.7	-	(237.7)
1970	-	339.1	-	(339.1)	330.4	-	(330.4)
1971	-	479.2	-	(479.2)	466.8	-	(466.8)
1972	-	636.5	-	(636.5)	620.1	-	(620.1)
1973	20.3	865.5	30.1	(875.3)	843.2	27.6	(850.5)
1974	96.0	900.6	105.5	(910.1)	877.3	96.9	(878.2)
1975	223.8	673.3	181.4	(630.9)	655.9	166.6	(598.7)
1976	386.1	257.2	296.9	(168.0)	250.6	272.8	(137.3)
1977	764.1	264.9	480.2	19.0	258.0	441.1	65.0
1978	1113.1	210.1	579.3	323.7	204.7	532.2	376.2
1979	1458.8	182.5	703.1	573.2	177.7	645.9	635.2
1980	1785.6	111.4	841.6	832.6	108.6	773.1	903.9
1981	2042.8	423.7	951.7	667.4	412.8	874.2	755.8
1982	2275.7	13.7	1033.2	1228.8	13.4	949.1	1313.6
1983	2426.5	-	1105.3	1321.2	-	1015.3	1411.2
1984	2578.8	-	1162.0	1416.8	-	1067.4	1511.4
1985	2255.9	-	1183.0	1472.9	-	1086.7	1569.2
1986	2632.4	-	1172.5	1459.9	-	1077.0	1555.4
1987	2593.4	-	1155.2	1438.2	-	1061.1	1532.9
1988	2566.5	-	1143.2	1423.3	-	1050.1	1516.4
1989	2541.9	-	1132.2	1409.7	-	1040.0	1501.9
1990	2525.9	-	1125.1	1400.8	-	1033.5	1492.4
1991	2494.5	-	1111.1	1383.4	-	1020.6	1473.9
1992	2462.4	-	1096.8	1365.6	-	1007.5	1454.9
1993	2442.3	-	1087.9	1354.4	-	999.3	1443.0
1994	2430.0	-	1082.4	1347.6	-	994.3	1435.7
1995	2419.2	-	1077.6	1341.6	-	989.8	1429.4
1996	2395.7	-	1067.1	1328.6	-	980.2	1415.5
1997	2369.8	-	1055.5	1314.3	-	969.6	1400.2
1998	2208.3	-	983.6	1224.7	-	903.5	1304.8
1999	1793.6	-	799.0	994.6	-	738.9	1059.7
2000	1281.6	-	570.8	710.8	-	524.3	757.3
2001	924.1	-	411.6	512.5	-	378.1	546.0
2002	598.2	-	266.4	331.8	-	244.7	353.5
2003	549.0	-	204.3	254.5	-	187.8	271.2
2004	252.0	-	112.2	139.8	-	103.1	148.9
2005	87.5	-	39.0	48.5	-	35.8	51.7
Economic Rate of Return:				13.8%			14.3%

1/ First alternative: Fixed assets and operating costs reduced by amount of taxes and 25% of value of labor; foreign exchange component adjusted by factor of 1.35.

2/ Second alternative: Fixed assets and operating costs reduced by amount of taxes and 50% of value of labor; foreign exchange component adjusted by factor of 1.35.

CAMEROON

SECOND SOCAPALM PROJECT

Costs to Complete Dibombari Estates 1976/77-1984/85
('000 Current CFAF)

	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	TOTAL
Maintenance	422,719	364,551	263,527	143,934	65,596	79,618	51,414	-		1,411,359
Equipment	623,721	302,343	141,064	19,546	38,768	71,366	382,586	24,408	15,340	1,619,142
Buildings	145,572	108,576	83,545	72,384	36,879	15,666	16,264	18,264	13,148	510,953
Total	1,212,012	775,470	488,136	235,864	141,243	166,650	450,919	42,672	28,488	3,541,454

Annex 1
Table 3

CAMEROON

SECOND SOCAPALM PROJECT

Resources and Outlays of FONADER

	1974/75 1/	1975/76 2/
	(CFAF Million)	
RESOURCES	4,020.7	4,502.0
Subsidy from stabilization funds 3/	3,016.7	3,106.4
Subsidy from Government Budget	200.0	200.0
Carry-over funds	550.0	550.0
Reimbursement of loans	-	230.0
Sale of insecticides (10 cocoa farmers)	150.0	200.0
World Bank funds (cocoa project)	-	122.0
Miscellaneous resources (i.e. forest fund)	104.0	93.6
OUTLAYS	4,020.7	4,502.0
Subsidized operations of which:	2,204.3	2,466.5
- cocoa (capsid control, brown rot disease, etc.)	(920.0)	(930.0)
- arabica coffee (disease control, regeneration)	(272.0)	(272.5)
- robusta coffee (disease control, regeneration)	(315.0)	(330.0)
- fertilizer subsidies	(450.0)	(450.0)
- rural water supplies (wells)	(150.0)	(100.0)
Lending operations of which:	1,022.3	1,154.3
- short term loans	(211.7)	(239.1)
- medium term loans	(765.9)	(864.6)
- Long term loans	(44.7)	(50.6)
Miscellaneous Aid Operations	258.1	247.0
FONADER equipment and operating budget	536.0	634.2

1/ Actual.
2/ Budgeted.
3/ Including: Cocoa and Coffee Stabilization Funds and Produce Marketing Organization.

Source: FONADER.

CAMEROON

SECOND SOCAPALM PROJECT

TECHNICAL FEATURES

A. Development of the Southwest Region

General

1. The southwest region extends about 100 km along the southern coast, beginning some 30 km north of Kribi, to the border with continental Equatorial Guinea, and inland about 45 km (see Map 1). The total area of this region is around 500,000 ha. The climate and soils are generally suitable for a range of tree crops including rubber, oil palm, and coconut. The land is flat or gently undulating. The region is almost completely unpopulated.

2. Interest in development of the region was kindled by its choice for location of a large Government-owned rubber estate, preparation of which envisaged 15,000 ha. The first 5,800 ha of this program is being financed as a five year project under Loan 574-CM, which would also finance the preparation of a master plan for the region. Initially, the 15,000 ha rubber estate, being labor intensive, would provide employment to 7,000 employees and their families -- 25-30,000 people in total -- most of them from the poorest regions of Cameroon. Satellite foodcrop production, trade and transport activities would also develop. The successful establishment of other estates and smallholder plantations would ultimately form a whole new agroindustrial complex in the hinterland of the port of Kribi. Development of the area is beginning with estates, as the laborers needed, together with their families, will form the core of a permanent population for this empty but fertile area. A series of second generation projects will encourage outgrowers, once the base for their successful establishment has been laid. This phasing of development is justified because (a) nuclear estates ensure a supply of fruit for processing facilities and are necessary to support the development of infrastructure and the acquisition of agronomic know-how, and (b) outgrower developmen can be accomplished at a much lower cost if postponed until nuclear estates are well established. From now to the turn of the century, it is estimated that successive "rollover" projects could develop some 135,000 ha. At completion of such a program, the region would support some 300,000 or more people and there would have to be substantial development of food, meat and fishery production. The transport requirements for imports and exports would be very large.

Master Plan

3. To take advantage of and preserve the opportunity offered by the Kribi areas, a master plan for development of the area is being prepared under Loan 574-CM. This plan is being based on a land-use survey and in addition should:

(a) take account of the need to achieve a balanced development of industrial estates and outgrowers;

(b) consider the creation of a specialized organization for land clearance, which would be required on a large scale; and

(c) encompass a study of the long-term infrastructure and transportation needs of the development program.

Terms of reference for the necessary studies have been reviewed and found acceptable by Bank supervision missions. The land use survey is proceeding satisfactorily, along with planning for the balanced development of industrial estates and outgrowers. The creation of a specialized organization for land clearance is being considered within the context of an association of estates companies which is being formed, and through which SOCAPALM and HEVECAM could then form a common service for this purpose. The study of long-term transportation needs is now expected to be organized in 1978.

4. Welfare of Pygmies. There are an estimated 3,000 forest-dwelling pygmies in Ocean Department whose way of life might be impinged upon by a large-scale development program. The welfare of the pygmies would be considered in the preparation of the master plan. However, the current expectation is that the pygmies will successfully adjust to the economic development -- with some degree of increased security -- and that no special measures will be needed.

Climatic Conditions

5. The chosen site for the oil palm estate is in the same region as the Niete rubber estate financed under Loan 574-CM and the same general climatic conditions prevail. The soil is good, typically ferrallitic, derived from metamorphic rocks, and comprising at various levels and in variable quantities iron oxide concretions. The hydrographic network is not very dense.

6. The site is gently undulated, at altitudes of generally between 10 and 30 meters, with the exception of a few rocky hills which are excluded from the planting areas. The dominant vegetation is dense, moist forest. The climate is typically equatorial, and characteristically hot and humid. There are four seasons, with two relatively dry and two wet seasons annually. The dry periods have less than 100 mm of rainfall monthly, but are not drastic since each dry season lasts only for one to two months maximum. Average

rainfall is very well distributed into four more or less distinct seasons according to rainfall:

- relatively dry: three months (December-February) - 75-125mm/month
- relatively wet: four months (March-June) - 200-400mm/month
- relatively dry: one month (July) - 100mm
- wet : four months (August-November) - 300-500mm/month

Humidity remains high (above 70%) during the dry periods, thus alleviating the lack of rain. April is the favored month for planting.

7. Average temperature of the area oscillates year-round between 25°C and 28°C, in an extremely regular temperature pattern.

8. The climate differs from the climate prevailing in other areas of the Cameroon where rubber and oil palm estates are planned. The other areas are governed by a transitional regime between equatorial and tropical climate, with only one dry and one wet season annually. The Kribi area climate, with its two wet seasons, offers a much greater flexibility for the organization of planting times and is rather similar to the Malaysian climate where rubber and palm growth has been so successful. However, the Malaysian and Indonesian (Sumatra) areas enjoy a relatively higher number of sunshine hours annually than does the West African coast, where overcast skies generally prevail even during relatively dry seasons.

Population and Labor Force

9. The population density in the area, excluding the town of Kribi, is only 3.5 persons/km^2. This very thin population is distributed almost exclusively along the existing roads, mainly the Kribi-Ebolowa route. The interior is practically uninhabited.

10. Except for some small-scale logging by private companies, economic activity in the area is meagre. Some gravel deposits in the interior are being exploited, and there is artisanal fishing along the coast. The town of Kribi itself, on the coast, has a tourist industry. Fishing would have to be promoted by the Estate managements to supply the estates population with fresh fish at low cost. This could be approached along the lines of an extension and marketing service.

11. The existing population belong to various ethnic groups from other parts of the country. The small numbers of crop farmers in the district, and in surrounding areas of the department, are not likely to provide enough labor for the estate needs. Many would probably choose not to become wage

laborers, especially since the existing crop farmers would benefit quickly and substantially through the expansion of food cropping for sale to the estates.

12. It will thus be necessary to recruit the bulk of the estate labor force in overpopulated parts of the Cameroon, essentially the northern area and the higher areas in the west. Other existing estates in Cameroon have been developed with such imported labor, and their experience shows that problems of adaptation can be readily handled provided that necessary efforts are made for a pleasant and warm reception. At nearby Dizangue Estate, a 8,000 ha rubber and palm estate belong to SAFACAM--where conditions of life and work are similar to those anticipated for the southwest estates--no recruiting efforts have been necessary for many years; an adequate choice of recruits is provided by people who come to the estate seeking employment.

13. Recruitment would be organized on a joint basis with HEVECAM, since there would be no advantage to competition in this function. Some people from nearby areas would likely become periodic workers, and thus would form a valuable labor pool. With time, the core of a permanent workforce would be formed by satisfied laborers, especially those established permanently with their families and coming from the farther North. It can be expected that, after a number of years, some salaried employees would wish to establish themselves as farmers, taking advantage of the land availability in the neighborhood; this would be to the overall advantage of the region, and should not be discouraged. The pattern of recruitment and settlement described above is now a classic long-term phenomenon which has been observed following the creation of estates in empty regions. The result is a highly satisfactory form of balanced regional development.

14. Recruitment would be based on the following basic principles:

- Recruitment should be done only in rural zones. It is known that laborers who have become familiar with urban life have difficulty in readapting to country work and life.

- Preferably, recruitment campaigns should be made during the first quarter of the calendar year, when agricultural work is at a low ebb.

- Recruitment in a given area would be made after authorization of the Ministry of Labor and in cooperation with the Labor Inspector.

- Agreement of all local authorities should be obtained (Sous Prefet, village chiefs, municipal counsellor and, eventually, religious authorities).

- An information campaign should be undertaken in each village where recruitment takes place, to explain plantation

work and the type of existence to be expected on the estate. The information given must be accurate and realistic to avoid later difficulties due to misunderstandings as to what to expect.

- When arriving on the estate, the laborer should find his lodging prepared, with a bed in place, and be given a small cash advance against his first pay.

- Several laborers from the same village should be recruited together and put together in the same village to avoid feelings of isolation.

- A first contract would be assigned on arrival, normally for two years. Fare for the return trip would be provided by the estate; for married laborers, the cost of travel would include the immediate family (wife and children). Further contracts would be of indeterminate length, with travel at the laborer's expense.

- The recruitment effort should be carefully organized from the beginning, as satisfied laborers would be expected to become effective recruiting agents through writing and word-of-mouth contacts with their home villages.

15. Medical Care. The provision of medical care, especially for emergencies, is a valuable morale builder for an estate labor force. Dispensary services should be offered 24 hours a day, with a doctor on call.

16. Food Crop Growing by Estate Workers. On Kienke and Niete Estates, as on industrial estates in general, the possibilities for growing subsistence crops are constrained. Firstly, villages are located in the middle of production blocks serviced by the village labor force, and thus the available land for farming is often rather distant from the village. Secondly, such cropping is often done by women in West Africa. Also on estates, married women often prefer to work on the estate, and thus bring in a second salary, and a proportion of female estate workers are single. At the SAFACAM Dizangue rubber estate, women represent 18% of the labor force, however, Dizangue has been an established estate for a long time. In the early years of development in the Kribi region, a very small proportion of workers are likely to be women. Thus there is not likely to be much subsistence foodstuff cropping.

17. Housing and Social Facilities. As noted above, laborers expect to find on arrival a prepared lodging with minimum facilities such as a source of water, toilet, kitchen, etc. But experience indicates that estate workers are not interested in the luxury of construction material. Sensitive matters include an adequate size of the lodging quarters and the existence of markets, shops, school and other social facilities and activities such as cinema, football teams, etc. The project would provide adequate facilities to meet the expected demand in these regards.

Food Crop Development

18. On the whole, food production in Cameroon is more-or-less balanced. But the Kribi area (Ocean Department) is far from the main food production area. Further, a curtain of towns (Yaounde, Eseka, Edea, Douala) lies between Kribi and the agricultural zones to the North. When the two estate labor forces grow beyond 10,000--corresponding to some 40,000-50,000 people--it would be difficult and costly to bring in the majority of supplies from distant points. Under the present structure of farming, the expected increase in food production is practically nil (0.2%).

19. The food crop outlet of the existing smallholders in the area could be improved by a better collecting system, an improved feeder-road network, and minimum extension services. But smallholder output will remain small, and probably will not cover more than a small fraction of the necessary tonnage of food for the two estates. Much of the staple supply would come from the Lolodorf area.

20. There is scope for allocating some land within the estate for subsistence food production but on a rather limited scale. Further, there are constraints that would hold down production as discussed in para 16.

21. A study of food production has already been carried out under the responsibility of SEDA (Societe d'Etudes pour le Developpement de l'Afrique), with finance of CFAF 4 million provided by FAC. This study is being continued by HEVECAM, under Loan 574-CM. The objective is to determine whether to create a food production unit that would supply the village markets with basic staple foods, in sufficient quantity, to complement the local available output plus the laborers' own production. The estate managements would have a double target: In addition to satisfying basic food needs, food production would aim at avoiding large imbalances between supply and demand that would result in excessive price increases and possibly a classic wage-increase/cost-of-living spiral. A qualified technician was recently hired to supervise the food trials study.

B. Techniques

22. The techniques used for establishing estate plantations would not be innovative, but rather the classical and steadily successful ones that are followed in most oil palm growing countries. Except for clearing methods, the general procedures hold as well for the outgrower program.

Preparation of Planting Material

23. Seeds and Germination. Seeds are initially selected from hand pollinated bunches, with selected father-tree pollen, on selected mother trees in specialized seed gardens. In Western Africa, the main seed gardens were until recently those of IRHO's La Mee Station in Ivory Coast, where the

latest selections are nursed. Under IRHO guidance, a seed garden has been established in Cameroon at CAMDEV's Mondoni estate. For the proposed project, seed would be supplied from Mondoni, although pollen would continue to come from La Mee for some time. Specialized, heated germinators are used for controlled seed germination. As the speed of germination is a first criterion of selection in terms of future productivity, a choice is made at this stage. The chosen germinated seed are then delivered to SOCAPALM's nursery sites.

24. Prenursery. The germinated seed are placed one each in small plastic bags, of about 8 cm diameter and 15 cm height, and packed in close rows under shade. The bags are regularly watered to keep a constant presence of moisture. The seedlings are allowed to grow in this way for about two months - this is called the prenursery stage. At the end of this period, the seedlings generally show two developed leaves, and the small roots begin to need more room.

25. Nursery. The plantlets are then transferred to larger plastic bags, of about 25 cm diameter and 30 cm height. During this transfer a second selection takes place, as only strong plantlets with a thick stem are chosen for transfer. The weaker ones are discarded. The larger polybags are placed on the nursery ground at a spacing of about 50 cm to give each plantlet enough room for its growing foliage to expand. Shade is maintained for at least three to four months, a practice that gives the developing plant a better chance to escape damage from "the blast", a disease which can dry a young plant up in a few days. By the end of the three to four month period, the young plant has reached a stage of development where it is less susceptible to the disease. Shade is provided by a palm leafed roof, and the leaves are gradually removed to expose the plant progressively to full sunlight.

