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Technical report: Study on the possibilities on how to develop rubberwood in Côte d'Ivoire: the financial analysis*

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PREFACE

This report is the study of the financial feasibility of rubberwood processing project based on the technical report prepared by Mr. B. Parant, "Etude sur les possibilités de valoriser l'hévéa en Côte d'Ivoire" (DP/ID/SER.A/1665). All technical details as well as the corresponding investment and production costs information upon which this study is built are contained in the technical report. However, for lack of specific data, assumptions had to be made for the sake of consistency of financial analysis. These assumptions are explained in chapter II.

I. GENERAL REMARKS

In terms of rubberwood log inputs two basic capacity options will be analyzed in this study i.e. small-scale (approximately 1760 m^3 log input p.a.) and medium-scale (3960 m^3 log input p.a.). These two capacities are in the technical study referred to as: 1700 m^3 and 4000 m^3. Furthermore the 3960 m^3 log input project will be broken down into two options: with and without kiln-drying of the sawn rubberwood, which has substantial bearing on investment and operating costs of the project.

It has been assumed in the study that, for the three above options, the logging operation does not constitute the integral part of the project. Cost of logs "at factory gate" have therefore been assumed for the basic options' financial viability analysis as calculated in the technical study.

Two reservations have, however, to be made in this respect:

(i) Capacities assumed as bases for log costs calculations in the technical part of the report (3000 m^3 p.a. and 6000 m^3 p.a.) do not correspond directly to the capacities of the sawmilling operations, which may have its effect on the unit cost of m^3 of logs.

(ii) The question remains unresolved throughout the technical study whether the logging/initial preservation treatment/transportation should be considered as integral part of the rubberwood processing operation or should it be performed by the independent contractor.

In the first case the prospective investors must take into account the corresponding increase in the initial investment necessary to perform the logging operation.

In the second the contractor's margin to the tune of approximately 40 % of the total logging and transportation cost[1] has to be added to the cost-based price "at factory gate", calculated in the technical study.

In order to resolve these doubts two solutions have been adopted for the purpose of the financial analysis:

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[1] vide: H. P. Brion, Technical Report: The Current Status of the Rubberwood Processing Industries in the Selected Tropical Countries of Asia, UNIDO IO/R.269 dated 22.04.1993.

- the small-scale project (1760 m^3 log input) has been recalculated under assumption of log price 40 % higher; the results being discussed along with the base case of Option I.

- the medium-scale sawmilling project (3960 m^3 log input) has been calculated separately with and without the logging operations.

In the course of further analysis four options will therefore be presented:

OPTION I - small-scale (1760 m^3 log input) sawmilling only,

OPTION II - medium-scale (3960 m^3 log input) sawmilling only with kiln dryer,

OPTION III - medium-scale (3960 m^3 log input) low-cost version: sawmilling only without kiln dryer,

OPTION IV - medium-scale (3960 m^3 log input) integrated logging and sawmilling operation without kiln dryer.

UNIDO's Computerized Model for Feasibility Analysis and Reporting, COMFAR, was used to analyze the financial viability of each option.

Printouts of complete COMFAR Schedules and the most relevant GRAFIX charts for all four options are appended to this report as Annexes I through IV.

Assumptions that are common to all four options are listed below in chapter II. Specific assumptions pertaining to a particular option are presented and - if needed - discussed in the course of the analysis of the particular option.

II. GENERAL ASSUMPTIONS

1. The inputs and outputs of all project versions are calculated in '000 F. CFA. Unless otherwise explicitly stated, throughout the text the symbol F. refers to: Franc CFA.

   The conversion rate used in this study is: 1 US$ = 303 F. CFA.

2. Preservative-treated sawn rubberwood planks are the final output of each project version.

3. The conversion factor of rubberwood logs to sawn planks is 0.4, which is probably too high for sawnwood that enters world trade. Experience of South East-Asia has shown, however, that the majority of the rubberwood is used directly by further processors e.g. furniture manufacturers, who purchase specific dimensions and/or their multiples. The 0.4 factor is based on this assumption.

4. For the sake of clarity of presentation it has been assumed that:

   - all project inputs are locally procured,
   - there are no export sales,
   - there is no need for foreign financing.

In case the need to import machinery, equipment and/or wood preservative, arises, provisions for foreign currency will have to be made either through seeking foreign financing sources or securing the import licence from a local bank with the corresponding allocation of foreign currency if any form of foreign currency control exists in the country concerned.

5. A one year construction period was assumed for all project versions.

6. The initial investment was accumulated during the pre-operating period and its depreciation starts in the first year of production. Any investment made during the production period is depreciated starting with the year following the year of investment outlay.

7. A linear to salvage value depreciation schedule was assumed following the depreciation rates set in the technical report, with one exception: "frais de première installation" for lack of any specified itemized breakdown were understood as "Pre-production capital expenditures" and as such depreciated over 5 years, and not 30 as specified in the technical study (Document DP/ID/SER.A/1665).

8. It was generally assumed that the period of depreciation reflects the real useful life of the depreciated assets and therefore replacement purchases were specified wherever appropriate.

9. For all options the same production schedule was assumed:

first year:	70 %	capacity utilization,
second year:	85 %	capacity utilization,
third year:	100 %	capacity utilization.

It is assumed that all the output is sold locally in the same year.

10. The technical report assumes the "stumpage price" of rubberwood to be "0", therefore no stumpage cost has been entered for the first three options. It remains questionable whether this assumption will remain valid in the longer run.

11. The annual cost of maintenance repairs and spare parts, not specified in the study, was assumed at 5 % of fixed investment expenditure and crudely split 50:50 between cost of repairs and cost of spare parts.

12. Factory overhead costs were assumed at the level of 3 % of operating costs.

13. Selling prices are assumed on the "ex-factory" basis, therefore neither transportation costs for rubberwood planks were specified nor other selling and marketing costs were indicated in the technical report.

14. The ex-factory selling price for rubberwood planks is assumed to be 70,000 F. per m^3. This price was calculated based on the arithmetic average of second-class (40,000 F. per m^3) and export quality (100,000 F. per m^3) Iroko sawn and treated wood. Although basically of comparable quality, some properties of Iroko wood are superior to those of rubberwood. Therefore the validity of this assumption has to be

carefully cross-checked whenever a concrete investment project is considered.

15. All project versions are analyzed under the assumption of non-inflationary terms with costs and prices fixed at the base year level.

16. The standard financing structure, with 60 % locally procured loan and 40 % ordinary equity, was assumed for all project versions. However, the effects of changing Debt/Equity Ratio on the option's viability were ascertained wherever appropriate.

17. The interest rate on locally available loans was taken to be 15 % for all project versions. The cashflow discounting rate was assumed at the same level.

18. The local loans are amortized over a 10 year period following the constant principal rule, with a grace period of one year.

19. Standard fiscal rules i.e. 20 % income tax rate, no sales tax and no tax holidays were assumed for all project versions.

Only one basic version of each of the four options, considered most relevant, has been presented in full in this report. Various options under different sets of assumptions have, however, been tested in the process. Aspects of these tests, having some bearing on project's financial viability, will be presented in the course of analysis of each basic version's sensitivity.

III. SAWMILLING OPTIONS

OPTION I: Small-scale (1760 m^3 log input), sawmilling only

1. Project's investment costs and required capitalization

Total initial investment required for this option amounts to 60,762,500F. spent over one year of pre-production period. This figure includes capitalized interest on bank loan as well as provision for inventories necessary to start the production process. Vide: Total Initial Investment Schedule, Annex I.

A net working capital of 9,421,670 F. is required in the first year of operations (increase by 7,421,670 F.), growing annually to 10,743,120 F. and 12,064,580 F. in the subsequent years. Vide: Schedule: Working Capital Required, Annex I.

An initial capital outlay of 66,000,000 F. is therefore necessary for this project, of which 61,000,000 F. would have to be disbursed during the construction year and the remaining 5,000,000 F. in the first year of operations to cover the net working capital requirements and to secure the project's liquidity during the first operating year.

Following the generally assumed Debt to Equity (D/E) Ratio of 1.5 the project is expected to be funded by 26,500,000 F. of ordinary equity -

of which 21,500,000 F. will be paid in the pre-operating year and 5,000,000 F. in the first year of operations - and a bank loan to the tune of 39,500,000 F., expected to be drawn from the local sources and disbursed completely during the construction year. Details of this aspect of project funding are given in the Schedule: Source of Finance in Annex I.

The amount of 14,400,000 F. is necessary in the 6th and again in the 11th year of operation to cover replacement purchases of the lorry, small equipment and tools, for which the depreciation period - and thus the useful life - was estimated to be 5 years.

An additional 25,000,000 F. is necessary in the year 11 to cover replacement purchases of machines and equipment with a 10 years depreciation period. Vide : Investment During Production Schedule in Annex I.

No external funding is earmarked for these purposes as the project's cashflows provide sufficient funds for these expenditures.

2. Production costs

The gradual increase of sawmilling operations from 70 % of rated capacity during the first year of production activities, to 85 % during the second year, and ultimately to 100 % of target output by the third year of operations until the 15th year of the projected sawmilling activities, resulted in the decrease of unit production costs from 70,680 F. per m^3 of rubberwood sawn timber during the first year of operation to 62,240 F. in year 2 and 56,330 F. in year 3 of operations, of which a variable component ranged from 40,28 % in the first year to 60,14 % towards the last year of project's activities. A detailed account of the annual production cost structure is given in the schedule: Total Production Costs in Annex I.

3. Project cashflows

The overview of cashflows during construction indicates that there is adequate coverage of investment expenditures by the project's financial resources. A cumulated cash surplus of 237,500 F., appearing in the pre-operating period, is further increased by 107,790 F. in the first operating year. Thus the project avoids, although by a thin margin, any liquidity problems in the first operating year.

Apart from the two years of replacement investments - annual cashflows are increasingly positive, starting from 107,790 F. in the first year to reach 17,984,800 F. in year 15. Negative annual cashflows in the 6th and 11th year of operations are easily covered from the cumulated cashflow reserves. The project's liquidity is therefore not jeopardized at any stage of its operations, even though replacement expenditures are financed from the project's internal resources. The cumulated net cashflow changes sign in year 5 of operations (from -1,214,840 F. in year 4 to 17,799,460 F.) thus indicating the project's payback period to be slightly over 4 years.

The schedules: Cashflow Tables, in Annex I, give a period-by-period account of project's cashflow for both financial planning and discounting purposes.

4. Net income statement

The project registered a net loss of -333,050 F. in the first year of operations. Increasing net annual profits were observed from the 2nd year (3,716,180 F.) to the 15th year (12,764,800 F.), so that the accumulated undistributed profit stood at 152,349,100 F. at the end of 15 years of operations. Corresponding annual growths in Return on Equity (which stood at 48.17 % in the 15th year) and Return on Investment (at 10.45 % in the same year) were attained.

The impressive magnitude of accumulated undistributed profits is partly due to the fact that no dividend was foreseen to be distributed in this version.

In the absence of reliable information on probable/realistic dividend as percentage of the equity capital, it was deemed prudent to consider the accumulated undistributed profit as an indicator of the project's potential to pay dividends, rather than to make unwarranted guesses regarding the expected dividend level.

The complete Annual Net Income Statement is given in Annex I.

5. Projected balance sheets

At the end of the pre-operating period, the project had total assets worth 61,000,000 F. and a corresponding amount of liabilities, of which 39,500,000 F. was the long term loan; equity was 35.25 % of liabilities. Correspondingly, by the 1st year of operations, total assets stood at 65,273,590 F.; long terms loans at 35,550,000 F.; current liabilities at 3,223,590 F.; and equity was 40.6 % of liabilities. The financial picture improved continuously toward the 15th year of operations, at the end of which total assets reached 183,074,800F., the long term loan had been fully repaid since the 11th year of operations, current liabilities were 4,225,670 F. and equity was 14.5 % of liabilities. The complete projected balance sheets covering the pre-operating and operating period are given in the schedule: Balance Sheets, in Annex I.

6. Financial viability of the small-scale sawmilling option.

6.1. Cashflow analysis

The analysis of annual cashflows over the lifetime of the project indicates positive local net cashflows for each year of the operating period, except for year 11 of operations.

The accumulated local cashflow first shows a positive value in the fifth year of operation and grows almost steadily to 144,147,500 F. in year 15. A decline from 94,582,560 F. in year 10 to 72,208,360 F. in the subsequent year is due to the above mentioned replacement investment.

All in all, the total net accumulated cashflow of the small-scale sawmilling option grows from the lowest of -57,800,000 F. in the investment year to 144,147,500 F. in the last year of operations.

The analysis of the Debt Service Ratio shows that, apart from the 1st and 6th operating years, the project will not be endangered by a too heavy burden of debt servicing. Debt Service Ratio values below one indicate that the annual net cashflow yearly is not enough to repay loans and pay interest. In a longer run such tendency would be very dangerous to the project's liquidity. As it is, the values of the ratio for other years are sound enough so that debt service charges can be met from accumulated cashflow of previous periods.

A sensitivity analysis of the Debt Service Ratio, testing its reaction to changes in net cashflow and in total interest, clearly shows that the ratio is more sensitive to changes in net cashflow, which could have been expected. A decrease in net cashflow of up to 30 % would not, however, threaten the project's ability to service its debts, except for years 1 and 5 of operations.

The Debt/Equity Ratio, which at the construction stage equals approximately 64.75: 35.25, decreases steadily between year 1 and 10 of operations. The project is fully free from debt in year 11 of the operating period. Reserves are beginning to accumulate starting in year 2 of operations and by the end of the project's lifetime the Reserves to Equity Ratio equals 5.75 i.e. accumulated reserves reach 575 % of the originally paid-in equity.

The Net Present Value of the project's cashflow, discounted at 15 %, amounts to 24,783,000 F., which deems the project acceptable even if the average cut-off discount rate for similar projects appears a little higher.

The Internal Rate of Return (IRR) on total investment, which for this option equals 22.35 %, is clearly above the discounting rate, which indicates that the project is viable from the financial standpoint. The overall viability should, no doubt, be also looked at from the particular point of view of equity holders. The IRRE1, discounting arrays of total paid-in equity versus annual net profit after tax, equals 25.72 %. This rate is a discounted measure of the project's potential to pay dividends.

An analysis of the sensitivity of IRR to changes in sales price, operating costs and initial investment shows that the Internal Rate of Return is highly sensitive to changes in the sales price, slightly less so to the changes in operating cost and almost indifferent to initial investment change. Suffice to say that a 10 % drop in sales price would push the IRR down (other variables remaining unchanged) to the level of 14.33 %, thus resulting in a negative Net Present Value of the project.

Assuming 15 % as a cut-off rate for IRR, the project is viable up to a price decrease of approximately 9.0 %. Operating costs may not increase by more than 15 % for the project to remain acceptable. On the other hand an increase in initial investment by 30 % enables the project's IRR still to meet the 15 % cut-off borderline.

6.2. Break-even, sensitivity and risk analysis.

The Fixed Costs Coverage Ratio (including costs of finance) analysis indicates that the ratio showing how many times fixed costs are covered by the variable margin never drops below 1.5 starting from year 3 - where it reaches the value of 1.49 - throughout the lifetime of the project. The project breaks-even early in year 2 .

A 10 % drop in a sales price would result in a Fixed Costs Coverage Ratio of 1.02 in year 2, which means that the project would barely break-even under such a scenario, and would only reach 1.5 in year 6. A 20 % sales price decline would delay the attainment of the B-E point until year 4, whereas a 30 % decline in the selling price would result in the project reaching the B-E point only in year 9, and never exceeding it by any substantial margin.

Changes in fixed costs and variable costs changes do not have such powerful influence as price on the analyzed ratio; even a 20 % increase in fixed costs will not push the attainment of the B-E point beyond year 2; however, an analogous change in variable costs will marginally do so, bringing the Fixed Cost Coverage Ratio in year 2 down to 0.97. Variations of interest (tested within 20 % range as for the other 2 variables) have negligible influence on the Fixed Cost Coverage Ratio.

The Break-even analysis, including cost of finance, for the 5th production year reveals that the project breaks-even at a capacity utilization level of 62 %, which is fairly safe and signifies that the degree of risk involved in this option is not heavy. Assuming a 10 % decline in the value of sales price the project does not reach the B-E point until 75 % of the capacity utilization level. A 10 % increase in the value of fixed and variable costs respectively leads in both cases to the very similar results (68 % and 67 % respectively). B-E analysis considering further decreases in the output price levels confirms the previous observation that the project is sensitive to price changes. At the 5th production year's cost level a 20 % decline in the sales price pushes the B-E point to 93 %, whereas at the selling price 30 % lower the project does not attain the B-E point at the given level of costs.

6.3. Conclusions

6.3.1. Assuming the 15 % discounting rate as a cut-off value, the small-scale sawmilling option is acceptable from the point of view of Internal Rate of Return on Total Investment (IRR = 22.35 %). Its attractiveness from the point of view of shareholders appears high: Internal Rate Return on Equity (IRRE1) equals 25.72 %. The payback period is slightly over 4 years. Break-even point of 62 %, combined with the relatively low sensitivity to changes in investment and operating costs, indicate that the degree of risk involved is acceptable. The Probability of a decline in the selling price and its effect on the project's viability will however have to be watched carefully in view of the observations contained in 6.1. and 6.2.

6.3.2. An increase of the Debt/Equity Ratio from 60 : 40 to approximately 70 : 30 has minor influence on the project's results, improving slightly the project's attractiveness in terms of IRR (from 22.35 % to 22.57 %) and NPV (from 24,783,000 to 25,471,380 F.). The effects of the financial leverage will make the project certainly more attractive to the private shareholders, increasing IRREl from 25.72 % to 28.37 %. One may, however, expect that banks would increase interest rate on loans if such risky D/E ratio were to be accepted, thus offsetting to some degree the improvement in IRREl.

6.3.3. Another version was tested under the assumption that a 10 years' depreciation scheme was set basically for fiscal purposes, whereas the real physical life-span of this part of initial fixed assets would not be shorter than 15 years.

The result of this assumption would be to eliminate the need for an outlay of 25,500,000 F. for replacements in year 11 of the operating period. As a consequence the IRR would merely increase from 22.35 % to 23.13 % and IRREl from 25.72 % to 25.99 %. As could have been expected, at a 15 % discounting rate even substantial changes in the project's annual cashflow in year 11 of operations will not have a substantive effect on the IRR.

Throughout all options of this study the major item of concern remains the cost of the project's input and the price of the project's outputs. Even though there is no methodological substantive discrepancy in the procedure of log cost calculation in the first part of this report, several implicit assumptions were made which a prospective investor must be perfectly aware of. These are:

- if logging and transportation is to be considered as an integral part of the project, additional capital has to be secured at the construction stage to the tune of 11,400,000 F. to cover the cost of a chainsaw, a tractor, a trailer and a mobile store,

- the capacity of 3000 m^3, assumed as a base for rubberwood cost calculation for this option, is too large to serve one project of 1760 m^3 capacity and not big enough to serve two,

- if the logging operation is to be scaled down to serve this option, i.e. to provide approximately 1800 m^3 of logs p.a., the unit cost of logs will probably be higher than 3600 F. per m^3,

- if, on the other hand, the logging operation is to be performed by an independent contractor, the contractor's margin has to be added to the assumed log cost of 3600 F. per m^3, thus increasing the log input cost,

- the selling price for the project's output i.e.: sawn, treated kiln-dried rubberwood planks, was assumed to be 70,000 F.

using a highly arbitrary procedure. If the logic behind this procedure is not valid and the selling price turns out to be lower, the financial viability of the project will be jeopardized.

To safeguard against a too optimistic appraisal of the financial viability of this option three more versions have been calculated:

6.3.4. OPTION I A - log cost increase:

The cost of log inputs was increased to 5,040 F. per m^3, thus allowing for 40 % contractor's margin. Under this assumption the project's NPV is 12,739,420 F., the IRR is 18.79 % and the IRREl is 20 %. The project is still viable, although additional capital of slightly over 2,000,000 F. is required to cover a negative cashflow in the first operating year and the project is only capable to start paying dividends in year 3.

6.3.5. OPTION I B - sales price decrease:

The price of the project's output was reduced to 65,000 F. per m^3, thus making it comparable with the price of export quality Samba wood. In this case the NPV is only 8,942,290 F., the IRR is 17.70 % and the IRREl is 17.75 %. A liquidity problem of similar order of magnitude as in Option I A occurs in the first year of operation.

6.3.6. OPTION I C - worst-case scenario:

The combination of Options I A and I B i.e. effects of input price increase and output price reduction on the project's viability were considered simultaneously. Under this scenario, the project is definitely not viable, with a negative NPV of -3,177,050 F., an Internal Rate of Return on Investment, below the cut-off rate, at 14.04 % and Internal Rate of Return on Equity equal to 11.87 %.

<u>OPTION II:</u> <u>Medium-scale (3960 m^3 log input) sawmilling only with kiln dryer</u>

1. Project investment costs and required capitalization

A total initial investment of about 142,700,000 F. is required during the construction year to cover the cost of land, buildings, plant machinery and equipment, auxiliary and service facilities, pre-production capital expenditures (including capitalized interest on loan) as well as the initial working capital necessary during the pre-production period. It was assumed that the plant machinery and equipment with a 10-years depreciation schedule will be replaced in the 11-th year of the project's operations at the cost of 96,000,000 F., whereas fixed assets with a 5-years depreciation schedule will be replaced in the 6th and 11th year of the operating period, at a cost of 11,000,000 F.

No other fixed investments are scheduled for the rest of the operating period. More details on these project expenses are given in schedules: Total Initial Investment and Investment During Production in Annex II.

A net working capital of about 18,930,500 F. is needed in the first year of operations, increasing annually to approximately 20,779,500 F. in the second year and then stabilizing as from year 3 at a level of 22,628,400 F. throughout the rest of the operating period. No working capital is required from the foreign sources; schedule: Working Capital Required in Annex II, gives more details on this aspect of the project's financial requirements.

The project is expected to be funded with a total of 61,000,000 F. of ordinary equity to be paid in two annual disbursements: 50,000,000 F. in the construction year and 11,000,000 F. in the first operating year; a loan amounting to a total of 94,000,000 F. is expected to be drawn from local sources.

No foreign loans or equity participation are required to meet the project's total funding requirements. Details of this aspect of the project's funding are given in schedules: Source of Finance in Annex II.

2. Production costs

The gradual increase of sawmilling operations from 70 % of rated capacity during the first year of production activities, to 85 % during the second year, and ultimately to 100 % of target output by the third year of operations until the 15th year of the projected sawmilling activities, resulted in a decrease of unit production costs from 102,860 F. per m^3 of rubberwood sawn timber during the first year of operation to 72,140 F. per m^3 in the 15th year of operations. The corresponding change in the variable cost participation was from 36.27 % during the first year to 51.71 % by the 15th year of operations, with slight fluctuations from year to year. The detailed account of annual production costs is given in the schedule: Total Production Costs in Annex II.

3. Project cashflows

An overview of cashflows during construction indicates that there is adequate coverage of investment expenditures by the project's financial resources with a slight cash surplus of 1,300,000 F. left for contingency purposes.

The brief overview of the operating period's results indicates, however, that the project is financially disastrous, with negative annual cashflows throughout the first 11 years of operations and cumulated net cashflow reaching -180,699,600 F.

A further analysis of this option at the assumed costs and price levels appears counterproductive. Suffice is to say that the Net Present Value of this option at 15 % discount rate amounts to -154,513,700 F.

By analogy to Option I, this option should have also been analyzed under different set of assumptions. Removal of fixed investment replacement expenditures in year 11 does not however, improve in any meaningful way this option's financial viability. An analysis of the option's viability under different values of D/E Ratio is also unwarranted.

The medium-scale sawmilling with the only kiln dryer option will only be viable if a drastic increase in the expected selling price or a drastic cost reduction is to be assumed. A radical increase of the selling price implies, however, the assumption that treated, kiln-dried sawn rubberwood planks will sell at a price approaching that of export quality treated Iroko sawnwood, i.e.: at approximately 100,000 F. per m^3.

If the validity of such an assumption is warranted by the product's quality and the prevailing market conditions in Côte d'Ivoire (which include such aspects as buying habits, established users' preferences etc.) then the option is viable.

Results of the financial appraisal of option II under the arbitrarily improved market conditions with a "ex-factory" selling price of 100,000 F. are presented as Option II A.

<u>OPTION II A.</u> <u>Ex-factory selling price at 100,000 F. per m^3</u>

1. The project investment costs and capitalization is unchanged from that in Option II

2. Production costs are also unchanged from those in Option II

3. Project cashflows

   Beginning from the second year of operations, annual cashflows are increasingly positive.

   The cumulated net cashflow changes sign between year 3 and 4 of operating period (from - 40,138,650 F. to 8,806,220 F.) indicating the project's pay-back period to be less than four years. No liquidity problems are envisaged at any stage of the project's operations. Schedules: Cashflow Tables in Annex V A give period-by-period account of the project's cashflows for both financial planning and discounting purposes.

4. Net income statement

   Increasing net profits were registered from the 2nd year (10,510,080F.) to the 15th year (35,307,720 F.), so that the accumulated undistributed profit stood at 426,045,000 F. by the end of 15 years of operations.

   Corresponding healthy annual growths in Return on Equity (which stood at 57.88 % in the 15th year) and Return on Total Investment were attained, vide: Net Income statement Schedule in Annex V.

5. Projected balance sheets

At the end of the pre-operating period, the project had total assets worth 144,000,000 F. and a corresponding amount of liabilities, of which 94,000,000 F. was the long term loan; equity was 38.6 % of liabilities. Correspondingly, by the 5th year of operations, total assets stood at 206,055,800 F.; total long term loans at 47,000,000 F.; current liabilities at 16,664,030 F.; and equity was 23.1 % of liabilities. The financial picture improved continuously toward the 15th year of operations, at the end of which total assets reached 503,709,000F.; the long term loan fully repaid since 11th year of operations; current liabilities were 16,664,030 F.; and equity was 8.6 % of liabilities. The complete projected balance sheets covering the pre-operating and operating period are given in Schedules: Balance Sheets, Construction and Balance Sheets, Production in Annex V.

6. Financial viability, sensitivity and risk.

6.1. Cashflow analysis.

An analysis of the annual cashflow over the lifetime of the project indicates positive local net cashflow for each year of the operating period except the 11th year of operation. The total net accumulated cashflow grow from -123,253,000 F. in the first to 404,463,800 F. in the last year of operations, changing sign in year 4.

The Debt Service Ratio analysis reveals that the project will not face any problems of debt servicing after year 1 of operations, in which the ratio equals only 0.53. Further on, the ratio grows from 1.62 in year 2 to reach 4.31 in year 10. A sensitivity analysis of Debt Service Ratio shows that, apart from the first and second operational year even a 40 % decrease in net cashflow will not endanger the project's ability to service its debts.

The Debt/Equity Ratio, which at the end of construction stage equals approximately 65.3 : 34.7 decreases steadily between years 1 and 10 of operations. The project is fully free from debt in year 11. Reserves are accumulating starting from year 2 of the operating period, to reach a Reserves/Equity Ratio of almost 7 by the end of the project's lifetime.

At a selling price of 100,000 F., the Net Present Value of this sawmilling option's net cashflow discounted at 15 % amounts to 85,572,230 F., the Internal Rate of Return on Total Investment (IRR) equals 25.56 % and the Internal Rate of Return on Equity (IRRE1) equals 29.68 %.

The variable to changes to which the IRR is most sensitive appears - as in the previous option - to be the sales price, followed by operating costs. Similarly to the first option, it would take less than a 10 % decrease in selling price to push the IRR below the cut-off rate, whereas a 10 % increase of operating costs would only lower the IRR level to 18.48 %. An increase of Initial investment increase by 10 % would almost go unnoticed (IRR = 23.23 %) and a 20 % growth would bring the IRR level to 21.23 %.

6.2. Break-even, sensitivity and risk analysis

An analysis of Fixed Costs Coverage Ratio (including cost of finance) indicates that the project already breaks-even in year 2 with the ratio of variable margin to fixed costs at 1.18. The ratio, reaching 1.42 in year 3, grows steadily to stabilize at a level of 1.80 in year 12.

A 10 % decline in sales price would delay the attainment of the break-even point by one year i.e. until the third year of operations. A corresponding increase in fixed costs would not delay the attainment of the B-E point. By the same token, a 10 % growth in variable costs would result in the Fixed Cost Coverage Ratio to assume value of 1.11 in year 2 and 1.33 in the subsequent year. As in the previous case, variations in the interest rate have a negligible effect on Fixed Cost Coverage Ratio.

The analysis of Break-even charts (including cost of finance) for 5th production year shows that the project breaks-even at 67 % of the capacity utilization level. A 10 % decline in sales price would push the B-E point up to 78 % of capacity utilization whereas a 20 % decline would result in the project barely breaking-even at the 98 % capacity utilization level assuming the 5th operating year cost level. A 10 % growth in fixed costs and variable costs respectively would result in the corresponding increases of B-E point to 73 % and 74 %. Increases of both costs categories of up to 30 % will not jeopardize the project's ability to attain the B-E point below 88 %.

6.3. Conclusions

6.3.1. Tested under the market conditions comparable to Option I i.e. under the assumption of a selling price for the project's output to be 70,000 F., this option is totally not feasible (see: OPTION II p. 12), resulting in a Net Present Value of -154,513,700 F. This is basically due to the unit production costs being approximately 50 % higher in this option compared with Option I.

