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Report No. 7833

PROJECT COMPLETION REPORT

NIGERIA

**IMO OIL PALM PROJECT
(LOAN 1191-UNI)**

**RIVERS OIL PALM PROJECT
(LOAN 1591-UNI)**

**MONITORING AND EVALUATION UNIT
FEDERAL DEPARTMENT OF AGRICULTURE**

AND

RISONPALM LIMITED

JUNE 1988

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

Office of Director-General
Operations Evaluation

June 14, 1989

MEMORANDUM TO THE EXECUTIVE DIRECTORS AND THE PRESIDENT

**SUBJECT: Project Completion Report on Nigeria
Imo Oil Palm Project (Loan 1191-UNI) and
Rivers Oil Palm Project (Loan 1591-UNI)**

Attached, for information, is a copy of a report entitled "Project Completion Report on Nigeria - Imo Oil Palm Project (Loan 1191-UNI) and Rivers Oil Palm Project (Loan 1591-UNI)" prepared by consultants engaged by the implementing agency (RISONPALM) and the Tree Crops Monitoring and Evaluation Unit of the Federal Department of Agriculture, Nigeria with an overview memorandum prepared by the Africa Regional Office. No audit of this project has been made by the Operations Evaluation Department at this time.

Yves Rovani

by Ram K. Chopra

Attachment

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PROJECT COMPLETION REPORTNIGERIAIMO OIL PALM PROJECT (LOAN 1191-UNI)
RIVERS OIL PALM PROJECT (LOAN 1591-UNI)Table of Contents

	<u>Page No.</u>
Preface	i
Basic Data Sheets	ii
Evaluation Summary	vi
Overview	ix
SMALLHOLDER OIL PALM PROJECTS	
IMO AND RIVERS STATES	
Chapter 1 INTRODUCTION AND PROJECT AREA.....	3
1.1 Introduction.....	3
1.2 The Project Area.....	4
1.2.1 Imo State SMU.....	4
1.2.2 Rivers State SMU.....	5
Chapter 2 PROJECT IDENTIFICATION AND DESCRIPTION.....	7
2.1 Imo State SMU.....	7
2.1.1 Project Identification, Preparation and Appraisal..	7
2.1.2 Project Description.....	7
2.1.3 Palm Oil Processing Mills.....	8
2.1.5 Monitoring and Evaluation.....	9
2.1.6 Main Issues Raised During Loan Negotiation.....	9
2.1.7 Loan Effectiveness.....	10
2.1.8 Project Cost.....	10
2.1.9 Project Financing Plan.....	11
2.2 Rivers State SMU.....	12
2.2.1 Project Identification, Preparation and Appraisal..	12
2.2.2 Project Description.....	12
2.2.2.1 Planting Programme.....	13
2.2.2.2 Palm Oil Mills.....	13
2.2.2.3 Fruit Collection System.....	13
2.2.2.4 Purchase of FFB.....	13
2.2.2.5 Risonpalm Limited.....	14
2.2.2.6 Monitoring and Evaluation Unit (MEU).....	14
2.2.3 Main Issues Raised During Loan Negotiation.....	14
2.2.4 Loan Effectiveness.....	14
2.2.6 Signing of Loan and Project Agreements.....	15
2.2.7 Project Cost.....	15
2.2.8 Project Financing Plan.....	17

Table of Contents (continued)

Chapter 3	LOAN EFFECTIVENESS AND PROJECT START-UP.....	18
3.1	Imo State SMU.....	18
3.1.1	Loan Effectiveness.....	18
3.1.2	Project Start-up.....	19
3.2	Rivers State SMU.....	19
3.2.1	Loan Effectiveness.....	20
3.2.2	Project Start-up.....	21
Chapter 4	PROJECT IMPLEMENTATION.....	22
4.1	Imo State SMU.....	22
4.1.1	Planting Programme.....	22
4.1.2	Nurseries.....	23
4.1.3	Registration of Farmers.....	24
4.1.4	Land Clearing and Preparation.....	25
4.1.5	Grant and Credit Scheme.....	25
4.1.5.1	Cash Loan.....	25
4.1.5.2	Seedlings.....	26
4.1.5.3	Fertilizer.....	27
4.1.5.4	Wire Collars.....	28
4.1.5.5	Cover Crop and Intercropping.....	28
4.1.5.6	Chemicals.....	29
4.1.5.7	Farmer Participation.....	30
4.1.6	Farm Maintenance.....	31
4.1.7	Labour Costs.....	31
4.1.8	Registered Co-operatives.....	32
4.1.9	Vehicles and Machinery.....	32
4.1.10	Road Construction and Maintenance.....	33
4.1.11	Costs.....	34
4.1.12	Cost of Fixed Assets.....	37
4.1.12.1	Buildings.....	37
4.1.12.2	Vehicles.....	37
4.1.12.3	Farm Plant, Heavy Machinery and Equipment.....	38
4.1.12.4	Office/Household Furniture and Equipment.....	38
4.1.13	Operating Costs.....	38
4.1.13.1	Cost of Road Construction.....	38
4.1.13.2	Nursery/Field Development Operating Costs.....	39
4.1.13.3	Loan to Farmers.....	40
4.1.13.4	Administrative Overheads.....	40
4.1.14	Reporting.....	40
4.1.15	Monitoring and Evaluation.....	41
4.1.16	Mill and Mill Costs.....	42
4.1.16.1	Mill Procurement.....	42
4.1.16.2	Two Five ton FFB/hr Mills.....	42
4.1.16.3	Fruit Collection Trucks.....	44
4.1.16.4	Equipment for the Extension of 20 ton FFB/hr Mill.. at Ohaji	45

Table of Contents (continued)

4.1.16.5	Other Procurements.....	46
4.1.16.6	Running Costs.....	46
4.2	Rivers State SMU.....	47
4.2.1	Planting Programme.....	47
4.2.2	Nurseries.....	48
4.2.3	Registration of Farmers.....	50
4.2.4	Land Clearing and Preparation.....	50
4.2.5	Grant and Credit Scheme.....	50
4.2.5.1	Cash Loan.....	50
4.2.5.2	Seedlings.....	51
4.2.5.3	Fertilizer.....	52
4.2.5.4	Wire Collars.....	53
4.2.5.5	Cover Crop and Intercropping.....	54
4.2.5.6	Chemicals.....	54
4.2.5.7	Farmer Participation.....	55
4.2.7	Farm Maintenance.....	55
4.2.8	Labour Costs.....	56
4.2.9	Registered Co-operatives.....	56
4.2.10	Vehicles and Machinery.....	57
4.2.11	Road Construction and Maintenance	57
4.2.12	Costs.....	58
4.2.12.1	Land and Buildings.....	59
4.2.12.2	Vehicles.....	59
4.2.12.3	Farm Plant, Heavy Machinery and Equipment.....	59
4.2.12.4	Office/Household Furniture and Equipment.....	60
4.2.13	Operating Costs.....	60
4.2.13.1	Cost of Road Construction.....	60
4.2.13.2	Nursery/Field Development Costs.....	60
4.2.13.3	Loan to Farmers.....	60
4.2.13.4	Administrative Overheads.....	60
4.2.14	Reporting.....	60
4.2.15	Monitoring and Evaluation.....	61
Chapter 5	PHYSICAL AND FINANCIAL PERFORMANCE.....	62
5.1	Imo State SMU.....	62
5.1.1	Physical Performance.....	62
5.1.1.1	Smallholder Production.....	62
5.1.1.2	Fruit Collection System.....	63
5.1.1.3	State Price Policy Committee.....	66
5.1.2	Milling Facilities.....	66
5.1.3	Financial Performance.....	67
5.1.3.1	Project Funding.....	67
5.1.3.2	Method of IBRD Disbursement.....	68
5.1.4	Cash Flow and Rates of Return (FRR and ERR).....	68

Table of Contents (continued)

Chapter 6	ORGANIZATION AND MANAGEMENT.....	76
6.1	Imo State SMU.....	76
6.1.1	Implementation Arrangement.....	76
6.1.2	The Smallholder Management Unit (SMU).....	76
6.1.3	Office Locations.....	76
6.1.4	Management Structure.....	77
6.1.5	Staffing.....	78
6.1.6	Staff Recruitment and Training.....	79
6.2	Rivers State SMU.....	80
6.2.1	Implementation Arrangement.....	80
6.2.2	The Smallholder Management Unit (SMU).....	80
6.2.3	Office Location.....	81
6.2.5	Staffing.....	81
6.2.6	Staff Training.....	83
6.2.7	Result of Management Deficiencies.....	83
Chapter 7	PROJECT BENEFITS.....	84
7.1	Imo State SMU.....	84
7.2	Rivers State SMU.....	85
Chapter 8	MAJOR FINDINGS AND RECOMMENDATIONS.....	86

LIST OF ANNEXES

1.1	SMU Imo State - Seedlings Production and Utilization.....	96
1.2	SMU Imo State - Funds Flow Statement.....	97
1.3	SMU Imo State - Cost of Motor Vehicles, Farm Plants and.. Heavy Machinery and Equipment.....	99
1.4	SMU Imo State - Nursery Cost and Field Establishment Cost.....	100
1.5	SMU Imo State - Details of Personnel and Administrative Expenses.....	102
1.6	SMU, Imo State - Table of Stream of Revenue	104
1.7	SMU, Imo State - Table of Costs.....	106
1.8	SMU, Imo State - Cash Flow and Financial Rate of Return..	107
1.9	SMU, Imo State - Cash Outflow Converted to Reflect Economic Values.....	108
1.10	SMU, Imo State - Cash Flow and Economic Rate of Return...	109
1.11	SMU, Imo State - The Organogram.....	110
2.1	SMU Rivers State - Fund Flow Statement.....	111
2.2	SMU Rivers State - Table of Costs.....	112
2.3	SMU Rivers State - Table of Stream of Revenue.....	113
2.4	SMU Rivers State - Cash Flow and Financial Rate of Return.....	114
2.5	SMU Rivers State - Project Costs Converted to Reflect Economic Values.....	115
2.6	SMU Rivers State - Cash Flow and Economic Rate of Return	116
2.7	SMU Rivers State - The Organogram.....	117

Table of Contents (continued)

RIVERS STATES OF NIGERIA
UBIMA NUCLEUS ESTATE

SECTION 1:	INTRODUCTION	121
SECTION 2:	PROJECT IDENTIFICATION, PREPARATION/APPRaisal.....	123
SECTION 3:	PROJECT DESCRIPTION.....	124
3.1	Main components.....	124
3.2	Negotiations, main issues raised and assurances assurances obtained.....	125
3.3	Board presentation, signing of loan and project agreements.....	128
3.4	Project costs and financing arrangements.....	128
SECTION 4:	LOAN EFFECTIVENESS AND PROJECT START-UP.....	131
4.1	Main problems - funding, land acquisition, modifications to project.....	131
4.2	Appointment of management consultants.....	132
4.3	Project Start-up.....	132
SECTION 5:	PROJECT IMPLEMENTATION.....	135
5.1	Physical progress.....	135
5.1.1	General	135
5.1.2	Planting programme.....	136
5.1.3	Civil works.....	141
5.1.4	Vehicles/Equipment.....	142
5.1.5	Mill construction.....	143
5.1.6	Fruit collection systems.....	146
5.1.7	Coconut seed garden.....	148
5.2	Costs	149
5.2.1	Summary of project costs - Actual compared with appraisal.....	149
5.2.2	Comparison of major components.....	151
5.2.2.1	Field Establishment Costs.....	151
5.2.2.2	Palm Oil Mill.....	152
5.2.2.3	Staff and Salaries.....	153
5.2.2.4	Vehicles and Equipment.....	153
5.3	Procurement - Distribution between local/I.C.B.....	155
5.4	Disbursements.....	157
5.4.1	Phasing - Actual compared with appraisal.....	157
5.4.2	Flow of disbursements.....	159
5.5	Feasibility study for Phase II development.....	159
5.6	Reporting.....	161
5.6.1	Reporting.....	161
5.6.2	Monitoring.....	162

Table of Contents (continued)

SECTION 6: PHYSICAL PERFORMANCE.....	163
6.1 Estate production - Actual/Projected.....	163
6.2 Fruit collection - Actual/Projected.....	166
6.3 Mill throughput and production.....	169
6.3.1 Throughput.....	169
6.3.2 Extraction rates.....	169
6.3.3 Additional mill capacity required.....	172
6.4 Employment - Staff Labour.....	173
SECTION 7: FINANCIAL PERFORMANCE.....	175
7.1 Funding	175
7.2 Projected cash flow and Financial Rate of Return.....	176
7.3 Projected Economic Rate of Return.....	177
SECTION 8: ORGANIZATION/MANAGEMENT.....	178
8.1 Risonpalm.....	178
8.2 Nucleus Estate - Organization.....	179
8.3 Staff recruitment/training.....	183
8.4 Management consultants.....	184
SECTION 9: BENEFITS.....	186
ANNEXES	190
1: Cost comparison tables.....	190
2: Revised table of Schedule I of Loan Agreement.....	230
3: Phase II development proposals.....	231
4: Projected production: Fresh Fruit Bunches (FFB)	235
5: Projected cash flow and Financial Rate of Return.....	238

ATTACHMENTS

1: Comments from the Federal Ministry of Agriculture, Water Resources and Rural Development	251
2: Comments from RISONPALM Limited	253
3: Comments from the Government of Imo State of Nigeria	261

MAPS

12590 IBRD
10965R IBRD
10967R IBRD

PROJECT COMPLETION REPORT

NIGERIA

IMO OIL PALM PROJECT (LOAN 1191-UNI)

RIVERS OIL PALM PROJECT (LOAN 1591-UNI)

PREFACE

This is a joint Project Completion Report (PCR) for the Imo Oil Palm Project for which Loan 1191-UNI in the amount of \$19.0 million was approved on June 17, 1975, and the Rivers Oil Palm Project for which Loan 1591-UNI in the amount of \$30.0 million was approved on June 6, 1978. The Closing Date for Ln. 1191-UNI was originally December 31, 1984, but was extended twice and was eventually December 31, 1986. The Closing Date for Ln. 1591-UNI was December 31, 1985 and was not extended.

The PCR is prepared in two parts: one covering the nucleus estate component of the Rivers Project and the other concerning the smallholder components in both the Imo and the Rivers Projects. The former was prepared by consultants engaged by the implementing agency (RISONPALM) while the latter was prepared by the Tree Crops Monitoring and Evaluation Unit of the Federal Department of Agriculture, Nigeria. Drafts were discussed with Bank staff before they were finalized. Staff Appraisal Reports Number 495a-UNI and 1525-UNI, Presidents Reports numbers P-1651-UNI and P-2336-UNI, and the Loan and Project Agreements dated February 12, 1976 (1191-UNI), and July 24, 1978 (1591-UNI) are the primary project documents in addition to relevant Bank files and implementing agency records.

This PCR was read by the Operations Evaluation Department (OED). The draft PCR was sent to the Borrower and its agencies for comments in January 1989. Comments received are reproduced as Attachments.

NIGERIA

IND OIL PALM PROJECT
(Loan 1191-UNT)

PROJECT COMPLETION REPORT

Basic Data Sheet

KEY PROJECT DATA

	Appraisal Estimate	Actual or Estimated	Actual as % of
Project Cost (Naira million)	24.7	27.41	111
Loan Amount (US \$ million)	19.0	19.0	100
Date of Board Approval	06/17/75	06/17/75	-
Date of Effectiveness	06/11/76	04/06/77	-
Closing Date	12/31/84	12/31/86	-
Economic Rate of Return %	19.7	5.78	29
Number of Direct Beneficiaries	52000	56000	109

CUMULATIVE DISBURSEMENTS

	FY75	FY76	FY77	FY78	FY79	FY80	FY81	FY82	FY83	FY84	FY85	FY86	FY87	FY88
Appraisal Estimate (US\$ Million)	0.2	1.0	2.1	3.5	6.0	9.9	13.0	15.1	17.5	19.0	-	-	-	-
Actual (US\$ million)	-	-	-	1.4	2.4	4.2	6.0	6.2	7.8	8.9	12.4	16.0	19.0	19.0
Actual as % of Estimate	-	-	-	40.0	40.0	42.0	46.0	41.0	44.6	47.3	65.4	-	-	-
Date of Final Disbursement	July 14, 1987													

STAFF INPUTS (Staff Weeks)

	FY73	FY74	FY75	FY76	FY77	FY78	FY79	FY80	FY81	FY82	FY83	FY84	FY85	FY86	FY87	FY88
Preappraisal	27 ^e															
Appraisal		64 ^e														
Negotiations			4 ^e													
Supervision				3 ^e	8 ^e	5 ^e	6 ^e	5.5	12.2	10.7	4.7	6.7	5.3	2.6		
TOTAL	27 ^e	64 ^e	4 ^e	3 ^e	8 ^e	5 ^e	6 ^e	5.5	12.2	10.7	4.7	6.7	5.3	2.6		

^e These are estimates. Actual data are not available.

MISSION DATA

Mission	Date (mo/yr)	Number of Persons	Man-days in Field	Specializations Represented a/	Performance Rating b/	Trend c/	Types of Problems d/
Identification	11/72				-	-	-
Preappraisal	2/73	8	76.8	a,b,c,d,e,f,g,h	-	-	-
Appraisal	11/73	8	88	a,b,c,d,e	-	-	-
Supervision 1	1/76	1	3	c	-	-	-
Supervision 2	7/76	2	12	a,c	2	1	M, T
Supervision 3	4/77	3	18	a,h,e	2	1	M, T, F, T
Supervision 4	2/78	2	12	a,c	2	2	M, F, T
Supervision 5	10/78	2	8	a,c	2	1	F, T
Supervision 6	3/79	1	5	a	2	1	-
Supervision 7	11/79	1	4	a	2	1	F, M
Supervision 8	4/80	1	7.5	a	2	2	F, M
Supervision 9	6/80	1	4.7	a	2	2	-
Supervision 10	11/80	3	12	a,c	2	2	F, M
Supervision 11	6/81	2	4	b,c	3	3	F, M
Supervision 12	10/81	1	3	c	2	3	F, M
Supervision 13	12/81	2	4	b,c	-	-	-
Supervision 14	5/82	2	6	a,c	3	2	F, M
Supervision 15	10/82	2	4	a,c	3	2	F, M
Supervision 16	4/83	1	-	c	3	3	F, M
Supervision 17	9/83	1	3	c	3	3	F, M
Supervision 18	2/84	1	3	c	2	1	F, M, O
Supervision 19	12/84	2	18	a,c	2	1	F, M, O
Supervision 20	4/85	1	3	c	1 f/	1	O

OTHER PROJECT DATA

Borrower - Federal Republic of Nigeria
 Executing Agency - Imo State Smallholder Management Unit
 under the Imo State Ministry of
 Agriculture and Natural Resources
 Follow-on Project - Tree Crops Project
 Fiscal Year of Borrower - January-December

CURRENCY EXCHANGE RATE*

Name of Currency (Abbreviations) - Naira (N)
 Appraisal Year Average - US\$1.00 = N0.66
 Intervening Years Average - US\$1.00 = N0.60
 Completion Year Average - US\$1.00 = N1.35

- a/ a = Agriculturist; b = Economist; c = Financial Analyst; d = Road Engineer; e = Processing Engineer; f = Marketing Consultant; g = Estate Management Specialist; h = Geneticist
 b/ 1 = problem free or minor problems; 2 = moderate problems; 3 = major problems
 c/ 1 = improving; 2 = stationary
 d/ F = Financial; M = Management; T = Technical; O = Other
 e/ No data available.
 f/ New Form 590 in use that shows rating for overall status (Year 1985).

NIGERIA
RIVERS OIL PALM PROJECT
(Loan 1691-UNI)
PROJECT COMPLETION REPORT

Basic Data Sheet

KEY PROJECT DATA

	Appraisal Estimate	Actual or Estimated	Actual as % of
Project Cost (Naira million)	54.0	48.6	90
Loan Amount (US \$ million)	30.0	30.0	100
Date of Board Approval	06/06/78	06/06/78	
Date of Effectiveness	10/23/78	07/10/79	
Closing Date	12/31/85	12/31/85	
Economic Rate of Return %	15.2	10.0 *	
Number of Direct Beneficiaries	35000	10000	29

*ERR: SCF .51 = 7.6%; SCF .37 = 10.8%; SCF .20 = 14.9%.
 SCF USED IN EARLY 1986 WAS .33 BEFORE NAIRA DEVALUATION.

CUMULATIVE DISBURSEMENTS

	FY79	FY80	FY81	FY82	FY83	FY84	FY85	FY86	FY87
Appraisal Estimate (US\$ Million)	1.0	3.5	9.5	16.0	23.5	30.0	-	-	-
Actual (US\$ million)	-	3.7	4.8	9.7	20.1	25.0	28.8	29.8	30.0
Actual as % of Estimate	-	106.0	57.0	61.0	86.0	83.0	-	-	-
Date of Final Disbursement	July 7, 1986								

STAFF INPUTS (Staff Weeks)

	FY77	FY78	FY79	FY80	FY81	FY82	FY83	FY84	FY85	FY86	FY87
Preappraisal	-	-	-	-	-	-	-	-	-	-	-
Appraisal	-	60*	-	-	-	-	-	-	-	-	-
Negotiations	-	-	10*	-	-	-	-	-	-	-	-
Supervision	-	-	-	6.3	14.1	8.1	7.2	6.1	8.0	2.3	-
TOTAL	-	60*	10*	6.3	14.1	8.1	7.2	6.1	8.0	2.3	-

* These are estimates. Actual data are not available.

MISSION DATA

Mission	Date (mo/yr)	Number of Persons	Non-days in Field	Specializations Represented a/	Performance Rating b/	Trend c/	Types of Problems d/
Identification of	-	-	-	-	-	-	-
Preappraisal f/	-	-	-	-	-	-	-
Appraisal	10/78	6	159	a,b,c,d,e	-	-	-
Supervision 1	10/78	2	14	a,c	2	2	O, F
Supervision 2	2/79	1	5	a	2	2	F, M
Supervision 3	11/79	1	5	a	2	1	M
Supervision 4	3/80	1	5	a	1	1	
Supervision 5	6/80	1	5	a	1	2	
Supervision 6	11/80	2	8	a,c	1	2	
Supervision 7	6/81	2	4	b,c	3	2	F, T
Supervision 8	11/81	2	4	b,c	-	-	
Supervision 9	2/82	1	3	b	-	-	
Supervision 10	5/82	2	4	a,c	3	3	F, M, O
Supervision 11	10/82	2	6	a,c	3	2(SMU-3)	F, M, O
Supervision 12	4/83	1	3	c	3	2(SMU-3)	F, M, O
Supervision 13	9/83	1	2	c	2(SMU-3)	2(SMU-3)	F, M
Supervision 14	2/84	1	3	c	2(SMU-3)	2(SMU-3)	F, M
Supervision 15	11/84	2	12	a,e	1(SMU-3)	1(SMU-3)	O(NEU), FMT(SMU)
Supervision 16	4/86	1	3	c	1(NEU ONLY)	1(NEU)	-

OTHER PROJECT DATA

Borrower - Federal Republic of Nigeria
 Executing Agency - Smallholder Management Unit
 under the Rivers State Ministry of
 Agriculture and Natural Resources, and
 Risonpalm Limited
 Follow-on Project - Tree Crops Project
 Fiscal Year of Borrower - January-December

CURRENCY EXCHANGE RATES

Name of Currency (Abbreviations) - Naira (N)
 Appraisal Year Average - US\$1.00 = N0.65
 Intervening Years Average - US\$1.00 = N 0.60
 Completion Year Average - US\$1.00 = N1.35
 (Year 1986)

- a/ a = Agriculturist; b = Economist; c = Financial Analyst; d = Road Engineer; e = Mill Engineer.
 b/ 1 = problem free or minor problems; 2 = moderate problems; 3 = major problems.
 c/ 1 = improving; 2 = stationary
 d/ F = Financial; M = Management; T = Technical; O = Other.
 e/ The project was identified by the Federal Department of Agriculture.
 f/ Preparation was done by SOCFINCO Limited, a consultant firm hired by the Borrower.

NIGERIA

**IMO OIL PALM PROJECT
(Loan 1191-UNI)**

**RIVERS OIL PALM PROJECT
(Loan 1591-UNI)**

PROJECT COMPLETION REPORT

Evaluation Summary

Introduction.

1. The Imo Oil Palm Project was one of three state/regional oil palm projects in Nigeria approved by the Bank Board on June 17, 1975. Two of these - Bendel and Ondo (Loans 1181 and 1192) - were subsequently cancelled for reasons of non-performance by the State Governments (Report No. 4783-PPAR). Imo was completed at about the same time as the Rivers Project which was approved 3 years later. The former was identified and prepared by the Bank in 1972 and 1973, respectively, with appraisal being carried out in October 1973. The latter was identified by the Nigerian Federal Department of Agriculture and the World Bank Resident Mission in Lagos and prepared by consultants engaged by the Nigerian Federal Government. Bank appraisal was in April 1976 with Board approval on June 6, 1978. The Imo project was essentially a smallholder project aimed at increasing production through improved technology conceived in Nigeria's pre-oil boom years whilst the Rivers Project was taken up during the oil boom with the added objective of revitalizing the lagging agriculture sector.

Objectives

2. The Imo Project was to replant 16,000 ha of smallholder wild palms and construct two palm oil mills. The Rivers Project was to establish a 10,000 ha state-owned oil palm nucleus estate, plant 10,000 ha of oil palm on smallholdings and construct one palm oil mill. Both projects included improvement of earthen roads to facilitate all-weather collection of smallholder oil palm fruits and the operation of a grant/credit scheme for participating smallholders who would be organized by a smallholder management unit in the state Ministry of Agriculture and National Resources. Training of staff and smallholders was also another common component for the two projects.

Implementation.

3. The Imo Project smallholders oil palm replanting program took off as scheduled in 1976, but annual performance ranged from 20% to 58% of appraisal targets, and at project closing after two annual extensions achievement was 70% of appraisal. Instead of constructing one new 20-ton mill and financing the 10-ton extension of another, the project financed two 5-ton mills and the extension, both being constructed 2 years behind schedule. Overall, Imo project costs exceeded appraisal estimates by 11% (N24.7 million versus N27.4 million) and the IBRD loan of \$19 million was

fully disbursed on July 14, 1987. The Rivers smallholders oil palm planting program fared much worse than that of Imo and in spite of two extra years planting than envisaged at appraisal, achievement was only 20% of the appraisal completion target. Managerial, cultural and economic factors are cited as reasons for the difference in performance. Costs for the Rivers smallholder component reached 63% of appraisal estimates but the loan of \$30 million was fully disbursed by July 7, 1986 without any extension to the closing date and this was largely due to the absorption of the funds by the nucleus estate portion which had a cost overrun of 25% (N38.3 million versus 48.6 million).

Results

4. Annual oil palm fruit yield for Imo smallholders is estimated at 68% (6.8t/ha versus 10t/ha) if appraisal. It is 71% (7.1t/ha versus 10.0t/ha) for Rivers smallholders, and 100% (12.5t/ha) for the nucleus estate. The Imo smallholder component gives a satisfactory ERR of 20% compared to only 8% for Rivers smallholder element and 10% for the nucleus estate both of which are below the appraisal estimate. The oil boom contributed to a steep rise in rural wages which increased 250% over the period of the project implementation and contributed to cost overruns and lead to labor availability difficulties especially in the case of smallholder replanting. While credit was provided to smallholders, no credit recovery has taken place and the emplacement of an effective recovery system is yet to take place.

Sustainability

5. A foreign exchange squeeze in the early 80s, followed by a ban on imports of vegetable oils in 1985, and a massive depreciation of the Naira in 1986 has improved the price environment and provided the smallholders with the necessary incentive to keep on producing oil palm fruits. Domestic palm oil prices in 1988 were about 10% above the equivalent border price. Management would continue to be a key factor in the commercial viability of the palm oil mills and the nucleus estate. The use of qualified and experienced private managers with adequate delegated authority is a proven recipe for these projects and Imo continues to be managed on this basis. Rivers continues to use private estate managers but only to provide technical and managerial advice, a system which does put pressure on its management to perform, but perhaps not as much as it would have under direct private management. A continuation of the liberalized trading and pricing environment and good management would contribute significantly to the sustainability of the two projects.

Findings and Lessons

6. The lessons learnt from the two projects include:
- (a) the recruitment of project staff should give some consideration to ethnic factors if these are expected to jeopardize the long-term viability of the project;
 - (b) project delays because of difficulties in acquiring land, especially community land could be avoided or reduced if the project deals with lands that have already been acquired or which the communities have agreed to transfer of such lands;

- (c) not all governments or parts of the government are convinced of the benefits of hired private professional management for projects which need a management input level much higher than can be organized by the government. There is a need to assess at the outset within the government is committed to the continued use of hired management beyond the private period as otherwise as soon as the project is completed there is a possibility of the hired management being terminated which could lead to lower efficiency;
- (d) the responsibility for the provision of credit to smallholders and its recovery cannot be treated as two distinct and separate functions and therefore needs to reside in one management organization;
- (e) where smallholders are persuaded to obtain cash loans, planting materials and other inputs on credit, with labor and land being their only contribution, the motivation to care for their newly planted oil palms appears to be low; and
- (f) introducing monocropping in a traditionally mixed cropping environment runs the risk of low adoption and poor care of plants.

NIGERIA

IMO OIL PALM PROJECT
(Loan 1191-UNI)

RIVERS OIL PALM PROJECT
(Loan 1591-UNI)

PROJECT COMPLETION REPORT

Overview

Rivers Oil Palm Project Nucleus Estate Component

1. The PCR as prepared by SOCFIN Consultant Services for the nucleus estate component highlights the following:

- (a) that with good management, adequate technical skills and reliable funding arrangements it has been possible to establish a high-quality oil palm plantation together with a large industrial-type palm oil processing mill;
- (b) that good management was contingent on the managing agents having a high degree of financial and administrative authority;
- (c) that indigenous personnel could be trained to occupy and operate key technical and managerial positions;
- (d) that the SAR generally underestimated the project costs by 26%;
- (e) that the SAR underestimated the supply of oil palm fruits from wild palm groves which resulted in the project increasing its fruit collection fleet by 15 times and the mill capacity becoming insufficient; and
- (f) that the successful implementation of the project justifies the development of a second phase of the project.

2. While it cannot be denied that good management and adequate resources are the key to successful implementation, "good management" in the context of the Project was provided by expatriates and the scope for continued "good management" upon the departure of the SOCFINCO managers needs to be discussed further. In December 1985, the management of the Nucleus Estate was returned to Risonpalm Ltd. the state-owned oil palm plantation development parastatal. A technical assistance agreement was, however, entered into with SOCFINCO by Risonpalm for the provision of technical personnel, quarterly technical monitoring and evaluation, and training of personnel. In February 1987 a Bank tree crop subsector mission noted that non-commercial considerations in prioritizing the use of financial resources appeared to be gaining importance in Risonpalm. Funds were spent on upgrading an existing estate access road (for no obvious commercial advantage) in preference to the development of essential infrastructure for a new oil palm development (Elele Estate). In February 1988, a Bank tree crops project mission noted that plantation maintenance

standards had declined mainly for reasons of reducing costs. The implication of reduced yields and loss of revenue had not been given full consideration. The palm oil processing mill had been operating well below capacity for several months because of a delay in receiving spares. An additional weighbridge costing about \$100,000 had been ordered for the mill without a strong financial justification. The newspapers reported that Risonpalm had taken on a substantial financial burden by agreeing to sponsor a soccer team in the national league. There is therefore some question over the sustainability of good management and prudent use of public resources in the post project period.

3. There is little doubt that the local staff have the technical skills or can be trained to carry out their jobs. However, the missing ingredient for good management appears to be a lack of observance to the principle of optimization of profits. While some allowance has to be made for non-commercial considerations, the history of other parastatals in Nigeria seems to indicate that the profit motive could get lost in the process. An expatriate manager was asked as to what differentiated him from the local managers and his reply was that it was his ability to say "no" to unreasonable demands from staff and superiors on grounds of efficiency and prudent use of resources. Another area of concern is the tendency to rationalize on ethnic grounds. The same Bank mission gathered that in the last 2 years many of the more capable technical and administrative staff had been replaced as they belonged to an ethnic group from a neighboring state which is known to produce more commercially aggressive and educated people. The managing agents, no doubt, in the interest of efficiency of the project recruited these people. While some recruitment of these persons was desirable and unavoidable, the managing agents could have been more sensitive to the need to train persons of "acceptable" ethnic origins. The rapid departure of these skilled staff would, no doubt, have some adverse effect on continued good management of the enterprise.

4. In terms of financing requirements, the project costs were underestimated by 26%, in spite of a 58% contingency provision. A 250% increase in labor costs for a oil palm planting program spread over 8 years (instead of the programmed 4 years); under-provision in terms of machine hours for land clearing works, units of machinery and equipment and numbers of buildings; and non-provision for corporate management costs were the main reasons for the project cost over-runs. To be fair, these must be seen against the following background: the development techniques that were being applied were being adapted to a new environment; the economy itself underwent turbulent changes brought about firstly by an oil boom which was followed by an economic decline and an overvalued Naira leading on to a foreign exchange squeeze. The fact that the project was robust enough to withstand such economic and financial instability is a credit to the SAR, the project managers and the promoters. Projects cannot be designed to take account of every risk, but should have the flexibility to cope with changing circumstances and in this regard, those who promote the project are as equally important as those who manage it. The willingness of the management to seek additional resources and the commitment and support of the promoters in obtaining the additional resources needed to complete the project is a key element in the success of the project. The Bank's decision to cancel the loans for the parallel Ondo and Bendel oil palm projects was related to the poor support provided by the State governments.

5. The unexpected response in the supply of oil palm fruits from wild palm groves required the project to purchase 30 hopper trucks, instead of the proposed 2 units for fruit collection. It also caused the capacity of the mill to be inadequate. The main reason for this response was the doubling in palm oil prices from ₦ 800/ton in 1983 to ₦ 1600/ton in 1984, followed by further increases until the price averaged ₦ 2000/ton in 1986. The difficulty in obtaining import licenses for vegetable oils because of a foreign exchange shortage was the reason for the sudden jump in prices. The subsequent import ban in 1985 further consolidated the supply squeeze.

6. On the basis of the success of the project, feasibility studies (financed under the project loan) were carried out for a second phase of the project. It was intended that the proposed Palm Oil V project (subsequently retitled Tree Crops) would include assistance to the Rivers second phase program. The Bank mission in February 1987 (para 3.) recommended that the second phase program consider development of the less costly upland areas, which were similar to those of the project, rather than the costly delta lowlands which required extensive flood control and drainage works the environmental implications of which had not been fully studied. Besides the latter would have required a much higher level of investment and management. The Rivers State Government opted for the development of the delta and the European Development Fund and the European Investment Bank decided to include the first phase of this project in their Lome III assistance to Nigeria's Oil Palm Belt. It is anticipated that the EDF&EIB would require that the new project be managed efficiently as the local funding would depend on cash generated from the existing nucleus estate project. This could resolve the problem of sustaining "good management" (para. 3) beyond the project period.

Imo and Rivers Projects Smallholder Components

7. The PCR prepared by MEU for the smallholder components of both the Imo and River projects shows the Imo smallholder program to be a more successful one. The main reason for the success has been the acceptance of a permanent mono-cropping system in a traditional mixed cropping environment. Earlier exposure to such programs could have been an important factor. Besides, the project staff appear to have accepted, albeit reluctantly, farmers' desire to inter-crop with food crops in the traditional manner in the pre-harvest stage. The Rivers program does not seem to have had the benefit of these two factors and a strict adherence to mono-cropping or controlled inter-cropping would have definitely reduced the number of acceptors. Another factor which would have been important is the relatively low population density in an area of generally denser growth of wild palms, which could adequately supply local palm oil consumption needs. The need to replant with better yielding material would not have been obvious or even appeared necessary in the case of Rivers smallholders.

8. The PCR (paras 4.1.1 and 5.1.5.1) makes the point that in the Imo case the target of 16,000 ha of smallholder replanting could not be fully achieved as after 1983 IBRD funding of the program ceased and support from the State and Federal Governments also declined. The increased cost of the overall program and the commitment of funds to construction of processing facilities, which was considered a priority used up the available IBRD funds and no funds were available for financing the smallholder planting program beyond 1983, which in itself was already 3

years beyond the original schedule. Thus, the shortfall was due to both time and money.

9. In paragraph 8.13.1 the PCR proposes a new approach to smallholder development which is virtually a resettlement scheme, a type of development which previously has not had much success in Nigeria. Besides the traditional land tenure systems would be an obstacle to redistribution of land with original owners being usually only agreeable to release their land for public purposes and government ownership only. Assisting land owners to develop their lands appears to be the more viable alternative than resettlement.

10. Cost recovery in tree crop smallholder schemes in Nigeria has been extremely low and the proposal to use a tax on palm oil (para. 8.14 of the PCR) is not much different from the rubber replanting cess concept employed in Malaysia and Thailand. In these 2 countries, the cess is collected at export points which is an administratively efficient system. To collect the palm oil tax from individual mills as is proposed would be difficult to enforce and costly to administer. A monopsonic buyer who also provides the credit is perhaps the most viable credit arrangement under current Nigerian conditions. Under this arrangement the buyer deducts repayments out of produce payments due to the borrower. For so long as government is seen as the provider of agricultural credit the possibility of recovery appears low since government projects itself, and continues to be seen, as only a benefactor and protector. There is, therefore, an urgent need to establish a viable agricultural credit system, particularly for the long gestation tree crops which under the government's structural adjustment program (1986-88) offer much scope for either import substitution or export.

11. The decision to construct two 5-ton palm oil mills in place of the originally proposed 20-ton mill at Owerri-Nta (para. 4.1.16.2) needs more review. An examination of 1988 budget for Adapalm shows that the 5-ton mills have much higher operating cost than the existing 20-ton mill at Ohaji. The difference of N 27 per ton 1/ of oil palm fruits in operating costs and N 39 per ton 2/ of fruits for higher depreciation (capital) costs are not offset by higher transport costs for oil palm fruits which have to be obtained from a larger supply area for a larger mill. Project management staff estimate transport cost savings to be around N 10-15 ton of fruit. No doubt, at the time the decision was made it would have been difficult to assess the supply from wild palm groves, and the decision to go for a capacity of 10 tons split into two mills would have appeared logical. Besides there was insufficient relevant mill costing information based on Nigerian operating conditions.

1/N56.74/t for a 20-ton mill and N29.13/t for a 5-ton mill.

2/N18.6/t for a 20-ton mill and N58.1/t for a 5-ton mill.

JOINT PROJECT COMPLETION REPORT (PCR)

**SMALLHOLDER OIL PALM PROJECTS
IMO AND RIVERS STATES**

M A Y 1987

BY

**MONITORING AND EVALUATION UNIT
FEDERAL DEPARTMENT OF AGRICULTURE
BESIN CITY**

CHAPTER 1

INTRODUCTION AND PROJECT AREA

1.1 Introduction

A historical review, reveals that agriculture had been the mainstay of the Nigerian economy before the advent of crude petroleum exploitation. The oil-palm subsector had contributed immensely to the economy and placed Nigeria in a leading position of palm produce exporters of the World. In 1965 - 66 for instance, Nigeria contributed 30% of the World supply of palm oil and 50% of palm kernel. Between 1960 and 1966, Nigeria's palm oil and kernel exports averaged 145,900 mt and 400,157 mt per annum from which the country realised annually N23m and N42.17m respectively.

This trend, was disrupted by the civil war, which was fought in the oil palm belt between 1967 and 1970. This was followed by a boom period during which labour drifted from the agricultural sector to the industrial and construction sectors where the wage rate was comparatively higher. Consequently the contribution of palm produce to the economy declined consistently until Nigeria became a net importer.

In a bid to stem the declining situation and also to meet the increasing domestic demand, which has been growing at the rate of between 3.0% and 3.5% per annum, the Federal Government of Nigeria in 1975 launched a strategy for oil palm development and rehabilitation. This strategy was based on the premise that a substantial degree of Government assistance would be necessary to stimulate meaningful oil-palm development efforts. The programme which involved estate and Smallholder components were developed for execution in Bendel, Imo, Ondo and Rivers States. These projects were to be jointly financed by the World Bank, Federal and State Governments.

This Joint Project Completion Report (PCR) was prepared for the Imo and Rivers States smallholder oil-palm development projects which were executed from 1975 - 1983 and 1978 - 1982 respectively.

1.2 The Project Area

1.2.1 Imo State SMU

The Project Area lies in a region covering about 360,000 ha extending from Overri, to Umuhia and Aba. The area is an important part of the palm belt with mean annual rainfall ranging from 2,130mm to 2,440mm with a tendency for the rainfall increasing towards the South West direction. The area has distinct dry and wet seasons, and a mean annual water deficit of between 250 - 300 mm. Sunshine averages about 1,777 hours per annum and the mean annual temperature lies between 26° and 27° C.

The area is drained by the Imo, Otamiri and Ogochia rivers and has an elevation of 60-110m above sea level.

All the soils of the area have been degraded by frequent farming and would require some manuring/fertilizer application to give satisfactory bunch yields.

The area has a population density of about 400 per sq. km and is one of the most densely populated rural areas in Nigeria.

Land may be owned by the community, families, or individuals. Communal lands are held in trust by the elders or family heads who may give such land to individuals for specific uses.

The farming system is traditionally by shifting cultivation. Population pressure however, has reduced the fallow period to about three years. Farm sizes are generally small averaging about .5 ha and another 2 ha lying fallow and land fragmentation is common.

The area is well served by a network of good roads which facilitate transportation.