26. Transfer to Field. After six months in the nursery, the young plants are strong enough to be transferred to the field. At this time, a final selection is made, and only impeccable specimens are planted. Others are discarded. To provide 143 plants per ha, about 200 germinated seeds are required for the prenursery stage, and to supply these a first selection of 300 seed is put into germination. Thus, from seed to field, a selection of over 50% is made.

Land Clearing

27. On the chosen areas for planting, the forest is felled, pieced, and pushed into parallel windrows about 16 m apart. This is to allow plantings on a triangular pattern, each plant at a 9 m spacing. Thus, there are two lines of trees between windrows. In these clearing operations, care is taken to leave the soil intact. The use of scrapping equipment is avoided, as it would push the topsoil into the windrows, leaving bare and not very fertile subsoil in the planting lines. In practice, the delicate clearing operations are better and more cheaply done by hand labor. Unfortunately, in Africa it is difficult to attract a labor force for this work; experienced contractors are practically nonexistent; and experience has proved that sizeable planting

programs require the use of heavy tractors to some extent. Clearance on force account is usually the case in Africa, for reasons of economy as well as control over the clearance practices employed. Weather permitting, the felled wood in the windrows is burned before planting; when the rainfall regime prevents proper burning, the wood is allowed to rot under the cover crop, and most of it disappears within four to five years.

Planting

28. Plants are about nine months old when they are planted. They are brought in the polybag with their roots intact, and put in holes previously dug on a 9m x 9m triangular spacing. Protection against rodents is immediately secured through the placement of wire netting sleeves around the base of the plants (alternatively, outgrowers would use bamboo stakes for the same purpose). Pueraria, a legume, is sown in the rows as a cover crop, to protect the soil from erosion, to bring in organic matter, and through root nodules to fix nitrogen.

Fertilization

29. Oil palm generally requires fertilization, beginning with a small dose at the prenursery stage; there is a notable need for nitrogen in the early period of growth, shifting to more potash for fructification and oil production. The specific requirements for various elements are determined by regular foliar analysis, and applications of fertilizers are generally made twice a year.

Weeding

30. Once planting is completed, weeding is required to keep the ground clear around the plant's base -- a circle as large as the canopy of a full grown tree. This corresponds roughly to the expansion range of the roots, thus providing full benefit from the fertilizer applications and avoiding root competition from the cover crop and adventurous or noxious plants. Expansion of the cover crop can be helped by weeding or slashing debris in the sown areas. At first, the circle weeding is done by hand; from Year Two after planting, chemical spraying is also used to lighten the labor constraint.

ANNEX 2
Table 1

CAMEROON

SECOND SOCAPALM PROJECT

Planting Schedule

The Planting Schedule under the project is as follows:

	Hectares					
	76/77	77/78	78/79	79/80	80/81	Total Project
Estates						
Kienke Estate		750	1,750	1,750	1,750	6,000
M'Bongo Estate		500	500			1,000
Total Estates		1,250	2,250	1,750	1,750	7,000
Outgrowers /1						
Eseka area	200	200	200	200	200	1,000
M'Bongo-Edea	200	200	200	200	200	1,000
	400	400	400	400	400	2,000
GRAND TOTAL	400	1,650	2,650	2,150	2,150	9,000

/1 The outgrower schedule is an estimate and possibilities are that yearly hectarage may be transferred from a year to another; the end target over five years should be attained.

ANNEX 2
Table 2

CAMEROON

SECOND SOCAPALM PROJECT

Timetable for Estates Establishment
(Kienke 6,000 ha, M'Bongo 1,000 ha)

	Program	76/77	77/78	78/79	79/80	80/81	81/82	82/83	83/84	Total
1.	Vegetal Material Preparation	875	1,250	1,750	1,750	875				7,000
2.	Land Preparation									
	Mechanical	600	1,250	1,550	1,550	1,050				6,000
	By Hand	175	300	200	200	125				1,000
3.	Plantings		1,250	2,250	1,750	1,750				7,000
4.	Maintenance									
	Y1 Mechanical Deforestation									6,000
	Y1 Hand Deforestation			300	300	200	200			1,000
	Y2 Mechanical Deforestation									6,000
	Y2 Hand Deforestation				300	300	200	200		1,000
	Y3 Mechanical Deforestation					850	2,050	1,550	1,550	6,000
	Y3 Hand Deforestation					300	300	200	200	1,000

ANNEX 2
Table 3

CAMEROON

SECOND SOCAPALM PROJECT

Yields - Oil Palm Outgrowers

I. Yields - ffb/ha

Year	Yield Per Fiscal Year /1	
5	2.25	
6	5	
7	7.25	
8	10	
9	12	
10 to 16	13	
17 to 21	12	
22 to 26	11.5	
27 to 29	11	Average over 25 years = 11.12 T.

II. Oil Extraction Rates and Kernel Production

Year	Oil, % ffb	Kernels, % ffb
4	14%	4%
5	15	4.1
6	17	4.2
7	18.5	4.35
8	21	4.5
9 onwards	21	4.5

/1 Technically there is no difference of yield potential between the trees of the industrial estates and outgrowers holdings, but there is family consumption which must be accounted for.

ANNEX 2
Table 4

CAMEROON

SECOND SOCAPALM PROJECT

Yields - Estates

I. Estate Yields - ffb/ha

Year After Planting	Of Exploitation	ffb/Tons/ha
4	1	2.5
5	2	6.0
6	3	9.0
7	4	11.5
8	5	12.0
9 to 15	6 to 12	15.0
16 to 20	13 to 17	14.0
21 to 25	18 to 22	13.5
26 to 28	23 to 25	13.0

II. Oil Extraction Rate and Kernel Production Rate - % of ffb weight

	Oil, %	Kernel, %
4	16.0	3.5
5	18.0	4.0
6	20.0	4.1
7	21.0	4.3
8 onward	21.5	4.5

ANNEX 2
Table 5

CAMEROON

Personnel Requirements for Kienke Estate 1/

	76/77	77/78	78/79	79/80	80/81	81/82	82/83	83/84	84/85	85/86	86/87	87/88	88/89	89/90	90/91
Staff Category 2 N and E	1	2	31/2	4	4	41/2	5	41/2	4	4	4	4	4	4	4
Assistants	1/2	1	2	4	5	5	6	6	6	6	6	6	6	6	6
Foremen	1	2	5	9	10	11	17	17	17	18	18	18	18	18	18
Specialists	5	16	25	34	37	291/2	44	47	49	57	58	60	60	60	60
Chauffeurs	8	18	24	30	29	26	31	32	37	41	45	49	49	49	49
Specialized Labor for Field Operation	8	28	40	40	26	58	202	355	506	513	490	477	462	469	469
Specialized Labor (Overh)	3	7	101/2	14	14	141/2	16	161/2	16	16	16	16	16	16	16
Non-special. Labor (Oper)	89	380	730	942	936	629	529	472	470	493	546	586	608	614	614
Nonspecial. Labor (Overhead)	21/2	4	81/2	11	14	161/2	20	221/2	24	26	27	27	27	27	27
Headgang	5	21	38	49	49	33	40	47	57	59	60	61	61	62	62
Overseers	2	7	13	16	16	12	12	14	16	17	17	18	18	18	18
Total	125	486	900	1153	1140	839	922	1035	1202	1250	1287	1322	1329	1343	1343
Increase	125	361	414	253					49	48	37	35	7	14	0

1/ These personnel requirements for the present 6,000 ha project. When, as assumed, Kienke estate grows to 12,000 ha, personnel requirements would increase accordingly.

CAMEROON

SECOND SOCAPALM PROJECT

OUTGROWERS PROGRAM

A. ORGANIZATION AND MANAGEMENT

Choice of Participants

1. Potential participants would be selected from among farmers who have expressed an interest, have usufruct rights on suitable land not beyond a 25 km radius from the relevant oil mill complex, and within 500 m of a passable road. The reputation of the farmer in his/her community would be taken into consideration. Selected farmers would be required to enter into a contract which would oblige them to follow SOCAPALM's advice on technical matters relating to oil palm establishment. In return they would have the right to receive credit in amounts and on terms outlined below (para 7).

2. Membership in an outgrower group would be required for participation in the outgrower program. Each group would have a minimum of five members. Voluntary groupings would be arranged by SOCAPALM agents among the available candidates. Members would have co-responsibility for the group's plantings and credit obligations; in the case of a credit default, SOCAPALM would turn the grower's dossier over to FONADER, which would invoke the guarantee. The group would have no formal structure, though an evolution toward cooperatives is anticipated. Its main initial functions would be to: (a) provide a means for cooperative effort, for instance in land clearance, and (b) deal with problems. Through the group, pressure would be brought to bear on an outgrower who was neglecting his plantings. In cases of gross negligence or death of a member, the group would be expected to take over management of the affected plantings, with an appropriate division of the proceeds until an heir is put into possession of the holding. Serious problems (for instance, questions of tenure) would be dealt with by the group and village Chief within the tribal decision-making process, or by local administrative authorities. This system has proved to be a key to the success of oil palm outgrower programs in other West African countries, and appears to be equally suited to Cameroon. In essence, the group would be a safeguard against risks that are beyond the control of SOCAPALM or FONADER.

Management

3. Although FONADER has nationwide responsibility for smallholder credit, it operates through specialized agencies in recognition of the fact that it has not yet developed the capabilities and the personnel to enable it to deal directly with all smallholders. For the proposed outgrower program, FONADER would contract with SOCAPALM for the direct management of all operations.

4. For this purpose, SOCAPALM would organize a separate division, "Division des Plantation Villageoises" whose head would be directly responsible to SOCAPALM's Managing Director. The division would be responsible, inter alia, for (i) farmer selection and organization into groups; (ii) the preparation of annual work programs for smallholder development; (iii) the maintenance of all records and accounts relating to smallholder credit; (iv) the delivery to smallholders of all material on credit and cash grants needed for smallholder plantation establishment.

B. CREDIT ARRANGEMENTS

5. Government's contribution to smallholder development would be accomplished by a grant to FONADER to be passed on through SOCAPALM to smallholders. Well in advance of the fiscal year, SOCAPALM would present its annual work program and related budget including the bareme (para 9) to FONADER for approval. After approval, SOCAPALM wouldbe provided with funds and inputs for smallholder development.

6. Selected farmers would be required to sign a contract ("cahiers des charges") with SOCAPALM, the terms of which would oblige them to follow all technical advice and in exchange for which they would receive credit as detailed below.

Cost of Credit

7. Smallholders (selected according to the criteria and under the conditions contained in para 1) would be given credit to cover the cost of all purchased inputs required in the five years needed to bring oil palms into production and either a cash grant or credit covering 80% of the labor required for land preparation; only those farmers deriving more than 75% of their income from agricultural activities would receive grants. The development costs for a hectare and the credit requirements are shown in Table 1. The cost per hectare excluding family labor is CFAF 82,000 in constant 1976 prices.

Extension and Supervision Costs

8. In addition to these costs of development, SOCAPALM would have to incur costs for the administration and supervision of the outgrower program. These costs amount to CFAF 232 million over the five year development period.

Detailed costs for the whole program are at Annex 4.

Recovery of Credit and of Extension and Supervision Costs

9. SOCAPALM would recover credit and extension/supervision costs as follows:

Credit given in each year would bear interest at 9% per year capitalized over a total six-year grace period (five years for development to maturity plus another year to allow yields to reach a level adequate to support debt service). Repayment would then be in seven annual installments to be recovered at the time produce is collected from outgrowers (Table 4).

Extension and Supervision costs, initially financed by Government grants, would be recovered during the production period through a "bareme" or tariff established each year and on the basis of which producer prices for ffb would be set (Table 2).

10. SOCAPALM would keep separate accounts for all operations relating to the outgrower program which would be the basis for reaching agreement with FONADER on the budget for the succeeding year and on the bareme. These accounts would also (after outgrowers' plantations enter into production) reflect the balance of outgrower credit accounts and of the surplus on outgrower sales available for bonus payments. As the program gathers momentum FONADER would in each succeeding year need only to "top up" the resources accumulated through outgrower credit repayments; after 1985 annual repayment would be adequate to finance an additional 500 ha on the basis of present cost estimates and credit arrangement.

Financial Impact of Cost Recovery Arrangements: Government FONADER and Farmers

11. As shown in Table 4, FONADER, which would be the channel of funds for smallholder credit, would accumulate funds which would be devoted to further smallholder oil palm development. Government expenditures for the outgrower program would consist of funds passed through FONADER to smallholders as cash grants and/or credit. Through the collection of export and sales taxes on oil and kernel deriving from outgrower fresh fruit bunches, Government would more than recover these expenditures. The financial rate of return to Government of this investment would be about 9% (Table 5).

12. As illustrative cash flow for 1 ha outgrower oil palm plantation is presented in Table 3. It incorporates the yields shown in Annex 2, Table 3 and the cost recovery and credit repayment assumptions outlined above. Net cash income would be about CFAF 450 per manday in the first year of production which is in line with prevailing rural wages and in excess of returns from the alternative crops of cocoa and coffee at comparable stages of development. At peak production, some eight years later, net cash income would be some CFAF 2,750. These returns provide more than adequate incentives for smallholders to participate in the program.

ANNEX 3
Table 1

CAMEROON

SECOND SOCAPALM PROJECT

OUTGROWERS PROGRAM

Cost and Financing
(CFAF)

Year	N	N + 1	N + 2	N + 3	N + 4	Total
A. CREDIT						
1. Cost of Supplies: 1/ha						
Seedlings	36,570					
Transport of seedlings a/	4,200					
Metal-wire (crop protection)	1,500					
Cover crop seed	1,500					
Fertilizer b/	2,543	4,973	4,410	5,630	4,860	
Small tools	550	115	100	100		
Harvesting tools					5,750	
Replacement seedlings c/		2,718				
Sub-Total	46,863	7,806	4,510	5,730	10,610	
10% of Physical Contingencies	4,686	781	451	573	1,061	
Total Supplies	51,549	8,587	4,961	6,303	11,671	
2. Financed by:						
Farmer	550	115	100	100	-	
Credit	50,999	8,472	4,861	6,203	11,671	
Cumulated value of credit at beginning of year N + 6 (at 9% p.a.)	78,468	11,953	6,295	7,369	12,721	116,806
Equivalent Annuity (over 7 years at 9%)						23,208
Average ffb production in N + 6 to N + 12 (tons)				=	10.5	
Repayment per ton				=	CFAF 2218/t	
B. CASH GRANTS d/	29,900	6,500	5,200	5,200	-	46,800

N.B. N is year of planting

a/ 5 hours per return trip (delivering 150 seedlings for 1 ha x 840 Fr/hour including depreciation of equipment).

b/ Including 2 F 50 per kg for transportation; unit rates are respectively 56 F 50 for urea; 40 F 50 each for CK and Kieserite.

c/ 10 plants at 271 F 80 each, including transport.

d/ For imputed cost of family labor taken as the total man days required valued at 260 CFAF/manday (i.e. 80% of estate labor wage).

CAMEROON

SECOND SOCAPALM PROJECT

OUTGROWER PROGRAM

Recommended Producer Price for ffb (CFAF)

			Per ton
A.	Oil		
	Gross Revenue [a]		107,290
	Selling Costs including Taxes [a]		11,072
	Net Revenue [a]		96,218
	Oil content of ffb (%)		21
	Revenue in ffb equivalent		20,205
B.	Kernel		
	CIF Value [b]		63,822
	Export/Selling Costs (including taxes) [b]		17,936
	Net Revenue [b]		45,886
	Kernel content of ffb (%)		4.5
	Revenue in ffb equivalent		2,064
C.	Fresh-fruit Bunch (Total Revenue)		22,269
	SOCAPALM COSTS		6,007
	Milling Costs [c]	2,350	
	Collection Costs [c]	2,000	
	Extension and Supervision [d]	1,482	
	Finance Charges (at 3%) [e]	175	
	Available for distribution		16,262
	Recommended producer price per ton ffb		12,000
	Bonus		4,262

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a/ See Annex 9 Table 4
b/ Annex 9 Table 5
c/ Including allowance for depreciation
d/ Average annual cost N + 5 et seq. (16,596F/ha) at average yield of 11.2 T/ha = CFAF 1,482/T
e/ On milling, collection and extension costs assumed to be 12% p.a. for 3 months = 3%

CAMEROON

SECOND SOCAPALM PROJECT

Outgrowers Program - Illustrative Cash Flow - 1 ha

	N + 5 a/	N + 6	N + 7	N + 8	N + 9	N + 10	N + 11	N + 12	N + 13 to N + 16	N + 17 to N + 21	N + 22 to N + 26	N + 27 to N + 29
Revenues												
Production (Tons ffb)	2.25	5.0	7.25	10	12	13	13	13	13	(Average) 12	(Average) 11.5	11
Value (at CFAF 12,000 Ft) 1/	27,000	60,000	87,000	120,000	144,000	156,000	156,000	156,000	156,000	144,000	138,000	132,000
Expenditures												
Tools	517	547	617	597	637	637	637	637	637	637	637	637
Fertilizer	6,884	9,314	11.746	17,416	17,416	17,416	17,416	17,416	17,416	17,416	17,416	17,416
Total	7,401	9,861	12.363	18,013	18,053	18,053	18,053	18,053	18,053	18,053	18,053	18,053
Net Income Before Loan Repayment	19,599	50,139	74,637	101,987	125,947	137,947	137,947	137,497	137,497	125,947	119,947	113,947
Loan Repayment d/	-	18,455	21,244	24,652	26,494	26,405	24,533	22,662	-	-	-	-
Net Income		31,684	53,413	77,335	99,453	111,542	113,414	114,835	137,497	125,947	119,947	113,947
Man-days Required	43.5	45	48.5	50	50	50	50	50	50	50	50	50
Net Income per Manday (F)	450	704	1,101	1,546	1,989	2,230	2,268	2,296	2,750	2,519	2,399	2,279

1/ At recommended price which excludes potential bonus (Annex 3 Table 2)

a/ For first five years, net cash receipts would equal cast credits less purchased hand tools.

b/ Only for years N + 10; N + 11 and N + 12.

c/ For years N + 13, N + 14 and N + 15.

d/ See Annex 3 Table 4, Footnote C.