6.3.2. Provided that the radical improvement of the sales price (from 70,000 F. to 100,000 F. per m^3 of sawn, treated, kiln-dried rubberwood) can be obtained, the medium-scale sawmilling option appears quite attractive from the financial feasibility point of view, with a Net Present Value of 85,572,230 F. an Internal Rate of Return on Total Investment (IRR) of 25.56 % and Internal Rate of Return on Equity (IRRE1) of 29.68 %.

A payback period of less than 4 years secures a rather early recovery of the original investment outlay. A Break-even point of 67 %, in the light of the sensitivity analysis performed, would seem to indicate that the project is fairly secure, provided that major assumptions have been made correctly, no specific threats to the project occur and the assumed selling price at the level of export quality Iroko appears realistic; the latter being of particular importance given a relatively high sensitivity of project's financial results to changes of the selling price.

The major area of uncertainly, therefore remains the price/cost of logs input. Assuming that all other project elements remain unchanged the minimum selling price at which this option remains still valid appears to be in the region of 90,000 F. At this level of selling price the IRR equals 16.82 %. However, the IRREl (15.17 %), barely above the discounting rate, would most probably not be attractive enough to private investors.

6.3.3. An analysis of this option under the assumption of rubberwood logs being supplied by independent contractors at a price 40 % higher than calculated in the technical analysis would only compound the project's difficulties.

Increasing the cost of logs to 13,000 F. per m^3 would result in rendering the 90,000 F. selling price option unfeasible.

Even the most optimistic version, assuming the rather unlikely sales price of 100,000 F. per m^3 would, in this variant, only show an IRR of 17.24 % and an IRREl of 16.28 %.

The project would require additional financing to the tune of almost 11 million F. in the first year of operations, and would only be able to start paying dividends in the 4th year.

<u>OPTION III:</u> <u>Medium-scale (3960 m^3 log input) low cost version; sawmilling only without kiln dryer</u>

Another approach, perhaps a much more realistic than assuming the sales price at a rather unattainable level, would be to seek an improvement in the medium-scale option's financial performance through significant cuts in the investment and/or operating costs. Such a proposal is contained in the technical analysis as "Unit 2-bis" and its major difference, compared with the previous option comprises the substitution of the highly energy-intensive kiln-drying process by the natural air-drying of the sawn and treated planks. The differences between two options are clearly presented in the technical analysis, suffice is to say here that, although natural air-drying incurs additional investment costs (extra shed area required) and working capital required, the net effect is a substantial cost reduction compared with the previous option. The results of financial feasibility analysis of this option are presented below.

1. Project costs and required capitalization

A total initial investment of about 112,912,000 F. is required during the pre-operating period.

It was assumed that plant machinery and equipment, for which a depreciation schedule of 10 years was set, will have the corresponding physical useful life and will have to be replaced in the 11th year of project's operations at a cost of 61,000,000 F.

Fixed assets which were depreciated over a period of 5 years will be replaced twice during the lifetime of the project at a cost of 11,000,000 F. each time in years 6 and 11 respectively. No other fixed investment are scheduled for the rest of the operating period. More details on these project expenses are given in Schedules: Total Initial Investment and Investment During Production in Annex III.

6,000,000 F. of working capital will be required during the pre-production period to cover the inventories necessary for the smooth start-up of the project's activities.

A net working capital of about 22,041,600 F. is needed in the first year of operations (increase of 16,041,600 F.), growing annually to approximately 29,167,700 F. in the third year and then stabilizing throughout the rest of the operating period. No working capital is required from foreign sources.

Schedule: Working Capital Required in Annex III gives more details on this aspect of the project's capital requirements.

The project is expected to be funded with a total of 50,000,000 F. of ordinary equity to be paid in two annual disbursements (38,000,000 F. and 12,000,000 F.), starting from the first year. A loan amounting to a total of 75,500,000 F. is expected to be drawn from local sources. No foreign loans or equity participation are required to meet the project's total funding requirements. Details of this aspect of the project funding are given in schedules Source of Finance in Annex III.

2. Production costs

The gradual increase of sawmilling operations from 70 % of rated capacity during the first year of production activities, to 85 % during the second year, and ultimately to 100 % of target output by the third year of operations until the 15th year of the projected sawmilling activities, resulted in a decrease of unit production costs from 69,880 F. per m^3 of sawn rubberwood timber during the first year of operation to 50,980 F. per m^3 in the 15th year of operation.

The corresponding change in the variable cost participation was from 53.38 % during the first year to 73.17 % by the 15th year of operation, with slight fluctuations from year to year. A detailed account of the annual production cost is given in Schedule: Total Production Costs in Annex III.

3. Project cashflows

An overview of cashflows during construction indicates that there is an adequate coverage of investment expenditures by the project's financial resources. Similarly to the previous option a cumulated cash surplus in the pre-operating period provides minor contingency in case of unforseen pre-operational expenditures and to cover a relatively small cashflow deficit (-341,590 F.) in the first operating year. Beginning from the second year of operations, annual cashflows are increasingly positive, starting from 7,258,240 F. to reach 32,114,030 F. in the last operating year.

The cumulated net cashflow changes sign between years 4 and 5 of the operating period (from -10,400,320 F. to 23,699,210 F.) indicating the project's pay-back period to be less than 4.5 years. No liquidity problems are envisaged at any stage of the project's operations. Investment during production (and particularly heavy replacement expenditures in year 11) are easily covered by the accumulated cashflow of the previous periods. Schedules: Cashflow Tables in Annex III, give a period-by-period account of the project's cashflows for both financial planning and discounting purposes.

4. Net income statement

Increasing net profits were registered from the first year (106,560 F.) to the 15th year (24,103,060 F.), so that the accumulated undistributed profit stood at 286,516,300 F. by the end of 15 years of operation. Corresponding healthy annual growths in Return on Equity (which stood at 48.21 % in the 15th year) and Return on Total Investment were attained, vide: Net Income Statement Schedule in Annex III.

5. Projected balance sheets

At the end of the pre-operating period, the project had total assets worth 113,500,000 F. and a corresponding amount of liabilities, of which 75,500,000 F. was the long term loan; equity was 39 % of liabilities. Correspondingly, by the 5th year of operations, total assets stood at 152,423,000 F.; total long term loans at 37,750,000 F.; current liabilities at 11,573,370 F. and equity was 33 % of liabilities. The financial picture improved continuously toward the 15th year of operations, so that at the end of the period total assets reached 348,089,600 F., the long term loan was fully repaid since the 10th year of operation, current liabilities were 11,573,370 F.; and equity was 14 % of liabilities. The complete projected balance sheets covering the pre-operating and operating period are given in the Schedules: Balance Sheets Construction and Balance Sheets, Production in Annex III.

6. Financial viability, sensitivity and risks

6.1. Cashflow analysis

An analysis of the annual cashflow over the of the project's lifetime indicates positive net cashflows for each year of the operating period, except for year 11 where there is a negative annual cashflow of -40,983,530 F. This is a consequence of replacement investment presented under paragraph 2. The total net accumulated cashflows grows from -100,716,000 F. in the first year to 263,743,000 F. in the last year of operation, changing sign in year 5.

The Debt Service Ratio analysis reveals that the project will not face any problems of debt servicing starting from the second year of operations.

In the first year the ratio equals 0.35, thus indicating that net cashflow available to service loan repayment and interest obligations represented no more then 35 % of these obligations.

Ratios between 1.41 (year 2) and 3.72 (year 10) indicate that net cashflow safely exceeds the amount required to pay interest and repay principal in the subsequent years. A sensitivity analysis of the Debt Service Ratio shows that, apart from the first operational year, even a 40 % decrease in net cashflow will not endanger the project's ability to service its debts.

The Debt/Equity Ratio, which at the end of the construction stage equals approximately 66.5 : 33.5 decrease steadily between year 1 and 10 of operation. The project is fully free from debt in year 11. Reserves are accumulating starting from year 1 of the operating period, to reach a Reserves/Equity Ratio of 5.73 by the end of the project's lifetime.

The Net Present Value of this option's net cashflow discounted at 15 % amounts to 44,715,910 F., the Internal Rate of Return on Total Investment (IRR) equals 21.92 % and the Internal Rate of Return on Equity (IRRE1) equals 25.94 %.

Assuming, consistently, the same cut-off discount rate level of 15 % as in the small-scale sawmilling option it may be concluded that the medium-scale sawmilling option without kiln-dryer (unit 2-bis) is quite attractive from the point of view of commercial appraisal, as judged by the values of IRR and IRRE1.

The variable to changes of which IRR is most sensitive appears - as in the previous option - to be the sales price, followed closely by operating costs. It would take only slightly more than a 7 % decrease in the selling price to push the IRR below the cut-off rate of 15 %, whereas a 10 % increase in operating costs would lower the IRR level to 15.7 %. An increase in the Initial Investment of 10 % would almost go unnoticed (IRR = 19.88) and a 20 % growth would bring the IRR level to 18.11 %.

6.2. Break-even, sensitivity and risk analysis

An analysis of the Fixed Costs Coverage Ratio (including cost of finance) indicates that the project just breaks-even in year 1, with the ratio of variable margin to fixed costs at 1.00. The ratio, reaching 1.26 in year 2, grows steadily to stabilize at the level of 2.39 in year 12. A 10 % decline in sales price would delay the achievement of break-even point until the beginning of year 3 of operations. A analogous increase in fixed costs would delay the attainment of the B-E point until the 2nd year of operations. By the same token, a 10 % growth in variable costs would result in the Fixed Cost Coverage Ratio to assume a value of 0.88 in year 1 and 1.10 in the subsequent year. As in the previous cases, variations in the interest rate have a negligible effect on the Fixed Cost Coverage Ratio. The analysis of the Break-even charts (including cost of finance) for 5th production year shows that the project breaks-even at the 60 % capacity utilization level.

A 10 % decline in sales price would push the B-E point up to 77 % of capacity utilization, while a 20 % decline would make the attainment of the B-E point impossible all the way up to the 100 % capacity utilization level. A 10 % growth in fixed costs and variable costs respectively would result in the corresponding increases of B-E point to 66 % and 69 %.

The degree of risk to the project's financial position due to unexpected declines in prices or increases in costs during the operational period is therefore slightly higher than in Option I.

6.3. Conclusions

6.3.1. With a Net Present Value of 44,715,910 F., an Internal Rate of Return on Total Investment (IRR) of 21.92 % and an Internal Rate of Return on Equity (IRRE1) of 25.94 % the medium-scale sawmilling option without kiln-dryer appears fairly attractive from the financial feasibility point of view. A payback period of less than 5 years secures recovery of the initial investment outlay within a reasonable time. A Break-even point of 60 % in the light of the sensitivity analysis performed would seem to indicate that the project is fairly secure, provided that major assumptions have been made correctly and that no specific threats to the project occur. However, the B-E point sensitivity analysis indicates that the project is particularly sensitive to the variations of the selling price. The probability of occurrence and magnitude of these variations should be very carefully scrutinized in view of the rather arbitrary assumptions made regarding the selling price level.

6.3.2. An increase of the Debt/Equity Ratio from 60 : 40 to approximately 69 : 31 makes the project more attractive to shareholders, with the IRRE1 growing from 25.94 % to 28.84 %. The same reservation about interest rate charged by the bank with the increased risk level of the project (from the bankers' point of view) remains valid. The consequence of assumed interest rate increase from 15 % to 17 % does not offset the leverage effect completely, although the IRRE1 then equals only 26.59 %.

6.3.3. The major area of uncertainly, however, remains the price/cost of logs input and the sales price of sawn, treated rubberwood planks. Similarly to the previous option, the scenario has been analyzed under the assumption that rubberwood logs are supplied by the independent contractors at a price 40 % higher, i.e.: 13,000 F. per m^3 . The option becomes immediately unfeasible under this assumption, with an IRR of 11.04 % and an IRRE1 of 7.59 %.

6.3.4. The "worst case" scenario does not apply to this option under the given set of values. Decreasing the selling price to 65,000 F. would only aggravate the financial results of the project, which - at the assumed selling price of 70,000 F. and input cost of 13,000 F. per m^3 of logs - is already below the level of acceptability.

OPTION IV: Medium-scale (3960 m^3 log input) integrated logging and sawmilling operation without kiln dryer

In order to examine the financial viability of the integrated logging/sawmilling operation a option comprising both phases has been constructed and analyzed.

The points of departure were provided by data contained in the technical report referring to 6,000 m^3 logs output p.a. logging operation (Phase I) and 3960 m^3 log input sawmilling operation (Phase II) analyzed under Option III. The logic underlying the construction of Option IV was as follows:

Costs of 2 chainsaws, 1 tractor, 1 crane, 2 lorries and 1 mobile store were treated as part of the initial fixed investment costs of the integrated project and added to the initial fixed investment costs of Option III.

Depreciation schedules giv n in the technical analysis were followed and appropriate replacement investment during production were specified accordingly.

The incompatibility of capacities of the two phases should be borne in mind though. Considering the indivisibility of equipment required there was no plausible way to scale down the fixed investment costs in order to bring the output capacity of Phase I to a level comparable with the required input capacity of Phase II.

Since, for the sake of OPTION IV, the output capacity of Phase I was implicitly assumed to match the required input capacity of Phase II (approximately 4000 m^3 of logs) this part of fixed cost per unit of logs will unavoidably be overestimated.

Production costs, pertaining to Phase I of the integrated project, were scaled down in proportion to the differences in assumed capacities and added to production costs of Option III, following the same rules of apportioning which were applied to previous option. Increased requirements of working capital during production are automatically calculated by COMFAR after the appropriate specification of minimum days of coverage.

The cost of basic raw material was entered into the programme at 300 F. per m^3 , i.e. the assumption of "no stumpage price" was lifted. Other general methodological assumptions applying to previous versions remain unchanged.

The results of the financial viability analysis of the integrated logging/sawmilling operation under the above assumptions appear below.

1. Project investment costs and required capitalization

A total initial investment of about 169,950,000 F. is required during the pre-operating period. It was assumed that plant machinery and equipment as well as light structures for which depreciation schedule was set at 10 years will be replaced in the 11th year of project's operation at a cost of 61,000,000 F.

Machinery and equipment depreciated over the period of 5 years will be replaced in years 6 and 11 at a cost of 64,800,000 F. and 64,000,000 F. respectively.

No other fixed investments are scheduled for the rest of the operating period. More details on these project expenses are given in Schedules: Total Initial Investment and Investment During Production in Annex IV.

A net working capital of about 22,664,000 F. (i.e. increase of 16,464,000 F.) is needed in the first year of operations, increasing annually to approximately 25,274,000 F. in the second and 27,884,000 F. in the third year and then stabilizing at this level throughout the rest of the operating period. No working capital is required from foreign sources. Schedule: Working Capital Required in Annex IV gives more details on this aspect of the project's requirements.

The project is expected to be funded by a total 76,500,000 F. of ordinary equity to be paid in two annual disbursements (55,000,000 F. and 21,500,000 F.) starting from the first pre-operating period. A loan amounting to a total of 116,000,000 F. is expected to be drawn from local sources and disbursed completely in the construction year. No foreign loans or equity participation are required to meet the project's total funding requirements. Details of this aspect of the project funding are given in Schedules: Source of Finance in Annex IV.

2. Production costs

The gradual increase of sawmilling operations from 70 % of rated capacity during the first year of production activities, to 85 % during the second year, and ultimately to 100 % of target output by the third year of operation until the 15th year of the projected sawmilling activities, resulted in a decrease of unit production costs from 83,290 F. per m^3 of rubberwood sawn timber during the first year of production operations to 52,530 F. per m^3 in the 15th year operations. The corresponding change in the variable cost participation was from 30.3 % during the first year to 48 % by the 15th year of operation, with slight fluctuations from year to year. The detailed account of annual production costs is given in the schedule: Total Production Costs in Annex IV.

3. Project cashflows

An overview of cashflows during construction indicates that there is adequate coverage of investment expenditures by the project's financial resources. Similarly to the previous option, a cumulated cash surplus in the pre-operating period provides a minor contingency in case of unforseen pre-operational expenditures. Beginning from the first year of operations, annual cashflows are increasingly positive, starting from 346,790 F. to reach 40,054,990 F. in the last operating year.

The cumulated net cashflow changes sign between years 4 and 5 of the operating period (from -38,446,140 F. to 4,444,850 F.) indicating the project's pay-back period to be less than 5 years. No liquidity problems are envisaged at any stage of the project's operations, except for the 6th year of operation, when heavy replacement investment outlays cannot be covered by the small cumulated net cashflow which only started accumulating in the previous year. Heavier still replacement investment outlays of year 11 of operation are, however, easily covered by the accumulated cashflows from previous periods. Schedules: Cashflow Tables in Annex IV, give a period-by-period account of the project's cashflows for both: financial planning and discounting purposes.

4. Net income statement

After the first two years of net losses of -14,740,070 F. and -2,360,020F. respectively, increasing net profits were registered from the 3rd year (8,016,040 F.) to the 15th year (22,144,030 F.), so that the accumulated undistributed profit stood at 225,292,400 F. by the end of 15 years of operations. Annual values of Return on Equity and Return on Total Investment varied between -19,27 % and 34,69 % and 1.50 % and 13,28 % respectively. Vide the Net Income Statement Schedule in Annex IV.

5. Projected balance sheets

At the end of the pre-operating period, the project had total assets worth 171,000,000 F. and a corresponding amount of liabilities, of which 116,000,000 F. was the long term loan; equity was 32,2 % of liabilities. Correspondingly, by the 5th year of operations, total assets stood at 155,955,500 F.; total long term loans at 58,000,000 F.; current liabilities at 10,331,500 F. and equity was 49 % of liabilities. Since this year, the financial picture continuously improved toward the 15th year of operations, so that at the end of the period total assets reached 312,123,900 F., the long term loan was fully repaid since the 10th year of operation, current liabilities were 10,331,500 F.; and equity was 24.5 % of liabilities. The complete projected balance sheets covering the pre-operating and operating period are given in the Schedules: Balance Sheets Construction and Balance Sheets, Production in Annex IV.

6. Financial viability, sensitivity and risks

6.1. Cashflow analysis

An analysis of the annual cashflow over the project's lifetime indicates positive net cashflows for each year of the operating period, except for years 6 and 11 when a negative annual cashflows of -25,309,000 F. and -86,043,000 F. respectively appear as a consequence of replacement investment presented under para 2. The total net accumulated cashflows grow from -161,250,000 F. in the first to 213,812,800 F. in the last year of operations, changing sign in year 5 and again in year 7.

An analysis of the Debt Service Ratio reveals that the project will not face any problems of debt servicing except for year 1 and 6 of operation.

In the first year the ratio equals 0.27 %, thus indicating that net cashflow available to service loan repayment and interest obligations represented no more then 27 % of these obligations. In the 6th year there is a net increase in obligations, represented by the negative value of the Debt Service Ratio of -1,25.

Ratios between 1.61 (year 3) and 2.97 (year 10) indicate that in other years net cashflow safely exceeds the amount required to pay interest and repay principal in the subsequent years. A sensitivity analysis of the Debt Service Ratio reveals that, apart from the already indicated problems in years 1 and 6, the project may face debt-servicing problems in year 2 if net cashflow declines by more than 14 %. In the unlikely event that net cashflow will drop by 40 %, debt servicing problems will also occur in year 3.

The Debt/Equity Ratio, which at the end of the construction stage equals approximately 67.8 : 32.2 decrease steadily between year 1 and 10 of operation. The project is fully free from debt in year 5. Reserves are accumulating starting from year 1 of the operating period, to reach a Reserves/Equity Ratio of 2.945 by the end of the project's lifetime.

The Net Present Value of this option's net cashflow, discounted at 15 %, amounts to -651,720 F., the Internal Rate of Return on Total Investment (IRR) equals 14.93 % and the Internal Rate of Return on Equity (IRRE1) equals 11.42 %.

Assuming, consistently, the same cut-off discount rate level of 15 % as in the small-scale sawmilling option it may be concluded that the medium-scale integrated logging/sawmilling option without kiln-dryer (unit 2-bis) is not attractive from the point of view of commercial appraisal, as judged by IRR and IRRE1.

6.2. Break-even, sensitivity and risk analysis

An analysis of the Fixed Costs Coverage Ratio (including cost of finance) indicates that the project only breaks-even at the beginning of year 3. The ratio of variable margin to fixed costs, reaching 1.16 in year 3, grows steadily to stabilize at the level of 1.64 in year 12. A 10 % decline in sales price would delay the achievement of the break-even point until year 4 of operation. A analogous increase in fixed costs would not delay the attainment of the B-E point. By the same token, a 10 % growth in variable costs would result in the Fixed Cost Coverage Ratio to assume a value of 1.09 in year 3. As in the previous cases, variations in the interest rate have negligible effect on Fixed Cost Coverage Ratio. The Break-even charts analysis (including cost of finance) for 5th production year shows that the project breaks-even at 80 % capacity utilization level.

A 10 % decline in sales price would push the B-E point up to 95 % of capacity utilization, while a 20 % decline would make the attainment of B-E point impossible all the way up to 100 % capacity utilization level. A 10 % growth in fixed costs and variable costs respectively would result in the corresponding increases of the B-E point to 88 % and 85 %.

The degree of risk to the project's already precarious financial position due to unexpected declines in prices or increases of costs during the operational period is therefore quite significant.

6.3. Conclusions

6.3.1. With a Net Present Value of -651,720 F., an Internal Rate of Return on Total Investment (IRR) of 14.93 % and an Internal Rate of Return on Equity (IRRE1) of 11.42 % the medium-scale integrated/logging sawmilling option without kiln-dryer appears unattractive from the financial feasibility point of view. With an IRRE1 of 11.42 %, the perspective is particularly discouraging from the point of view of potential equity holders. As stated in 6.1 and 6.2 the project will have some debt-servicing problems, reserves are only beginning to accumulate starting from year 5 and the degree of risks involved is high.

However, the B-E point sensitivity analysis indicates that the project is particularly sensitive to selling price variations. The probability of occurrerce and magnitude of these variations should be very carefully scrutinized in view of the rather arbitrary assumptions regarding the selling price level

6.3.2. An increase of the Debt/Equity Ratio from 60 : 40 to approximately 70 : 30 improves fractionally the performance of this option, bringing the project marginally above the cut-off level with a NPV of 747,520 F. and an IRR of 15.09 %. However, the IRRE1 would only increase to 12.06 % which is still far from attractive from the equity point of view. Needless to say that all the warning about the project's sensitivity are still applicable.

6.3.3. The major area of uncertainly, however, remains the sales price of sawn and treated rubberwood planks. If the slightly higher price at a level of 75,000,000 F. can be obtained for the project's output, this option is feasible with an IRR of 18,95 % and an IRRE1 of 17,92 %. However, the project remains highly sensitive to price changes, a 6 % drop in the selling price pushing the IRR below the cut-off rate level.

The reduction of investment and production costs by removing the fixed cost of the kiln-dryer and reducing the corresponding cost of electricity consumption while adding additional cost of land and sheds as well as increased working capital requirements necessary to cover inventories of wooden planks being dried naturally (for 3 months), resulted in the following summary indicators of this option's viability:

NPV at 15 % equals -651,720 F.
IRR = 14.93 %
IRRE1 = 11.42 %

This option is therefore not viable at the assumed selling price of 70,000 F.

6.3.4. An increase of the sales price to 100,000 F. would certainly reverse the situation making the project highly attractive from the commercial viability point of view, bringing the NPV to the level of 210,333,300 F., the IRR to 36.91 % and the IRREl to 49.26 % which makes it the most attractive of all options studied in this report.

However, all the reservations made regarding the validity of "ex-factory" selling price of 100,000 F. remain in power.

SUMMARY RESULTS

Under the set of realistic assumptions outlined in chapter II of this analysis two of the four basic options appear feasible from the financial standpoint i.e.:

OPTION I small-scale (1760 m^3 log input) sawmilling only
OPTION III medium-scale (3960 m^3 log input) low cost version: sawmilling only without kiln dryer

Out of the remaining two options: option II is totally unfeasible under the given price/costs assumptions and becomes only viable when the sales price approaches 100,000 F. per m^3. Option IV, which is the combination of Phase I (logging/initial treatment/transportation) and Phase II, low-cost version without kiln-dryer (option III) appears to be a borderline case.

Summary indicators of all four options under the assumed sales price of rubberwood planks at 70,000 F. are as follows:

OPTION	I	II	III	IV
NPV (F.)	24,783,000	-154,513,700	44,715,900	-651,720
IRR	22.35 %	---	21.92 %	14.93 %
IRREl	25.72 %	---	25.94 %	11.42 %
Payback (yrs)	>4	---	<5	5
BEP	62 %	---	60 %	80 %

The risk involved in Options I and III seem acceptable, however both versions appear highly sensitive to sales price declines, which may be of particular importance in case of Option III, where natural drying may negatively affect the price of the final product because the air dried sawn timber cannot attain the lower moisture contents obtained in kiln drying (because of the ambient climate in Côte d'Ivoire) thus necessitating further kiln drying by the furniture manufacturer producing for export.

The remaining two options:

OPTION II medium-scale (3960 m^3 log input) sawmilling only with kiln drying
OPTION IV medium-scale (3960 m^3 log input) integrated logging and sawmilling operation without kiln-dryer,

would only appear feasible under the assumption of increases in the sales price.

For Option II the minimum sales price under which the project is still feasible appears in the region of 90,000 F. per m^3 . Even then, the risks involved are very high, the project does not represent an attractive investment proposition unless the price exceeds considerably 90,000 F.

For Option IV the minimum sales price under which the project would be financially viable appears to be 75,000,000 F.

At this price, the IRR equals 18.96 % and the IRREl is 17.92 %, however, the project is highly risky and sensitive to price changes.

The variable crucial to the financial appraisal of each option is clearly the sales price of project's output.

At this point a warning should be repeated to potential investors not to make any financial commitments prior to a careful assessment of the price level most likely to prevail in their respective markets.

ANNEX I
COMFAR Schedules
OPTION I

RUBBERWOOD PROCESSING, IVORY COAST
13.08.1993.
OPTION I, 1760 cu.m. PHASE II no logging

1 year(s) of construction, 15 years of production
currency conversion rates:
foreign currency 1 unit = 1.0000 units accounting currency
local currency 1 unit = 1.0000 units accounting currency
accounting currency: '000 F.CFA.

Total initial investment during construction phase

fixed assets:	58762.50	0.000 % foreign
current assets:	2000.00	0.000 % foreign
total assets:	60762.50	0.000 % foreign

Source of funds during construction phase

equity & grants:	21500.00	0.000 % foreign
foreign loans :	0.00	
local loans :	39500.00	
total funds :	61000.00	0.000 % foreign

Cashflow from operations

Year:	1	2	3
operating costs:	22091.55	25097.78	28104.00
depreciation :	6812.50	6812.50	6812.50
interest :	5925.00	5332.50	4740.00
production costs	34829.05	37242.77	39656.50
thereof foreign	0.00 %	0.00 %	0.00 %
total sales :	34496.00	41888.00	49280.00
gross income :	-333.05	4645.23	9623.50
net income :	-333.05	3716.18	7698.80
cash balance :	107.78	5257.23	9239.85
net cashflow :	4982.78	14539.73	17929.85

Net Present Value at: 15.00 % = 24783.00
Internal Rate of Return: 22.35 %
Return on equity1: 25.72 %
Return on equity2: 25.76 %

Index of Schedules produced by COMFAR

Total initial investment
Total investment during production
Total production costs
Working Capital requirements
Cashflow Tables
Projected Balance
Net income statement
Source of finance

COMFAR 2.1 UNIDO

Total Initial Investment in '000 F.CFA.

Year	1994
Fixed investment costs	
Land, site preparation, development	900.000
Buildings and civil works	10000.000
Auxiliary and service facilities .	0.000
Incorporated fixed assets	0.000
Plant machinery and equipment . . .	39900.000
Total fixed investment costs	50800.000
Pre-production capital expenditures.	7962.500
Net working capital	2000.000
Total initial investment costs . . .	60762.500
Of it foreign, in %	0.000

COMFAR © 2.1 UNIDO

Total Current Investment in '000 F.CFA.

Year	1995	1996-97	1998-99	2000	2001- 4
Fixed investment costs					
Land, site preparation, development	0.000	0.000	0.000	0.000	0.000
Buildings and civil works	0.000	0.000	0.000	0.000	0.000
Auxiliary and service facilities	0.000	0.000	0.000	0.000	0.000
Incorporated fixed assets	0.000	0.000	0.000	0.000	0.000
Plant, machinery and equipment	0.000	0.000	0.000	14400.000	0.000
Total fixed investment costs	0.000	0.000	0.000	14400.000	0.000
Preproduction capitals expenditures.	0.000	0.000	0.000	0.000	0.000
Working capital	7421.671	1321.453	0.000	0.000	0.000
Total current investment costs	7421.671	1321.453	0.000	14400.000	0.000
Of it foreign, %	0.000	0.000	0.000	0.000	0.000

Total Current Investment in '000 F.CFA.

Year	2005
Fixed investment costs	
Land, site preparation, development	0.000
Buildings and civil works	0.000
Auxiliary and service facilities	0.000
Incorporated fixed assets	0.000
Plant, machinery and equipment	39900.000
Total fixed investment costs	39900.000
Preproduction capitals expenditures.	0.000
Working capital	0.000
Total current investment costs	39900.000
Of it foreign, %	0.000

COMFAR 2.1 UNIDO

Total Production Costs in '000 F.CFA.