1.2.2 Rivers State SMU

The project covered about 2,800 km of the Rivers State which incorporated the new Ahoada, Ikwerre - Etche and Port Harcourt City Local Government Council area.

The long rainy season which characterised the area starts in early March and extends to November. Mean annual water deficit is 225mm and annual sunshine is 1,400 to 1,500 hours. Mean annual temperature is between 26° and 28°C and favours oil palm cultivation.

Most of the area can be classified as forest remnants or secondary jungle with all recently cleared areas heavily infested by *Eupatorium Oduratum*.

Two basic geological foundations cover the project area; the Coastal Plain Terrace and the Sub-Recent Niger Terrace. A few depressions accumulate water to form small swamps and topography is broken by a few large rivers.

The soils of the Coastal Plain Terrace are deep with clay content, have a good structure, are free draining and are suitable for oil palm cultivation. Only very limited areas of the Sub-Recent Niger Terrace are either water logged or have patches of very sandy soil and therefore are unsuitable for oil palm cultivation.

Average population density is 90 to 100 per km² and the area has an estimated total population of between 240,000 and 300,000.

Land is vested in the various communities under the direct control of community Heads, Chiefs and Elders. Land may be given to an individual as his personal and disposable property. Under the Land Decree of 1978, all land is vested in the State.

Farm sizes in the area are considerably small averaging 0.7 ha and another 4 ha lying fallow. The most important food crops are cassava, yam and plantain. The heavy demand of these crops upon soil fertility demands that large quantities of fertilizer must be applied to improve soil fertility.

Communications within the project area are exclusively by road. The North, West and E. South areas are satisfactorily served by good roads while the East is served only by earth tracks. The earth tracks are often difficult to pass during the rainy season.

CHAPTER 2

PROJECT IDENTIFICATION AND DESCRIPTION

2.1 Imo State SMU

2.1.1 Project Identification, Preparation and Appraisal

The project was identified in November 1972, by the Federal Department of Agriculture and prepared by an IBRD mission in March 1973. The project was appraised by the IBRD in November/December 1973 together with the Ondo and Bendel Oil Palm Projects.

2.1.2 Project Description

Unlike the Bendel and Ondo State Oil Palm Projects, the Imo State Smallholder Oil Palm Development Project was not linked with a nucleus estate. However, Adapalm was charged with the responsibility to develop estates within the project area, erect and manage oil palm mills which would process ffb from smallholders.

The project was designed to establish 16,000 hectares of improved oil palm (*Tenera* sp) over a period of 9 years (1975 through 1983).

The specific objectives of the project are:

- (a) to establish a Smallholder Management Unit (SMU) within the Ministry of Agriculture and Natural Resources to execute the programme;
- (b) to establish 16,000 ha of improved oil palm in smallholdings of between 1 - 10 ha;
- (c) to improve about 571 km of earth roads to facilitate all weather delivery of inputs and collection of fresh fruit bunches (ffb) from smallholders;
- (d) to operate a grant/credit scheme for smallholders; SMU would distribute:
 - (i) as a grant and in kind, palm seedlings, cover crop seeds, wire netting, fertilizer and chemical to a value of about ₦170 per ha;

- (ii) as credit, in cash N100/ha for payment of labour;
- (iii) the Smallholder would contribute the balance of N50/ha in the form of labour and hand tools to bring the total cost of field establishment and maintenance to N150/ha until they come into production 4 years later;
- (iv) the credit would bear interest rate of 9.5% and have a term of 13 years from planting including 7 years of grace during which interest would be capitalized;
- (e) To-train Staff and Smallholder Farmers at selected institutions and through in-service courses;
- (f) to construct and operate two palm oil mills by the Agricultural Development Authority (ADAPALM) to process the ffb produced by Project Smallholders;
- (g) to establish a fruit collection system to be operated by ADAPALM.

2.1.3 Palm Oil Processing Mills

- (a) Project production of ffb at full maturity in 1988 would be 160,000 tonnes; 75% of this quantity would come from the Eastern Area and the rest from the Western Area which would respectively have 30 ton/hr and 10 ton/hr mills, located in such a way that all smallholders would be within 25 - 30 km radius from the mill.
- (b) SMU would be responsible for ensuring that an acceptable percentage of the estimated production of smallholders ffb was delivered to Adapalm mills under an organised fruit collection system.

2.1.4 Participating Smallholders would be members of a registered Co-operative Society. Project Farmers would be required to sign agreements with SMU and their cooperatives relating to the amount and use of grant/credit.

The loan agreement between SMU, the Co-operative and the Smallholder would include an undertaking by the Smallholders to sell their ffb to the central processing mills.

2.1.5 Monitoring and Evaluation

The Monitoring and Evaluation Unit, (MEU) of the Federal Department of Agriculture would be responsible for monitoring and evaluating the project.

2.1.6 Main Issues Raised During Loan Negotiation

The main issues raised during the loan negotiation were as follows;

- (a) only smallholders planting between 1 - 10 ha and who are members of registered cooperative society would be considered eligible for the grant/credit scheme;
- (b) the pricing formula for the purchase of ffb by Adapalm from smallholders would be determined by the State Price Policy Committee in accordance with principles acceptable to the Bank;
- (c) the State Government would settle any financial losses incurred by the Adapalm as a result of the smallholder failing to deliver an agreed quantity of ffb to the mills;
- (d) smallholders would sign a loan agreement with SMU and their co-operative societies on conditions acceptable to the Bank;
- (e) the two loan agreements; i.e. between Federal and State Governments, and between the State Government and Adapalm would be under conditions acceptable to the Bank;
- (f) the Steering Committee would be established not later than 90 days after loan effectiveness and the SMU would be adequately staffed at all times;
- (g) Senior Management Staff of SMU would be employed upon terms and conditions acceptable to the Bank;

(h) the General Manager, Chief Accountant, and Oil Mill Engineers in Adapalm would have necessary qualifications and experience and would be appointed on terms and conditions acceptable to the Bank;

(i) Adapalm would be permitted to sell its palm oil produced under the project freely on the domestic market.

2.1.7 Loan Effectiveness

Conditions of effectiveness of loan would be that:

(a) subsidiary loan agreements acceptable to the Bank had been signed between the Federal Military Government and the State Government, and the State Government and Adapalm;

(b) the State Government had established and funded a project account;

(c) SMU had been established and its Senior Management positions filled; and

(d) Adapalm has been established.

2.1.8 Project Cost

The cost of the project over the development period 1975 - 1983 are as summarized in the following table:

	<u>Local</u>	<u>Naira'000</u> <u>Foreign</u>	<u>Total</u>	<u>Local</u>	<u>USS'000</u> <u>Foreign</u>	<u>Total</u>	<u>Foreign</u> <u>Exchange</u> <u>%</u>
Smallholder Field Establishment	3,499	1,652	5,151	2,319	2,511	7,830	32
SMU Capital Costs	74	65	139	113	99	212	47
SMU Personnel Costs	912	169	1,081	1,387	257	1,644	15
SMU Recurrent Costs	74	54	128	112	82	194	42
Regional Unit Capital Costs	215	198	413	326	301	627	48
Regional Unit Personnel Costs	1,993	167	2,160	3,030	254	3,284	7
Regional Unit Recurrent Costs	133	109	242	202	165	367	45
Road Programme	280	133	413	426	202	628	32
Training	109	83	192	166	125	291	43
Mill Investment (ADA)	2,307	1,485	3,792	3,507	2,257	5,764	39
Fruit Collection Investment (ADA)	186	198	384	282	301	583	52
Base Cost	9,782	4,313	14,095	14,870	6,554	21,424	31
Physical Contingencies (5.5%) /1	530	242	780	818	368	1,186	31
Price Contingencies (66%) /2	6,780	3,045	9,825	10,206	4,628	14,934	31
Total Project Costs	17,100	7,600	24,700	25,994	11,550	37,544	31

/1 As percentage of base costs.

/2 As percentage of base cost and physical contingencies.

The estimates were based on prices as at January 1974 and included indirect taxes and duties of about N420,000 (US\$640,000).

2.1.9 Project Financing Plan:

The financing plan of the Project is summarised in the table below:

<u>Financing Plan</u>				
	<u>IBRD</u>	<u>STATE</u>	<u>FARMER</u>	<u>TOTAL</u>
	----- million -----			
<u>Smallholder Program</u>				
<u>Field Establishment</u>	3.2	1.1	0.8	5.1
SMU	1.7	3.1	-	4.8
<u>ADA Program</u>	2.1	2.1/1	-	4.2
<u>Unallocated</u>	<u>5.4</u>	<u>4.7</u>	<u>0.5</u>	<u>10.6</u>
Total	12.4	11.0	1.3	24.7
	----- \$ million -----			
<u>Smallholder Program</u>				
<u>Field Establishment</u>	5.0	1.6	1.2	7.8
SMU	2.6	4.6	-	7.2
<u>ADA Program</u>	3.2	3.2/1	-	6.4
<u>Unallocated</u>	<u>8.2</u>	<u>7.1</u>	<u>0.8</u>	<u>16.1</u>
Total	19.0	16.5	2.0	37.5
	50%	45%	5%	100%

/1 The State Government would make an equity contribution to Adapalm (not included as a Project cost) to cover working capital requirements during the development period estimated at about N0.75 million (US\$1.1 million).

The Bank loan of US\$19m was expected to finance 50% of total Project Costs comprising all foreign exchange cost (US\$11.6m) and 29% of local cost (US\$7.4m). The loan would be for a period of 20 years, including a 5-year grace period on repayment of principal.

2.2 Rivers State SMU

2.2.1 Project Identification, Preparation and Appraisal

The project was identified in May 1975 by the Federal Department of Agriculture and designed to establish 10,000 ha of nucleus estate and 10,000 ha of smallholder plantings in Rivers State. The Project was prepared by a consultant firm, SOCFINCO Limited engaged by the Ministry of Trade and Economic Development. The feasibility studies were completed in April 1976 and appraised in October/November 1976 by a team of World Bank and SOCFINCO consultants.

2.2.2 Project Description

The project was designed to establish 10,000 ha of high yielding oil palm in smallholdings under a Smallholder Management Unit (SMU). In addition, the project was to improve or reconstruct about 400 km of earth roads serving the smallholder community. The project was designed to be implemented over a six and a half year period, 1978 - 1984.

The specific objectives of the project were:-

- (a) to establish a Smallholder Management Unit (SMU) within the Rivers State Ministry of Agriculture and Natural Resources to implement the smallholder planting programme of 10,000 ha.
- (b) to operate a Grant/Credit scheme for participating smallholders;
- (c) to train staff and smallholders at selected institutions and through in-service courses;
- (d) to improve about 400 km of earth roads to facilitate all-weather distribution of inputs and collection of ffb from smallholders;
- (e) to ensure that an acceptable percentage of smallholder ffb production is delivered to the mill for processing.

2.2.2.1 Planting Programme

Planting of the 10,000 ha would be carried out from 1978 through 1982 with Grade I wilt - tolerant tenera seeds from Nigerian Institute for Oil Palm Research (NIFOR). Arrangement for supply of seeds would be made in advance by the State Government.

2.2.2.2 Palm Oil Mills

Fruit production which would commence in 1982 would initially be processed at the existing Elele mill. While one mill of 40 tonne ffb/hr would be constructed under the project in 1985 the other 40 tonne ffb/hr would be built after the project completion in 1989. The mills which would be managed by the estate would be expected to meet the processing requirements of both the smallholder and estate components of the project.

2.2.2.3 Fruit Collection System

The maximum distance smallholders would be required to carry bunches would be 600m to the road side. At collection points, bunches would be weighed and the farmers would be given a receipt for the amount and quantity of fruits delivered. The organisation of the fruit collection system would be the responsibility of the estate and mills management.

2.2.2.4 Purchase of ffb

The estate mill would provide a schedule of ffb purchases and amounts due to each smallholder and credit SMU. SMU after deducting loan repayment due to the State Government, would pay the balance to each co-operative. The co-operative, after deducting the interest spread, would distribute the balance to its members. The co-operative would guarantee the repayment of the loans by their members.

2.2.2.5 Risonpalm Limited

This Limited Liability Company was established on November 24th 1975 and charged with the responsibility of developing the oil palm estates owned by the Rivers State Government. The management consultants who would establish the Nucleus estate would function under RISONPALM. They were also to establish and operate the processing mills and in addition organise the fruit collection system.

2.2.2.6 Monitoring and Evaluation Unit (MEU)

The MEU is an arm of the Federal Department of Agriculture and has the mandate to monitor the financial and technical performance of the tree crop projects, to evaluate their economic and social impact, and to assist in the planning of new projects. MEU would be involved in monitoring and evaluation of the Rivers State Smallholder Project.

2.2.3 Main Issues Raised During Loan Negotiation

- (a) the Bank loan of US\$30.0 million would be onlent by the Federal Government to Rivers State Government on the same lending terms as the Bank loan to Federal Government. Federal Government would provide 25% of project cost;
- (b) SMU senior management posts at Headquarters would be filled by staff with qualifications and experience;
- (c) a price policy Committee would be established and would be responsible for calculating the price of ffb to be paid to participating smallholders;
- (d) Risonpalm Limited should purchase all the ffb produced by smallholders at competitive prices fixed by the Price Policy Committee.

2.2.4 Loan Effectiveness

Conditions for effectiveness of loan would be that;

- (a) a subsidiary loan agreement between Federal Government and Rivers State Government which would cover both onlending of the Bank and Federal Government allocation had been executed and duly authorized;
- (b) a subsidiary loan and equity subscription agreement between Rivers State Government and RISONPALM had been executed and duly authorized,
- (c) Separate bank account for the SMU had been opened and adequately funded;
- (d) notice establishing SMU and the Steering Committee had been published in the Gazette and that SMU's senior management positions have been filled;

2.2.5 Conditions for the disbursement of Bank loan would be that the Bank had received satisfactory confirmation from SMU and MEU that the mill could process all oil palm fruits produced by both the estate and smallholder components.

2.2.6 Signing of Loan and Project Agreements

On the basis of the above assurances, the Bank loan of US\$30.0 million was presented to the Board and signed on 24th July 1978.

2.2.7 Project Cost

The cost of the project over the development period 1978 - 1984 including start-up costs in 1977/1978 are estimated at N54.0 million for both the estate and smallholder components. The smallholder component would cost N10.5 million excluding an unallocated amount to take care of price and physical contingencies. Details are shown below.

Nucleus Estate/Smallholder Oil Palm Project, Rivers State - Project Cost

	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	<u>Local</u>	<u>Foreign</u>	<u>Total</u>	<u>Base Cost</u>	<u>Total Cost</u>
	<u>-----Naira Million-----</u>			<u>-----US\$ Million-----</u>			<u>-----%</u>	
<u>Nucleus Estate</u>								
Field Establishment Cost	5.4	2.0	7.4	8.3	3.1	11.4	21	14
Palm Oil Mill	2.8	4.2	7.0	4.3	6.5	10.8	20	13
Staff & Salaries	2.1	0.6	2.7	3.2	0.9	4.1	8	5
Vehicles & Equipment	0.4	1.1	1.5	0.6	1.7	2.3	4	4
Housing, Building, Utilities & Furniture	2.7	1.4	4.1	4.2	2.1	6.3	12	8
Fruit Collection	0.2	0.1	0.3	0.3	0.2	0.5	-	-
Management Fee	0.5	0.7	1.2	0.8	1.0	1.8	3	2
	14.1	10.0	24.2	21.7	15.5	37.2	68	45
<u>Preparation Study and Coconut Seed Garden</u>								
	0.4	0.4	0.8	0.6	0.6	1.2	2	1
<u>Smallholder Management Unit</u>								
Field Establishment Salaries -	4.4	0.8	5.2	6.8	1.2	8.0	15	10
Headquarters	0.9	0.3	1.2	1.3	0.5	1.8	3	2
Regional Units	2.1	0.5	2.6	3.2	0.8	4.0	8	5
Staff Training	-	0.2	0.2	-	0.3	0.3	-	-
Road Construction	0.8	0.5	1.3	1.2	0.8	2.0	4	3
	8.2	2.3	10.5	12.5	3.6	16.1	30	20
Base Costs	22.7	12.8	35.5	34.8	19.7	54.5	100	66
<u>Contingencies:</u>								
Physical Price	1.2	0.6	1.8	1.9	0.9	2.8	-	3
	10.7	6.0	16.7	16.5	9.2	25.7		
	11.9	6.6	18.5	18.4	10.1	28.5	-	(34)
Project Cost	34.6	19.4	54.0	53.2	29.8	83.0		100
Percentage	64	36	100	64	36	100		

The cost estimates are based on price ruling in mid - 1977 and include 5% physical contingencies. Price contingencies are calculated on base line costs plus physical contingencies, and allow for compounded increases of foreign exchange costs and local costs. Contingencies are equivalent to 34% of total project cost.

2.2.8 Project Financing Plan

The financing plan of the project is summarised below:

Nucleus Estate/Smallholder Oil Palm Project, Rivers State

	<u>Proposed Financing Plan</u>				
	<u>Total</u>	<u>IBRD</u>	<u>FMG</u>	<u>RSG</u>	<u>Smallholder</u>
	-----Naira Million-----				
Nucleus Estate	24.2	10.1	6.1	8.0	-
Preparation Study and Coconut Seed Garden	0.8	0.4	0.2	0.2	-
Smallholder Management Unit	10.5	2.3	2.4	4.9	0.9
<hr/>					
Base line costs	35.5	12.8	8.7	13.1	0.9
Unallocated	18.5	6.6	4.6	7.0	0.3
<hr/>					
Project Cost	54.0	19.4	13.3	20.1	1.2
-----US\$ Million-----					
Nucleus Estate	37.2	15.5	9.4	12.3	-
Preparation Study and Coconut Seed Garden	1.2	0.6	0.3	0.3	-
Smallholder Management Unit	16.1	3.6	3.7	7.5	1.3
<hr/>					
Base line costs	54.5	19.7	13.4	20.1	1.3
Unallocated	28.5	10.1	7.1	10.8	0.5
<hr/>					
Project Cost	83.0	29.8	20.5	30.9	1.8
Percentage	100	36	25	37	2

The Project (Nucleus Estate/Smallholder Oil Palm Project), Rivers State, was jointly sponsored by the World Bank, Federal and State Governments. The Rivers State Government was to contribute 37% of total project cost, Federal Government 25%; and the World Bank 36%; including all foreign exchange components, while the Smallholder would contribute 2% in the form of labour and hand tools.

CHAPTER 3

LOAN EFFECTIVENESS AND PROJECT START UP

3.1 Imo State SMU

The two major loan agreements between IBRD and the Federal Military Government; and between IBRD and East Central State Government ^{/1} were signed on 12th January 1976.

3.1.1 Loan Effectiveness

The conditions of effectiveness of the loan were fulfilled on the following dates:

- (a) subsidiary loan agreement between the Federal Military Government (FMG) and the East Central State Government (ECSG) was signed on 11th June 1976.
- (b) subsidiary loan agreement between Imo State Government and Adapalm was signed on 13th March 1981.
- (c) The SMU and its Steering Committee were formally established on 24th June 1975 and its Senior Management positions filled and approved by the Bank.
- (d) Adapalm (Nigeria) Limited, a subsidiary of ADA, was incorporated on 9th May, 1975 with a share capital of N200,000.
- (e) A Project Account was opened with Cooperative Bank of Eastern Nigeria in September 1975.

The IBRD declared Imo State Oil Palm Project loan 1191-UNI effective from April 6, 1977.

^{/1} - Following the creation of Imo State from East Central State, the new State formally applied for its name to be substituted for East Central State in the loan agreement.

The two major agreements were not signed until 12th January 1976, seven months behind commencement of the project. Also the subsidiary loan agreements between the Federal Military Government and the East Central State Government was signed one year behind schedule (12th June 1975 to 11th June 1976). Government bureaucracy and bottlenecks were primarily responsible for these delays. In addition, the 22 months' delay in loan effectiveness (June 1975 to April 1977) had its own effect in depriving the project the opportunity to capitalise on the initial momentum generated by the project.

3.1.2. Project Start Up

The project took off as scheduled in 1975 with Umuahia as its headquarters. Early in 1976, Imo State was created from the former East Central State with its headquarters at Owerri. This necessitated the movement of the project headquarters from Umuahia to Owerri. Some of the staff who started the project, including the first General Manager were of Anambra State origin and opted to go back to their home State. These movements caused disruption that affected the smooth take-off of the project. This in turn affected project operations in its early years.

There was initial problem in the acquisition of land for nursery development which were however quickly resolved. The project succeeded in raising seedlings in 1975 for 1976 planting programme.

Most of the office accommodation especially at Umuahia and Aba regional units were rented during the early stages of the project.

3.2 Rivers State SMU

The two major loan agreements between IBRD and the Federal Military Government; and between IBRD and Rivers State Government were signed on July 24th 1978.

3.2.1 Loan Effectiveness

The conditions of effectiveness of the loan were fulfilled on the following dates:

- (a) a subsidiary loan agreement between the Federal Military Government (FMG) and Rivers State Government was signed on April, 17th 1979.
- (b) subsidiary loan and equity agreement between Rivers State and Risonpalm was signed on June 7th, 1979.
- (c) The SMU and its steering committee were formally established as semi-autonomous unit of the Rivers State Ministry of Agriculture and Natural Resources with Headquarters at Ahoada by an extraordinary gazette of the Rivers State of Nigeria No. 9 Vol. ii of 27th June 1979.
- (d) a bank account was opened for the Nucleus estate in January 1979.
- (e) the management agreement between Risonpalm and SOCFINCO was signed on February 23, 1979.

While the major loan agreements in the Rivers State SMU were signed on 24th July 1978, the SMU and its steering committee were not established until 27th June 1979, 11 months after the loan agreements were signed. The Rivers State project had two components; estate and smallholder, and both were covered by the same loan agreement. The State Government effort was first directed towards a successful take off of the estate components, thus the delay in the setting up of the SMU and its steering Committee. It is therefore not surprising that the loan was made effective shortly after the SMU and its steering committee were set up. The preferential treatment for the estate component and apparent lack of enthusiasm for the smallholder component manifested itself in the low achievement of the smallholder project.

3.2.2 Project Start Up

The actual implementation of the project started in 1978. Seedlings for 1979 planting could not be raised in 1978 due to the late take-off of SMU in that year well past the time for raising of seedlings and initial problems associated with land acquisition. Seedlings for the 1978 and 1979 field establishment were bought from Risampalm.

CHAPTER 4

PROJECT IMPLEMENTATION

4.1 Imo State SMU

4.1.1 Planting Programme

The planting programme started in 1976 with seedlings raised in 1975.

As recommended in the Appraisal Report (Report No 495a - UNI) all field plantings were scheduled to be completed in 1980.

However after 1976 and 1977 planting seasons it became obvious that the original targets (see table 4.1) were over estimated in view of the fact that time was needed to mobilise resources and generate awareness among farmers. The planting targets were consequently revised and the field planting extended to 1983. Despite the extension, only 11,071 ha or 69.19% of the target of 16,000 ha had been established as at the end of 1983. By 1986, 12,662 ha representing 79.14% of project target had been achieved, and 3,338 ha or 21% remained to be accomplished.

Table 4.1 - Schedule of implementation and actual field plantings

Year	Appraisal Target (ha)	Revised Target (ha)	Actual Planting (ha)	RT/1 Cumulative (ha)	Actual Planting Cumulative (ha)	% Cumulative achievement
1976	2,000	410	415	410	415	101.22
1977	3,000	850	853	1,260	1,268	100.63
1978	3,000	2,000	1,588	3,260	2,856	87.61
1979	4,000	2,200	1,899	5,460	4,755	87.08
1980	4,000	2,240	2,320	7,700	7,075	91.88
1981		2,500	1,482	10,200	8,557	83.89
1982		2,800	1,225	13,000	9,782	75.25
1983		3,000	1,289	16,000	11,071	69.19
1984			1,236		12,307	76.92
1985			93		12,400	77.50
1986			262		12,662	79.14
Total	16,000	16,000	12,662	16,000	12,622	79.14

/1 Revised Target

One major constraint in the achievement of planting target was inadequate funding. Beyond 1983, there was no further evidence of World Bank's financial involvement in the project. Although the Federal and State Governments continued to fund the project, such funds were inadequate. Coupled with this was a retrenchment exercise which involved mainly field staff and temporary labourers.

With consistently dwindling financial resources and waning interest on the part of smallholder farmers as a result of failure of project to provide credit/cash loans after 1983, the ultimate achievement of 16,000 ha could not be realised. From 1985 and beyond, the SMU no longer registered new farmers and inputs such as fertilizers, wire collars, seedlings and chemicals which hitherto were given free, were now being sold to farmers.

4.1.2 Nurseries

The SMU had 3 main nurseries located at Regional Unit Headquarters in Owerri, Aba and Umahia to provide seedlings for each of the Regional Unit's area of operation.

All sprouted nuts improved Tenera spp. were supplied by the Nigerian Institute for Oil Palm Research (NIFOR).

Table 2 below shows the number of sprouted nuts received and the number of plantable seedlings raised annually from 1975 - 1985. Initially the SMU adopted the double stage nursery practise but in the later years changed to single stage on the advice of N.I.F.O.R. on the assumption that it was more labour and cost affective.

At the end of each planting season, seedlings which were not used were maintained in the nurseries and carried over for the next year's planting programme. The runts were however discarded.

Table 4.2 - Annual Seedling Production 1975 - 1985

Year	No. of Sprouted nuts received	No. of Plantable seedlings raised	Percentage loss
1975	195,000	133,844	31.36
1976	340,000	185,506	45.44
1977	900,000	384,636	57.26
1978	420,000	254,557	39.94
1979	600,000	375,703	37.38
1980	131,000	77,543	40.80
1981	460,000	279,765	39.28
1982	690,000	349,866	49.30
1983	-	-	-
1984	*	19,705	*
1985	61,000	53,391	12.47
1986	131,000		

* Not available

Over and above the acceptable level of 15 - 25%, exceptionally high percentage losses were recorded in 1976, 1977 and 1982. These were principally due to breakdown of irrigation equipment, shortage of labour, blasts that were accentuated by the irrigation problems and relative poor nursery management.

The details annual usage of seedlings are shown in annex 1.1

4.1.3 Registration of Farmers

A prospective farmer would make a formal application to SMU through his cooperative society. Thereafter an Appraisal Committee comprising the representatives of SMU and the Cooperative Societies would review the applications and short list farmers for registration. Each participating farmer was certified a bonafide member of a registered cooperative society. The appraisal requirement in this regard was strictly complied with by the SMU.

4.1.4 Land Clearing and Preparation

Land clearing, felling, burning, packing and stumping were essentially the responsibility of the smallholder farmer. However, lining/pegging were done by qualified SMU field staff who ensured that the approved spacing of 9 metres traingular was adhered to. There after seedlings were supplied for planting.

4.1.5 Grant and Credit Scheme

The project was expected to deliver in kind to farmers 150 oil palm seedlings (Tenera sp.), 150 units of wire collars, 802 kg \angle 1 of fertilizer and 11 kg of cover crop (pueraria) seeds and N100 \angle 2 cash loan per ha during the establishment.

4.1.5.1 Cash Loan

Originally as indicated in the appraisal report N100/ha would be given to farmers over a period of 4 years as cash loan to enable them meet the cost of hired labour. Due to substantial increase in wage rate, this amount was adjusted upwards in 1980 to N300.00/ha to be disbursed in the following pattern; N150.00 in year 0, N45.00 in years 1 and 2 respectively, and N60.00 in year 3.

From the inception of the project to 1983, a total of N1,890,759.00 was paid out to project farmers as cash loan. This value represented 73.7 percent of what should have been given out during the said period - see table 4.3. The cash loan component of the credit package was discontinued after 1983, principally due to the poor financial position of the SMU. It should be recalled that the World Bank withdrew its financial assistance to the project after 1983. From that time also, financial assistance from both the Federal and State Governments became substantially reduced due to the prevailing poor economic circumstances.

\angle 1 79 kg in year 0, 163 kg in year 1, 230 kg in year 2 and 330 kg in year 3.
 \angle 2 N50.00 in year 0, N15.00 in year 1, N15.00 in year 2 and N20.00 in year 3.

Table 4.3 - Expected and Actual Cash Loan delivery to farmers 1976 - 1983

Year	Expected Cash Loan (N)	Actual Cash Loan Disbursed(N)	% of Actual/Expected
1976	62,250	21,306	34.2
1977	146,625	184,640	125.9 /1
1978	294,960	288,396	97.8
1979	419,655	421,264	100.4 /1
1980	554,850	88,054	15.9
1981	507,150	458,914	90.5
1982	284,775	277,383	97.4
1983	205,455	150,802	73.4
1984	88,980	-	0
Total	2,564,700	1,890,759	73.7

/1 - Included part of the unpaid loan in the preceeding year. Farmers expressed dissatisfaction over the discontinuation of cash loan which they considered a major incentive.

After the cash loan was adjusted in 1980, the SMU paid the difference of ₦200.00/ha even to farmers who planted in 1976 - 1979. This in our opinion was unnecessary because the circumstances that led to the adjustment in 1980 did not exist during those years. This retroactive payment denied the project alternative uses of such funds.

4.1.5.2 Seedlings

The appraisal requirement of the supply of 150 oil palm seedlings per ha to farmers was effectively complied with. The extra 7 seedlings over and above the prescribed 143 seedlings/ha was meant to cover handling losses.

Seedlings were transported at the expense of the SMU to the farmer's plot. The supply of free seedlings was stopped in 1984 and thereafter the SMU started selling seedlings to farmers at the rate of ₦2.00 per stand in an effort to generate funds internally. The sale of seedlings became a major disincentive as most farmers could not afford to buy. Some farmers, though very few, started to raise their own seedlings in small private nurseries. The SMU still remained the only source of guaranteed improved seedlings in the project area.

4.1.5.3 Fertilizer

A total of 802 kg of mixed fertilizer would be given to farmers during the first 4 years as follows: 79 kg in year 0, 163 kg in year 1, 230 kg in year 2, and 330 kg in year 3.

From 1976 - 1984, a total of 4,680.5 tonnes of fertilizer was made available. This represented 59.73 % of appraisal requirement - see table 4.4.

Table 4.4 - Total Fertilizer requirement compared with actual fertilizer distributed

Year ¹	Total Fertilizer requirement (tonnes)	Actual Fertilizer supplied (tonnes)	% of actual/requirements
1976	32.79	NA	NA
1977	135.04	313.85	232.45
1978	359.78	468.60	130.25
1979	741.76	970.25	130.80
1980	1,138.60	919.80	80.78
1981	1,454.40	479.75	32.99
1982	1,497.50	1,019.95	68.11
1983	1,406.04	387.30	27.55
1984	1,070.66	121.00	11.30
	7,836.57	4,680.50	59.73

¹ - Information of fertilizer distribution beyond 1984 was not available.

It is difficult to explain why the SMU supplied more fertilizer than was necessary in 1977, 1978 and 1979. Thereafter, the quantity of fertilizer supplied was on the decline reaching the lowest level in 1984 when only 11.30% of total requirement for that year was met.

The fertilizer requirement was not met beyond 1979 and this raised obvious fertility problem in an area whose soils were considered not very fertile in the absence of adequate fertilizer application.

Fertilizers were imported and distributed to State Governments at subsidized rates by the Federal Government. The subsidy resulted in

increased fertilizer demand and subsequent availability at various project sites. However these fertilizers were not adequately supplied to farmers due to poor distribution arrangement. However, later in the project life, when the project could no longer afford to buy fertilizer for free distribution to farms, the quantity of fertilizers available at project depots declined since demand from smallholders equally declined sharply.

4.1.5.4 Wire Collars

Farmers were supposed to be supplied with 150 wire collars per ha in the year of planting. As at 1981, a total of 1,041,030 unit of wire collars were supplied to farmers and this represented 81.18% of actual requirement. The supply of wire collar was discontinued in 1982.

Table 4.5 - Wire Collar Requirement Compared with Actual Supply

Year	Wire collar requirement	Wire collar actually supplied	% actual/ requirement
1976	62,250	48,600	78.07
1977	127,950	144,000	112.54
1978	237,900	180,000	75.66
1979	285,000	191,520	67.20
1980	346,800	-	-
1981	222,450	476,910	214.39
Total	1,282,350	1,041,030	81.18

4.1.5.5 Cover Crop and Intercropping

11 kg/ha of Pueraria seeds were to be supplied to farmers in the year of planting for the establishment of cover crop. The SMU made efforts to supply cover crop seeds in 1977 and 1978. Serious difficulties were encountered in the procurement of cover crop seeds locally or from abroad. In addition, the concept of planting cover crops was new and right from the start, unacceptable to farmers who preferred intercropping with arable crops in the early years of field establishment.

Though the project was well considered, the peculiarities of the area such as farming systems were not adequately taken into consideration, hence the insistence of farmers on inter cropping as against the original proposal of mono cropping. Though ideal, it was not reasonable to expect farmers to plant cover crop instead of arable crops. The promotion of cover crop (mono cropping) would have had adverse effect on farmer participation in the project.

Farms in the project depended initially on arable crops interplanted with oil palm to supplement their income and subsistence. There was evidence of early poor performance of oil palms due to indiscriminate intercropping with arable crops at the early stages of field establishment. However, the majority of the smallholder palms recovered from the initial set back and preliminary yield data survey conducted by MEU (Monitoring and Evaluation Unit) indicated that yields from these fields would not be affected seriously by the early intercropping.

A combination of factors were responsible for the rejection of the practice of planting cover crops and these included:

- (a) scarcity of land
- (b) high population density and
- (c) competition for land between oil palm and food crops.

Consequently, the SMU did not pursue this aspect of cultural practice beyond 1978 and in fact encourage controlled intercropping;

i.e. arable crops were not allowed within 6 feet radius of the oil palm.

4.1.5.6 Chemicals

There is no evidence to show that chemicals were distributed to farmers. Some quantity of chemicals purchased over time were used on the nurseries

mainly for weed, pest and disease control.

The oil palm by its very nature is not readily susceptible to pest and disease attacks. This may explain why SMU did not lay much emphasis on the supply of chemicals to farmers.

4.1.5.7 Farmer Participation

Table 4.6 shows the trend of farmer participation in the project

Table 4.6 - Trend of farmer participation

Year	Field planting (ha)	No. of farmers	Cummulative field planting (ha)	Cummulative No. of farmers
1976	415	216	415	216
1977	853	532	1,268	748
1978	1,588	987	2,856	1,735
1979	1,899	1,204	4,755	2,939
1980	2,320	1,462	7,075	4,401
1981	1,482	1,046	8,557	5,447
1982	1,225	862	9,782	9,309
1983	1,289	919	11,071	7,228
1984	1,236	917	12,307	8,145
1985	93	93	12,400	8,238

From available evidence in table 4.6 the credit package was a very good incentive to farmers especially at the early years of the project. This was evident by decline in farmer participation after withdrawal of most of the credit package i.e. cash loan, seedlings, fertilizers and wire collars. However, since there was price boom later during project implementation, with respect to palm oil, market forces became dominant factors in encouraging farmers to participate. The drastic decline in farmer participation in 1985 does not imply that smallholder establishment declined that much, rather it was because of complete withdrawal of the credit packages including free seedlings. From that year, farmers preferred not to register with the SMU, though they continued to buy seedlings in lesser quantities from SMU nurseries.

4.1.6 Farm Maintenance

The responsibility for farm maintenance was left entirely to the smallholder. Nevertheless, the extension staff of SMU supervised the execution of basic cultural practices which included ring weeding, slatching, fertilizer application, replacement of dead stands and ensuring that intercropping is practised within specified limits.

Most of the farms were properly maintained especially during the establishment period when intercropping helped to keep farms clean.

The project management did not seem to attach much importance to pruning of old fronds such that this vital operation was often ignored. Farmers generally did not regard pruning as necessary, as they considered it part of harvesting operation.

The utilisation of fertilizer depended largely on the ability of SMU to supply the input. Due mainly to breakdown of vehicles, the supply of fertilizer to farmers was often irregular and untimely, consequently fertilizer application followed the same pattern.

4.1.7 Labour Costs

Increased wage rates adversely affected farm establishment and maintenance since farmers could not afford to pay competitive wages. Average wage rates increased from N0.40 per manday in 1970 to about N1.00 in 1974, N2.50 in 1976 and N7.00 in 1985. These represented average increases of about 25.75 percent per annum between 1970 and 1974, 58.11 percent per annum between 1974 and 1976 and 12.12 percent per annum between 1976 and 1985. Over the 11 - year period 1974 - 1985, the average growth rate in labour wages was 19.35 per cent per annum. Unfortunately this was not accompanied with increased labour productivity. The result was the neglect of certain essential farm operations.

The critical period for food crop cultivation March - May also coincided with the peak labour period in oil-palm operations thus exerting even more pressure on the demand for labour.

4.1.8 Registered Cooperatives

The Appraisal Report made membership of a registered cooperative as a prerequisite for farmer participation in the project. As earlier indicated, the SMU complied very strictly with this requirement. However, it was observed that these cooperatives were not as strong and influential as they were designed to be. Because of this inherent weakness, they had no effective control on members, who consequently circumvented most of the agreements with SMU including sale of ffb to Adapalm and loan repayment.

In our opinion, the role played by the cooperatives was minimal and unimpressive. We recommend that in a future project of similar nature measures should be evolved to strengthen the cooperatives to make them more effective. Alternatively a new institutional arrangement could be evolved which would ensure that farmers comply with agreements.

4.1.9 Vehicles and Machinery

The appraisal report specified the number of various categories of vehicles and machinery needed by the project for effective performance. Table 4.7 compares appraisal requirement with actual purchases made by the project.

Table 4.7 - Actual Number of Vehicles and Machinery Compared with Appraisal

Vehicles	Number Appraisal	Actual	% of Actual Appraisal
Saloon/Wagon	11	5	45.5
4-wheel drive	12	9	75.0
Lorries	21	13	61.9
Tipper lorries	2	2	100.0
Motor cycle	119	*	*/1
Pick-up van	1	1	100.00
<u>Road construction machinery</u>			
Grader 115 HP	1	1	100.0
Roller (rubber tyred)	1	1	100.0
Bulldozer	1	1	100.0
Tractors	1	3	300.0
Tanker on wheel	1	1	100.0

/1 The SMU gave motor cycle loans to extension staff. The actual number of such purchase is not known.

The compliance with appraisal estimates for both vehicles and machinery is satisfactory except in the case of saloon/wagon cars, 4-wheel drive vehicles and lorries where the number fell short of appraisal requirement by 54.5%, 25% and 38.1% respectively. This defect coupled with inadequate maintenance of available vehicles hindered effective distribution of inputs (fertilizer, seedlings, wire collars, etc) and operational ability.

4.1.10 Road Construction and Maintenance

The Appraisal Report recommended the improvement and upgrading 946 km of roads in the project area to facilitate all season movement of inputs and collection of ifb. The SMU was to improve 571 km of earth roads while the remaining 375 km of paved roads would be rehabilitated by the Ministry of Works and Transport.

The SMU completed the upgrading of 223 km representing 39% of appraisal target of earth roads between 1980 and 1982. The road construction could not take off earlier than 1980 due to late procurement of construction equipment. Beyond 1982, the SMU was unable to continue with the improvement of earth roads because of lack of functional road construction machinery and equipment.

Although the various equipment for road construction/maintenance appeared to be adequate, not much was achieved in road construction as a result of frequent breakdowns which proved difficult to rectify due to lack of technical know how and availability of spare parts. Most of the SMU road development was in Aba Regional Unit since Owerri and Umuahia had higher densities of Federal, State and Local Government roads which were at reasonable levels of maintenance.

The Ministry of Works and Transport on its part rehabilitated and improved most of its roads while additional State roads were constructed in the project area.

The road construction and maintenance should be part of estate rather than SMU programme. This would give the estate the opportunity to establish good road net work to facilitate fruit collection. The road construction Unit of the estate should be reactivated and strengthened through proper funding and provision of adequate manpower to handle the equipments.

4.1.11 Costs

The appraisal report estimated that the project cost would be N24.70m or US\$37.54m. Of this amount the IBRD was to provide N12.4m or \$19m representing 50% of total project costs and equivalent to all foreign exchange costs (\$11.6m.) and 29% of local costs (\$7.4m.).

The Federal and Imo State Governments were to provide 25% and 23% of total costs respectively. The remaining 2% was to be contributed by the farmer in the form of household labour and hand tools.

These cost estimates were based on the price ruling in January 1974. Provisions were made for physical and price contingencies as follows: Physical contingencies of 12% for civil works and 5% for other costs, price contingencies were calculated over base cost and physical contingencies to

allow for compounded increases in the cost of (a) civil works, buildings and houses of 18% in 1974, 15% in 1975 and 12% annually thereafter; (b) vehicles, office and mill equipment, non-labour farm inputs of 14% in 1974, 11% in 1975 and 7.5% annually thereafter; and (c) labour, salaries, operating costs, consultancy services and training of 7% annually.

Table 4.8 shows that from inception in 1975 to December 31st. 1985 a total sum of N27,415,360 /1 was spent on the project. Though the appraisal estimate for the Adapalm mills was N3.792m, the actual cost as at 1985 was N9.572m; thus showing an increase of N5.780. During the life of the project various prices of items rose considerably beyond the contingencies envisaged at the appraisal stage. For instance labour wage rate rose from N1/manday in 1974 to N7/manday in 1985 representing an annual growth rate of 19.35%. Other items such as vehicles and sprouted nuts increased by 9.84% and 17.69% per annum respectively. These price contingencies are much higher than those used in the appraisal. The extension of the project life might be responsible for these discrepancies. The appraisal stipulated that major aspects of the project would be completed in 5 years (1976 - 1980) but this was extended to 1983 without proper financial revision to cater for increasing costs.