ANNEX 3
Table 4

CAMEROON
SECOND SOCAPALM PROJECT
Outgrower Program

Outgrower Credit: Cash Flow to FONADER
(CFAF '000)

Year	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Cumulative Planted Area (ha)	400	900	1,400	2,000										
SOURCES OF FUNDS														
Government Advances (1)	32,360	46,439	51,961	65,617	24,383	17,574	12,677	7,002						
Credit Repayments (2)							7,382	17,725	29,710	44,618	48,881	51,053	50,429	39,440
Total Sources	32,360	46,439	51,961	65,617	24,383	17,574	20,059	24,727	29,710	44,618	48,881	51,053	50,429	39,440
APPLICATION OF FUNDS														
Development Credit to Outgrowers (1)	20,400	28,889	31,681	39,747	15,283	11,854	9,557	7,002						
Cash Grants to Farmers (1)	11,960	17,550	20,820	25,870	9,100	5,720	3,120							
Sub-total	32,360	46,439	51,961	65,617	24,383	17,574	12,677	7,002	-	-	-	-	-	-
Net Cash Flow	-	-	-	-	-	-	7,382	17,725	29,710	44,618	48,881	51,053	50,429	39,440

CAMEROON
SECOND SOCAPALM PROJECT
OUTGROWER DEVELOPMENT

Outgrower Credit: Cash Flows and Rate of Return to Government
(1 ha basis; CFAF)

Year	N	N + 1	N + 2	N + 3	N + 4	N + 5	N + 6	N + 7	N + 8	N + 9	N + 10	N + 11	N + 12	N + 13 to N + 16	N + 17 to N + 21	N + 22 to N + 26	N + 27 to N + 29
FFB Production (Tons)	-	-	-	-	-	2.25	5.00	7.25	10.0	12.0	13.0	13.0	13.0	13.0	12.0	11 5	11 0
Palm Oil %						15	15.9	17.8	19.7	21.1	21.5	21.5	21.5	21.5	21 5	21 5	11 5
Total Palm Oil (t)						0.337	0.795	1.290	1.970	2.532	2.795	2.795	2.795	2.795	2.580	2.472	2.365
Kernel (%)						4	4.1	4.3	4.5	4.65	4.7	4.7	4.7	4.7	4.7	4.7	4 7
Total Kernel						0.09	0.205	0.311	0.450	0.558	0.611	0.611	0.611	0.611	0.564	0 540	0 517
INFLOWS																	
Production Period																	
Sales Tax Palm Oil a/						3,063	7,226	11,726	17,907	23,015	25,406	25,406	25,406	23,452	23,452	22,470	21,498
Export Tax - Kernel b/						470	1,073	1,628	2,356	2,921	3,199	3,199	3,199	2,953	2,953	2,826	2,706
Repayment of Principal - Development Credit c/							7,943	11,447	15,885	19,156	20,791	20,791	20,791	-	-	-	-
Interest Repayment - Development Credit c/							10,512	9,797	8,767	7,338	5,614	3,742	1,871	-	-	-	-
Deductions for Supervision and Extension Cost d/						3,334	7,410	10,744	14,820	17,784	19,266	19,266	19,266	19,266	17,784	17,043	16,302
Total Inflows	-	-	-	-	-	6,887	34,164	45,342	59,735	70,214	74,276	72,404	70,533	45,761	44,189	42,339	40,506
OUTFLOWS																	
Development Period																	
Supervision and Extension	23,920	22,289	17,650	19,597	18,225												
Cash Advances c/	29,900	6,500	5,200	5,200	-												
Credit c/	50,999	8,472	4,861	6,203	11,671												
Production Period																	
Supervision and Extension Cost e/	-	-	-	-	-	16,596	16,596	16,596	16,596	16,596	16,596	16,596	16,596	16,596	16,596	16,596	16,596
Total Outflows	104,819	37,261	27,711	29,658	29,926	16,596	16,596	16,596	16,596	16,596	16,596	16,596	16,596	16,596	16,596	16,596	16,596
Net Inflows	(104,819)	(37,261)	(27,711)	(29,658)	(29,926)	(9,709)	17,568	28,746	43,139	53,618	57,680	55,808	53,937	29,165	27,593	25,743	23,910

Financial Rate of Return: 9.35%

a/ Weighted average tax of CFAF 9098/t on export/local sales in proportions of 15:85
b/ CFAF 5236/t on kernel exports
c/ Annex 3 Table 1; Repayment calculated as follows:

Year	Proportion to be repaid (%)	Principal	Interest (9% on principal outstanding at beginning of period	Total
N + 6	6 . 8	7,943	10,512	18,455
N + 7	9 . 8	11,447	9,797	21,244
N + 8	13 . 6	15,885	8,767	24,652
N + 9	16 . 4	19,156	7,338	26,494
N + 10	17 . 8	20,791	5,614	26,405
N + 11	17 . 8	20,791	3,742	24,533
N + 12	17 . 8	20,791	1,871	22,662

d/ Cost estimates are based on Annex 4 plus physical contingencies and assume a minimum of 3,000 ha of oil palms to support supervision cost in development period. In production period project extension staff will cover 3,000 ha instead of 2,000 ha and costs are recovered as per Annex 3 Table 2.
e/ Seasonal credit is repayable in 6 months at an interest rate equivalent to 9% per year. Although excluded here, it would increase net inflows and make for an even higher financial rate of return.

ANNEX 4
Table 1

CAMEROON

SECOND SOCAPALM PROJECT

PROJECT COSTS SUMMARY

(CFAF 000)

	1976/77	1977/78	1978/79	1979/80	1980/81	Total	Taxes	Foreign Exchange
A. KIENKE ESTATE								
1. Field Establishment	47,901	222,784	366,676	414,375	343,531	1,395,267	291,152	674,950
2. Construction	51,575	70,500	148,272	133,622	53,872	457,841	82,411	297,597
3. Vehicles Plant and Equipment	255,135	277,285	207,110	33,430	17,485	790,445	-	671,878
4. Oil Mill Investments	-	-	30,000	355,800	715,000	1,100,800	68,850	895,095
5. General and Administrative	18,601	47,044	79,932	103,264	105,982	354,823	70,966	127,738
Total Before Contingencies	373,212	617,613	831,990	1040,491	1,235,870	4,099,176	513,379	2,667,258
B. OUTGROWER DEVELOPMENT								
1. Field Establishment	20,224	39,315	47,263	57,851	38,532	203,185	1,812	100,962
2. Extension Costs	43,492	21,492	21,492	25,032	21,492	133,000	25,850	30,330
3. Supervision Costs		28,552	15,902	15,902	17,552	77,908	15,910	25,050
Total Before Contingencies	63,716	89,359	84,657	98,785	77,576	414,093	43,572	156,342
C. COMPLETION: MBONGO-ESEKA								
1. Field Establishment	159,450	116,624	62,261	20,830	-	359,165	89,793	233,455
2. Construction	46,000	38,500	46,000	49,500	-	180,000	32,400	117,000
3. Vehicles and Equipment	25,520	26,470	60,830	25,520		138,340	-	117,588
4. Mill Investments	-	-	-	-	453,000	453,000	-	407,700
Total Before Contingencies	230,970	181,594	169,091	95,850	453,000	1,130,505	122,193	875,743
D. EXTENSION: M'BONGO								
1. Field Establishment	31,932	98,868	81,038	27,126	23,049	262,013	51,071	133,220
2. Construction	68,150	53,000	-	-	-	121,150	21,807	78,747
3. Vehicles & Equipment	53,810	48,450	13,100	-	16,220	131,580	-	111,308
Total Before Contingencies	153,892	200,318	94,138	27,126	39,269	514,743	72,878	323,275
TOTAL BASE COST	821,790	1,088,884	1,179,876	1,262,252	1,805,715	6,158,517	752,022	4,022,618
Physical Contingencies	82,179	108,888	117,988	126,226	180,572	615,852	75,202	402,262
Price Contingencies a/	61,670	216,796	358,155	524,765	969,308	2,130,694	247,340	1,323,039
TOTAL CONTINGENCIES	143,849	325,684	476,143	650,991	1,149,880	2,746,546	322,542	1,725,301
TOTAL PROJECT COST b/	965,639	1,414,568	1,656,019	1,913,243	2,955,595	8,905,063	1,074,564	5,747,919

a/ Compound rates as follows: 1976/77: 6.8%; 1977/78: 18.1%; 1978/79: 27.6%; 1979/80: 37.8%; 1980/81: 48.8%

b/ Excluding Douala Complex.

CAMEROON

SECOND SOCAPALM PROJECT

Project Cost - Kienke Estate Field Establishment

(CFAF 000)

Year	Unit Cost[1] CFAF/ha	1976/77	1977/78	1978/79	1979/80	1980/81	Total	Tax %	Total Taxes	Foreign Exchange %	Total Foreign Exchange
Area Planted (ha)		-	750	1,750	1,750	1,750					
I. Labor Costs											
Nursery 2/	11,518	4,319	14,397	20,156	20,156	10,078					
Land Preparation 3/	17,014	4,210	18,375	29,775	29,775	19,950					
Estate Roads - Construction 3/	402	100	434	703	703	471					
Planting	12,404	-	9,303	21,707	21,707	21,707					
Maintenance 4/ N+1	14,575	-	-	10,931	25,506	25,506					
N+2	11,651	-	-	-	8,738	20,390					
N+3	9,214	-	-	-	-	6,910					
Total - Labor		8,629	42,509	83,273	106,585	105,012	346,008	15	51,900	-	-
II. Supplies and Materials											
Fertilizer											
- Nursery 2/	1,272	477	1,312	1,670	1,670	835					
- Planting	539	-	405	944	944	944					
- Maintenance N+1	9,638	-	-	7,229	16,867	16,867					
N+2	10,718	-	-	-	8,038	18,757					
N+3	8,350	-	-	-	-	6,263					
- Total - Fertilizer		477	1,717	9,843	27,519	43,666	83,222	-	-	80	66,578
Insecticides, Herbicides											
- Nursery 2/	256	96	320	448	448	224					
- Maintenance N+1	1,095	-	-	821	1,916	1,916					
N+2	1,095	-	-	-	821	1,916					
N+3	135	-	-	-	-	101					
Sub-Total - Insecticides		96	320	1,269	3,185	4,157	9,027	-	-	80	7,222
Wire Netting	5,005	-	3,754	8,759	8,759	8,759					
Cover Plant Seeds 5/	1,750	-	1,125	2,813	3,063	2,625					
Sprinkler System (Nursery) 2/	1,224	459	1,530	2,142	2,142	1,071					
Polythene Bags (Nursery) 2/	7,557	2,834	9,446	13,224	13,224	6,612					
Palm Seedlings (Nursery) 2/	7,840	2,940	9,800	13,720	13,720	6,860					
Sub Total - Other Supplies		6,238	25,655	40,658	40,908	25,927	139,381	25	34,845	50	69,690
Total Supplies and Mat.		6,806	27,692	51,770	71,612	73,750	231,630		34,845		143,490
III. Other Establishment Costs											
Nursery 2/	4,598	1,725	5,748	8,046	8,046	4,023					
Land Preparation 3/	78,945	19,539	85,261	138,154	138,154	92,563					
Estate Roads - Construction 3/	45,260	11,202	59,744	79,205	79,205	53,067					
Planting	2,440	-	1,830	4,270	4,270	4,270					
Maintenance 4/ N+1	2,611	-	-	1,958	4,570	4,570					
N+2	2,577	-	-	-	1,933	4,510					
N+3	2,355	-	-	-	-	1,766					
Sub-Total Other Development Costs		32,466	152,583	231,633	236,178	164,769	817,629	25	204,407	65	531,460
TOTAL FIELD ESTABLISHMENT		47,901	222,784	366,676	414,375	343,531	1,395,267		291,152		674,950

1/ Per ha planted.
2/ 50% of cost in year N-1 and 50% in year NO
3/ 33% of cost in year N-1 and 67% in year NO
4/ Includes maintenance of roads.
5/ 16.6% of cost is for replacement in year N+1. Rest in year NO.

NB. NO is year of planting etc.

CAMEROON

SECOND SOCAPALM PROJECT

Project Cost - Vehicles, Plant and Equipment (Kienke Estate)
(CFAF 000)

		1976/77		1977/78		1978/79		1979/80		1980/81		
	UNIT COST	NO	COST	NO	COST	NO	COST	NO	COST	NO	COST	TOTAL	FOREIGN EXCHANGE
1. Personnel Vehicles													
Executive Airplane	22000	-		1	22000	-		-		-		22000	
4-Dr Sedan	1550	2	3100	-		2	3100	2	3100			9300	
4-Wheel Drive	2210	-		1	2210	-		-		1	2210	4420	
Pick-Up	1150	1	1150	-		-		1	1150	-		2300	
Compact Sedan	970	1	970	-		1	970	3	2910	1	970	5820	
Motor Cycle	175	2	350	3	525	3	525	4	700	4	700	2800	
Ambulance	1900	-		-		-		1	1900	-		1900	
Sub Total - Personal Vehicles			5570		24735		4595		9760		3880	48540	
2. Land Preparation Equipment													
300 HP Tractor	40700	3	122100	4	162800	3	122100					407000	
Bull dozer	4350	2	8700	2	8700	1	4350					21750	
Angle dozer (large)	3550	1	3550	2	7100	2	7100					17750	
Razel Blade	3500	2	7000	3	10500	2	7000					24500	
K.G. Blade	3100	1	3100	-		-						3100	
Tree Pusher	2950	2	5900	2	5900	2	5900					17700	
Ripper (3 Pronged)	5550	1	5550									5550	
Winch	4350	1	4350									4350	
Tool Sharpener	550	1	550									550	
120 H.P. Tractor	12720	1	12720									12720	
Disc Plough	1430	1	1430									1430	
Compactor	3180	1	3180									3180	
Mechanical Shovel	6930	1	6930									6930	
Roller	15100	1	15100									15100	
Angle dozer (small)	1600	1	1600									1600	
Ripper (small)	1795	1	1795									1795	
Sub Total - Land Prep. Equipment			203555		195000		146450					545005	
3. Trucks and Tractors													
8 Ton Truck	5300	2	10600	3	15900	2	10600	1	5300	-		42400	
45 HP Tractor	2100	1	2100	4	8400	6	12600	2	4200	1	2100	29400	
80 HP Tractpr	3150	1	3150	-		-		-		-		3150	
Mobile Repair Van	11750	-		1	11750	-		-		-		11750	
3-Ton Trailer	745	1	745	4	2980	6	4470	2	1490	1	745	10430	
Tanker Trailer	950	1	950	1	950	-		-		-		1900	
Dump Truck	5850	1	5850	-		1	5850	-		-		11700	
Mobile Sprayer	450	-		1	450	1	450	2	900	1	450	2250	
Trash Hauler	7900	-		-		1	7900	-		-		7900	
Sub Total: Trucks and Tractors			23395		40430		41870		11890		3295	120880	
4. Miscellaneous Plant and Equipment													
Mechanical Saw	105	9	945	30	3150	43	4515	42	4410	28	2940	15960	
Irrigation Pipes/Pumps	3300	1	3300	1	3300	-		-		-		6600	
Survey Equipment	1100	1	1100	-		-		-		-		1100	
Generator	1650	1	1650	1	1650	1	1650	1	1650	1	1650	8250	
Water Pumps	660	2	1320	2	1320	2	1320	2	1320	2	1320	6600	
Water Purification Plant	8250	1	8250	-		-		-		-		8250	
Cold Storage Plant	4510	-		-		1	4510	-		-		4510	
Office Equipment	550	1	550	1	550	2	1100	2	1100	2	1100	4400	
Workshop Tools	2200	1	2200	1	2200	-		1	2200	1	2200	8800	
Construction Tools	3300	1	3300	1	3300	-		-		-		6600	
Hospital Equipment	1100	-		1	1100	1	1100	1	1100	1	1100	4400	
Movie Projector/Screen	550	-		1	550	-		-		-		550	
Sub Total - Misc. Plant and Equipment			22615		17120		14195		11780		10310	76020	
TOTAL: VEHICLES, PLANT AND EQUIPMENT			255135		277285		207110		33430		17485	790445	671878 a/

a/ At 85%

CAMEROON

SECOND SOCAPLAM PROJECT

Project Cost - Construction (Kienke Estate)

(CFAF 000)

YEAR	Unit Cost (CFAF 000)	1976/77		1977/78		1978/79		1979/80		1980/81		Total	Tax		Foreign Exchange	
		No.	Cost	No.	Cost	No.	Cost	No.	Cost	No.	Cost		%	Total	%	Total
1. HOUSING for:																
Laborers (Provisional) a/	750	15	11,250	-	-	-	-	-	-	-	-	11,250				
Laborers (Permanent) a/	1,500	12	18,000	20	30,000	50	75,000	30	45,000	-	-	168,000				
Foremen	1,750	-	-	3	5,250	2	3,500	4	7,000	1	1,750	17,500				
Supervisors c/	5,750	1/2	2,875	-	-	1	5,750	2	11,500	1	5,750	25,875				
Management Staff	11,500	1/2	5,750	1	11,500	1	11,500	1	11,500	-	-	40,250				
Management Staff (at Douala)	15,000	-	-	1	15,000	-	-	-	-	-	-	15,000				
Total Housing			37,875		61,750		95,750		75,000		7,500	277,875				
2. COMMUNITY FACILITIES																
School	4,200	-	-	-	-	1	4,200	1	4,200	1	4,200	12,600				
Shop	1,650	-	-	-	-	2	3,300	2	3,300	2	3,300	9,900				
Toilet Blocks	5,000	-	-	-	-	2	10,000	2	10,000	2	10,000	30,000				
Market	2,400	-	-	-	-	1	2,400	-	-	-	-	2,400				
House of Worship	3,000	-	-	-	-	-	-	1	3,000	-	-	3,000				
Tennis Club	8,500	-	-	-	-	-	-	1	8,500	-	-	8,500				
Economat	3,000	-	-	-	-	1	3,000	-	-	-	-	3,000				
Water Supply (Village)	11,300	-	-	-	-	1	11,300	1	11,300	1	11,300	33,900				
Electricity Supply(Village)	10,700	1	10,700	-	-	1	10,700	1	10,700	1	10,700	42,800				
Total Community Facilities			10,700				44,900		51,000		39,500	146,100				
3. OFFICES AND WORKSHOPS																
Estate Headoffice	5,000	-	-	-	-	-	-	-	-	1	5,000	5,000				
Divisional Offices b/	5,750	-	-	1	5,750	1	5,750	1	5,750	-	-	17,250				
Workshop/Garage (Veh.)	1,872	-	-	-	-	1	1,872	1	1,872	1	1,872	5,616				
Workshop (Construction)	3,000	1	3,000	1	3,000	-	-	-	-	-	-	6,000				
Total Offices/Workshops			3,000		8,750		7,622		7,622		6,872	33,866				
Total Construction			51,575		70,500		148,272		133,622		53,872	457,841	18	82,411	60	297,597

a/ In blocks of 4 units each.
b/ Including store and infirmary.
c/ Temporary structures in PY 1.