Year	1995	1996	1997	1998	1999
% of nom. capacity (single product).	70.000	85.000	100.000	100.000	100.000
Raw material 1	4435.200	5385.600	6336.000	6336.000	6336.000
Other raw materials	6209.000	7539.500	8870.000	8870.000	8870.000
Utilities	161.000	195.500	230.000	230.000	230.000
Energy	3575.000	3575.000	3575.000	3575.000	3575.000
Labour, direct	2525.600	3066.800	3608.000	3608.000	3608.000
Repair, maintenance	847.875	922.688	997.500	997.500	997.500
Spares	847.875	922.688	997.500	997.500	997.500
Factory overheads	740.000	740.000	740.000	740.000	740.000
Factory costs	19341.550	22347.780	25354.000	25354.000	25354.000
Administrative overheads	2750.000	2750.000	2750.000	2750.000	2750.000
Indir. costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Direct costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Depreciation	6812.500	6812.500	6812.500	6812.500	6812.500
Financial costs	5925.000	5332.500	4740.000	4147.500	3555.000
Total production costs	34829.050	37242.770	39656.500	39064.000	38471.500
Costs per unit (single product)	70.676	62.227	56.330	55.489	54.647
Of it foreign, %	0.000	0.000	0.000	0.000	0.000
Of it variable,%	40.280	45.741	50.538	51.304	52.094
Total labour	5275.600	5816.800	6358.000	6358.000	6358.000

COMFAR 2.1 UNIDO

Total Production Costs in '000 F.CFA.

Year	2000	2001	2002	2003	2004
% of nom. capacity (single product).	100.000	100.000	100.000	100.000	100.000
Raw material 1	6336.000	6336.000	6336.000	6336.000	6336.000
Other raw materials	8870.000	8870.000	8870.000	8870.000	8870.000
Utilities	230.000	230.000	230.000	230.000	230.000
Energy	3575.000	3575.000	3575.000	3575.000	3575.000
Labour, direct	3608.000	3608.000	3608.000	3608.000	3608.000
Repair, maintenance	997.500	997.500	997.500	997.500	997.500
Spares	997.500	997.500	997.500	997.500	997.500
Factory overheads	740.000	740.000	740.000	740.000	740.000
Factory costs	25354.000	25354.000	25354.000	25354.000	25354.000
Administrative overheads	2750.000	2750.000	2750.000	2750.000	2750.000
Indir. costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Direct costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Depreciation	2628.000	5220.000	5220.000	5220.000	5220.000
Financial costs	2962.500	2370.000	1777.500	1185.000	592.500
Total production costs	33694.500	35694.000	35101.500	34509.000	33916.500
Costs per unit (single product)	47.862	50.702	49.860	49.018	48.177
Of it foreign, %	0.000	0.000	0.000	0.000	0.000
Of it variable,%	59.480	56.148	57.096	58.076	59.091
Total labour	6358.000	6358.000	6358.000	6358.000	6358.000

Total Production Costs in '000 F.CFA.

Year	2005	2006- 9
% of nom. capacity (single product).	100.000	100.000
Raw material 1	6336.000	6336.000
Other raw materials	8870.000	8870.000
Utilities	230.000	230.000
Energy	3575.000	3575.000
Labour, direct	3608.000	3608.000
Repair, maintenance	997.500	997.500
Spares	997.500	997.500
Factory overheads	740.000	740.000
Factory costs	25354.000	25354.000
Administrative overheads	2750.000	2750.000
Indir. costs, sales and distribution	0.000	0.000
Direct costs, sales and distribution	0.000	0.000
Depreciation	2925.000	5220.000
Financial costs	0.000	0.000
Total production costs	31029.000	33324.000
Costs per unit (single product)	44.075	47.335
Of it foreign, %	0.000	0.000
Of it variable,%	64.590	60.141
Total labour	6358.000	6358.000

Net Working Capital in '000 F.CFA.

Year	mdc	coto	1995	1996	1997	1998-2009
Coverage	mdc	coto				
Current assets &						
Accounts receivable	60	6.0	3681.925	4182.962	4684.000	4684.000
Inventory and materials	38	9.5	1134.490	1377.595	1620.700	1620.700
Energy	30	12.0	297.917	297.917	297.917	297.917
Spares	90	4.0	211.969	230.672	249.375	249.375
Work in progress	90	4.0	4835.387	5586.944	6338.500	6338.500
Finished products	30	12.0	1840.962	2091.481	2342.000	2342.000
Cash in hand	30	12.0	642.612	700.181	757.750	757.750
Total current assets			12645.260	14467.750	16290.240	16290.240
Current liabilities and						
Accounts payable	60	6.0	3223.592	3724.629	4225.667	4225.667
Net working capital			9421.671	10743.120	12064.580	12064.580
Increase in working capital			7421.671	1321.453	1321.452	0.000
Net working capital, local			9421.671	10743.120	12064.580	12064.580
Net working capital, foreign			0.000	0.000	0.000	0.000

Note: mdc = minimum days of coverage ; coto = coefficient of turnover .

Source of Finance, construction in '000 F.CFA.

Year	1994
Equity, ordinary ..	21500.000
Equity, preference.	0.000
Subsidies, grants .	0.000
Loan A, foreign .	0.000
Loan B, foreign..	0.000
Loan C, foreign .	0.000
Loan A, local....	39500.000
Loan B, local....	0.000
Loan C, local....	0.000
Total loan	39500.000
Current liabilities	0.000
Bank overdraft	0.000
Total funds	61000.000

Source of Finance, production in '000 F.CFA.

Year	1995	1996-97	1998-2004
Equity, ordinary ..	5000.000	0.000	0.000
Equity, preference.	0.000	0.000	0.000
Subsidies, grants .	0.000	0.000	0.000
Loan A, foreign .	0.000	0.000	0.000
Loan B, foreign..	0.000	0.000	0.000
Loan C, foreign .	0.000	0.000	0.000
Loan A, local....	-3950.000	-3950.000	-3950.000
Loan B, local....	0.000	0.000	0.000
Loan C, local....	0.000	0.000	0.000
Total loan	-3950.000	-3950.000	-3950.000
Current liabilities	3223.592	501.038	0.000
Bank overdraft	0.000	0.000	0.000
Total funds	4273.592	-3448.962	-3950.000

COMFAR 2.1 UNIDO

Cashflow Tables, construction in '000 F.CFA.

Year	1996
Total cash inflow . .	61000.000
Financial resources .	61000.000
Sales, net of tax . .	0.000
Total cash outflow . .	60762.500
Total assets	57800.000
Operating costs . . .	0.000
Cost of finance . . .	2962.500
Repayment	0.000
Corporate tax . . .	0.000
Dividends paid . . .	0.000
Surplus (deficit) .	237.500
Cumulated cash balance	237.500
Inflow, local	61000.000
Outflow, local	60762.500
Surplus (deficit) .	237.500
Inflow, foreign . . .	0.000
Outflow, foreign . . .	0.000
Surplus (deficit) .	0.000
Net cashflow	-57800.000
Cumulated net cashflow	-57800.000

Cashflow tables, production in '000 F.CFA.

Year	1995	1996	1997	1998	1999	2000
Total cash inflow . .	42719.590	42389.040	49781.040	49280.000	49280.000	49280.000
Financial resources .	8223.592	501.038	501.037	0.000	0.000	0.000
Sales, net of tax . .	34496.000	41888.000	49280.000	49280.000	49280.000	49280.000
Total cash outflow . .	42611.810	37131.810	40541.190	38244.700	37770.700	52533.600
Total assets	10645.260	1822.490	1822.489	0.000	0.000	14400.000
Operating costs . . .	22091.550	25097.770	28104.000	28104.000	28104.000	28104.000
Cost of finance . . .	5925.000	5332.500	4740.000	4147.500	3555.000	2962.500
Repayment	3950.000	3950.000	3950.000	3950.000	3950.000	3950.000
Corporate tax . . .	0.000	929.045	1924.700	2043.200	2161.700	3117.100
Dividends paid . . .	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit) .	107.785	5257.227	9239.852	11035.300	11509.300	-3253.602
Cumulated cash balance	345.285	5602.512	14842.360	25877.660	37386.960	34133.360
Inflow, local	42719.590	42389.040	49781.040	49280.000	49280.000	49280.000
Outflow, local	42611.810	37131.810	40541.190	38244.700	37770.700	52533.600
Surplus (deficit) .	107.785	5257.227	9239.852	11035.300	11509.300	-3253.602
Inflow, foreign . . .	0.000	0.000	0.000	0.000	0.000	0.000
Outflow, foreign . . .	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit) .	0.000	0.000	0.000	0.000	0.000	0.000
Net cashflow	4982.783	14539.730	17929.850	19132.800	19014.300	3658.900
Cumulated net cashflow	-52817.220	-38277.490	-20347.640	-1214.838	17799.460	21458.360

COMFAR 2.1 UNIDO

Cashflow tables, production in '000 F.CFA.

Year	2001	2002	2003	2004	2005	2006
Total cash inflow . .	49280.000	49280.000	49280.000	49280.000	49280.000	49280.000
Financial resources .	0.000	0.000	0.000	0.000	0.000	0.000
Sales, net of tax . .	49280.000	49280.000	49280.000	49280.000	49280.000	49280.000
Total cash outflow . .	37141.200	36667.200	36193.200	35719.200	71654.200	31295.200
Total assets	0.000	0.000	0.000	0.000	39900.000	0.000
Operating costs . . .	28104.000	28104.000	28104.000	28104.000	28104.000	28104.000
Cost of finance . . .	2370.000	1777.500	1185.000	592.500	0.000	0.000
Repayment	3950.000	3950.000	3950.000	3950.000	0.000	0.000
Corporate tax . . .	2717.200	2835.700	2954.200	3072.700	3650.200	3191.200
Dividends paid . . .	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit) .	12138.800	12612.800	13086.800	13560.800	-22374.200	17984.800
Cumulated cash balance	46272.160	58884.960	71971.770	85532.560	63158.360	81143.160
Inflow, local	49280.000	49280.000	49280.000	49280.000	49280.000	49280.000
Outflow, local	37141.200	36667.200	36193.200	35719.200	71654.200	31295.200
Surplus (deficit) .	12138.800	12612.800	13086.800	13560.800	-22374.200	17984.800
Inflow, foreign . . .	0.000	0.000	0.000	0.000	0.000	0.000
Outflow, foreign . . .	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit) .	0.000	0.000	0.000	0.000	0.000	0.000
Net cashflow	18458.800	18340.300	18221.800	18103.300	-22374.200	17984.800
Cumulated net cashflow	39917.160	58257.460	76479.270	94582.560	72208.360	90193.160

Cashflow tables, production in '000 F.CFA.

Year	2007	2008	2009
Total cash inflow . .	49280.000	49280.000	49280.000
Financial resources .	0.000	0.000	0.000
Sales, net of tax . .	49280.000	49280.000	49280.000
Total cash outflow . .	31295.200	31295.200	31295.200
Total assets	0.000	0.000	0.000
Operating costs . . .	28104.000	28104.000	28104.000
Cost of finance . . .	0.000	0.000	0.000
Repayment	0.000	0.000	0.000
Corporate tax . . .	3191.200	3191.200	3191.200
Dividends paid . . .	0.000	0.000	0.000
Surplus (deficit) .	17984.800	17984.800	17984.800
Cumulated cash balance	99127.950	117112.800	135097.500
Inflow, local	49280.000	49280.000	49280.000
Outflow, local	31295.200	31295.200	31295.200
Surplus (deficit) .	17984.800	17984.800	17984.800
Inflow, foreign . . .	0.000	0.000	0.000
Outflow, foreign . . .	0.000	0.000	0.000
Surplus (deficit) .	0.000	0.000	0.000
Net cashflow	17984.800	17984.800	17984.800
Cumulated net cashflow	108178.000	126162.800	144147.500

Cashflow Discounting:

a) Equity paid versus Net income flow:
Net present value .... 21259.58 at 15.00 %
Internal Rate of Return (IRRE1) .. 25.72 %

b) Net Worth versus Net cash return:
Net present value .... 21582.99 at 15.00 %
Internal Rate of Return (IRRE2) .. 25.76 %

c) Internal Rate of Return on total investment:
Net present value .... 24783.00 at 15.00 %
Internal Rate of Return (IRR) .. 22.35 %

Net Worth = Equity paid plus reserves

COMFAR 2.1 UNIDO

COMFAR 2.1 - DP/VIE/91/003-OIL REFINERY

Net Income Statement in '000 F.CFA.

Year	1995	1996	1997	1998	1999
Total sales, incl. sales tax	34496.000	41888.000	49280.000	49280.000	49230.000
Less: variable costs, incl. sales tax.	14029.050	17035.270	20041.500	20041.500	20041.500
Variable margin	20466.950	24852.730	29238.500	29238.500	29238.500
As % of total sales	59.331	59.331	59.331	59.331	59.331
Non-variable costs, incl. depreciation	14875.000	14875.000	14875.000	14875.000	14875.000
Operational margin	5591.953	9977.727	14363.500	14363.500	14363.500
As % of total sales	16.210	23.820	29.147	29.147	29.147
Cost of finance	5925.000	5332.500	4740.000	4147.500	3555.000
Gross profit	-333.047	4645.227	9623.500	10216.000	10808.500
Allowances	0.000	0.000	0.000	0.000	0.000
Taxable profit	-333.047	4645.227	9623.500	10216.000	10808.500
Tax	0.000	929.045	1924.700	2043.200	2161.700
Net profit	-333.047	3716.181	7698.800	8172.800	8646.800
Dividends paid	0.000	0.000	0.000	0.000	0.000
Undistributed profit	-333.047	3716.181	7698.800	8172.800	8646.800
Accumulated undistributed profit	-333.047	3383.134	11081.930	19254.730	27901.540
Gross profit, % of total sales	-0.965	11.090	19.528	20.731	21.933
Net profit, % of total sales	-0.965	8.872	15.623	16.584	17.546
ROE, Net profit, % of equity	-1.257	14.023	29.052	30.841	32.629
ROI, Net profit+interest, % of invest.	8.574	13.598	18.329	18.154	17.980

COMFAR 2.1 UNIDO

Net Income Statement in '000 F.CFA.

Year	2000	2001	2002	2003	2004
Total sales, incl. sales tax	49280.000	49280.000	49280.000	49280.000	49280.000
Less: variable costs, incl. sales tax.	20041.500	20041.500	20041.500	20041.500	20041.500
Variable margin	29238.500	29238.500	29238.500	29238.500	29238.500
As % of total sales	59.331	59.331	59.331	59.331	59.331
Non-variable costs, incl. depreciation	10690.500	13282.500	13282.500	13282.500	13282.500
Operational margin	18548.000	15956.000	15956.000	15956.000	15956.000
As % of total sales	37.638	32.378	32.378	32.378	32.378
Cost of finance	2962.500	2370.000	1777.500	1185.000	592.500
Gross profit	15585.500	13586.000	14178.500	14771.000	15363.500
Allowances	0.000	0.000	0.000	0.000	0.000
Taxable profit	15585.500	13586.000	14178.500	14771.000	15363.500
Tax	3117.100	2717.200	2835.700	2954.200	3072.700
Net profit	12468.400	10868.800	11342.800	11816.800	12290.800
Dividends paid	0.000	0.000	0.000	0.000	0.000
Undistributed profit	12468.400	10868.800	11342.800	11816.800	1229C.800
Accumulated undistributed profit	40369.940	51238.740	62581.540	74398.340	86689.130
Gross profit, % of total sales	31.626	27.569	28.771	29.974	31.176
Net profit, % of total sales	25.301	22.055	23.017	23.979	24.941
ROE, Net profit, % of equity	47.051	41.014	42.803	44.592	46.380
ROI, Net profit+interest, % of invest.	18.758	16.093	15.949	15.805	15.661

COMFAR © 2.1 UNIDO

Net Income Statement in '000 F.CFA.

Year	2005	2006	2007	2008	2009
Total sales, incl. sales tax	49280.000	49280.000	49280.000	49280.000	49280.000
Less: variable costs, incl. sales tax.	20041.500	20041.500	20041.500	20041.500	20041.500
Variable margin	29238.500	29238.500	29238.500	29238.500	29238.500
As % of total sales	59.331	59.331	59.331	59.331	59.331
Non-variable costs, incl. depreciation	10987.500	13282.500	13282.500	13282.500	13282.500
Operational margin	18251.000	15956.000	15956.000	15956.000	15956.000
As % of total sales	37.035	32.378	32.378	32.378	32.378
Cost of finance	0.000	0.000	0.000	0.000	0.000
Gross profit	18251.000	15956.000	15956.000	15956.000	15956.000
Allowances	0.000	0.000	0.000	0.000	0.000
Taxable profit	18251.000	15956.000	15956.000	15956.000	15956.000
Tax	3650.200	3191.200	3191.200	3191.200	3191.200
Net profit	14600.800	12764.800	12764.800	12764.800	12764.800
Dividends paid	0.000	0.000	0.000	0.000	0.000
Undistributed profit	14600.800	12764.800	12764.800	12764.800	12764.800
Accumulated undistributed profit	101289.900	114054.700	126819.500	139584.300	152349.100
Gross profit, % of total sales	37.035	32.378	32.378	32.378	32.378
Net profit, % of total sales	29.628	25.903	25.903	25.903	25.903
ROE, Net profit, % of equity	55.097	48.169	48.169	48.169	48.169
ROI, Net profit+interest, % of invest.	11.952	10.449	10.449	10.449	10.449

COMFAR 2.1 UNIDO

Projected Balance Sheets, construction in '000 F.CFA.

Year	1994
Total assets	61000.000
Fixed assets, net of depreciation	0.000
Construction in progress	58762.500
Current assets	2000.000
Cash, bank	0.000
Cash surplus, finance available .	237.500
Loss carried forward	0.000
Loss	0.000
Total liabilities	61000.000
Equity capital	21500.000
Reserves, retained profit	0.000
Profit	0.000
Long and medium term debt	39500.000
Current liabilities	0.000
Bank overdraft, finance required.	0.000
Total debt	39500.000
Equity, % of liabilities	35.246

COMFAR 2.1 UNIDO

Projected Balance Sheets, Production in '000 F.CFA.

Year	1995	1996	1997	1998	1999
Total assets	65273.590	65540.810	69457.600	73680.400	78377.200
Fixed assets, net of depreciation	51950.000	45137.500	38325.000	31512.500	24700.000
Construction in progress	0.000	0.000	0.000	0.000	0.000
Current assets	12002.650	13767.570	15532.490	15532.490	15532.490
Cash, bank	642.612	700.181	757.750	757.750	757.750
Cash surplus, finance available	345.281	5602.516	14842.360	25877.660	37386.950
Loss carried forward	0.000	333.047	0.000	0.000	0.000
Loss	333.047	0.000	0.000	0.000	0.000
Total liabilities	65273.590	65540.810	69457.600	73680.400	78377.200
Equity capital	26500.000	26500.000	26500.000	26500.000	26500.000
Reserves, retained profit	0.000	0.000	3383.134	11081.930	19254.730
Profit	0.000	3716.181	7698.800	8172.800	8646.800
Long and medium term debt	35550.000	31600.000	27650.000	23700.000	19750.000
Current liabilities	3223.592	3724.629	4225.667	4225.667	4225.667
Bank overdraft, finance required.	0.000	0.000	0.000	0.000	0.000
Total debt	38773.590	35324.630	31875.670	27925.670	23975.670
Equity, % of liabilities	40.598	40.433	38.153	35.966	33.811

Projected Balance Sheets, Production in '000 F.CFA.

Year	2000	2001	2002	2003	2004
Total assets	86895.600	93814.400	101207.200	109074.000	117414.800
Fixed assets, net of depreciation	22072.000	31252.000	26032.000	20812.000	15592.000
Construction in progress	14400.000	0.000	0.000	0.000	0.000
Current assets	15532.490	15532.490	15532.490	15532.490	15532.490
Cash, bank	757.750	757.750	757.750	757.750	757.750
Cash surplus, finance available	34133.360	46272.160	58884.950	71971.760	85532.550
Loss carried forward	0.000	0.000	0.000	0.000	0.000
Loss	0.000	0.000	0.000	0.000	0.000
Total liabilities	86895.600	93814.400	101207.200	109074.000	117414.800
Equity capital	26500.000	26500.000	26500.000	26500.000	26500.000
Reserves, retained profit	27901.540	40369.940	51238.740	62581.540	74398.340
Profit	12468.400	10868.800	11342.800	11816.800	12290.800
Long and medium term debt	15800.000	11850.000	7900.000	3950.000	0.000
Current liabilities	4225.667	4225.667	4225.667	4225.667	4225.667
Bank overdraft, finance required.	0.000	0.000	0.000	0.000	0.000
Total debt	20025.670	16075.670	12125.670	8175.667	4225.667
Equity, % of liabilities	30.496	28.247	26.184	24.295	22.570

COMFAR 2.1 UNIDO

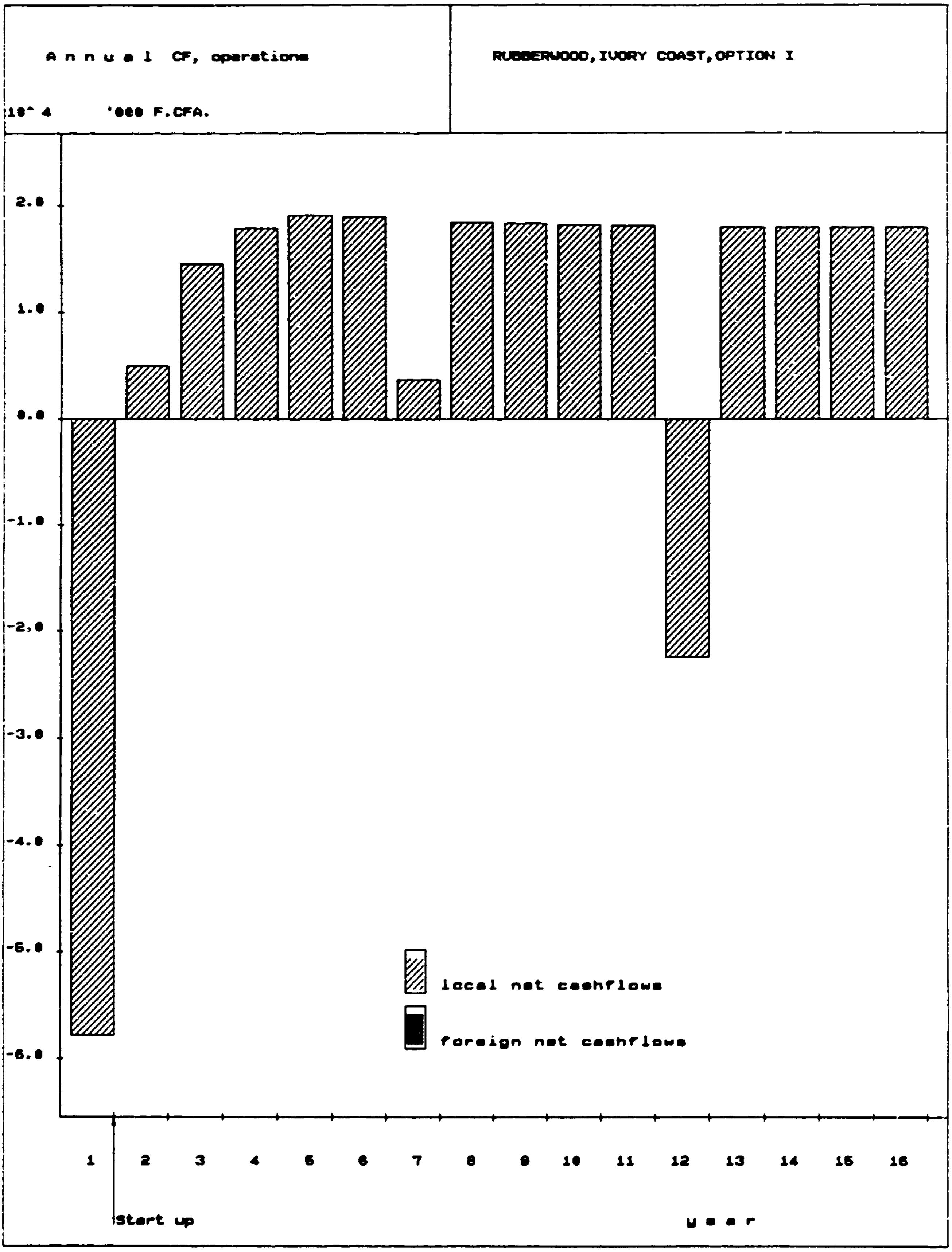
COMFAR 2.1 - DP/VIE/91/003-OIL REFINERY ---

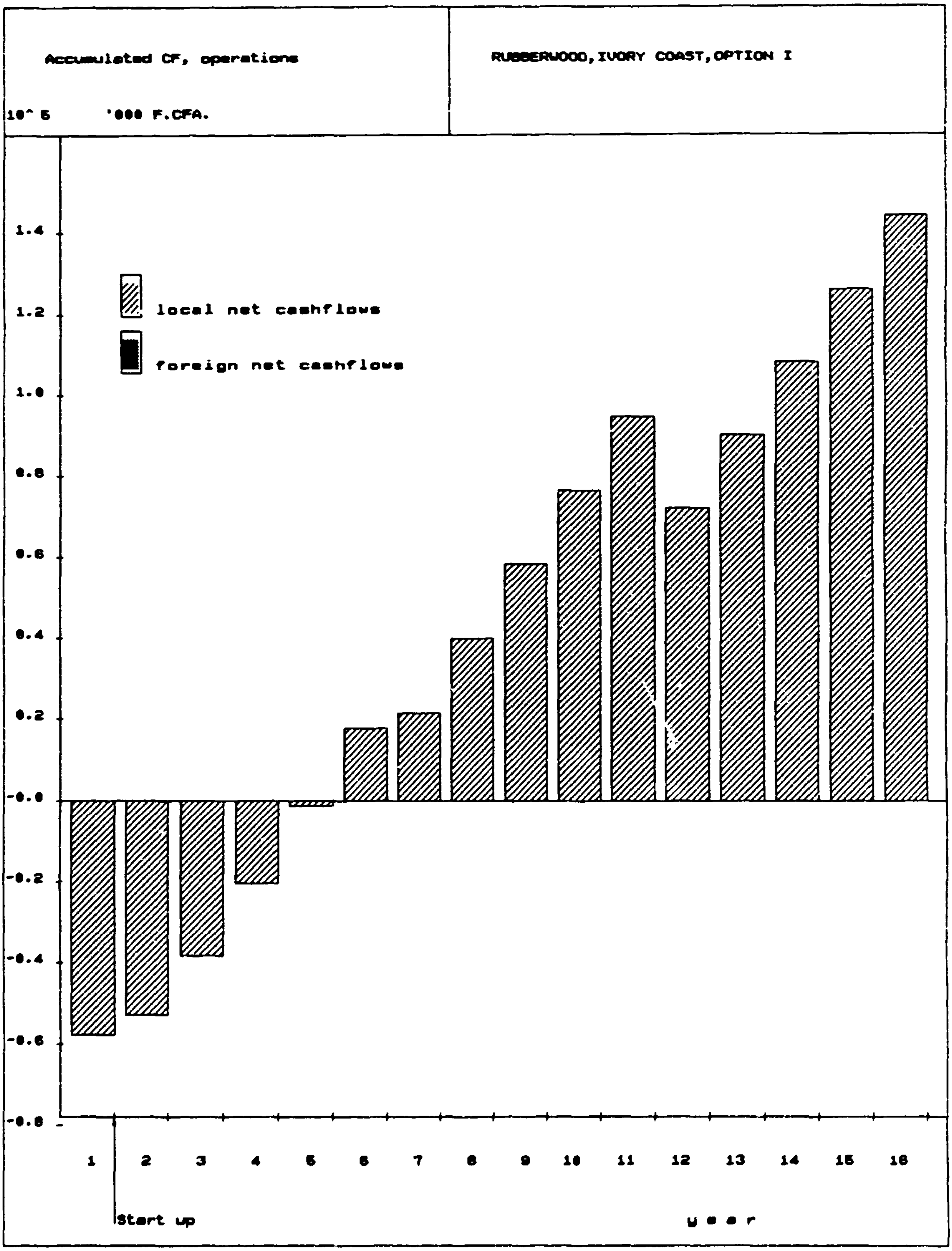
Projected Balance Sheets, Production in '000 F.CFA.