/1 - Includes N17,843,455.00 spent on SMU project and investment cost of N9,571,905.00 on Adapalm Smallholder mills.

Table 4.8 - Comparison between Appraisal and Implementation Costs

	Appraisal cost	Actual cost	Actual Appraisal %
1975	774,100	441,751	57
1976	1,594,600	1,015,657	64
1977	1,684,400	1,730,505	103
1978	2,047,200	2,231,393	109
1979	4,967,800	2,670,974	54
1980	5,230,900	1,803,738	34
1981	2,237,200	2,500,372	112
1982	2,966,800	2,134,554	72
1983	3,194,900	4,854,377 /1	152
1984	-	4,286,797 /1	*
1985	-	3,745,248 /1	*
Total	24,697,900	27,415,360	111

/1 - Includes N3,190,635 annual investment cost of mills.

* Not applicable

4.1.12 - Cost of Fixed Assets

Table 4.9 - Actual Costs of Fixed Assets /1

	Buildings	Vehicles	Farm plant Heavy machinery & Nursery Equipment	Office/ Household Furniture & Equipment	Total
1975	-	55,242	57,822	6,489	119,553
1976	58,694	50,177	105,177	54,254	268,302
1977	51,479	17,275	146,665	15,354	230,773
1978	91,507	177,372	188,257	43,917	501,053
1979	154,456	-	60,222	26,325	241,003
1980	225,474	14,312	6,710	60,139	306,635
1981	122,947	-	5,129	18,042	146,118
1982	17,202	-	31,954	8,125	57,281
1983	-	-	8,250	143	8,393
1984	-	-	-	154	154
1985	-	-	-	-	-
	721,759	314,378	610,186	232,942	1,879,265

/1 - Included buildings, agricultural machineries, nursery equipment, office/household furniture and equipment.

4.1.12.1 Buildings

Table 4.9, showed actual cost of various fixed items on which the project invested from 1975 - 1985. Although the Appraisal Report recommended renting of office accommodation, the SMU built office at Aba and Umahi Regional Units. Also stores were built for the 3 Regional Units. Two residential houses were built for the most Senior Management Staff. A total sum of N721,759 was spent on land and buildings.

4.1.12.2 Vehicles

Most of the vehicles were purchased in the early years of the project. These included saicon/wagons, 4-wheel drive, lorries and tippers - see table 4.7 for details. The vehicle requirement of the project was reasonably

met in the early life of the project as shown in table 4.7. In later years due mainly to shortage of funds and increasing costs, new vehicles could not be purchased to replace ageing ones nor could the existing fleet of vehicles be adequately maintained. Consequently the poor state of vehicles became a limiting factor in the execution of major operations. A total of N314,378 was spent on purchase of vehicles.

4.1.12.3 Farm Plant, Heavy Machinery and Equipment

As shown in table 4.7 most of the appraisal requirement for road construction machinery and equipment were purchased by the project. These included 115 Hp motor grader, a bulldozer, roller (rubber tyred), tanker on wheel and rota vator. Most of these machinery were bought in 1978 in good time to undertake meaningful road development. It is therefore surprising that only 223 km of earth roads or 39% of appraisal target were constructed. These equipment were not put into use until 1980 (two years after purchase) and this could have contributed to their early deterioration.

Nursery and field equipment such as dolphin irrigators, knapsack sprayers, powered chain saws, tractors, ploughs and harrows were purchased between 1977 and 1979 - see annex 3 for details of costs. A total sum of N610,186 was spent on farm plants, heavy machinery and equipment.

4.1.12.4 Office/Household Furniture and Equipment

A total of N132,942 was spent on various items of office and household furniture and equipment such as airconditioners, refrigerators, generating set, duplicating machine, photocopiers, fans, typewriters, cookers, water heaters, etc.

4.1.13 Operating Costs

4.1.13.1 Cost of Road Construction

Apart from the fixed cost component of road construction additional N49,394 was spent on the programme as operating expenses.

4.1.13.2 Nursery/Field Development Operating Costs

A total of N4,398,877.00 was spent on nursery/field establishment operations between 1975 and 1985. Of this amount the nursery operations accounted for N3,526,883.00 while the balance of N871,994 was expended on field establishment, (see Annex 4 and 4a).

The major components of the nursery costs are shown in table 4.10.

Table 4.10 - Components of Nursery Costs 1975 - 1985

Items	Costs (N)
Watering & Irrigation	68,205
Labour wages	2,507,374
Compensation fee	30,777
Fungicides, pesticides, etc.	180,498
Fertilizers	25,071
Sprouted Tencra seeds	356,259
Clearing charges	21,399
Polybags	360,958
Land rent	12,119
Transportation	21,225
Nursery Equipment/Machinery	12,181
Road maintenance	3,018
Sundry Expenses	2,329
Total	N3,526,883

The details of the cost of field establishment are shown in table 4.11

Table 4.11 - Details of field establishment cost 1975 - 1985

Items	Costs (N)
Fertilizers	159,021
Wire-nettings	638,036
Chemicals	12,685
Transportation	4,480
Chain-saw running expenses	4,227
Cover crop seeds	43,745
Fertilizer sacks	9,800
Total	N871,994

4.1.13.3 Loan to Farmers

N1,890,759 was expended on the provision of cash loan to farmers, details of which are shown in table 4.3.

4.1.13.4 Administrative Overheads

A total cost of N9,625,160.00 was spent on administrative overheads comprising personnel costs of N7,569,546.00, administrative expenses of N1,968,427.00 and financial charges of N67,187.00. The details of these expenses are shown in annex 5.

4.1.14 Reporting

In the course of project implementation the SMU sent regular reports to all parties concerned.

Towards the end of every year the SMU sent their proposed budget for the next year to both the State and Federal Government for consideration and approval.

Periodic progress reports (quarterly and annual) covering major aspects of the SMU operations were sent to financing agencies and the Monitoring and Evaluation Unit from time to time.

Audited accounts and auditors reports were prepared annually but not necessarily sent to all agencies concerned on regular basis.

4.1.15 Monitoring and Evaluation

Although periodic progress reports were made available to all financing agencies directly or through the Monitoring and Evaluation Unit (MEU), the MEU monitored the project at least twice every year. During such visits, detailed agricultural and financial monitoring were undertaken to ensure that the project complied strictly with the approved guidelines. Where there were noticeable deviation, measures were taken to rectify them.

Effort was made by MEU to develop data collection, storage and retrieval systems to facilitate the regular flow of information.

In 1983, a comprehensive evaluation of the SMC was carried out and the report ¹ sent to financing agencies and other relevant institutions. In 1982, the MEU started a survey, which lasted 4 years and designed to estimate ffb and intercrop yields. The report, "The Smallholder Oil-Palm Management Unit, Imo State: An Empirical Estimation of Oil-Palm Fresh Fruit and Associated Intercrop yields" formed the basis for the ffb yield and revenue used in this FCR. Several other exercises were carried out in the project area during the implementation period.

It must be mentioned that MEU was seriously handicapped by limitations posed by inadequate funds, materials and manpower. The most noticeable constraint was the lack of training opportunities for technical staff. The area of monitoring and project evaluation is highly specialised and lack local training facilities and no serious efforts were made to strengthen the skill of staff through training programmes abroad.

Apart from training, it is recommended that the technical strength of MEU be reinforced by recruiting internationally a financial analyst and a statistician with indebt knowledge of computer programming.

¹ - Reassessment of the Smallholder Oil-palm Project, Imo State by MEU, Benin City - September 1983.

4.1.16 MILL AND MILL COSTS

4.1.16.1 Mill Procurement

Adapalm made the following major procurements under the project agreement.

- Two 5 tons FFB/hr palm oil mills
- Ten fruit collection trucks
- Equipment for the extension of the 20 tons FFB/hr mill at Ohaji to 30 tons FFB/hr

4.1.16.2 Two five tons FFB/hr palm oil mills

The decision to construct four 5 tonne/hr mills in preference to the 20 tonne/hr mill which was to be located at Overri-Nta was taken after due consultation with SOCFINCO S.A. who provided the engineering and other professional services. The decision was taken in order to decentralise the milling facilities and locate them nearer smallholder concentrations.

Available information shows that milling efficiency is optimised within the mill capacity range of 5 - 30 tonnes t/b/hr hence the choice of 5 tonne t/b/hr mills.

The decision to erect two 5 tonne per hr mills was taken with due regards to costs as well as the urgent need for processing facilities. It was easier to acquire 5 tonne mills at lower costs than would have been the case for bigger and higher capacity mills bearing in mind the available resources (especially finance) at that time.

Additionally, it was considered that the personnel and maintenance costs and other problems associated with the 5 tonne/hr mills would be lower than those for smaller mills of similar additive capacity.

On 18.02 1981 an agreement was signed between Adapalm and SOCFINCO S.A. whereby Adapalm appointed SOCFINCO as their consulting engineer to provide professional services for the design and supervision of the construction of the palm oil mills to be built in the Eastern Part of the Smallholders' Project Area.

SOCFINCO recommended the construction of four 5 tons FFE/hr palm oil mills, two of them to be built immediately at Umuogu and Mbavsi.

A pre-qualification procedure was set up in May 1982 previous to the invitation to tender. Four companies were selected.

The tender documents were approved by the IBRD on 30/10/82 and dispatched to the four preselected manufacturers.

Closing date of tendering and public opening of the tenders took place on 3rd February 1983.

Constructieverkhuizen Vandekerhove of Belgium was the lowest evaluation bidder and a contract was signed on 21st December 1983 for the sum of:

Foreign Component;	BF 284,484,000
Local component;	N1,332,800,000

Civil works started during the second half of 1984 and assembly of the equipment early January 1985.

Commissioning of Mbavsi mill took place on 15th January.

Both factories are running satisfactorily and at full capacity as from 1987. The final cost of the two mills was:

- Foreign component: BF 288,828,413 equivalent to US\$4,880,156.69
- Local component: Naira N2,391,567

The total cost, expressed in Naira, was:

• Foreign	N7,180,338
• Local	N2,391,567
• Total	<u>N9,571,905</u>

The difference in foreign exchange cost of the two mills between the contract value and the finally paid amount, namely BF. 4,344,413, - is due to change in specification of:

- Generating sets: 300 KVA have been installed in lieu of the 20 KVA initially planned
- Water supply: the water table was deeper than expected, requiring

supplementary cables, pipes and more powerful pumps than initially foreseen.

The difference in local cost is due to:

- Increase in cost of locally bought materials and services during the period of execution of works, according to the escalation formula incorporated on the contract; N249,670.
- Deeper boreholes than initially foreseen in the contract specifications N100,500.
- Additional works requested from Constructie - wakhuisen Vandekerckhove such as building of guard ledge, effluent treatment area, concrete area, workshop yard and fencing; N540,234.
- Charges at Port Harcourt port for delays in clearing due to change in custom regulations on agricultural machinery by the time equipment arrived; N168,363.

4.1.16.3 Fruit Collection Trucks

A procurement notice was sent in April 1984 to Development Forum, Nigerian newspapers and all Embassies and High Commissions in Lagos inviting interested suppliers of 4-wheel drive fruit collection trucks to apply for tender documents.

On its letter of 19th June 1984 IBRD expressed its satisfaction with respect to the tender documents.

Public opening of tenders took place on 31st August 1984.

The contract could not be awarded on the basis of this ICB, and the invitation to tender was renewed but this time for only 20 tipping trucks. The contract was awarded to N.V. Nachiels of Belgium, who was the lowest evaluated bidder, for the supply of 10 fruit collection trucks for the total sum of DN 1.670,000 - equivalent to US\$673,207.

Only 10 trucks were ordered taking into account the balance available on the IBRD loan and the fact that a great deal of fruit transport was done by private transporters, requiring less company collection trucks than

The total cost of the extension works at the Obaji mill can be summarised as follows:

• Foreign component:

UDW	BF 61,442,500
Boiler:	<u>30,811,500</u>
	BF 92,254,000
	at N1 = 9.25 BF

N9,973,405

• Local component

• UDW equipment and services	N316,500
• Locally bought equipment	<u>N2,535,000</u>

N12,824,905

I.B.R.D. financed the down payment to USINE DE WECKER to the tune of BF 12,288,500 - equivalent to US\$126,127.92.

4.1.16.5 Other Procurements

Apart from the two 5 tons FFB/hr mills, the fruit collection trucks and the equipment for the Obaji mill extension, other minor equipment and spares were paid out of the proceeds of the 1-...

Mill spare parts	US\$591,688.03
Collection Vehicle spare parts	US\$403,403.04
Computer equipment	<u>US\$ 81,110.19</u>
	<u>US\$1,076,102.20</u>

4.1.16.6 Running Costs

The fruit collection department and oil mill department are part of the Adapalm organisation. The overhead costs are apportioned over all departments and as such the collection and mill departments bear only a portion of the overhead cost. Generally speaking, overhead cost in an agricultural venture is 30% of the direct cost before depreciation and

financing charges.

4.2 Rivers State SMU

4.2.1 Planting Programme

The planting programme started in 1978 with seedlings brought from Risonpalm. As recommended in the Appraisal Report. (Report No. 1525-UNI) all field plantings were scheduled to be completed in 1982. Soon after the project started, it became obvious that the project targets needed some review considering the low achievements in the first two years. The planting programme was rephased to allow for lower targets in the early life of the project and higher target figures towards the end of the project. The idea was to meet up the lapses of the early years in later period. From inception to the expected end of the project in 1982 only 1586 hectares or 15.9% of the target of 10,000 ha had been established. This figure rose very marginally to 2,071 hectares or 20.7% of appraisal target in 1984, two years after the expected completion of the project.

There does not seem to be any imaginable reasons that could have been responsible for such abysmal performance other than the fact that the SMU management and staff were grossly incapable from the moral, technical and administrative points of view. Some 265 holdings or 41% of the plantation established through the first four year period were less than the prescribed minimum of one hectare. The land tenure system results in land fragmentation in which individuals inherit small pieces of land from their forebears. This made it necessary for the project to go below the prescribed minimum of 1 ha, hence some farmers had average farm sizes of 0.5 ha. The SMU claimed they established a total of 4,134 hectares between 1978 and 1983. However, MEU ascertained the existence of only 2,071 hectares between 1978 and 1984.

From our experience the poor performance of the Rivers State SMU was not only as a result of mixed cropping. Socio-culturally the people of

Rivers State are traditional arable crop farmers and fishermen and had little or no experience in plantation oil palm farming.

Table 4.12 - Schedule of Implementation and actual field Planting

Year	Appraisal Target (Ha)	Revised Target (Ha)	Actual Planting	R.T. / ¹ Cumulative	Actual Planting	Percentage Cumulative Achievement
1978	200	183	138	183	138	75.4
1979	1,000	700	430	883	568	64.3
1980	2,000	2,000	570	2,883	1,138	39.5
1981	3,300	3,400	448	6,283	1,586	25.2
1982	3,300	3,717	-	10,000	1,586	15.9
1983			355		1,941	19.4
1984			130		2,071	20.7
Total	10,000	10,000	2,071	10,000	2,071	20.7

¹ - Revised Target

4.2.2 The SMU had 3 nurseries located at Egwi, Ihuwe and Elele. All sprouted nuts of improved Tenera spp. were supplied by the Nigerian Institute for Oil Palm Research (NIFOR). During the 3 years (1979, 1980 and 1981) of active nursery operations, enough seedlings were raised to plant over 4,000 ha. With due consideration that the first two years of planting were done with seedlings obtained from Risompalm, then one can conclude that only 1,458 ha were planted with seedlings raised by SMU. This raised question of what happened to the rest of the seedlings raised by SMU.

Table 4.13 below shows the number of sprouted nuts received and the number of plantable seedlings raised annually from 1979 - 1981. No seedlings were raised after 1981.

Table 4.13 - Actual Seedlings Production 1978 - 1982

Year	No. of sprouted nuts received	No. of plantable seedlings raised	Percentage loss %
1978	-	-	39.5
1979	242,500	146,667	39.5
1980	525,000	303,258	42.2
1981	322,636	180,000	44.2
1982	-	-	-

In 1979 - 1982, the SME had enough seedlings to establish 978 ha in 1980, 2,021 hectares in 1981, 1,200 hectares in 1982.

Even though seedlings were raised for 1982 planting, no planting was undertaken that year. 52,867 overgrown seedlings of 1981, were distributed for 1983 plantings while a total of 127,133 seedlings were discarded as too overgrown and the nursery closed down.

The nursery losses of over 39% were considered too high and therefore unacceptable since they were above the acceptable level of between 15 and 25%.

However our field experience showed that a combination of factors were responsible for the high level of losses which included problems with irrigation equipment, inadequate labour, blasts that were accentuated by the irrigation problems and relative poor nursery management.

The overgrown seedlings of 1981, could not be sold because the sale of seedlings was not popular at the time since smallholder farmers were supplied with free seedlings. On the other hand the existing estates had their own nurseries and could only buy seedlings when they run short of internal supply.

4.2.3 Registration of Farmers

The registration of farmers started at planting time in 1978 and in the subsequent years. Farmers who participated in the project were approved by a Planting Authorisation Committee.

4.2.4 Land Clearing and Preparation

Land clearing, felling, burning, packing and stumping were the specific responsibilities of the smallholder farmer. However, lining/pegging were expected to be carried out by SMU field staff. There is doubt, if this function was carried out effectively since there was no evidence to show that inputs and even cash loan were given to 'ghost' farmers whose farms were not visited or identified.

4.2.5 Grant and Credit Scheme

The project was expected to deliver in kind to farmers 150 oil-palm seedlings (*Tenera* spp), 150 units of wire collars, 919 kg of fertilizer and 11 kg of cover crop (*Pueraria*) seeds and N300 cash loan per hectare during the years of establishment.

4.2.5.1 Cash Loan

As indicated in the appraisal report N300/ha would be given to farmers over a period of 4 years as cash loan to enable them meet the cost of hired labour.

From the inception of the project in 1978 to 1982, a total sum of N491,240 was expected to be disbursed to farmers as cash loan based on the appraisal requirement and area of field plantings during the period. However, from information available in the SMU's audited reports, a total sum of N1,295,795 was recorded as paid out as cash loans. This amount was 264% of what ought to have been given out to farmers. Indeed this figure maybe higher if the amount given in 1982 were available.

As shown in table 4.14, the SMU paid out annually increasing excesses in loan delivery to farmers ranging between 165% and 472% over the period.

It is doubtful if these amounts actually were received by smallholder farmers since there were no proper records to show that farmers signed for the loans. There was no basis for the project to have spent as much as N1,295,595 on cash loan delivery to farmers up to 1982. It was discovered that a lot of money was paid out as cash loan to non-existing farmers for farms they did not establish.

Table 4.14 - Expected and Actual Cash Loan Delivery to Farmers 1978 - 1982

Year	Expected Cash Loan (N)	Actual Cash Loan disbursed (K)	% of Actual/Expected
1978	24,840	40,975	165
1979	83,300	175,770	211
1980	129,620	462,743	357
1981	130,480	616,307	472
1982	122,000	*	*
1983	76,170	*	*
1984	34,140	*	*
Total	491,240	1,295,795	*

*Figures not available

This was glaringly a case of financial mismanagement which went further to buttress the fact that the management was incapable and the case of fraud may not be ruled out. And of course this raised another issue of what amount of money must be recovered from the farmers who obviously received amounts far below what was debited to their names.

4.2.5.2 Seedlings

The appraisal requirement of the supply of 150 seedlings per ha to farmers could not be said to have been effectively complied with by SMU.

It is known that some farmers collected seedlings which they did not plant. Obviously, such seedlings were collected to enable such farmers to obtain cash loan and other inputs. This is one reason why the SMU's method of estimating hectares planted, through the quantity of seedlings distributed to farmers was considered defective and therefore inaccurate.

The 150 seedlings per ha given to farmers was considered appropriate since the 7 extra seedlings per ha were to cover losses arising from handling.

4.2.5.3 Fertilizer

The appraisal requirement provided for the use of three types of fertilizers, Ammonium Sulphate, Potassium Chloride and Magnesium Sulphate mixed in proportions which total 130 kg/ha in year 0, 25 kg/ha in year 1, 323 kg/ha in year 2, and 215 kg/ha in year 3 making a total of 919 kg/ha in the first 4 years of establishment.

Table 4.15 - Fertilizer Requirement Compared with Actual Supply

Year	Appraisal Requirement (Tonnes)	Quantity Available (Tonnes)
1978	18	21
1979	91	82
1980	227	156
1981	370	*
1982	389	*
1983	703	*
1984	202	*
Total	2,000	*

* Information not available

As shown in table 4.1⁵ above, the information on fertilizer is very scanty and so not very useful. For example the quantity of fertilizer distributed to farmers and actually used is not known. The quantity of

fertilizer available in 1979 and 1980 fall short of actual requirements. Even if all the quantity available were distributed, it would not have been sufficient to meet with farmers requirement for the farms established in those years.

As in the case of seedling distribution, fertilizer was also distributed by contractors without the presence of SMU staff at the terminal delivery points. The SMU resorted to contract delivery of materials in an effort to overcome inefficient direct distributions which resulted in very high costs of unjustifiable overtime claims by delivery staff. Contractual deliveries nevertheless had its load of deficiencies which included non delivery and diversion of fertilizer/inputs and when delivered in very bad condition.

The fertilizer procurement unit under the Federal Department of Agriculture based its annual imports on requisition received from various State governments. The quantity and types of fertilizers were imported and distributed to the States at subsidized rates. The subsidy resulted in increased demand and subsequent availability at various project depots. However these fertilizers were not adequately supplied to farmers due to poor distribution arrangements.

4.2.5.4 Wire Collars

There is evidence to show that wire netting/collars were supplied to farmers in 1978 and 1979 but records of actual quantity supplied were not available. Later in the project's life the practice of recovering wire collars from farmers for resupply to new farmers was adopted in a bid to save costs. For example in 1983, 20k was paid per piece of wire collar and through this process 22,506 pieces were recovered for resupply to new farmers.

4.2.5.5 Cover Crop and Intercropping

There is evidence of expenditure on cover crop seeds in the 1978/79 audit report. However, there is no information as to the quantity of cover crop seeds purchased and whether these were delivered to farmers. Most of the participating farmers intercropped their oil palm farms with arable crops; mainly cassava, maize, cocoyams, etc. Intercropping was often indiscriminate with cassava planted very close to palm bases. This again is an indication of poor extension supervision. The practice of establishing cover-crop was unacceptable to farmers who preferred to intercrop with arables. Obviously, SMU did not vigorously pursue or enforce the establishment of cover crops since they encouraged controlled intercropping. Though the project was well considered hence the insistence of farmers on intercropping as against the original proposal of monocropping.

Controlled intercropping was allowed in which smallholder farmers were asked to plant their intercrop at a radius of 6 ft. from the palm stand.

The farmers in the project area depended initially on arable crops interplanted with oil palms to supplement their income and subsistence. Monocropping by itself is ideal and there was evidence of early poor performance of oil palms primarily due to indiscriminate intercropping with arables. However, the majority of the palms recovered from the initial set back and preliminary yield data survey conducted by the MEU indicated yields from these fields would not be affected seriously by the early intercropping.

4.2.5.6 Chemicals

There was evidence that chemicals were purchased over time but information on the types and quantities of chemicals used were not available.

4.2.6 Farmer Participation

Table 4.16 shows the trend of farmer participation in the project, 1978 - 1984.

Table 4.16 - Trend of Farmer Participation

Year	Field planting (ha)	No. of farmers	Cumulative field planting (ha)	Cumulative No. of farmers
1978	138	53	138	53
1979	430	216	560	269
1980	570	406	1,138	677
1981	448	352	1,586	1,029
1982	-	-	1,586	1,029
1983	355	156	1,941	1,185
1984	130	*	2,071	*
Total	2,071	1,185	2,071	1,185

* Not available

Generally farmer participation in this project was very poor. Only 1,185 farmers participated between 1978 and 1983. This poor response may not be unconnected with inadequate publicity and extension services. The promotion of monocropping would have had adverse effect on farmer participation.

4.2.7 Farm Maintenance

The smallholder farms in general, were not properly maintained even though intercropping in younger plantations helped to keep the farms relatively clean and free from fire hazards.

As a result of irregular delivery by SMU, fertilizer application by smallholders was most of the time delayed or not applied at all.

The project management did not seem to attach much importance to pruning of old fronds such that this vital operation was often ignored.

Farmers generally did not regard pruning as necessary, as they considered it as part of harvesting operation.

4.2.8 Labour Costs

Increased wage rates within the Nigerian economy adversely affected farm establishment and maintenance since smallholders could not afford to pay establishment and maintenance since smallholders could not afford to pay competitive wages. Average wage rates increased from N1.75 per manday in 1977 to N6.50 in 1984. This represented an annual growth rate of 20.61 per cent during the 7 year period. Unfortunately the high growth rate in wages were not accompanied by increased labour productivity. The result was the neglect of several essential farm operations.

The critical period for food crop cultivation, March - May also coincided with the peak labour period in oil-palm operations thus exerting even more pressure on the demand for labour.

4.2.9 Registered Co-operatives

The Appraisal Report made membership of a registered co-operative a pre-requisite for farmer participation in the project. However this provision to a large extent was not adhered to as most of the participating farmers did not belong to any co-operative.

When eventually the SMU realised the need for farmers to belong to co-operatives, two such co-operatives were formed to accommodate project farmers in Ahoada and Ikwerre - Etche Local Government Areas with membership of 200 and 150 respectively. The method and manner of the formation of these co-operatives were defective as a result the farmers had no felt need for their existence, consequently there was no group loyalty.

The original objective of using the co-operatives for lean recovery could not be effectively carried out under such inactive, almost dormant organisations, loosely assembled in a bid to meet appraisal requirement.

In our opinion, the role played by the co-operatives were minimal and unimpressive. We recommend that in future project of similar nature measures should be evolved to make the co-operatives more effective. Alternatively, a new institutional arrangement should be evolved which would ensure that farmers comply with agreements.

4.2.10 Vehicles and Machinery

The SMU operated a fleet of vehicles and machinery which included 6 saloon/wagon cars, 11 4-wheel drive vehicles, 3 lorries, 3 tipper lorries, 3 pick-up vans, 1 grader, 1 bulldozer and an unspecified number of motorcycles. It is difficult to assess the adequacy or inadequacy of the number of vehicles they operated, since such considerations must involve the assessment of the type and amount of jobs performed during the period and the average performances of each type of vehicle.

However, it was obvious that the bulldozer and grader, were grossly underutilized since they were effectively put to use only in 1981.

4.2.11 Road Construction and Maintenance

The appraisal report estimated that a total of 400 km of seasonal earth roads would be upgraded in the project area to facilitate all season collection of ffb from smallholder farms. As at 1981, the SMU had upgraded 161 km or 40% of the planned 400 km. The maintenance of roads already upgraded could not be carried out by the Local Governments as anticipated in the appraisal nor was SMU able to handle this. The result was the obvious deterioration of such roads in some cases to very deplorable state. No more work was carried out in further rehabilitation of the remaining roads of about 249 km.

In 1981, the SOCFINCO Consultant Services showed that at least 1,123 km of collection tracks needed to be maintained annually in the project area in order to facilitate the evacuation of ffb from existing farms.

4.2.12 Costs

Table 4.17 - SUMMARY OF EXPENDITURE OF SMU

Application of funds	1978/79	1979/80	1980	1981	1982/86	Total
Fixed costs	67,678	185,435	240,473	383,462	-	877,048
Variable costs	80,201	462,614	1,052,101	1,814,198	-	3,409,114
Admin. Overheads	291,394	798,444	867,378	1,078,823	-	3,036,039
Total	439,273	1,446,493	2,159,952	3,276,483	1,183,148	8,919,349

The appraisal report estimated that the smallholder project cost would be ₦10.5m (\$16.1m) excluding price and physical contingencies.

Of this amount the IBRD was to provide ₦2.3m (\$3.6m) the Federal Military Government ₦2.4m, the Rivers State Government ₦4.9m and the smallholders ₦0.9m. These cost estimates were based on mid-1977 prices.

Provisions were however made for price and physical contingencies which amounted to 34% of entire project base cost.

Table 4.17 shows that from inception in 1978 to December 31st 1982 a total sum of ₦7,782,511 ^{/1} was spent on the project. Up to 1986 a total sum of ₦8,919,349 excluding an outstanding liability of ₦86,394 as at December, 31st 1986, was spent on the project.

^{/1} - Total expenditure of ₦7,322,201 up to 1981 and an assumed expenditure equal to available inflow of ₦460,310.00 in 1982.

4.2.12.1 Land and Buildings

Audited reports available up to end of December 1981 indicated that a total sum of N368,118.00 was spent on the acquisition of land and erecting of office buildings and stores. As at June 1986 several of these structures were uncompleted and abandoned. These structures which included SMU head office building, three residential quarters and stores in different stages of dilapidation tell the story of a project that was a colossal failure. This inability to complete these structures could not be attributed to lack of funds but to management's wrong placement of priority since the project had enough funds which could have been invested in the construction of buildings in its first two years. Management's inability to comply with the construction phased over two years (1978, 1979) resulted in tying down much needed capital in uncompleted structures. It is feared that these structures may never be put to use except if a second phase of the project is approved.

In future the management should be made to strictly comply with the appraisal disbursement schedule, through enhanced financial monitoring of the projects.

4.2.12.2 Vehicles

As at December 1981, N126,547 had been spent on the purchase of various categories of motor vehicles. These included saloon/wagons, 4-wheel drive, lorries, tippers.

4.2.12.3 Farm Plant, Heavy Machinery and Equipment

From 1978 - 81, a total sum of N277,510.00 was spent on the procurement of construction-machinery and equipment which included a bulldozer, grader and tractors. The list of nursery and other heavy equipment was however not available.

4.2.12.4 Office/Household Furniture and Equipment

A total of N104,873.00 was spent on office and household furniture and equipment between 1978 and 1981.

4.2.13 Operating Costs

4.2.13.1 Cost of Road Construction

The cost of constructing roads was not isolated from the other costs. Such expenditure apparently were lumped under various sub-heads.

4.2.13.2 Nursery/Field Development Costs

During the period 1978 - 1981, the sum of N2,113,319.00 was expended on nursery and field development operations.

4.2.13.3 Loan to Farmers

Cash loan to farmers during the same period 1978 - 1981, totalled N1,295,795 and as was observed earlier represented superfluous grants in excess of what was required in relation to field plantings.

4.2.13.4 Administrative Overheads

A total sum of N3,036,039.00 was spent on administrative overheads which was inclusive of personnel costs amounting to N1,845,661, administrative expenses of N1,988,427.00 and financial charges of N4,670.00.

4.2.14 Reporting

In the course of project implementation, the SMU sent reports to all the financing agencies concerned.

Periodic progress reports (quarterly and annual) covering major operations of the SMU were sent to all financing agencies, and the Monitoring and Evaluation Unit from time to time.

Accounts of the SMU were audited between 1978 and 1981. There were no audit reports for 1982 and beyond. There are doubts whether such audited reports were ever sent out to the relevant agencies most especially, the

Federal Government or its agency the Monitoring and Evaluation Unit (MEU).

4.2.15 Monitoring and Evaluation Unit

Although periodic reports were occasionally made available to all financing agencies directly or through the MEU, the MEU monitored the project at least twice every year between 1978 and 1982. During such visits, detailed agricultural and financial monitoring were undertaken and areas of weaknesses fully highlighted in the reports to alert SMU about the need to take remedial measures. Subsequent events showed that MEU's reports were not in most occasions taken seriously.

In 1982, a comprehensive reassessment of Rivers State Smallholder Oil-palm Management Unit was carried out and the report /1 sent to financing agencies and other relevant institutions. That report spotlighted most of the problems of the SMU and spared no efforts in indicting the Management of SMU on several issues that were badly handled. Infact the SMU died a natural death in 1982 for it failed woefully to reassert itself positively.

It must be mentioned that the MEU was seriously handicapped by limitations posed by inadequate funds, materials and manpower. The most noticeable constraint was the lack of training opportunities for technical staff. The area of monitoring and project evaluation is highly specialised and lack local training facilities and no serious efforts were made to strengthen the skill of staff through training programmes abroad.

Apart from training, it is recommended that the technical strength of MEU be reinforced by recruiting internationally, a Financial Analyst and a Statistician with in depth knowledge of computer programming.

/1 - Reassessment of Rivers State Smallholder Oil-palm Management Unit (October 1983)/

CHAPTER 5

PHYSICAL AND FINANCIAL PERFORMANCE

5.1 Imo State SMU

5.1.1 Physical Performance

5.1.1.1 Smallholder Production

In 1982, having anticipated the difficulties associated with the actual measurement of smallholder ffb production, the IFEU started a survey whose aim was to obtain actual yield data from smallholder farmers. This exercise involved putting trained enumerators in all the 3 regional units of SMU. These enumerators went to the farms with farmers on the days they carried out their harvesting. As such times, the fruits collected were weighed on a scale and actual yield records were taken over a period of four years i.e. 1982, 1983, 1984 and 1985. The ffb yields of smallholder farms were extracted from the report, "The Smallholder Management Unit, Imo State: An Empirical Estimation of Oil-Palm fresh fruit and associated intercrop yields - 1985" and are shown in table 5.1 below.

Table 5.1 - Mean annual ffb production per ha according to age of oil-palms

Age of oil-palms (years)	4	5	6	7	8 & after
Production/ha (tonnes)	2.496	3.955	4.493	5.013	6.770

The above information was used in the estimation of ffb production from all SMU farms as shown in Annex 6.

Total ffb production are summarised in Table 5.2.

Table 5.2 - Total ffb production from all smallholder farms in Imo State

Year	1980	1981	1982	1983	1984	1985	1986	1987
FFB (tonnes)	1,036	3,770	9,202	16,933	27,522	37,952	48,197	58,542
Year	1988	1989	1990	1991	1992	1993	to	2010
FFB (tonnes)	69,014	74,954	78,607	81,565	83,785	83,948		

As indicated in Table 5.1, the ffb production per ha per annum in the smallholder farms are lower than appraisal yield estimates as shown by comparison in Table 5.3.

Table 5.3 - Comparison of appraisal yield estimates with actual production

Harvesting year from planting	Appraisal Report	Actual Estimates	Actual Appraisal %
4	2.5	2.50	100
5	5.0	4.00	80
6	6.3	4.50	71
7	8.8	5.00	57
8 & beyond	10.0	6.80	68

5.1.1.2 Fruit Collection System

Adapalm, as provided in the Appraisal Report had the responsibility for fruit collection from smallholder farms. This function according to Adapalm sources was difficult to implement satisfactorily because of several constraints including the following;

- (i) the distance between smallholder farms, their scattered nature and small productions per unit makes the cost of fruit collection expensive, tedious and unrealistic.
- (ii) many smallholders prefer to process their fruit themselves so as to reap the benefit of high palm oil prices and at the same time evade the repayment of their loans.

(iii) most smallholders prefer to sell their fruits to competing individual processors who pay them cash on the spot.

Adapalm has a very good system of fruit collection which involves contractors who actually buy fruits from both smallholders and wild groves and transport them to the Adapalm processing mills. However Adapalm does not have any direct dealing with smallholder or other plantation owners and infact they could not differentiate between fruits from smallholders and other farmers. In effect, the Adapalm system of fruit collection even though has been very impressive and successful, does not give smallholder farmers any special consideration in this regard, more so when the smallholders and their farms are not known to Adapalm personnel. The number of contractors and the quantity of ffb received from non-estate sources had continued to increase from 1985 when the fruit collection operation in Imo State was started. In 1985, 269 ffb contractors delivered 3,445 tonnes of Dura and 1,615 tonnes Tenera ffb while in 1986 1,921 contractors delivered 17,505 tonnes of Dura and 9,155 tonnes of Tenera ffb. The total tonnage of ffb rose from 5,060 in 1985 to 26,660 in 1986.

Total payment for ffb supplied in 1985 amounted to N660,149 and N4,424,878 in 1986. The price paid per tonne of Dura or Tenera ffb determined by Adapalm in a table in which the cost of ffb varies with the selling price per tonne of palm oil, as shown in table 5.4 below:

ADAPALM (NIGERIA) LIMITED OHAJI

Table 5.4

PURCHASING PRICE OF FFB

ADAPALM OIL SALES PRICE N/TON	BUNCHES N/TON	AGRIC (TENERA) TRANSPORT N/TON	TOTAL PAID N/TON	BUNCHES N/TON	LOCAL (DURA) TRANSPORT N/TON	TOTAL PAID N/TON
3,000	324	19	343	163	19	182
2,900	312	19	331	157	19	176
2,800	300	19	319	150	19	169
2,700	288	19	307	144	19	163
2,600	276	19	295	137	19	156
2,500	264	19	283	131	19	150
2,400	252	19	271	125	19	144
2,300	240	19	259	118	19	137
2,200	228	19	247	118	19	131
2,100	216	19	235	105	19	124
2,000	204	19	223	99	19	118
1,900	192	19	211	93	19	112
1,800	180	19	199	86	19	105
1,700	168	19	187	80	19	99
1,600	156	19	175	73	19	92
1,500	144	19	163	61	19	86

- Grade 2 less N5/ton ffb

- Grade 3 less N10/ton ffb

With effect from 2nd May 1986, the purchasing price of bunches will follow the evolution of the oil sales prices of Adapalm according to this schedule.

5.1.1.3 State Price Policy Committee

The initial objective of setting up the State Price Policy Committee was to protect the interest of the smallholders. In actual operation, the prices fixed by the committee were unacceptable to farmers because such prices were below the ruling market price and therefore uncompetitive. Farmers therefore preferred selling their ffb to other buyers who offered higher prices.

Consequently, Adapalm evolved her own pricing policy which was more competitive and acceptable to farmers. This rendered the role of the State Price Policy Committee irrelevant.

It is therefore recommended that in future projects, market forces should be allowed to determine prices rather than the use of such price policy committee.

5.1.1.4 The appraisal recommendation that the State Government would settle any financial losses incurred by Adapalm as a result of the smallholders failing to deliver an agreed quantity of ffb to the mills is unrealistic in view of the fact that the State Government was not in a position to enforce the continuous flow of ffb to Adapalm and at the same time protect the interest of the farmer.

5.1.2 Milling Facilities

Two 5 tonne/hr mills were constructed by Adapalm in 1983 - 1985. These mills were commissioned and started operation in November 1985 and January 1986 respectively. In addition, a 20 tonne mill which was extended to 30 tonne/hr was built by Adapalm located at their estate at Ohaji.

5.1.3 Financial Performance

5.1.3.1 Project Funding

The actual funding of the project by the different sources from inception 1975 to 1985 amounted to ₦17,812,417¹. The details of annual disbursement from each source are shown in table 5.5 and Annex 2.

Table 5.5 - SMU Imo: Sources of funds and annual disbursements (N'000)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	Total
Sources of Fund												
Federal Government of Nigeria	-	1200	50	728	1600	1150	565	851	590	55	380	7169
Imo State Government	603	842	673	322	296	609	125	773	799	345	203	5590
World Bank (IBRD)	5	22	313	1189	1027	-	1130	982	116	-	-	4785
Sundry Receipts	-	39	-	2	9	2	-	4	34	104	75	269
Total Disbursement	608	2103	1036	2241	2932	1761	1819	2611	1539	504	659	17813

¹ Disbursement of funds during project implementation was not regular as a result several project operations were adversely affected. In some cases operations were abandoned because of the irregular disbursement. It should be noted that agricultural operations are seasonal and must be carried out at the right time to achieve the desired goal.

¹ - Excluding IBRD disbursement to Adapalm for the construction of mills.

5.1.3.2 Method of IBRD disbursement

The procedure in which the IBRD gave reimbursement only after actual expenditures is unsatisfactory most especially in an economy where scarcity of capital constitutes major constraint in project execution. This placed severe limitation in the project funding since most State governments were unable to meet their financial obligations. This process of paying reimbursement into the State Treasury in certain instances compounded the problem as this money was no longer available to the project. This funding arrangement needs to be reviewed.

Although it is unlikely the World Bank will change its disbursement procedure which hindered achievement and has tried to solve the initial cash flow problem of the project by insisting that both the State and the Federal governments make initial down payment directly into project account before loan effectiveness. This was to ensure that projects had enough funds to operate before asking for reimbursements. We recommend that all reimbursements from the Bank be promptly paid into project account.

5.1.4 Cash flow and rates of return (FRR and ERR)

The cash flow for the SMU had been computed and presented in Annexes 6 and 7. The stream of revenue seemed to be very impressive. This might have resulted from assuming the selling price of palm oil to be N1,800/ton. We strongly felt that the present palm oil glut is a temporary measure and very soon prices would rise, bringing the average to N1,800/ton, before year 2010.

From the stream of costs as shown in Annex 7 it is difficult to advocate that the project was starved of funds. As expressed earlier funds were not regularly disbursed but on the final analysis the project was given enough funds to work with.

The financial rate of return (FRR) for the project is estimated to be 21.09% an economic rate of return of 16.8%. These rates of return are considered impressive and it is expected that the project would pay for its investments and at the same time yield some financial profits in addition to other unquantifiable benefits such as employment generation and the stimulation of related businesses like soap making, etc.

5.2 Rivers State SMU

5.2.1 Physical Performance

5.2.1.1 Smallholder Production

No yield studies were carried out in this project to obtain actual yield data on smallholder ffb production. However, from available evidence, the project smallholders did not enjoy any better services in terms of inputs, technical and extension services than their counterparts in Imo State. Their FFE yields are therefore not expected to be higher.