CAMEROON

SECOND SOCAPALM PROJECT

Project Cost: Oil Mill Investment Cost -(Kienke Estate)
(CFAF 000)

					Tax		Foreign Exchange	
	1978/79	1979/80	1980/81	Total	%	Total	%	Total
Civil Works	30,000	352,500		382,500	18	68,850	65	248,625
Machinery		3,300	715,000	718,300	-		90	646,470
Total	30,000	355,800	715,000	1,100,800		68,850		895,095

CAMEROON

SECOND SOCAPALM PROJECT

Project Cost - General and Administrative Overheads (Kienke Estate)

(CFAF 000)

	Unit Cost	1976/77	1977/78	1978/79	1979/80	1980/81	Total	Tax %	Tax Total	Foreign Exchange %	Foreign Exchange Total
No. of workers recruited	(CFAF/year)	122	359	409	246	-					
Total No. of Workers		122	481	890	1,136	1,136					
1. SALARIES											
Estate Manager	7,800,000	3,900	7,800	7,800	7,800	7,800	35,100				
Mechanical Superintendent	7,800,000	3,900	7,800	15,600	15,600	15,600	58,500				
Construction Manager	7,800,000	-	-	3,900	7,800	7,800	19,500				
Field Manager	1,980,000	990	1,980	3,960	7,920	9,900	24,750				
Supervisory Grade Staff a/ b/	792,000	792	1,584	3,960	7,128	7,920	21,384				
Artisans b/	444,110	2,221	7,106	11,103	15,100	16,432	51,962				
Skilled Labor b/	173,100	519	1,212	1,818	2,423	2,423	8,395				
Unskilled Labor b/	133,000	332	532	1,131	1,463	1,862	5,320				
Chauffeurs	280,520	2,244	5,049	6,733	8,416	8,135	30,577				
Total Salaries		14,898	33,063	56,005	73,650	77,872	255,488				
2. OPERATIONS AND MAINTENANCE COSTS											
Recruitment c/	19,752	2,410	7,091	8,079	4,859	-	22,439				
O & M Villages d/	11,931	-	1,456	5,739	10,619	13,554	31,368				
O & M Management Dwellings	500,000	-	250	250	1,500	1,750	3,750				
O & M Other Dwellings	170,000	-	85	425	595	765	1,870				
Medical Expenses d/	6,862	837	3,301	6,107	7,795	7,795	25,835				
O & M Social/Cultural Act. d/	1,227	150	590	1,092	1,394	1,394	4,620				
Food Distribution d/	2,511	306	1,208	2,235	2,852	2,852	9,453				
Total Operations and Maintenance Costs		3,703	13,981	23,927	29,614	28,110	99,335				
Total General and Administrative Overhead Costs		18,601	47,044	79,932	103,264	105,982	354,823	20	70,966	36	127,738

a/ Includes: Bookkeeper; Chief Storekeeper; Supervisory Nurse; Chief Mechanic.
b/ Non-plantation workers.
c/ Unit cost is per new recruit.
d/ Unit cost is per unit of direct labor.

CAMEROON

SECOND SOCAPALM PROJECT

Project Cost - Outgrowers' Field Establishment
(CFAF 000)

Year / Area Planted	Unit Cost (CFAF/ha)	1976/77 -	1977/78 400	1978/79 500	1979/80 500	1980/81 600	TOTAL	Tax %	Tax Total	Foreign Exchange %	Foreign Exchange Total
1. Labor Cost a/											
Land Preparation and Planting	29,900		11,960	14,950	14,950	17,940	59,800				
Maintenance N + 1	6,500			2,600	3,250	3,250	9,100				
N + 2	5,200				2,080	2,600	4,680				
N + 3	5,200					2,080	2,080				
Total Labor		-	11,960	17,550	20,280	25,870	75,660				
2. Materials and Supplies b/											
Seedlings NO	40,770	16,308	20,385	20,385	24,462	-	81,540			85	69,310
N + 1	2,718	1,087	1,359	1,359	1,631	-	5,436			85	4,620
Cover Crop Seed	1,500	600	750	750	900	-	3,000	10	300	-	-
Small Tools c/	Var.	220	321	372	477	2,469	3,859	25	965	65	2,508
Fertilizers NO	2,543	1,017	1,271	1,271	1,526	-	5,085			80	4,068
N + 1	4,973		1,989	2,487	2,487	2,984	9,947			80	7,957
N + 2	4,410			1,764	2,205	2,205	6,174			80	4,940
N + 3	5,630				2,252	2,815	5,067			80	4,054
N + 4	4,860					1,944	1,944			80	1,555
Protective Wire	1,500	600	750	750	900	-	3,000	10	300	65	1,950
Handling Charge (2%) d/		392	530	575	731	245	2,473	10	247	-	-
Total Materials and Supplies		20,224	27,355	29,713	37,571	12,662	127,525		1,812		
Total: Outgrower Field Establishment		20,224	39,315	47,263	57,851	38,532	203,185		1,812		100,962

a/ Credit in amount of 80% of required labor input valued at 325 F/day
b/ Will be procured in year prior to year of need for field development except hand tools.
c/ NO - 550F; N + 1 - 115 F; N + 2 - 100 F; N + 3 - 100 F; also N + 4 - 5,750 F to be procured in N + 3
d/ On all supplies except small tools not given on credit

CAMEROON
SECOND SOCAPALM PROJECT
Project Costs - Outgrowers' Extension Services Costs
CFAF (000)

YEAR No. of Sectors		Unit Cost (CFAF (000))/ Sector	1976/77 2	1977/78 2	1978/79 2	1979/80 2	1980/81 2	Total	Taxes (%)	Total Taxes	Foreign Expenditures %	Total Foreign Expenditure
A. SECTOR TEAMS	No. /Sector											
1. Salaries												
(a) Sector Chief	1	5,100	10,200	10,200	10,200	10,200	10,200	51,000	25	12,750	25	12,750
(b) Accounts Clerk	1	540	1,080	1,080	1,080	1,080	1,080	5,400	15	810	-	
(c) Driver	1	216	432	432	432	432	432	2,160	15	324	-	
(d) Field Supervisors	5	2,130	4,260	4,260	4,260	4,260	4,260	21,300	15	3,195	-	
Total Salaries.			15,972	15,972	15,972	15,972	15,972	79,860		17,080		12,750
2. Vehicles and Equipment												
(a) Pick-Up	1	*1,020*	*2,040*			2,040		4,080	-		80	3,264
(b) Motor Cycles	5	750	1,500			1,500		3,000	10	300	40	1,200
(c) Miscellaneous Equipment	Set	670	1,340					1,340	10	134	40	26
Total Vehicles and equipment			4,880			3,540		8,420		434		4,490
3. Operations and Maintenance												
(a) House Rentals												
Sector Chief 1/	*1*	11,000	22,000					22,000	18	3,960	60	13,200
Field Supervisors	5	420	840	840	840	840	840	4,200	10	420	-	
Office Staff	2	144	288	288	288	288	288	440	10	144	-	
Offices	1	240	480	480	480	480	480	2,400	10	240		
(b) Transport Allowances												
Sector Chief	1	300	600	600	600	600	600	3,000	10	300	-	
Field Supervisors	5	180	360	360	360	360	360	1,800	10	180	-	
Office Staff	2	36	72	72	72	72	72	360	10	36	-	
(c) Office Supplies	Set	600	1,200	1,200	1,200	1,200	1,200	6,000	25	1,500	50	3,000
(d) Other operating costs	-											
Staff Overhead	-	300	600	600	600	600	600	3,000	20	600	20	600
Telephone, etc.	-	300	600	600	600	600	600	3,000	-	-	20	600
Buildings Maintenance	-	120	240	240	240	240	240	1,200	15	180	15	180
Insurance		120	240	240	240	240	240	1,200	10	120	-	-
Total Operating Costs			27,520	5,520	5,520	5,520	5,520	49,600		8,800		17,580
Total Extension Services			43,492	21,492	21,492	25,032	21,492	133,000		25,880		30,330

1/ *House built in PY 1.*

ANNEX 4
Table 9

CAMEROON
SECOND SOCAPALM PROJECT
Project Costs - Outgrowers' Supervision Cost

Year	1976/77	1977/78	1978/79	1979/80	1980/81	Total	Tax %	Tax Total	Foreign Exchange %	Foreign Exchange Total
1. SALARIES										
Plantation Inspector (Outgrowers)	-	7,800	7,800	7,800	7,800	31,200	30	9,360	40	12,480
Administrative Assistant		1,500	1,500	1,500	1,500	6,000	20	1,200	-	-
Secretary		540	540	540	540	2,160	15	325	-	-
Typist		426	426	426	426	1,704	15	255	-	-
Driver		216	216	216	216	864	15	130	-	-
Total Salaries	-	10,482	10,482	10,482	10,482	41,928		11,270		12,400
2. OPERATIONS AND MAINTENANCE										
Housing Rentals										
Plantation Inspector a/		11,000				11,000		1,100	60	6,600
Administrative Assistant		480	480	480	480	1,920	10	192	-	-
Secretary		192	192	192	192	768	10	80	-	-
Typist		80	80	80	80	320	10	32	-	-
Driver		80	80	80	80	320	10	32	-	-
Office		600	600	600	600	2,400	10	240	-	-
Transport Allowances										
Plantation Inspector 1/		3,050	1,400	1,400	3,050	5,850	15	880	60	3,510
Administrative Assistant		120	120	120	120	480	10	48	-	-
Secretary		48	48	48	48	192	10	20	-	-
Typist		20	20	20	20	80	10	8	-	-
Driver		20	20	20	20	80	10	8	-	-
Other Operating Expenses										
Office Supplies		1,200	1,200	1,200	1,200	4,800	25	1,200	50	2,400
Utilities		400	400	400	400	1,600	20	320	-	-
Medical Fees		300	300	300	300	1,200	20	240	-	-
Building Maintenance		240	240	240	240	960	15	144	15	140
Insurance etc.		240	240	240	240	960	10	96	-	-
Total Operations and Maintenance		18,070	5,420	5,420	7,070	35,980		4,640		12,650
Total Supervision Cost		28,552	15,902	15,902	17,552	77,908		15,910		25,050

a/ Constructed in PY 2
1/ Includes purchase of new and replacement vehicles in PY2 and PY5 respectively as well as return air fare to Europe each year.

CAMEROON

SECOND SOCAPALM PROJECT

Project Cost - Completion of M'Bongo - Eseka Plantations

	Unit Cost	1976/77	1977/78	1978/79	1979/80	1980/81	Total	Tax %	Tax Total	Foreign Exchange %	Foreign Exchange Total
A. M'BONGO											
Areas planted		327									
1. Field Establishment Costs (CFAF/ha)	(CFAF/ha)										
Planting a/	47833	15641	-	-	-	-	15641				
Maintenance b/ N+1	35671	17479	11664	-	-	-	29143				
N+2	33793	23790	16559	11050	-	-	51399				
N+3	26700	13537	18797	13083	8731	-	54148				
General Overhead Cost	37000 c/	75036	56277	30229	12099	-	173641				
Total Planting & Maintenance		145483	103297	54362	20830	-	323972	25	80993	65	210580
2. Vehicles and Equipment	(CFAF 000)										
80 HP Tractor	3150	3150	3150	9450	3150	-	18900				
Tractor-Trailer d/	2530	2530	2530	12650	2530	-	20240				
Collection Equipment	7890	7890	7890	15780	7890	-	39450				
Tanker ($10m^3$)	7700	7700		7700	7700	-	23100				
4-T Truck and Trailer	2200		2200			-	2200				
Total Vehicles and Equipment		21270	15770	45580	21270	-	103890	-	-	85	88306
3. Buildings	(CFAF 000)										
Management Staff Housing	11000	11000	-	11000	11000	-	33000				
Supervisory Staff Housing	5750	11500	11500	11500	11500	-	46000				
Foremen Grade Housing	2000	8000	8000	8000	8000	-	32000				
Total Buildings		30500	19500	30500	30500	-	111000	18	19980	65	72150
TOTAL M'BONGO		197253	138567	130442	72600	-	538862				
B. ESEKA											
Area planted		-									
1. *Field Establishment Costs*	*(CFAF/ha)*										
Maintenance N+1 e/	35671	4423	-	-	-	-	4423				
N+2	33793	22366	4190	-	-	-	6556				
N+3	26700		1869	3311	-	-	5180				
General Overhead Cost	37000 c/	7178	7178	4588	-	-	18944				
Total Planting and Maintenance		13967	13327	7899	-	-	35193	25	8800	65	22875
2. Vehicles and Equipment	(CFAF 000)										
80 HP Tractor	3150	3150	6300	3150	3150	-	15570				
Collection Trailers	1100	1100	2200	1100	1100	-	5500				
Dump Truck (4T)	2200	-	2200	-	-	-	2200				
Tanker (50 m^3)	11000	-	-	11000	-	-	11000				
Total Vehicles and Equipment		4250	10700	15250	4250	-	34450			85	29282
3. Buildings	(CFAF 000)										
Management Staff Housing	11000	-	15000	-	15000	-	30000				
Supervisory Staff Housing	5750	11500	-	11500	-	-	23000				
Foremen Grade Housing	2000	4000	4000	4000	4000	-	16000				
Total Buildings		155000	19000	15500	19000	-	69000	18	12420	65	44850
TOTAL ESEKA		33717	43027	38649	23250		138643				
C. INDUSTRIAL INVESTMENTS	(Var.)										
Completion of mill and equipment	-	-	-	-	-	453000	453000	-	-	90	407700
TOTAL COMPLETION COST		230970	181594	169091	95850	453000	1130505	-		-	875743

a/ 1976/77 plantings are completed; for 1977/78 plantings only work remaining to be done is at cost of CFAF 47833/ha
b/ Immature Plantings are: 1974-507 ha; 1975-704 ha; 1976-490 ha.
c/ Per total area of immature plantings. Actual costs in 1975?76 for M'Bongo were CFAF 74516 ha immature palms occupied 48.7% of area
d/ With ffb handling equipment
e/ Immature Plantings are 1975-70 ha; 1976-124 ha.