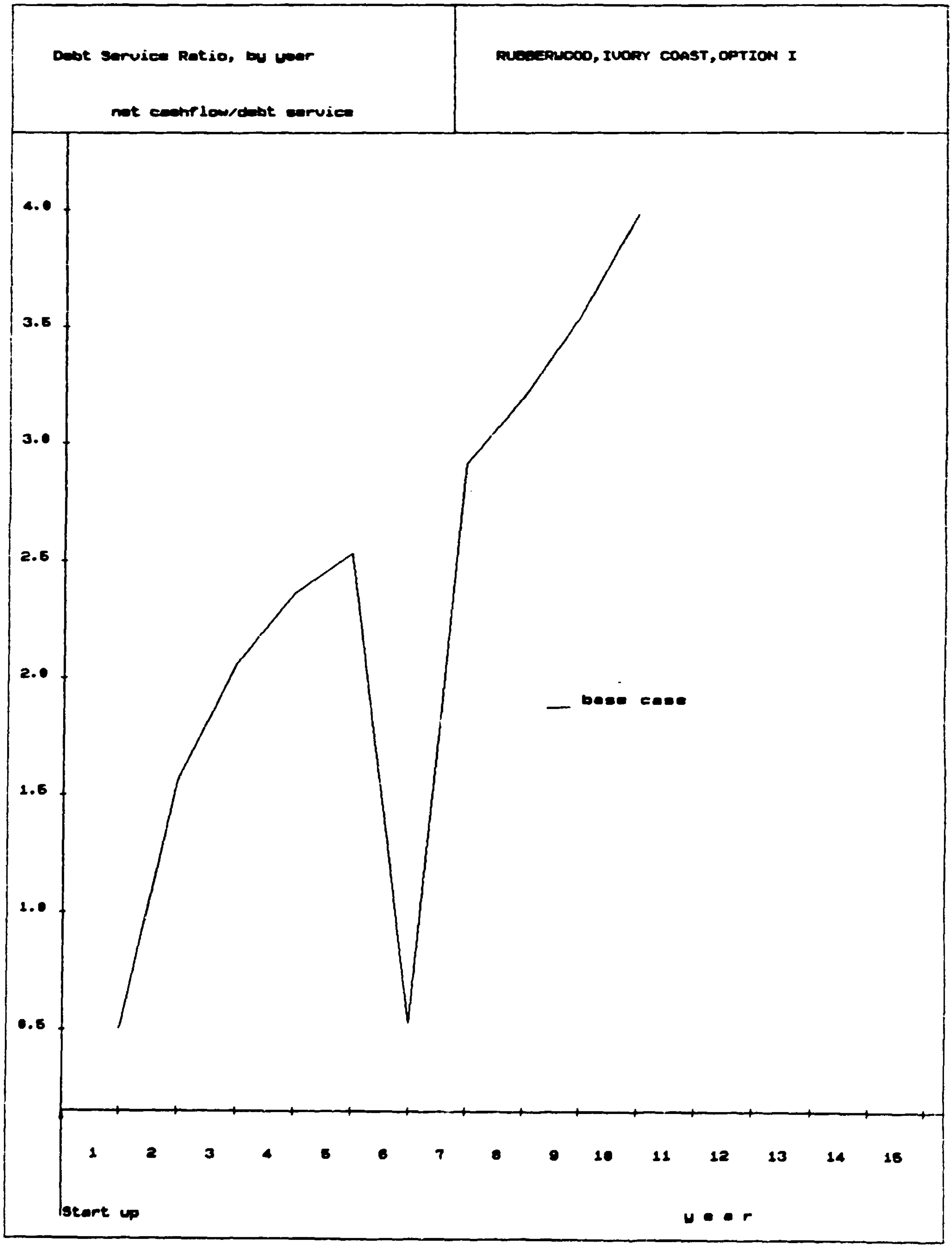
Year	2005	2006	2007	2008	2009
Total assets	132015.600	144780.400	157545.200	170310.000	183074.800
Fixed assets, net of depreciation	12667.000	47347.000	42127.000	36907.000	31687.000
Construction in progress	39900.000	0.000	0.000	0.000	0.000
Current assets	15532.490	15532.490	15532.490	15532.490	15532.490
Cash, bank	757.750	757.750	757.750	757.750	757.750
Cash surplus, finance available	63158.350	81143.160	99127.950	117112.800	135097.600
Loss carried forward	0.000	0.000	0.000	0.000	0.000
Loss	0.000	0.000	0.000	0.000	0.000
Total liabilities	132015.600	144780.400	157545.200	170310.000	183074.800
Equity capital	26500.000	26500.000	26500.000	26500.000	26500.000
Reserves, retained profit	86689.130	101289.900	114054.700	126819.500	139584.300
Profit	14600.800	12764.800	12764.800	12764.800	12764.800
Long and medium term debt	0.000	0.000	0.000	0.000	0.000
Current liabilities	4225.667	4225.667	4225.667	4225.667	4225.667
Bank overdraft, finance required.	0.000	0.000	0.000	0.000	0.000
Total debt	4225.667	4225.667	4225.667	4225.667	4225.667
Equity, % of liabilities	20.073	18.304	16.821	15.560	14.475

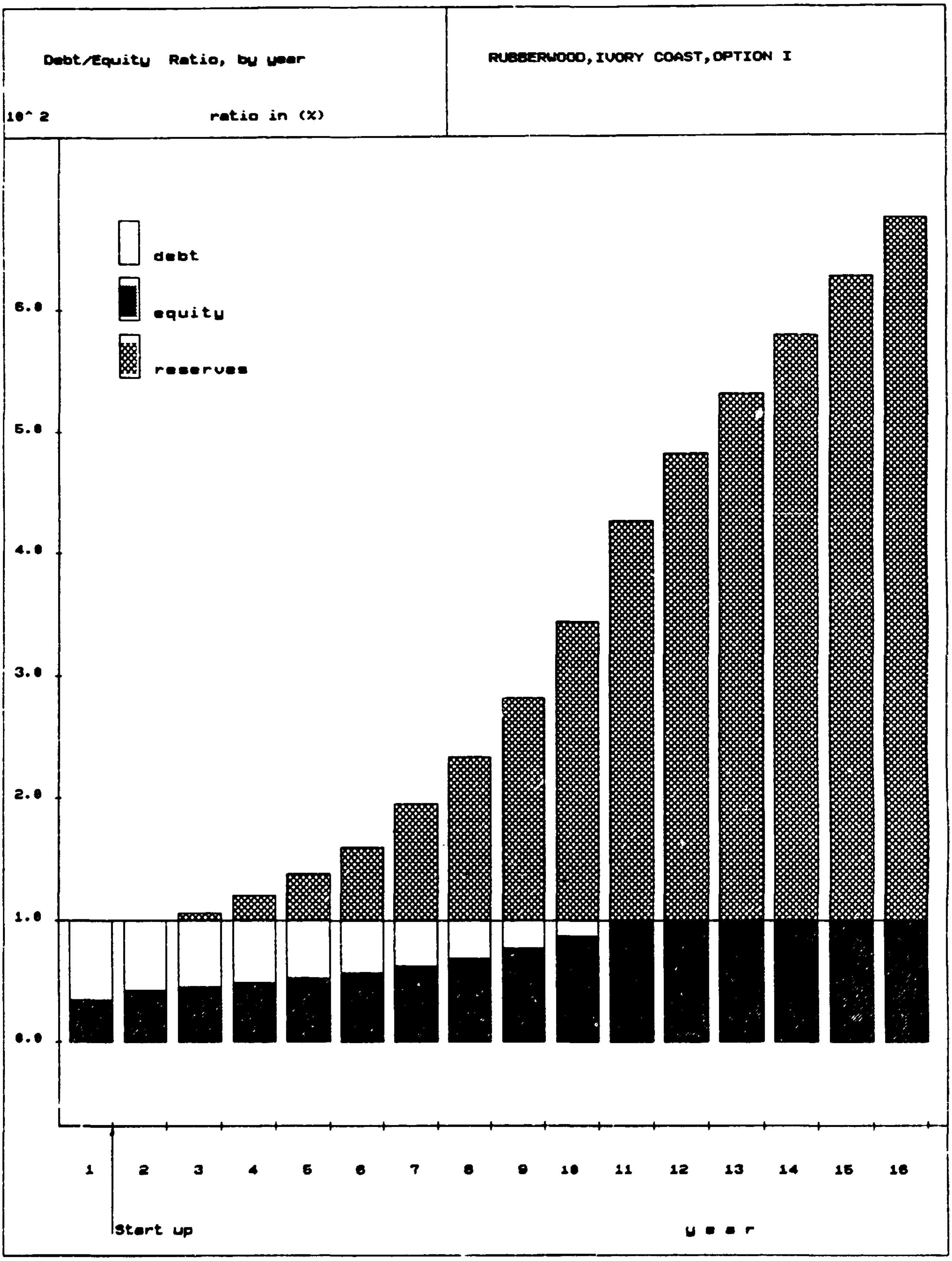
RUBBERWOOD PROCESSING, IVORY COAST --- 13.08.199

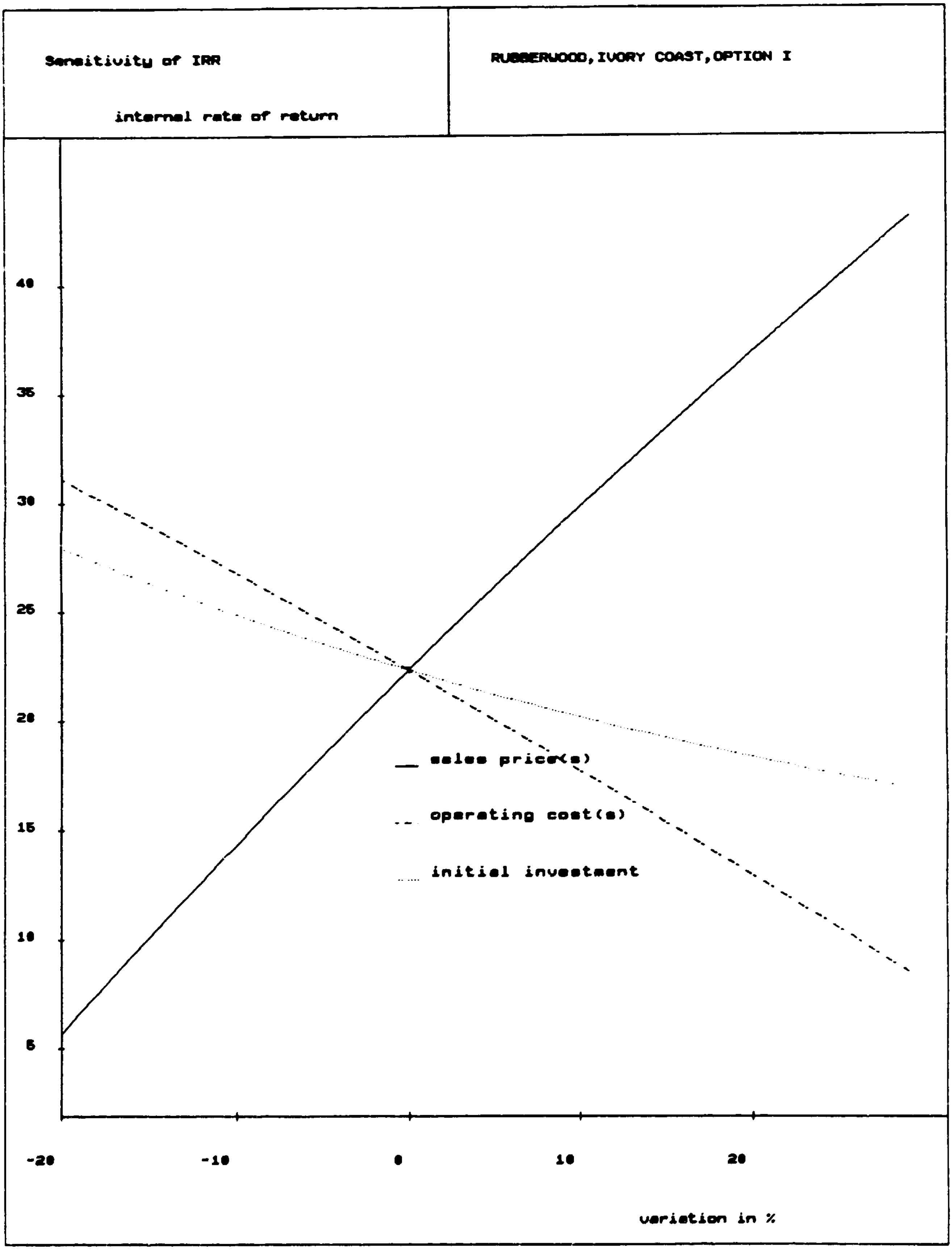
ANNEX I B
Selected GRAFIX charts
OPTION I

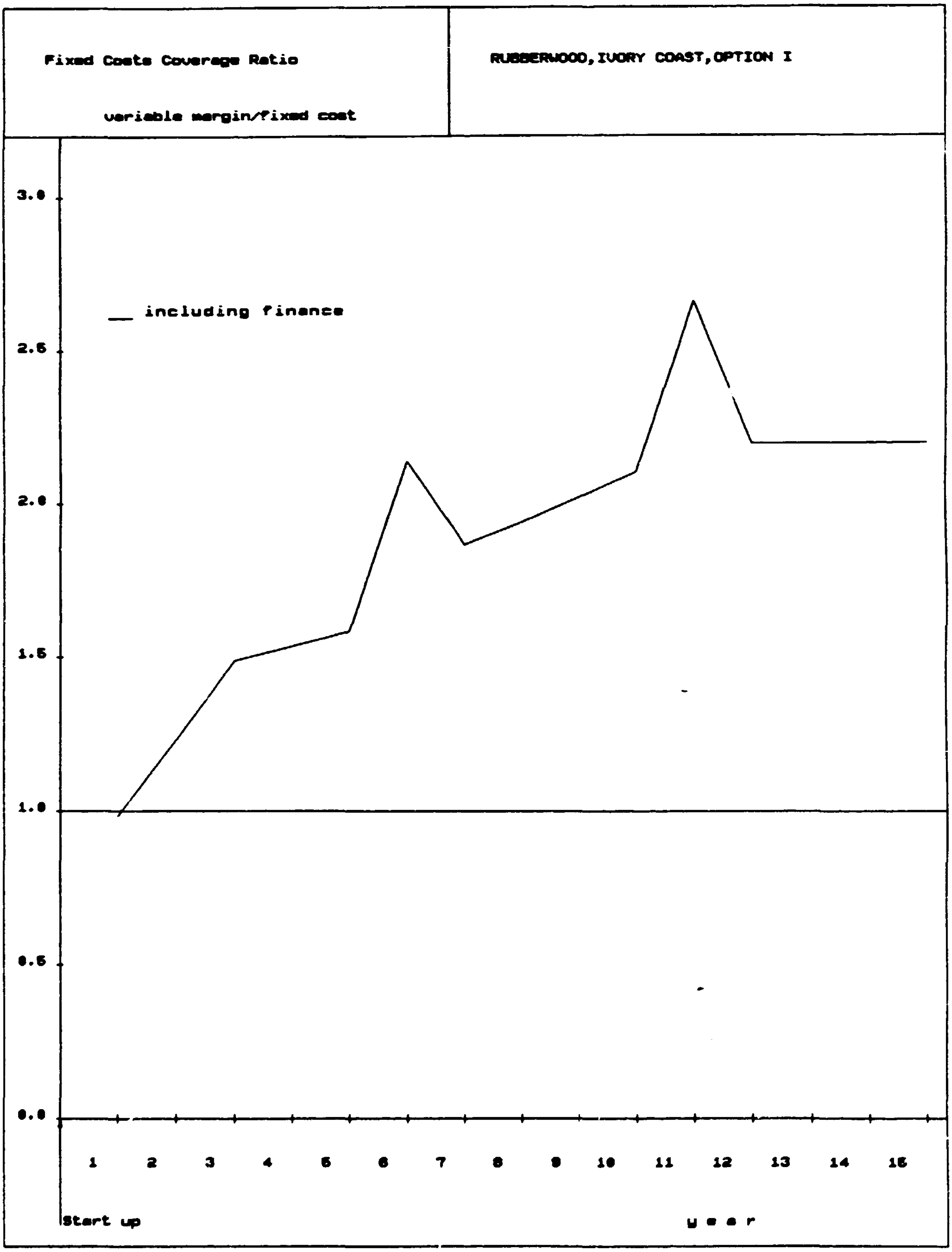

A n n u a l CF, operations
RUBBERWOOD,IVORY COAST,OPTION I
10^ 4 '000 F.CFA.
2.0
1.0
0.0
-1.0
-2.0
-3.0
-4.0
-5.0
-6.0
local net cashflows
foreign net cashflows
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Start up
y e a r

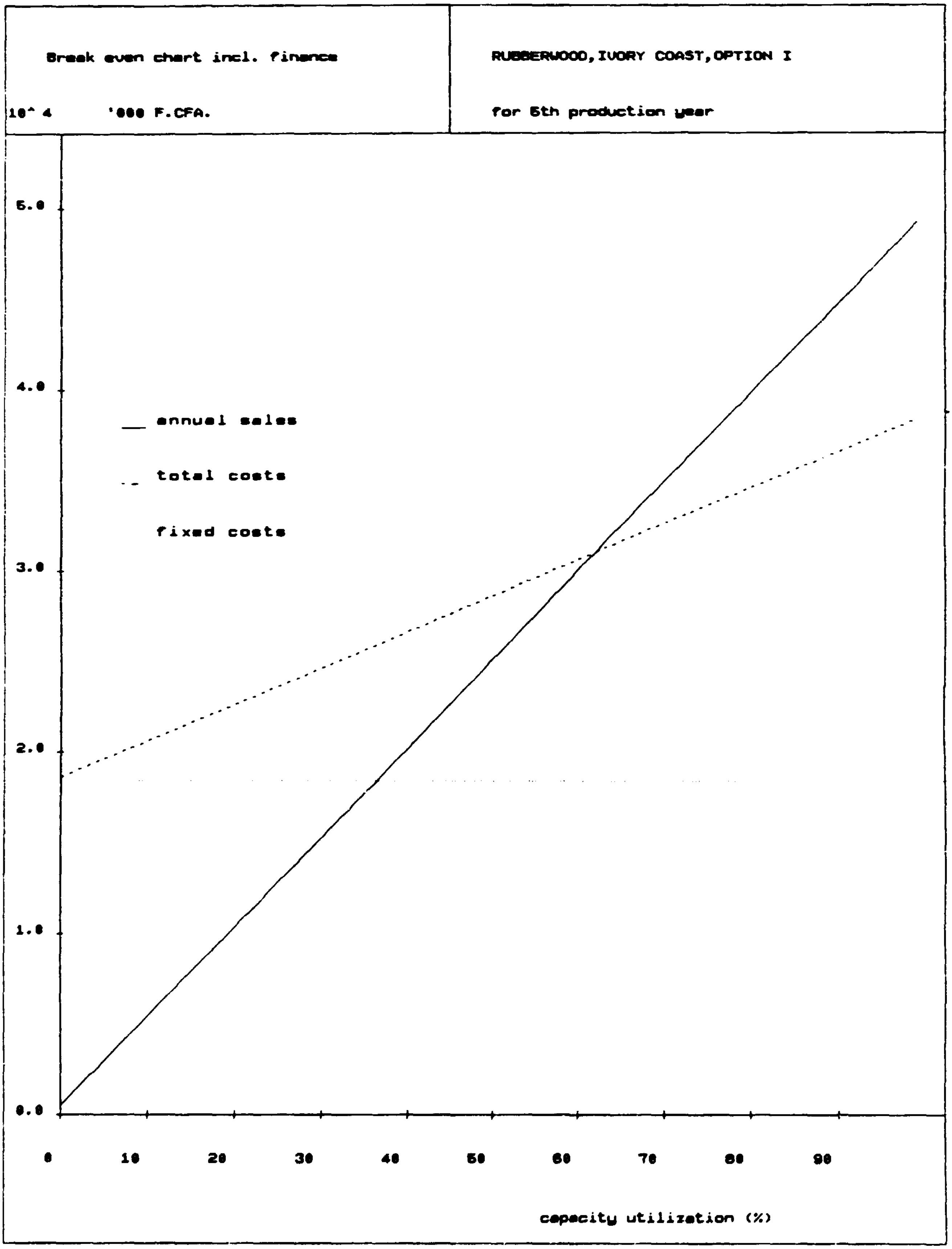

Accumulated CF, operations
RUBBERWOOD, IVORY COAST, OPTION I
10^5 '000 F.CFA.
local net cashflows
foreign net cashflows
1.4
1.2
1.0
0.8
0.6
0.4
0.2
-0.0
-0.2
-0.4
-0.6
-0.8
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Start up
year


Debt Service Ratio, by year
net cashflow/debt service
RUBBERWOOD, IVORY COAST, OPTION I
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
base case
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Start up
year

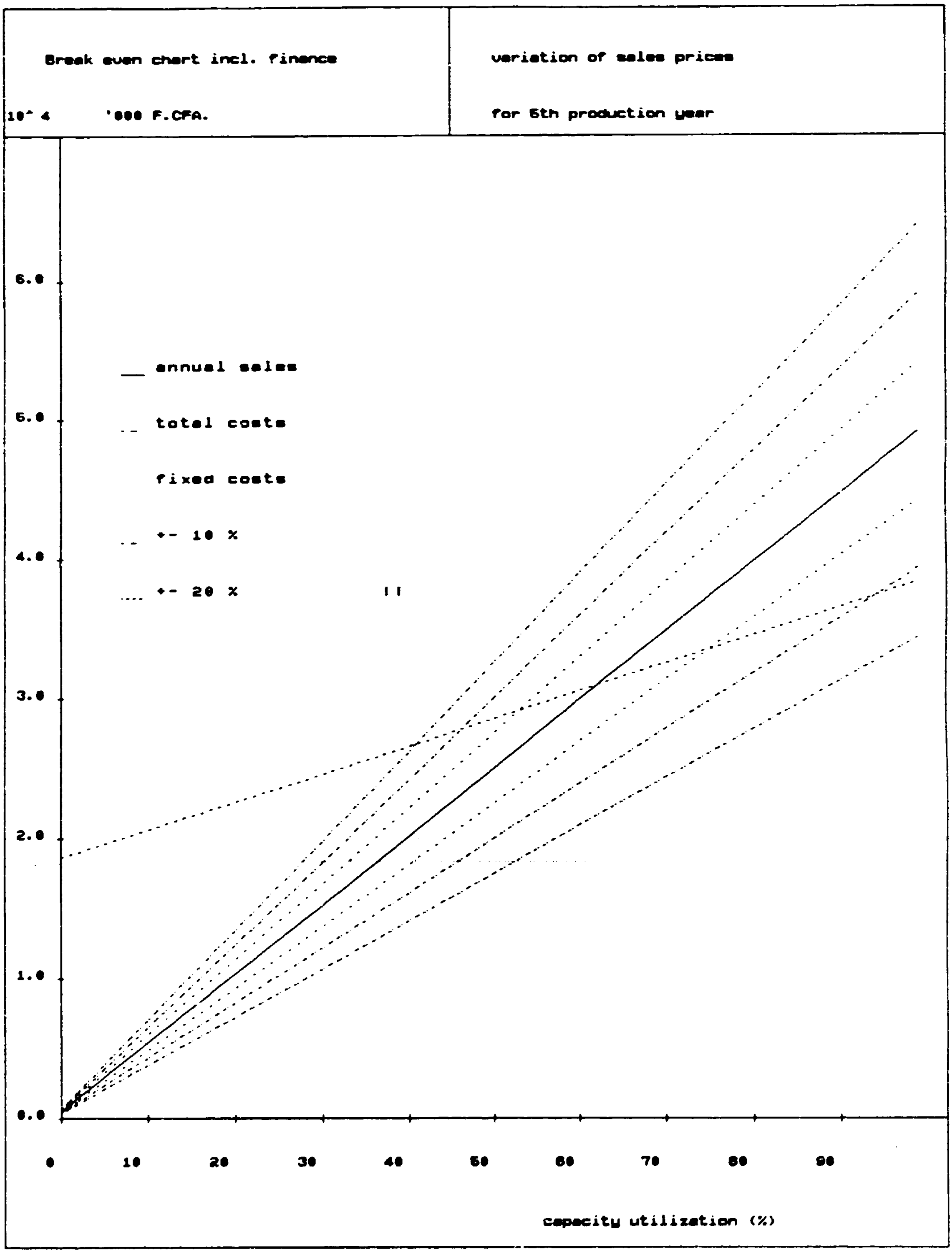

Debt/Equity Ratio, by year
RUBBERWOOD,IVORY COAST,OPTION I
10^2
ratio in (%)
debt
equity
reserves
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Start up
year


Sensitivity of IRR
internal rate of return
RUBBERWOOD, IVORY COAST, OPTION I
40
35
30
25
20
15
10
5
sales price(s)
operating cost(s)
initial investment
-20
-10
0
10
20
variation in %

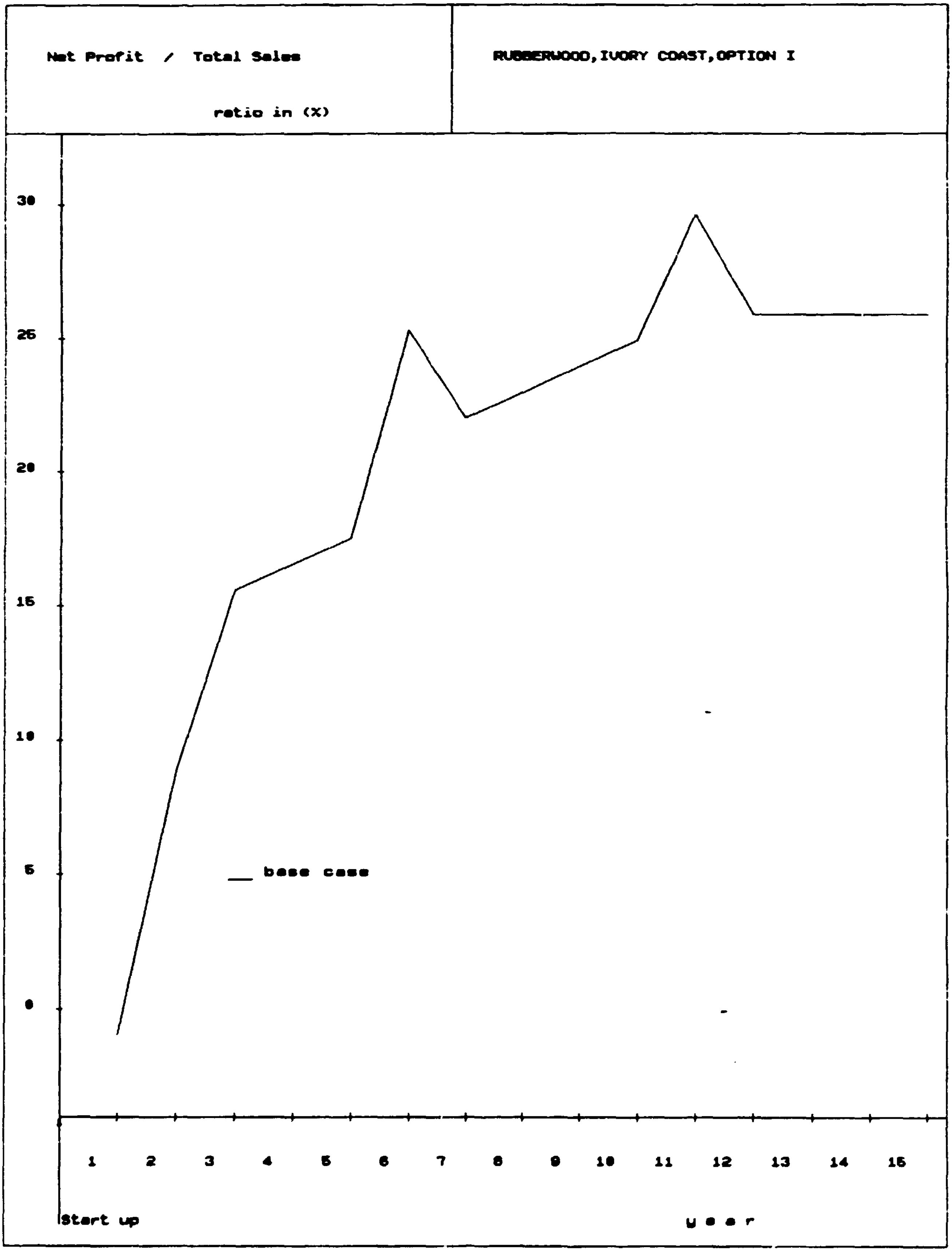

Fixed Costs Coverage Ratio
variable margin/fixed cost
RUBBERWOOD,IVORY COAST,OPTION I
3.0
2.5
2.0
1.5
1.0
0.5
0.0
__ including finance
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Start up
y e a r



Break even chart incl. finance
RUBBERWOOD, IVORY COAST, OPTION I
10^ 4 '000 F.CFA.
for 5th production year
5.0
4.0
3.0
2.0
1.0
0.0
annual sales
total costs
fixed costs
0
10
20
30
40
50
60
70
80
90
capacity utilization (%)



Break even chart incl. finance
10^ 4 '000 F.CFA.
variation of sales prices
for 5th production year
6.0
5.0
4.0
3.0
2.0
1.0
0.0
annual sales
total costs
fixed costs
+- 10 %
+- 20 %
0
10
20
30
40
50
60
70
80
90
capacity utilization (%)


Net Profit / Total Sales
ratio in (%)
RUBBERWOOD,IVORY COAST,OPTION I
30
25
20
15
10
5
0
base case
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Start up
year

ANNEX II
COMFAR Schedules
OPTION II

RUBBERWOOD PROCESSING, IVORY COAST
20.08.93
OPTION II, 3960 cu.m.PHASE II no logging

1 year(s) of construction, 15 years of production
currency conversion rates:
foreign currency 1 unit = 1.0000 units accounting currency
local currency 1 unit = 1.0000 units accounting currency
accounting currency: '000 F.CFA.

Total initial investment during construction phase

fixed assets:	136700.00	0.000 % foreign
current assets:	6000.00	0.000 % foreign
total assets:	142700.00	0.000 % foreign

Source of funds during construction phase

equity & grants:	50000.00	0.000 % foreign
foreign loans :	0.00	
local loans :	94000.00	
total funds :	144000.00	0.000 % foreign

Cashflow from operations

Year:	1	2	3
operating costs:	85558.34	94421.27	103284.20
depreciation :	14391.14	14391.14	14391.14
interest :	14100.00	12690.00	11280.00
production costs	114049.50	121502.40	128955.30
thereof foreign	0.00 %	0.00 %	0.00 %
total sales :	77616.00	94248.00	110880.00
gross income :	-36433.48	-27254.41	-18075.34
net income :	-36433.48	-27254.41	-18075.34
cash balance :	-33372.83	-24112.23	-14933.15
net cashflow :	-20872.83	-2022.23	5746.85

Net Present Value at: 15.00 % = -141111.60
Internal Rate of Return: -3.88 %
Return on equity1: not found
Return on equity2: -8.15 %

Index of Schedules produced by COMFAR

Total initial investment
Total investment during production
Total production costs
Working Capital requirements
Cashflow Tables
Projected Balance
Net income statement
Source of finance

Total Initial Investment in '000 F.CFA.