But since the area enjoys more favourable climatic condition for oil palm cultivation especially in the area of water deficit level, which is lower in this project area, we are assuming a 5% yield advantage over Imo State Smallholder Project. The result of the survey in which actual yield data was obtained from smallholder in Imo State - "The Smallholder Oil Palm Project, Imo State: An Empirical Estimation of Oil Palm Fresh Fruit Bunch and Associated Intercrop Yield - 1985" is applied here but with 5% yield increases to compensate for better climatic conditions for oil palm cultivation. See Table 5.6

Table 5.6 - Mean Annual FFB Production per Hectare according to Age of Oil Palm

Age of Oil Palm (Years)	4	5	6	7	8 and after
FFB production Imo State Survey (tonnes)	2.496	3.955	4.493	5.013	6,770
5% water deficit level Advantage (tonnes)	0.125	0.198	0.225	0.251	0.339
FFB productions (tonnes)	2.621	4.153	4.718	5.264	7.109

Table 5.7 - Total FFB Production from All Smallholder Farms in the Project Area

Years	1981	1982	1983	1984	1985	1986	1987	1988
FFB (tonnes)	363	1,702	3,933	629	7,797	10,085	11,925	12,952

Years	1989	1990	1991	1992	1993	1994	1995	1996 - 20
FFB (tonnes)	13,759	14,485	14,725	14,725	14,725	14,725	14,725	14,725

The FFB production per hectare per annum in the smallholder farms are lower than the appraisal yield estimates shown in table 5.8.

Table 5.8 - Comparison of Appraisal Yield Estimates with actual production

Harvesting year from planting	Appraisal Estimates	Actual Production	Actual/Appraisal %
4	4.0	2.621	65.5
5	6.0	4.153	69.2
6	7.5	4.718	62.9
7	9.5	5.264	55.4
8 and above	10.0	7.109	71.1

5.2.1.2 Fruit Collection System

Fruit collection was primarily the responsibility of RISONPALM. The fruit collection system established by Risonpalm was directed to both the smallholders and the wild grove producers. This was primarily because the smallholder established only 2,071 hectares representing 20.7% of the appraisal target of 10,000 hectares.

The Risonpalm pricing policy was aimed at encouraging the farmers to supply FFB to the mill. Apart from attractive prices for ffb, farmers were paid transport cost for their ffb and were also allowed to buy one tonne of palm oil for every 20 tonnes of bunches supplied. The response was overwhelming and deliveries rose to 21,516 tonnes in 1984 and 39,388 tonnes in 1985.

The harvesting of wild groves though not provided for in the appraisal it largely compensated for the short fall in production due to the failure of the SMU to perform.

The fruit collection system involved the use of contract buyers who bought ffb from the farmers and delivered at mill gate. The system was very efficient in terms of buying and delivering of ffb to the mill but created problem in cash loan recovery from smallholder farmers.

5.2.1.3 Cash Loan Recovery

The Appraisal Report recommended that a small percentage of the cash loan given to farmers should be deducted before payments for ffb is made under the fruit collection system. It was difficult to implement this regulation since project smallholders were not known to Risonpalm which was responsible for fruit collection. More also Risonpalm was using contactors to buy ffb from both smallholders and wild grove farmers.

The loan recovery was further complicated by the fact that SMU may have debited more money to individual farmers than was actually given to them as highlighted in section 4.5.1. It is recommended that the cash loan recovery system should be properly reviewed to make it more realistic.

5.2.1.4 State Price Policy Committee

This committee was never established and from experience from Igo State smallholder project, its establishment would not have been useful in the attainment of project objectives. Market forces should be allowed to determine price of ffb.

5.2.2 Mill Throughput and Production

Risonpalm started processing with 1.5 tonnes/hour mill which was constructed in 1981 and commissioned on March 13, 1982. The construction of a 20 tonne ffb/hr mill started at the estate in 1982 and it became operational on May 11th, 1983. In February 1985 an extension of the 20 tonne ffb/hour mill started and commissioning took place in December 1985. The 1.5 tonne ffb/hour mill has been sold to Okomu Federal Oil Palm Estate in Bendel State.

As stated earlier, Risonpalm palm mill processed fruits from the estate, smallholders and wild grove farmers. During the period April, 1982 to May 1983 the 1.5 tonne ffb/ hour mill processed a total of 10,528 tonnes of ffb. The 20/40 tonnes ffb/hour mill between May 1983 and December 1985 processed a total of 136,990 tonnes of ffb which gave 18,820 tonnes of palm oil and 5,833 tonnes of palm kernel as shown in table 5.4.

**Table 5.9 Risonpalm, Rivers State - Mill Palm Oil and Palm Kernel
Production May 1983 - December 1985**

Year	FFB Processed	E x t r a c t i o n	
		Palm-oil	Palm Kernel
1983	10,638	1,825	356
1984	54,944	7,510	2,428
1985	71,408	9,485	3,049
Total	136,990	18,820	5,833

The mill performed efficiently and in fact operated at above its nominal capacity of 20 tonne ffb/hour.

At full maturity in 1991, the smallholder ffb production would be 14,725 tonnes per annum. If all the fruits are processed a total of 2,945 tonnes of palm oil and 663 tonnes of palm kernel would be produced per annum as shown in Annex 2.3

5.2.3 Financial Performance

5.2.3.1 Project Funding

Actual funding of the project by the financing agencies from 1978 to 1984 amounted to N8,778,900 /1. Details of annual disbursement from each source are shown in Table 5.10

/1 Excluding salaries of staff seconded from M.A.N.R.

Table 5.10 Smallholder Oil Palm Project, Rivers State
Sources of Funds and Annual Disbursements (N'000)

	Disbursements							Total
	1978/79	1979/80	1980	1981	1982	1983	1984	
Federal Govt.	300.0	475.2	600	250.0	62.0	770.0	-	2,457.2
Rivers State Govt.	679.0	1,869.9	1,007.0	1,125.0	150.0	-	151.3	4,982.2
World Bank (IBRD)	15.0	85.0	428.4	528.4	248.3	-	-	1,305.1
Sundry Receipts		.5	16.0	2.6		10.9	4.4	34.4
Total	994.0	2,430.6	2,051.4	1,906.0	460.3	780.9	155.7	8,778.9

Disbursement and available funds at the beginning of the project was considerably alright. The project started to experience difficulties in funding in 1981. As from 1982 the project received insignificant allocations for its operations. Its major operations grounded to a halt in 1982 which is the appraisal year for Project Completion.

5.2.3.2 Method of IBRD disbursement

The procedure of which the IBRD gave reimbursement only after actual expenditure, is unsatisfactory most especially in an economy where scarcity of capital constitutes major constraints in project execution.

This method of disbursement placed severe limitations in the project funding since most state governments were unable to meet their financial obligations. The process of paying reimbursement to the state treasury in certain instances compounded the problem as this money was no longer available to the project. It is therefore recommended that this funding arrangement be reviewed in future projects.

Although the World Bank is unlikely to change its disbursement procedure and has tried to solve the initial cash flow problem by insisting that States and Federal governments make substantial initial down payments into project accounts before loan effectiveness, we recommend that all bank reimbursements be paid promptly into project account. This would enable the project to overcome the delay and cumbersome bureaucratic procedures involved in getting the government to make available to it reimbursed project funds.

5.2.4 Cash Flow and Rates of Return (FRR and ERR)

The cash flow of the project is presented in Annex 2.4. Since the investment and running costs as well as benefits (returns) from processing of ffb into palm oil and kernel have already been incorporated into Risonpalm rates of return calculations, it is only appropriate to use ffb as the end product in this calculation. A price of 200/ton for ffb was used to derive the stream of revenue for this project.

The financial and economic rates of return for the Rivers smallholder project are respectively 8.54% and 5.78%. The rates of return are considered very low and unimpressive. It is obvious that this project would not break even over its life-span. This goes on to confirm that this project is a failure.

CHAPTER 6

ORGANIZATION AND MANAGEMENT

6.1 Imo State SMU

6.1.1 Implementation Arrangement

The implementation of the smallholder Oil Palm Project, Imo State was the responsibility of three organizations namely:

- (1) The Smallholder Management Unit (SMU) which was responsible for implementing the new planting and road development programmes in the project area;
- (2) The Adapalm (Nigeria) Limited which was responsible for constructing and operating three central processing mills and establishing a smallholder fruit collection system; and
- (3) The Monitoring and Evaluation Unit, Federal Department of Agriculture which was responsible for monitoring and evaluating the project and assisting in planning future development programmes in the sector.

6.1.2 The Smallholder Management Unit (SMU)

The SMU was formally established on 24th June, 1975. Also on the same day, the Steering Committee which comprised of representatives of relevant government agencies and charged with the responsibility for determining SMU policy and approving development programmes and budgets was formally established.

6.1.3 Office Locations

The project was appraised before the 1976 creation of states and Umuahia was made the project Headquarters. However, with the selection of Owerri as the Capital of the newly created Imo State, the SMU Headquarters was moved to Owerri for obvious administrative reasons.

There were three Regional Units - Owerri, Aba and Umahia Regional Units. Also there were 8 sub-Regional Units - 3 in Owerri, 3 in Aba and 2 in Umahia Regional Units. Sub-Regional Units were not provided for in the Appraisal Report but they were created to further improve communication with the smallholders and were in fact found to be very effective in achieving this goal.

6.1.4 Management Structure

The basic management structure employed during project implementation is shown in Annex 11. The structure did not deviate substantially from the Appraisal proposal. Areas of differences are the following:

(a) Creation of sub Regional Unit offices in the following areas:

Owerri Regional Unit:

Ohaji Sub-Regional Unit

Owerri Sub-Regional Unit

Umunato/Ahaizu Sub-Regional Unit

Aba Regional Unit:

Obioma Ngwa South Sub-Regional Unit

Obioma Ngwa Sub-Regional Unit

Isiala Ngwa Sub-Regional Unit

Umahia Regional Unit:

Umahia/Ikwano Sub-Regional Unit

Etiti Sub-Regional Unit

These offices were responsible to the Regional Units and were in charge of campaigns, appraisal of applications, pre-planting operations and field establishment of oil-palms at sub-regional Unit levels.

(b) Creation of the office of Field Establishment Officer at the Headquarters. This officer sat in for the Controller of Field Operation in the latter's absence and was responsible to him. It was difficult to justify the creation of this office especially where his job description did not differ much from that of the Controller of Field Operations.

(c) Creation of the office of Field Maintenance Officer at the Regional Unit level. One such office was created in each Regional Unit and charged with the responsibility for field maintenance in the whole Unit both during the imature and mature phases of plantings. They supervised cover maintenance, ring weedings, ablation, fertilizer application, slashing, pruning and harvesting. The relevance of this office was not clear except if the Regional Unit Manager were seen as purely administrative officer with no technical responsibilities.

(d) Office of the Road Engineer

Although road development programme was properly defined as one of the responsibilities of SMU the exact position of the Road Engineer in the organisational chart was not properly defined in the Appraisal Report. This was however, seen only as an omission. Its inclusion in the SMU organisational chart was therefore proper.

6.1.5 Staffing

The top management positions such as the General Manager, Controllers of Field Operations and Finance were filled with qualified Nigerians with relevant training and experience. The planning officer was posted from the Ministry of Finance without necessary Agricultural background. It would have been better if an Agricultural Economist were recruited as a planning officer.

Table 6.1 shows that from 1978 to 1982 there was over-staffing in all departments except Field Establishment. Overstaffing was mainly reflected in the lower category of staff. In certain years, messengers available were more than three times, watchnights three times, and drivers one and a half times the numbers provided for in the Appraisal Report. On the other hand field staff position was below the Appraisal provisions. This situation was worse with respect to Agricultural Assistants (AA) who were closest to farmers. They were extension advisers, demonstrators of new methods and materials.

Table 6.1 - Actual staff position as percentage of Appraisal
1976 - 1982

Department	1976	1977	1978	1979	1980	1981	1982
Administration	22	61	94	148	150	108	139
Finance	65	95	125	161	188	74	71
Stores	32	88	300	331	505	378	336
Engineering	0	90	162	192	128	207	173
Evaluation and Training	25	25	150	150	75	125	175
Field Operation	29	68	100	87	91	94	48

6.1.6 Staff Recruitment and Training

All the senior staff of SMU with the exception of the Road Engineer, were seconded either from the Ministry of Agriculture and National Resources, Ministry of Finance or Ministry of Commerce and Industry.

A large proportion of the intermediate and junior staff were employed directly on contract basis. Although such staff should be laid off when the project life ends, effort was being made by the SMU to get them absorbed into the State Civil Service.

Short training programmes were organised for various cadre of staff and farmers. The exact number of such staff trained was not available. However, with the exception of farmers' training which was usually organised by MEU at NIFOR (Nigerian Institute for Oil-Palm Research), Benin City, not much was done in the area of training.

6.2 Rivers State SMU

6.2.1 Implementation Arrangement

The implementation of the smallholder Oil Palm Project, Rivers State was the responsibility of three organizations namely:

1. Smallholder Management Unit (SMU) which was responsible for executing the new planting and road development programmes in the project area;
2. Nisonpalm Limited which was responsible for constructing and operating two central processing mills and establishing a smallholder fruit collection system; and
3. The Monitoring and Evaluation Unit, Federal Department of Agriculture which was responsible for monitoring and evaluating the project and assisting in planning future development programmes in the tree crop sector.

6.2.2 The Smallholder Management Unit (SMU)

The SMU was formally established on the 27th June 1979. Also on the same day, the Steering Committee which comprised of representatives of relevant Government agencies and charged with the responsibility for determining SMU policy, approving development programmes and budgets, was formally established.

6.2.3 Office Locations

The project was originally organised with headquarters at Ahoada and three Regional Units at Ahoada, Isiokpo and Okehi. In 1982, due mainly to very low field plantings in Isiokpo and Okehi Regional Units, the two Units were merged to gether with Isiokpo as the sub-Regional Unit Headquarters.

6.2.4 The basic management structure employed during project implementation is shown in Annex B which is the same as the appraisal proposal. The only outstanding difference is that the Regional Units were reduced to two in 1982.

6.2.5 Staffing

Nearly the entire staff were recruited directly by EMU. Although a number of senior staff were seconded from the Ministry of Agriculture and Natural Resources in 1977. By 1979 all of them except two, had gone back to the Ministry. The post of General Manager was filled with a Nigerian, while the posts of Financial Controller and Controller of Field Operations were at various periods of the project life filled with expatriates. A Road Engineer was locally recruited in 1979.

In March 1984, a new Project Manager was seconded from the Ministry of Agriculture and Natural Resources and charged primarily with the responsibility of loan recovery from smallholder farmers. This was accompanied with drastic reduction in the staff strength of the project. Judging from the staff position and policy objectives, one could safely say that the project came to an end in December 1983.

During the implementation period, staff position was very poor not only in terms of number but also in qualification, experience and

Capability. For instance, the positions of Agricultural Officers who were supposed to be University graduates, Senior Agricultural Superintendents, Agricultural Assistants, Credit Officers, Loan Assistants were inadequately filled through direct recruitment of Secondary School graduates or even those who did not successfully complete Secondary School education and had no form of exposure to agriculture.

Unqualified staff were employed in SMU probably because the project insisted on recruiting staff from the project area. This problem is likely to persist since most State governments are often reluctant to recruit staff from outside their States.

Table 6.2 shows the actual position as percentage of appraisal recommendation for the Regional Unit Headquarters from 1978 to 1983.

Table 6.2 - Actual Staff Position As Percentage of Appraisal Recommendation For Regional Units: 1978 - 1983

Position	Actual as Percentage of Appraisal					
	1978	1979	1980	1981	1982	1983
Regional Unit						
Manager	67	100	100	100	133	66
A.Os/A.S.	0	100	80	39	70	177
A.As.(Field Asst.)	113	90	45	33	36	37
Credit Officers	0	67	60	40	67	0
Loan Assistants	100	33	0	0	25	0
Executive Officers	0	33	167	133	67	0
Clerks	0	67	33	33	0	33
Typists	0	67	100	100	100	0
Torekeepers	0	67	0	0	0	0
Drivers	133	133	150	167	133	50
Watchmen	0	44	0	111	167	0
Special Labourers	0	405	116	119	112	40

6.2.6 Staff Training

Although details of the training programmes organized by SMU were not available, there was evidence to show that a number of secondary school graduates who were recruited without experience, were sent to School of Agriculture . Some senior officers also attended short term training programmes and visited similar projects to acquire experience. MEU on its part organized annual training programmes for smallholder farmers at NIFOR and also organized international tours for the senior Management Staff.

6.2.7 Result of Management Deficiencies

Serious cases of fraud were noticed in areas of farmer registration, input delivery and cash loan delivery. Perhaps more serious is the fact that SMU did not keep any meaningful records of financial transactions such as purchases, contract payments, input delivery to project stores, etc.

There were serious cases of falsification of area planted and of 'ghost' participating smallholders. The initial instalment of N120,000 was paid to ghost farmers who claimed to have established 1,856 ha, while some of them were also paid the second, third and fourth instalments. Ghost farmers received N334,080 as cash loan and 278,400 seedlings between 1978 and 1981. They were also given fertilizers and wire nettings.

6.2.8 The project had a lot of unqualified staff with little or no experience who muddled up records. This made it difficult even for MEU to ascertain the actual situation of events until an evaluation exercise was undertaken.

CHAPTER 7

PROJECT BENEFITS

7.1 Imo State SMU

When the project attains peak production in 1993, the principal direct benefit will be 16,790 tonnes of palm oil and 3,778 tonnes of palm kernel. Adopting the 1986 local market price of N1,800/ton for palm oil and N350/ton for palm kernel the estimated revenue would be N30.221m and N1,322m for palm oil and palm kernel respectively. This would mean import substitution to the tune of N31,543m per annum.

The direct financial benefit that would accrue to the smallholders would be the revenue realised from the sale of 83,948 tons of ffb to the mills. Using 1986 market price of N200/ton the smallholder would realize N16.79m per annum.

Besides the direct financial benefits, the project would continue to offer job opportunities to various categories of people including smallholders, mill workers, fruit collection contractors and project staff.

Communities where the mills are sited enjoy certain basic facilities such as motorable roads, electricity and pipeborn water.

The project created mass awareness in the use of basic farm inputs, especially fertilizers and improved seed varieties. Training opportunities were provided to both SMU staff and farmers and this has helped to inculcate better management skills and technical know-how in the oil palm subsector.

The project generated awareness among farmers in plantation approach to oil palm cultivation. This is a remarkable improvement on the traditional approach which relied on wild groves for palm oil and kernel production.

The Adapalm fruit collection system rekindled farmers' interest in harvesting wild groves that were hitherto abandoned due mainly to the drudgery of processing.

7.2 Rivers State SMU

It must be emphasized that this project was designed to establish 10,000 ha of improved oil palm variety for smallholders. By the end of the expected implementation period, 1982, only 1,586 ha or 15.9% of the target had been established. The figure rose marginally to 2,071 ha or 20.7% of appraisal target in 1984. It is therefore obvious that the expected benefits from this project were not realized. The project can in fact be best described as a total failure.

Due to bad management during the implementation period, it is difficult to assume that the expected revenue from the established 2,071 ha of oilpalm would be realized. Farmers were not organized into viable co-operative unions, motorable roads were not constructed, inputs were not properly delivered, extension services were not organized, staff training which would have contributed in transfer of technology was not properly executed. It is difficult to identify the real benefits of this project due to the uncertainty of what the project actually did during implementation.

It is however hoped that Risonpalm would be able to reach the smallholders and assist them especially in the area of processing.

CHAPTER 8

MAJOR FINDINGS AND RECOMMENDATIONS

Having considered aspects of project implementation on project by project basis, this chapter is being devoted to joint consideration of major findings and recommendations. It is hoped that this chapter would be useful in formulating policies and programmes that would guide future tree-crop development projects.

- 8.1. The Imo State project started on 24th June 1975, and it was not until 22 months later i.e. 6th April 1977, that the loan became effective. The delay arose from the inability to conclude the major loan agreement between the IBRD on one part and the Federal and Imo State Government on the other. These agreements were not signed until 12th January 1976, seven months after commencement of the project. In addition the subsidiary loan agreement between Imo State Government and the Federal Government was not signed until 11th June 1976, one year after the project took off. Government bureaucracy coupled with problems associated with the creation of Imo State out of the former Eastern Central State in early 1976 were primarily responsible for the delays, since the new Government needed time to settle.

In the case of the Rivers State SMU, the project took off on 27th June 1979 eleven months after the major loan agreements were signed (24th July 1978). The Rivers State loan (1591-UNI) became effective on 10th July 1979. It should be recalled that the Rivers State project had two components, estate and smallholder, and both were covered by the same loan agreement. The State Government's effort was first directed towards the successful take off of the estate component, thus the delay in setting up the SMU and its steering committee. It is therefore not surprising

that the loan was made effective only two weeks after the project started. The priority placed on the estate component and apparent lack of enthusiasm for the smallholder component manifested itself in the low achievement and general performance of the SMU.

8.2 The Imo State SMU planting programme was initially scheduled for 5 years 1976 - 1980 but this was extended to 1983 inclusive. As at the end of 1983, 69.19% of the original target of 16,000 ha has been achieved. This rose to 79.14% in 1986.

The Rivers State SMU was scheduled to plant 10,000 ha in 5 years 1978 - 1982. As at the end of 1982, the project achieved only 15.9% of its planned target. This rose marginally to 20.7% in 1984.

Several factors were responsible for the poor performance in the Rivers State SMU and these included:

- (a) Poor management resulting from unqualified staff that held important management positions;
- (b) extraordinary cost escalation particularly that of labour;
- (c) poor farmer participation in the project arising from the fact that farmers placed more emphasis on arable crop cultivation;
- (d) inadequate publicity of the programme, and
- (e) misplacement of priorities, lack of compliance with appraisal guidelines and apparent financial indiscipline by the management staff.

The relative success in the Imo State SMU can be attributed mainly to the enthusiasm and business-like attitude with which the farmers embraced the programme. Most of the farmers were associated with the former Eastern Nigeria Development Corporation's oil palm scheme of the early sixties. In addition most of the human problems associated with SMU Rivers State

were minimal in Imo State.

8.3 It was observed that the cooperatives were not as strong and influential in organising farmers as they were designed to be. They have tended in most cases to serve the interest of very few officials while at the same time alienating the majority of members. Consequently they had no effective control on members who circumvented most of the agreements with SMU including loan repayments. The role played by the cooperatives was minimal and unimpressive.

A fresh look at the organisation of cooperative Unions should be taken in the next development programme to make them amenable to the tree crop programme. One reason why these cooperative did not perform was that there was no effective way of monitoring their operations. There should be a better communication between the project and the State apex organisation. The apex organisation should therefore be involved in project implementation in order to ensure they effectively supervise the operation of the local primary cooperatives. In addition to cooperatives, any other viable organisation such as town unions and farmer associations should be exploited in the implementation of the projects.

To strengthen the financial base of these organisations, 2% of the oil-palm development fund should be set aside for them; 1% to the Apex Cooperative organisation and 1% to the primary cooperative societies and other organisations.

8.4 Though it was observed during the evaluation of the SMUs that increased market prices for palm oil and kernel were better incentives for farmer participation, the grant/credit package attracted a lot of farmers to the project especially in the early years. However both the initial credit of N100.00/ha and the subsequent increase to N300.00/ha (in 1980 in the case of Imo State SMU) spread over 4 years were inadequate to make the desired impact which a well thought out credit package, with

all its relevant cost implications, would have had on this type of project. In addition, the withdrawal of the grant/credit package (seedlings, fertilizer, wire collars and cash loan) worsened the situation resulting in a steep decline in farmer participation.

There was a remarkable price boom in the early eighties with respect to palm oil and kernel. As against the appraisal price average projection (1985) of N384, for palm oil and N152 for palm kernel these prices rose astronomically to N200400 and N350.00 per tonne respectively. Consequently, the market prices became the dominant factors in encouraging farmers to participate.

With due regards to cost dynamics it is still considered worthwhile to recommend an enhanced credit package of N1,500/ha spread over 4 years as follows:

(a) Cash loan (land clearing/preparation and maintenance)	N500/ha
(b) Seedlings	N450/ha
(c) Wire collars	N450/ha
(d) Fertilizer	N100/ha
	<hr/>
	N1,500/ha
	<hr/>

8.5 Farmers in the project area depended initially on arable crops interplanted with oil-palm to supplement their incomes and subsistence. Though there was initial set back in oil palm growth in farms indiscriminately interplanted with arable crops (as against controlled intercropping advocated by the project) majority of these farms recovered later. Preliminary yield survey conducted by MEU survey indicated that yields from these farms would not be adversely affected.

The refusal to adopt monocropping in Imo State may also have resulted from the pressure on land use brought about by the high man-land ratio. This assertion may not be true for Rivers State where the population density is relatively low. The refusal to adopt monocropping is a result of the age-long practice of multicropping or intercropping major food crops with other secondary crops. The main lesson to be learnt from this is that the monocropping of oil palm was a policy that was formulated with no regards to the existing cropping system of farmers in these States. The result was that the guideline was too impracticable to be enforced. In developing any new projects it is important to consider the sociological and behavioural factors of the target population.

8.6 The labour and general cost increases resulting from inflationary trend that could not have been anticipated at appraisal and the delay in timely completion of the project were principally responsible for cost escalation which could not be catered for by the inbuilt contingencies. For instance the annual labour growth rate of 19.35 per cent between 1974 and 1985 in Imo State and 20.16 per cent in Rivers States were too high to be catered for by the annual labour wage contingency of between 7 and 8 per cent. It was as a result of these cost escalations that the cash loan to farmers in Imo State was increased from N100.00 to N300.00 per ha in 1980. It is for the same reason that we are recommending a credit package of N1,500 per ha spread over 4 years.

8.7 Smallholder production of ffb was lower than appraisal estimates by about 30 per cent mainly due to problems associated with farm maintenance and management.

8.8 Fruit collection took off early in Rivers State but it was not properly organised until the Risonpalm took over the responsibility from

the EMU. In Ibo State there was no organised fruit collection until 1985 when Adapalm started the programme. The delay in Ibo State was caused by the untimely installation of processing mills by Adapalm. The difficulties encountered in fruit collection, necessitated the use of intermediate contract buying agents who delivered ffb at the mill. Though ffb prices paid to contractors were competitive, these do not represent what was paid to the farmers since it also included delivery charges. It is feared that if farmers are underpaid they would look for alternative buyers and this would deny the estate the privilege of obtaining ffb from smallholders.

8.9 The role of fixing prices of ffb by the State Price Policy Committee was made irrelevant by market forces which became a more realistic price determinant. Since there are alternative buyers who are ready to pay higher prices than those fixed by the committee, it is our opinion that the State Price Policy Committee is unnecessary and should be scrapped and that market forces should be allowed to determine the prices.

8.10 Experience from these projects showed that a lot of wastage occurred due to substantial loss of unprocessed fruits due mainly to lack of processing mills. The problem was compounded by the cost escalation attendant on delayed mill installation which in some cases quadrupled the cost of mill investment. It is imperative that any oil palm planting programme should have a well designed mill component whose installation should commence in the second year of planting programme. At least it takes 18-24 months from the time payment is made for a mill with a confirmed order to the time it is ready to process ffb. Lack of synchronisation in mill installation in fact disorganised smallholders who due to the absence of centrally located processing facilities had to resort to traditional processing methods. This in fact made nonsense of any thoughts of loan recovery from the farmers since before the mills were in place, farmers

were already used to other methods of handling their ffb.

8.11 The procedure in which the IBRD gave reimbursement only after actual expenditure is unsatisfactory most especially in an economy where scarcity of capital constitutes major constraint in project execution. This placed severe limitation on project funding since most State Governments were unable to meet their financial obligations. The procedure of paying reimbursement into State Treasuries had in certain instances compounded this problem as this money was no longer available to the project.

8.12 To solve the initial financial problem of the projects, both Federal and State Governments should make substantial down payments direct into project account to ensure that they had enough funds to operate before asking for reimbursements. Also IBRD's reimbursement should be timely and paid directly into project account.

8.13 In addition to the SMU, there are three other alternative approaches to the smallholder oil-palm development programme namely;

(a) the Smallholder Development Unit (SDU);

(b) block farming system;

(c) palm for palm programme

8.13.1 The SDUs are organised smallholdings outlining the estate. The land preparation, planting and cover crop establishment would be executed as part of the estate project. After the planting the land would be shared out to smallholders who would eventually own their individual plots. Initially they would be quasi employees of the estate and expenses incurred by the estate during the establishment period would be deducted from their farm proceeds at maturity. A small portion of the land would be set aside for arable crop farming and a housing programme where applicable.

8.13.2 The second category block farming, would involve individuals, communities, cooperatives who can pool their lands for oil palm cultivation outside the estate catchment area. The estate would assist them in land preparation, planting, input delivery, cover crop establishment and general supervision. Individual or groups would continue to retain the ownership of their lands and they would continue to maintain their farms after the planting period.

8.13.3 The third category, the palm for palm programme, would be a general farmer participation approach where all interested farmers who do not fall within the other categories would be encouraged to rehabilitate their wild grove with improved *Tenera* spp.

8.14 Oil Palm Development Fund

A lot of money has been spent on agricultural development in the past decade either by direct government subvention or through international loan guaranteed by government. Experience has shown that even where credit packages are supposed to be recovered, it has ranged from very low rate to zero rate of recovery. It must also be stated that a lot of middle men who benefit from these different programmes do not even bother to pay tax to government. In some instances, even the machinery for loan recovery is either ineffective or the over-head cost tends to be higher than the loan being recovered.

In the light of all these, an Oil Palm Development Fund should be established to be funded initially by the government and subsequently from a cess of N20.00/ton of palm oil produced from all organised processing centres within the palm belt. This money should be paid into a special account in each State Bank and a relevant committee established for its disbursement. The disbursement committee would settle all loans to farmers from this account as it is expected that all ffb produced under the various

oil palm programmes would be processed at the organised processing centres. A census of all functional mills would be carried out to determine their location, capacity and functionality. Any organised mill centre that fails to comply would be charged a minimum tax based on the mill's processing capacity and additional defaulting tax based on 30% of the mill capacity.

8.15 The Monitoring and Evaluation Unit (MEU)

Since its creation in 1975, the Monitoring and Evaluation Unit has been engaged in co-ordinating, monitoring, evaluating and reporting on the implementation of about 18 different oil palm, cocoa and rubber projects created jointly by IBRD, the PGN and the appropriate States. The MEU has achieved outstanding credibility in the discharge of these functions through excellent cordial relationship with the IBRD, the states and operators in these tree crops industries. The Unit can attain greater heights through improved logistical support and better staffing through local and international recruitment and the training of such staff in relevant areas of manpower development.

To enhance MEU's bearing in projects like this, the Unit should be represented in Steering/Management Committees of the projects. This will enable the Unit communicate problems observed in the field directly to project sponsors. For the MEU itself, it has been clearly stated in the report that the Unit needs more training exposure in relevant areas, also the financial monitoring capability should be strengthened by recruiting an accountant with cost accounting bias. To enhance the Unit's capability in areas of statistical analysis, it has already been indicated that the Unit needs a Statistician with in-depth knowledge of computer programming and analysis. These categories of staff should be recruited either locally

or internationally. A mini computer should be added to the material requirement of the Unit.

The Unit needs a sub-Unit to be located in the Eastern zone for effective coverage of the project areas. Previous recommendation highlighted the need for the Unit to have adequate office accommodation with necessary facilities and we think this should be given serious consideration in the new dispensation. It is necessary to emphasise that the Unit should be strengthened to handle all tree crop development in the country.

ANNEX 1.1 ANNUAL STATE - SEEDLING PRODUCTION AND UTILIZATION

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Seedling C/F		89,382	180,602	422,586	127,620	517,770	246,172	297,336	414,875	221,570	24,728	64,065	124,194
Seedling raised	133,844	185,506	384,636	254,577	375,707	77,543	279,765	343,866	-	19,705	53,391	99,494	
TOTAL	133,844	274,888	565,238	677,003	811,327	595,313	525,937	647,202	414,202	241,875	78,119	163,559	
Sales	44,462	21,230	706	-	-	-	-	44,533	-	-	14,054	39,365	
Field replacement		5,481	14,081	3,559	2,572	589	2,502	489	-	-	-	-	
Field Planting		67,575	127,925	237,025	289,984	248,601	226,058	185,311	193,305	216,547	-	-	

	1975/76	1976/77	1977/78	1978/79	1979/80	1980
Sources of Fund						
Fed. Govt. of Nigeria	-	1,200,000	50,000	727,700	1,600,000	1,150,000
Imo State Govt.	602,967	841,822	672,795	322,426	296,205	609,317
World Bank (IBRD)	5,137	22,262	313,038	1,188,698	1,027,366	-
Sundry Receipts	-	38,759	-	2,469	8,718	1,723
TOTAL	608,104	2,102,843	1,035,833	2,241,293	2,932,289	1,761,040
Application of Funds						
Fixed Cost						
Building	-	58,694	51,479	91,507	154,456	225,474
Motor vehicles	55,242	50,177	17,275	177,372	-	14,312
Plant Machinery & Equipmt.	57,822	105,177	146,665	188,257	60,222	6,710
Off/household furniture & equipment	6,489	54,254	15,354	43,917	26,325	60,139
	119,553	268,302	230,773	501,053	241,003	306,635
Variable Costs						
Road Construction Cost						
Nursery/Field Devt. Exp.	191,962	351,469	738,958	465,697	699,199	305,781
Loan to farmers	-	21,306	184,640	288,396	421,264	88,054
	191,962	372,775	923,598	754,093	1,120,463	393,835
Administrative Overheads						
Personnel costs	68,000	253,000	405,752	669,517	963,358	831,445
Administrative expenses	61,464	119,289	163,565	302,284	328,935	267,932
Financial charges	772	2,285	6,777	4,446	17,215	3,891
	130,236	374,574	576,134	976,247	1,309,508	1,103,268
TOTAL	441,751	1,015,657	1,730,505	2,231,393	2,670,974	1,803,738

	1981	1982	1983	1984	1985	T O T A L
<u>Sources of Fund</u>						
Fed. Govt. of Nigeria	565,000	851,250	590,000	55,000	380,000	7,168,950
Imo State Govt.	124,565	773,000	799,333	344,592	203,003	5,590,025
World Bank (IBRD)	1,129,824	982,438	115,924	-	-	4,784,687
Sundry Receipts	-	3,814	33,585	104,190	75,497	268,755
TOTAL	1,819,389	2,610,502	1,538,842	503,782	658,500	17,812,417
<u>Application of Funds</u>						
<u>Fixed Cost</u>						
Building	122,947	17,202	-	-	-	721,759
Motor vehicles	-	-	-	-	-	314,378
Plant Machinery & Equipmt.	5,129	31,954	8,250	-	-	610,186
Off/household furniture & Equipment	18,042	8,125	143	154	-	232,942
	*146,118	57,281	8,393	154	-	1,879,265
<u>Variable Cost</u>						
<u>Road Construction Cost</u>						
Nursery/Field Devt. Exp.	614,677	570,069	249,238	133,037	78,790	4,398,877
Loan to farmers	458,914	277,363	150,802	-	-	1,090,759
	*1,073,591	863,208	425,643	141,072	78,790	6,339,030
<u>Administrative Overheads</u>						
Personnel costs	1,033,079	1,025,559	1,047,093	876,823	395,880	7,569,546
Administrative expenses	235,512	181,542	177,368	73,413	77,123	1,988,427
Financial charges	12,072	6,964	5,245	4,700	2,820	67,187
	*1,280,663	1,214,065	1,229,706	954,936	475,823	9,625,160
TOTAL	2,500,372	2,134,554	1,663,742	1,096,162	554,613	17,843,455

ANNEX 1.3 - SMU IMO STATE COST OF MOTOR VEHICLES, FARM PLANT, HEAVY MACHINERY AND EQUIPMENT

	1975/76	1976/77	77/78	78/79	79/80	1980	1981	1982	83-8:
Motor Vehicles									
Peugeot 504 GL	6,208	-	-	8,984	-	8,000	-	-	-
4 Landrovers	22,473	-	-	-	-	-	-	-	-
3 Benz lorries	22,926	3,705	-	-	-	-	-	-	-
Volgar car	3,635	3,635	-	-	-	-	-	-	-
Toyota land cruiser	-	4,250	-	-	-	-	-	-	-
7-Ton Mercedes lorry	-	13,277.75	-	93,642	-	-	-	-	-
"	-	13,277.75	-	-	-	-	-	-	-
"	-	12,131.75	-	-	-	-	-	-	-
4-wheel drive vehicles	-	-	-	42,816	-	-	-	-	-
Tipper	-	-	-	31,930	-	-	-	-	-
Van	-	-	-	-	-	6,312	-	-	-
Totals	55,242	50,177	17,275	177,372		14,312			
Farm Plant, Mach. & Equip.									
Motor grader 115 HP	-	-	40,381	-	-	-	-	-	-
Tractor 75 HP	-	-	7,355	-	-	-	-	-	-
Roller (Rubber Tyred)	-	-	26,000	-	-	-	-	-	-
Tractor 50 HP	-	-	16,098	-	-	-	-	-	-
Water pumps/tanks	41,582	2,890	4,694	4,279	-	-	-	-	-
Rota vator Tranler & Tanker on wheels	-	-	-	-	-	-	-	-	-
Sundry survey equip.	5,220	-	5,920	67,031	41,316	-	-	-	-
Powered chain saws	-	3,880	5,442	-	-	420	-	-	-
Psattern scales	-	625	-	-	1,108	5,670	-	119.00	-
Master mechanic tools	-	960	-	-	-	620	-	-	-
Dolphin irrigator	-	96,075	9,337	112,720	-	-	-	31,835	-
Knapsack sprayers	-	560	3,883	2,250	-	-	-	-	-
Tools	11,020	186	27,555	1,977	8,210	-	-	-	-
Disc plough/harrow	-	-	-	-	9,588	-	-	-	-
Totals	57,822	105,176	146,665	188,257	60,222	6,710	5,129	31,954	8,250

ANNEX 1.4

SMT IMO STATE NURSERY AND FIELD ESTABLISHMENT COSTS

Nursery Costs	1975/76	1976/77	1977/78	1978/79	1979/80	1980
Watering & Irrigation	1,021	12,476	33,332	15,395	3,759	-
Wages	107,822.	260,658	343,545	260,798	339,047	206,605
Compensation Fees	10,932	2,106	17,293	-	146	-
Fungicides, Pesticides, etc	17,813.00	1,252	7,992	8,067	33,499	26,124
Fertilizers		1,950	7,817	2,698	9,406	5,856
Seeds	7,275	5,569	156,429	859	60,558	-
Clearing charges	456	20,943	-	-	-	-
Poly bags	85,094	19,870	41,744	58,654	49,236	45,002
Land rent		-	1,132	2,018	-	3,206
Transportation		-	5,859	11,868	3,498	-
Repair & Maintenance of Nursery eqpt. & Machinery		-	-	-	-	2,606
Road Maintenance			3,000	-	-	18
Sundry Expenses	2,329.25					
Less Closing Stock	(74,530)					
Sub Total	158,212	325,124	618,143	360,357	499,149	289,417
Field Est. Cost						
Fertilizer sacks						
wire netting	33,750.00	13,500	109,350	96,824	147,881	908
Fertilizers		150	3,141	7,093	13,9	14,046
Chemicals		12,685				-
Transportation cost						1,410
Chain saw running Exp.		10	159	665	3,420	-
Cover Crop seed			8,165	758	34,822	-
Sub Total	33,750.00	26,345	120,815	105,340	200,050	16,364
Grand Total	191,962	351,469	738,958	465,697	699,199	305,781

ANNEX 1. SMU IMO STATE NURSERY AND FIELD ESTABLISHMENT COSTS

Nursery Costs	1981	1982	1983	1984	1985	T O T A L
Watering & Irrigation	-	49	597	100	1,476	68,205
Wages	292,830	340,492	214,298	99,533	41,746	2,507,374
Compensation Fees	-	-	-	-	-	30,777
Fungicides, Pesticides, etc	40,149	38,384	12,357	(7,437)	2,298	180,498
Fertilizers	8,069	846	1,928	(14,186)	687	25,071
Seeds	67,000	69,000	(26,810)	-	16,409	356,259
Clearing charges	-	-	-	-	-	21,399
Poly bags	24,274	19,865	1,523	372	15,324	360,958
Land rent	1,077	-	2,804	1,416	466	12,119
Transportation	-	-	-	-	-	21,225
Repair & Maint. of Nursery equipment & Machinery	1,193	1,751	1,350	5,263	18	12,181
Road Maintenance	-	-	-	-	-	3,018
Sundry Expenses	-	-	-	-	-	2,329
Less Closing Stock	-	-	-	-	-	(74,530)
Sub Total	434,592	470,389	208,017	85,061	78,424	3,526,883
<u>Field Est. Cost</u>						
Fertilizer sacks	9,800	-	-	-	-	9,800
Wire netting	154,200	59,070	22,550	-	-	638,036
Fertilizers	15,600	40,524	18,520	46,623	-	159,021
Chemicals	-	-	-	-	-	12,685
Transportation Cost	410	-	-	1,850	810	4,480
Chain saw running Exp.	75	88	151	103	(444)	4,227
Cover Crop Seed	-	-	-	-	-	43,745
Sub Total	180,085	99,682	41,221	47,976	366	871,994
Grand Total	614,677	570,069	249,238	133,037	78,790	4,398,877