CAMEROON

SECOND SOCAPALM PROJECT

PROJECT COSTS - MBONGO EXTENSION
(CFAF' 000)

	Unit Cost 1/ (CFAF/ha)	1976/77	1977/78	1978/79	1979/80	1980/81	TOTAL	Tax %	Tax TOTAL	Foreign Exchange %	Foreign Exchange TOTAL
Area planted (ha)			500	500							
A. FIELD ESTABLISHMENT COSTS											
I. Labor Costs											
Nursery 2/	11,518	2,879	5,759	2,879	-	-	11,517	-	-	-	-
Land Preparation 3/ 3/	17,014	2,807	8,507	5,700	-	-	17,014	-	-	-	-
Estate Roads - Construction	402	66	201	135	-	-	402	-	-	-	-
Planting	12,404	-	6,202	6,202	-	-	12,404	-	-	-	-
Maintenance 4/ N+1	14,575	-	-	7,287	7,288	-	14,575	-	-	-	-
N+2	11,651	-	-	-	5,825	5,826	11,651	-	-	-	-
N+3	9,214	-	-	-	-	4,607	4,607	-	-	-	-
Total Labor		5,752	20,669	22,203	13,113	10,433	72,170	15	10,825	-	-
II. Supplies and Materials											
Fertilizer											
Nursery 2/	1,272	318	636	318	-	-	1,272	-	-	-	-
Planting	539	-	270	270	-	-	540	-	-	-	-
Maintenance N+1	9,638	-	-	4,819	4,819	-	9,638	-	-	-	-
N+2	10,718	-	-	-	5,359	5,359	10,718	-	-	-	-
N+3	8,350	-	-	-	-	4,175	4,175	-	-	-	-
Subtotal		318	906	5,407	10,178	9,534	26,343	-	-	80	21,074
Insecticides & Herbicides											
Nursery 2/	256	64	128	64	-	-	256	-	-	-	-
Maintenance N+1	1,095	-	-	548	548	-	1,096	-	-	-	-
N+2	1,095	-	-	-	548	548	1,096	-	-	-	-
N+3	135	-	-	-	-	67	67	-	-	-	-
Subtotal		64	128	612	1,096	615	2,515	-	-	80	2,012
Wire Netting	5,005	-	2,502	2,503	-	-	5,005	-	-	-	-
Cover Crop Seeds 5/	1,750	-	730	875	145	-	1,750	-	-	-	-
Sprinkler System 2/(Nursery)	1,224	306	612	306	-	-	1,224	-	-	-	-
Polythene Bags 2/(Nursery)	7,557	1,889	3,779	1,889	-	-	7,557	-	-	-	-
Palm Seedlings 2/(Nursery)	7,840	1,960	3,920	1,960	-	-	7,840	-	-	-	-
Subtotal		4,155	11,543	7,533	145	-	23,376	25	5,844	50	11,688
Total Supplies and Materials		4,537	12,577	13,552	11,419	10,149	52,234	-	-	-	-
III. Other Establishment Costs											
Nursery 2/	4,598	1,149	2,300	1,149	-	-	4,598	-	-	-	-
Land Preparation 3/ 3/	78,945	13,026	39,472	26,447	-	-	78,945	-	-	-	-
Estate Roads - Construction	45,260	7,468	22,630	15,162	-	-	45,260	-	-	-	-
Planting	2,440	-	1,220	1,220	-	-	2,440	-	-	-	-
Maintenance 4/ N+1	2,611	-	-	1,305	1,306	-	2,611	-	-	-	-
N+2	2,577	-	-	-	1,288	1,289	2,577	-	-	-	-
N+3	2,355	-	-	-	-	1,178	1,178	-	-	-	-
Total Other Establishment Costs		21,643	65,622	45,283	2,594	2.467	137,609	25	34,402	65	89,446
TOTAL FIELD ESTABLISHMENT COSTS		31,932	98,868	81,038	27,126	23,049	262,013	-	51,071	-	133,220
B. VEHICLES AND EQUIPMENT											
Bulldozers	40,700 1	40,700 1	40,700		-	-	81,400	-	-	-	-
Mechanical Saws	105 50	5,250	-	50 5,250	-	-	10,500	-	-	-	-
Truck (8 T)	5,300 1	5,300	-	1 5,300	-	-	10,600	-	-	-	-
4-WD Vehicle	2,210 1	2,210	-	-	-	-	2,210	-	-	-	-
Motorcycles	175 2	350	-	-	-	-	350	-	-	-	-
Tractor-Trailer	3,875	-	2 7,750	-	-	-	7,750	-	-	-	-
Harvesting Truck	8,110	-	-	-	-	2 16,220	16,220	-	-	-	-
Tractor 40 HP	2,100	-	-	1 2,100	-	-	2,100	-	-	-	-
Spraying Equipment	450	-	-	1 450	-	-	450	-	-	-	-
TOTAL VEHICLES AND EQUIPMENT		53,810	48,450	13,100	-	16,220	130,950	-	-	85	111,300
C. BUILDINGS AND CIVIL WORKS											
Housing - Supervisory Staff	5,750 1	5,750	-	-	-	-	5,750	-	-	-	-
Foreman Grade	2,000 2	4,000 1	2,000	-	-	-	6,000	-	-	-	-
Laborers 6/	1,500 20	30,000 20	30,000	-	-	-	60,000	-	-	-	-
Sanitary Block (Laborers)	1,000 10	10,000 10	10,000	-	-	-	20,000	-	-	-	-
Office Buildings 8/	5,750 1	5,750	-	-	-	-	5,750	-	-	-	-
Shop	1,650 1	1,650	-	-	-	-	1,650	-	-	-	-
Water Supply 7/	11,300	5,650	5,650	-	-	-	11,300	-	-	-	-
Electricity Supply 7/	10,700	5,350	5,350	-	-	-	10,700				
TOTAL BUILDINGS AND CIVIL WORKS		68,150	53,000	-	-	-	121,150	18	21,807	65	78,747
GRAND TOTAL: MBONGO EXTENSION		153,892	200,318	94,138	27,126	39,269	514,743	-	72,878	-	323,275

1/ Per ha planted.
2/ 50% of cost in year N-1, 50% in year NO.
3/ 33% of cost in year N-1, 67% in year NO.
4/ Includes roads maintenance.
5/ 16.6% for replacement in year N+1; rest in year NO.
6/ In blocks of 4 units each.
7/ Completed in two years.
8/ Including Store and Infirmary.

Annex 4
Table 12

CAMEROON

SECOND SOCAPALM PROJECT

PROJECT COST: DOUALA COMPLEX
(CFAF 000)

	1977	1978	1979	TOTAL	TAX	FOREIGN EXCHANGE
I. CIVIL WORKS AND CONSTRUCTION						
Office Building	10000	110000	125000	245000		
Warehouse	-	30000	20000	50000		
Garage	3000	3250		6250		
Lodgings for Resident Workers (11)	6000	10000	6000	22000		
Sanitary Facilities	-	2000	1000	3000		
Utilities Connections	-	17000	13000	30000		
Sub Total	19000	172250	165000	356250	64125	213750
II. EQUIPMENT						
Switchboard and Other Office Equipment	5000	10000	10000	25000		
Conveyor Belt - Warehouse	-	7000	7000	14000		
Rolling Crane - Warehouse	-	2000	5000	7000		
Fuel Pump and Storage - Garage	-	2000	4000	6000		
Sub Total	5000	21000	26000	52000	-	46800
III. VEHICLES						
Pick-Ups (2)	1120	1120	-	2240		
Fork Lift (4)	2450	2450	-	4900		
Motor cycles (4)	350	350	-	700		
Sub-Total	3920	3920	-	7840	-	6665
Total Before Contingencies	27920	197170	191000	416090	64125	267215
Physical Contingencies	2792	19716	19100	41608	6412	16722
Price Contingencies	2088	39256	52987	99331	15316	63770
GRAND TOTAL: DOUALA COMPLEX	32800	256142	268087	557029	85853	347707

CAMEROON

SECOND SOCAPALM PROJECT

PROPOSED FINANCING PLAN
(US$ Million)

PROJECT ITEM	IBRD		GOVERNMENT		SOCAPALM		TOTAL COST
	%	Total	%	Total	%	Total	
I. Oil Palm Estate Development							
Field Establishment	67	6.7	33	3.2			9.9
Civil Works	67	3.8	33	1.8			5.6
Vehicles, Equipment, Mill Machinery	67	7.4	33	3.6			11.0
Management, Administrative Costs	67	1.1	33	0.7			1.8
Sub-Total		19.0		9.3			28.3
II. Outgrower Program							
Extension and Supervision	67	0.6	33	0.2			0.8
Field Establishment	-	-	100	1.0			1.0
Sub-Total		0.6		1.2			1.8
III. Douala Complex							
Civil Works	67	1.2	33	0.6			1.8
Vehicles, Equipment	67	0.2	33	0.1			0.3
Sub-Total		1.4		0.7			2.1
IV. Contingencies		4.0		2.3			6.3
V. Working Capital		-		0.7			0.7
VI. Finance Charges		-		1.0		3.7	4.7
TOTAL	57	25.0	35	15.2	8	3.7	43.9

CAMEROON

SECOND SOCAPALM PROJECT

Socapalm Estates: Consolidated Cash Flows (Current Terms)
(CFAF Million)

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
SOURCES OF FUNDS										
Increase in Equity 1/	400	400	400	400	400					
Self-Generated Funds										
(i) Project 2/						(3)	65	293	686	1302
(ii) On-going activities 3/	4	15	218	257	412	1191	2094	3199	3441	3665
IBRD Loan Disbursements 4/	450	800	1000	1200	1500	620				
Government Loan 5/	500	250	150	100	750					
Total Sources	1354	1456	1768	1957	3062	1808	2159	3492	4127	4967
APPLICATION OF FUNDS										
Estate Development - Project 7/	890	1298	1536	1763	2828	451	364	211	120	77
Debt Service										
IBRD Subloan - Service Charge 6/	38	32	25	16	4					
IBRD Subloan - Interest 6/	38	106	191	293	412	448	425	402	380	357
3rd Window - Capital Repayment							67	67	67	67
IBRD Loan - Capital Repayment					100	200	200	200	200	200
Government Loan - Interest and Capital 5/						612	612	612	612	612
Subtotal	966	1434	1752	2072	3244	1711	1667	1492	1379	1313
Net Cash Flow	388	31	16	(115)	(182)	97	491	2000	2748	3654
Cummulative Cash Flow		419	435	320	138	235	726	2726	5474	9128

1/ To be provided by present shareholders as per agreed schedule
2/ Annex 6 Table 3
3/ Annex 6 Table 4
4/ Equivalent to 67% of Estate Development expenditures including physical and price contingencies
5/ Repayable in 5 equal annual instalments after 5 years of grace during which interest (9%) is capitalized
6/ Service Charge and Interest are on both Bank Loan and 3rd Window allowing Government to accrue a small margin on the 3rd Window Loan.
7/ SOCAPALM's other project expenditures in the development period (for extension services and supervision of Outgrower's Program) would be provided by Government through passing on part of Bank financing and through direct grants. After palm enter production, such costs would be recovered through deductions from the value of outgrower's ffb

CAMEROON
SECOND SOCAPALM PROJECT

SOCAPALM: CASH FLOW WITHOUT PROJECT
(CFAF Million)

Fiscal Year	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
SOURCES OF FUNDS										
Operating Income (Existing Estates) a/	171	394	820	1267	1790	2454	3222	4057	4303	4514
FED Grant Disbursements b/	76	99	69	44	-	-	-	-	-	-
BEI Loan Disbursements b/	666	10	-	-	-	-	-	-	-	-
FED Grant Disbursements c/	7	294	256	93	-	-	-	-	-	-
BEI Loan Disbursements c/	268	203	129	-	-	-	-	-	-	-
Caisse Centrale Loan Disbursements c/	55	157	49	41	-	-	-	-	-	
Increase in Short Term Debt c/	750	150	-	-	-	-	-	-	-	-
Working Capital Beginning of Period	(368)	-	-	-	-	-	-	-	-	-
Total Sources	1625	1307	1323	1445	1790	2454	3222	4057	4303	4514
APPLICATION OF FUND										
Equipment Renewal - Other Estates	128	142	153	165	178	191	202	214	226	237
Investment Costs (Dibombari)	1212	776	488	236	141	167	451	43	28	-
Total Applications	1340	918	641	401	319	358	653	257	254	237
Net Cash Flow Before Debt Service	285	389	682	1044	1471	2096	2569	3800	4049	4277
DEBT SERVICE										
IBRD I and II	147	162	199	222	222	221	222	220	222	221
Caisse Centrale I and II	27	64	102	102	110	98	97	95	92	90
BEI I and II	29	44	59	59	149	151	156	286	294	301
Local Bank	78	104	104	404	578	435	-	-	-	-
Total Debt Service	281	374	464	787	1059	905	475	601	608	612
Net Cash Flow	4	15	218	257	412	1191	2084	3199	3441	3665

a/ Annex 6 Table 4
b/ Undisbursed portions of existing financing commitments
c/ Recently negotiated financing. See Annex 1

CAMEROON

SECOND SOCAPALM PROJECT

Projected Income Statement - Kienke, M'Bongo Extension and Outgrowers (CFAF ,000)

	1981/82	1982/83	1983/84	1984/85	1985/86
PRODUCTION					
Oil (t) - Kenke	300	1,450	3,575	6,852	10,625
- M'Bongo Ext.	206	691	1,255	1,917	2,634
Outgrowers	126	458	1,028	1,920	3,000
Total Oil	632	2,599	5,858	10,662	16,259
Kernel (t) - Kienke	80	380	910	1,670	2,500
- M'Bongo Ext.	55	180	311	448	590
- Outgrowers	36	128	270	482	710
Total Kernel	171	688	1,491	2,600	3,800
REVENUES ('000 CFAF)					
Oil a/ b/	60,810	250,070	563,645	1025,876	1564,408
Kernel	7,846	31,569	68,416	119,303	174,367
Total	68,656	281,639	632,061	1145,179	1738,775
In Current CFAF c/	89,802	384,150	911,431	1725,784	2724,660
OPERATING COSTS					
Purchase of ffb d/	14,640	50,856	106,164	186,662	267,187
Maintenance e/	27,003	73,357	109,863	152,323	161,007
Harvesting e/	12,469	42,884	76,515	111,747	131,140
Milling e/	3,781	15,234	32,402	54,648	76,893
Selling Costs f/	2,583	10,917	24,807	44,370	66,538
Total	60,476	193,248	349,751	549,750	702,765
In Current CFAF g/	93,375	319,245	618,709	1039,577	1422,396
Net Operating Cash Income (current Terms)	(3,573)	64,911	292,722	686,207	1302,264
Cumulative Operating Cash Income					

a/ At 96218F/T (Table 4)
b/ At 45886F/T (Table 4)
c/ At expected rate of price increase of 5% for 1981-1986
Compounded according to Bank guidelines.
d/ From outgrowers at recommended price
e/ M'Bongo and Kienke only; excludes all depreciation charges plus bonus totalling CFAF 16.25/kg
f/ Transport of oil and kernel to Douala
g/ Rates of price increase as follows: 1981-1984 - 7%; 1985 and 86 - 6%
Compounded according to Bank guidelines and including 5% physical contingencies.

CAMEROON

SECOND SOCAPALM PROJECT

SOCAPALM Forecast of Operating Results - Existing Plantations
(CFAF Million)

	1976/77	78	79	80	81	82	83	84	85	86
Production (t)										
Palm Oil Mbongo	5527	7848	10118	12484	14587	16240	17681	18782	19170	19049
Eseka	3451	4999	6319	7205	7682	7948	8211	8454	8564	8440
Edea	184	409	738	1142	1524	1819	1995	2074	2107	2119
Dibombari			1761	4266	7814	11848	15714	18589	19983	20301
Total Palm Oil	9160	13256	18936	25097	31607	37855	43601	47899	49824	49909
Palm Kernels Mbongo	1304	1808	2289	2808	3269	3614	3904	4117	4191	4164
Eseka	826	1145	1406	1589	1694	1749	1802	1850	1873	1845
Edea	48	103	178	267	344	404	438	452	460	463
Dibombari			461	1083	1904	2762	3538	4104	4375	4437
Total Kernel	2178	3056	4334	5747	7211	8529	9682	10523	10899	10909
Revenues										
Oil a/	881.3	1275.5	1821.9	2414.8	3041.2	3642.3	4195.2	4608.7	4793.9	4802.1
Kernel b/	91.2	128.0	181.5	240.7	302.0	357.2	405.5	440.8	456.5	456.9
Total Revenues (in constant CFAF)	972.5	1403.5	2003.4	2654.5	3343.2	3999.5	4600.7	5049.5	5250.4	5259.0
Total Revenues (in current CFAF) h/	996.8	1510.2	2265.8	3150.9	4165.6	5235.3	6325.9	7286.4	7954.3	8367.1
Operating Costs c/										
Maintenance, Harvest and Collection d/	198.6	275.8	353.3	460.3	581.3	665.2	700.7	727.5	744.1	750.9
Milling e/	60.9	87.5	117.9	152.1	185.3	214.0	235.9	250.9	257.2	257.0
Transport to Douala f/	41.3	61.9	85.3	110.8	136.9	160.6	181.3	195.9	202.3	202.5
Plantation and Mill Overhead g/	171.0	202.2	241.9	287.5	316.3	317.7	323.6	326.4	325.4	325.4
Headquarters Overhead g/	232.2	232.2	232.2	232.2	232.2	232.2	232.2	232.2	232.2	232.2
Sub Total	704	860	1030.6	1242.9	1452	1589.7	1673.7	1732.9	1761.2	1768
Physical Contingencies	70	86	103	124	145	159	167	173	176	177
Total Operating Costs (constant CFAF)	774	946	1134	1367	1597	1749	1841	1806	1937	1947
Total Operating Costs (current CFAF)	826	1116	1446	1884	2375	2781	3104	3229	3651	3853
Net Operating Income	171	394	820	1267	1790	2454	3222	4057	4303	4514

a) Weighted average revenue from exports (78777F/T less taxes amounting to 3988.5F/T) and local sales (110,000F/T less taxes amounting to 10,000 F/T) altogether 96218F/T
b) 51122F/T less various taxes of 5236F/T = 45886F/T
c) All costs exclude depreciation charges
d) Based on acreages as in Annex 2 Table 1 and unit costs as in Annex 4
e) At 1104F/T regimes
f) At 3570F/T oil and 2178F/T kernel
g) SOCAPALM estimates
h) Costs are compounded as for project for 1976-81, 6% for 1982-84 and 5% for 1985-86. Revenues are compounded at 5% p.a.

CAMEROON

SECOND SOCAPALM PROJECT

SCHEDULE OF ESTIMATED DISBURSEMENT

Fiscal Year	Semester	Disbursement (US$ million)	Cum. Disb.
1977	1	1.05	
	2	1.05	2.10
1978	1	2.00	
	2	2.00	6.10
1979	1	2.15	
	2	2.15	10.40
1980	1	2.60	
	2	2.60	15.50
1981	1	3.75	
	2	3.75	23.00
1982	1	2.0	25.00

CAMEROON

SECOND SOCAPALM PROJECT

PALM OIL AND THE FATS AND OIL MARKET

A. Demand

Substitutability

1. The term "fats and oils" is used in this annex for all fats and oils generally classified as "edible/soap fats and oils"; these include soybean oil, sunflower seed oil, groundnut oil, cotton seed oil, rapeseed oil, olive oil, coconut oil, palm kernel oil, palm oil, fish oil, butter, lard and tallow. In recent years, their combined production accounted for about 97% of the total production of all major fats and oils.