Year	1996
Fixed investment costs	
Land, site preparation, development	600.000
Buildings and civil works	12050.000
Auxiliary and service facilities .	3000.000
Incorporated fixed assets	0.000
Plant machinery and equipment . . .	104000.000
Total fixed investment costs	119650.000
Pre-production capital expenditures.	17050.000
Net working capital	6000.000
Total initial investment costs . . .	142700.000
Of it foreign, in %	0.000

Total Current Investment in '000 F.CFA.

Year	1995	1996	1997	1998-99	2000
Fixed investment costs					
Land, site preparation, development	0.000	0.000	0.000	0.000	0.000
Buildings and civil works	0.000	0.000	0.000	0.000	0.000
Auxiliary and service facilities	0.000	0.000	0.000	0.000	0.000
Incorporated fixed assets	0.000	0.000	0.000	0.000	0.000
Plant, machinery and equipment	0.000	0.000	0.000	0.000	11000.000
Total fixed investment costs	0.000	0.000	0.000	0.000	11000.000
Preproduction capitals expenditures.	0.000	0.000	0.000	0.000	0.000
Working capital	12930.490	1848.957	1848.947	0.000	0.000
Total current investment costs	12930.490	1848.957	1848.947	0.000	11000.000
Of it foreign, %	0.000	0.000	0.000	0.000	0.000

Total Current Investment in '000 F.CFA.

Year	2001- 4	2005
Fixed investment costs		
Land, site preparation, development	0.000	0.000
Buildings and civil works	0.000	0.000
Auxiliary and service facilities	0.000	3000.000
Incorporated fixed assets	0.000	0.000
Plant, machinery and equipment	0.000	104000.000
Total fixed investment costs	0.000	107000.000
Preproduction capitals expenditures.	0.000	0.000
Working capital	0.000	0.000
Total current investment costs	0.000	107000.000
Of it foreign, %	0.000	0.000

Total Production Costs in '000 F.CFA.

Year	1995	1996	1997	1998	1999
% of nom. capacity (single product).	70.000	85.000	100.000	100.000	100.000
Raw material 1	25779.600	31303.800	36828.000	36828.000	36828.000
Other raw materials	8648.641	10591.920	12355.200	12355.200	12355.200
Utilities	289.850	315.425	341.000	341.000	341.000
Energy	36330.000	36330.000	36330.000	36330.000	36330.000
Labour, direct	4004.000	4862.000	5720.000	5720.000	5720.000
Repair, maintenance	2273.750	2474.375	2675.000	2675.000	2675.000
Spares	1872.500	2273.750	2675.000	2675.000	2675.000
Factory overheads	3060.000	3060.000	3060.000	3060.000	3060.000
Factory costs	82258.340	91121.270	99984.200	99984.200	99984.200
Administrative overheads	3300.000	3300.000	3300.000	3300.000	3300.000
Indir. costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Direct costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Depreciation	14391.140	14391.140	14391.140	14391.140	14391.140
Financial costs	14100.000	12690.000	11280.000	9870.000	8460.000
Total production costs	114049.500	121502.400	128955.300	127545.300	126135.300
Costs per unit (single product)	102.858	90.242	81.411	80.521	79.631
Of it foreign, %	0.000	0.000	0.000	0.000	0.000
Of it variable,%	36.265	41.335	45.819	46.326	46.843
Total labour	7304.000	8162.000	9020.000	9020.000	9020.000

Total Production Costs in '000 F.CFA.

Year	2000	2001	2002	2003	2004
% of nom. capacity (single product).	100.000	100.000	100.000	100.000	100.000
Raw material 1	36828.000	36828.000	36828.000	36828.000	36828.000
Other raw materials	12355.200	12355.200	12355.200	12355.200	12355.200
Utilities	341.000	341.000	341.000	341.000	341.000
Energy	36330.000	36330.000	36330.000	36330.000	36330.000
Labour, direct	5720.000	5720.000	5720.000	5720.000	5720.000
Repair, maintenance	2675.000	2675.000	2675.000	2675.000	2675.000
Spares	2675.000	2675.000	2675.000	2675.000	2675.000
Factory overheads	3060.000	3060.000	3060.000	3060.000	3060.000
Factory costs	99984.200	99984.200	99984.200	99984.200	99984.200
Administrative overheads	3300.000	3300.000	3300.000	3300.000	3300.000
Indir. costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Direct costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Depreciation	9001.138	10981.140	10981.140	10981.140	10981.140
Financial costs	7050.000	5640.000	4230.000	2820.000	1410.000
Total production costs	119335.300	119905.300	118495.300	117085.300	115675.300
Costs per unit (single product)	75.338	75.698	74.808	73.918	73.027
Of it foreign, %	0.000	0.000	0.000	0.000	0.000
Of it variable,%	49.513	49.277	49.864	50.464	51.079
Total labour	9020.000	9020.000	9020.000	9020.000	9020.000

Total Production Costs in '000 F.CFA.

Year	2005	2006- 8	2009
% of nom. capacity (single product).	100.000	100.000	100.000
Raw material 1	36828.000	36828.000	36828.0C0
Other raw materials	12355.200	12355.200	12355.200
Utilities	341.000	341.000	341.000
Energy	36330.000	36330.000	36330.000
Labour, direct	5720.000	5720.000	5720.000
Repair, maintenance	2675.000	2675.000	2675.000
Spares	2675.000	2675.000	2675.000
Factory overheads	3060.000	3060.000	3060.000
Factory costs	99984.200	99984.200	99984.200
Administrative overheads	3300.000	3300.000	3300.000
Indir. costs, sales and distribution	0.000	0.000	0.000
Direct costs, sales and distribution	0.000	0.000	0.000
Depreciation	2341.138	10981.140	10981.150
Financial costs	0.000	0.000	0.000
Total production costs	105625.300	114265.300	114265.400
Costs per unit (single product)	66.683	72.137	72.137
Of it foreign, %	0.000	0.000	0.000
Of it variable,%	55.939	51.710	51.710
Total labour	9020.000	9020.000	9020.000

COMFAR 2.1 UNIDO

Net Working Capital in '000 F.CFA.

Year	mdc	coto	1995	1996	1997	1998-2009
Coverage	mdc	coto				
Current assets &						
Accounts receivable	60	6.0	14259.720	15736.880	17214.030	17214.030
Inventory and materials	18	19.9	1747.414	2118.816	2490.217	2490.217
Energy	30	12.0	3027.500	3027.500	3027.500	3027.500
Spares	90	4.0	468.125	568.438	668.750	668.750
Work in progress	21	17.1	4798.403	5315.408	5832.412	5832.412
Finished products	30	12.0	7129.862	7868.439	8607.017	8607.017
Cash in hand	30	12.0	1209.188	1330.844	1452.500	1452.500
Total current assets			32640.210	35966.320	39292.430	39292.430
Current liabilities and						
Accounts payable	60	6.0	13709.720	15186.880	16664.030	16664.030
Net working capital			18930.490	20779.440	22628.400	22628.400
Increase in working capital			12930.490	1848.952	1848.953	0.000
Net working capital, local			18930.490	20779.450	22628.390	22628.390
Net working capital, foreign			0.000	0.000	0.000	0.000

Note: mdc = minimum days of coverage ; coto = coefficient of turnover .

Source of Finance, construction in '000 F.CFA.

Year	1994
Equity, ordinary ..	50000.000
Equity, preference.	0.000
Subsidies, grants .	0.000
Loan A, foreign .	0.000
Loan B, foreign..	0.000
Loan C, foreign .	0.000
Loan A, local....	94000.000
Loan B, local....	0.000
Loan C, local....	0.000
Total loan	94000.000
Current liabilities	0.000
Bank overdraft	0.000
Total funds	144000.000

Source of Finance, production in '000 F.CFA.

Year	1995	1996	1997	1998	1999	2000
Equity, ordinary ..	11000.000	0.000	0.000	0.000	0.000	0.000
Equity, preference.	0.000	0.000	0.000	0.000	0.000	0.000
Subsidies, grants .	0.000	0.000	0.000	0.000	0.000	0.000
Loan A, foreign .	0.000	0.000	0.000	0.000	0.000	0.000
Loan B, foreign..	0.000	0.000	0.000	0.000	0.000	0.000
Loan C, foreign .	0.000	0.000	0.000	0.000	0.000	0.000
Loan A, local....	-9400.000	-9400.000	-9400.000	-9400.000	-9400.000	-9400.000
Loan B, local....	0.000	0.000	0.000	0.000	0.000	0.000
Loan C, local....	0.000	0.000	0.000	0.000	0.000	0.000
Total loan	-9400.000	-9400.000	-9400.000	-9400.000	-9400.000	-9400.000
Current liabilities	13709.720	1477.155	1477.154	0.000	0.000	0.000
Bank overdraft	32072.840	24112.230	14933.140	11674.210	10264.210	19854.200
Total funds	47382.560	16189.380	7010.295	2274.211	864.211	10454.200

COMFAR 2.1 - DP/VIE/91/003-OIL REFINERY

Source of Finance, production in '000 F.CFA.

Year	2001	2002	2003	2004	2005	2006
Equity, ordinary ..	0.000	0.000	0.000	0.000	0.000	0.000
Equity, preference.	0.000	0.000	0.000	0.000	0.000	0.000
Subsidies, grants .	0.000	0.000	0.000	0.000	0.000	0.000
Loan A, foreign .	0.000	0.000	0.000	0.000	0.000	0.000
Loan B, foreign..	0.000	0.000	0.000	0.000	0.000	0.000
Loan C, foreign .	0.000	0.000	0.000	0.000	0.000	0.000
Loan A, local....	-9400.000	-9400.000	-9400.000	-9400.000	0.000	0.000
Loan B, local....	0.000	0.000	0.000	0.000	0.000	0.000
Loan C, local....	0.000	0.000	0.000	0.000	0.000	0.000
Total loan	-9400.000	-9400.000	-9400.000	-9400.000	0.000	0.000
Current liabilities	0.000	0.000	0.000	0.000	0.000	0.000
Bank overdraft	7444.203	6034.211	4624.211	3214.203	100455.100	-7595.766
Total funds	-1955.797	-3365.789	-4775.789	-6185.797	100455.100	-7595.766

RUBBERWOOD PROCESSING, IVORY COAST --- 20.08.

Source of Finance, production in '000 F.CFA.

Year	2007	2008	2009
Equity, ordinary ..	0.000	0.000	0.000
Equity, preference.	0.000	0.000	0.000
Subsidies, grants .	0.000	0.000	0.000
Loan A, foreign .	0.000	0.000	0.000
Loan B, foreign..	0.000	0.000	0.000
Loan C, foreign .	0.000	0.000	0.000
Loan A, local....	0.000	0.000	0.000
Loan B, local....	0.000	0.000	0.000
Loan C, local....	0.000	0.000	0.000
Total loan	0.000	0.000	0.000
Current liabilities	0.000	0.000	0.000
Bank overdraft	-7595.813	-7595.781	-7595.797
Total funds	-7595.813	-7595.781	-7595.797

COMFAR 2.1 UNIDO

Cashflow Tables, construction in '000 F.CFA.

Year	1994
Total cash inflow . .	144000.000
Financial resources .	144000.000
Sales, net of tax . .	0.000
Total cash outflow . .	142700.000
Total assets	135650.000
Operating costs . . .	0.000
Cost of finance . . .	7050.000
Repayment	0.000
Corporate tax . . .	0.000
Dividends paid . . .	0.000
Surplus (deficit) .	1300.000
Cumulated cash balance	1300.000
Inflow, local	144000.000
Outflow, local	142700.000
Surplus (deficit) .	1300.000
Inflow, foreign . . .	0.000
Outflow, foreign . . .	0.000
Surplus (deficit) .	0.000
Net cashflow	-135650.000
Cumulated net cashflow	-135650.000

Cashflow tables, production in '000 F.CFA.

Year	1995	1996	1997	1998	1999	2000
Total cash inflow . .	102325.700	95725.160	112357.200	110880.000	110880.000	110880.000
Financial resources .	24709.720	1477.155	1477.154	0.000	0.000	0.000
Sales, net of tax . .	77616.000	94248.000	110880.000	110880.000	110880.000	110880.000
Total cash outflow . .	135698.600	119837.400	127290.300	122554.200	121144.200	130734.200
Total assets	26640.210	3326.108	3326.106	0.000	0.000	11000.000
Operating costs . . .	85558.340	94421.280	103284.200	103284.200	103284.200	103284.200
Cost of finance . . .	14100.000	12690.000	11280.000	9870.000	8460.000	7050.000
Repayment	9400.000	9400.000	9400.000	9400.000	9400.000	9400.000
Corporate tax . . .	0.000	0.000	0.000	0.000	0.000	0.000
Dividends paid . . .	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit) .	-33372.840	-24112.230	-14933.160	-11674.200	-10264.200	-19854.200
Cumulated cash balance	-32072.840	-56185.080	-71118.230	-82792.440	-93056.640	-112910.800
Inflow, local	102325.700	95725.160	112357.200	110880.000	110880.000	110880.000
Outflow, local	135698.600	119837.400	127290.300	122554.200	121144.200	130734.200
Surplus (deficit) .	-33372.840	-24112.230	-14933.160	-11674.200	-10264.200	-19854.200
Inflow, foreign . . .	0.000	0.000	0.000	0.000	0.000	0.000
Outflow, foreign . . .	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit) .	0.000	0.000	0.000	0.000	0.000	0.000
Net cashflow	-20872.840	-2022.235	5746.842	7595.797	7595.797	-3404.203
Cumulated net cashflow	-156522.800	-158545.100	-152798.200	-145202.400	-137606.600	-141010.800

COMFAR 2.1 UNIDO

Cashflow tables, production in '000 F.CFA.

Year	2001	2002	2003	2004	2005	2006
Total cash inflow . .	110880.000	110880.000	110880.000	110880.000	110880.000	110880.000
Financial resources .	0.000	0.000	0.000	0.000	0.000	0.000
Sales, net of tax . .	110880.000	110880.000	110880.000	110880.000	110880.000	110880.000
Total cash outflow . .	118324.200	116914.200	115504.200	114094.200	211335.100	103284.200
Total assets	0.000	0.000	0.000	0.000	107000.000	0.000
Operating costs . . .	103284.200	103284.200	103284.200	103284.200	103284.200	103284.200
Cost of finance . . .	5640.000	4230.000	2820.000	1410.000	0.000	0.000
Repayment	9400.000	9400.000	9400.000	9400.000	0.000	0.000
Corporate tax . . .	0.000	0.000	0.000	0.000	1050.931	0.000
Dividends paid . . .	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit) .	-7444.203	-6034.203	-4624.203	-3214.203	-100455.100	7595.797
Cumulated cash balance	-120355.000	-126389.300	-131013.500	-134227.700	-234682.800	-227087.000
Inflow, local	110880.000	110880.000	110880.000	110880.000	110880.000	110880.000
Outflow, local	118324.200	116914.200	115504.200	114094.200	211335.100	103284.200
Surplus (deficit) .	-7444.203	-6034.203	-4624.203	-3214.203	-100455.100	7595.797
Inflow, foreign . . .	0.000	0.000	0.000	0.000	0.000	0.000
Outflow, foreign . . .	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit) .	0.000	0.000	0.000	0.000	0.000	0.000
Net cashflow	7595.797	7595.797	7595.797	7595.797	-100455.100	7595.797
Cumulated net cashflow	-133415.000	-125819.300	-118223.500	-110627.700	-211082.800	-203487.000

Cashflow tables, production in '000 F.CFA.

Year	2007	2008	2009
Total cash inflow . .	110880.000	110880.000	110880.000
Financial resources .	0.000	0.000	0.000
Sales, net of tax . .	110880.000	110880.000	110880.000
Total cash outflow . .	103284.200	103284.200	103284.200
Total assets	0.000	0.000	0.000
Operating costs . . .	103284.200	103284.200	103284.200
Cost of finance . . .	0.000	0.000	0.000
Repayment	0.000	0.000	0.000
Corporate tax . . .	0.000	0.000	0.000
Dividends paid . . .	0.000	0.000	0.000
Surplus (deficit) .	7595.797	7595.797	7595.797
Cumulated cash balance	-219491.200	-211895.400	-204299.600
Inflow, local	110880.000	110880.000	110880.000
Outflow, local	103284.200	103284.200	103284.200
Surplus (deficit) .	7595.797	7595.797	7595.797
Inflow, foreign . . .	0.000	0.000	0.000
Outflow, foreign . . .	0.000	0.000	0.000
Surplus (deficit) .	0.000	0.000	0.000
Net cashflow	7595.797	7595.797	7595.797
Cumulated net cashflow	-195891.200	-188295.400	-180699.600

Cashflow Discounting:

a) Equity paid versus Net income flow:
Net present value ....-154513.70 at 15.00 %
Internal Rate of Return (IRRE1) .. not found

b) Net Worth versus Net cash return:
Net present value ....-149461.60 at 15.00 %
Internal Rate of Return (IRRE2) .. -8.15 %

c) Internal Rate of Return on total investment:
Net present value ....-141111.60 at 15.00 %
Internal Rate of Return (IRR) .. -3.88 %

Net Worth = Equity paid plus reserves

Net Income Statement in '000 F.CFA.

Year	1995	1996	1997	1998	1999
Total sales, incl. sales tax	77616.000	94248.000	110880.000	110880.000	110880.000
Less: variable costs, incl. sales tax.	41360.340	50223.270	59086.200	59086.200	59086.200
Variable margin	36255.660	44024.730	51793.800	51793.800	51793.800
As % of total sales	46.712	46.712	46.712	46.712	46.712
Non-variable costs, incl. depreciation	58589.140	58589.130	58589.140	58589.140	58589.140
Operational margin	-22333.480	-14564.410	-6795.340	-6795.340	-6795.340
As % of total sales	-28.774	-15.453	-6.129	-6.129	-6.129
Cost of finance	14100.000	12690.000	11280.000	9870.000	8460.000
Gross profit	-36433.480	-27254.410	-18075.340	-16665.340	-15255.340
Allowances	0.000	0.000	0.000	0.000	0.000
Taxable profit	-36433.480	-27254.410	-18075.340	-16665.340	-15255.340
Tax	0.000	0.000	0.000	0.000	0.000
Net profit	-36433.480	-27254.410	-18075.340	-16665.340	-15255.340
Dividends paid	0.000	0.000	0.000	0.000	0.000
Undistributed profit	-36433.480	-27254.410	-18075.340	-16665.340	-15255.340
Accumulated undistributed profit	-36433.480	-63687.890	-81763.230	-98428.580	-113683.900
Gross profit, % of total sales	-46.941	-28.918	-16.302	-15.030	-13.758
Net profit, % of total sales	-46.941	-28.918	-16.302	-15.030	-13.758
ROE, Net profit, % of equity	-59.727	-44.679	-29.632	-27.320	-25.009
ROI, Net profit+interest, % of invest.	-15.031	-9.682	-4.462	-4.462	-4.462

Net Income Statement in '000 F.CFA.

Year	2000	2001	2002	2003	2004
Total sales, incl. sales tax	110880.000	110880.000	110880.000	110880.000	110880.000
Less: variable costs, incl. sales tax.	59086.200	59086.200	59086.200	59086.200	59086.200
Variable margin	51793.800	51793.800	51793.800	51793.800	51793.800
As % of total sales	46.712	46.712	46.712	46.712	46.712
Non-variable costs, incl. depreciation	53199.140	55179.140	55179.140	55179.140	55179.140
Operational margin	-1405.344	-3385.344	-3385.344	-3385.344	-3385.344
As % of total sales	-1.267	-3.053	-3.053	-3.053	-3.053
Cost of finance	7050.000	5640.000	4230.000	2820.000	1410.000
Gross profit	-8455.344	-9025.344	-7615.344	-6205.344	-4795.344
Allowances	0.000	0.000	0.000	0.000	0.000
Taxable profit	-8455.344	-9025.344	-7615.344	-6205.344	-4795.344
Tax	0.000	0.000	0.000	0.000	0.000
Net profit	-8455.344	-9025.344	-7615.344	-6205.344	-4795.344
Dividends paid	0.000	0.000	0.000	0.000	0.000
Undistributed profit	-8455.344	-9025.344	-7615.344	-6205.344	-4795.344
Accumulated undistributed profit	-122139.300	-131164.600	-138780.000	-144985.300	-149780.600
Gross profit, % of total sales	-7.626	-8.140	-6.868	-5.596	-4.325
Net profit, % of total sales	-7.626	-8.140	-6.868	-5.596	-4.325
ROE, Net profit, % of equity	-13.861	-14.796	-12.484	-10.173	-7.861
ROI, Net profit+interest, % of invest.	-0.861	-2.073	-2.073	-2.073	-2.073

Net Income Statement in '000 F.CFA.

Year	2005	2006	2007	2008	2009
Total sales, incl. sales tax	110880.000	110880.000	110880.000	110880.000	110880.000
Less: variable costs, incl. sales tax.	59086.200	59086.200	59086.200	59086.200	59086.200
Variable margin	51793.800	51793.800	51793.800	51793.800	51793.800
As % of total sales	46.712	46.712	46.712	46.712	46.712
Non-variable costs, incl. depreciation	46539.140	55179.140	55179.140	55179.140	55179.150
Operational margin	5254.656	-3385.344	-3385.344	-3385.344	-3385.352
As % of total sales	4.739	-3.053	-3.053	-3.053	-3.053
Cost of finance	0.000	0.000	0.000	0.000	0.000
Gross profit	5254.656	-3385.344	-3385.344	-3385.344	-3385.352
Allowances	0.000	0.000	0.000	0.000	0.000
Taxable profit	5254.656	-3385.344	-3385.344	-3385.344	-3385.352
Tax	1050.931	0.000	0.000	0.000	0.000
Net profit	4203.725	-3385.344	-3385.344	-3385.344	-3385.352
Dividends paid	0.000	0.000	0.000	0.000	0.000
Undistributed profit	4203.725	-3385.344	-3385.344	-3385.344	-3385.352
Accumulated undistributed profit	-145576.900	-148962.300	-152347.600	-155733.000	-159118.300
Gross profit, % of total sales	4.739	-3.053	-3.053	-3.053	-3.053
Net profit, % of total sales	3.791	-3.053	-3.053	-3.053	-3.053
ROE, Net profit, % of equity	6.891	-5.550	-5.550	-5.550	-5.550
ROI, Net profit+interest, % of invest.	1.555	-1.253	-1.253	-1.253	-1.253

Projected Balance Sheets, construction in '000 F.CFA.

Year	1994
Total assets	144000.000
Fixed assets, net of depreciation	0.000
Construction in progress	136700.000
Current assets	6000.000
Cash, bank	0.000
Cash surplus, finance available	1300.000
Loss carried forward	0.000
Loss	0.000
Total liabilities	144000.000
Equity capital	50000.000
Reserves, retained profit	0.000
Profit	0.000
Long and medium term debt	94000.000
Current liabilities	0.000
Bank overdraft, finance required.	0.000
Total debt	94000.000
Equity, % of liabilities	34.722

Projected Balance Sheets, Production in '000 F.CFA.

Year	1995	1996	1997	1998	1999
Total assets	191382.600	207571.900	214582.200	216856.400	217720.700
Fixed assets, net of depreciation	122308.900	107917.700	93526.580	79135.440	64744.300
Construction in progress	0.000	0.000	0.000	0.000	0.000
Current assets	31431.030	34635.480	37839.930	37839.930	37839.930
Cash, bank	1209.188	1330.844	1452.500	1452.500	1452.500
Cash surplus, finance available	0.000	0.000	0.000	0.000	0.000
Loss carried forward	0.000	36433.480	63687.890	81763.230	98428.580
Loss	36433.480	27254.410	18075.340	16665.340	15255.340
Total liabilities	191382.600	207571.900	214582.200	216856.400	217720.700
Equity capital	61000.000	61000.000	61000.000	61000.000	61000.000
Reserves, retained profit	0.000	0.000	0.000	0.000	0.000
Profit	0.000	0.000	0.000	0.000	0.000
Long and medium term debt	84600.000	75200.000	65800.000	56400.000	47000.000
Current liabilities	13709.720	15186.880	16664.030	16664.030	16664.030
Bank overdraft, finance required.	32072.840	56185.060	71118.200	82792.410	93056.630
Total debt	130382.600	146571.900	153582.200	155856.400	156720.700
Equity, % of liabilities	31.873	29.387	28.427	28.129	28.018

Projected Balance Sheets, Production in '000 F.CFA.

Year	2000	2001	2002	2003	2004
Total assets	228174.900	226219.100	222853.300	218077.500	211891.700
Fixed assets, net of depreciation	55743.160	55762.030	44780.890	33799.750	22818.620
Construction in progress	11000.000	0.000	0.000	0.000	0.000
Current assets	37839.930	37839.930	37839.930	37839.930	37839.930
Cash, bank	1452.500	1452.500	1452.500	1452.500	1452.500
Cash surplus, finance available	0.000	0.000	0.000	0.000	0.000
Loss carried forward	113683.900	122139.300	131164.600	138780.000	144985.300
Loss	8455.344	9025.344	7615.344	6205.344	4795.344
Total liabilities	228174.900	226219.100	222853.300	218077.500	211891.700
Equity capital	61000.000	61000.000	61000.000	61000.000	61000.000
Reserves, retained profit	0.000	0.000	0.000	0.000	0.000
Profit	0.000	0.000	0.000	0.000	0.000
Long and medium term debt	37600.000	28200.000	18800.000	9400.000	0.000
Current liabilities	16664.030	16664.030	16664.030	16664.030	16664.030
Bank overdraft, finance required.	112910.800	120355.000	126389.300	131013.500	134227.700
Total debt	167174.900	165219.100	161853.300	157077.500	150891.700
Equity, % of liabilities	26.734	26.965	27.372	27.972	28.788

COMFAR 2.1 UNIDO

Projected Balance Sheets, Production in '000 F.CFA.

Year	2005	2006	2007	2008	2009
Total assets	316550.600	304751.000	297155.200	289559.500	281963.700
Fixed assets, net of depreciation	20477.480	116496.300	105515.200	94534.060	83552.910
Construction in progress	107000.000	0.000	0.000	0.000	0.000
Current assets	37839.930	37839.930	37839.930	37839.930	37839.930
Cash, bank	1452.500	1452.500	1452.500	1452.500	1452.500
Cash surplus, finance available	0.000	0.000	0.000	0.000	0.000
Loss carried forward	149780.600	145576.900	148962.300	152347.600	155733.000
Loss	0.000	3385.344	3385.344	3385.344	3385.352
Total liabilities	316550.600	304751.000	297155.200	289559.500	281963.700
Equity capital	61000.000	61000.000	61000.000	61000.000	61000.000
Reserves, retained profit	0.000	0.000	0.000	0.000	0.000
Profit	4203.725	0.000	0.000	0.000	0.000
Long and medium term debt	0.000	0.000	0.000	0.000	0.000
Current liabilities	16664.030	16664.030	16664.030	16664.030	16664.030
Bank overdraft, finance required.	234682.800	227087.000	219491.200	211895.400	204299.600
Total debt	251346.800	243751.000	236155.200	228559.500	220963.700
Equity, % of liabilities	19.270	20.016	20.528	21.066	21.634

RUBBERWOOD PROCESSING, IVORY COAST
28.08.93
OPTION III,3960 cu.m.PHASE II no logging

1 year(s) of construction, 15 years of production
currency conversion rates:
foreign currency 1 unit = 1.0000 units accounting currency
local currency 1 unit = 1.0000 units accounting currency
accounting currency: '000 F.CFA.

Total initial investment during construction phase

fixed assets:	106912.50	0.000 % foreign
current assets:	6000.00	0.000 % foreign
total assets:	112912.50	0.000 % foreign

Source of funds during construction phase

equity & grants:	38000.00	0.000 % foreign
foreign loans :	0.00	
local loans :	75500.00	
total funds :	113500.00	0.000 % foreign

Cashflow from operations

Year:	1	2	3
operating costs:	55014.34	63877.27	72740.20
depreciation :	11143.46	11143.46	11143.46
interest :	11325.00	10192.50	9060.00
production costs	77482.80	85213.23	92943.66
thereof foreign	0.00 %	0.00 %	0.00 %
total sales :	77616.00	94248.00	110880.00
gross income :	133.20	9034.77	17936.34
net income :	106.56	7227.81	14349.07
cash balance :	-341.61	7258.24	14379.51
net cashflow :	6533.39	25000.74	30989.51

Net Present Value at: 15.00 % = 44715.91
Internal Rate of Return: 21.92 %
Return on equity1: 25.94 %
Return on equity2: 24.91 %

Index of Schedules produced by COMFAR

Total initial investment	Cashflow Tables
Total investment during production	Projected Balance
Total production costs	Net income statement
Working Capital requirements	Source of finance

Total Initial Investment in '000 F.CFA.

Year	1994
Fixed investment costs	
Land, site preparation, development	1200.000
Buildings and civil works	18050.000
Auxiliary and service facilities .	3000.000
Incorporated fixed assets	0.000
Plant machinery and equipment . . .	69000.000
Total fixed investment costs	91250.000
Pre-production capital expenditures.	15662.500
Net working capital	6000.000
Total initial investment costs . . .	112912.500
Of it foreign, in %	0.000

COMFAR © 2.1 UNIDO

Total Current Investment in '000 F.CFA.