ANNEX 1. 5. SNU IMO STATE DETAILS OF PERSONNEL AND ADMINISTRATIVE EXPENSES

ADMINISTRATIVE EXPENSES	1975	1976/77	1977/78	1978/79	1979/80
Personnel cost					
Salaries & allowances	68,000	253,000	405,792	665,500	881,704
Gratuities					
Medical expenses		-		4,017	81,654
Sub Total	68,000	253,000	405,792	669,517	963,358
Rent & rates	15,800	10,200	17,000	12,462	5,900
Water & electricity	-	2,914	3,117	1,308	996
Postages, telephone & telegrams		171	326	218	1,067
Printing, stationery/adverts.	2,897	15,467	29,599	43,323	55,870
Legal & other charges			5,290	23,348	16,614
Audit fees & expenses	5,500	5,500	6,000	6,000	10,000
Staff training	16,396	10,286	2,286	4,332	2,406
Vehicle maintenance & run. costs	4,979	11,256	38,252	69,151	85,834
Repairs/maintenance off. equip.		10,882	2,179	3,901	5,532
Repairs/maintenance of buildings		16,823	979	7,085	9,518
Travelling & local expenses	14,990	27,178	53,488	114,953	101,827
Sundry expenses	508	1,569	2,316	5,633	3,411
Capital exp. written off		743	-		
Depreciation of fixed assets		31,309			
Repairs/maintenance A/C machine		-	-	-	-
Insurance		6,298	1,065	10,250	22,949
suspense account		-	-	-	-
Sub Total	61,464	119,289	163,565	302,284	320,935
Finance charges	772	2,253	6,777	4,446	17,215
GRAND TOTAL	130,236	374,574	576,134	976,247	1,309,508

ANNEX 2. SRI LANKA STATE DETAILS OF PERSONNEL AND ADMINISTRATIVE EXPENSES

ADMINISTRATIVE EXPENSES	1980	1981	1982	1983	1984	1985
Personnel cost						
Salaries & allowances	810,603	821,947	943,304	964,623	833,204	372,008
Gratuities		175,707	82,255	74,929	42,126	34,137
Medical expenses	20,842	35,423	-	7,544	1,493	(265)
Sub Total	831,445	1,033,077	1,025,559	1,047,096	876,823	395,880
Rent & rates	1,248	2,277	3,605	4,313	1,224	572
Water & electricity	763	1,137	1,164	288	276	192
Postages, tel. & Telc	426	1,262	303	439	675	779
Printing, stationery/ adverts.	15,062	23,446	6,630	5,201	4,303	2,211
Legal & other charges	20,539	1,058	1,096	-	-	-
Audit fees & expenses	9,000	9,000	9,000	10,000	5,000	5,000
Staff training	11,199	612	96	84	800	(80)
Vehicle maintenance & run. costs	96,286	63,262	73,208	90,122	34,700	26,354
Repairs/maintenance of office equipment	3,597	2,538	3,824	2,006	3,232	435
Repairs/maintenance of buildings	1,710	1,703	1,379	2,468	3,438	2,149
Travelling & local expenses	100,901	61,012	68,915	53,814	12,019	25,519
Sundry expenses	4,077	1,998	4,728	4,145	2,375	2,832
Capital exp. written off	1,648	53,087	-	-	-	-
Depreciation of fixed assets		-				
Repairs/maintenance A/C machine	-	-	3,898	3,843	4,873	5,793
Insurance		150	1,327	595	128	(315)
Suspense Account	-	-	2,279	-	230	(89)
Sub Total	267,932	235,512	181,542	177,368	73,413	77,123
Finance charges	3,891	12,072	6,964	5,245	4,700	2,820
GRAND TOTAL	1,103,268	1,280,663	1,214,065	1,229,706	954,936	475,823

ANNEX 1.6 SMALLHOLDER OIL-PALM PROJECT INDUSTRY STATE - TABLE OF STREAM OF REVENUE

HA	1980	1981	1982	1983	1984	1985	1986	1987	1988
1976 415	1035.84	1641.33	1864.60	2080.40	2809.55	2809.55	2809.55	2809.55	2809.55
1977 853		2127.07	2372.62	2932.33	4276.09	3774.81	3774.81	3774.81	3774.81
1978 1588			3963.65	6080.34	7134.88	7960.64	10750.76	10750.76	10750.76
1979 1979				4739.70	7510.55	8532.21	9519.69	12856.23	12856.23
1980 2320					5790.72	9175.60	10423.76	11630.16	15706.40
1981 1482						3699.07	5861.31	6658.63	7429.27
1982 1225							3057.60	4844.88	5503.93
1983 1289								3217.34	5098.00
1984 1236									3085.06
1985 93									
FFD/1	1035.34	3770.42	2801.87	16933.37	27521.84	37951.88	48197.48	58542.36	69014.01
Palm oil 20% extraction/2	207.17	752.08	1840.20	3386.67	5504.37	7590.38	9639.50	11708.47	13802.80
Palm kernel 4.5%/2	46.61	169.67	414.08	762.00	1238.48	1707.83	2168.89	2634.41	3105.63
Palm oil/3 (N'000)	373.	1354	3312	6096	9208	13663	17351	21075	24845
Palm kernel/4 (N'000)	16	72	145	267	433	598	759	922	1087
Total inflow (N'000)	389	1413	3457	6363	10341	14261			
Coefficient/4 (2.06)		(1.70)	(1.53)	(1.42)	(1.27)	(1.12)			
TOTAL INFLOW (N'000)	901	2402	5289	9035	13133	15972	18110	21997	25932

- Yr. 4 Yr. 5 Yr. 6 Yr. 7 Yr. 8 and after
- 1/ Assumption 2.496 3.955 4.492 5.013 6.770 in tonnes
- 2/ Extraction rates for palm oil & kernel range between 17-21% and 3.5-5% respectively. The lower rates are in the first 4 years. We have assumed 20% and 4.5% extraction rates for palm oil & palm kernel respectively as these are not likely to adversely affect the result.
- 3/ Selling price of palm oil N1,900/ton, and palm kernel N350.00/ton.
- 4/ World MIV forecast issued in January 1986

ANNEX 6A - SMALLHOLDER AGRICULTURE PROJECT TAD STATE - TABLE OF STREAM OF REVENUE

	YA	1989	1990	1991	1992	1993	1994	1995	1996 - 2010
1976	415	2809.55	2809.55	2809.55	2809.55	2809.55	2809.55	2809.55	2809.55
1977	853	5774.81	5774.81	5774.81	5774.81	5774.81	5774.81	5774.81	5774.81
1978	1588	10750.76	10750.76	10750.76	10750.76	10750.76	10750.76	10750.76	10750.76
1979	1899	12856.23	12856.23	12856.23	12856.23	12856.23	12856.23	12856.23	12856.23
1980	2320	15706.40	15706.40	15706.40	15706.40	15706.40	15706.40	15706.40	15706.40
1981	1482	10033.14	10033.14	10033.14	10033.14	10033.14	10033.14	10033.14	10033.14
1982	1225	6149.93	8293.25	8293.25	8293.25	8293.25	8293.25	8293.25	8293.25
1983	1289	5721.48	6461.72	8726.53	8726.53	8726.53	8726.53	8726.53	8726.53
1984	1236	4888.98	5557.35	6196.07	8367.72	8367.72	8367.72	8367.72	8367.72
1985	93	232.13	367.82	417.85	466.21	629.61	629.61	629.61	629.61
FFB/1		74983.81	78607.07	81564.59	83784.60	83948.00	83948.00	83948.00	83948.00
Palm Oil 30% extraction/2		14996.76	15721.41	16312.92	16756.92	16789.60	16789.60	16789.60	16789.60
Palm kernel 4.5%/2		3374.27	3537.32	3670.41	3770.31	3777.66	3777.66	3777.66	3777.66
Palm oil/3 (N°000)		26994	28299	29363	30162	30221	30221	30221	30221
Palm kernel/3 (N°000)		1181	1238	1285	1320	1322	1322	1322	1322
Total inflow (N°000)									
TOTAL INFLOW (N°000)		28175	29537	30648	31482	31543	31543	31543	31543

L1
L2
L3

ANNEX 1.7 - SMALLHOLDER OIL PALM PROJECT IND STATE - TABLE OF COSTS (N0000)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991- 1999	2000- 2010
SMU cost	442	1016	1731	2231	2671	1804	2500	2135	1664	1096	555							
Smallholder labour/tools/1	-	33	68	127	152	186	119	98	103	99	7							
Smallholder maintenance/2						87	226	600	999	1486	1797	2054	2325	2584	2604	2604	2604	2604
Mill investment									3191	3191	3190							
Mill operating/3												1914	1914	1914	2872	2872	3350	3350
Interest on IBRD loan/4						807	807	807	807	807	807	807	807	807	807	807	807	
TOTAL	442	1049	1799	2358	2823	2884	3692	3640	6764	6679	6356							
Coefficient of conversion to 1986 prices	3.20	3.03	2.80	2.53	2.26	2.06	1.70	1.53	1.42	1.27	1.12							
TOTAL	1414	3178	5037	5966	6380	5941	6276	5569	9605	8482	7119	4775	5046	5305	6283	6283	6761	5954

1 Smallholder labour and tools at N80,00/ha

2 Smallholder maintenance cost, including labour, fertilizer, chemicals, tools and harvesting at N210.00/ha

3 Mill operating cost estimated at 20% (1986 - 1988), 30% (1989 - 1990), 35% (1991 - 2010) of investment cost.

4 Interest rate of 9% on loan, 5 years grace, 20 years repayment period i.e. 1980 - 1999.

ANNEX 1.8 SMU IMO STATE CASH FLOW /1 AND FINANCIAL RATE OF RETURN

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992 -1999	2000 -2010
TOTAL INFLOW						801	2402	5289	9035	13133	15977	18110	21997	25932	28175	29537	30648	31482	31543
TOTAL OUTFLOW	1414	3178	5037	5966	6380	5941	6276	5569	9605	8482	7119	4775	5046	5305	6283	6283	6761	6761	5954
NET CASH FLOW	(1414)	(3178)	(5037)	(5966)	(6380)	(5140)	(3874)	(280)	570	4651	8853	13335	16951	20627	21892	23254	24365	23887	25589

FRR = 23.29

/1 Calculated at 1986 constant prices

ANNEX 1.0 SMU IMO STATE CASH OUTFLOW CONVERTED TO REFLECT ECONOMIC VALUES

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	2000	
																			-1999	-2010
Foreign exchange component ¹	438	985	1561	1849	1778	1842	1946	1726	2978	2629	2207	1480	1564	1645	1948	1948	2096	2096	1846	
Correction factor for the dollar ²	(1.19)	(1.19)	(1.19)	(1.19)	(1.19)	(1.19)	(1.88)	(1.88)	(1.88)	(2.42)	(2.42)	(3.75)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)
Real Economic Cost	521	1172	1858	2201	2354	2192	3658	3245	5599	6362	5340	5550	7194	7567	8961	8961	9642	9642	8492	
Cost of fertilizer -		2	11	10	23	20	24	41	20	32	1									
Adjustment factor for fertilizer subsidy ³		(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)									
Real fertilizers economic cost	-	8	44	40	92	80	96	164	80	128	4									
Local cost	976	2191	3465	4107	4372	4079	4306	3802	6607	5821	4911	3295	3482	3660	4335	4335	4665	4665	4108	
Total Economics cost	1497	3373	5037	6348	6818	6351	8060	7211	12286	12311	10255	8845	10676	11227	13296	13296	14307	14307	12600	

¹ Foreign exchange component of the project was assumed to be 31% of total costs as per appraisal report.

² Correction factor represent the shadow price of the dollar at different times.

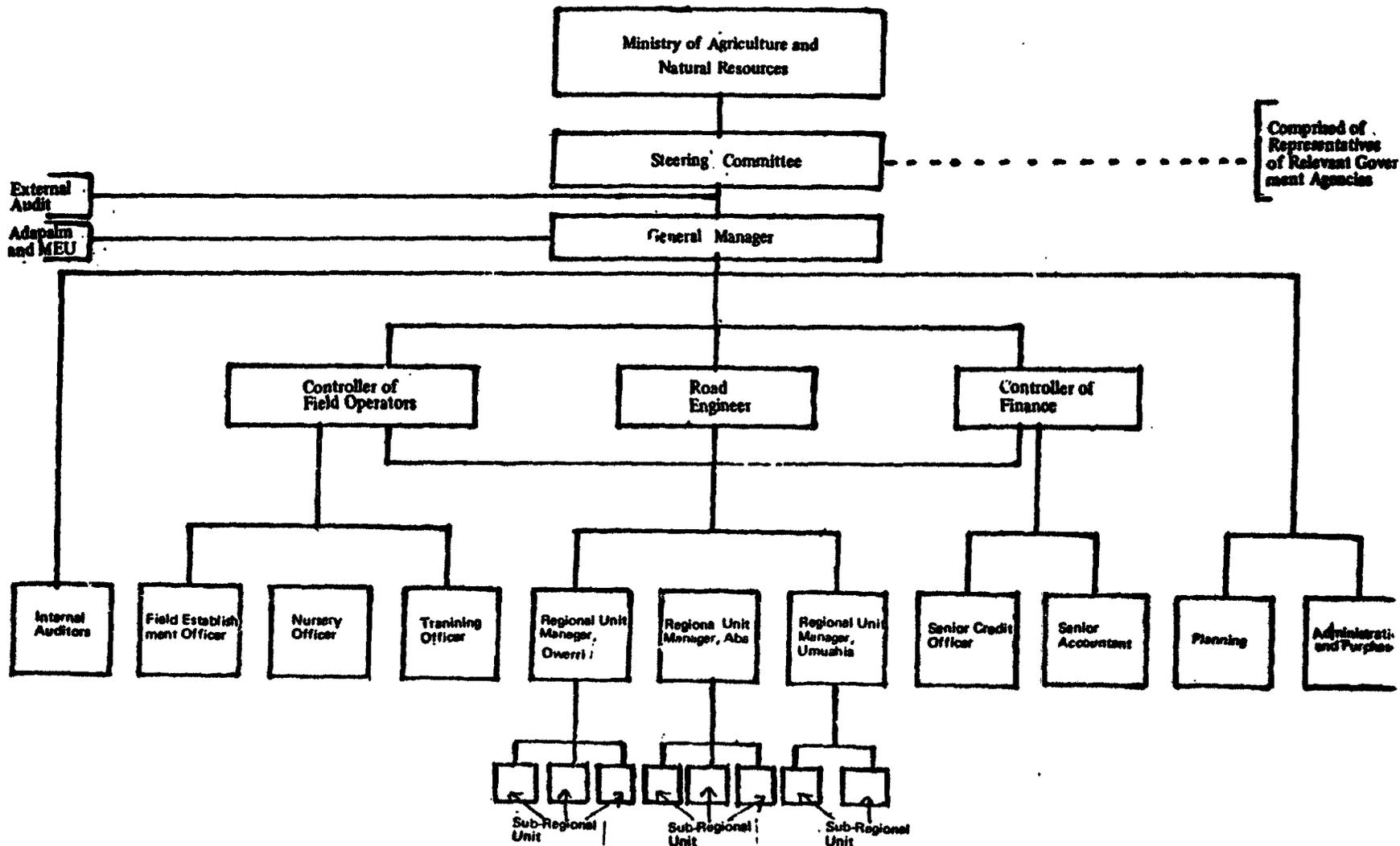
³ Conversion factor based on a Federal Government subsidy of 75% on fertilizer.

⁴ Taxation assumed at 2% of total cost was excluded.

ANNEX 1.10 SMU IMO STATE CASH FLOW AND ECONOMIC RATE OF RETURN

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993 -1999	2000 -2010
CASH FLOW						801	2402	5289	9035	13133	15972	18110	21997	25932	28175	29537	30648	31482	31583	31583
CASH OUT- FLOW	1497	3373	5037	6348	6818	6351	8060	7211	12286	12311	10255	8845	10676	11227	13296	13296	14307	14307	14307	12600
NET CASH FLOW	(1497)	(3373)	(5037)	(6348)	(6818)	(5550)	(5658)	(1922)	(3251)	822	5717	9265	11321	14705	14879	16241	16341	17175	17276	18983

ERR = 20.02%



SMALLHOLDER OIL-PALM PROJECT, RIVERS STATE - FUNDS FLOW STATEMENT IN ₦

	1978/79	1979/80	1980	1981	1982	1983	1984	1985	1986	Total
Sources of Fund										
Federal Govt. of Nigeria	300,000	475,200	600,000	250,000	62,000	770,000	-	65,000	50,000	2,572,200
Rivers State Govt.	679,000	1,869,900	1,007,000	1,125,000	150,000	-	151,302	100,536	-	5,078,739
World Bank (IBRD)	15,000	85,000	428,400	528,400	248,310	-	-	-	-	1,305,110
Sundry Receipts	-	493	358	411	-	-	-	-	-	1,262
	994,000	2,430,593	2,035,758	1,903,811	460,310	770,000	151,302	165,536	50,000	8,961,310
Application of Funds										
Fixed Costs										
Land and Buildings	-	52,914	94,926	220,278	-	-	-	-	-	368,118
Motor vehicles	31,654	30,484	33,761	30,648	-	-	-	-	-	126,547
Plant, machinery & Equipment	16,512	70,087	88,362	102,549	-	-	-	-	-	277,510
Off/household furniture & Fittings	19,512	31,950	23,424	29,987	-	-	-	-	-	104,873
Sub Total	67,678	185,435	240,473	383,462	-	-	-	-	-	877,048
Variable Costs										
Road construction cost	-	-	-	-	-	-	-	-	-	-
Nursery/field Devt. Cost	39,226	286,844	589,358	1,197,891	-	-	-	-	-	2,113,319
Loan to farmers	40,975	175,770	462,743	616,307	-	-	-	-	-	1,295,795
Sub Total	80,201	462,614	1,052,101	1,814,198	-	-	-	-	-	3,409,114
Administrative Overheads										
Personnel costs	112,651	446,996	554,661	731,353	-	-	-	-	-	1,845,661
Administrative Expenses	174,073	351,448	312,717	347,470	-	-	-	-	-	1,185,708
Financial charges	4,670	-	-	-	-	-	-	-	-	4,670
Sub Total	291,394	798,444	867,378	1,078,823	-	-	-	-	-	3,036,039
Total	439,273	1,446,493	2,159,952	3,276,483	460,310	770,000	151,302	165,536	136,394	9,005,743

* - No audited reports for 1982 - 1986, consequently, the expenditure in these years cannot be classified on bases of specific items.

/1 - Including a liability of ₦86,394.00 as at December 31st, 1986.

ANNEX 2.2 SMALLHOLDER OIL PALM PROJECT RIVERS STATE - TABLE OF COSTS (N'000)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988 -2002	2003 -2013
SMU Costs	439	1,446	2,160	3,276	460	770	151	166	136			
Smallholder labour/tools /1	11	49	91	126	116	110	75	39	39	10		
Smallholder Maintenance /2					30	118	239	333	333	408	435	435
Investment on IBRD Loan /3	-	-	-	-	-	155	155	155	155	155	155	
Total	650	1,495	2,251	3,402	606	1,153	620	693				
Coefficient of conversion to 1986 prices	(2.53)	(2.26)	(2.06)	(1.70)	(1.53)	(1.42)	(1.27)	(1.12)				
Total	1,392	3,379	4,637	5,783	927	1,637	787	776	663	573	590	435

/1 Smallholder labour and tools at \$80.00/ha

/2 Smallholder maintenance cost including labour, fertilizer, chemicals, tools and harvesting at N210.00/ha

/3 IBRD loan at interest rate of 9% per annum, 5 years of grace, 20 years repayment period.

Interest payment up to year 2002.

ANNEX 2.3 SMALLHOLDER OIL PALM PROJECT, RIVERS STATE - TABLE C1: STREAM OF REVENUE

Year of Field Establishment	Ha Established	YEAR													1
		1981	1982	1983	1984	1985	1986	1987	CF 1948	1989	1990	HARVESTING 1991	1992	1993	
1978	138.37	362.67	574.65	652.83	728.38	983.67	983.67	983.67	983.67	983.67	983.67	983.67	983.67	983.67	9
1979	429.98		1126.98	1785.71	2028.65	2263.41	3056.73	3056.73	3056.73	3056.73	3056.73	3056.73	3056.73	3056.73	20
1980	570.27			1494.68	2368.33	2690.53	3001.90	4054.05	4054.05	4054.05	4054.05	4054.05	4054.05	4054.05	40
1981	447.67				1173.34	1859.47	2112.11	3356.53	3182.49	3182.49	3182.49	3182.49	3182.49	3182.49	31
1982	-														
1983	355.00							930.46	1474.32	1674.90	1868.72	2523.70	2523.70	2523.70	25
1984	130.00								340.73	539.89	613.34	684.32	924.17	924.17	9
1. FFB Production (Tons) ¹		362.67	1701.63	3933.22	6298.70	7796.78	10084.87	11925.30	12951.84	13759.00	14484.96	14724.81	14724.81	14724.81	147
2. Revenue from sale of ffb at N200/ton (N'000)		72.3	340.3	786.6	1259.7	1559.4	2017.0	2395.1	2590.4	2751.8	2897.0	2945.0	2945.0	2945.0	29
3. Palm Oil Production (Tons) at 20% Extraction ²		72.33	340.33	786.64	1259.74	1559.36	2016.97	2385.06	2590.37	2751.80	2896.99	2944.96	2944.96	2944.96	29
4. Palm kernel Production (Tons) at 4.5% extraction ²		16.32	76.57	176.99	283.44	350.86	453.82	536.64	582.83	619.16	651.82	662.62	662.62	662.62	6
5. Revenue from Palm Oil (N'000) ³		130.55	612.59	1415.93	2267.53	2806.85	3630.55	4293.11	4662.67	4953.24	5216.58	5300.43	5300.93	5300.93	53
6. Revenue from Palm Kernel (N'00) ³		5.71	26.80	61.95	99.20	122.80	158.84	187.82	201.99	216.71	228.14	321.92	321.92	321.92	3
7. Total Revenue from Processed Oil and Kernel (N8000)		136.26	639.39	1477.90	2366.73	2929.65	3789.39	4480.93	4864.66	5169.94	5442.72	5532.85	5532.85	5532.85	553
		(1.64)	(1.53)	(1.42)	(1.27)	(1.12)									
		223.47	978.27	2098.62	3005.75	3281.21	3789.39	4480.93	4866.66	5169.94	5442.72	5532.85	5532.85	5532.85	553

¹ Assumption: Year 4 Year 5 Year 6 Year 7 Year 8 and after
 2.631 4.153 4.718 5.264 7.109 per ha. based on adjusted HDU Field Survey.

² Extraction rate for palm oil and palm kernel range between 17 - 21% and 3.5 - 5% respectively. The lower rates are in the first 4 years. We have assumed 20% and 4.5% extraction rates for palm oil and palm kernel respectively since these are not likely to adversely affect the result.

³ Selling price of palm oil N1,300/ton, and palm kernel 92% N/ton.

ANNEX 2.4 - SMU RIVERS STATE, CASH FLOW AND FINANCIAL RATE OF RETURN (FRR)

(N'000)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991- 2002	2003- 2013
TOTAL INFLOW ^{∠1}				73	340	787	1,280	1,559	2,017	2,385	2,590	2,752	2,897	2,945	2,945
TOTAL OUTFLOW	1,392	3,379	4,637	5,783	927	1,537	787	776	663	573	590	590	590	590	435
NET CASH FLOW	(1,392)	(3,379)	(4,637)	(5,710)	(587)	(750)	493	783	1,354	1,812	2,000	2,162	2,307	2,355	2,510

FRR = 8.54%

^{∠1} Revenue from FFB was used because cost and benefits from processing had already been incorporated in Risopalm Rate of Returns Calculation.

ANNEX 2.5 SMU RIVERS STATE PROJECT COSTS CONVERTED TO REFLECT ECONOMIC VALUE

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991- 2002	2003- 2013
Foreign Exchange Component $\angle 1$	432	1,047	1,437	1,793	287	507	244	241	206	178	183	183	183	183	135
Correction Factor for dollar $\angle 2$	(1.19)	(1.19)	(1.19)	(1.88)	(1.88)	(1.88)	(2.42)	(2.42)	(3.75)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)
Real Foreign Exchange Cost	514	1,246	1,710	3,371	540	953	590	583	773	819	842	842	842	842	621
Local Cost	960	2,332	3,200	3,991	640	1,130	543	535	457	395	407	407	407	407	300
Total Economic Cost $\angle 3$	1,474	3,578	4,910	7,362	1,180	2,083	1,133	1,118	1,230	1,214	1,249	1,249	1,249	1,249	921

$\angle 1$ Foreign exchange component of project cost was assumed to be 31% of total cost as per appraisal report.

$\angle 2$ Correction factor represents the shadow price of dollar at different periods.

$\angle 3$ 75% Federal Government subsidy on fertilizer was not included since there was no reliable information on fertilizer use.

This is expected to have negligible effect on the computed ERR.

Also taxation assumed at 3% of total cost was excluded.

ANEX 2.6 SMU RIVERS STATE CASH FLOW AND ECONOMIC RATE OF RETURN

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991- 2002	2003- 2013
Cash inflow ^{∠1}				73	340	787	1,280	1,559	2,017	2,385	2,590	2,752	2,897	2,945	2,945
Cash Outflow	1,474	3,578	4,910	7,362	1,180	2,083	1,133	1,118	1,230	1,214	1,249	1,249	1,249	1,249	921
Net Cash Flow	(1,474)	(3,578)	(4,910)	(7,289)	(840)	(1,296)	147	441	787	1,171	1,341	1,503	1,648	1,696	2,024

ERR = 5.78%

∠1 Revenue from FFB was used because cost and benefits from processing had already been incorporated in Risopalm Rate of Returns Calculation.

RIVERS STATE OF NIGERIA

RISONPALM LIMITED

UBIMA NUCLEUS ESTATE

PROJECT COMPLETION REPORT

**SOCFIN CONSULTANT SERVICES "SOCFINCO" S.A.
2, PLACE DU CHAMP DE MARS — 1050 BRUXELLES**

SECTION 1

INTRODUCTION

1.1. The size of the Nigerian oil palm sector is uncertain with respect to both area and output. The bulk (+/- 90 %) of the palm oil output, currently estimated at approximately 600.000 tons p.a., is produced from wild groves/smallholdings. There is little scope for increasing Nigerian oil production without introducing a system combining new planting, replanting, improved fruit collection and processing.

1.2. The demand in Nigeria for vegetable oils is increasing at a rate of between 3.0 % and 3.5 % per annum and oil palm is expected to be the main source of supply. Total demand in 1985 has been estimated at around 950.000 t rising to 1.10 million by 1990 and to 1.32 million t by 1995. Under existing production patterns, Nigerian production of palm oil is estimated to reach about 650.000 t in 1990 and 700.000 t in 1995, leaving major local supply shortfalls of around 450.000 t in 1990 and about 650.000 t in 1995.

1.3. A World Bank sub-sector note "Agricultural Marketing and Prices in Nigeria's Green Revolution" (May 1981), agreed that, in a petroleum economy, expenditure of oil revenues raises domestic costs (prices of non-traded goods), while the known availability of oil reserves tends to support a high international exchange rate for the Naira, thus holding down costs of imports and revenues from exported produce (prices of traded goods). The competitive position of agriculture is thus squeezed, creating a case for protection preferably through tariffs and export subsidies.

The arguments for protection seem to be appropriate to the oil palm sector, particularly if the ultimate objective is to attain self-sufficiency in this basic food commodity. This then becomes the basis for continuing to develop the oil palm sector through new planting, replanting and improved processing systems.

1.4. The Rivers State Nucleus Estate at Ubima was developed over the period 1978-1985 and forms part of the national programme for the expansion of the oil palm agro-industry in Nigeria.

SECTION 2

PROJECT IDENTIFICATION

PREPARATION / APPRAISAL

- 2.1. The project was identified by the Federal Department of Agriculture and the World Bank Resident Mission in Lagos in May 1975, and subsequently prepared by Socfinco Ltd, engaged by the Ministry of Trade and Economic Development. The feasibility studies were completed in December 1975 and April 1976 and the project was appraised by the World Bank in October/November 1976.

SECTION 3

PROJECT DESCRIPTION

3.1. MAIN COMPONENTS

The project, which in concept and design was largely as proposed in the Socfinco Ltd feasibility studies, included four main components :

(i) Establishing a Nucleus Estate

- a) planting 10,000 ha by the State-owned company RISONPALM Ltd, using a management agency for implementation;
- b) constructing and operating one palm oil mill to process estate and smallholders production; and
- c) establishing a fruit collection system to be operated by RISONPALM for estate and smallholder production.

(ii) New Planting/Replanting Smallholdings :

- a) establishing a Smallholder Management Unit (SMU) within the Rivers State Ministry of Agriculture and Natural Resources to implement the smallholder planting program (10,000 ha);
- b) operating a Grant/Credit scheme for participating smallholders;
- c) training staff and smallholders at selected institutions and through in-service courses; and

d) improving about 400 km of earth roads to facilitate all-weather distribution of inputs and collections of fruit bunches from smallholders.

(iii) Coconut Project Identification and Preparation Study and Establishing a Coconut Seed Garden of 120 ha over the period 1978 through 1982.

(iv) Feasibility Study for Phase II Oil Palm Project

This project completion report focuses on components (i), (iii) and (iv) in that Risonpalm Ltd was not directly involved in the implementation of section (ii) - the New Planting Replanting of Smallholders which was the responsibility of a Smallholder Management Unit within the Rivers State Ministry of Agriculture.

3.2. NEGOTIATIONS, MAIN ISSUES RAISED AND ASSURANCES OBTAINED

Negotiations commenced in Lagos on March 9th to 13th 1978 and were concluded in Washington over the period April 3rd to 5th, 1978. During negotiations assurances (1) were obtained from Government on the following principal points relating to the Nucleus Estate project :

(a) the balance of 8.000 ha would be acquired by the State and conveyed to RISONPALM with all boundary alignments agreed with local communities and final traces cut and clearly marked not later than March 31, 1979;

(1) See Appraisal Report 1525 UNI

- (b) early in 1979 RISONPALM would engage consultants acceptable to the State and the Bank to prepare design specifications and tender procedures for the palm oil mill.
- (c) the Bank loan of US \$ 30.0 million would be onlent by FMG to Rivers State Government on the same lending terms as the Bank loan and FMG would provide an allocation equivalent to 25 % of project cost, amounting to Naira 13.3 million (US \$ 20.5 million);
- (d) a portion of the Bank loan amounting to Naira 10.1 million (US \$ 15.5 million), Naira 8.0 million (US \$ 12 3 million) of the total State contribution and Naira 6.1 million (US \$ 9.4 million) of the FMG total contribution would be onlent to or invested in equity by the State to RISONPALM and that the loan would be at 9 % per annum for a period of 25 years including 10 years grace;
- (e) management of the nucleus estate would be provided by management consultants under a management agreement with terms and conditions acceptable to the Bank;
- (f) a Price Policy Committee would be established by January 1, 1982 in a form satisfactory to the Bank, and which shall be responsible for the establishment, in accordance with principles acceptable to the Bank, of a formula for calculating the price of FFB to be paid by RISONPALM to participating smallholders;

During negotiations it was agreed that conditions of effectiveness of the loan would include :

- (a) a subsidiary loan agreement between FMG and Rivers State which would cover both onlending of the Bank loan and FMG allocation had been executed and duly authorized or ratified by all necessary corporate and Governmental action;
- (b) a subsidiary loan and equity subscription agreement between Rivers State Government and RISONPALM had been executed and duly authorized or ratified by all necessary corporate and Governmental action;
- (c) separate bank accounts for the Nucleus Estate and SMU had been opened and adequately funded;
- (d) the Management Agreement for the nucleus estate had been executed and the key staff appointed;

During negotiations it was agreed that conditions of disbursement against :

- (a) estate development would be that the balance of 8.000 ha had been acquired by the State and conveyed to RISONPALM with all boundary alignments agreed with local communities and final traces cut and clearly marked;
- (b) mill investment would be that the Bank had received satisfactory confirmation from SMU and the Monitoring Evaluation Unit (MEU) of the Federal Department of Agriculture that the mill could process all oil palm fruit produced by the Nucleus Estate and smallholders;
- (c) the coconut seed garden would be that the coconut development proposals are satisfactory to the Bank;

It was agreed during negotiations that retroactive financing of up to US \$ 450.000 would be made available for the recruitment of international staff and US \$ 800.000 for the purchase of land clearing equipment for eligible expenditures incurred after January 1, 1977.

3.3. BOARD PRESENTATION, SIGNING OF LOAN AND PROJECT AGREEMENTS

On the basis of the above assurances and conditions the project was considered to be suitable for a Bank Loan of US \$ 30.0 million and was duly presented to the Board on May 24, 1978 with the loan signed on July 24, 1978.

Although there was some slippage in the timing of land acquisition and delays in the provision of funds by the Federal and State Governments (see section 4 below) essentially all the specified covenants were complied with during project implementation.

3.4. PROJECT COSTS AND FINANCING ARRANGEMENTS

At appraisal total project costs during the six and a half year period 1978-1984 including start-up costs in 1977/1978 were estimated at Naira 54.0 million (US \$ 83.0 million) with a foreign exchange component of Naira 19.4 million (US \$ 30 0 million).

Project costs at appraisal are summarized as follows :

	<u>Local/Foreign/Total</u>			<u>Local/Foreign/Total</u>			<u>Base/Total</u>	
	<u>---Naira Million---</u>			<u>---US\$ Million---</u>			<u>Cost</u>	
							<u>---X---</u>	
<u>Nucleus Estate</u>								
Field Establish- ment Cost	5.4	2.0	7.4	8.3	3.1	11.4	21	14
Palm Oil Mill	2.8	4.2	7.0	4.3	6.5	10.8	20	13
Staff & Salaries	2.1	0.6	2.7	3.2	0.9	4.1	8	5
Vehicles								
Equipment	0.4	1.1	1.5	0.6	1.7	2.3	4	3
Housing, Building, Utilities & Furniture	2.7	1.4	4.1	4.2	2.1	6.3	12	8
Fruit Collection	0.2	0.1	0.3	0.3	0.2	0.5	-	-
Management Fee	0.5	0.7	1.2	0.8	1.0	1.8	3	2
	14.1	10.1	24.2	21.7	15.5	37.2	68	45
<u>Preparation Study and Coconut Seed Garden</u>								
	0.4	0.4	0.8	0.6	0.6	1.2	2	1
<u>Smallholder Management Unit</u>								
Field Establishment	4.4	0.8	5.2	6.8	1.2	8.0	15	10
Salaries - Headquarters	0.9	0.3	1.2	1.3	0.5	1.8	3	2
Regional Units	2.1	0.5	2.6	3.2	0.8	4.0	8	5
Staff Training	-	0.2	0.2	-	0.3	0.3	-	-
Road Construction	0.8	0.5	1.3	1.2	0.8	2.0	4	3
	8.2	2.3	10.5	12.5	3.6	16.1	30	20
Base Costs	22.7	12.8	35.5	34.8	19.7	54.5	100	66
<u>Contingencies :</u>								
Physical Price	1.2	0.6	1.8	1.9	0.9	2.8	-	3
	10.7	6.0	16.7	16.5	9.2	25.7	-	31
	11.9	6.6	18.5	18.4	10.1	28.5	-	(34)
Project Cost	34.6	19.4	54.0	53.2	29.8	83.0		100
Percentage	64	36	100	64	36	100		

Proposed Financing Plan :

	<u>Total</u>	<u>IBRD</u>	<u>FMG</u>	<u>RSG</u>	<u>Smallholder</u>
-----Naira Million-----					
Nucleus Estate	24.2	10.1	6.1	8.0	---
Preparation Study and Coconut Seed Garden	0.8	0.4	0.2	0.2	---
Smallholder Management Unit	<u>10.5</u>	<u>2.3</u>	<u>2.4</u>	<u>4.9</u>	<u>0.9</u>
Base Line Costs	35.5	12.8	8.7	13.1	0.9
Unallocated	<u>18.5</u>	<u>6.6</u>	<u>4.6</u>	<u>7.0</u>	<u>0.3</u>
Project Cost	54.0	19.4	13.3	20.1	1.2
-----US\$ Million-----					
Nucleus Estate	37.2	15.5	9.4	12.3	--
Preparation Study and Coconut Seed Garden	1.2	0.6	0.3	0.3	--
Smallholder Management Unit	<u>16.1</u>	<u>3.6</u>	<u>3.7</u>	<u>7.5</u>	<u>1.3</u>
Base Line Costs	54.5	19.7	13.4	20.1	1.3
Unallocated	<u>28.5</u>	<u>10.1</u>	<u>7.1</u>	<u>10.8</u>	<u>0.5</u>
Project Cost	83.0	29.8	20.5	30.9	1.8
Percentage	100.0	36.0	25.0	37.0	2.0

SECTION 4

LOAN EFFECTIVENESS

AND

PROJECT START-UP

4.1. LOAN EFFECTIVENESS

- Main problems - funding, land acquisition, modifications to project

The conditions of effectiveness of the loan were fulfilled on the following dates :

- (a) subsidiary loan agreement between FMG and Rivers State -April 17, 1979-
- (b) subsidiary loan and equity subscription agreement between Rivers State and Risonpalm -June 7, 1979-
- (c) opening of bank account for Nucleus Estate -January 1979-
- (d) management agreement between Risonpalm and Socfinco - February 23, 1979-

The loan became effective on July 10, 1979.

Although land acquisition was not completed until October 1981, the conditions of disbursement were not rigidly applied by Bank. The first 3.562 ha of the Estate had been acquired by the State and conveyed to Risonpalm on May 5,

1978. The final hectareage conveyed to the project was 11.773 ha (see map I attached with references and dates of certificates of occupancy).

During the period 1979 to end of 1981, cumulative disbursements under categories I(a) and I (b) amounted to about US \$ 7.9 million.

4.2. APPOINTMENT OF MANAGEMENT CONSULTANTS

Socfinco was appointed as management agency by Rivers State Government in June 1977 and was requested to start operations pending the signature of the formal management agreement.

The management agreement between Risonpalm and Socfinco, after having been reviewed and approved by Rivers State Government and the Bank, was signed on February 23, 1979.

4.3 PROJECT START-UP

The launching of the project - which had a targeted planting programme of 500 ha in 1978 and 2.200 ha in 1979 - suffered from several major constraints :

(a) delays in land acquisition

The first portion of the land only became available for field operations (setting up of temporary office, stores, workshop and fuel store, preparation of nursery) at the end of April 1978.

(b) late and insufficient release of funds

Through 1977 and 1978 funding was as follows :

(Naira 000)

	Budgeted Requirement		Rivers State	FND
1977 :	197	Nov 25	100	---
1978 :		Jan 9	250	---
		Apr 24	350	---
		Aug 28	---	400
	3.914	Oct 4	1.000	---
		Oct 23	300	
Total	<u>4.111</u>		<u>1.700</u>	700

This entailed delays in procurement of essential start-up equipment, vehicles and crawler tractors.

- Vehicles and crawler tractors :

Although in August 1977 the World Bank agreed to the initial purchase of vehicles and crawlers through competitive shopping instead of following the I.C.B. procedure, effective acquisition of landclearing heavy equipment (1DS and 3DS) only took place between May and July 1978.

- Utilities :

Orders for a borehole on the nursery site and irrigation equipment could only be placed in September 1978.

- Housing, offices, stores :

Throughout 1977 and 1978 seconded staff had to be housed in Socfinco guest houses 50 kilometers from the project site. Temporary buildings to be used as offices, store and garage were erected on the site in May 1978 on force account.

TO

SECTION 5

PROJECT IMPLEMENTATION

5.1 PHYSICAL PROGRESS

5.1.1 General

It became evident, from the very onset of the project, that all parties concerned had been overoptimistic regarding the phasing of project implementation in that the programme :

- underestimated the time required to meet all the conditions of loan effectiveness and disbursement (e.g. land acquisition)
- assumed the regular and adequate funding of the project, after the start of implementation.

Although disbursement and funding are dealt with in 5.4 and 7.1 hereafter, when assessing the physical progress of the project, it is important to make a comparison between budgets/development programmes submitted by project management (and duly approved) and the actual funds received from various sources.

Calendar year	(Naira 000) Funding Requirements as per approved budget	Actual Funding (FMG-RSG-WB)
1977	197	100
1978	3.914	2.000
1979	3.922	3.016
1980	5.502	3.520
1981	10.995	4.868
1982	12.092	7.082
1983	10.381	6.358
1984	16.024	7.343
1985	6.479	3.100

The shortfall in funding was partly met in 1982 and 1983 with loans from local banks and revenue from palm oil sales resulting from the construction of the 1,5 ton interim mill (see section 5.1.5).

The belated initial funding and the lean years 1981-1982 made realistic planning and implementation of agricultural operations and building programmes especially difficult and led of necessity to a substantial lengthening of the effective project completion period.

5.1.2. Planting programme - Estate Development

A comparison of the Appraisal Report (A.R.) planting schedule and the annually adjusted Nucleus Estate (N.E.) Budgets/planting programmes shows that effective plantation development was as follows :

	<u>A.R.</u> <u>Schedule</u> ha	<u>N.E.</u> <u>Budgets/Programme</u> ha	<u>Actually</u> <u>planted</u> ha
1978	500	200	125
1979	2.200	1.000	925
1980	3.300	2.000	1.900
1981	4.000	2.200	1.525 (2)
1982		1.700	1.000
1983		2.150	1.425
1984		1.400	1.420
1985		1.200	1.170
			(+ 20 ha coconut)
Total	10.000		9.490 (+ 20 ha coconut)

(2) The 1981 Estate target of 2.200 ha could not be attained through a loss of 9 weeks of the land preparation period due to a land dispute.