2. An important distinguishing feature of fats and oils is the degree to which their fatty acids are saturated. Oils with a high percentage of unsaturated fatty acids -- soybean oil, for example -- are generally liquid at room temperature in temperate climates, and are thus called "soft" oils. Oils or fats with a large proportion of saturated fatty acids, such as palm oil, are usually solid or semisolid. In general, unsaturated fats and oils are used for the manufacture of liquid fat products (salad and cooking oils). Saturated fats and oils are the main ingredients in the manufacture of hard fat products, such as margarine, shortening and soaps. Though previously palm oil was only used for industrial purposes, improved fractionation techniques now allow it to compete with other fats and oils in the manufacture of margarines, shortenings, cooking fats, salad oils, confectionary and ice cream. However, soft oils can be hardened through hydrogenation, and this has expanded the range of fats and oils that can substitute for palm oil and other hard (saturated) oils in these end uses. Dehydrogenation, the transformation of saturated fatty acids into their unsaturated form, has not proved economic.

3. Though technically most fats and oils are interchangeable, 1/ costs of refining and specific end-use requirements limit the range within which individual fats and oils are actually interchanged. The need for certain chemical components (e.g., fatty acids) or certain physical properties (e.g.,

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1/ Substitution between individual fats and oils is impossible if the end product requires a certain fatty acid. Interchangeability is also limited by consumer tastes and preferences; examples are olive oil and groundnut oil which are marketed predominantly in their pure form because consumers prefer their flavor.

flavor, color, smell, melting point) in a specific end-use gives the oil or fat which has these components or properties a competitive advantage over other fats and oils in that end-use ('specific demand'). Thus each oil or fat faces two distinct markets: first, the market in which it has a qualitative advantage over other fats and oils; and second, the market in which it competes directly with other fats and oils. The size of the first market of a fat or oil varies with the demand for the end products which need its special properties. The demand for this oil or fat in the first market is less price elastic than the demand in the second market. In the first market, prices reflect the relative strength of demand and supply for the individual oil rather than the market situation for all fats and oils.

4. Unlike other hard oils, such as coconut and palm kernel oil which have a large distinct market because of their lauric acid content, palm oil has no physical or chemical properties which give it a qualitative advantage over other fats and oils in current end-uses. Because there is no specific demand for palm oil, its price depends on the overall situation for all fats and oils. Palm oil prices are most highly correlated with those of other low-priced fats and oils -- fish oil, tallow and lard -- and the medium-priced oils, mainly soybean oil and sunflower oil, which are widely used in the manufacture of margarines and shortenings. Palm oil's only effective competitor in the "inedible" market, tallow, is traditionally cheaper than palm oil, which gives tallow a competitive advantage in three major markets: the soap industry, the chemical industry, and the animal feed industry.

Growth of Demand and Imports

5. Worldwide, the consumption of fats and oils expanded steadily at an average rate of 3.4% per year from 1960 (end) to 1975. Developed countries account for more than half of world consumption and have been the main export market for fats and oils produced in developing countries. Within the developed countries the most rapid increase in consumption between 1960 and 1975 was recorded in Oceania, Japan and South Africa (7% per year), followed by Western Europe (3%) and North America (2.6%). Among the developing regions, Latin America recorded the highest rate of growth in consumption (4.3%) followed by Africa (3.1%) and Asia (2.5%).

6. Per capita consumption of fats and oils depends largely on incomes. In several developing countries annual per capita consumption is less than 5 kg. In most developed countries it ranges from 25-30 kg. Statistical analysis of the fats and oils consumption pattern shows that demand increases rapidly with incomes at low income levels. At high income levels -- roughly those now reached in the United States and some European countries -- the demand responsiveness of fats and oils to increases in income levels off at about 30 kg per capita.

7. Regional consumption patterns of fats and oils generally reflect regional production patterns and natural storage conditions. Economic protection and lower transport costs play an important role in the preference for locally produced fats and oils. In temperate zones, soybeans, cotton-

seeds and sunflower seeds supply most of the oils needed in the manufacture of margarine, shortening, and other fat products. In tropical and semitropical zones, coconut oil and palm oil dominate vegetable oil consumption.

8. Between 1960 and 1975, more than half of palm oil output has been consumed in producing countries. About 90% of palm oil exports go to developed countries. Germany, the Netherlands and the United Kingdom account for almost 60% of world palm oil imports. While the shares of the three European countries declined slightly during the past two decades (1955-75), that of the U.S. has tripled over the last 10 years.

9. The growing demand for palm oil in the United States largely reflects movements in relative prices. The use of vegetable oils in consumer products has increased at the expense of animal fats, as the latter's relative prices rose, and the price of palm oil declined, relative to those of other vegetable oils. About 85% of the palm oil the U.S. uses for edible purposes is utilized in the manufacture of shortening, 1/ and only a small proportion is used for margarine. (In the United States, shortening production exceeds margarine production.) In recent years the trend has been towards increased consumption of shortening at the expense of lard. In addition, shortening made only from vegetable oils has gained at the expense of shortening containing both animal fats and vegetable oils, a shift which is likely to continue, mainly because of the increasing awareness of the health risk associated with consumption of fats and oils containing a high percentage of saturated fatty acids.

10. India, Iraq and, more recently, Pakistan have been the major net importers among developing countries. During the period 1960-64, India's share of total imports of palm oil had grown to 6%; however, it dropped to less than 2% in the following decade (1967-75) mainly because of import controls imposed by the Indian Government. Iraq's imports continued to increase.

Demand Forecasts

11. Projected world demand for fats and oils in 1980 and 1985, shown in the table below, largely reflects conservative projections of real growth in per capita incomes in 145 countries:

1/ In the U.K. palm oil is used both in margarine and in shortening production. In the EEC, between 60 and 80% of the palm oil is used as an ingredient in margarine. Its use in shortening is less important. Compared with the U.S., European countries' use of shortening is limited.

Item	1972	1974	1976	1980	1985	1974-80	1974-85
	----------1,000 Metric Tons----------					Percent	
Demand	38,869*	49,411	45,360	51,750	57,500	1.8	1.0
Supply	39,750	45,045	46,360	53,200	58,300	2.8	2.4
Fats & Oils Price Index **	64.0	100.0	51.2	46.5	52.2	-12.0	-5.7

* Estimated
** In 1974 constant U.S. dollars.

Note: The difference betwen supply and demand has been used to derive the price forecast.

Sources: FAO (1972-74); IBRD (1976-85).

12. In many of the developed countries, presently the main market for exports of palm oil, per capita consumption of fats and oils is gradually approaching a saturation level, and no large increase in overall demand is likely unless new products and end uses are developed. However, since its price is expected to remain lower than those of its main competitors in shortening, and will continue to fall relative to that of soybean oil, in particular, demand for palm oil is likely to benefit from the growth in shortening consumption.

13. As the potential for expanded consumption declines in developed countries, an increasing share of the world production of fats and oils will have to be marketed in developing countries. Demand for vegetable oils in these countries is expected to rise steadily over the next ten years. Palm oil has a major advantage over most other fats and oils -- it is comparatively inexpensive 1/ -- and to some extent it will replace coconut oil for edible purposes and in the manufacture of soaps. The greatest scope for substituting palm oil for coconut oil in developing countries is in cooking oil. To obtain a product likely to be acceptable to consumers (who traditionally prefer coconut oil for cooking), palm oil has to be fractionated, and the crude liquid fraction palm (olein) has to be refined (de-odorized,

1/ Food aid from developed countries, such as that from the United States under P.L. 480, could make this price advantage ineffective. Subsidized soybean oil exports severely limit the market potential of palm oil (either domestically produced or imported) in receiving developing countries.

de-colorized, and the fatty acids removed) and then either blended with coconut oil or flavored with coconut oil taste. In the refining process many of the nutritional advantages of palm oil, such as its high content of vitamin A, are lost.

B. Supply

14. During the remainder of the seventies, world production of fats and oils is projected to grow at about the same rate as during the sixties, and to increase by 18.1% over the five-year period. Given the consumption forecasts shown in para. 11, production will exceed consumption by about 1.5 million tons in 1980, and real prices for fats and oils (in 1974 constant dolars) will have to decline below their average level of the sixties. This decline in real prices is likely to reduce investments in oil bearing tree crops, and thus result in slower expansion of production of fats and oils during the later part of the early eighties. Because consumption of fats and oils is projected to increase considerably faster than their production during this latter period, real prices will rise again.

15. The supply of most fats and oils depends largely on price movements in other markets. Not only are fats and oils extracted from a large number of oilbearing materials, but many of them contain other, often more valuable, products in addition to fats and oils. Many oilseeds are grown for the high-protein meal they contain; lard and tallow are by-products in meat production; fish oil and other marine oils (with the exception of whale oil) are a by-product of fishmeal production.

Animal Fats

16. The share of animal fats including fish oil, tallow, lard and butter in the world fats and oils market will decline from 42% in 1960 to 30% in 1980, and 29% in 1985. Most of this decline will be caused by a sharp drop in lard production. A steady increase in the price ratio between pork and lard has encouraged production of leaner hogs. A similar shift in demand towards leaner beef will slow the growth of tallow production. Nevertheless, tallow will remain a major source of fat; its share in the production of all fats and oils is projected at 10% in 1985, about the same as the projected share of palm oil and roughly half the share of soybean oil. The production of butter is projected to increase much more slowly than during the sixties. In most countries butter production has remained almost stagnant, though it has grown significantly in countries with a support price system for butter. The production of fish oil has grown at an average rate of 6% per year during the period from 1960 to 1975. With the projected decline in fish catch in the coming years, this growth rate will drop to less than 2% between 1980 and 1985 and the share of fish oil in the overall supply of fats and oils will drop from 3.0% during 1967-69 to about 2.4% in 1980 and 1985.

Vegetable Oils

17. Since the early sixties, world production of vegetable oils has increased faster than that of animal fats and marine oils; the share of vegetable oils in the overall production of fats and oils grew by seven percentage points between 1960 and 1975. We project that this trend will continue and by 1985 more than 70% of the total supply of fats and oils will come from vegetable oils. The expansion of vegetable oil production largely reflects the rapidly growing demand for high-protein meals and the steep increase in palm oil supplies. The increase in the market share of vegetable oils opens opportunities for virtually any of the latter in view of the high degree of substitution between them. For each individual oil the rate of growth of supplies compared with that of competing oils does have an influence on its relative price but this influence weakens as the market for all fats and oil approaches equilibrium.

18. Soybeans dominate the world fats and oils economy. World soybean oil output has risen from 3.5 million tons in 1960-62 to 8.6 million tons in 1975, a rise of 14.5%. About 40% of world production is exported. The largest quantity increase was recorded in the United States where production nearly tripled, rising from 2.5 million tons in 1956-60 to 7 million tons in 1975. United States soybean production is expected to reach about 48 million tons in 1980. An increase in soybean prices during the period 1980-85 could bring soybean production in the United States to 50 million tons. Brazilian soybean production is expected to continue to rise sharply to about 15 million tons by 1980 and 22 million tons by 1985. China's soybean output has remained at about 10-12 million tons throughout the last two decades; and since future production is likely to be tailored to domestic needs, it is not expected to affect the world fats and oils economy. Total world production of soybeans, including that of China, is forecast to reach 70 million tons by 1980 and about 80 million tons by 1985. This corresponds to a world soybean oil production of nearly 12 million tons by 1980 and 13.5 million tons by 1985, or a continuing share of more than 20% in the total supply of fats and oils. About 40% of the soybean oil produced is likely to enter world trade.

19. World output of groundnuts increased at a diminishing rate in the last decade, particularly after 1967. World exports of groundnut oil have been stagnant since 1955, except for a shortlived increase during 1966-68. Production is not expected to rise again at rates comparable to those in the fifties unless vigorous expansion plans are undertaken.

20. World coconut production remained stagnant from the mid-1960's to 1970, and the improvement of the last two years was mainly due to favorable weather conditions. The development and use of high-yielding hybrid varieties could increase production, but the effect would not be felt until after 1980.

21. The production of cottonseed oil has grown slowly in the past decade -- at less than 1% a year. A rise in supply occurred in 1972 and is expected to continue into the late seventies, due to the diversion of cotton-

seed from direct feeding to oil extraction in some countries. However, the long-term growth, linked to the growth of cotton production, is not expected to exceed 1.7% per year.

22. Sunflower seed is mainly produced in centrally planned economies, and output has stagnated in recent years. No great change is expected in the period up to 1985, and the area presently under sunflower in the U.S.S.R. will probably not be greatly expanded. The possibility of a large-scale introduction of sunflower planting in the United States seems remote.

23. Rapeseed originates mainly in Canada, Western Europe, the U.S.S.R. and Eastern Europe. Output has expanded recently, but it is not expected to capture a large share of the growing market for oils.

Palm Oil

24. Production Characteristics. Oil palms produce more oil per unit of land than any other oilseed crop. The fruit are clustered in bunches (fresh fruit bunches) from which can be extracted palm oil and palm, kernel oil (the latter is extracted from the seed or kernel of each fruit). The economic life of a stand of palm plantings is about 30 years. The first crop is produced during the third year after planting and peak yields (about 13 to 15 tons of ffb per hectare) are attained between the eighth and tenth year; yields decline gradually from then on at about 2% per year.

25. The production costs of palm oil are far below those of most other vegetable oils 1/. Although oil palms need between 1,800 and 2,200 mm rainfall regularly distributed over the year, about 2,000 hours of sunshine, and sufficient fertilizer (nitrogen and potash) to produce the high yields mentioned above, they require less labor than other tree crops such as rubber. Most of the labor is needed for harvesting, which demands careful handling of the fresh fruit bunches. Bruising the fruit results in a high content of free fatty acids, lowering the quality and price of the palm oil. Thus to produce high quality palm oil (at low cost), harvesting and processing have to well synchronized. This requires good management and a well-maintained transportation network.

26. The supply of palm oil is highly inelastic 2/ because harvesting will continue even if palm oil prices should fall below variable

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1/ For example, the production costs of a metric ton of palm oil (ex. installation in Malaysia) currently range from US$ 150 to US$ 190. Because most fats and oils are recovered jointly with other products (e.g., oil cakes, meals), the production costs of fat and oils depend to some extent on the method chosen for allocating the processing costs among end products.

2/ This statement refers mainly to palm oil produced on estates. The supply from independent smallholders working at the fringe of oil palm estates or collecting fruit in wild groves is more price-elastic: these producers have usually a wider range of employment opportunities than producers on smallholder estates, and they are also less concerned about the danger of plant diseases caused by rotting fruits.

costs. 1/ There are two main reasons: (a) producers have few alternative production possibilities, short of uprooting the palm; 2/ and (b) they would have to collect the ripe fresh fruit bunches anyway, to prevent the occurrence of pests and diseases in oil palms caused by overripe and rotting fruit. The decision to extract the oil will depend largely on the direct operating costs of the mill and the marketing costs for the end products (palm oil, palm kernel oil, and palm kernel cake).

27. Growth of Production and Exports. During the sixties, palm oil production grew at roughly the same rate (3.1% per year) as the production of all fats and oils. Since 1970, the growth rate of palm oil production accelerated more than 11% a year, compared with an annual growth rate of 4.2% for all fats and oils. This steep increase in the growth of the palm oil industry reflects the rapid expansion of oil palm plantings in Malaysia and Indonesia. During the late fifties, about two-thirds of the world's palm oil output was produced in Africa: two countries, Nigeria and Zaire, then supplied more than half of the world's palm oil. Although still major producers, the combined share of these countries in the output of palm oil dropped by 1974 to about 30%, slightly less than Malaysia's share. 3/ From 1965-69 to 1970-74, Malaysia's production of palm oil grew at an average annual rate of 25%. Though Malaysia is now the world's leading producer of palm oil, the decline in West African palm oil production has recently been reversed, as rising per capita demand for fats and oils has led to large investments in oil palm in several West African countries.

28. World output of palm oil is expected to grow at an average rate of 9.5% a year during the period 1975-80. Most of this expansion is the result of plantings in the sixties, which are now reaching maturity, and of improved yields. The real price of palm oil is projected to remain around its current low level. Although this price is still well above the production costs of efficient producers, it will be less than satisfactory for marginal producers (independent smallholders and producers from wild groves). Continued low

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1/ Variable costs include the cost of picking the fresh fruit bunches, the cost of transporting them to the processing plant and the cost of palm oil extraction.

2/ Intercropping is only possible during the first two years before the canopy of the oil palm closes. Lack of sunlight makes intercropping after then impossible.

3/ Civil disorders were a major factor behind the decline in palm oil production in these two countries. Production was disrupted in 1964-67 in Zaire and in 1967-69 in Nigeria.

palm oil prices and a strengthening of the markets for natural rubber, which competes for land with oil palms in southeast Asian producing countries, could slow the pace at which Malaysia and Indonesia expand their oil palm acreage in the latter part of the forecasting period. Overall, palm oil production is likely to expand at a slower rate (5.1% a year) between 1980 and 1985.

29. Malaysia will account for a major part of the future increase in output because of its extensive recent plantings of high-yielding varieties. These plantings covered 290,000 ha of land between 1961 and 1971, and there are plans to bring an additional 100,000 ha under oil palm during 1976-80. Malaysia's output may thus increase to between 2.2 million and 2.5 million metric tons by 1980. By 1985, Malaysia's palm oil production is projected to reach between 3.9 million and 4.0 million tons.

30. A smaller yet significant increase in output is expected in Indonesia, where new plantings amounted to 25,000 ha in 1967-71. Indonesia will have doubled its oil palm acreage between 1972 and 1976. Current plans indicate a further expansion by 50,000 ha during 1976-80, with an equally important contribution to additional output from replantings and other forms of rehabilitation of old stands.