Year	1995	1996-97	1998-99	2000	2001- 4
Fixed investment costs					
Land, site preparation, development	0.000	0.000	0.000	0.000	0.000
Buildings and civil works	0.000	0.000	0.000	0.000	0.000
Auxiliary and service facilities .	0.000	0.000	0.000	0.000	0.000
Incorporated fixed assets	0.000	0.000	0.000	0.000	0.000
Plant, machinery and equipment . .	0.000	0.000	0.000	11000.000	0.000
Total fixed investment costs	0.000	0.000	0.000	11000.000	0.000
Preproduction capitals expenditures.	0.000	0.000	0.000	0.000	0.000
Working capital	16041.620	3563.023	0.000	0.000	0.000
Total current investment costs . . .	16041.620	3563.023	0.000	11000.000	0.000
Of it foreign, %	0.000	0.000	0.000	0.000	0.000

COMFAR 2.1 - DP/VIE/91/003-OIL REFINERY ---

Total Current Investment in '000 F.CFA.

Year	2005
Fixed investment costs	
Land, site preparation, development	0.000
Buildings and civil works	0.000
Auxiliary and service facilities .	3000.000
Incorporated fixed assets	0.000
Plant, machinery and equipment . .	69000.000
Total fixed investment costs	72000.000
Preproduction capitals expenditures.	0.000
Working capital	0.000
Total current investment costs . . .	72000.000
Of it foreign, %	0.000

RUBBERWOOD PROCESSING, IVORY COAST --- 28.08.

COMFAR 2.1 UNIDO

Total Production Costs in '000 F.CFA.

Year	1995	1996	1997	1998	1999
% of nom. capacity (single product).	70.000	85.000	100.000	100.000	100.000
Raw material 1	25779.600	31303.800	36828.000	36828.000	36828.000
Other raw materials	8648.641	10501.920	12355.200	12355.200	12355.200
Utilities	289.850	315.425	341.000	341.000	341.000
Energy	5786.000	5786.000	5786.000	5786.000	5786.000
Labour, direct	4004.000	4862.000	5720.000	5720.000	5720.000
Repair, maintenance	2273.750	2474.375	2675.000	2675.000	2675.000
Spares	1872.500	2273.750	2675.000	2675.000	2675.000
Factory overheads	3060.000	3060.000	3060.000	3060.000	3060.000
Factory costs	51714.340	60577.270	69440.200	69440.200	69440.200
Administrative overheads	3300.000	3300.000	3300.000	3300.000	3300.000
Indir. costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Direct costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Depreciation	11143.460	11143.460	11143.460	11143.460	11143.460
Financial costs	11325.000	10192.500	9060.000	7927.500	6795.000
Total production costs	77482.800	85213.230	92943.660	91811.160	90678.660
Costs per unit (single product)	69.880	63.290	58.677	57.962	57.247
Of it foreign, %	0.000	0.000	0.000	0.000	0.000
Of it variable,%	53.380	58.936	63.572	64.356	65.160
Total labour	7304.000	8162.000	9020.000	9020.000	9020.000

COMFAR 2.1 UNIDO

COMFAR 2.1 - DP/VIE/91/003-OIL REFINERY ---

Total Production Costs in '000 F.CFA.

Year	2000	2001	2002	2003	2004
% of nom. capacity (single product).	100.000	100.000	100.000	100.000	100.000
Raw material 1	36828.000	36828.000	36828.000	36828.000	36828.000
Other raw materials	12355.200	12355.200	12355.200	12355.200	12355.200
Utilities	341.000	341.000	341.000	341.000	341.000
Energy	5786.000	5786.000	5786.000	5786.000	5786.000
Labour, direct	5720.000	5720.000	5720.000	5720.000	5720.000
Repair, maintenance	2675.000	2675.000	2675.000	2675.000	2675.000
Spares	2675.000	2675.000	2675.000	2675.000	2675.000
Factory overheads	3060.000	3060.000	3060.000	3060.000	3060.000
Factory costs	69440.200	69440.200	69440.200	69440.200	69440.200
Administrative overheads	3300.000	3300.000	3300.000	3300.000	3300.000
Indir. costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Direct costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Depreciation	6030.958	8010.958	8010.958	8010.958	8010.958
Financial costs	5662.500	4530.000	3397.500	2265.000	1132.500
Total production costs	84433.660	85281.160	84148.660	83016.160	81883.660
Costs per unit (single product)	53.304	53.839	53.124	52.409	51.694
Of it foreign, %	0.000	0.000	0.000	0.000	0.000
Of it variable,%	69.979	69.284	70.216	71.174	72.159
Total labour	9020.000	9020.000	9020.000	9020.000	9020.000

Total Production Costs in '000 F.CFA.

Year	2005	2006- 8	2009
% of nom. capacity (single product).	100.000	100.000	100.000
Raw material 1	36828.000	36828.000	36828.000
Other raw materials	12355.200	12355.200	12355.200
Utilities	341.000	341.000	341.000
Energy	5786.000	5786.000	5786.000
Labour, direct	5720.000	5720.000	5720.000
Repair, maintenance	2675.000	2675.000	2675.000
Spares	2675.000	2675.000	2675.000
Factory overheads	3060.000	3060.000	3060.000
Factory costs	69440.200	69440.200	69440.200
Administrative overheads	3300.000	3300.000	3300.000
Indir. costs, sales and distribution	0.000	0.000	0.000
Direct costs, sales and distribution	0.000	0.000	0.000
Depreciation	2520.958	8010.958	8010.968
Financial costs	0.000	0.000	0.000
Total production costs	75261.160	80751.160	80751.170
Costs per unit (single product)	47.513	50.979	50.979
Of it foreign, %	0.000	0.000	0.000
Of it variable,%	78.508	73.171	73.171
Total labour	9020.000	9020.000	9020.000

COMFAR 2.1 UNIDO

Net Working Capital in '000 F.CFA.

Year	mdc	coto	1995	1996	1997	1998-2009
Coverage	mdc	coto				
Current assets &						
Accounts receivable	60	6.0	9169.058	10646.210	12123.370	12123.370
Inventory and materials	19	19.1	1819.024	2205.771	2592.517	2592.517
Energy	30	12.0	482.167	482.167	482.167	482.167
Spares	90	4.0	468.125	568.438	668.750	668.750
Work in progress	90	4.0	12928.590	15144.320	17360.050	17360.050
Finished products	30	12.0	4584.529	5323.106	6061.684	6061.684
Cash in hand	30	12.0	1209.188	1330.844	1452.500	1452.500
Total current assets			30660.680	35700.850	40741.040	40741.040
Current liabilities and						
Accounts payable	60	6.0	8619.058	10096.210	11573.370	11573.370
Net working capital			22041.620	25604.640	29167.670	29167.670
Increase in working capital			16041.620	3563.022	3563.027	0.000
Net working capital, local			22041.620	25604.640	29167.670	29167.670
Net working capital, foreign			0.000	0.000	0.000	0.000

Note: mdc = minimum days of coverage ; coto = coefficient of turnover .

COMFAR 2.1 UNIDO

Source of Finance, construction in '000 F.CFA.

Year	1994
Equity, ordinary ..	38000.000
Equity, preference.	0.000
Subsidies, grants .	0.000
Loan A, foreign .	0.000
Loan B, foreign..	0.000
Loan C, foreign .	0.000
Loan A, local....	75500.000
Loan B, local....	0.000
Loan C, local....	0.000
Total loan	75500.000
Current liabilities	0.000
Bank overdraft	0.000
Total funds	113500.000

Source of Finance, production in '000 F.CFA.

Year	1995	1996-97	1998-2004
Equity, ordinary ..	12000.000	0.000	0.000
Equity, preference.	0.000	0.000	0.000
Subsidies, grants .	0.000	0.000	0.000
Loan A, foreign .	0.000	0.000	0.000
Loan B, foreign..	0.000	0.000	0.000
Loan C, foreign .	0.000	0.000	0.000
Loan A, local....	-7550.000	-7550.000	-7550.000
Loan B, local....	0.000	0.000	0.000
Loan C, local....	0.000	0.000	0.000
Total loan	-7550.000	-7550.000	-7550.000
Current liabilities	8619.058	1477.154	0.000
Bank overdraft	0.000	0.000	0.000
Total funds	13069.060	-6072.846	-7550.000

Cashflow Tables, construction in '000 F.CFA.

Year	1994
Total cash inflow . .	113500.000
Financial resources .	113500.000
Sales, net of tax . .	0.000
Total cash outflow . .	112912.500
Total assets	107250.000
Operating costs . . .	0.000
Cost of finance . . .	5662.500
Repayment	0.000
Corporate tax . . .	0.000
Dividends paid . . .	0.000
Surplus (deficit) .	587.500
Cumulated cash balance	587.500
Inflow, local	113500.000
Outflow, local	112912.500
Surplus (deficit) .	587.500
Inflow, foreign . . .	0.000
Outflow, foreign . . .	0.000
Surplus (deficit) .	0.000
Net cashflow	-107250.000
Cumulated net cashflow	-107250.000

COMFAR 2.1 UNIDO

COMFAR 2.1 - DP/VIE/91/003-OIL REFINERY ---

Cashflow tables, production in '000 F.CFA.

Year	1995	1996	1997	1998	1999	2000
Total cash inflow . .	98235.060	95725.160	112357.200	110880.000	110880.000	110880.000
Financial resources .	20619.060	1477.154	1477.155	0.000	0.000	0.000
Sales, net of tax . .	77616.000	94248.000	110880.000	110880.000	110880.000	110880.000
Total cash outflow . .	98576.660	88466.910	97977.650	92031.470	91125.470	102242.000
Total assets	24660.680	5040.179	5040.181	0.000	0.000	11000.000
Operating costs . . .	55014.340	63877.280	72740.200	72740.200	72740.200	72740.200
Cost of finance . . .	11325.000	10192.500	9060.000	7927.500	6795.000	5662.500
Repayment	7550.000	7550.000	7550.000	7550.000	7550.000	7550.000
Corporate tax . . .	26.641	1806.953	3587.267	3813.767	4040.267	5289.258
Dividends paid . . .	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit) .	-341.594	7258.242	14379.510	18848.530	19754.530	8638.031
Cumulated cash balance	245.906	7504.148	21883.660	40732.190	60486.720	69124.750
Inflow, local	98235.060	95725.160	112357.200	110880.000	110880.000	110880.000
Outflow, local	98576.660	88466.910	97977.650	92031.470	91125.470	102242.000
Surplus (deficit) .	-341.594	7258.242	14379.510	18848.530	19754.530	8638.031
Inflow, foreign . . .	0.000	0.000	0.000	0.000	0.000	0.000
Outflow, foreign . . .	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit) .	0.000	0.000	0.000	0.000	0.000	0.000
Net cashflow	6533.397	25000.740	30989.500	34326.030	34099.530	21850.530
Cumulated net cashflow	-100716.600	-75715.860	-44726.360	-10400.320	23699.210	45549.730

RUBBERWOOD PROCESSING, IVORY COAST --- 28.08.

COMFAR 2.1 UNIDO

COMFAR 2.1 - DP/VIE/91/003-OIL REFINERY ---

Cashflow tables, production in '000 F.CFA.

Year	2001	2002	2003	2004	2005	2006
Total cash inflow	110880.000	110880.000	110880.000	110880.000	110880.000	110880.000
Financial resources	0.000	0.000	0.000	0.000	0.000	0.000
Sales, net of tax	110880.000	110880.000	110880.000	110880.000	110880.000	110880.000
Total cash outflow	89939.970	89033.970	88127.970	87221.970	151864.000	78765.970
Total assets	0.000	0.000	0.000	0.000	72000.000	0.000
Operating costs	72740.200	72740.200	72740.200	72740.200	72740.200	72740.200
Cost of finance	4530.000	3397.500	2265.000	1132.500	0.000	0.000
Repayment	7550.000	7550.000	7550.000	7550.000	0.000	0.000
Corporate tax	5119.767	5346.268	5572.768	5799.268	7123.768	6025.768
Dividends paid	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit)	20940.030	21846.030	22752.030	23658.030	-40983.970	32114.030
Cumulated cash balance	90064.780	111910.800	134662.800	158320.900	117336.900	149450.900
Inflow, local	110880.000	110880.000	110880.000	110880.000	110880.000	110880.000
Outflow, local	89939.970	89033.970	88127.970	87221.970	151864.000	78765.970
Surplus (deficit)	20940.030	21846.030	22752.030	23658.030	-40983.970	32114.030
Inflow, foreign	0.000	0.000	0.000	0.000	0.000	0.000
Outflow, foreign	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit)	0.000	0.000	0.000	0.000	0.000	0.000
Net cashflow	33020.030	32793.530	32567.030	32340.530	-40983.970	32114.030
Cumulated net cashflow	78569.770	111363.300	143930.300	176270.900	135286.900	167400.900

RUBBERWOOD PROCESSING, IVORY COAST --- 28.08.

COMFAR 2.1 UNIDO

Cashflow tables, production in '000 F.CFA.

Year	2007	2008	2009
Total cash inflow . .	110880.000	110880.000	110880.000
Financial resources .	0.000	0.000	0.000
Sales, net of tax . .	110880.000	110880.000	110880.000
Total cash outflow . .	78765.970	78765.970	78765.970
Total assets	0.000	0.000	0.000
Operating costs . . .	72740.200	72740.200	72740.200
Cost of finance . . .	0.000	0.000	0.000
Repayment	0.000	0.000	0.000
Corporate tax . . .	6025.768	6025.768	6025.766
Dividends paid . . .	0.000	0.000	0.000
Surplus (deficit) .	32114.030	32114.030	32114.030
Cumulated cash balance	181565.000	213679.000	245793.000
Inflow, local	110880.000	110880.000	110880.000
Outflow, local	78765.970	78765.970	78765.970
Surplus (deficit) .	32114.030	32114.030	32114.030
Inflow, foreign . . .	0.000	0.000	0.000
Outflow, foreign . . .	0.000	0.000	0.000
Surplus (deficit) .	0.000	0.000	0.000
Net cashflow	32114.030	32114.030	32114.030
Cumulated net cashflow	199515.000	231629.000	263743.000

Cashflow Discounting:

a) Equity paid versus Net income flow:

Net present value	40137.75	at	15.00 %
Internal Rate of Return (IRRE1) ..	25.94 %		

b) Net Worth versus Net cash return:

Net present value	38465.91	at	15.00 %
Internal Rate of Return (IRRE2) ..	24.91 %		

c) Internal Rate of Return on total investment:

Net present value	44715.91	at	15.00 %
Internal Rate of Return (IRR) ..	2i.92 %		

Net Worth = Equity paid plus reserves

Net Income Statement in '000 F.CFA.

Year	1995	1996	1997	1998	1999
Total sales, incl. sales tax	77616.000	94248.000	110880.000	110880.000	110880.000
Less: variable costs, incl. sales tax.	41360.340	50223.270	59086.200	59086.200	59086.200
Variable margin	36255.660	44024.730	51793.800	51793.800	51793.800
As % of total sales	46.712	46.712	46.712	46.712	46.712
Non-variable costs, incl. depreciation	24797.450	24797.460	24797.460	24797.460	24797.460
Operational margin	11458.200	19227.270	26996.340	26996.340	26996.340
As % of total sales	14.763	20.401	24.347	24.347	24.347
Cost of finance	11325.000	10192.500	9060.000	7927.500	6795.000
Gross profit	133.203	9034.766	17936.340	19068.840	20201.340
Allowances	0.000	0.000	0.000	0.000	0.000
Taxable profit	133.203	9034.766	17936.340	19068.840	20201.340
Tax	26.641	1806.953	3587.267	3813.767	4040.267
Net profit	106.563	7227.813	14349.070	15255.070	16161.070
Dividends paid	0.000	0.000	0.000	0.000	0.000
Undistributed profit	106.563	7227.813	14349.070	15255.070	16161.070
Accumulated undistributed profit	106.563	7334.375	21683.440	36938.510	53099.580
Gross profit, % of total sales	0.172	9.586	16.176	17.198	18.219
Net profit, % of total sales	0.137	7.669	12.941	13.758	14.575
ROE, Net profit, % of equity	0.213	14.456	28.698	30.510	32.322
ROI, Net profit+interest, % of invest.	9.272	13.732	17.949	17.776	17.602

COMFAR © 2.1 UNIDO

Net Income Statement in '000 F.CFA.

Year	2000	2001	2002	2003	2004
Total sales, incl. sales tax	110880.000	110880.000	110880.000	110880.000	110880.000
Less: variable costs, incl. sales tax.	59086.200	59086.200	59086.200	59086.200	59086.200
Variable margin	51793.800	51793.800	51793.800	51793.800	51793.800
As % of total sales	46.712	46.712	46.712	46.712	46.712
Non-variable costs, incl. depreciation	19684.960	21664.960	21664.960	21664.960	21664.960
Operational margin	32108.840	30128.840	30128.840	30128.840	30128.840
As % of total sales	28.958	27.172	27.172	27.172	27.172
Cost of finance	5662.500	4530.000	3397.500	2265.000	1132.500
Gross profit	26446.340	25598.840	26731.340	27863.840	28996.340
Allowances	0.000	0.000	0.000	0.000	0.000
Taxable profit	26446.340	25598.840	26731.340	27863.840	28996.340
Tax	5289.268	5119.767	5346.268	5572.768	5799.268
Net profit	21157.070	20479.070	21385.070	22291.070	23197.070
Dividends paid	0.000	0.000	0.000	0.000	0.000
Undistributed profit	21157.070	20479.070	21385.070	22291.070	23197.070
Accumulated undistributed profit	74256.650	94735.720	116120.800	138411.900	161608.900
Gross profit, % of total sales	23.851	23.087	24.108	25.130	26.151
Net profit, % of total sales	19.081	18.470	19.287	20.104	20.921
ROE, Net profit, % of equity	42.314	40.958	42.770	44.582	46.394
ROI, Net profit+interest, % of invest.	18.965	17.685	17.524	17.364	17.204

Net Income Statement in '000 F.CFA.

Year	2005	2006	2007	2008	2009
Total sales, incl. sales tax	110880.000	110880.000	110880.000	110880.000	110880.000
Less: variable costs, incl. sales tax.	59086.200	59086.200	59086.200	59086.200	59086.200
Variable margin	51793.800	51793.800	51793.800	51793.800	51793.800
As % of total sales	46.712	46.712	46.712	46.712	46.712
Non-variable costs, incl. depreciation	16174.960	21664.960	21664.960	21664.960	21664.970
Operational margin	35618.840	30128.840	30128.840	30128.840	30128.830
As % of total sales	32.124	27.172	27.172	27.172	27.172
Cost of finance	0.000	0.000	0.000	0.000	0.000
Gross profit	35618.840	30128.840	30128.840	30128.840	30128.830
Allowances	0.000	0.000	0.000	0.000	0.000
Taxable profit	35618.840	30128.840	30128.840	30128.840	30128.830
Tax	7123.768	6025.768	6025.768	6025.768	6025.766
Net profit	28495.070	24103.070	24103.070	24103.070	24103.060
Dividends paid	0.000	0.000	0.000	0.000	0.000
Undistributed profit	28495.070	24103.070	24103.070	24103.070	24103.060
Accumulated undistributed profit	190104.000	214207.000	238310 100	262413.200	286516.300
Gross profit, % of total sales	32.124	27.172	27.172	27.172	27.172
Net profit, % of total sales	25.699	21.738	21.738	21.738	21.738
ROE, Net profit, % of equity	56.990	48.206	48.206	48.206	48.206
ROI, Net profit+interest, % of invest.	13.352	11.294	11.294	11.294	11.294

COMFAR 2.1 UNIDO

Projected Balance Sheets, construction in '000 F.CFA.

Year	1994
Total assets	113500.000
Fixed assets, net of depreciation	0.000
Construction in progress	106912.500
Current assets	6000.000
Cash, bank	0.000
Cash surplus, finance available	587.500
Loss carried forward	0.000
Loss	0.000
Total liabilities	113500.000
Equity capital	38000.000
Reserves, retained profit	0.000
Profit	0.000
Long and medium term debt	75500.000
Current liabilities	0.000
Bank overdraft, finance required.	0.000
Total debt	75500.000
Equity, % of liabilities	33.480

COMFAR © 2.1 UNIDO

COMFAR 2.1 - DP/VIE/91/003-OIL REFINERY ---

Projected Balance Sheets, Production in '000 F.CFA.

Year	1995	1996	1997	1998	1999
Total assets	126675.600	127830.600	136106.800	143811.900	152423.000
Fixed assets, net of depreciation	95769.040	84625.580	73482.120	62338.660	51195.200
Construction in progress	0.000	0.000	0.000	0.000	0.000
Current assets	29451.490	34370.010	39288.540	39288.540	39288.540
Cash, bank	1209.188	1330.844	1452.500	1452.500	1452.500
Cash surplus, finance available	245.898	7504.148	21883.660	40732.180	60486.730
Loss carried forward	0.000	0.000	0.000	0.000	0.000
Loss	0.000	0.000	0.000	0.000	0.000
Total liabilities	126675.600	127830.600	136106.800	143811.900	152423.000
Equity capital	50000.000	50000.000	50000.000	50000.000	50000.000
Reserves, retained profit	0.000	106.563	7334.375	21683.440	36938.510
Profit	106.563	7227.813	14349.070	15255.070	16161.070
Long and medium term debt	67950.000	60400.000	52850.000	45300.000	37750.000
Current liabilities	8619.058	10096.210	11573.370	11573.370	11573.370
Bank overdraft, finance required.	0.000	0.000	0.000	0.000	0.000
Total debt	76569.050	70496.210	64423.370	56873.370	49323.370
Equity, % of liabilities	39.471	39.114	36.736	34.768	32.803

RUBBERWOOD PROCESSING, IVORY COAST --- 28.08.

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COMFAR 2.1 - DP/VIE/91/003-OIL REFINERY ---

Projected Balance Sheets, Production in '000 F.CFA.

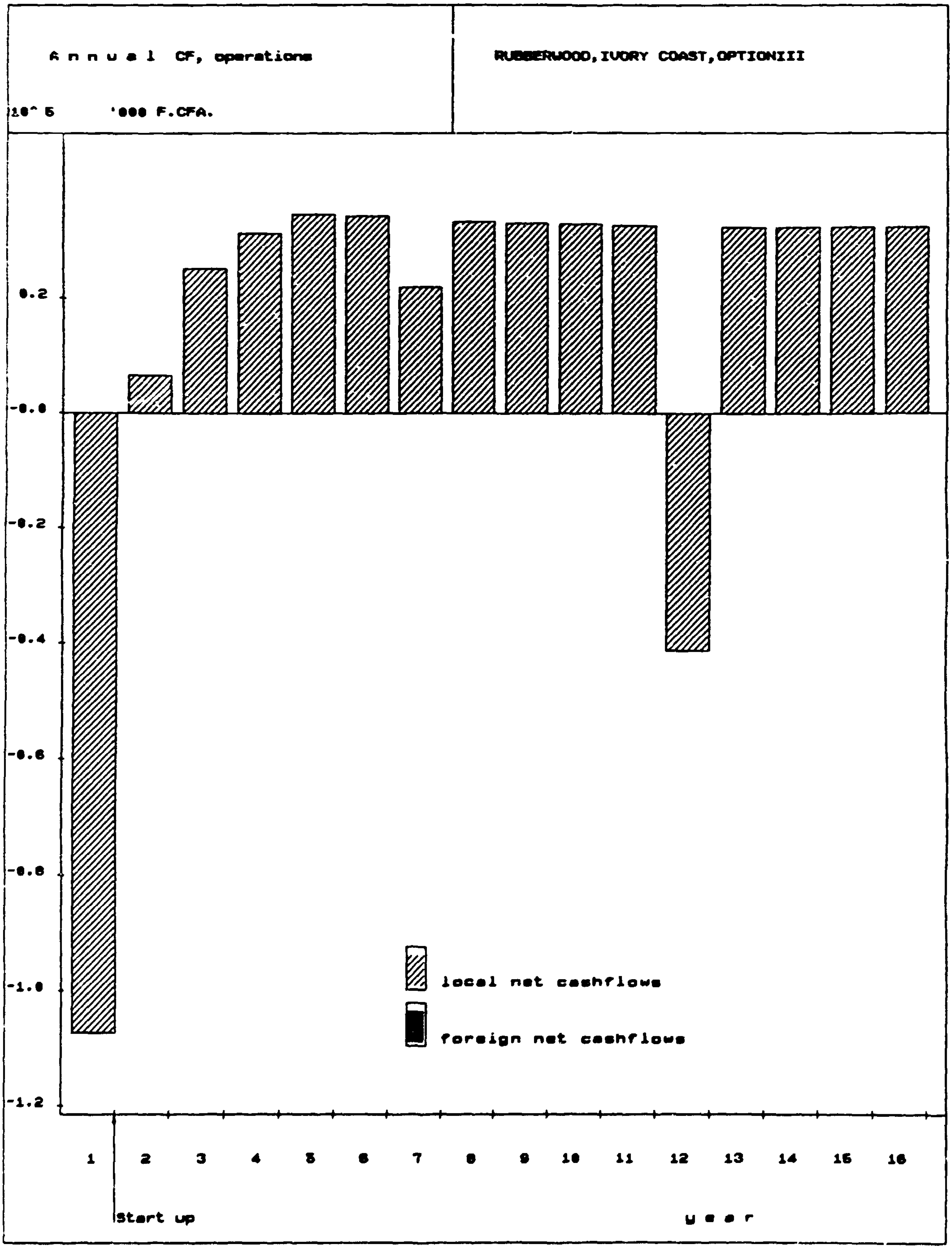
Year	2000	2001	2002	2003	2004
Total assets	166030.000	178959.100	192794.200	207535.200	223182.300
Fixed assets, net of depreciation	45164.250	48153.290	40142.330	32131.380	24120.420
Construction in progress	11000.000	0.000	0.000	0.000	0.000
Current assets	39288.540	39288.540	39288.540	39288.540	39288.540
Cash, bank	1452.500	1452.500	1452.500	1452.500	1452.500
Cash surplus, finance available	69124.750	90064.770	111910.800	134662.800	158320.800
Loss carried forward	0.000	0.000	0.000	0.000	0.000
Loss	0.000	0.000	0.000	0.000	0.000
Total liabilities	166030.000	178959.100	192794.200	207535.200	223182.300
Equity capital	50000.000	50000.000	50000.000	50000.000	50000.000
Reserves, retained profit	53099.580	74256.650	94735.720	116120.800	138411.900
Profit	21157.070	20479.070	21385.070	22291.070	23197.070
Long and medium term debt	30200.000	22650.000	15100.000	7550.000	0.000
Current liabilities	11573.370	11573.370	11573.370	11573.370	11573.370
Bank overdraft, finance required.	0.000	0.000	0.000	0.000	0.000
Total debt	41773.370	34223.370	26673.370	19123.370	11573.370
Equity, % of liabilities	30.115	27.939	25.934	24.092	22.403

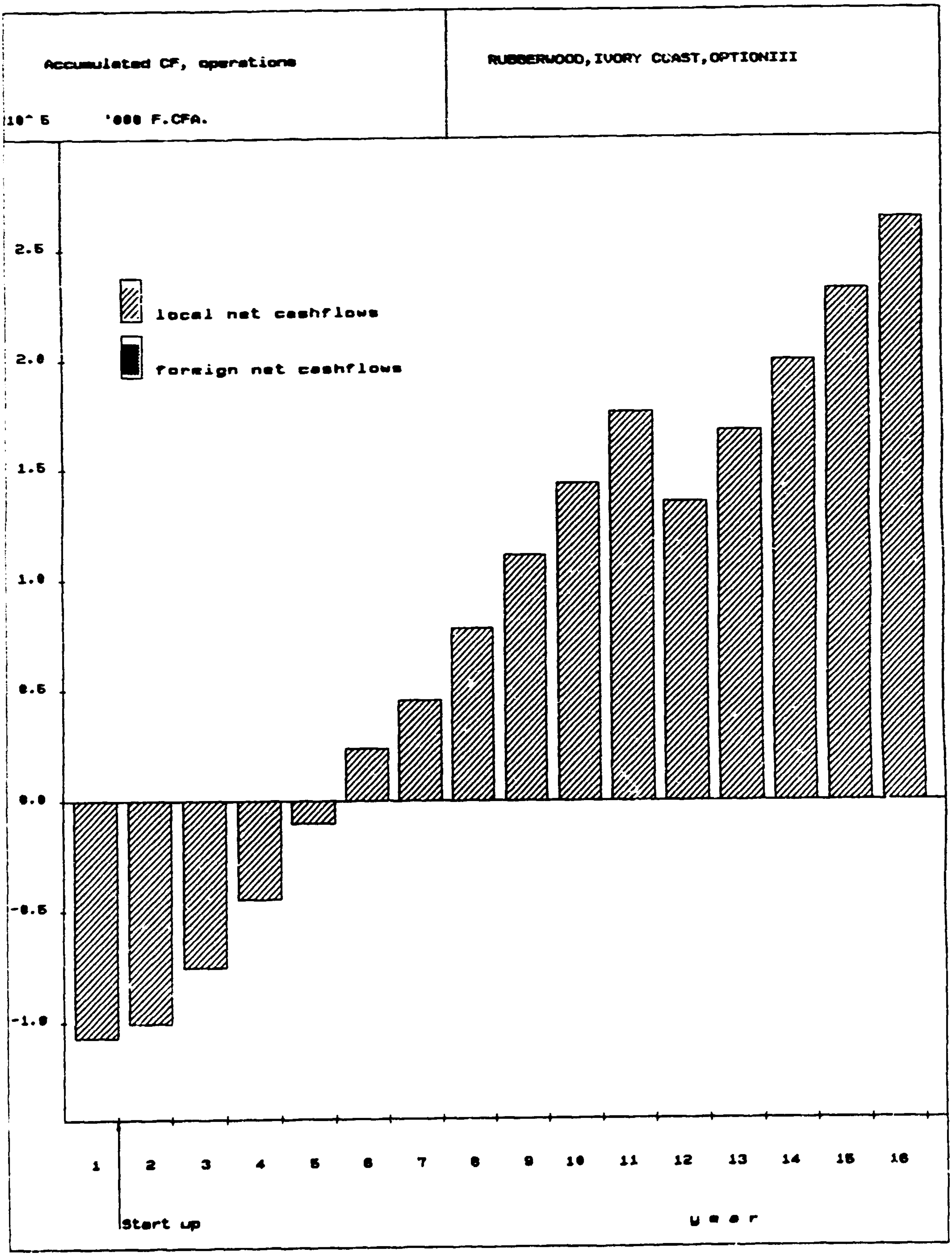
RUBBERWOOD PROCESSING, IVORY COAST --- 28.08.