The planting programme for the Nucleus Estate was revised during the course of the Bank Supervision mission of December 1979. At that stage it was agreed to extend the field establishment programme to 1983. The planting programme was further revised during the preparation of annual Budgets/Programmes and in December 1984 all parties agreed that the Nucleus Estate planting would be completed by 1985.

On the 11.773 ha conveyed to the project :

- 9.719 ha were developed in plantation blocks and roads
- 9.490 ha were planted with palms
- 20 ha were planted with coconuts
- 107 ha are covered by the housing estate and public utilities buildings
- 10 ha are covered by oil mill, offices, workshop and stores area

No further oil palm planting was undertaken as land had to be left available for villages and labour foodcrop production (see project map 2 attached).

From map 2 it can be seen that the actual areas developed do not coincide exactly with those proposed in the Appraisal Report. The main reasons being that (a) the land west of the Elele/Umu Neiu road was not available for acquisition and (b) the area left vacant immediately surrounding the village of Ihe had to be approximately doubled.

- Nurseries :

The project was asked to raise seedlings not only for the N.E. but also for the SMU in the first two years of implementation. Nurseries had thus to be established under extremely difficult conditions in 1977 and 1978 for

the ambitious planting programmes envisaged at
Appraisal :

Planting 1978	N.E.	1.600 ha
	S.M.U.	600 ha
Planting 1979	N.E.	2.200 ha
	S.M.U.	1.200 ha

As shown in section 5.1.1. above only part of the programme eventually materialized due largely to the belated and insufficient initial funding. The surplus seedlings had (not without difficulty) to be successively carried over into the 1980 planting programme. However, some of them were sold to other oil palm estates.

From 1979 through 1982, germinated seeds supply was basically adequate to meet the quantities required for the N.E. programme.

In 1983 and 1984 however, supply of seeds could not meet the requirements and deliveries were late and irregular; as a result 122.000 seedlings had to be bought from other palm projects to complete the 1984 and 1985 plantings.

- Landclearing and preparation :

Landclearing operations were mainly carried out mechanically in order to meet the needs of a large annual planting programme under circumstances where labour supply was both limited and fluctuating due to a combination of factors :

- (a) scarcity of labour with extensive forest clearing experience
- (b) fluctuating labour resources resulting from the alternative needs of food crops cultivation

- (c) absence of a stabilized resident labour force until sufficient houses, schools and other infrastructures had been constructed.

The landclearing and preparation operations can be summarized as follows :

- blocking out by a survey team + D8 with KG blade
+ D8 with rake
- underbrushing and felling + D8 with treepusher
- initial burning
- initial lining : survey team + D6 with rake
- windrowing (one interrow in 4 or 8) + D6 and D8
- destumping of avenues : D8 with KG blade
- 2 rounds of interrow ploughing by D6 + Rome disc plough
- burning of stacked windrows
- disc harrowing (D6), followed by covercrop sowing with centrifugal broadcaster
- spraying preemergence and post-emergence herbicide
- triangular pegging - 9 m x 9 m
- holing and planting

The results attained in mechanical landclearing and preparation can be summarized as follows :

- (a) well supervised in the early stages drivers acquired a high level of operational efficiency. This, combined with strict servicing of machines in the field and regular overhaul in the project workshop, resulted in an average output of 10 to 13 hours (according to weather conditions) per working day and per tractor. All the crawler tractors more than outlasted the initial forecasted 10.000 hours, lifespan - some being operational after about 18.000 hours of clearing work.

- (b) the wide windrow packing (one in four initially and later changed to one in eight) kept soil compaction to quite acceptable levels
- (c) mechanical clearing of interrows provided free access for further operations such as :
 - ploughing for eupatorium eradication, subsequent sowing of covercrops and spraying of preemergents
 - transportation of seedlings into the field for planting
 - interrow maintenance of covercrop with wheel tractors and bar slasher
- (d) some of the heavy equipment used at Ubima is currently being used on landclearing operations at Elele

- Maintenance :

Maintenance techniques for immature and mature plantings have been described in detail in the project annual progress reports; all the operations applied standard techniques.

It is however worth mentioning that :

- maintenance of the interrows is done by a bar slasher or roller pulled by a wheel tractor; sporadic infestations of noxious weeds regenerating in the interrows are dealt with by chemical spotspraying or hand wiping.
- chemical circle weeding has been successfully carried out over more than 8.000 ha using low volume controlled droplet application. One round a year of

manual circle weeding is however carried out to clean the circle of debris.

- all fertilizer applications are geared to the specific fertilizer requirements based on the results of systematic foliar analysis.

5.1.3 Civil Works

Implementation of the building programme differed from the Appraisal Report in that :

- the delays in funding at the start of the project entailed an average two year slippage in launching the building programme
- as the necessity to stabilize the labour force soon became evident, priority was given to the construction of workers and junior staff quarters.

Sixty percent more quarters had to be built than envisaged at appraisal (656 versus 400).

It must also be emphasized that to ensure an adequate labour supply in the future a second workers village of 300 units will have to be erected over the period 1987-1989.

- the housing estate was provided with comprehensive public facility buildings and an extensive water and electricity supply

In the vicinity of each village a foodcrop area has been reserved to allow 0.5 ha per family unit

At project completion, the civil works comprised :

(a) housing

- 19 management and staff quarters
- 66 intermediate staff quarters
- 656 junior staff and labour quarters

(b) public facility buildings

- medical centre
- primary school / training centre
- community hall
- market
- canteen
- staff club houses

(c) industrial buildings

- office
- workshop
- warehouse
- chemical and fertilizer store
- water and powerhouse

Details and costs, compared with the Appraisal Report, are shown in section 5, paragraph 5.2.2.5 and Annex 1 sections VII and VIII.

5.1.4 Vehicles and equipment

Actual acquisition of vehicles and equipment had to diverge significantly from Appraisal Report provisions, for the following reasons :

- (a) the requirements in crawler tractors for land clearing operations had been underestimated in the Appraisal Report.

4 D8 and 13 D6 had to be utilized over the implementation period instead of the 2 D8, 6 D6 and 2 D4 which had been anticipated during appraisal.

- (b) the lengthening of the implementation period involved the purchase and replacement of more light vehicles and wheeled tractors and resulted in a significant increase of all vehicles operating costs.
- (c) 30 tipper trucks were acquired for fruit collection from the wild palm groves and smallholdings.

The cost comparison between actual requirements and the Appraisal Report are shown in Annex 1, section VI.

5.1.5 Mill construction

The Appraisal Report had envisaged that :

- (a) fruit production from the project would commence in 1982 and would initially be processed at the existing Elele plantation mill.
- (b) the project would start construction of its own mill at Ubima in 1980 reaching a capacity of 10T/FFB/hour in 1983, 20T/hour in 1984 and 40T/hour in 1985.

However, construction of the Risonpalm Elele plantation mill, which had started in 1976, had come to a standstill in 1980 and it was not expected to be operational by 1982/1983. The Nucleus Estate was therefore confronted with the problem of milling the fruit intake between 1981/1983.

The expected production from the Nucleus Estate and SMU 1978/1980 plantings were forecast at :

1981 (2nd semester)	:	649 tons of FFB
1982	:	5.559 tons of FFB
1983 (1st semester)	:	6.466 tons of FFB

As pointed out above, the Nucleus Estate Oil Mill was not expected to be commissioned before July 1983. Furthermore no processing facility would be available from the five 1,5 T/hour Pioneer Oil Mills (P.O.M.) which Risonpalm was still operating as their equipment was obsolete and in extremely poor condition. Moreover, in mid 1981 Risonpalm had started a rehabilitation programme on the old Elele plantation and the anticipated increase in FFB production was scheduled to be processed in these P.O.M.

In order to process the early production from the Nucleus Estate and start up the fruit collection system and purchase of FFB from SMU plantings, the project proposed - as an interim measure - the construction of a small 1,5 T/hour mill at Ubima.

Construction of a 1,5 T/hour oil mill at Ubima :

In order to reduce costs it was planned :

- to reutilise an old P.O.M. building (together with some of the equipment) located at Ubima
- to procure some new equipment to complete the unit, with assembly by the Nucleus Estate.
- that the mill would work 24 hours a day, 25 days a month, with a high oil extraction level.

Tender specifications were prepared and approved by the Bank in February 1981.

The 1,5 T/hour mill was commissioned on March 23, 1982 and operated with three shifts 24 hours a day until May 23, 1983 processing bunches from the 1978 and 1979

Nucleus Estate plantings, from smallholders and Elele and Adapala Ohaji Estates.

This mill ceased operating in May 1983 when the 20 T/hour mill was commissioned. However the equipment was still in good condition and was sold to OKOMU oil palm project for early stage processing.

Construction of 20/40 T/hour mill :

This mill was constructed in two phases with the following implementation schedule :

(a) civil works and 20 T/line :

- invitation to prequalification	Dec 79
- prequalification	Mar 80
- selection of prequalification	May 80.
- tender specification with option on extension to 40 T and call to tenderers	Oct 80
- opening of bids	Feb 12, 81
- comparison of bids	Aug 81
- award of contract (to Usine De Wecker) with option for extension to 40 T	Sept 18, 81
- start of works on site	Jan 82
- oil mill (20 T line) operational	May 11, 83

It should be noted that even with the full cooperation of all parties concerned (FMG, RSG and Worldbank) and efficient mill construction contractors it still required 3 1/2 years for the first stage of the mill to be commissioned.

(b) extension to 40 T :

- | | |
|------------------|--------|
| - start of works | Feb 85 |
| - commissioning | Dec 85 |

The main features of the mill are :

- two production lines, each one of 20 T/hour capacity with two sets of presses/digesters of 10 T/hour.
- two steamboilers, each producing 10 T/hour of steam at 25 bars and functioning on process waste (fibres and shells) only. A third boiler, to serve as a stand-by, has been ordered.
- power station with two steam turbines of 600 KVA capacity and two generating sets of 300 KVA.
- an effluent treatment station where sludge is digested microbiologically to avoid environmental pollution.
- two palm oil storage tanks each of 1.500 T capacity.

5.1.6 Fruit collection systems

Risonpalm was to establish and operate a fruit collection system for smallholder production in order to purchase and process their crop.

With agreement of the Bank, in September 1981 Socfinco undertook a study of a smallholder fruit collection and buying system.

This study :

- investigated the location, hectarage, density of planting and distance from the mill of the existing smallholdings

- determined the equipment required for collection and the design of the collection circuits
- recommended the systems of reception control and payments to smallholders
- proposed the basis for a pricing policy, by calculating the transport cost of fruit collection and mill processing and related financial and overhead costs

It appeared however from the study that the initial SMU plantings were less important than forecast. This was later confirmed by MEU which reassessed the Rivers State SMU in October 1982 and concluded that 1.589 ha had been established by 720 participants in 626 plantations :

1978	138 ha
1979	433 ha
1980	570 ha
1981	448 ha

As a result of dissatisfaction with performance the SMU operations were wound up at the end 1984 by Rivers State.

Although the pricing committee was not set up, in November 1982 the Nucleus Estate started fruit collection from the smallholders 1978 plantings.

Production in 1983 was affected by drought and fires on some smallholdings and rose to only 301 T. Wildgrove farmers however started supplying bunches to the mill around mid 1983 and by the end of the year 1.596 T had been purchased.

A fruit collection and buying department was set up at the Nucleus Estate in 1984, comprising :

- one coordinator and five zonal officers, with assistants, who liaised with farmers on the collection and supply of good quality bunches
- one administrative officer, in charge of dispatching and payments

5.1.7 Coconut seed garden

Part C(1) of the project provided for a coconut project identification and preparation study.

As the Federal Department of Agriculture intended to commission a feasibility study to identify coconut projects covering all coconut growing areas of Nigeria, Rivers State and the Bank agreed in August 1980 that there was no need for RISONPALM to execute part C(1) of the project. A feasibility study for coconut development in Rivers State had indeed already been made with positive recommendations for development in the Socfinco study of April 1976.

By mid 1983 the feasibility study for Nigerian coconut development had still not been carried out and with the increasing emphasis that was being given to oil palm development it was agreed that the coconut seed garden component of the project would be scaled down to 25 ha.

8.200 coconut seeds were ordered from IRHO in Ivory

Coast :

- Malaysian Yellow Dwarf	4.100
- Cameroon Red Dwarf	2.050
- Malaysian Red Dwarf	2.050

The seeds arrived in October 1984 in rather bad condition, due to transportation delays, with 57 % of the nuts already germinated, and only 5.308 seedlings could

be retained for planting.

To avoid inbreeding, three separate fields, were planted in 1985 with a total hectarage of 20 ha.

5.2. COSTS

5.2.1 Summary of project costs

As described above the project was completed over the period 1978 through 1985 involving a total expenditure equivalent to Naira 48.6 million. This compares with the A.R. estimate of Naira 38.3 million including physical and price contingencies amounting to Naira 14.1 million (See table below and Annex 1, Section III). It is, however, difficult to make precise comparisons because :

(a) the summary of actual expenditures in the A.R. excludes :

- (i) the cost of maintaining and harvesting mature areas during the period 1981 through 1985 and,
- (ii) a full allowance for bringing the 1983, 84 and 85 plantings to maturity

However, when calculating the projected cash flow for the Nucleus Estate in both the Project Completion report (PCR) and the A.R., full allowance has been made for the costs of field maintenance and harvesting (See section 7.2 below).

(b) as there was slippage in project implementation the estate field planting was only completed in 1985 compared with 1981 as forecast in the A.R. As a result, the bulk of actual expenditures occurred at a later stage than forecast in the A.R. and, as a

consequence, were exposed to a higher degree of inflationary pressure. Furthermore the extension of the development period resulted in additional expenditure on recurrent costs during the period 1982 through 1985.

The following table summarizes costs as estimated in the Appraisal Report (A.R.) and those actually incurred during Project Implementation (P.I.).

SUMMARY OF PROJECT COSTS

COMPARISON BETWEEN "APPRAISAL REPORT" & PROJECT IMPLEMENTATION COSTS

('000 N)

	"Appraisal Report" 1977 → 1984		Project Implementation 1977 → 1985	Difference
	Base cost	Current costs (1)	Up to end 1985	Up to 1985
- Field Establishment	7,405.5	9,900.2	13,480	+ 3,532.8
- Palm Oil Mill	6,948.8	13,427.2 ****	8,673	- 4,754.2
- Staff & salaries	2,685.6	2,982.3	4,004	+ 1,021.7
- Vehicles & Equipment	1,544.1	2,159	4,990	+ 3,898.4
- Fruit collection	297.0 + 18.7	691.5 + 22.1	1,578 *	
- Housing & maintenance	2,474.0	4,638.8	5,673 1,010 **	+ 2,046.2
- Utilities & furniture	909.0	1,265.5	1,723 351 ***	+ 808.5
- Office, stores & other buildings	739.6	1,122.1	1,982	+ 859.9
- Feasibility study	40.0	57.0		- 57.0
- Management fee	1,153.1	1,995.3	2,873	+ 877.7
- Miscellaneous overheads			2,253	+ 2,253
	24,215.2	38,305	48,590	+ 10,285

- (1) : Base costs plus physical and price contingencies
- * : Vehicles operating costs
- ** : Building maintenance + temporary buildings & rents
- *** : Water, electricity, gas.
- **** : of which housing for oil staff amounts to N 1,745,000.

5.2.2 Cost comparison of major investment items

From the summary of Project Costs table above, it can be seen that the major items of investment expenditure relate to :

- (i) Field establishment
- (ii) Palm Oil Mills
- (iii) Staff and Salaries
- (iv) Vehicles and Equipment (including Fruit Collection)
- (v) Housing and Maintenance
- (vi) Management Fees
- (vii) Miscellaneous overheads

5.2.2.1 Field Establishment Costs

The additional investment incurred in project implementation compared with the A.R. estimates amounts to about Naira 3.5 million (for details, see Annex 1, section I). The main reason for these cost differences can be attributed to :

- (a) Underestimation of labour costs in the A.R. amounting to about Naira 0.51 million (Annex 1, Section III)
- (b) Underestimation of the cost of Land Preparation and opening of tracks in the A.R. amounting to about Naira 4.26 million (See Annex 1, Sections IV and VI)
- (c) Overestimation of the land acquisition costs of about Naira 0.68 million

- (d) Overestimation of the cost of other items amounting to about Naira 0.56 million (See Annex 1, Section V)

5.2.2.2 Palm oil mill

Although the project had to build a 1,5 T/hour mill as an interim solution before erecting the 20/40 T/hour mill (See section 5.1.5), the total cost of mills was considerably lower than the Appraisal Report estimate :

- A.R.	:	13.427.200 Naira
- P.I.	:	<u>8.773.000 Naira</u>
Difference	:	- 4.754.200 Naira

The difference can be attributed to :

- (a) the low-cost investment on the 1,5 T mill by re-utilizing part of the existing structure and equipment (See Section 5.1.5), actual cost having been :

- equipment	:	272.600 Naira
- civil works	:	<u>177.300 Naira</u>
Total	:	449.900 Naira

- (b) the keen competition in 1981 between I.C.B. tenderers for the 20/40 T/hour mill, which led to exceptionally favourable quotations.

Actual costs of Project Implementation compared with Appraisal Report (A.R.) were :

	<u>A.R.</u>	<u>P.I.</u>
- Equipment	: 8.021.600 Naira	5.884.000 Naira
- Civil Works	: 3.337.600 Naira	2.339.000 Naira

(c) a different posting, in project implementation audited accounts, of some items which in Project Appraisal were included under "Palm Oil Mills capital expenditure" (cf A.R. Annex 8, Table 3).

The main item is housing for mill personnel, amounting in A.R. to Naira 1.7 million, and which in project implementation is included under "Housing" (See 5.2.5).

5.2.2.3 Staff and Salaries

The difference between the actual expenditures in project implementation and the A.R. estimates amounts to an additional Naira 1.02 Million. This can be mainly attributed to the lengthening of the planting programme (1978-1985 instead of 1978-1981 as in the A.R.) which resulted in :

- (a) during the 6 years (1977-1982) covered by the A.R. staff and salaries expenditures actually amounted to Naira 1.80 million compared with the A.R. estimate of Naira 2.98 million.
- (b) in the 3 years 1983-85 expenditures on salaries amounted to about Naira 2.2 million.

5.2.2.4 Vehicles and Equipment

The difference between the A.R. estimates and the additional expenditures incurred in project implementation amounts to about Naira 3.45 million which can be largely attributed to a combination of :

- (a) A.R. underestimation of the number of crawler tractors required for land clearing operations (for details see Annex 1, Sections III and V). The A.R. estimates were Naira 0.95 million compared with an actual expenditure of Naira 2.02 million
- (b) an unforeseen additional need for 30 tipper trucks for fruit collection for smallholdings and the wild palm groves (for details see Annex 1, Section V)
- (c) the lengthening of project implementation period up to 1985 resulted in an increase in vehicle operating costs which amounted to Naira 1.58 million (to end of 1985) compared with an A.R. estimate of Naira 0.46 million (to end of 1982).

5.2.2.5 Housing and Maintenance

Total expenditure on Housing and Maintenance in project implementation amounted to about Naira 6.68 million compared with the A.R. estimate of Naira 4.64 million which did not include mill housing estimated at N 1.7 million.

The bulk of the Naira 2.04 million additional investment can be attributed to :

- (a) the cost of the mill housing programme and
- (b) the longer maintenance period (1978-1985) for project implementation compared with the A.R. which covered 1978-1982. The difference in maintenance expenditures amounted to about Naira 0.4 million.

5.2.2.6 Management Fees

During project implementation management fees up to the end of 1985 amounted to Naira 2.87 million compared with about Naira 2 million estimated in the A.R. More than Naira 0.5 million of the difference can be attributed to the higher investment costs experienced during project implementation i.e. Naira 48.6 million compared with the A.R. estimate of Naira 38.3 million. The bulk of the remaining difference of Naira 0.39 million can be largely attributed to the A.R. estimates not allowing for recurrent costs incurred in maintenance and harvesting during the 1982-1985 period.

5.2.2.7 Miscellaneous Overheads

Miscellaneous Overheads amounting to about Naira 2.25 million were not included in the A.R. estimates and details of the items involved are given in Annex 1 Section XI).

5.3. PROCUREMENT

The Bank procedure for procurement was strictly adhered to during implementation and procurements never caused major problems.

Out of the U.S.\$ 27 million disbursed from the Bank loan about \$ 11,7 million were disbursed against procurements made under International Competitive Bidding (ICB) over the period 1979 1985 Details of the major items procured through ICB are follows :

	<u>(U.S.\$ Value)</u>
- land clearing and road making equipment	1.839.378
- 1.5 T/hour mill (equipment)	439.788
- 20/40 T/hour mill (equipment, civil works and assembly)	5.401.013
- vehicles (jeep, wheel tractors, fruit collection trucks)	1.991.986
- spare parts	1.233.859
- agro-chemicals	673.634
- covercrop seeds	<u>151.879</u>
Total	11.731.537 *****

The major procurements made under Local Competitive Bidding (LCB) were :

	<u>NAIRA Value</u>
- Utility buildings (offices, stores, workshop, medical centre, school)	1.041.192

The main building programmes for the construction of utility buildings were carried out by indigenous firms following local competitive bidding procedures.

However, to stimulate local entrepreneur activity, the low cost housing units (for junior staff and labour quarters) were implemented under separate contracts using small local contractors. The work was carried out very effectively with respect to timing, standards and costs; the revenue thus generated in the area being appreciated by both local authorities and the business community.

5.4. DISBURSEMENTS

5.4.1 Phasing - Actual compared with appraisal

The Bank loan of US \$ 30.0 million was equivalent to the estimated foreign exchange costs of the whole Nucleus Estate/Smallholder Project.

The allocation of the loan amount between Nucleus Estate and the Smallholders component was however somewhat different in the Loan Agreement of July 24, 1978 from the proposed financing plan in the Appraisal Report in that the Loan Agreement categories 1a, 2 and 3a & 3b include part of unallocated funds specified in the Appraisal Report :

	<u>US \$ (million)</u>	
	<u>APPRAISAL REPORT</u>	<u>LOAN AGREEMENT</u>
Nucleus Estate	15,5	Cat 1a : 8,1 Cat 1b : 12,8
Preparation Study 2d Phase and Coconut Seedgarden	0,6	Cat 2 : 0,8
SMU	3,6	Cat 3a : 1,9 Cat 3b : 3,7
Unallocated	10,1	Cat 4 : 2,7
<u>PROJECT COSTS</u>	<u>29,8</u>	<u>30.0</u>

The actual Bank disbursements on the Nucleus Estate were as follows :

U S DOLLARS
NUCLEUS ESTATE

<u>Year</u>	<u>Category</u>			<u>Actual Cumulative Total</u>
	<u>1 (a)</u>	<u>1 (b)</u>	<u>2</u>	
1979		1.993.382	*	1.993.382
1980	324.036.	1.572.980		3.890.398
1981	1.400.336.	2.676.944.		7.967.678
1982	2.158.715	4.443.212		14.569.604
1983	1.625.624	4.468.627		20.663.855
1984		4.024.757		24.688.612
1985		3.014.376		27.702.988
1986		36.372		27.739.360
<u>TOTAL</u>	<u>5.508.710</u>	<u>22.230.650</u>		<u>27.739.360</u>

The total Bank disbursements for the Rivers State Oil palm project over the period 1979-1986, compared with Loan Agreement revised schedule 1 (see 5.4.2 hereunder) were :

	<u>U. S. DOLLARS</u>	
	<u>ACTUAL</u>	<u>LOAN AGREEMENT</u>
- Nucleus Estate		
Cat 1 (a)	5.508.710	5.510.000
Cat 1 (b)	<u>22.230.739</u>	<u>22.231.422</u>
	27.739.360	27.741.422
- Smallholders		
Cat 3 (a)	1.080.348	1.080.348
Cat 3 (b)	<u>1.180.004</u>	<u>1.178.230</u>
	2.260.352	2.258.578
<u>GRAND TOTAL</u>	<u>29.999.713.20</u>	<u>30.000.000</u>

The U.S. \$ 30.0 million loan was thus fully disbursed.

* There was no disbursement under category 2 as the reallocation of the loan occurred in September 1983 before the Coconut seedgarden was started.

5.4.2 Flow of disbursements

The project did not encounter major problems with Bank disbursements.

It should however be pointed out that :

- (i) disbursements for category I (a) items in respect of progress payments on the major building programme and workers quarters could not proceed until the land surveyed by the Nucleus Estate had been conveyed to Risonpalm i.e. October 1981.
- (ii) in order to undertake the construction of the 20/40 T mill, as Federal and Rivers State funding could not match the requirements at the time, Rivers State Government applied to the Bank, on November 2, 1982 for an increase in disbursement percentage for category 1 (a) from "100%of foreign expenditures or 35% of local costs" to "100% of foreign expenditures or 75% of local costs". This was accepted by the Bank on January 24, 1983.
- (iii) on July 5, 1983 Rivers State proposed to amend schedule I to the Loan Agreement of July 24, 1978.

The amendments were approved by Bank in September 1983 and duly authorized by Federal Ministry of Finance in October 1983 (for details see Annex 2).

5.5. FEASIBILITY STUDY FOR PHASE II DEVELOPMENTS

The feasibility study of the second Phase was started in July 1983 with the final report submitted in February 1985. The report proposed an oil palm development

programme of 35.000 ha distributed between the upland and lowland areas. In both areas, two nucleus estates with smallholdings (mainly block plantings) would be established together with wild-grove exploitation programmes (summary/conclusion given in Annex 3).

	UPLAND		LOWLAND		TOTAL
	NES I	NES II	NES III	NES IV	
			(hectares)		
Nucleus Estate	3.500	6.500	5.350	7.800	23.150
Smallholders	2.700	2.800	3.200	2.100	11.800
Wildgrove					
Exploitation	42.500	5.000	12.500	12.500	72.500

At full maturity annual production is estimated to reach 128.000 tons of oil and 19.000 tons of kernels processed in 7 mills with capacities ranging from 20/T/FFB/h to 40/TFFB/h.

The funding requirements of this development programme are estimated as follows :

	<u>UPLAND</u>	<u>LOWLAND</u>
Foreign Exchange	64 million N	259 million N
Local Currency	<u>70 million N</u>	<u>327 million N</u>
Total	<u>134 million N</u>	<u>586 million N</u>

Because of the high level of funding required for the implementation of this project, the programme has been rescheduled in two stages; the first of which covers 7.000 ha of nucleus estates and 4.700 ha of smallholdings; the second one would cover 16.150 ha of nucleus estates and 7.100 ha of smallholdings. The implementation of Stage 1 is proposed to start in 1986 while Stage 2 would be

launched around 1990. Each stage has operations in both upland and lowland areas.

The development of NES I has already commenced at Elele with 285 ha planted in 1985 and 1.200 ha scheduled for planting in 1986. Local funding for the programme is being provided by Risonpalm from revenue generated by Ubima Nucleus Estate. It is anticipated that the World Bank will appraise Stage I of the Phase II proposals in mid 1986.

5.6. REPORTING

5.6.1 Reporting

In the course of implementation reporting by the Project to all parties concerned was done on a regular basis :

- annual budgets/implementation programmes were submitted in due time to Risonpalm Board for approval and forwarded to the lenders for comments and adjustments.
- periodical comprehensive progress reports, covering agricultural, engineering and financial aspects, were submitted to the Board, Rivers State, Federal Government and the Bank.

The reports were quarterly up to 1980, semi-annual in 1982 and 1983. In 1984 and 1985 monthly summarized progress reports were submitted with a fully comprehensive and detailed report issued at the end of the year.

- audited accounts and Auditors reports were also submitted regularly to the lenders

- throughout project implementation full cooperation was received from all parties concerned.

5.6.2 Monitoring

Besides the close contact maintained locally with Rivers State Ministry of Agriculture, the project was monitored at least twice a year by the Monitoring and Evaluation Unit of the Federal Ministry of Agriculture and Bank supervision visits.

SECTION 6

PHYSICAL PERFORMANCE

6.1. ESTATE PRODUCTION - ACTUAL / PROJECTED

Harvesting of the 1978 and 1979 plantings started in 1982 and by the end of 1985 a total of 6.475 ha were being harvested on a 10 to 12 day cycle.

The table overleaf shows the actual production of bunches and yields per hectare from 1982 to 1985 as well as the projected figures from 1986 onwards

The yields in 1985 were adversely affected by the severe dry seasons of 1982/83 when the water deficit ran well above the average 330 mm deficit recorded at NIFOR and the 250 m/m maximum water deficit recorded in the project area. Although total annual rainfall was adequate, the deficit over the dry season from December to March was very acute in 1982/83 as can be seen hereunder :

<u>TOTAL RAINFALL</u>		<u>WATER DEFICIT NOV-MARCH</u>	
	<u>(mm)</u>		<u>(mm)</u>
1979	2 136	1979/80	384
1980	2 890	1980/81	123
1981	3 001	1981/82	162
1982	3 543	1982/83	390
1983	2 523	1983/84	219
1984	2 954	1984/85	309
1985	2 224		

The actual yields per hectare recorded over the relatively short period 1982-1985 should therefore not be used as a basis to estimate future yields.

Compared with A.R. projected yields, current yield forecasts for the project are as follows :

<u>HARVESTING YEAR</u> <u>FROM PLANTING</u>	<u>YIELDS FORECASTS</u>	
	<u>A.R.</u>	<u>PROJECT</u>
	(tons FFB/ha)	
N3	--	1
N4	7.5	4
N5	9.0	8
N6	12.0	10
N7	12.5	12
N8 et seq.	12.5	12.5

6.2. FRUIT COLLECTION

As pointed out in section 5.1.6 above the smallholders development component of the project was not successful, with only about 15% of the 10,000 ha target planted by 1981.

However, the fruit collection/purchasing system established by Risonpalm was directed at both existing smallholders and the wild grove producers.

The pricing policy, in the absence of a pricing committee, was aimed at encouraging the farmers to supply fresh fruit to the mill. The price was raised from Naira 65 a tonne of bunches in 1982 to Naira 100 in 1984, with additional payment of transport costs (ranging from Naira 17 to Naira 22 per T) for bunches delivered millgate by farmers or contractors. As an additional incentive farmers were also entitled to purchase one ton of palm oil for every 20 tonnes of bunches supplied.

The response of farmers was overwhelming and deliveries rose to 21.516 T in 1984 and 39.388 T in 1985.

This major reactivation of harvesting of wildgrove palms had not been foreseen at Appraisal but to a large extent it compensates for the short-fall in projected production due to the failure of the project's smallholder component. It is estimated that production from the wild grove may rise progressively to 100.000 by 1989. This would require, as discussed in section 6.3.3 below, an additional oil mill of 20 T/hour capacity being built during 1987/1988 so as to be operational in 1989.

Since the commencement of fruit collection the suppliers registered with RISONPALM Nucleus Estate totaled 1.499 farmers and of these about 1.000 were still regular

suppliers at the end 1985. Nearly all the crop is currently delivered millgate.

The organisation of fruit suppliers differs according to farm size and local traditional rights to wildgrove palms

- in some areas farmers harvest wild palms either individually or communally owned and sell the crop to middlemen who collect and deliver to the mill
- in other areas palm groves are rented out to contractors who harvest with hired labour and deliver to the mill
- some suppliers sell between 500 to 1.000 tonnes of fruit per year, originating from their own farms, rented farms and crop purchased from individual smallholders.

Table overleaf shows the comparison between Appraisal Report and Project FFB collection estimates.

FFB Collection from Smallholders and Wildgroves

	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u> <u>et seq</u>
<u>Appraisal Report</u>	800	2.500	16.300	35.800	61.000	77.450	90.100	98.350	100.000
<u>Actual (1982-1985)</u> <u>& projected</u>									
Smallholders	34	301			6.500	9.240	11.160	12.000	12.000
Wildgrove		1.596	21.156	39.388	50.000	50.000	50.000	100.000	100.000
Total	34	1.897	21.156	39.388	56.500	59.240	61.160	112.000	112.000

6.3. MILL THROUGHPUT AND PRODUCTION

6.3.1 Throughput

During the period April 1982 to May 1983, the 1,5 T mill processed a total of 10,528 T of FFB producing :

- 1,750 T of oil
- 179 T of kernels

The 20/40 T mill operated with the first 20 T line from May 11, 1983 until December 1985 with the following results :

	<u>FFB</u> <u>PROCESSED</u> (T)	<u>E X T R A C T I O N</u> <u>PALM OIL</u> (T)	<u>KERNEL OIL</u> (T)
1983	10,638	1,825	356
1984	54,944	7,510	2,428
1985	71,408	9,485	3,049

(For details see summary table below)

The mill has performed efficiently and above its nominal capacity of 20 T/hour :

	<u>TOTAL OPERATING</u> <u>HOURS</u>	<u>ACTUAL HOURLY</u> <u>AVERAGE CAPACITY</u>
1983	566	18,95 T/FFB
1984	2,578	21,30 T/FFB
1985	2,831	25,20 T/FFB T/FFB

6.3.2 Extraction rates

The mill processes bunches of three different origins :

- Tenera from Nucleus Estate (and Adapalm Estate from 1982 to 1984 until the Adapalm mill was commissioned)
- Mixed Tenera and Dura from Elele Estate
- Dura from the wild grove

The increasing volume of Dura wild grove and Elele bunches processed explains the fluctuations in oil extraction rate shown in the table below :

1982 : (1,5 T mill)	: 18,65%	from :	93% Tenera bunches 7% Mixed origin
1983 : (20 T mill)	: 17,15%	from :	47% Tenera 53% Mixed and Dura
1985 : (20 T mill)	: 13,30%	from :	29% Tenera 55% Dura 16% Mixed

The actual oil extraction rates per origin are :

- Nucleus Estate	: 19 %
- Elele	: 14 %
- Wild grove	: 9 %

SUMMARY TABLE OF OIL MILLS THROUGHPUT AND PRODUCTION (1982 - 1985)

	F. F. B. R E C E P T I O N (Tonnes)					PALM OIL PRODUCED	EXTRACTION RATE %	PALM KERNELS	EXTRACTION RATE %
	N. ESTATE	ELELE	ADAPALM	SMU & WILD GROVE	TOTAL				
<u>1,5 T / MILL</u>									
1982 (from April)	1.217	343	4.048	34	5.642	1.052	18,65	55	0,97
1983 (until may 14)	1.451	2.219	490	726	4.886	698	14,56	124	2,59
SUB-TOTAL	2.668	2.562	4.538	760	10.528	1.750	16,6	179	1,78
<u>20/40 T / MILL.</u>									
1983 (from May, 11)	1.224	4.395	3.784	1.235	10.638	1.825	17,15	356	3,34
1984	13.784	15.789	3.761	21.610	54.944	7.510	13,67	2.428	4,42
1985	20.372	11.648	-----	39.388	71.408	9.485	13,30	3.049	4,30
SUB-TOTAL	35.380	31832	7.545	62.233	136.990	18.820	14,7	5.833	4,00
T O T A L	38.048	34.394	12.083	62.993	147.518	20.570	15,7	6.012	2,89

6.3.3 Additional mill capacity required

The Nucleus Estate 40 T/hour mill is to process crop from :

- Nucleus Estate :
rising from a 49,000 Tonnes forecast in 1986 to 119,000 Tonnes at full production in 1993 and onwards
- Wild grove and smallholders :
expected to build up from 50.000 Tonnes in 1986 to at least 75.000 Tonnes in 1989
- Elele Estate :
over the period 1986-1988.

A 20 T/hour mill will be erected at Elele, where an extension of 3.500 hectares, started in 1985 will be completed in 1988, and where 3.000 hectares of the existing estate will be replanted between 1989 and 1992.

The mill will not be operational before 1989, when it will start processing the Elele crop and part of the wild grove production.

As can be seen in Annex 4. an additional milling capacity will however be needed at the Nucleus Estate to cope with the expanding wild grove production. To meet these requirements a 20 T/hour mill should be erected during 1987-1988 to start processing in 1989. Though local costs can be met from revenue generated by the Nucleus Estate, the foreign exchange requirements for this mill could possibly be a constraint.

6.4. EMPLOYMENT - STAFF / LABOUR

The table below shows the progressive build-up of staff and labour over the period 1978-1985. The build-up was of necessity geared to the development of the implementation schedule and led to a total employment of 324 persons as at end 1978 rising to 1.571 by the end of 1985.

Recruitment of an adequate and stable labour force was somewhat difficult up to 1982, due to the slippage in the housing programme and the competition during the foodcrop farming season, (January to March), for non resident workers from neighbouring villages. This situation improved noticeably from 1983 when more labour quarters had been erected.

As shown in section 8, paragraph 3, employment of senior staff built up progressively from 5 in 1979 to 54 by the end of 1985. At project completion key managerial positions such as estate manager, financial controller, mill manager and mill assistant manager were successfully held by nationals.

PROGRESSIVE BUILD UP OF STAFF AND LABOUR OVER PROJECT IMPLEMENTATION PERIOD

	1978			1979			1980			1981			1982			1983			1984			1985		
	S.S.	J.S.	L.	S.S.	J.S.	L.	S.S.	J.S.	L.	S.S.	J.S.	L.	S.S.	J.S.	L.	S.S.	J.S.	L.	S.S.	J.S.	L.	S.S.	J.S.	L.
1. Project Administration (Management, Accounts Medical & General Services)	(2) **	12	11	(2) 3	22	18	(2) 1	20	21	(2) 5	26	27	(3) 6	55	10	(2) 9	62	60	(2) 16	71	66	(2) 17	63	66
2. Field department ***	(1)	2	204	(2)	7	245	(2) 1	10	642	(2) 3	26	300	(3) 2	39	510	(3) 6	50	012	(3) 11	87	313	(2) 14	82	941
3. Technical department	(1)	14	3	(1) 2	8	43	(1) 2	46	16	(2) 2	72	6	(3) 1	116	16	(3)	99	4	(2)	116	23	(2) 3	109	21
4. Transport department		3			4	15		14	13		3	10	17		30	22		40	51		55	2		65
5. Heavy duty machines department		10	5	(1)	5	37	(1)	26	7		3	23	23	(1) 5	31	20	(1) 5	91	21		69	30		6
6. Fruit purchases department																						9	9	9
7. Oil mill										(1) 1	16	22	(1) 3	5	62	(4) 4	32	23	(2) 11	37	137	(2) 11	90	63
	(4)	41	203	(6) 5	46	651	(6) 4	132	690	(7)-13	179	604	(11)-14	204	656	(13)-26	360	007	(10)-39	433	957	(2)-50	422	1,007
		320			500			641			603			965			1,372			1,420			1,572	

* : S.S. = Senior Staff - J.S. = Junior Staff - L. = Labour.

** : figures between brackets : Seconded expatriate Staff.

*** : field department : Supervisory Staff and regular labour force.

175

SECTION 7

FINANCIAL PERFORMANCE

7.1. FUNDING

The actual funding from the different sources for the Nucleus Estate component of the Project, compared with the proposed financing plan of Appraisal Report, was as follows

	(Naira 000)			
	<u>I.B.R.D.</u>	<u>F.M.G.</u>	<u>R.S.</u>	<u>TOTAL</u>
- <u>Actual</u> :				
1978	-	700	2.150	2.850
1979	1.091	325	1.150	2.566
1980	1.103	1.895	2.527	5.525
1981	2.606	761	1.494	4.866
1982	4.456	2.243	384	7.083
1983	4.388	2.150	0	6.538
1984	3.163	80	3.300	6.543
1985	2.631	813	300	3.744
Total	19.438	8.967	11.310	39.715
(1986		+ 36)*		
- <u>Appraisal Report</u> :				
- Nucleus Estate :				
base line costs	10.500	6.300	8.200	25.000
- Unallocated :				
(including SMU)	6.600	4.600	7.000	18.200

The actual total cost of the Nucleus Estate having amounted to Naira 48.6 million against actual funding of Naira 39.7 m, the shortfall was met by :

*I.B.R.D. funding in 1986, but related to 1985 project expenditures

- a Naira 2 m loan from ICON Bank. This loan was contracted in 1982 by Rinonpalm, with due approval of Rivers State Government, in order to complete the financing of the local cost of the 20/40 tonnes/hour mill and to pay overdue bills for the purchase of various equipment, chemical and other supplies as funding by both Rivers State and Federal Government was becoming insufficient.

The loan was secured at 13 % interest with amortization by 10 equal semi-annual repayments of Naira 200.000 each from January 1st, 1985 until June 30th, 1989.*

- operating surplus from sales of palm oil and kernels produced by the 1,5 T/hour mill over the period 1982-1983 and the 20 T mill as from mid-April 1983.

The total operating surplus at end 1985 amounted to Naira 10.5 million (see annex 1 section II).

7.2. PROJECTED CASH FLOW AND FINANCIAL RATE OF RETURN (FRR)

The Appraisal Report assumed selling prices of N 308.4/Ton for palm oil and N 152.3 for kernels.

The actual selling price of oil ex-mill gate has however risen steadily since 1983. From N 725/Ton in January 1983, it rose to N 1.352 by December 1983, to N 1.600 in April 1984, to N 2.000 in July 1984 and since August 1985 the price has stayed at N 2.000/Ton. Kernels have risen from N 230/Ton in 1983 to N 350 in 1985.

*with effect from January 1986 the interest rate has been reduced to 9 %

The projected cash flow for the Nucleus Estate, as shown in Annex 5, has been calculated using two different price assumptions :

- a selling price of N 2.000/Ton for oil and N 350 for kernels
- a selling price of N 1.600/Ton for oil and N 330 for kernels

The financial rate of return after debt service being respectively 22,1 % and 17,6 %.