31. In West Africa, the Ivory Coast expanded the area under oil palm cultivation to 30,000 ha by 1974. During 1974-80, palm oil output is projected to increase by 85%. Nigeria is not expected to raise its palm oil production significantly between 1976 and 1980; for the remainder of the seventies output is expected to remain at its current level of about 450,000 tons. The Nigerian Government's plans for planting and replanting have not materialized thus far: 90% of Nigeria's output still comes from wild groves. As a result of aging trees and increasing difficulties in finding the necessary labor for maximum exploitation of the groves, Nigeria may become a net importer of palm oil by 1980.

32. World exports of palm oil followed roughly the expansion pattern of palm oil production; they grew at an average rate of 2.8% a year between 1960 and 1970, slightly below the 3.2% growth rate estimated for palm oil production. Towards the end of the sixties exports began to pick up, reaching an average annual growth rate of 18.5% between 1970 and 1975. Malaysia, Indonesia and the Ivory Coast accounted for most of the rapid expansion of palm oil exports.

33. An increasing share of the palm oil produced in West African countries is consumed domestically. Between 1955 and 1974, palm oil exports from West African countries dropped by 60%. The drop was particularly evident during the late fifties to less than 1% in 1974. The decline in exports largely reflects the shortfall in Nigerian palm oil production during the civil war years and its slow recovery, paired with steadily rising domestic demand for edible oils.

34. Increasing consumption of palm oil in producing countries, mainly in Indonesia and West African countries, is expected to slow down the expan-

sion of palm oil exports. The Bank's commodity division projects that palm oil exports will grow at an average rate of 11% between 1975 and 1980; the growth rate will decline to 9% between 1980 and 1985. The share of palm oil in world trade of fats and oils will increase from 6.0% during 1967-69 to a size closely approaching that of soybean oil -- 17.5% in 1980 and 23% in 1985.

C. PRICES

35. In this section the "price" of fats and oils refers to the weighted average price of fats and oils. Although prices for fats and oils fluctuated widely during the past two decades (1955-75), they displayed no clear trend. Price fluctuations reflect simultaneous increases or shortfalls in production and exports of major fats and oils. They are usually related to changes in the normal weather pattern (typhoons that affect coconut harvesting in the Philippines, a drought that reduces soybean yields in the United States, etc.) The sudden increase of fats and oils prices during 1973-74 was mainly the result of simultaneous production shortfalls in coconut oil and groundnut oil.

36. We project a decline in real prices of fats and oils during 1975-80. The major assumptions underlying this projection are:

(a) An increase in supply of fats and oils caused mainly by:

(i) the rapid acreage expansion of oil-bearing tree crops in recent years; and

(ii) the growing demand for oilseed meals;

(b) A declining market potential for fats and oils in developed countries, as per capita consumption approaches the saturation level. Demand for fats and oils in these countries is likely to come mainly from the development of new products or end-uses and population growth;

(c) Conservative assumptions of overall real income growth in consuming countries.

37. For the 1980-85 period, a slight rise in real fats and oils prices is projected, on the assumption that producers will reduce plantings in response to declining prices during the first half of the decade and that developing countries will absorb an increasing share of the total output of fats and oils.

38. Technological improvements in refining and manufacturing and the resulting increases in interchangeability of fats and oils have had three distinct effects on prices. First, prices have become more important in the manufacturer's choice of oils (or fats). Second, price differentials among

fats and oils have declined. Third, the increased possibility of substitution has encouraged the use of cheaper oils, such as soybean oil and palm oil at the expense of high-priced oils such as butter and olive oil. This has tended to depress the general price level of high-priced oils.

39. The level of palm oil prices relative to those of other fats and oils depends on the share of palm oil in total fats and oils exports. The effect of increased supply on palm oil prices is aggravated by the fact that the market for soft oils expands faster than the market for hard oils (coconut oil, palm kernel oil, palm oil). Although it is physically possible to substitute hard oils for soft oils, the costs of dehydrogenation are high, and the rapidly growing output of hard oils can be marketed only at lower prices than those of soft oils. Thus, the 1976 price differential of about 2% between the price of palm oil at US$370/ton and soybean oil at US$376/ton, is expected to widen by 1985 with palm oil at US$390/ton and soybean oil at US$482/ton, representing a differential of soybean oil over palm oil of 23% (all CIF European ports in 1976 constant prices). The forecast declining trend of prices for palm oil (and other hard oils) relative to the prices of soft oils could be reversed through: (a) a reduction in refining costs (easing the interchangeability of these oils with the soft oils in specific end uses); and (b) the development of new end uses.

40. Nevertheless, although the price relative position of palm oil is expected to decline by comparison to the prices of soft oils, the real price of palm oil is forecast to increase slightly over the next decade. After a slight decline in real prices from US$370/ton in 1976 to US$366/ton in 1977, the price is forecast to increase to US$388/ton in 1980 and US$390/ton in 1985. The real price of palm kernels is forecast to increase substantially from US$170/ton in 1976 to US$240/ton in 1980 and US$281 in 1985 (all CIF European ports in 1976 constant prices). The more favorable market prospects for palm kernel oil relative to palm oil are due mainly to the distinct market which palm kernel oil can capture through its lauric acid content, such a market not being available to palm oil which must compete in a more general market.

D. CONSUMPTION, PRODUCTION AND TRADE PROJECTIONS FOR PALM OIL IN CAMEROON

Consumption

41. Apart from minor quantities of other domestically produced oils such as groundnut and cotton seed oil and minor imports of some natural fats and oils as additives for industrial and luxury consumption usage, palm oil forms the bulk of domestic consumption of fats and oils in Cameroon. In 1975, consumption of palm oil in Cameroon was estimated at 68,500 metric tons or 9.4 kg per capita. During the period 1961 to 1974 gross consumption of palm oil increased by about 4.5% per annum.1/ As concerns future consumption,

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1/ Source: OLS Linear Regression of FAO consumption data by year for Cameroon, 1961 to 1974.

a similar growth estimate (4.47% per annum) is obtained econometrically from the projected growth of per capita income and population in Cameroon with parameters reflecting consumption response to price and incomes.1/ Accordingly, for the consumption forecasts a growth rate of 4.5% per annum has been taken. This estimate is by no means high in relation to preliminary Bank estimates of gross consumption growth rates in other African countries. Country estimates for all fats and oils during the period 1980 to 1985 range from average per annum increases of 6.1% to 1.8% with a mean for the entire continent of 4.6%. For the five countries with the largest gross consumption - Nigeria, South Africa, Egypt, Algeria and Morocco - estimated per annum growth rates are 4.8%, 3.6%, 6.1%, 5.8%, and 6.1% respectively. For countries bordering on Cameroon - Chad, the Central African Republic, Congo, Equatorial Guinea and Gabon - estimated growth rates are 4.6%, 5.5%, 4.8%, 5.9%, and 1.8% respectively.2/

42. Major factors affecting the growth rate differences are: (a) the growth rate of population and real incomes; and (b) the level of consumption in the base period, as the growth in consumption of natural fats and oils tends to tail off at a plateau of about 30 kg/capita/annum at high per capital income levels. Cameroon, with its estimated population and per capita income growth rates of 2.4% and 3% respectively and its low present per capital consumption, can be expected to have a high growth rate for some time to come. Further, the availability of large quantities of locally produced palm oil, as a result of the recent estate developments and the proposed project, may stimulate consumption to a higher rate of growth than the historical one used here. Consumption forecasts are shown in Table 4. Consumption in 1980 is estimated at 85,000 tons, and in 1985 at 106,000 tons.

Production

43. In Cameroon palm oil has until recently been obtained predominantly from fruit from wild palms in the forest areas. It is estimated that in 1970 about 40,000 tons or nearly two thirds of the total palm oil production of 64,000 tons was obtained by this means. Production from wild palm has declined substantially in recent years. For 1976 it is estimated to be at 26,000 tons of palm oil or two thirds of the production from wild palms

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1/ Source: Derived using the consumption model presented in Commodity Paper No.23. "Prospects for Palm oil," Annex II. The per capital consumption growth rate for palm oil is estimated at 2.02%. Population growth is taken at 2.4%, with population in 1975 at 7.3 million; GNP per capita in 1974 is taken at US$260, and with a growth rate of 3% per annum. This compares to a preliminary estimate of 4.7% prepared by the Economic Analysis and Projections Department. This was obtained using the same model but with slightly different base data.

2/ All quoted consumption growth rate figures assume no constraints on consumption due to, for instance, Government controls or levies on imports of oils. Allowing for the aggregate effect of such controls, the per annum increase in gross consumption for Africa as a whole could be less than the figure of 4.6% given here.

in 1970. This decline is due to the low pecuniary incentives of collecting from wild palm together with the close proximity of employment opportunities on the estates. A wild palm grove would typically yield between 3 and 4 tons of ffb per year and a worker could collect about 300 kg of ffb per day. This compares to yields on the estates or on smallholder schemes of about 600 kg of ffb per manday and 13 tons per hectare. Furthermore, the oil content of wild palm ffb is at best only 13% as compared to 21% with cultivated oil palm; the oil contains a high percentage of taste-spoiling free fatty acids and other impurities resulting in urban consumers turning to the better quality oil from cultivated palms; and wild palm collectors experience difficulties in transporting their produce to market outlets. The decline in wild oil palm production is therefore expected to continue and to be further stimulated by the increasing availability of jobs in the nearby tree crop estates. By 1985 palm oil from wild palms is projected to be about 7,000 metric tons, or 5% or total production in Cameroon. (See Table 3).

44. Estate production has now taken over irreversibly from wild palm as the major source of palm oil in Cameroon. In 1976 oil palm estates produced about 56,000 tons of palm oil and, as the existing and proposed new developments mature, estate output is projected to increase at an average yearly rate of about 9-10%, reaching a level of 127,000 tons by 1985 or 92% of total 1985 production. Four major companies dominate the estate sector: the two state-owned Bank-assisted enterprises SOCAPALM and CAMDEV, the IFC-assisted SAFACAM, and the privately financed PAMOL. Total palm oil production data and estimates from estates, wild palms and smallholders are presented in Table 3. The 1976 production of 84,000 tons is expected to increase at an annual rate of about 6%, attaining 105,000 tons in 1980 and 138,000 tons in 1985.

Trade

45. Production and consumption estimates are compared in Table 2. By 1985 an estimated 31,000 tons of palm oil would be available for export, representing 23% of total production inclusive of the Government proposed CAMDEV II project and 15% of production exclusive of CAMDEV II. In view of the cautious assumptions used in estimating consumption growth and the likelihood that target output levels will not be fully met on the estates, an export percentage of about 15% is considered realistic for the purposes of evaluating this project. With an average export margin of this size we can expect that in poor production years palm oil may even need to be imported. Such a situation nearly occurred in the period 1970-75 during which exports ranged from a high of 18,000 tons in 1974 to a low of 1,000 tons per annum in 1972 and 1973. Average per annum exports in this period were 7,000 tons or 11% of total production.

ANNEX 8
Table 1

PRICES AND PRICE INDEX OF SELECTED FATS AND OILS 1/ CIF EUROPE, 1960-1980 AND 1985

(In constant US dollars per metric ton)

Year	Soybean	Sunflower	Cottonseed	Groundnut	Rapeseed	Olive	Palm	Coconut	Palm Kernel	Fish	Lard	Butter	Tallow	Price Index
1960	444.9	480.5	464.7	644.7	433.1	1,156.8	450.9	617.0	626.9	306.5	423.2	1,682.8	280.8	66.3
61	699.3	757.8	743.2	806.5	682.3	1,367.0	565.3	618.9	640.8	338.7	548.2	1,720.3	385.0	80.8
62	445.8	483.1	522.4	540.1	434.0	1,239.2	424.2	492.9	500.8	204.2	428.1	1,614.3	269.0	59.8
63	434.9	460.2	473.9	522.6	419.3	1,698.5	432.9	557.7	559.7	312.0	421.2	1,755.1	275.0	62.9
64	397.0	493.8	484.1	610.0	486.0	1,134.8	464.8	575.1	579.0	393.1	486.1	1,802.9	325.3	66.1
1965	515.1	560.9	530.3	618.1	501.7	1,264.8	520.8	663.9	673.4	414.0	558.9	1,751.2	381.5	72.9
66	486.8	490.6	621.2	552.1	455.1	1,233.0	440.2	604.4	505.5	365.6	526.0	1,553.8	335.8	65.0
67	399.8	392.4	699.6	523.8	381.3	1,277.1	414.6	607.1	460.9	235.1	379.4	1,512.1	266.5	57.8
68	331.3	320.1	567.7	504.4	299.6	1,267.4	314.5	742.6	683.0	184.3	314.5	1,319.6	240.1	53.2
69	409.0	382.1	522.0	595.5	358.7	1,194.6	324.7	647.5	548.9	269.1	387.4	1,271.7	297.8	57.7
1970	514.8	555.1	593.7	635.6	491.4	1,172.2	436.0	665.8	719.4	415.9	454.5	1,229.2	338.8	68.7
71	510.0	592.1	619.0	696.4	465.8	1,148.0	412.1	585.8	529.0	349.0	413.7	1,654.8	309.5	68.8
72	392.0	473.4	470.5	618.6	336.9	1,330.0	315.1	339.8	354.3	264.3	364.5	1,755.5	259.9	54.1
73	569.2	587.6	612.1	668.4	483.5	1,712.0	462.7	628.0	601.1	418.7	456.6	1,193.5	435.8	72.3
74	795.0	983.0	939.0	1,077.0	745.0	2,174.0	669.0	998.0	1,010.0	559.0	602.0	1,216.0	448.0	100.0
1975	540.7	645.5	634.1	748.5	481.3	2,127.7	378.2	343.3	383.4	300.5	418.4	1,457.8	297.0	66.0
76	308.3	492.0	528.9	553.6	319.8	1,927.2	303.4	278.8	295.2	270.6	336.2	1,443.3	311.6	51.2
77	314.7	465.2	490.2	540.1	314.7	1,639.9	300.3	304.8	320.0	254.9	289.7	1,300.3	279.9	48
78	325.0	439.9	455.3	528.9	315.2	1,401.1	303.3	339.8	339.8	240.3	299.8	1,169.9	259.9	47.6
79	335.0	470.0	419.8	518.8	310.3	1,194.8	307.0	380.0	370.2	230.1	299.8	1,059.8	245.1	47.3
1980	345.9	419.6	389.7	509.1	308.1	1,020.0	310.0	422.0	400.1	219.8	310.0	954.8	219.8	46.5
1985	395.2	439.9	490.7	573.2	362.6	1,211.5	320.0	475.1	460.3	264.9	345.0	1,109.9	257.1	52.2

1/ Descriptions:

Soybean Oil: Crude, US, CIF Rotterdam.
Sunflower Oil: Any origin, ex-tank Rotterdam.
Cottonseed Oil: US, PBSY, CIF Rotterdam.
Groundnut Oil: Nigerian/Gambian/Any Origin, CIF Europe.
Rapeseed Oil: Dutch, FOB ex-mill.
Olive Oil: Spanish, edible, 1% drums.
Palm Oil: Malaysian, 5% CIF UK.

Price Index weighted by constant world exports (1974=100).

Coconut Oil: Philippines/Indonesian, bulk, CIF Rotterdam. For 1973, Dutch, 5%, ex-mill; prior to 1973, White Ceylon, 1% bulk, ex-tank Rotterdam.
Palm Kernel Oil: West African, CIF UK.
Fish Oil: Any origin, crude, CIF Europe. Prior to March 1973, Peruvian, semi-refined.
Lard: EEC refining quality, CIF UK. Prior to February 1973, US, Prime Steam, CIF UK.
Butter: Dutch, bulk, unsalted, UK markets.
Tallow: US, bulk, bleachable fancy, CIF Rotterdam.

WORLD PRODUCTION OF SELECTED OILSEEDS, FATS AND OILS (FAT OR OIL EQUIVALENT), ACTUAL 1960, AVERAGE 1967-69, 1975, PROJECTED 1980 AND 1985

(In 1000 Metric Tons)

	1960		1967-69		1975		1980		1985	
Fat/Oil	1000 MT	% Share	1000 MT	% Share	1000 MT	% Share	1000 MT	% Share	1000 MT	% Share
Soybean Oil	3,295	12.3	5,358	15.5	8,550	19.2	11,900	22.4	13,500	23.2
Sunflowerseed Oil	1,665	6.2	3,652	10.5	4,070	9.2	5,200	9.8	5,400	9.3
Cottonseed Oil	2,165	8.1	2,310	6.7	3,005	6.8	3,400	6.4	3,700	6.4
Groundnut Oil	2,555	9.6	3,248	9.4	3,245	7.3	3,600	6.8	3,800	6.5
Rapeseed Oil	1,105	4.1	1,655	4.8	2,495	5.6	2,800	5.3	3,000	5.2
Olive Oil	1,180	4.4	1,307	3.8	1,500	3.4	1,600	3.0	1,700	2.9
Palm Oil	1,250	4.7	1,382	4.0	2,925	6.6	4,600	8.7	5,900	10.1
Coconut Oil	1,955	7.3	2,072	5.9	2,515	5.7	3,000	5.6	3,200	5.5
Palm Kernel Oil	440	1.7	383	1.1	695	1.6	900	1.7	1,000	1.7
Fish Oil	462	1.7	1,058	3.0	1,250	2.8	1,300	2.4	1,400	2.4
Butter	3,855	14.4	4,017	11.6	5,135	11.5	5,300	10.0	5,500	9.4
Tallow	3,050	11.4	4,228	12.2	5,085	11.4	5,500	10.2	5,900	10.1
Lard	3,733	14.1	3,988	11.5	3,950	8.9	4,100	7.7	4,300	7.3
TOTAL	26,710	100.0	34,658	100.0	44,420	100.0	53,200	100.0	58,300	100.0

Sources: USDA: 1960-69
IBRD: 1975-85

Commodities and Export Projections Division
Economic Analysis and Projections Department
Development Policy Staff

ANNEX 8
Table 2

CAMEROON

SECOND SOCAPALM PROJECT

Total Country Actual and Projected Palm Oil Production by Source[1/]

(in thousand metric tons)

	Estates			Smallholders			Whole Country
	Public	Private	Total	Wild Palms	Cultivated	Total	Total
1969	6.9	9.6	16.5	43.1	1.3	44.4	60.9
1970	8.7	14.3	23.0	40.1	1.4	41.5	64.5
1971	10.5	14.8	25.3	37.0	1.4	38.4	63.7
1972	11.6	16.0	27.6	36.6	1.4	38.0	65.6
1973	15.3	16.4	31.7	35.5	1.4	36.9	68.6
1974	21.2	17.0	38.2	31.5	1.4	32.9	71.1
1975	28.1	18.7	46.8	30.0	1.4	31.4	78.2
1976	36.3	19.6	55.9	26.4	1.4	27.8	83.7
1977	44.3	20.2	64.5	23.0	1.4	24.4	88.9
1978	52.9	20.6	73.5	19.5	1.4	20.9	94.4
1979	61.5	21.1	82.6	16.0	1.4	17.4	100.0
1980	69.5	21.7	91.2	12.4	1.5	13.9	105.1
1981	76.7	22.6	99.3	11.2	1.7	12.9	112.2
1982	83.6	23.8	107.4	10.0	2.0	12.0	119.4
1983	90.3	24.9	115.2	8.8	2.5	11.3	126.5
1984	95.8	25.9	121.7	7.6	3.1	10.7	132.4
1985	100.3	26.9	127.2	6.7	3.8	10.5	137.7

1/ Source: SOCAPALM records and development projections 1976.