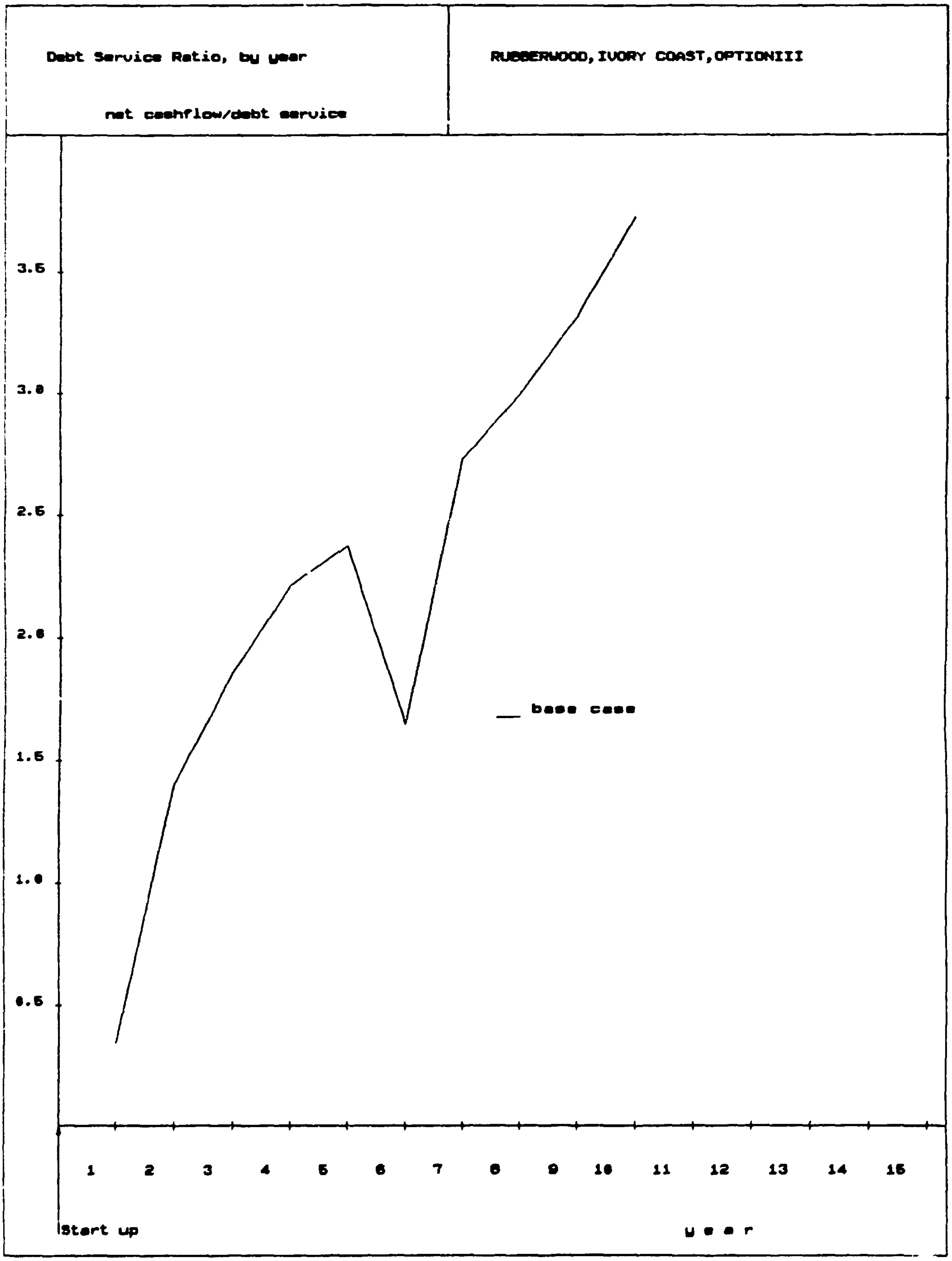
Projected Balance Sheets, Production in '000 F.CFA.

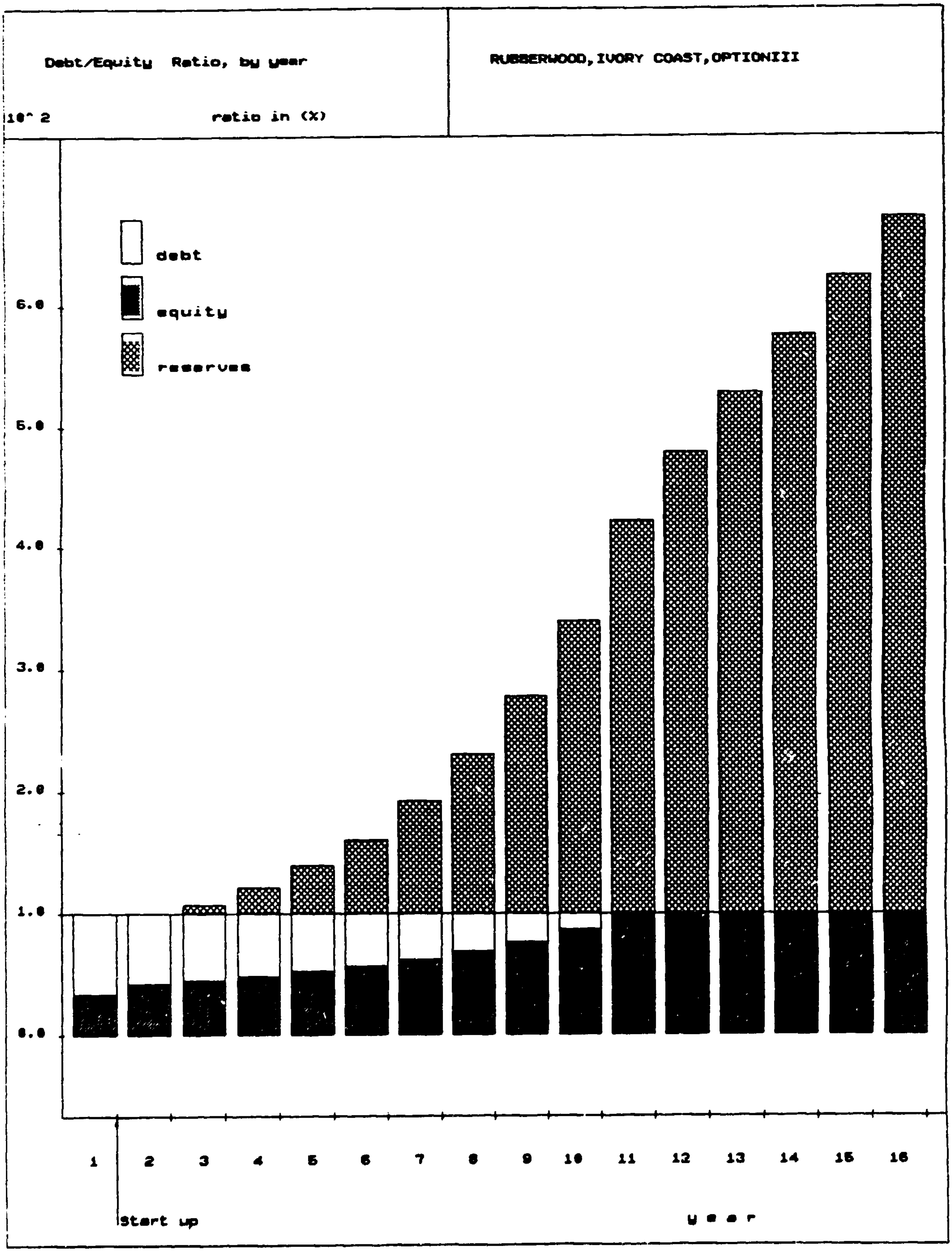
Year	2005	2006	2007	2008	2009
Total assets	251677.300	275780.400	299883.500	323986.600	348089.600
Fixed assets, net of depreciation	21599.460	85588.500	77577.540	69566.580	61555.610
Construction in progress	72000.000	0.000	0.000	0.000	0.000
Current assets	39288.540	39288.540	39288.540	39288.540	39288.540
Cash, bank	1452.500	1452.500	1452.500	1452.500	1452.500
Cash surplus, finance available	117336.800	149450.900	181564.900	213679.000	245793.000
Loss carried forward	0.000	0.000	0.000	0.000	0.000
Loss	0.000	0.000	0.000	0.000	0.000
Total liabilities	251677.300	275780.460	299883.500	323986.600	348089.600
Equity capital	50000.000	50000.000	50000.000	50000.000	50000.000
Reserves, retained profit	161608.900	190104.000	214207.000	238310.100	262413.200
Profit	28495.070	24103.070	24103.070	24103.070	24103.060
Long and medium term debt	0.000	0.000	0.000	0.000	0.000
Current liabilities	11573.370	11573.370	11573.370	11573.370	11573.370
Bank overdraft, finance required.	0.000	0.000	0.000	0.000	0.000
Total debt	11573.370	11573.370	11573.370	11573.370	11573.370
Equity, % of liabilities	19.867	18.130	16.673	15.433	14.364

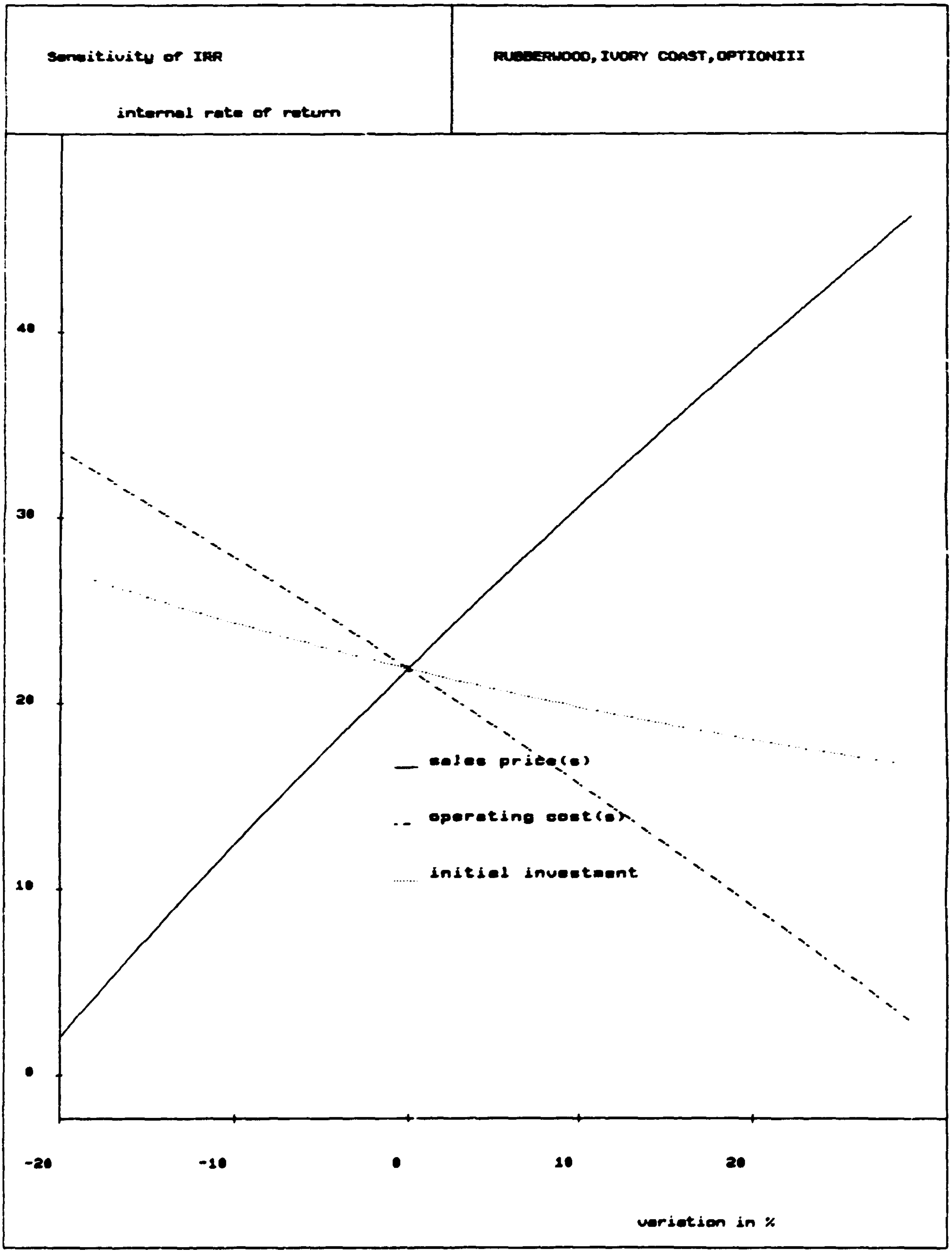
ANNEX III B
Selected GRAFIX charts
OPTION III

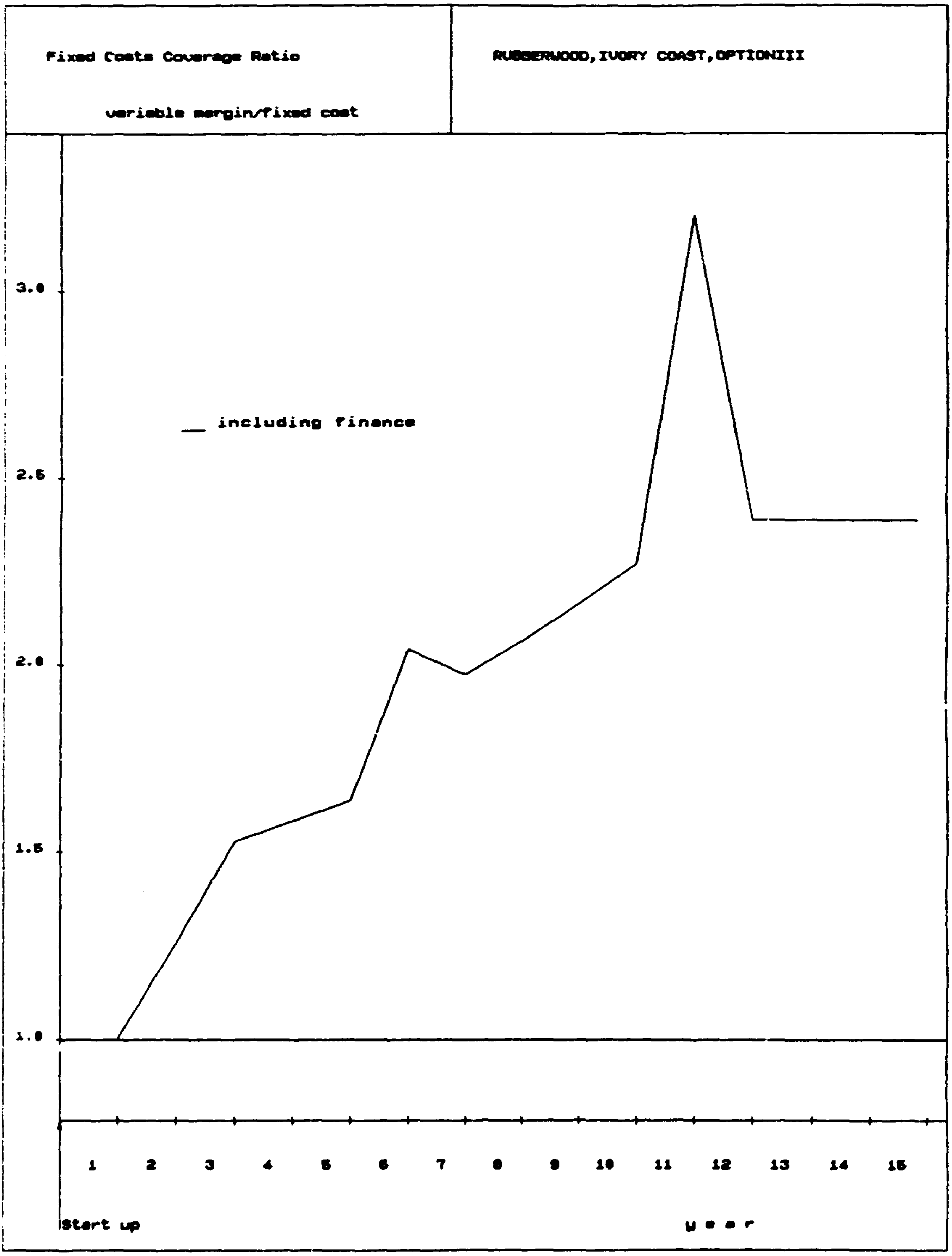

A n n u a l CF, operations
RUBBERWOOD,IVORY COAST,OPTIONIII
10^ 5 '000 F.CFA.
0.2
-0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
local net cashflows
foreign net cashflows
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Start up
y e a r

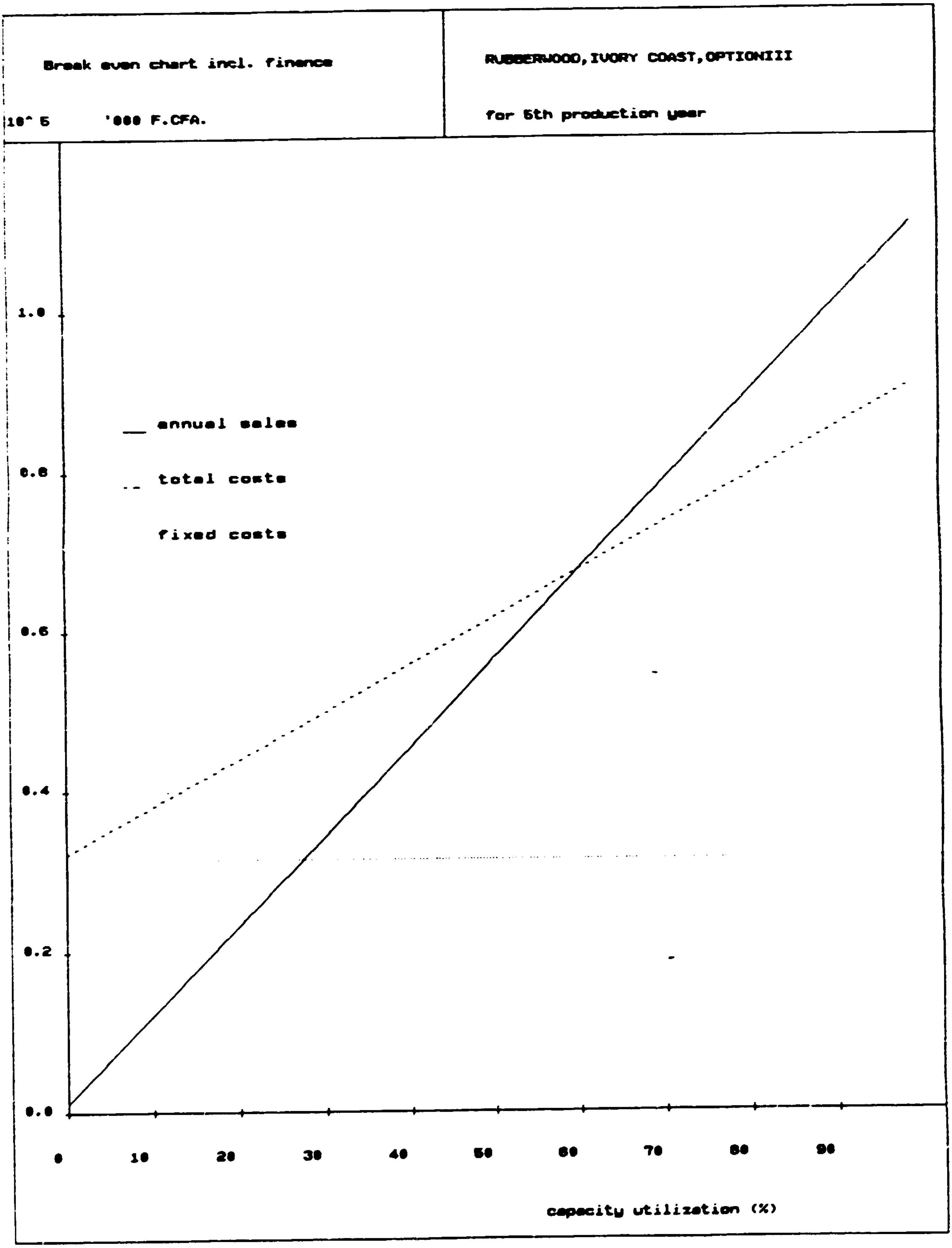

Accumulated CF, operations
RUBBERWOOD,IVORY COAST,OPTIONIII
10^ 5 '000 F.CFA.
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
local net cashflows
foreign net cashflows
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Start up
y e a r


Debt Service Ratio, by year
net cashflow/debt service
RUBBERWOOD, IVORY COAST, OPTIONIII
3.5
3.0
2.5
2.0
1.5
1.0
0.5
__ base case
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Start up
y e a r


Debt/Equity Ratio, by year
RUBBERWOOD, IVORY COAST, OPTIONIII
10^2
ratio in (%)
debt
equity
reserves
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Start up
year


Sensitivity of IRR
internal rate of return
RUBBERWOOD, IVORY COAST, OPTIONIII
40
30
20
10
0
-20
-10
0
10
20
sales price(s)
operating cost(s)
initial investment
variation in %

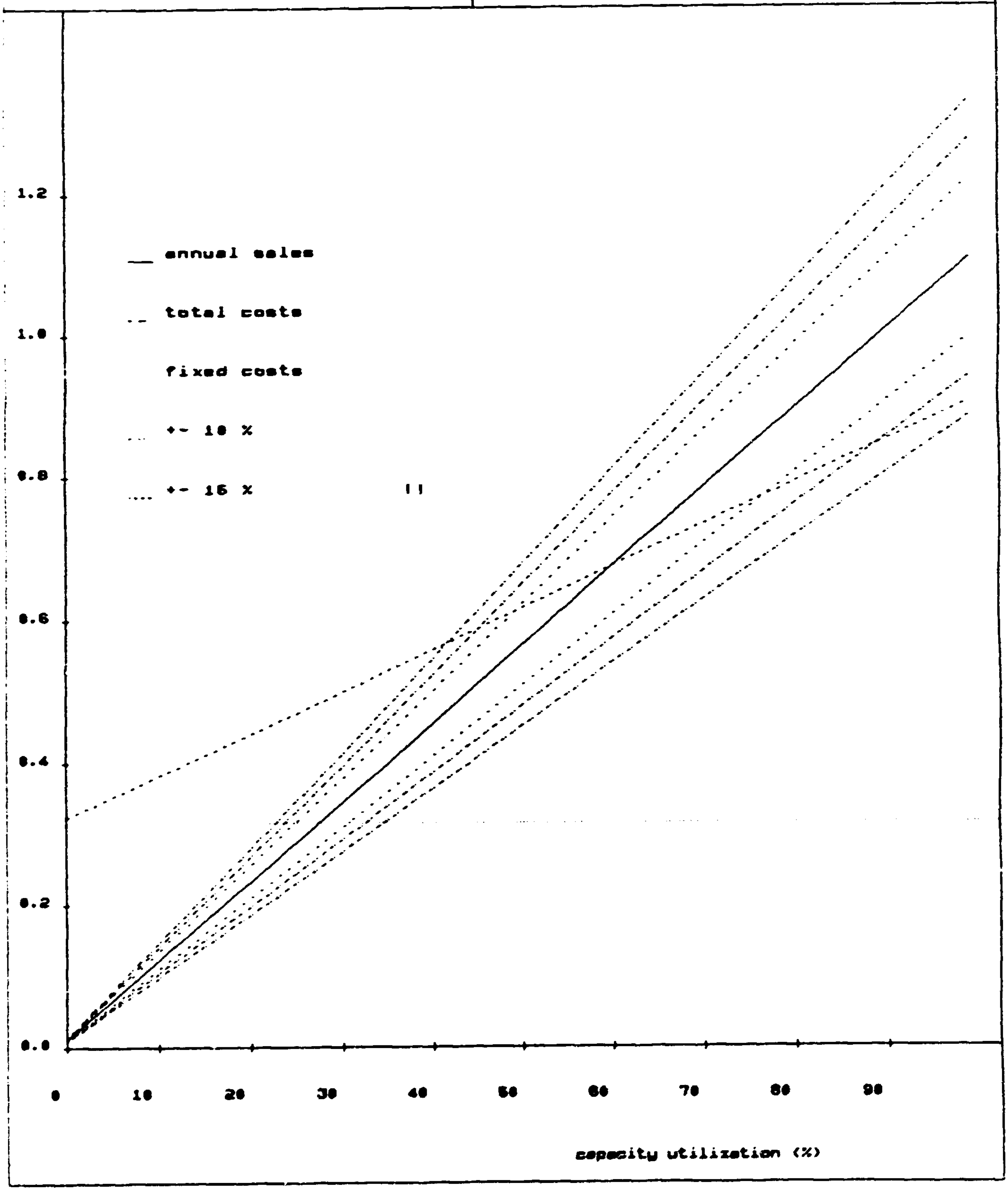

Fixed Costs Coverage Ratio
variable margin/fixed cost
RUBBERWOOD,IVORY COAST,OPTIONIII
3.0
2.5
2.0
1.5
1.0
__ including finance
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Start up
y e a r

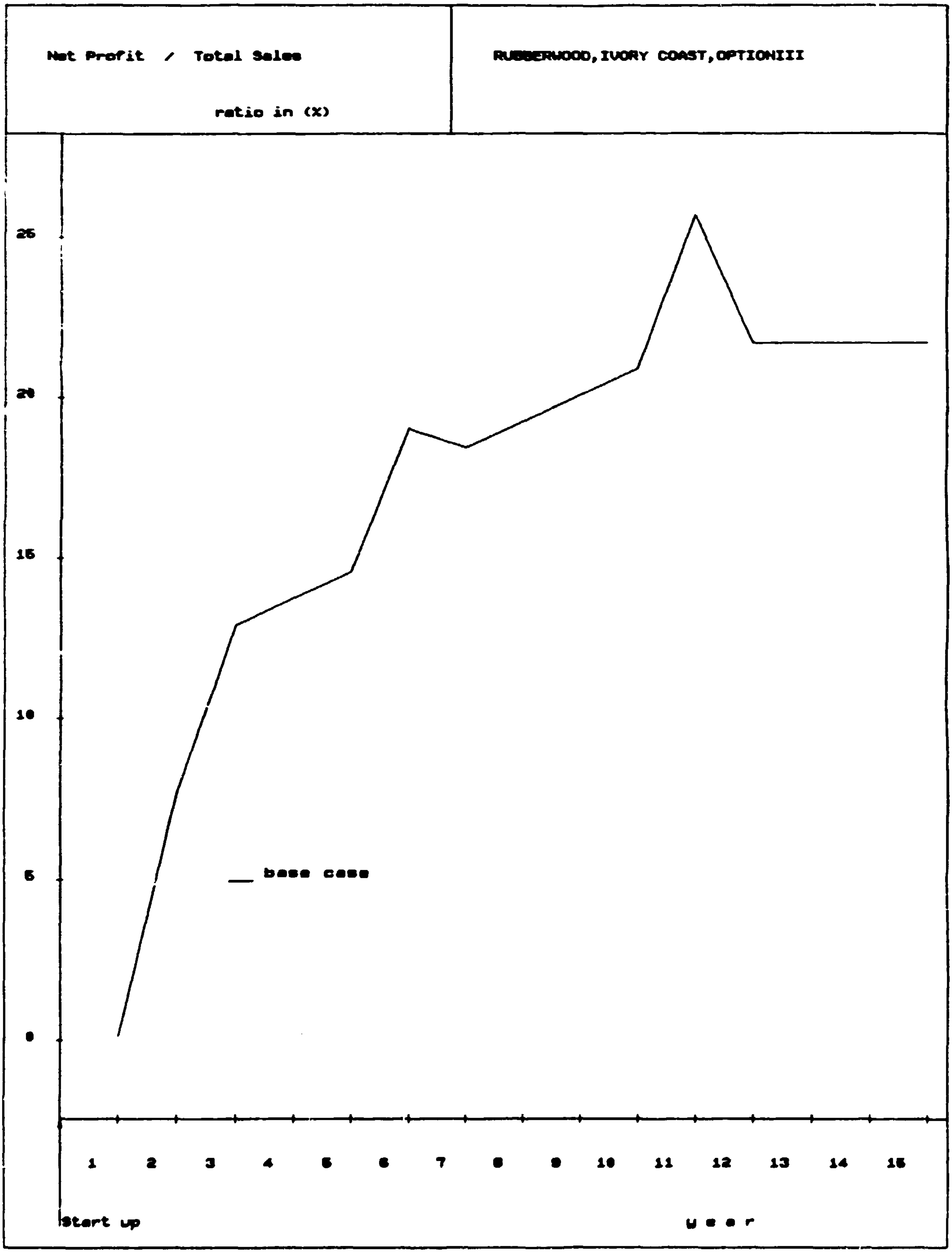

Break even chart incl. finance
RUBBERWOOD,IVORY COAST,OPTIONIII
10^ 5 '000 F.CFA.
for 5th production year
1.0
0.8
0.6
0.4
0.2
0.0
annual sales
total costs
fixed costs
0
10
20
30
40
50
60
70
80
90
capacity utilization (%)

Break even chart incl. finance

variation of sales prices

for 5th production year




Net Profit / Total Sales
ratio in (%)
RUBBERWOOD,IVORY COAST,OPTIONIII
25
20
15
10
5
0
base case
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Start up
year

ANNEX IV
COMFAR Schedules
OPTION IV

COMFAR 2.1 UNIDO

COMFAR 2.1 - DP/VIE/91/003-OIL REFINERY

RUBBERWOOD PROCESSING, IVORY COAST
18.08.93
OPTION IV: 3960 cu.m. PHASE I + II.