7.3. PROJECTED ECONOMIC RATE OF RETURN (ERR)

On the assumption that palm oil produced will be a substitute for imports, while kernels will be exported, prices are derived from the Bank's latest international commodity price projections of January 1986 and details of prices applied are given in Annex 5.

Applying Standard Conversion Factors of .51, .37 and .2 the Economic Rate of Return is calculated to be 7.6 %, 10.8 % and 11.9 % respectively (See Annex 5).

SECTION 8

ORGANISATION / MANAGEMENT

8.1. RISONPALM

The implementation of the nucleus estate component of the project was the responsibility of Risonpalm Ltd. This company which was incorporated under the Companies Decree 1968 was formed on November 24, 1975 and commenced operations in March 1977. The Board of Directors was appointed by the Executive Council of Rivers State and included representatives from the Ministries of Agriculture, Finance, Trade and Economic Development.

On August 23, 1983, the share capital of the Company was increased from N 200.000 to N 1.400.000 by creation of 4.200.000 ordinary shares which were paid up by the Rivers State Government by converting N 4.200.000 out of the N 7.600.000 already paid as part of the N 51.400.000 loan and equity subscription agreement between Rivers State Government and Risonpalm dated 7th June 1979.

Risonpalm, with its General Management and headquarters in Port-Harcourt, has two major oil palm development locations :

- Elele Estate :

Developed by the former Eastern Nigeria Development Corporation and comprising 3.049 ha, planted mainly between 1962 and 1966.

Since 1981, this estate has been progressively rehabilitated by Socfinco under a management agreement with Risonpalm.

An extension programme of new plantings involving a total of 3.500 ha to be established between 1985 and 1988 is already underway forming part of the Rivers State second phase development. From 1989 onwards the 3.000 ha will be replanted, thus bringing the total hectarage to 6.500 ha.

- Ubima Nucleus Estate :

The 10.000 ha estate fully described in this report.

8.2. NUCLEUS ESTATE ORGANISATION

The organisational structure of the Nucleus Estate developed along with project implementation.

The performance of activities were managed through the following functional departments, with well defined responsibilities :

- Plantation department :

- field activities : nurseries, planting, maintenance and harvesting
- organisation of transport for plantation and general services
- recording and analysis of statistical data

- Land preparation department :

- surveying and mapping of roads and plantation blocks
- land preparation, construction and maintenance of roads
- utilization and control of heavy duty plant and equipment

- Workshop department :

- maintenance and overhauling of heavy duty equipment and vehicles
- administration of general store and heavy equipment store

- Oil mill department :

- processing and maintenance
- administration and laboratory
- mechanical and electrical workshop
- building section, in charge of all buildings maintenance

- Finance department :

- management accounting : including preparation and analysis of budgeting, costing, purchases and sales transactions
- financial accounting : recording all monetary transactions relating to salaries, purchases sales and services ; preparation of Day books/Ledgers etc

- Administration department :

- comprising personal and medical sections

- Palm product sales department :

- wild grove farmers management unit :

- coordination of supply and collection of fruit
- liaison with farmers and provision of technical advice
- administration of records and payments

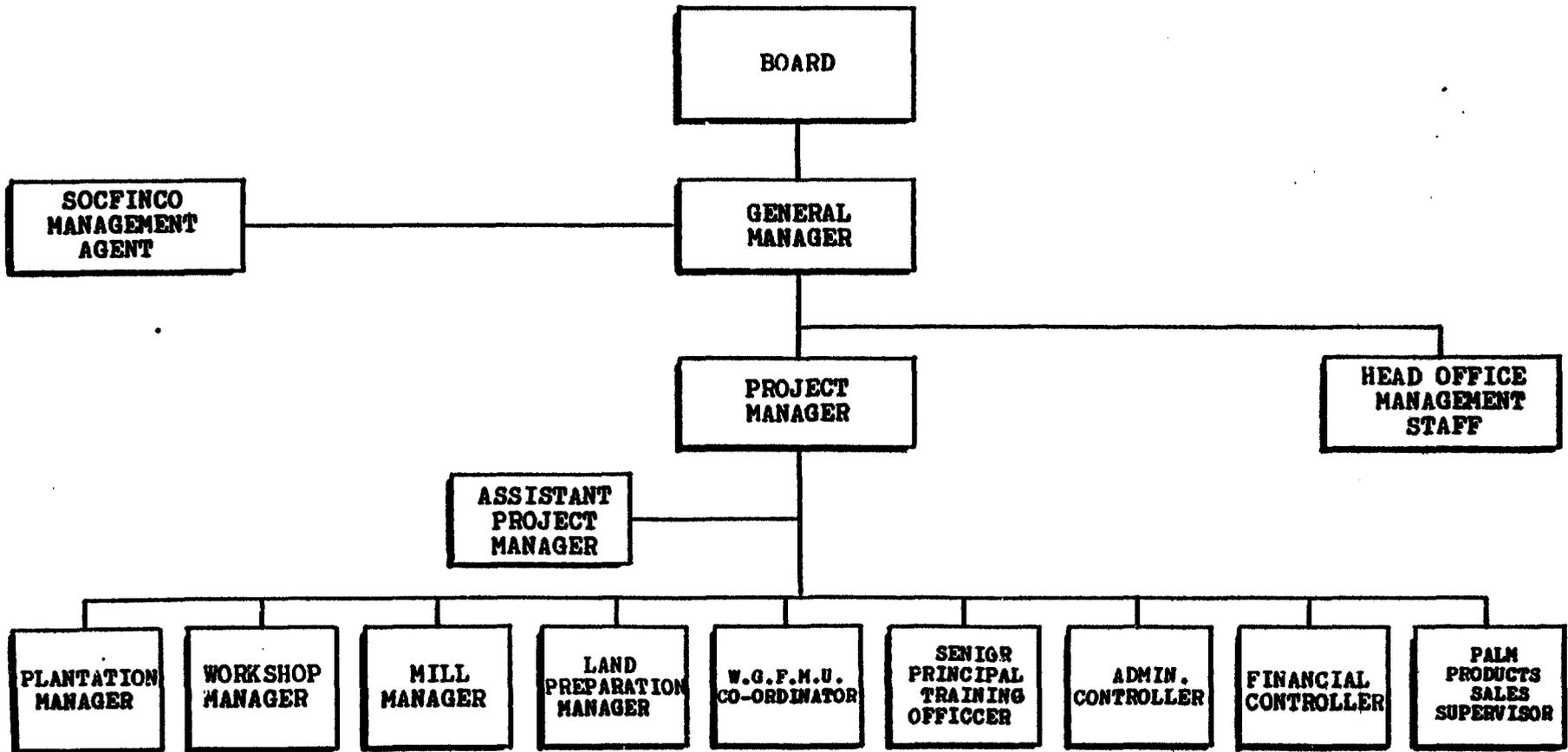
- Education and training department :

- nursery/primary school up to primary six
- training centre for employees training and development

Detailed organisational charts and job descriptions were drawn up for all departments and posts.

The Chart hereunder shows the summarized management structure existing at completion of the project.

RISONPALM NUCLEUS ESTATE MANAGEMENT



8.3. STAFF RECRUITMENT / TRAINING

The procedure for recruitment of Nigerian senior staff was elaborated and advertised in the national press in January 1980.

In 1981, the first in-service training courses relating to theoretical and practical aspects of oil palm management were organized on the estate and by the end of the year national senior staff had risen, by recruitment and promotion, to 13 persons.

In 1984 the project benefited from the services of an expatriate specialist in training and a training centre was erected on the estate, with adequate training room and equipment and facilities.

The main aim of the training department was to :

- assess the training needs and requirements of all departments
- devise training and development courses
- arrange for staff to attend external training courses or seminars
- appraise annually all staff holding key positions

Two senior Nigerian training officers were recruited in September 1984. The appraisal/training needs surveys in 1984 involved 40 senior staff and 140 junior staff from all departments.

During 1985, a total of 29 courses - internal and external - organized by the training department were attended by 294 Risonpalm personnel.

At project completion a total of 54 national staff - 19 of them with University education - were successfully holding successfully senior positions on the Nucleus Estate and when the project management was handed over to Risonpalm in December 1985 the following key positions were filled by Nigerians :

- estate manager
- mill manager
- financial controller
- administration controller
- wild grove coordinator
- products sales supervisor

8.4. MANAGEMENT CONSULTANTS

In accordance with section 2.03 of the Project Agreement, in February 1979 Risonpalm Ltd duly entered into a Management Agreement with an international firm - Socfinco - acceptable to the Bank. This Management Agreement provided for the employment of internationally recruited staff to fill key senior management position.

In 1983 the duration of the agreement was extended up to December 31st, 1985 so as to cover the project completion period.

Under the management agreement the nucleus Estate was to have a high degree of administrative and financial autonomy. This contributed to the successful implementation of the project as administrative delays after project start-up were reduced to a minimum and management was allowed to react quickly in order to adjust project development programmes to actual financial resources.

During project implementation management has prepared detailed annual budgets, made regular progress reports and submitted fully audited accounts and comprehensive annual reports acceptable to the Board of Directors, the Federal Government and the World Bank.

Cooperation from the Board of Directors and the General Management of Risonpalm was excellent all through project complementation period

In December 1985 management of the Nucleus Estate was officially handed by the managing agent to Risonpalm Ltd.

It has been agreed between Risonpalm Ltd and Socfinco that, under a technical assistance agreement to be finalized shortly and covering a one year renewable period, Socfinco would inter alia :

- keep on seconding to the Nucleus Estate :
 - one senior plantation manager
 - two oil mill engineers
 - one workshop manager
 - one computer expert

- provide quarterly monitoring and evaluation services as technical consultant, with periodic support and follow-up inspections in the agricultural and industrial areas

- provide on-going training to Nigerian personnel

- provide technical support and follow-up on a regular basis

SECTION 9

BENEFITS

At peak output in 1994 (including fruit collected from wild groves and smallholders) the principal direct benefits from the project would be additional annual production of about 36.000 tons of palm oil and 13.000 tons of palm kernels. Applying 1986 local market prices at N 2000 per ton for palm oil and N 350 for palm kernels, the estimated value of annual production at peak would be N 72 million and N 4.5 million for palm oil and palm kernel respectively. The palm oil will substitute for imports that would be required to reduce the shortfall in demand for vegetable oil and any kernels exported would make a significant contribution to Nigeria's foreign earnings.

At full maturity, there would be about 2000 full time employment opportunities created on the nucleus estate and in the mills. In addition extra employment and incomes would be generated and improved within the smallholder and wild grove areas ; it is anticipated that between 1800 to 2000 families (14,000 people) would benefit directly from the establishment of the fruit collection system. The annual income accruing to these farmers from wild grove sales of FFB has been estimated at around N 13 million per annum based on a 1986 average price of N 130 per ton of F.F.B.

Under the project 656 labourers houses have been constructed on the nucleus estate with each labourer being allocated about 0.5 ha of foodcrop land A primary school/training centre, medical centre and community hall have also been constructed and all are operating effectively.

On the job staff training at all levels has been on going from the start-up of the nucleus estate component of the project. Local staff now occupy all key management positions and also provide the technical services essential to the effective running of the estate. The training center established in 1984 offers a wide range of courses at all levels which facilitates providing both basic training and technical up-grading.

ANNEXES

COST COMPARISON TABLES

SECTION I

APPRAISAL REPORT

Conversion to current costs from base costs,
using physical & price contingencies as defined by the
"Appraisal Report"

Conversion factors for Physical and Prices Contingencies

APPRAISAL REPORT	1977	1978	1979	1980	1981	1982	1983	1984
<u>CONTINGENCIES</u>								
<u>COEFFICIENT</u>								
(a)	1.10	1.17	1.25	1.33	1.40	1.48	1.58	1.67
(b)	1.10	1.19	1.27	1.36	1.46	1.56	1.67	1.78
(c)	1.09	1.16	1.24	1.33	1.42	1.52	1.63	1.75
LABOUR COST	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
LOCAL COST	1.16	1.39	1.66	2.00	2.40	2.87	3.45	4.14

The way to calculate physical and price contingencies is given in chapter 5.03, page 16, of the World Bank Appraisal Report.

" 5.03 - Cost estimates are based on prices obtained during appraisal, updated to reflect mid-1977 prices, and include a 5 % physical contingency. Price contingencies are calculated on base line costs plus physical contingency and allow for compounded increases in foreign exchange costs of : (a) vehicles, equipment, utilities and furniture and farm inputs of 4.5 %, in the second half of 1977, 7 % in 1978, 6.5 % in 1979 and 6 % thereafter; (b) housing, buildings, oil mill, construction of roads and consultant services of 4.5 % in July-December 1977, 8 % in 1978, 7.5 % in 1979 and 7 % thereafter; and (c) salaries and operating costs of 3.5 % in late 1977 and 7 % thereafter. A price contingency of 20 % compounded annually has been applied for all local costs, other than salaries and hired labor, to account for internal inflation. 1/ Contingencies are equivalent to 34 % of total costs.

1/ Special allowance for inflation of local labor costs was made by costing posts at the maximum of existing scales.

Summary of Project Costs

	1977	1978	1979	1980	1981	1982	1983	1984	TOTAL
FIELD ESTABLISHMENT COST	389.7	1309.3	2147.6	2784.6	2218.5	1097.5			9947.2
PALM OIL MILL			49.9	2753.4	2704.5	2781.2	3876.5	1261.8	13427.2
STAFF & SALARY	181.7	528.4	610.5	622.3	577.5	461.9			2982.3
VEHICLES & EQUIPMENT	74.1	1091.2	178.9	128.1	407.8	277.9			2158.0
HOUSING & MAINTNCE		924.2	478.2	901.4	976.9	1356.1			4636.8
UTILITIES & FURNITRE		565.7	411.3	220	27.2	41.3			1265.5
OFFICE, STORES & OTHER BUILDINGS		461.4	377.6	111.1	131.5	40.5			1122.1
FRUIT COLLECTION INVESTMENT						691.5			691.5
RECURRENT COST						22.1			22.1
FEASIBILITY STUDY					57				57.0
MANAGEMENT FEE	22.2	241.7	222.2	401.5	430.2	388.4	217.4	71.7	1995.3
TOTAL	667.7	5121.9	4476.1	7922.4	7531.1	7158.4	4093.9	1333.5	38505

FIELD ESTABLISHMENT	1977	1978	1979	1980	1981	1982	1983	1984	TOTAL
LAND ACQUISITION									
BASE COST	225.0	375.0	225.0						825.0
CURRENT COST	259.9	519.8	374.2						1153.8
LAND PREPARATION									
BASE COST	24.9	135.0	275.8	366.5	202.8				1005.0
CURRENT COST	27.8	168.5	384.7	571.8	355.2				1508.0
ROAD CONSTRUCTION									
BASE COST		30.0	60.0	50.0	120.0				300.0
CURRENT COST		36.8	91.1	134.1	197.5				449.4
NURSERY COSTS									
LABOUR									
BASE COST	16.0	72.9	116.6	144.5	20.0				370.0
CURRENT COST	16.8	76.5	122.4	151.7	21.0				388.5
SEEDS									
BASE COST	16.2	71.5	107.3	130.0					325.0
CURRENT COST	18.7	99.1	178.5	259.5					555.7
POLYBAGS									
BASE COST	10.0	44.8	66.0	80.0					200.8
CURRENT COST	11.3	57.3	93.9	138.2					305.7
FERTILIZER									
BASE COST	2.0	8.8	13.2	16.0					40.0
CURRENT COST	2.2	10.7	17.6	23.4					53.9
OTHER NON-LABOUR									
BASE COST	8.0	36.7	59.4	73.9	12.0				190.0
CURRENT COST	8.9	45.8	82.9	115.3	21.0				273.9
TOTAL NURSERY COSTS									
BASE COST	52.2	233.9	362.5	444.4	32.0				1125.0
CURRENT COST	58.0	289.4	500.2	688.0	42.0				1577.7
FIELD COSTS									
LABOUR									
BASE COST	37.3	211.1	480.2	755.8	703.2	516.6			2704.2
CURRENT COST	39.2	221.7	504.2	793.6	738.4	542.4			2839.4
COVER CROPS									
BASE COST	4.2	20.9	38.3	49.4	19.2				132.0
CURRENT COST	4.9	29.0	63.7	98.6	46.0				242.1
WIRE NETTING									
BASE COST		25.0	118.0	165.0	200.0				508.0
CURRENT COST		32.0	160.2	274.0	380.0				846.2
FERTILIZERS									
BASE COST		6.5	41.3	118.4	233.6	279.7			679.5
CURRENT COST		7.9	55.1	172.8	374.4	494.0			1104.2
CHEMICALS									
BASE COST		2.0	9.8	18.6	27.8	17.9			76.1
CURRENT COST		2.4	13.1	27.1	44.6	31.6			118.8
TOOLS									
BASE COST		1.5	7.6	14.8	21.3	13.5			58.7
CURRENT COST		1.9	11.1	24.6	40.5	29.5			107.5
TOTAL FIELD COSTS									
BASE COST	41.5	267.0	687.2	1122.0	1205.1	827.7			4150.5
CURRENT COST	44.0	294.9	807.3	1390.7	1623.8	1097.5			5258.3
TOTAL ESTABLISHMENT COSTS									
BASE COST	93.7	500.9	1049.7	1566.4	1237.1	827.7			5275.5
CURRENT COST	102.0	584.3	1307.6	2078.7	1665.8	1097.5			6835.9
TOTAL FIELD ESTABLISHMENT COSTS									
BASE COST	343.6	1040.9	1610.5	2022.9	1559.9	827.7			7405.5
CURRENT COST	389.7	1309.3	2147.6	2784.6	2218.5	1097.5			9947.2

	1977	1978	1979	1980	1981	1982	1983	1984	TOTAL
PALM OIL MILL									
CIVIL WORKS									
BASE COST				1066.0		355.3	102.6	27.2	1551.1
CURRENT COST				1992.7		927.9	317.3	99.8	3337.6
EQUIPMENT									
BASE COST				41.3	1687.2	845.2	1433.1	445.8	4452.6
CURRENT COST				60.3	2704.5	1692.8	2798.3	965.8	8021.6
VEHICLES									
BASE COST						24.5			24.5
CURRENT COST						44.1			44.1
HOUSING									
BASE COST				325.5		108.5	412.5	53.5	700.0
CURRENT COST				608.5		283.3	657.3	196.2	1745.3
CONSULTANTS									
BASE COST			40.0						40.0
CURRENT COST			49.8						49.8
MANAGEMENT STAFF									
TRAINING									
BASE COST				77.3		25.8	77.3		180.4
CURRENT COST				92.0		33.2	103.6		228.9
TOTAL MILL									
BASE COST			40.0	1510.1	1687.2	1359.3	1825.5	526.5	6948.6
CURRENT COST			49.8	2753.4	2704.5	2781.2	3876.5	1261.8	13427.2

APPROX. MONTH	1977	1978	1979	1980	1981	1982	1983	1984	TOTAL
START & SCHEDULES									
LAST COST	171.7	494.1	837.7	886.3	888.3	788.5			2884.6
CURRENT COST	181.7	528.4	418.5	822.3	577.5	441.9			2764.4

VEHICLES & EQUIPMENT									
INVENTORY	40.5	624.0	71.7	74.0	186.0	81.7			1207.9
LAST COST	47.1	1065.5	91.5	51.2	200.0	152.5			1484.9
CURRENT COST									
EQUIPMENT COST	4.2	35.2	51.7	51.7	51.7	51.7			264.2
LAST COST	7.8	63.4	81.3	92.9	107.8	125.3			621.8
CURRENT COST									
TOTAL	46.7	691.2	127.4	77.7	237.7	137.4			1344.1
LAST COST	74.1	1071.2	128.9	128.1	407.8	277.9			2137.9
CURRENT COST									

BUILDINGS & MAINTENANCE									
INVENTORY	469.8	277.0	448.8	402.8	402.8	449.8			2282.8
LAST COST	879.8	428.1	824.6	879.3	1216.8				6227.8
CURRENT COST									
EQUIPMENT	20.1	28.4	41.8	51.8	67.9				212.8
LAST COST	25.2	40.1	66.8	97.5	140.2				307.7
CURRENT COST									
TOTAL	489.1	305.4	490.6	454.6	515.9	535.9			2604.8
LAST COST	924.2	498.2	911.4	976.9	1356.1				6435.7
CURRENT COST									

UTILITIES & FURNITURE									
INVENTORY	436.0	277.0	125.0	1.0	8.0				847.0
LAST COST	520.7	344.4	220.9	5.5	16.6				1106.0
CURRENT COST									
EQUIPMENT	12.0	12.0	12.0	12.0	12.0				60.0
LAST COST	15.8	16.9	19.2	21.8	24.8				97.7
CURRENT COST									
TOTAL	448.0	289.0	137.0	15.0	20.0				807.0
LAST COST	565.7	411.3	220.0	27.3	41.5				1283.6
CURRENT COST									

OFFICE STORES & OTHER BUILDINGS									
INVENTORY	327.5	277.5	43.0	43.0					651.0
LAST COST	448.8	331.6	81.8	96.8					903.2
CURRENT COST									
EQUIPMENT	18.1	17.0	18.3	19.6	19.6				84.6
LAST COST	12.6	24.0	29.2	35.3	40.5				141.9
CURRENT COST									
TOTAL	345.6	294.5	61.3	62.6	39.6				736.6
LAST COST	461.4	374.6	111.1	131.5	81.5				1122.0
CURRENT COST									

FRONT COLLECTION									
VEHICLES									
LAST COST		76.0							76.0
CURRENT COST		139.5							139.5
BUILDINGS									
LAST COST		181.0							181.0
CURRENT COST		420.3							420.3
UTILITIES									
LAST COST		40.0							40.0
CURRENT COST		81.7							81.7
TOTAL		297.0							297.0
LAST COST		641.5							641.5
CURRENT COST		181.2							181.2
CURRENT COST		21.1							21.1

FACILITY STAFF									
LAST COST		42.0							42.0
CURRENT COST		57.0							57.0
MAINTENANCE FEE									
LAST COST	19.8	191.8	155.4	248.4	234.7	146.2	91.3	26.3	1151.1
CURRENT COST	22.2	241.7	222.2	401.5	430.2	288.4	212.4	71.7	1763.3

SECTION II

PROJECT IMPLEMENTATION

Investment costs, operating costs
and financing up to end 1985.

	1970	1971	1972	1973	1974	1975	1976
INVESTMENT COSTS							
Land acquisition	135	111	0	0	110		170
Agricultural investments	440	1,340	2,400	2,164	2,001	1,001	13,010
-Preparatory	135	9					164
-Merch	109	131	210	255	77	711	1,497
-Land preparation	100	709	1,053	991	612	450	5,404
-Tracts	26	61	91	111	17	17	334
-Planting	3	26	51	37	57	57	345
-Sheep lambsure plantings	5	100	207	744	900	1,041	4,706
Vehicles, tractors & equipments	610	712	673	372	2,400	194	4,790
-Light vehicles	48	40	47	164	179	76	641
-Tractors, wheel tractors & trailers	82	71	79	20	200	54	691
-Cranes & equipment	440	534	120	210	90	57	2,015
-Machinery equipment	39	62	11	16	79	5	212
-Lifter tractors			416		179		1,355
Buildings	9	1,110	726	228	2,011	1,139	7,455
-Office, stores & others	9	325	332	98	749	147	1,902
-Housing		783	404	820	1,262	792	2,473
Supplies & utilities	215	295	154	156	251	290	1,723
-Power, water & energy equipment	149	145	23	25	40	40	713
-Office furniture & equipment	23	10	22	34	56	25	311
-House furniture & equipment	42	25	40	45	123	102	404
-Miscellaneous	5	5	27	6	36	41	105
Staff costs	149	276	549	702	709	725	4,004
Overheads	105	200	721	1,050	947	1,162	5,192
-Vehicles operating costs	37	61	227	231	271	470	1,370
-Temporary buildings & rent	103	60	31	16	340	340	740
-Building maintenance	45	67	192	192	154	237	1,404
-Damping expenses		27	147	416	213	326	1,200
-Various overheads			513	416	443	343	2,073
Management fee							
Industrial investments							
-1.5.7							
-20/40.1							
Current seed garden							
Sub-total	1,993	2,446	4,477	5,727	10,099	7,200	60,005
Variation of investments and outstanding amounts	607	370	1,060	(1,070)	74	2,047	3,777
Total	2,600	3,016	5,537	4,657	10,373	10,640	52,402

Recurrent costs

	1978	1979	1980	1981	1982	1983	1984	1985	End 1985
Vehicles operating costs	37	81	150	158	227	231	274	420	1,570
Temporary building & rent	183	60	37	26	14				210
Building maintenance		33	60	58	99	193	192	156	771
Burning expenses	45	67	146	135	255	210	269	258	1,405
-Stationery and maps	10	13	14	23	25	23	49	42	199
-P & T Radio communication	1	2	1	1	3	7	10	4	29
-Water, Electricity, Gas	7	23	48	46	109	67	35	33	353
-Travel and expenditures	5	16	25	29	45	41	60	49	290
-Representation & visits	1	8	16	16	35	16	11	24	127
-Computer service					1	1	2	2	6
-General insurance	8	7	6	4	4	6	15	9	68
-Bank charges	8	7	22	20	21	27	33	68	206
-Subscription & library					5	2	1	2	10
-Miscellaneous	13	19	22		16	20	31	25	139
Various overheads		27	18	67	127	420	213	328	1,200
-Headquarter's participation					39	226	129	107	581
-Other consultancy fees & Expenses					27	37	47	23	134
-Audit fees & Expenses		17	9	9	8	7	8	4	44
-Fruit collection study expenses									12
-Community welfare		10	9	46	53	28	8	6	148
-Legal fees & Expenses						57	8		65
-Public relation						71	10	21	85
-Bill commissioning							7	13	126
-Rent						2		30	37
-Miscellaneous									2
Total	185	208	391	644	722	1,894	948	1,182	5,196

	1978	1979	1980	1981	1982	1983	1984	1985	End 1985
FINANCING									
Long term									
-Federal Government	700	325	1,075	761	2,243	2,150	00	013	0,367
-Silver State	1,700	1,000	2,527	1,290	303		3,300	300	11,310
-I.R.A.C.		1,001	1,103	2,606	0,456	4,307	3,163	2,631	19,437
-ICM					1,200	000			2,000
-funds from bondholders					100	(61)	3,654	6,716	10,000
-operating surplus or									
Total	2,400	3,016	5,325	4,667	8,662	7,276	10,397	10,160	52,062

• 1980 disbursed amount, early 1986, of 36,350 relating to 1985 investments

Operating surplus

	1978	1979	1980	1981	1982	1983	1984	1985	End 1985
Revenue					016	2,316	13,570	19,571	36,273
-Sales					725	2,131	12,649	17,469	32,978
-Pole oil					14	110	006	1,563	2,703
-Pole timber					3				5
-Pole					22	75	115	739	1,001
-Services (to assets sales)									
Operating costs					636	2,377	9,916	12,053	25,705
-Whip sawtoe plantings					05	420	003	1,202	2,510
-Harvesting & collection					00	104	505	565	1,334
-Purchases & transport costs					227	1,276	6,075	7,470	15,022
-Mill processing					104	252	609	1,020	2,153
-Sawmill costs					13	105	390	701	1,210
-Vehicles operating costs					5	42	150	375	572
-Timber buildings & cost					0				0
-Building maintenance					2	35	106	139	202
-Fueling expenses					6	30	100	230	421
-Various overheads					3	75	117	193	400
-Development fee							314	757	1,071
-Lumber interest/poles					50	2		102	194
Operating surplus					100	(61)	3,654	6,716	10,000

SECTION III

Details of cost comparisons between Appraisal Report (A.R.)
and Project Implementation (P.I.)

A. COMPARISON BETWEEN "APPRAISAL REPORT" & PROJECT IMPLEMENTATION COSTS

('000 N)

	"Appraisal Report" 1977 → 1984		Project Implementation 1977 → 1985	Difference
	Base cost	Current costs (1)	Up to end 1985	Up to 1985
- Field Establishment	7,405.5	9,947.2	13,480	+ 3,532.8
- Palm Oil Mill	6,948.6	13,427.2 ****	8,673	- 4,754.2
- Staff & salaries	2,685.6	2,882.3	4,004	+ 1,021.7
- Vehicles & Equipment	1,544.1	2,150	4,990	+ 3,696.4
- Fruit collection	297.0 + 18.7	891.5 + 22.1	1,578 *	
- Housing & maintenance	2,474.0	4,636.8	5,673 1,010 **	+ 2,046.2
- Utilities & furniture	909.0	1,265.5	1,723 351 ***	+ 800.5
- Office, stores & other buildings	739.6	1,122.1	1,982	+ 859.9
- Feasibility study	40.0	57.0		- 57.0
- Management fee	1,153.1	1,995.3	2,873	+ 877.7
- Miscellaneous overheads			2,253	+ 2,253
	24,215.2	38,305	48,590	+ 10,285

- (1) : Base costs plus physical and price contingencies
 * : Vehicles operating costs
 ** : Building maintenance + temporary buildings & rents
 *** : Water electricity ***

B. LABOUR COSTS

B.1 MANDAYS PER HECTARE

On the basis of statistical data, the average number of mandays per ha for agricultural establishment, for the whole and the last half of the project, amounts to :

				MD/ha		
		Appraisal Report	Whole of project (9,500 ha)	last half of project (4,500 ha)		
Nursery		18.5	20	14		
Road & tracks opening)		.5	.5		
)					
Land preparation)	70.5	12	10		
)					
Planting)		4.5	4.2		
Upkeep : N0		13.8	9.5	9		
		N1	27.2	19.5	18	
		N2	27.5	15.5	14	
		N3	28.7	8	7	
TOTAL		184.2	89.5	76.7		

8.2 LABOR COSTS - FIELD ESTABLISHMENT

Average cost per Handay (H)				Total Labor Costs				
Actual	Appraisal		Handays	Appraisal		Appraisal on the basis of actual ND costs		
	Base cost	Base cost + Contingency		Base costs ('000 H)	Total costs ('000 H)	Total costs ('000 H)	Underestimate ('000 H)	
1977	(2.10)	2	2.10	26,650	53.3	56.0	56.0	
1978	2.83	2	2.10	142,000	284.0	298.2	401.8	103.7
1979	3.17	2	2.10	298,400	596.8	626.6	945.9	318.3
1980	3.52	2	2.10	450,150	900.3	945.3	1,584.5	639.2
1981	4.22	2	2.10	361,600	723.2	759.4	1,526.0	766.6
1982	4.71	2	2.10	256,300	512.6	542.4	1,216.6	674.2
1983	5.05	2	2.10					
1984	5.30	2	2.10					
Total				1,537,100	3,074.2	3,227.9	5,730.8	2,503.8
				153.7 ND/ha*				
Total Field Establishment cost					7,405.5	9,540.3	Field Establishment cost + labor underestimate	12,043.3
% Labour					41.5 %	33.6 %		29.6 %

* : 153.7 ND/ha instead of 184.2 (cf. Table "Handays per hectare") : because the upkeep handays occurring in 1983 (H3 for 1980 planting + H2 for 1981 planting) and 1984 (H3 for 1981 planting) are not included.

8.3 CONCLUSION ON LABOUR MANDAYS & COSTS

It appears that the "Appraisal Report" made two forecast errors which compensate one another :

- an overestimate of the number of mandays per ha :

+ 105.8 %

- an underestimate of the cost per manday :

- 43.7 % (up till end 1982)

The impact on the project of the cost underestimate is, in fact, much more important because the planting was carried out over a period of 8 years (1978 to 1985), instead of 4 years (1978 to 1981) as forecast in the "Appraisal Report". The differential between actual and appraised manday costs was increasing every year :

	<u>U</u>
1978	+ .73
1979	+ 1.07
1980	+ 1.42
1981	+ 2.12
1982	+ 2.61
1983	+ 2.95
1984	+ 3.20
1985	+ 3.40 (actual cost estimate : 5.90 U/MD)

Impact of the lengthening of the planting programme (8 years instead of 4)

on manday cost underestimate

	Planting programme (ha)		Cost per Manday (₹)		Mandays (on the basis of Appraisal Report norms)	Total Labor costs ('000 ₹)	
	Appraisal	Project	Appraisal	Real		Appraised	Real
1977			2.10	(2.10)	6,663	14.0	14.0
1978	500	125	2.10	2.83	55,490	116.5	157.6
1979	2,200	925	2.10	3.17	150,458	316.0	477.6
1980	3,300	1,900	2.10	3.52	203,930	428.3	717.8
1981	4,000	1,525	2.10	4.22	209,243	439.4	883.8
1982		1,000	2.10	4.71	243,680	512.1	1,148.7
1983		1,425	2.10	5.05	266,091	558.8	1,343.8
1984		1,420	2.10	5.38	239,629	509.2	1,270.8
1985		1,170	2.10	(5.50)	162,427	341.1	893.3
Total	10,000	9,490			1,537,811	3,229.4	6,904.6
					162.0 ₹/ha		

() - estimate

Conclusion : The "Appraisal Report" underestimate on the cost of manday amounts to 53.2 % (up till end 1985)

Until end 1985 :

Agricultural labour costs = 3,740,281.21 #

against 3,227,900 # in the "Appraisal Report".

Global underestimate of labour costs : 512,381 #.

8.4 EFFECTIVE COST OF AGRICULTURAL LABOUR

(up to end 1985)

Planting	₹
1978	115,419.22
1979	494,986.64
1980	450,014.61
1981	668,202.58
1982	688,563.78
1983	539,057.71
1984	538,111.49
1985	445,905.97
Total	3,740,261.74

SECTION IV

LAND PREPARATION & TRACKS OPENING

	Land preparation	Tracks opening	T o t a l
A.R. : T o t a l	1,508,000	448,400	1,957,400 H
per Ha	150.8	44.8	195.7 H/ha
<hr/>			
P.I. : T o t a l (78 → 85)	5,884,000	534,000	6,218,000 H
per Ha	599.0	56.3	655.3 H/ha

Difference :

- Total : 6,218,000 - 1,957,400 = 4,260,600 H
 - per Ha : 655.3 - 195.7 = 459.6 H/ha

The "Appraisal Report" is characterized by an important underestimate of the number of crawlers' hours per ha :

	A.R.	P.I.		
	(Land Preparation only)	(Land Preparation) + (Roads)		Total
D8	1 h/ha	3.4 h/ha	+ 1.3 h/ha	4.7 h/ha
D6	3.5 h/ha	16.8 h/ha	+ .2 h/ha	16.8 h/ha
D4	1.5 h/ha			
	<hr/>	<hr/>	<hr/>	<hr/>
	6 h/ha	20 h/ha	+ 1.5 h/ha	21.5 h/ha

SECTION V

VARIOUS ITEMS OF FIELD ESTABLISHMENT COSTS

Establishment costs (nursery + planting + upkeep) less labour costs

	A.R.		P.I.	
TOTAL	3,608,000 N (360.8 N/ha)		3,052,000 N (321.6 N/ha)	
of which :			(estimate *)	
- Fertilizer	1,158,100 N	32.1 %	484,500 N	15.9 %
- Wire netting	846,200 N	23.4 %	378,300 N	12.4 %
- Seeds	555,700 N	15.4 %	(rat baits) 243,500 N	8 %
- Polybags	305,700 N	8.5 %	267,800 N	8.8 %
- Other non labour	273,900 N	7.6 %		
- Cover crop	242,100 N	6.7 %	(in Land Preparation)	
- Chemicals	118,800 N	3.3 %	327,200 N	10.7 %
- Tools	107,500 N	3 %	197,700 N	6.5 %
- Grader-loader			12,200 N	.4 %
- Wheel tractor			501,800 N	16.4 %
- Irrigation			63,300 N	2.1 %
- Lorries			47,200 N	1.5 %
- Replanting			210,100 N	6.9 %
- Roads & tracks maintenance			318,400 N	10.4 %

* : Estimate on the basis of 1984 unit costs norms.

COMPARISON

	Appraisal Report (current costs)	Project (1964 costs)
- Seeds	192 seedlings transplanted from the nursery (143/ha planted + supplying) (Annex 3 p.13) x .3 N per seed	250 seeds/ha x .2 N per seed
- Cover crop	11 kg/ha x 2.2 N/kg	12 kg/ha x 3.5 N/kg
- Fertilizer	.19 N/kg	.1 N/kg
	N-1 : -	N-1 : 25 kg/ha
	N0 : 130 kg/ha	N0 : 91.5 kg/ha
	N1 : 251 kg/ha	N1 : 150 kg/ha
	N2 : 323 kg/ha	N2 : 300 kg/ha
	N3 : 150 kg/ha	N3 : 262.5 kg/ha
- Rat baits	3 N/ha (base cost) + wire netting	77.7 N/ha without wire netting
- Crawlers		
unit costs :		
. D8	1 h/ha x 43.5 N/h = 43.5 N/ha	4.7 h/ha x 50 N/h = 235 N/ha
. D6	3.5 h/ha x 25.5 N/h = 89.3 N/ha	16.8 h/ha x 27 N/h = 453.6 N/ha
. D4	1.5 h/ha x 12 N/h = 18 N/ha	
	150.8 N/ha	688.6 N/ha

Difference in Fertilizer costs

- A.R. forecasts : -1,158,100 N (current costs)

on the basis of .19 N/kg

and

- 854 kg/ha (N0 to N3)

- 615.3 kg/ha in fact, since upkeep N3 & N2 of 4,000 ha
and upkeep N3 of 3,300 ha are not included in the A.R.

- P.I. : effective estimated costs up to end 1985

484,500 N

on the basis of .10 N/kg (1984 price)

and

- 829 kg/ha (N-1 to N3)

- 617.6 kg/ha in fact, since upkeep in 1986, 87 and 88 are not
included

Finally, the difference between A.R. forecasts (1,158,100 N) and P.I. apparent costs (484,500 N), 673,600 N, must be attributed to :

- | | |
|---|-------------|
| a) - 9,480 ha being planted instead of 10,000 ha | + 59,100 N |
| b) - an overestimate of fertilizer unit cost
(.19 N/kg instead of .1 N/kg) | + 548,600 N |
| c) - unexplained residual | + 65,900 N |

SECTION VI

HEAVY MACHINERY AND TIPPER TRUCKS COSTS

A. Heavy machinery

Crawler tractors only :

	"Appraisal Report" (current costs) (1)		"Project Implementation"	
<u>Acquisition :</u>				
- 08	2 x 120,000 N =	240,000 N	4 3 x 136,260 N =	408,780 N
			+ 1 hired from MANR free of charge	
- 06	8 x 60,000 N =	360,000 N	13 10 x 70,785 N =	707,850 N
			+ 3 hired of which 2 from MANR	
- 04	2 x 39,700 N =	79,400 N		
- grader	2 x 55,000 N =	110,000 N	2 x 61,660 N =	123,320 N
			+ overhauling =	185,670 N
		<u>789,400 N</u>		<u>1,425,630 N</u>

A.R. : forecasts of heavy machinery

base costs : 767,800,000 N
 current costs : 947,300,000 N (2)

P.I. : Crawlers & Equipment : 2,015,000 N (up to end 1985)

Difference : 2,015,000 - 947,300 ≈ 1,068,000 N

(1) current costs allow for physical & prices contingencies to date of acquisition.

(2) Includes loader, cabguards, KG blades, etc... for N 157,900

HEAVY EQUIPMENT

	up to Sept. 1978	2nd quarter 1979	4th quarter 1979	1st, 2nd and 3rd quarter 1980	4th quarter 1981
06	06-1 22.05.78 (69,350 M) 06-2 13.06.78 (70,050 M) 06-3 13.07.78 (68,650 M ?)	06C-1 : NARR 06C-2 : NARR	06-4 Oct. Nov. (72,001 M) 06-5 Oct. Nov. (58,946 M) 06-6 Oct. Nov. (41,808 M)	06C-2 : returned to NARR 06-7 (102,511 M) 06-8 (65,791 M) 06-9 (61,629 M) 06 Hired	06 Hired : returned 06-10 December (57,057 M)
06	06-1 20.07.78 (132,850 M)	06-2 : NARR	06-3 November (128,591 M)	06-4 (148,651 M)	

	up to Sept. 1978	2nd quarter 1979	4th quarter 1979	1st, 2nd and 3rd quarter 1980	4th quarter 1981
Grader - & Leader	Grader 1 06.04.78 (58,330 M)		Leader 1 Oct. Dec. (43,513 M)	Grader 2 (64,998 M)	
T o t a l :					
. Crawlers	340,900 M		301,408 M	481,580 M	57,057 M
. Graders	58,330 M			64,998 M	
. Leaders			43,513 M		

In 1983, overhauling of 3 D6 & 1 D8 for : 185,667 M.

8. Tipper Trucks

The unexpected development of wild palm groves bunches collection obliged the project to acquire 30 tipper trucks Mercedes at a cost of 1,355,000 ₺.