Annex 8
Table 4

CAMEROON

SECOND SOCAPALM PROJECT

Total Country Production, Consumption and Export Projections of Palm Oil

(in thousand metric tons)

	Production	Consumption	Available for Export	Exports as % of Production
1970	64.5	58.1	6.4	10
1975	78.2	68.5	9.7	12
1980	105.1	85.4	19.7	19
1985	137.7	106.4	31.3	23

CAMEROON

SECOND SOCAPALM PROJECT

Economic Rate of Return

General

1. The subprojects that would be financed by the proposed loan are separable and independent, except for the completion of M'Bongo-Eseka estates (para 2). Consequently separate economic rates of return have been calculated for each component under the following major assumptions:

(a) Life of project: A project life of 30 years has been assumed which corresponds to the economic life of oil palms planted under the project.

(b) Yields and Oil Content: The fresh-fruit bunch yield per hectare assumed for plantation palms and for outgrowers, as well as the oil content for these, are those shown at Annex 2, Tables 3 and 4. These reflect SOCAPALM's experience to date.

(c) Prices and Markets: All the kernel produced and about 15% of the palm oil output of the project is assumed to be exported. The economic values for palm and kernel (Tables 4 and 5) reflect the respective prices of oil and kernel under these assumptions. Further discussion of markets and prices is at Annex 8.

(d) Costs: Included are all development costs, as well as operating costs incurred in harvesting of mature palms, in processing of ffb, and in transport of oil and kernels to Douala. All identifiable taxes have been excluded. In addition, costs take into account the replacement of all equipment needed to keep project production at the levels assumed. Labor has been costed at the midpoint of the official range for both skilled and unskilled workers, and includes fringe benefits for estate workers. All prices are based on those ruling in November 1976.

(e) Foreign Exchange: The rate used in this report is $1 = CFAF 245.

M'Bongo-Eseka Completion and Douala Complex

2. A rate of return calculation on the incremental investments proposed here would have very little meaning since the bulk of expenditures have

already been made and as there is no simple way of relating the investments proposed under this component to the output of the estates. An overall rate of return on the M'Bongo-Eseka complex has been calculated as part of the Completion Report for that project prepared by Bank staff. It incorporates assumptions similar to those used for the other calculations in this annex including the complementary investments financed by the loan proposed in this report. The result is quoted for illustrative purposes but is not included in the weighted whole project rate of return below. The Douala complex, which represents about 6% of project base costs, will have benefits spread over several companies and has not been included as a cost in the rate of return calculations.

Results

3. Under these assumptions estimated rates of return for the various components are as follows:

Kienke Estate:	14%
Extension of M'Bongo Estate:	17%
Outgrowers Program:	23%
Completion of M'Bongo-Eseka Estates:	14%
Total Project	16%

Economic cash flows are at Tables 1, 2 and 3.

Sensitivity Analysis

4. Rates of return for the Kienke estate, the M'Bongo estate extension and the outgrowers program have been tested for sensitivity as tabulated below. The foreign exchange rate of CFAF 318.5 per US$ represents a shadow rate 30% above the exchange rate used elsewhere in this report of CFAF 245 per US$. Pricing palm oil at its export equivalent lowers the value of palm oil by about 5% and lowers the value of the combined oil palm output of palm oil and kernels by about 4%.

	Kienke Estate	M'Bongo Extensions	Outgrower Program
Base estimate	14.1	17.1	23.1
Benefits decrease 20%; no change in costs.	11.6	15.4	21.6
Costs increase 20%; no change in benefits	11.4	14.9	20.2
Manual labor costed at zero	15.7	19.8	27.8
Foreign exchange at US$ 1 = CFAF 318.5	14.9	17.7	28.1
Output priced at export values	13.1	14.1	22.3

ANNEX 9
Table 1

CAMEROON

SECOND SOCAPALM PROJECT

Economic Rate of Return Calculation - Kienke Estate

Year	FY	Project Dev. Cost	Other Dev. Costs To Maturity	Asset Renewal Expenditures	Operating Costs	Total Econ. Costs	Economic Value of Oil	Economic Value of Kernel	Total Benefits	Net Benefits
1976/77	1	312				312			-	(312)
78	2	469				469			-	(469)
79	3	594				594			-	(594)
80	4	888				888			-	(888)
81	5	1066				1066			-	(1066)
82	6		284	4	80	368	26	4	30	(338)
83	7		216	20	161	397	123	19	142	(255)
84	8		118	18	257	393	305	46	351	(42)
85	9		64	27	319	410	581	85	666	256
86	10		39	51	367	457	905	128	1033	576
87	11		209	39	408	656	1218	166	1384	728
88	12		18	46	436	500	1470	196	1666	1166
89	13		7	49	449	505	1610	211	1821	1316
90	14			52	453	505	1649	216	1865	1360
91	15			67	453	520	1649	216	1865	1345
92	16			58	453	511	1649	216	1865	1354
93	17			86	453	539	1649	216	1865	1326
94	18			74	451	525	1636	215	1851	1326
95	19			72	448	520	1602	210	1812	1292
96	20			57	445	502	1572	206	1778	1276
97	21			66	442	508	1538	202	1740	1232
98	22			64	442	506	1538	202	1740	1234
99	23			68	441	509	1532	201	1733	1224
2000	24			57	439	496	1517	199	1716	1220
01	25			70	438	508	1500	197	1697	1189
02	26			67	436	503	1483	194	1677	1174
03	27			52	436	488	1463	194	1677	1189
04	28			46	436	482	1478	193	1671	1189
05	29			47	434	481	1461	192	1653	1172
06	30			26	431	457	1444	164	1608	1151

Economic Rate of Return = 14.05%

CAMEROON

SECOND SOCAPALM PROJECT

Economic Rate of Return Calculation - Outgrower Program

Year	PY	DEVELOPMENT COSTS Labor	DEVELOPMENT COSTS Other	OPERATING COSTS Labor	OPERATING COSTS Other	TOTAL ECON. COSTS	VALUE OF OIL	VALUE OF KERNEL	TOTAL BENEFITS	NET BENEFITS
1976/77	1	-	61			61			-	(61)
78	2	15	68			83			-	(83)
79	3	22	60			82			-	(82)
80	4	25	73			98			-	(98)
81	5	32	42			74			-	(74)
82	6	17	14			31	10	2	12	(19)
83	7	13	13	6	38	70	37	6	43	(27)
84	8	10	10	13	39	72	84	13	97	25
85	9	7	4	21	48	80	157	24	181	101
86	10			30	64	94	246	35	281	187
87	11			31	63	94	329	44	373	279
88	12			32	67	99	396	52	448	349
89	13			32	72	104	437	56	493	389
90	14			32	67	99	447	57	504	405
91	15			32	67	99	447	57	504	405
92	16			32	72	104	447	57	504	400
93	17			32	67	99	447	57	504	405
94	18			32	67	99	441	57	498	399
95	19			32	72	104	432	55	487	383
96	20			32	67	99	423	54	477	378
97	21			32	67	99	413	53	466	367
98	22			32	72	104	413	53	466	362
99	23			32	67	99	410	52	462	363
2000	24			32	67	99	405	52	457	358
01	25			32	72	104	401	51	452	348
02	26			32	67	99	396	51	447	348
03	27			32	67	99	396	51	447	348
04	28			32	72	104	392	50	442	338
05	29			32	67	99	388	50	438	339
06	30			32	67	99	384	49	433	334

Economic Rate of Return: 23.1%

CAMEROON

SECOND SOCAPALM PROJECT

ECONOMIC RATE OF RETURN - MBONGO EXTENSION

Year	FY	DEVELOPMENT COSTS Labor	DEVELOPMENT COSTS Other	OPERATING COSTS Labor	OPERATING COSTS Other	TOTAL COST	ECON. VALUE OF OIL	ECON. VALUE OF KERNEL	TOTAL BENEFITS	NET BENEFITS
1976/77	1	5	127			132			-	(132)
78	2	17	109			126			-	(126)
79	3	19	95			114			-	(114)
80	4	11	13			24			-	(24)
81	5	9	12			21			-	(21)
82	6	4	5	9	37	55	17	2	19	(36)
83	7			19	49	68	63	8	71	3
84	8			19	59	78	122	15	137	59
85	9			19	67	86	179	22	201	115
86	10			19	75	94	231	29	260	166
87	11			19	81	100	265	33	298	198
88	12			19	83	102	275	34	309	207
89	13			19	83	102	275	34	309	207
90	14			19	83	102	275	34	309	207
91	15			19	83	102	275	34	309	207
92	16			19	83	102	275	34	309	207
93	17			19	83	102	275	34	309	207
94	18			19	82	102	267	33	300	199
95	19			19	81	100	256	32	288	188
96	20			19	81	100	256	32	288	188
97	21			19	81	100	256	32	288	188
98	22			19	81	100	256	32	288	188
99	23			19	80	99	252	31	283	184
2000	24			19	80	99	247	31	278	179
01	25			19	80	99	247	31	278	179
02	26			19	80	99	247	31	278	179
03	27			19	80	99	247	31	278	179
04	28			19	80	99	243	30	273	174
05	29			19	80	99	238	29	267	168
06	30			19	80	99	238	29	267	168

Economic Rate of Return = 17.05%

CAMEROON

SECOND SOCAPALM PROJECT

ECONOMIC VALUE OF PALM OIL

		1980	Average	1985
A. Import Substitution Value				
F.O.B. (Abidjan) (CFAF/t)	1/	80530		83380
Freight and Insurance to Douala	2/	3000		3000
Unloading and Terminal Handling		1389		1389
Value ex-harbor		84919		87769
Average 1980/1985			86344	
B. Export Value				
C.I.F. Europe $		378		390
CFAF		90270	91935	93600
Insurance		1805		1872
Freight		10000		10000
Loading		1069		1069
Terminal Handling		250		250
Value ex-harbor		77146		80409
Average 1980/1985	3/		78777	
Weighted Average Economic Value			85209	

C. Financial Value (CFAF/t)

1. Domestic	
Selling Price	110,000
Taxes	10,000
Net Revenue	100,000
2. Export Sales	
Selling Price - c.i.f.	91,935
Selling Costs	13,157
Taxes	3,988
Net Revenue	74,790
3. Weighted Average Net Revenue to SOCAPALM 3/	96,218

1/ Based on IBRD projections of C.I.F. Europe and Sodepalm Costs to C.I.F. quoted in IBRD: IVC Fourth Oil Palm Project; June 1976
2/ Mission Estimate
3/ 85% import substitute and 15% export

Annex 9
Table 5

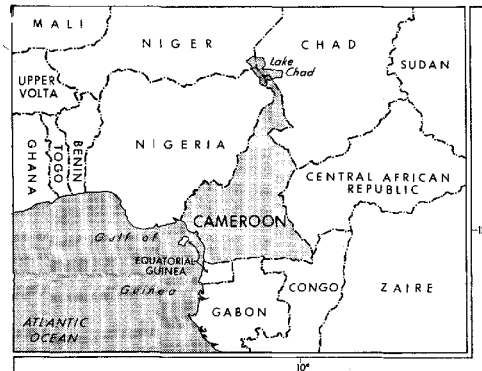
CAMEROON

SECOND SOCAPALM PROJECT

ECONOMIC VALUE OF KERNELS

		(Constant 1976 Prices Per Ton)	
		1980	1985
CIF Europe ($)		240	281
CFAF		58800	68845
Less			
Insurance	1200		
Freight	10000		
Loading	1500		
		12700	12700
Economic Value of Kernel (Ex Harbor)			56145
Average 1980 and 1985		51122	
Less Taxes		5236	
Net Revenue to SOCAPALM		45886	

IBRD 12428
OCTOBER 1976



UNITED REPUBLIC OF CAMEROON
SOCAPALM SECOND STAGE DEVELOPMENT PROJECT

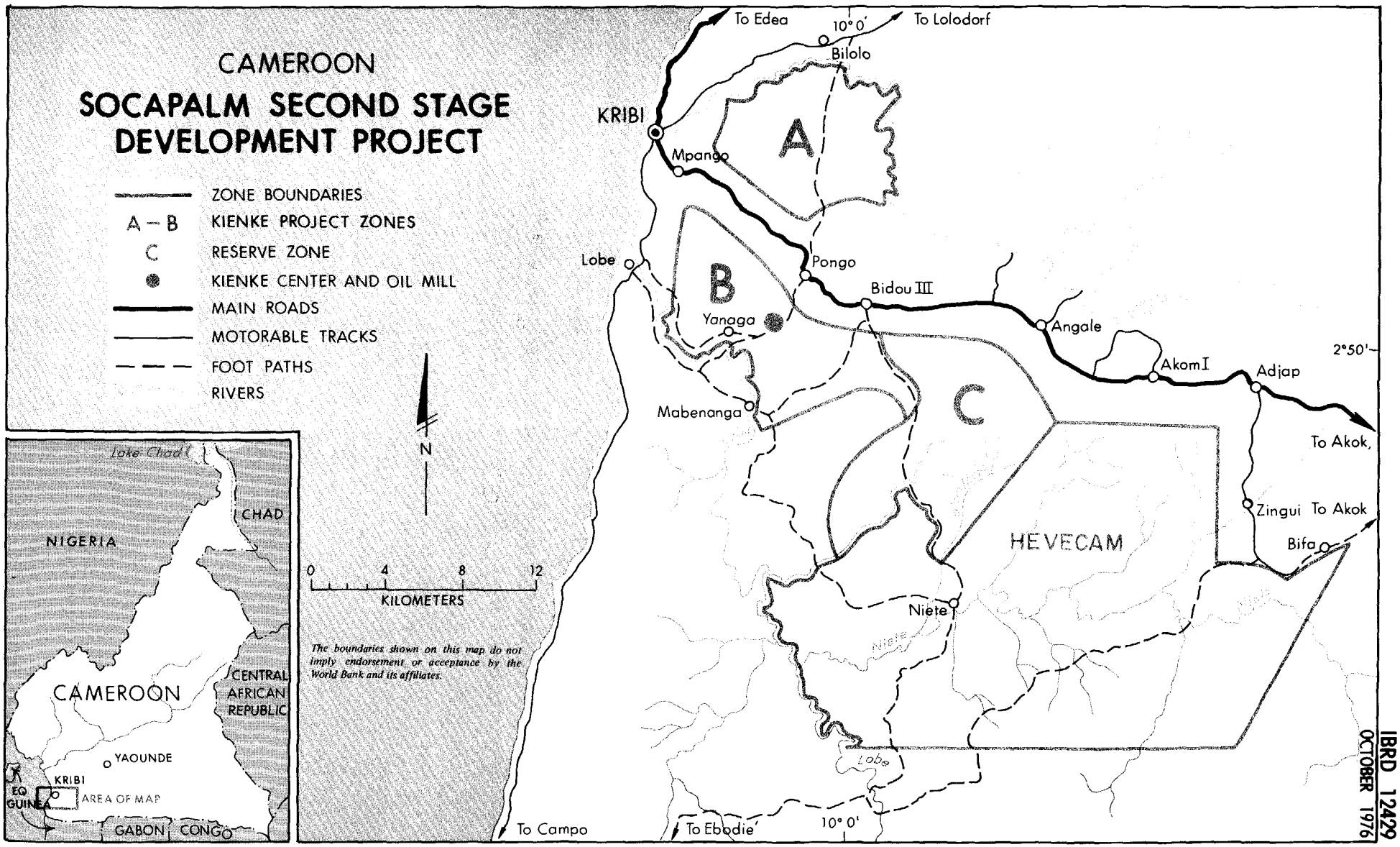
27.2 Inhabitants per square kilometer

Inhabitants per square kilometer:
- 0 - 5
- 5.1 - 20
- 20.1 - 50
- 50.1 - 100
- 100.1 - 150
- More than 150

- Southwest Development Area Boundary
- HEVECAM Concession
- SOCAPALM Concession
- Edéa — Additional Project Areas
- Existing Rubber and Oil Palm Estates
- Paved Roads
- Gravel Roads
- Earth Roads
- Railroads
- Rivers
- 900 — Isohyets in Millimeters
- Division Boundaries
- International Boundaries

0 20 40 60 80 100 120 140 160 KILOMETERS
0 20 40 60 80 100 MILES

The boundaries shown on this map do not imply endorsement or acceptance by the World Bank and its affiliates.



IBRD 12429
OCTOBER 1976