1 year(s) of construction, 15 years of production
currency conversion rates:
foreign currency 1 unit = 1.0000 units accounting currency
local currency 1 unit = 1.0000 units accounting currency
accounting currency: '000 F.CFA.

Total initial investment during construction phase

fixed assets:	163750.00	0.000 % foreign
current assets:	6200.00	0.000 % foreign
total assets:	169950.00	0.000 % foreign

Source of funds during construction phase

equity & grants:	55000.00	0.000 % foreign
foreign loans :	0.00	
local loans :	116000.00	
total funds :	171000.00	0.000 % foreign

Cashflow from operations

Year:	1	2	3
operating costs:	53305.11	59297.06	65289.00
depreciation :	21650.96	21650.96	21650.96
interest :	17400.00	15660.00	13920.00
production costs	92356.07	96608.02	100860.00
thereof foreign	0.00 %	0.00 %	0.00 %
total sales :	77616.00	94248.00	110880.00
gross income :	-14740.07	-2360.02	10020.05
net income :	-14740.07	-2360.02	8016.04
cash balance :	346.78	4281.02	15457.06
net cashflow :	7846.78	31541.02	40977.06

Net Present Value at: 15.00 % = -651.72
Internal Rate of Return: 14.93 %
Return on equity1: 11.42 %
Return on equity2: 13.12 %

Index of Schedules produced by COMFAR

Total initial investment
Total investment during production
Total production costs
Working Capital requirements
Cashflow Tables
Projected Balance
Net income statement
Source of finance

COMFAR ©
2.1 UNIDO

Total ˈtial Investment in '000 F.CFA.

Year	1994
Fixed investment costs	
Land, site preparation, development	1200.000
Buildings and civil works	21050.000
Auxiliary and service facilities .	3000.000
Incorporated fixed assets	50800.000
Plant machinery and equipment . . .	69000.000
Total fixed investment costs	145050.000
Pre-production capital expenditures.	18700.000
Net working capital	6200.000
Total initial investme t costs . . .	169950.000
Of it foreign, in %	0.000

COMFAR 2.1 UNIDO

Total Current Investment in '000 F.CFA.

Year	1995	1996	1997	1998	1999
Fixed investment costs					
Land, site preparation, development	0.000	0.000	0.000	0.000	0.000
Buildings and civil works	0.000	0.000	0.000	0.000	0.000
Auxiliary and service facilities	0.000	0.000	0.000	0.000	0.000
Incorporated fixed assets	0.000	800.000	0.000	800.000	0.000
Plant, machinery and equipment	0.000	0.000	0.000	0.000	0.000
Total fixed investment costs	0.000	800.000	0.000	800.000	0.000
Preproduction capitals expenditures.	0.000	0.000	0.000	0.000	0.000
Working capital	16464.110	2609.918	2609.926	0.000	0.000
Total current investment costs	16464.110	3409.918	2609.926	800.000	0.000
Of it foreign, %	0.000	0.000	0.000	0.000	0.000

COMFAR 2.1 - DP/VIE/91/003-OIL REFINERY ---

Total Current Investment in '000 F.CFA.

Year	2000	2001	2002	2003	2004
Fixed investment costs					
Land, site preparation, development	0.000	0.000	0.000	0.000	0.000
Buildings and civil works	3000.000	0.000	0.000	0.000	0.000
Auxiliary and service facilities	0.000	0.000	0.000	0.000	0.000
Incorporated fixed assets	50800.000	0.000	800.000	0.000	800.000
Plant, machinery and equipment	11000.000	0.000	0.000	0.000	0.000
Total fixed investment costs	64800.000	0.000	800.000	0.000	800.000
Preproduction capitals expenditures.	0.000	0.000	0.000	0.000	0.000
Working capital	0.000	0.000	0.000	0.000	0.000
Total current investment costs	64800.000	0.000	800.000	0.000	800.000
Of it foreign, %	0.000	0.000	0.000	0.000	0.000

RUBBERWOOD PROCESSING, IVORY COAST --- 18.08.

COMFAR 2.1 UNIDO

Total Current Investment in '000 F.CFA.

Year	2005	2006	2007	2008
Fixed investment costs				
Land, site preparation, development	0.000	0.000	0.000	0.000
Buildings and civil works	3000.000	0.000	0.000	0.000
Auxiliary and service facilities	3000.000	0.000	0.000	0.000
Incorporated fixed assets	50000.000	800.000	0.000	800.000
Plant, machinery and equipment	69000.000	0.000	0.000	0.000
Total fixed investment costs	125000.000	800.000	0.000	800.000
Preproduction capitals expenditures.	0.000	0.000	0.000	0.000
Working capital	0.000	0.000	0.000	0.000
Total current investment costs	125000.000	800.000	0.000	800.000
Of it foreign, %	0.000	0.000	0.000	0.000

Total Production Costs in '000 F.CFA.

Year	1995	1996	1997	1998	1999
% of nom. capacity (single product).	70.000	85.000	100.000	100.000	100.000
Raw material 1	831.600	1009.800	1188.000	1188.000	1188.000
Other raw materials	15578.500	18916.750	22255.000	22255.000	22255.000
Utilities	289.850	315.425	341.000	341.000	341.000
Energy	8947.860	9233.431	9519.000	9519.000	9519.000
Labour, direct	14081.100	15323.550	16566.000	16566.000	16566.000
Repair, maintenance	4953.800	5390.900	5828.000	5828.000	5828.000
Spares	2262.400	2747.200	3232.000	3232.000	3232.000
Factory overheads	3060.000	3060.000	3060.000	3060.000	3060.000
Factory costs	50005.110	55997.060	61989.000	61989.000	61989.000
Administrative overheads	3300.000	3300.000	3300.000	3300.000	3300.000
Indir. costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Direct costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Depreciation	21650.960	21650.960	21650.960	21650.960	21650.960
Financial costs	17400.000	15660.000	13920.000	12180.000	10440.000
Total production costs	92356.070	96608.020	100860.000	99119.950	97379.950
Costs per unit (single product)	83.294	71.753	63.674	62.576	61.477
Of it foreign, %	0.000	0.000	0.000	0.000	0.000
Of it variable,%	30.277	35.147	39.606	40.301	41.021
Total labour	17381.100	18623.550	19866.000	19866.000	19866.000

COMFAR 2.1 UNIDO

Total Production Costs in '000 F.CFA.

Year	2000	2001	2002	2003	2004
% of nom. capacity (single product).	100.000	100.000	100.000	100.000	100.000
Raw material 1	1188.000	1188.000	1188.000	1188.000	1188.000
Other raw materials	22255.000	22255.000	22255.000	22255.000	22255.000
Utilities	341.000	341.000	341.000	341.000	341.000
Energy	9519.000	9519.000	9519.000	9519.000	9519.000
Labour, direct	16566.000	16566.000	16566.000	16566.000	16566.000
Repair, maintenance	5828.000	5828.000	5828.000	5828.000	5828.000
Spares	3232.000	3232.000	3232.000	3232.000	3232.000
Factory overheads	3060.000	3060.000	3060.000	3060.000	3060.000
Factory costs	61989.000	61989.000	61989.000	61989.000	61989.000
Administrative overheads	3300.000	3300.000	3300.000	3300.000	3300.000
Indir. costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Direct costs, sales and distribution	0.000	0.000	0.000	0.000	0.000
Depreciation	6390.958	17910.960	17910.960	17910.960	17910.960
Financial costs	8700.000	6960.000	5220.000	3480.000	1740.000
Total production costs	80379.960	90159.950	88419.950	86679.950	84939.950
Costs per unit (single product) .	50.745	56.919	55.821	54.722	53.624
Of it foreign, %	0.000	0.000	0.000	0.000	0.000
Of it variable,%	49.697	44.306	45.178	46.085	47.029
Total labour	19866.000	19866.000	19866.000	19866.000	19866.000

COMFAR 2.1 UNIDO

Total Production Costs in '000 F.CFA.

Year	2005	2006- 8	2009
% of nom. capacity (single product).	100.000	100.000	100.000
Raw material 1	1188.000	1188.000	1188.000
Other raw materials	22255.000	22255.000	22255.000
Utilities	341.000	341.000	341.000
Energy	9519.000	9519.000	9519.000
Labour, direct	16566.000	16566.000	16566.000
Repair, maintenance	5828.000	5828.000	5828.000
Spares	3232.000	3232.000	3232.000
Factory overheads	3060.000	3060.000	3060.000
Factory costs	61989.000	61989.000	61989.000
Administrative overheads	3300.000	3300.000	3300.000
Indir. costs, sales and distribution	0.000	0.000	0.000
Direct costs, sales and distribution	0.000	0.000	0.000
Depreciation	12420.960	17910.960	17910.970
Financial costs	0.000	0.000	0.000
Total production costs	77709.960	83199.950	83199.970
Costs per unit (single product)	49.059	52.525	52.525
Of it foreign, %	0.000	0.000	0.000
Of it variable,%	51.404	48.012	48.012
Total labour	19866.000	19866.000	19866.000

Net Working Capital in '000 F.CFA.

Year	mdc	coto	1995	1996	1997	1998-2009
Coverage	mdc	coto				
Current assets &						
Accounts receivable . . .	60	6.0	8884.186	9582.843	10881.500	10881.500
Inventory and materials .	29	12.3	1554.703	1841.951	2129.200	2129.200
Energy	30	12.0	745.655	769.453	793.250	793.250
Spares	90	4.0	565.600	686.800	808.000	808.000
Work in progress	90	4.0	12501.280	13999.260	15497.250	15497.250
Finished products . . .	30	12.0	4442.093	4941.421	5440.750	5440.750
Cash in hand	30	12.0	2304.775	2485.138	2665.500	2665.500
Total current assets			30998.290	34606.870	38215.450	38215.450
Current liabilities and						
Accounts payable	60	6.0	8334.186	9332.843	10331.500	10331.500
Net working capital			22664.110	25274.030	27883.950	27883.950
Increase in working capital			16464.110	2609.922	2609.922	0.000
Net working capital, local			22664.110	25274.020	27883.950	27883.950
Net working capital, foreign			0.000	0.000	0.000	0.000

Note: mdc = minimum days of coverage ; coto = coefficient of turnover .

COMFAR 2.1 UNIDO

Source of Finance, construction in '000 F.CFA.

Year	1994
Equity, ordinary ..	55000.000
Equity, preference.	0.000
Subsidies, grants .	0.000
Loan A, foreign .	0.000
Loan B, foreign..	0.000
Loan C, foreign .	0.000
Loan A, local....	116000.000
Loan B, local....	0.000
Loan C, local....	0.000
Total loan	116000.000
Current liabilities	0.000
Bank overdraft	0.000
Total funds	171000.000

Source of Finance, production in '000 F.CFA.

Year	1995	1996-97	1998-2004
Equity, ordinary ..	21500.000	0.000	0.000
Equity, preference.	0.000	0.000	0.000
Subsidies, grants .	0.000	0.000	0.000
Loan A, foreign .	0.000	0.000	0.000
Loan B, foreign..	0.000	0.000	0.000
Loan C, foreign .	0.000	0.000	0.000
Loan A, local....	-11600.000	-11600.000	-11600.000
Loan B, local....	0.000	0.000	0.000
Loan C, local....	0.000	0.000	0.000
Total loan	-11600.000	-11600.000	-11600.000
Current liabilities	8334.186	998.657	0.000
Bank overdraft	0.000	0.000	0.000
Total funds	18234.190	-10601.340	-11600.000

Cashflow Tables, construction in '000 F.CFA.

Year	1994
Total cash inflow . .	171000.000
Financial resources .	171000.000
Sales, net of tax . .	0.000
Total cash outflow . .	169950.000
Total assets	161250.000
Operating costs . . .	0.000
Cost of finance . . .	8700.000
Repayment	0.000
Corporate tax . . .	0.000
Dividends paid . . .	0.000
Surplus (deficit) .	1050.000
Cumulated cash balance	1050.000
Inflow, local	171000.000
Outflow, local	169950.000
Surplus (deficit) .	1050.000
Inflow, foreign . . .	0.000
Outflow, foreign . . .	0.000
Surplus (deficit) .	0.000
Net cashflow	-161250.000
Cumulated net cashflow	-161250.000

Cashflow tables, production in '000 F.CFA.

Year	1995	1996	1997	1998	1999	2000
Total cash inflow . .	107450.200	95246.660	111878.700	110880.000	110880.000	110880.000
Financial resources .	29834.190	998.657	998.657	0.000	0.000	0.000
Sales, net of tax . .	77616.000	94248.000	110830.000	110880.000	110880.000	110880.000
Total cash outflow . .	107103.400	90965.640	96421.590	92221.010	90029.010	156489.000
Total assets	24798.290	4408.581	3608.580	800.000	0.000	64800.000
Operating costs . . .	53305.110	59297.060	65289.000	65289.000	65289.000	65289.000
Cost of finance . . .	17400.000	15660.000	13920.000	12180.000	10440.000	8700.000
Repayment	11600.000	11600.000	11600.000	11600.000	11600.000	11600.000
Corporate tax . . .	0.000	0.000	2004.009	2352.009	2700.009	6100.007
Dividends paid . . .	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit) .	346.789	4281.016	15457.070	18658.990	20850.990	-45609.000
Cumulated cash balance	1396.789	5677.805	21134.880	39793.870	60644.860	15035.860
Inflow, local	107450.200	95246.660	111878.700	110880.000	110880.000	110880.000
Outflow, local	107103.400	90965.640	96421.590	92221.010	90029.010	156489.000
Surplus (deficit) .	346.789	4281.016	15457.070	18658.990	20850.990	-45609.000
Inflow, foreign . . .	0.000	0.000	0.000	0.000	0.000	0.000
Outflow, foreign . . .	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit) .	0.000	0.000	0.000	0.000	0.000	0.000
Net cashflow	7846.787	31541.020	40977.070	42438.990	42890.990	-25309.010
Cumulated net cashflow	-153403.200	-121862.200	-80885.130	-38446.140	4444.852	-20864.160

COMFAR 2.1 UNIDO

Cashflow tables, production in '000 F.CFA.

Year	2001	2002	2003	2004	2005	2006
Total cash inflow . .	110880.000	110880.000	110880.000	110880.000	110880.000	110880.000
Financial resources .	0.000	0.000	0.000	0.000	0.000	0.000
Sales, net of tax . .	110880.000	110880.000	110880.000	110880.000	110880.000	110880.000
Total cash outflow . .	87993.010	87401.010	85209.010	84617.010	196923.000	71625.010
Total assets	0.000	800.000	0.000	800.000	125000.000	800.000
Operating costs . . .	65289.000	65289.000	65289.000	65289.000	65289.000	65289.000
Cost of finance . . .	6960.000	5220.000	3480.000	1740.000	0.000	0.000
Repayment	11600.000	11600.000	11600.000	11600.000	0.000	0.000
Corporate tax . . .	4144.009	4492.009	4840.009	5188.009	6634.007	5536.009
Dividends paid . . .	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit) .	22886.990	23478.990	25670.990	26262.990	-86043.000	39254.990
Cumulated cash balance	37922.850	61401.840	87072.840	113335.800	27292.830	66547.820
Inflow, local	110880.000	110880.000	110880.000	110880.000	110880.000	110880.000
Outflow, local	87993.010	87401.010	85209.010	84617.010	196923.000	71625.010
Surplus (deficit) .	22886.990	23478.990	25670.990	26262.990	-86043.000	39254.990
Inflow, foreign . . .	0.000	0.000	0.000	0.000	0.000	0.000
Outflow, foreign . . .	0.000	0.000	0.000	0.000	0.000	0.000
Surplus (deficit) .	0.000	0.000	0.000	0.000	0.000	0.000
Net cashflow	41446.990	40298.990	40750.990	39602.990	-86043.010	39254.990
Cumulated net cashflow	20582.840	60881.830	101632.800	141235.800	55192.800	94447.800

COMFAR 2.1 UNIDO

Cashflow tables, production in '000 F.CFA.

Year	2007	2008	2009
Total cash inflow . .	110880.000	110880.000	110880.000
Financial resources .	0.000	0.000	0.000
Sales, net of tax . .	110880.000	110880.000	110880.000
Total cash outflow . .	70825.010	71625.010	70825.010
Total assets	0.000	800.000	0.000
Operating costs . . .	65289.000	65289.000	65289.000
Cost of finance . . .	0.000	0.000	0.000
Repayment	0.000	0.000	0.000
Corporate tax . . .	5536.009	5536.009	5536.006
Dividends paid . . .	0.000	0.000	0.000
Surplus (deficit) .	40054.990	39254.990	40054.990
Cumulated cash balance	106602.800	145857.800	185912.800
Inflow, local	110880.000	110880.000	110880.000
Outflow, local	70825.010	71625.010	70825.010
Surplus (deficit) .	40054.990	39254.990	40054.990
Inflow, foreign . . .	0.000	0.000	0.000
Outflow, foreign . . .	0.000	0.000	0.000
Surplus (deficit) .	0.000	0.000	0.000
Net cashflow	40054.990	39254.990	40054.990
Cumulated net cashflow	134502.800	173757.800	213812.800

Cashflow Discounting:

a) Equity paid versus Net income flow:

Net present value	-19698.65	at	15.00 %
Internal Rate of Return (IRRE1) ..	11.42 %		

b) Net Worth versus Net cash return:

Net present value	-10401.72	at	15.00 %
Internal Rate of Return (IRRE2) ..	13.12 %		

c) Internal Rate of Return on total investment:

Net present value	-651.72	at	15.00 %
Internal Rate of Return (IRR) ..	14.93 %		

Net Worth = Equity paid plus reserves

Net Income Statement in '000 F.CFA.

Year	1995	1996	1997	1998	1999
Total sales, incl. sales tax	77616.000	94248.000	110880.000	110880.000	110880.000
Less: variable costs, incl. sales tax.	27962.410	33954.360	39946.300	39946.300	39946.300
Variable margin	49653.590	60293.640	70933.700	70933.700	70933.700
As % of total sales	63.973	63.973	63.973	63.973	63.973
Non-variable costs, incl. depreciation	46993.660	46993.660	46993.650	46993.650	46993.650
Operational margin	2659.930	13299.980	23940.050	23940.050	23940.050
As % of total sales	3.427	14.112	21.591	21.591	21.591
Cost of finance	17400.000	15660.000	13920.000	12180.000	10440.000
Gross profit	-14740.070	-2360.016	10020.050	11760.050	13500.050
Allowances	0.000	0.000	0.000	0.000	0.000
Taxable profit	-14740.070	-2360.016	10020.050	11760.050	13500.050
Tax	0.000	0.000	2004.009	2352.009	2700.009
Net profit	-14740.070	-2360.016	8016.038	9408.037	10800.040
Dividends paid	0.000	0.000	0.000	0.000	0.000
Undistributed profit	-14740.070	-2360.016	8016.038	9408.037	10800.040
Accumulated undistributed profit	-14740.070	-17100.090	-9084.049	323.988	11124.030
Gross profit, % of total sales	-18.991	-2.504	9.037	10.606	12.175
Net profit, % of total sales	-18.991	-2.504	7.229	8.485	9.740
ROE, Net profit, % of equity	-19.268	-3.085	10.478	12.298	14.118
ROI, Net profit+interest, % of invest.	1.497	7.343	11.939	11.699	11.510

COMFAR 2.1 UNIDO

COMFAR 2.1 - DP/VIE/91/003-OIL REFINERY ---

Net Income Statement in '000 F.CFA.

Year	2000	2001	2002	2003	2004
Total sales, incl. sales tax	110880.000	110880.000	110880.000	110880.000	110880.000
Less: variable costs, incl. sales tax.	39946.300	39946.300	39946.300	39946.300	39946.300
Variable margin	70933.700	70933.700	70933.700	70933.700	70933.700
As % of total sales	63.973	63.973	63.973	63.973	63.973
Non-variable costs, incl. depreciation	31733.660	43253.650	43253.650	43253.650	43253.650
Operational margin	39200.040	27680.050	27680.050	27680.050	27680.050
As % of total sales	35.354	24.964	24.964	24.964	24.964
Cost of finance	8700.000	6960.000	5220.000	3480.000	1740.000
Gross profit	30500.040	20720.050	22460.050	24200.050	25940.050
Allowances	0.000	0.000	0.000	0.000	0.000
Taxable profit	30500.040	20720.050	22460.050	24200.050	25940.050
Tax	6100.007	4144.009	4492.009	4840.009	5188.009
Net profit	24400.030	16576.040	17968.040	19360.040	20752.040
Dividends paid	0.000	0.000	0.000	0.000	0.000
Undistributed profit	24400.030	16576.040	17968.040	19360.040	20752.040
Accumulated undistributed profit	35524.050	52100.090	70068.130	89428.170	110180.200
Gross profit, % of total sales	27.507	18.687	20.256	21.825	23.395
Net profit, % of total sales	22.006	14.950	16.205	17.460	18.716
ROE, Net profit, % of equity	31.895	21.668	23.488	25.307	27.127
ROI, Net profit+interest, % of invest.	13.275	9.440	9.270	9.131	8.963

RUBBERWOOD PROCESSING, IVORY COAST --- 18.08.

COMFAR 2.1 UNIDO

COMFAR 2.1 - DP/VIE/91/003-OIL REFINERY ---

Net Income Statement in '000 F.CFA.

Year	2005	2006	2007	2008	2009
Total sales, incl. sales tax	110880.000	110880.000	110880.000	110880.000	110880.000
Less: variable costs, incl. sales tax.	39946.300	39946.300	39946.300	39946.300	39946.300
Variable margin	70933.700	70933.700	70933.700	70933.700	70933.700
As % of total sales	63.973	63.973	63.973	63.973	63.973
Non-variable costs, incl. depreciation	37763.660	43253.650	43253.650	43253.650	43253.670
Operational margin	33170.040	27680.050	27680.050	27680.050	27680.040
As % of total sales	29.915	24.964	24.964	24.964	24.964
Cost of finance	0.000	0.000	0.000	0.000	0.000
Gross profit	33170.040	27680.050	27680.050	27680.050	27680.030
Allowances	0.000	0.000	0.000	0.000	0.000
Taxable profit	33170.040	27680.050	27680.050	27680.050	27680.030
Tax	6634.007	5536.009	5536.009	5536.009	5536.006
Net profit	26536.030	22144.040	22144.040	22144.040	22144.030
Dividends paid	0.000	0.000	0.000	0.000	0.000
Undistributed profit	26536.030	22144.040	22144.040	22144.040	22144.030
Accumulated undistributed profit	136716.300	158860.300	181004.300	203148.300	225292.400
Gross profit, % of total sales	29.915	24.964	24.964	24.964	24.964
Net profit, % of total sales	23.932	19.971	19.971	19.971	19.971
ROE, Net profit, % of equity	34.688	28.946	28.946	28.946	28.946
ROI, Net profit+interest, % of invest.	7.059	5.878	5.878	5.865	5.865

COMFAR 2.1 UNIDO

COMFAR 2.1 - DP/VIE/91/003-OIL REFINERY ---

Projected Balance Sheets, construction in '000 F.CFA.

Year	1994
Total assets	171000.000
Fixed assets, net of depreciation	0.000
Construction in progress	163750.000
Current assets	6200.000
Cash, bank	0.000
Cash surplus, finance available	1050.000
Loss carried forward	0.000
Loss	0.000
Total liabilities	171000.000
Equity capital	55000.000
Reserves, retained profit	0.000
Profit	0.000
Long and medium term debt	116000.000
Current liabilities	0.000
Bank overdraft, finance required.	0.000
Total debt	116000.000
Equity, % of liabilities	32.164

RUBBERWOOD PROCESSING, IVORY COAST --- 18.08.

COMFAR 2.1 UNIDO

COMFAR 2.1 - DP/VIE/91/003-OIL REFINERY

Projected Balance Sheets, Production in '000 F.CFA.

Year	1995	1996	1997	1998	1999
Total assets	189234.200	178632.800	176047.500	165839.500	155955.500
Fixed assets, net of depreciation	142099.000	120448.100	99597.140	77946.190	57095.230
Construction in progress	0.000	800.000	0.000	800.000	0.000
Current assets	28693.520	32121.730	35549.950	35549.950	35549.950
Cash, bank	2304.775	2485.138	2665.500	2665.500	2665.500
Cash surplus, finance available	1396.781	5677.797	21134.840	39793.840	60644.840
Loss carried forward	0.000	14740.070	17100.090	9084.049	0.000
Loss	14740.070	2360.016	0.000	0.000	0.000
Total liabilities	189234.200	178632.800	176047.500	165839.500	155955.500
Equity capital	76500.000	76500.000	76500.000	76500.000	76500.000
Reserves, retained profit	0.000	0.000	0.000	0.000	323.988
Profit	0.000	0.000	8016.038	9408.037	10800.040
Long and medium term debt	104400.000	92800.000	81200.000	69600.000	58000.000
Current liabilities	8334.186	9332.843	10331.500	10331.500	10331.500
Bank overdraft, finance required.	0.000	0.000	0.000	0.000	0.000
Total debt	112734.200	102132.800	91531.500	79931.500	68331.500
Equity, % of liabilities	40.426	42.825	43.454	46.129	49.052

Projected Balance Sheets, Production in '000 F.CFA.

Year	2000	2001	2002	2003	2004
Total assets	168755.600	173731.600	180099.600	187859.700	197011.700
Fixed assets, net of depreciation	50704.270	97593.310	79682.360	62571.400	44660.450
Construction in progress	64800.000	0.000	800.000	0.000	800.000
Current assets	35549.950	35549.950	35549.950	35549.950	35549.950
Cash, bank	2665.500	2665.500	2665.500	2665.500	2665.500
Cash surplus, finance available	15035.840	37922.830	61401.810	87072.800	113335.800
Loss carried forward	0.000	0.000	0.000	0.000	0.000
Loss	0.000	0.000	0.000	0.000	0.000
Total liabilities	168755.600	173731.600	180099.600	187859.700	197011.700
Equity capital	76500.000	76500.000	76500.000	76500.000	76500.000
Reserves, retained profit	11124.030	35524.050	52100.090	70068.130	89428.170
Profit	24400.030	16576.040	17968.040	19360.040	20752.040
Long and medium term debt	46400.000	34800.000	23200.000	11600.000	0.000
Current liabilities	10331.500	10331.500	10331.500	10331.500	10331.500
Bank overdraft, finance required.	0 000	0.000	0.000	0.000	0.000
Total debt	56731.500	45131.500	33531.500	21931.500	10331.500
Equity, % of liabilities	45.332	44.033	42.476	40.722	38.830

Projected Balance Sheets, Production in '000 F.CFA.

Year	2005	2006	2007	2008	2009
Total assets	223547.800	245691.800	267835.800	289979.800	312123.900
Fixed assets, net of depreciation	33039.490	140128.500	123017.600	105106.600	87995.660
Construction in progress	125000.000	800.000	0.000	800.000	0.000
Current assets	35549.950	35549.950	35549.950	35549.950	35549.950
Cash, bank	2665.500	2665.500	2665.500	2665.500	2665.500
Cash surplus, finance available	27292.810	66547.800	106602.800	145857.800	185912.800
Loss carried forward	0.000	0.000	0.000	0.000	0.000
Loss	0.000	0.000	0.000	0.000	0.000
Total liabilities	223547.800	245691.800	267835.800	289979.800	312123.900
Equity capital	76500.000	76500.000	76500.000	76500.000	76500.000
Reserves, retained profit	110180.200	136716.300	158860.300	181004.300	203148.300
Profit	26536.030	22144.040	22144.040	22144.040	22144.030
Long and medium term debt	0.000	0.000	0.000	0.000	0.000
Current liabilities	10331.500	10331.500	10331.500	10331.500	10331.500
Bank overdraft, finance required.	0.000	0.000	0.000	0.000	0.000
Total debt	10331.500	10331.500	10331.500	10331.500	10331.500
Equity, % of liabilities	34.221	31.137	28.562	26.381	24.510

ANNEX V

Backstopping Officer's comments

This report has to be read in conjunction with the "Rapport Technique: Etude sur les possibilités de développer l'hévéa en Côte d'Ivoire" (DP/ID/SER.A/1665) based on Mr. B. Parant's work, which clearly identifies the reasons for having selected the capacities chosen and gives technical information on space and labour requirements, anticipated costs of raw materials, labour, preservation chemicals, equipment, sales price etc. as well as technical specifications of the equipment selected, yields, estimated life of the equipment, maintenance costs etc.

The financial analysis of the profitability for the capacities selected was done using UNIDO's COMFAR software and is sound.

These two studies are to serve as "models" to permit potential investors to use the technical information that the two reports contain and modify costs etc. to suit local conditions. This can be done quite simply on COMFAR and potential investors could therefore obtain a technically sound study for the two capacities chosen. This updated study should facilitate financing.