In the "Appraisal Report", only two tipper trucks were forecast at a cost of :

- base cost : 50,000 ₺
- current cost : 91,750 ₺

Difference : 1,355,000 - 91,750 \approx 1,263,000 ₺

SECTION VII

HOUSING

	A.R.		P.I.	
PERMANENT BUILDINGS				
- Management Staff Accou.				
1 A1-Type	1 - 1978	46,550	1981	102,085.80
3 A2-Type	2 - 1978	79,800	1981	239,507.02
4 B-Type	7 - 1978/79	238,100	1981	288,400.59
3 C-Type	2 - 1979	61,700	1981	144,143.91
Guest House			1981	56,307.52
2 C-Twin n° 102			1983	153,222.99
2 C-Twin Self Built			1984	54,678.05
1 C-Twin (J.NWAGWU)			1984	32,470.00
Guest House Reconditioning			1985	58,668.13
		426,150		1,130,464.00
- Intermediate Staff Accou.				
19 E-Type Houses	47	478,560	1982	498,680.00
6 Type House : By Hebron Bros				30,000.00
6 Type House : By I.A.Briggs				30,095.00
6 Type House : By Sabadan				30,000.00
6 Type House : By Sylv. Eleria				30,000.00
6 Type House : By Casna Ent.				30,000.00
6 Type House : By M.Merie				30,300.00
6 Type House : By S.O. Okijuna				30,000.00
6 Type House : By S.Anadi				30,000.00
6 Type House : By f.Ordu				30,000.00
6 Type House : By Nbaba Bros				20,160.00
6 Type House : By B.Woryi				30,000.00
D-Twin : By Jirika J. Ordu & Sons			(1985	61,500.00
D-Twin : By Obinda & Sons & Self Build.	15	239,160	(1985	69,741.26
D-Twin : By Kadok Ent. & Self Build.			(1985	57,015.57
		717,720		1,007,491.83
- Junior Staff Quarter				
PH. 1,20 F-Houses	80	456,840	1980	594,000.00
PH. 2,20 G-Houses			1981	359,050.00
PH. 3,9 G & 7 F ...			1981	372,400.00
PH. 4,9 G Houses			1983	175,150.00
PH. 4,7 H Houses			1983	622,810.00
Phase 2 Canteen			1981	30,784.10
Labour Motel : By Johnwe Ent.			(1985	125,000.00
Labour Motel : By Dick Odu & Sons			(1985	125,000.00
Labour Motel : By Sogu Ent.			(1985	125,000.00
Labour Motel : By J.E.Anadi		2,666,800	(1985	125,000.00
Labour Motel : By Kingsley Nwala			(1985	125,000.00
Labour Motel : By Wala Enterprises			(1985	125,000.00
Labour Motel : By Dandyco Ent.			(1985	125,000.00
		3,123,640		3,029,174.10
Total		4,267,510		5,167,129.93

Difference : 900,000 N

SECTION VIII

OFFICES, STORES & OTHER BUILDINGS COSTS

	A.R.	P.I.	
		Year	
UTILITY BUILDINGS			
Single Kenecab Off.		1980	11,557.80
Office Block	150,500	1981	111,877.28
Off.Block Extension		1982	29,373.15
Workshop	114,800	1981	140,132.25
Gen. Warehouse	43,050	1981	118,378.34
Fertilizer Store	107,000	1981	82,958.09
Fuel Station	28,700	1979	18,218.20
Power House	13,300	1979	15,958.47
Pumping Station		1979	13,581.47
Off.Block Extension	110,250	1984	137,961.26
New Workshop		1985	310,855.52
	<hr/>		<hr/>
	567,600		990,862.63
PUBLIC FACILITIES			
Swimming Pool		1982	8,782.04
Club House	26,600	1982	45,873.31
Medical Centre	64,580	1983	107,808.89
Club H. (Nuechenon)	27,000	1984	27,000.00
Drinking Parlour		1984	12,700.00
School/train.Centre	176,850	1984	181,082.00
Market Building	71,100	1984	28,378.28
4 Mono Pumps		1985	58,000.00
New Guest House	46,550	1985	222,730.00
Medical Centre Ext.		1985	10,850.00
Community Hall		1985	91,105.00
Training Centre		1985	7,147.44
Club House		1985	1,883.00
Estate Market		1985	4,430.20
Horse House		1985	1,022.00
	<hr/>		<hr/>
	412,680		865,452.16
SITE LAYOUT			
Site Pr.& Road Constr.		1981	17,828.19
Site Pr.& Road Constr.		1982	31,983.91
Site Pr.& Road Constr.		1983	3,780.00
Barb.Misc.7 WIFOR Pumps		1984	10,342.00
Machinery		1984	1,041.57
			<hr/>
			64,975.77
			<hr/>
TOTAL			1,921,290.56
Work in progress			61,180.00
	<hr/>		<hr/>
	980,280		1,982,470.56
Building maintenance	141,730		
	<hr/>		
	1,122,010		

SECTION IX

Miscellaneous Overheads

The following expenses were not forecast in the "Appraisal Report" :

	(M'000)
- Stationery & maps	199
- P & T Radio communication	29
- Travel and expenditures	290
- Representation & visits	127
- Computer service	6
- General insurance	48
- Bank charges	208
- Subscription & library	10
- Headquarter's participation	581
- Consultancy fees & expenses	134
- Audit fees & expenses	64
- Fruit collection Study Expenses	12
- Community welfare	144
- Legal fees & expenses	65
- Public relation	35
- Mill Commissioning	126
- Rents	37
- Miscellaneous	140
	<hr/>
	2,253,000

SECTION I

UNIT COSTS

UNIT COSTS : "APPRAISAL REPORT"

(N/ha)

	N-1	N0	N1	N2	N3	Total
Labour						
base cost	106.6	99	54.4	55	53.4	368.4
+ contingencies 81/84 (ND)	111.9 (53.3)	104 (49.5)	57.1 (27.2)	57.7 (27.5)	56.1 (26.7)	366.8 (184.2)
Land preparation						
base cost	49.8	50.7				100.5
+ contingencies 81	87.6	89.2				176.8
+ contingencies 84	128.5	130.8				259.3
Roads & tracks						
base cost		30				30
+ contingencies 81		48.6				48.6
+ contingencies 84		86.7				86.7
Seeds						
base cost	32.5					32.5
+ contingencies 81	78					78
+ contingencies 84	134.5					134.5
Polybags						
base cost	20					20
+ contingencies 81	40					40
+ contingencies 84	63					63
Fertilizers						
base cost	4	13	25.3	39.7	21.6	103.6
+ contingencies 81	6.4	20.8	40.6	63.7	34.6	166.1
+ contingencies 84	8.7	28.2	54.8	86	46.7	224.4
Other non labour costs						
base cost	16	3				19
+ contingencies 81	28	5.3				33.3
+ contingencies 84	40.8	7.6				48.2

(N/ha)

	N-1	N0	N1	N2	N3	Total
Cover crops						
base cost	8.4	6.8				13.2
+ contingencies 81	20.2	11.5				31.7
+ contingencies 84	34.8	19.9				54.7
Wire netting						
base cost		50				50
+ contingencies 81		95				95
+ contingencies 84		145.3				145.3
Chemicals						
base cost		4	2	2	1.5	9.5
+ contingencies 81		6.4	3.2	3.2	2.4	15.2
+ contingencies 84		8.7	4.3	4.3	3.3	20.6
Tools						
base cost		3	2	1	1	7
+ contingencies 81		5.3	3.5	1.7	1.7	12.2
+ contingencies 84		7.6	5.1	2.5	2.5	17.7
Total (except land acquisition)						
base cost	237.3	257.5	83.7	97.7	77.5	753.7
+ contingencies 81	372.1	386.1	104.4	126.3	94.8	1,083.7
+ contingencies 84	522	518.8	121.3	150.5	108.6	1,421.2

UNIT COSTS : "PROJECT IMPLEMENTATION" (*)

(1984 costs)

(U/ha)

	M-1	M0	M1	M2	F0	Total
Labour (ND)	74.5 (14.6)	118 (23.1)	92 (18)	71.5 (14)	35.7 (7)	391.7 (76.7)
Seeds (.2 N/unit) (Units)	40 (200)	10 (50)				50 (250)
Covercrop (3.5 N/kg) (kg)		42 (12)				42 (12)
Polybags	50	5				55
Chemicals	7	8	14	16	25.2	80.2
Fertilizers (.12 N/kg) (kg)	3 (25)	11 (91.5)	18 (150)	36 (300)	31.5 (262.5)	99.5 (854)
Rat baits (3.5 N/kg) (kg)		21 (6)	21 (6)	21 (6)	14.7 (4.2)	77.7 (22.2)
Grader/loader (14 N/hr.) (hr.)	6.5 (.45)	13 (.95)				19.5 (1.4)
Wheel tractor (11 N/hr.) (hr.)	8 (.7)	41.5 (3.8)	33 (3)	20 (1.8)	11.5 (1)	114 (10.3)
D 6 (27 N/hr.) (hr.)	160 (5.9)	294.5 (10.9)				454.5 (16.8)
D 8 (50 N/hr.) (hr.)	75 (1.5)	160 (3.2)				235 (4.7)
Irrigation	6	7				13
Tools/materials	5	10	17	13.5	9.1	54.6
Lorries (.36 N/ha) (ha)		7 (20)	1 (3.2)	1 (2.3)	.5 (1.4)	9.5 (26.9)
Replanting (220 N/ha) (ha)			29 (.13)	11 (.05)	4.5 (.02)	44.5 (.20)
Roads & tracks maintenance		12	25	20	8.4	65.4
	435	770	250	210	141.1	1,808.1

(*) : On a weighted average applied to 90 % of planted area (the first 1000 ha being atypical).

LOAN AGREEMENT

SCHEDULE 1 (Revised)
(Loan 1591-431)

<u>Category</u>	<u>Amount of the Loan Allocated (Expressed in Dollar Equivalent)</u>	<u>% of Expenditures to be Financed</u>
(1) Nucleus Estate:		
(a) Field establishment (excluding labor, locally procured seeds and cover crops and land acquisition), housing, civil work, offices, stores and buildings	5,510,000	100% of foreign expenditures and 75% for locally procured items
(b) Vehicles and equipment (excluding road-making vehicles and equipment), salaries of internationally recruited staff, consultants, feasibility study, training, management fee and operating costs and recruitment and related administrative costs	22,231,422	100% of foreign expenditures and 75% for locally procured items
(c) Deleted		
(2) Deleted		
(3) SMU:		
(a) Field Establishment (excluding labor, locally procured seeds and cover crops) and housing	1,000,148	100% of foreign expenditures and 50% for locally procured items
(b) Road construction (excluding local staff salaries), staff training, international staff salaries, vehicles and equipment, consultants and operating costs and recruitment and related administrative costs	1,178,230	100% of foreign expenditures and 30%
TOTAL	30,000,000	

ANNEX 3

PHASE II - DEVELOPMENT PROPOSALS

SUMMARY AND CONCLUSIONS

PHASE II - DEVELOPMENT PROPOSALS

SUMMARY AND CONCLUSIONS

<u>1.1 SUMMARY</u>	<u>NES I</u>	<u>NES III (Stage 1)</u>
<u>Climate :</u>		
- Rainfall	2,500 mm	2,800 mm
- Water deficit	275 mm	150 mm
<u>Planting Program :</u>		
- Nucleus Estate	1986 - 1989 3,500 ha (Ext.)	1987 - 1991 3,500 ha
- Smallholdings		
. Rehabilitation	1,500 ha	-
. New Plantings	1,200 ha	2,000 ha
- Wildgroves	42,500 ha	12,500 ha
<u>Yields :</u>		
- Nucleus Estate		
. Seed	12.5 T/ha	17.5 T/ha
. Clonal	-	21 T/ha
- Smallholders		
. Seed	100 T/ha	-
. Clonal	-	18 T/ha
<u>Production at Maturity :</u>		
- FFB/yr	151,250 T	131,825 T
- Oil/year	21,460 T	26,297 T
- Kernels/yr	9,730 T	6,809 T
<u>Mills :</u>		
	20 T/hr (1988)	20 T/hr (1992)
	20 T/hr (1995)	ext. to 30 T/hr (1995)
<u>Houses :</u>		
	915	990
<u>Land reclamation</u>		
- Planted	-	5,500 ha
- Not Planted	-	13,500 ha
<u>Funding Requirements (*)</u>		
- 1984 Constant prices		
. Foreign currency	21,087,000 N	31,358,000 N
. Local currency	7,982,000 N	60,620,000 N
. T O T A L	<u>29,069,000 N</u>	<u>91,978,000 N</u>
- 1984 Current prices		
. Foreign currency	28,465,000 N	60,700,000 N
. Local currency	15,567,000 N	117,350,000 N
. T O T A L	<u>44,032,000 N</u>	<u>178,050,000 N</u>
<u>Profit before Tax and</u>		
<u>Fin.Charges (at maturity)</u>	19,292,000 N/yr	29,392,000 N/yr
<u>FRR</u>	21 % (Approx.)	17.6 %
<u>ERR</u>	16 %	10.0 %

(*) At selling price P.O. : 1,600 N/T and P.K. : 330 N/T

1.2 CONCLUSION

Funding requirements of NES III are about treble those of NES I. Though both of these projects establish 5,500 ha of new plantings, the funding requirements cannot be compared, because :

1. NES I has an existing infrastructure of houses and offices which makes the investment in infrastructures 35 % cheaper (say N 4 Million).
2. NES I has an immediate revenue from its FFB harvested on about 20,000 ha of wildgroves and 1,500 ha of rehabilitated smallholdings. NES III however, harvests on the average only 2,000 ha of wildgroves during its investment period. This means that NES I has during its first years of project implementation an annual surplus of sales revenue of N 8 Million compared to NES III.
3. NES I does not reclaim any land whereas NES III reclaims 19,000 ha of land of which only 5,500 would be used for oil palm cultivation. This means that 60 % of the land reclamation costs (N 8 Million, which are allocated to the funding requirements of this project) should actually be allocated to other agricultural/social developments.
4. Land reclamation works have to be implemented before land preparation and planting could actually start. Breakeven is therefore delayed by two years.

These are four reasons for which a cashflow with a long breakeven period and with heavy funding requirements is obtained. But when comparing the cashflows at maturity, NES III appears to generate 50 % more gross profit than NES I :

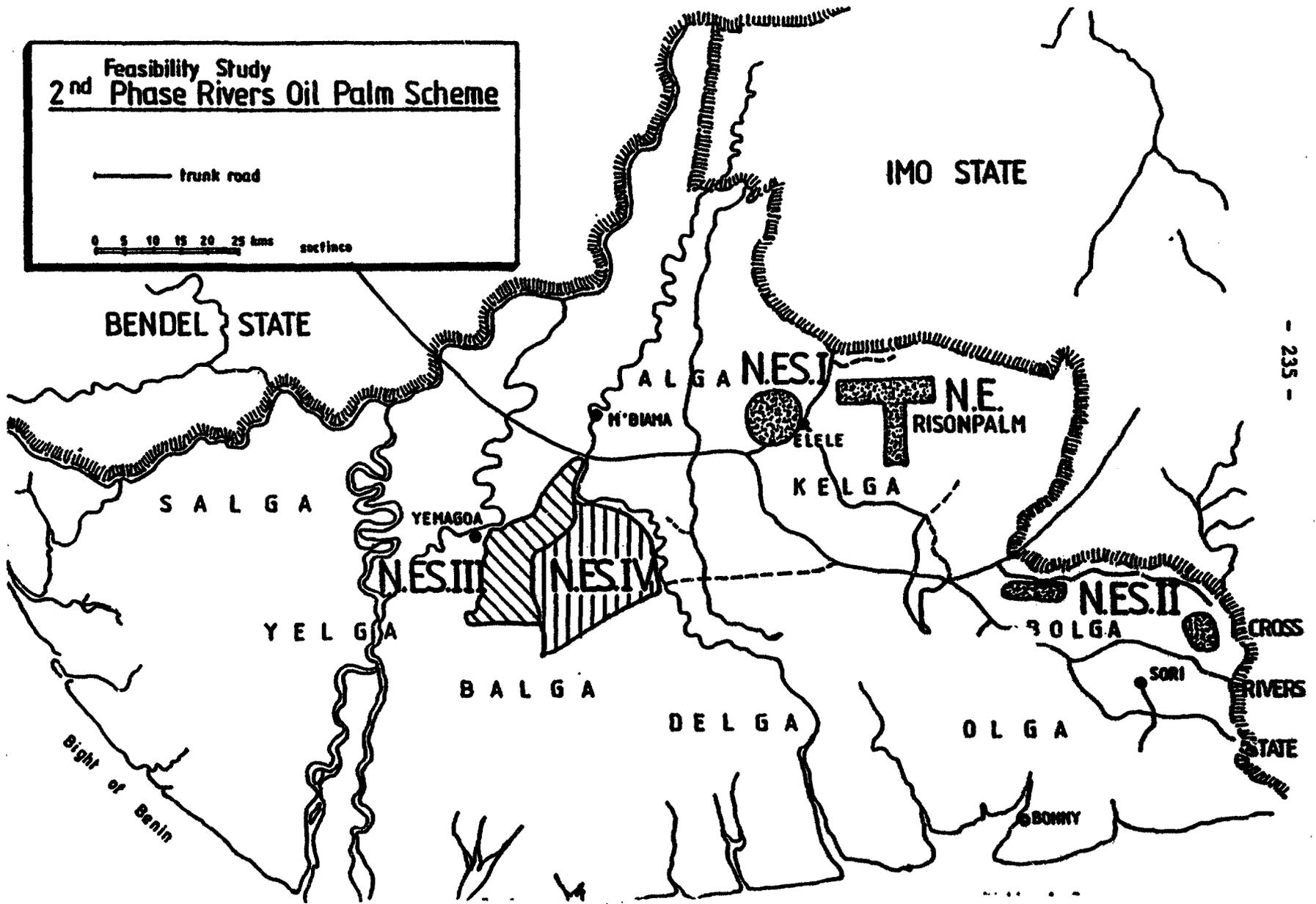
	<u>Constant '84 N/Year</u>
NES I	19,292,000
NES III	29,392,000

NES III is thus typically a high investment - high return project; and NES I a low investment - average return project.

Feasibility Study
2nd Phase Rivers Oil Palm Scheme

— trunk road

0 5 10 15 20 25 kms
scale



ANNEX 4

PROJECTED PRODUCTION

FRESH FRUIT BUNCHES, PALM OIL & KERNELS

FFB PRODUCTION & PURCHASES

ANNEX 4a

(t.)

YEAR	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000 -)
Nucleus Estate	47,208	66,275	83,425	98,228	109,098	114,798	118,040	118,625	118,625	118,625	118,625	118,625	118,625	118,625	118,625
S.H.O.	6,500	9,240	11,160	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Purchases U.P.G.S	50,000	50,000	50,000	75,000	65,000	70,000	75,000	80,000	85,000	95,000	100,000	100,000	100,000	100,000	100,000
Purchases Elele Estate	10,000	18,000	17,450												

Total	123,708	143,535	162,035	185,228	186,898	194,798	205,940	210,625	215,625	225,625	230,625	230,625	230,625	230,625	230,625
-------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------

* Note : additional WPG purchases to be processed at Elele Estate Mill on basis on total WPG production 100,000 t from 1989 onwards

MILL CAPACITY TO BE INSTALLED

Peak month production of FFB :
 - 12 % of annual production for Tenere in April, 10 % in May
 - 17.8 % of annual production for Bere in April, 12 % in May

Mill operating : 500 hours per month.

YEAR	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000 -)
Production FFB - April	17,755	20,124	22,344	26,577	26,102	27,699	28,955	29,915	30,805	32,585	33,475	33,475	33,475	33,475	33,475
- May	16,330	19,875	21,685	24,432	24,754	26,179	27,286	27,800	28,400	29,600	30,200	30,200	30,200	30,200	30,200
Peak month production	17,755	20,124	22,344	26,577	26,102	27,699	28,955	29,915	30,805	32,585	33,475	33,475	33,475	33,475	33,475

Operational capacity

OIL & GEMEL PRODUCTION

A) Oil

ANNEX 4b

YEAR	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	2000-1
Nucleus Estate	9,497	13,140	16,775	20,118	22,501	24,031	24,788	24,911	24,911	24,911	24,911	24,911	24,911	24,911	24,911
S. N. U.	1,327	1,924	2,344	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520
Purchases N.P.S.	4,500	4,500	4,500	6,750	5,650	6,300	6,750	7,200	7,650	8,550	9,000	9,000	9,000	9,000	9,000
Purchases Elele Estate	2,520	2,520	2,443												
Total	17,044	22,084	26,062	27,388	30,751	32,851	34,638	34,631	35,061	35,901	36,431	36,431	36,431	36,431	36,431

B) Gemels

YEAR	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	2000-1
Nucleus Estate	1,950	2,746	3,538	4,245	4,792	5,116	5,312	5,338	5,338	5,338	5,338	5,338	5,338	5,338	5,338
S. N. U.	270	407	502	540	540	540	540	540	540	540	540	540	540	540	540
Purchases N.P.S.	4,000	4,000	4,000	4,000	5,200	5,600	6,000	6,400	6,800	7,400	8,000	8,000	8,000	8,000	8,000
Purchases Elele Estate	900	900	875												
Total	7,135	8,054	8,912	10,785	10,532	11,256	11,652	12,278	12,678	13,478	13,873	13,878	13,878	13,878	13,878

ANNEX 5

PROJECTED CASH FLOW AND FINANCIAL RATE OF RETURN

PROJECTED ECONOMIC RATE OF RETURN

CASH FLOW & FINANCIAL RATE OF RETURN

(Pala Oil at \$ 2,000/l.)

CASH FLOW (Yield constant oil) 1970-1980
 Selling price \$ 2.000/l.
 \$ 1.100/l.

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Oil (l.)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Revenue (\$)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Cost (\$)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Net Cash Flow (\$)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Present Value (\$)	900	810	730	660	600	550	510	470	440	410	380
NPV (\$)	900	810	730	660	600	550	510	470	440	410	380

ANNEK 5.1 b

SALES REVENUE

Forecast ex-mill selling prices

- Palm oil : 2000 N/ton
- Palm kernels : 350 N/ton

	YEAR	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000-)
Palm oil		35,687	44,168	52,124	58,775	61,903	65,782	68,117	69,263	70,163	71,963	72,863	72,863	72,863	72,863	72,863
Palm kernels		2,497	2,819	3,119	3,775	3,686	3,940	4,148	4,297	4,437	4,717	4,857	4,857	4,857	4,857	4,857
Total		38,185	46,986	55,243	62,550	65,589	69,641	72,265	73,560	74,600	76,680	77,720	77,720	77,720	77,720	77,720

(M'000)

SALES REVENUE

Forecast on-oil selling prices

- Palm oil : 1600 n/ton
 - Palm kernels : 330 n/ton

	YEAR	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000-1
Palm oil		28,550	35,334	41,699	47,020	49,522	52,561	54,493	55,410	56,130	57,570	58,290	58,290	58,290	58,290	58,290
Palm kernels		2,355	2,658	2,941	3,559	3,475	3,714	3,911	4,052	4,184	4,448	4,580	4,580	4,580	4,580	4,580
Total		30,905	37,992	44,640	50,579	52,997	56,276	58,405	59,462	60,314	62,018	62,870	62,870	62,870	62,870	62,870

(n'000)

Sales revenue

A - Basis of calculation

Estimates of sales revenues are based on the World Bank forecasts. (January 1988)
 The forecast unit prices CIF Europe, in 1986 constant \$ (°), are given as follows :

1986 constant \$/t (from 1986 onwards)	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995--)
PALM OIL (CIF Rotterdam) (current)	445	502	729	501	608	337	603	483	578	577	576	576	573	572
PALM KERNELS (CIF U.K.) (current)	265	346	526	291	206	188	227	273	329	327	325	323	321	319

(°) U.O.V. : 1986 = 100
 1985 = 101.3
 1986 = 100.5

B- Estimation of economic unit sales prices

B.1 Estimated Economic Millgate Value of Palm oil

(per tonne in constant 1986 prices)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995--)
Dollars														
. CIF Rotterdam	483	562	791	537	400	337	403	483	578	577	576	574	573	572 ¹
. Add freight difference to Nigeria (1)	12	12	12	12	12	12	12	12	12	12	12	12	12	12 ²
. CIF Nigeria (P. Harcourt)	495	574	803	549	412	349	415	495	590	589	588	586	585	584
Naira														
. Naira equivalent (N 1 = \$ 1) (2)	495	574	803	549	412	349	415	495	590	589	588	586	585	584
. Add port handling (3)	9	9	9	9	9	9	9	9	9	9	9	9	9	9
. Add transport P. Harcourt to market	2	2	2	2	2	2	2	2	2	2	2	2	2	2
. Less transport Mill to P. Harcourt	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Economic Millgate price	498	577	806	552	415	352	418	498	593	592	591	589	588	587

(1) Freight differential between Malaysia/Nigeria and Malaysia/Europe.

(2) Average January/April 1986.

1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995--)

0.2 Estimated Economic Millgate Value of Palm kernels
(per tonne in constant 1986 prices)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995--1
Dollars														
. CIF Rotterdam	295	410	571	312	206	188	227	273	329	327	325	323	321	319
. Less freight/insurance	30	30	30	30	30	30	30	30	30	30	30	30	30	30
. FOB Port Harcourt	265	380	541	282	176	158	197	243	299	297	295	293	291	289
Malta														
. Malta equivalent (M 1 = \$ 1)	263	380	541	282	176	158	197	243	299	297	295	293	291	289
. Less port handling (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. Less transport to port	0	0	0	0	0	0	0	0	0	0	0	0	0	0
. Less bags (2)	7	7	7	7	7	7	7	7	7	7	7	7	7	7
. Loss Marketing inspect. (3)	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Economic Millgate price	235	352	513	254	148	130	169	215	271	269	267	265	263	261

(1) Port handling estimated at 15 \$ or 15 M/T. -Equivalent economic cost : 15 \$.52 = 0.
 (2) 16 bags @ 0.05 = 16 M/T. -Equivalent economic cost : 16 \$.52 = 7.
 (3) Estimated cost 9.5 M/T. -Equivalent economic cost : 9.5 \$.52 = 5

Sales revenue

Year	Pala oil -Production (t)	-Economic alligate prices (M/T - 1986 prices)	Pala heron's -Production (t)	-Economic alligate prices (M/T - 1986 prices)	Total sales (M'000)
1978	1,052	498	55	235	537
1979	2,523	577	488	352	1,625
1980	7,510	806	2,428	513	7,299
1981	9,485	552	3,049	254	6,010
1982	17,844	415	7,135	148	0,461
1983	22,084	352	0,654	130	0,820
1984	26,062	418	0,912	169	12,400
1985	29,388	498	10,795	215	16,954
1986	30,951	593	10,532	271	21,208
1987	32,851	592	11,256	269	22,476
1988	34,058	591	11,852	267	23,293
1989	34,631	589	12,278	265	23,652
1990	35,981	588	12,678	263	23,962
1991	35,981	587	13,478	261	24,639
1992	36,431	587	13,878	261	25,087

**FEDERAL MINISTRY OF AGRICULTURE, WATER RESOURCES
AND RURAL DEVELOPMENT**

FEDERAL DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT
NEW SECRETARIAT, AREA II ABUJA

P.M.B. No SR 135

Telegrams FEDAG

Telephone



Ref. No FDA/IBRD/S/15/II/987

Date 21st February, 1989

The World Bank,
International Bank for Reconstruction
and Development,
International Development Association,
1818H Street, N.W.,
Washington, D.C.,
United States of America.

Attention: Graham Donaldson,
Operations Evaluation Dept.

IMO AND RIVERS OIL PALM PROJECTS -
PROJECT COMPLETION REPORT

I am directed to acknowledge with thanks the receipt of the above named report sent under cover dated 17th January, 1989. We have thoroughly examined the report and are satisfied that the draft represents a true picture of the present status of the two projects. You may therefore proceed with the printing of the final report as we have no adverse comment on the report.

2. It will be highly appreciated if the final report is sent to us in due course.

A handwritten signature in black ink, appearing to read 'E. A. Okadigbo'.

E. A. OKADIGBO,
for Honourable Minister.



RISONPALM LIMITED
16A ELECHI BEACH, P.M.B. 6236, PORT HARCOURT, NIGERIA
TEL: (084) 301100.4
TELEX: 61369 NG.

RSL/C.5

10th March, 1989

The Resident Representative
World Bank Resident Mission in Nigeria
Plot 1309A Karimu Kotun
Victoria Island
LAGOS, NIGERIA

Attention: Dele Ilebani

Dear Sir

RE: COMMENTS ON THE RISONPALM NUCLEUS ESTATE
PROJECT COMPLETION REPORT (PCR)

We thank you immensely for forwarding to us a copy of the Project Completion Report (PCR) as compiled by Socfin Consultant Services and your request for our comments.

By the contents of the PCR forwarded to us, it does appear that they extended their PCR to 1988. However, we will like to make few comments on the Report.

Early in January 1986, SOCFINCO requested for the nomination of a staff from us who would participate in the preparation of the PCR. Accordingly, our Mr I C Okemini, Principal Accountant, then, was nominated to participate in this exercise. Throughout the period of the preparation of this Report, our Principal Accountant found it extremely difficult getting SOCFINCO to allow him have an insight into what they were doing. In effect, therefore, the PCR was compiled singly by SOCFINCO and this is why our comments on that Report is most apt. Finally, the PCR was submitted to us on the 23rd June, 1986.

PHYSICAL PERFORMANCE

The entire project execution period was 8 years instead of the four years programmed for it. This was alleged to be due to some acceptable reasons. Of the 10,000 ha. Oil Palm Estate and 120 ha of Coconut Estate, SOCFINCO developed exactly 9,490 ha of Oil Palm Estate and 25 ha. of Coconut Estate. Most of the required infrastructure were constructed. They studied, designed, evaluated, implemented and monitored the Programme themselves.

This is to say that they had complete administrative and financial autonomy in the affairs of the Estate, throughout the 8 years period. Physical examination of actual work done, shows an impressive account of a dedicated group.

2. MILLING FACILITY

SOCFINCO was able to install two production lines of 20-m/t FFB/hr Oil Mill each. Eventhough these have been achieved, the PCR did not indicated some of the outstanding jobs that were yet to be carried out or completed. They are:

- a) the third Boiler was yet to be imported and installed.
- b) the World Bank loan provision for the Boiler has been drawn down.
- c) the poor performance of the Mill as at date of the project completion, i.e. the PCR did not indicated that most of the tubes of the second Boiler were leaking very profusely and giving a lot of problems at the time of actual handing over.

It is expected that the Boiler should not have given any problems, for at least, the first five years of its installation.

Even though SOCFINCO is trying to get the Manufacturers of these Boilers to remedy the situation, we feel that such vital information should have been contained in the PCR.

- d) the issue of poor performance and reliability of the weighing bridge was also not highlighted.
- e) Effluent Treatment Station is yet to be repaired and put to effective use.

3. FUNDING

The entire World Bank loan of US \$30 million was said co have been drawn down by the end of 1985. Eventhough this was discovered not to be the case, the PCR should have observed that

- a) Some withdrawals from the World Bank loan Account were made even after the Project has been said to be completed in 1985. It is our view that again such information should have been contained in the PCR.

It is also pertinent to point out that no staff of the Company nor the Rivers State Government endorsed any application for withdrawal of funds from the World Bank Loan Account and SOCFINCO has been unable to provide any instrument mandating them to operate that Account.

- b) the Report did not indicate schedule of disbursements.
- c) the Report also failed to indicate in very clear terms, how much was internally generated and how this amount was utilised.
- d) it did not show the level of indebtedness of the Nucleus Estate and indeed the Company was put to at the time of the project completion in 1985.
- e) it did not indicate the Letters of Credit that had been opened and the items of which were yet to be brought into the country for purposes of maintaining full briefing.

Once in a while, we do receive Bills and Shipping documents on items and orders which we do not have any references to.

- f) the PCR did not indicate how much of the foreign funds were used in paying Seconded Personnel and how much was utilised in the procurement of Plants Management fees, Machineries and Equipment and perhaps, Spareparts.
- g) the report did not also indicate the total amount paid to the expatriate personnel as local allowances, at the same time that their salaries were paid in foreign currencies. One would have expected the serialisation of these issues for purposes of enlightenment.
- h) some company properties were disposed off through inter-organisational co-operation, i.e Risonpalm/ Adapalm and Risonpalm/Okomu. The PCR did not indicate these outstanding issues.

4. MANAGEMENT

The relevant Section of the Project Agreement - Section 2.03(a) and (b) did indicate that there was to be at the Nucleus Estate, six expatriate staff that would be paid varying salaries but it was observed that contrary to this provision, the Company had about 12 expatriates until 1985 when it came down to 8.

The agreement further provides that Risonpalm Limited shall employ Consultants for the production of designs, specifications and tender procedures for the Palm Oil Mill. The PCR did not indicate who appointed Usine De Wecker of Luxembourg, the main Contractor that installed the Mill. The Report also failed to indicate that contrary to Section 2.11(c) of the Project Agreement, SOCFINCO had sold Palm Oil on behalf of the Company for the entire project period.

5. TRAINING OF NIGERIAN PERSONNEL

The PCR did not indicate who amongst the Nigerian counterpart staff benefitted from the training programme nor did it indicate what type of training that were made available to the Nigerian staff.

6. COST EFFECTIVENESS

It is expected that cost of actual execution of the project would exceed the base cost as indicated in the Appraisal Report, but the increase as evidenced in the PCR were really astronomical:

- Field Establishment went up by 182% of base cost
- Management Fee about 249% of base cost.

N38.31m was budgeted for the Nucleus Estate in both local and foreign costs, but by the available data, the PCR indicated N48.6m.

7. SALES REVENUE

From 1982 - 1985, the Nucleus Estate generated some substantial income. It is not clear from the PCR how this fund was utilised especially when it was indicated in the PCR that the -

- a) total project cost was N48.6 million
- b) ICON funding was N2.0 million
- c) Actual funding was N39.7 million
- d) resulting in a deficit of N6.9 million

From the above computations, it is clear that approximately N30m will be an excess fund arising from internally generated funds. One would assume from the above that this figure might have been consumated in the total project cost in which case, the actual project cost is much more than the PCR would lead us to accept.

8. OMISSIONS

The PCR did not indicate some outstanding issues, such as -

- a) arrears of National Provident Fund commitments
- b) outstanding 15 court cases.

9. OVERVIEW OF THE PCR

The Overview of the PCR as indicated in your submission was not included in the PCR forwarded to our Board of Directors and Government. We would wish to briefly offer some explanations relevant to the OVERVIEW, if only to correct some impressions and put the records right:

a) Nucleus Estate Access Road

The Report indicated that 'funds were spent on upgrading the existing Estate Access Road (for no obvious commercial advantage) in preference to the development of essential infrastructure for a new Oil Palm Development' (Elele Estate).

It is on record that as far back as 1984, SOCFINCO had engaged the services of a Consultant - Arcus Nigeria Limited, to design an 8 km Access Road to the Estate. The Consultant completed its assignment and handed over the job to SOCFINCO. This project was not carried out until later in 1986 when the Contract was formally awarded by the Board. At this point in time, the Estate has been taken over by our indigenous management.

It was common knowledge then that the Nucleus Estate was inaccessible to both members of the public and the Estate workers during the months of June to September every year, primarily, because of its swampy nature during these months.

Again, the Access road is a major road for the supply of fresh fruit bunches from our Elele Oil Palm Estate and from the Wild to the Nucleus Estate Mill. It was also a major route for the evacuation of Palm Oil and Palm Kernel.

It is also common knowledge that the Nucleus Estate had become a major focus of national and international visitors to Nigeria. By the assessment of our Company, it became necessary to give this Access Road a facelift.

Perhaps, the only known mistake about this, is that, the Board did not allow SOCFINCO to stay on managing the Ubima Project at the time the Estate road was executed. However, this road was not executed at the expense of real agricultural programmes of the Elele Oil Palm Estate.

10. b. Plantation Maintenance

This adverse report on Plantation Maintenance is a surprise to us as it could be observed that the Monitoring and Evaluation Reports of SOCFINCO for 1986, 1987 and 1988 indicated that maintenance was satisfactory (See Annex A).

We have on several occasions received the commendation of SOCFINCO in the maintenance of the Planatation.

c) Oil Mill Processing Capacity

In December 1987, our Company paid SOCFINCO N1,000,000 (One million Naira only) cash for the supply of urgently needed Spareparts. These Spareparts started coming in March 1988. Because we did not want an outright shutdown of the Mill, it was planned that capacity utilisation should be reduced until the urgently needed Spareparts were received. Directly, the Spareparts were received, the situation was restored to normal and production resumed at full capacity.

d) Purchase of Additional Weigh Bridge

For more than two years, our Company engaged in haggling with our major industrial Palm Oil buyers (P.Z; Lever Brothers Nig Limited; Assan Mills and Nalin Industries) over shortages in the supply of our products, as a result of the faulty Weigh-Bridge installed by SOCFINCO.

In 1987 alone, the Board approved a refund of N500,000 (five hundred thousand naira only) to our customers in an attempt to maintain corporate goodwill and reduce the bitterness arising from shortages in the supply of our products.

To solve this problem, a new Weighbridge was procured at a total cost N350,000 (three hundred and fifty thousand Naira only) from Avery Nigeria Limited. Our Company felt that the expenditure of N350,000 in relation to a refund of over one million Naira in 1988 was a justifiable investment.

It is also not true that the Weighbridge cost was \$100,000 (one hundred thousand American dollars). We so not know how this figure was arrived at.

e) Discriminatory Employment

It does appear, there is an intention here to put the people of Rivers State in very bad light with their neighbouring States and indeed the entire country.

The allegation here is completely unfounded. We plead, most sincerely, that this type of reporting be discouraged.

As at today, Risonpalm retains the services of many Management, Senior and Junior staff from neighbouring States. It is damaging for the Report to indicate that people from our neighbouring States are "more commercially aggressive and educated". It might be surprising to note too that there is not even one staff from Rivers State that is in the employ of other projects managed by SOCFINCO.

In 1986 when we took over the management of the Nucleus Estate, all staff employed by SOCFINCO were requested to formally apply for reabsorption. This was to regularise their appointments. All those who applied were reabsorbed.

f) Management of sharks Football Club

Late 1987, there were discussions with Government Officials requesting our Company to help manage Sharks Football Club. This, the Company refused.

But early in 1988, the Rivers State Government gave our Company a definite Directive to provide the management for the ailing sharks Football Club. They promised and provided N500,000 for its 1988 Management. We feel, it is a recognition of our performance, especially when they provided the funds. Of course, we made a success of this assignment.

10. GENERAL

a) Other Loans

In 1982/83, SOCFINCO obtained an additional Loan of N2 million from ICON Limited (Merchant Bankers). This was not indicated in the PCR. Worse still, this loan attracted high interest rate, higher and above the ceiling imposed by the Central Bank of Nigeria.

When we took over the Management of Nucleus Estate, our Management immediately contacted ICON Limited and had the interest rate re-negotiated downwards. All the interest over-charged were credited to our account. It is on record that since we took over in 1986, we have not obtained an extra loan or overdraft for our operations and we have also not engaged in present consumption of future production which was the main thing in our Company in 1984/85.

We have also paid up all our outstanding financial obligations todate.

b) Profits

To a very large extent, the only measure of efficiency in the operations of a limited liability company is profit. It is on record that our Company started making profit one year after we had taken over the Management of the Nucleus Estate. We made profits in 1986, 1987 and the unaudited Accounts for 1988 also indicated some higher level of profits.

We have valued our relationship with Socfinco. At the end of the handing over of the Nucleus Estate in January, 1986, the Board retained the services of SOCFINCO primarily to monitor the performances of the new Nigerian management team. For this, SOCFINCO was adequately remunerated. Throughout the period of SOCFINCO's monitoring service, the performances of the Nigerian Management team were all in glowing terms. The profit margins made throughout these periods were convincing evidence.

Our aim in this submission is to provide you with some correct facts and information that will guide an impartial observer in coming up with a more balanced report.

We thank you for giving us this opportunity of providing our comments on the Project Completion Report (PCR) sent to you by SOCFINCO.

Yours faithfully
for: RISONPALM LIMITED


A I UCHENDU
GENERAL MANAGER

Telegrams:

Telephone:

Your ref

Our ref MAS, 4/S, 10/11/93

(All replies to be addressed to the Permanent Secretary.)



MINISTRY OF AGRICULTURE AND
NATURAL RESOURCES

ADMINISTRATION DIVISION
OWERRI

2nd May 1989

23 MAY '89'

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Secret

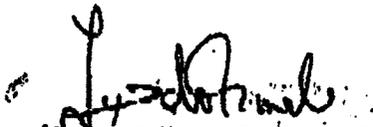
IMO STATE OIL PALM PROJECT (LOAN 1191-UNI)

I wish to refer to your report of 7th February, 1989 on the execution of the Imo State Oil Palm Project, loan 1191-UNI and to forward the following comments:

- (a) Findings and Lessons - Your write-up on Findings and Lessons is appreciated. This Ministry welcomes very much your observation on para. C(d) on page viii of your Report which deliberated on the provision of credit to and recovery of loanable funds from Small Holder Oil Palm Project. We agree that the responsibility for the provision of credit to Small Holders and the recovery of such loaned funds should be placed in one agency.
- (b) On page xii, para. 11 of this Report, your observation to have some five (5) tons per hour oil mills installed in many oil palm areas seems plausible. The establishment of these smaller oil mills would in the long run reduce costs due to repairs and rehabilitation, and transportation apart from sharing the risks involved.
- (c) Your observation on page 32 of this Report with regard to costs is acceptable. The extension of the project execution period and the influence on the project of increased costs as a result of price inflation reduced the level of achievement.

It is expected in future, that extension of project execution period would take into consideration the variations of costs and prices.

- (d) The experience of the Imo State Small Holder Oil Palm Project showed that trend of disbursement of funds from the IBRD affected the performance of the project. Future disbursement of funds should be taken seriously and should be consistent with the policy of the World Bank to enable the project perform effectively. We also expect that the prices of fruits and processed products be determined by prevalent market forces.


(Rev. T.N.A. Odoemela)
Director-General
For Commissioner

