

Project Profile



INVESTMENT OPPORTUNITIES IN THE GUINEAN RICE INDUSTRY

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Prepared by Patrick Henirey, Chemonics International, October, 1986

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TABLE OF CONTENTS

	Page
1. INTRODUCTION	
1.1 Objective	5
1.2 Structural Changes In The Guinean Economy	5
2. THE GUINEAN RICE INDUSTRY FROM AN INVESTMENT STANDPOINT	6
2.1 Guinean Demographics	6
2.2 The Importance of Rice in the Guinean Life-style	6
2.3 Historical Data Base for Decision Making	7
2.4 Government Policies	7
2.5 Rice Consumption Levels and National Requirements	11
2.6 Rice Supply	11
2.7 Local Production	12
2.8 Production Costs	14
2.9 Commercialization of Locally-Produced Rice	15
2.10 The Guinean Rice Market	17
2.11 Rice Price Patterns	19
3. PROPOSED INVESTMENT CONCEPT	20
3.1 Alternatives Considered	20
3.2 Project Concept	20
4. MILLING AND BULK IMPORTATION FACILITY	22
4.1 Milling Facility	22
4.2 Bulk Importation Facility	22
4.3 Storage	23
4.4 Grading, Packaging and Handling	23
4.5 Support Facilities	23
4.6 Phased Approach	24
5. OPERATIONAL PLAN	25
5.1 Impact of Production Level on Profitability	25
5.2 Source of Mill Stock	25
5.3 Concessionary Rice Commitments	25
5.4 Milling of Locally-Grown Rice	26
5.5 Long-Term supply Security	26
5.6 Mill Output and Production Build-Up	26
5.7 Product Mix	27
6. THE MARKET AND MARKETING CONSIDERATIONS	28
6.1 Market Definition	28
6.2 Specialty Markets	28
6.3 The Conakry Mass Consumer Market	29
6.4 Proposed Market Share	29
6.5 Marketing	30
6.6 Market Advantage	30
6.7 Proposed Product Pricing	31

	<u>Page</u>
7. COMMERCIALIZATION OF LOCALLY-PRODUCED RICE	33
7.1 Conceptual Approach	33
7.2 Purchasing	33
7.3 Extension Service & Supply of Inputs/Credit	34
7.4 Geographic Areas of Commercialization	34
7.5 Paddy Drying, Storage, and Transport to the Mill	35
7.6 Substitution Schedule for Locally-Grown Rice	35
7.7 Cost of Local Paddy Delivered Mill	36
7.8 Institutional Cooperation	37
8. ADDITIONAL BUSINESS OPPORTUNITIES	39
8.1 No Additional Capital Costs	39
8.2 Flour Milling	39
9. PERSONNEL AND MANAGEMENT STRUCTURE	41
9.1 Management Structure	41
9.2 Transport Structure	41
10. SITE SELECTION AND BULK IMPORTATION CONSIDERATIONS	44
10.1 Site Requirements	44
10.2 Conakry Site	44
10.3 Kassa Island	44
11. DEVELOPMENT PLAN, CONSTRUCTION AND PHASED APPROACH	46
12. INVESTMENT STRUCTURE	47
12.1 Proposed Investment Structure	47
12.2 Repatriation of Profits	47
13. PRO-FORMA COSTS, REVENUES AND CASHFLOW	48
13.1 Capital Costs	48
13.2 Revenues	50
13.3 Operating Costs	50
13.4 Proposed Financing and Source of Operating Funds	51
13.5 Cashflow	56
14. FINANCIAL ANALYSIS	58
14.1 Measuring Project Worth	58
14.2 Base Case	58
14.3 Sensitivity to Level of Production	58
14.4 Sensitivity to Sales Price	58
14.5 Sensitivity to Raw Material Costs	60
14.6 Sensitivity to Foreign Exchange Costs	60
14.7 Sensitivity to Financing Costs	60
14.8 Sensitivity to Slower Substitution of Local Rice	61

	<u>Page</u>
15. RISKS, RECOMMENDATIONS AND INVESTMENT PRE-REQUISITES	63
15.1 Recommendations for Project Development	63
15.2 Associated Risks	63
15.3 Government Policy and Controls	63
15.4 Market Uncertainties	64
15.5 Paddy Availability and Prices	65
15.6 Rice Commercialization Study - 86/87 Harvest	65
15.7 Market Preference and Test Marketing	65
15.8 Availability of Foreign Exchange	66
15.9 Concessionary Financing	67
15.10 Expropriation, War and Civil Strife	68
16. ECONOMIC BENEFITS AND JUSTIFICATION	69
16.1 Justification	69
16.2 Rationalization of the Rice Market	69
16.3 Stimulus to Local Production	69
16.4 Additional Benefits	69

APPENDICES

A. Guinean Rice Imports	71
B. Estimated Paddy Production Costs By Region	72

LIST OF TABLES

Table 1. Proposed Product Pricing.	32
Table 2. Capital Equipment and Costs.	49
Table 3. Annual Revenues.	52
Table 4. Cost of Sales - Complete Substitution With Local Rice.	53
Table 5. Cost of Sales - 50% Substitution With Local Rice.	54
Table 6. Annual Expenses.	55
Table 7. CashFlow.	57
Table 8. Base Parameters - Complete Substitution by year Six.	59
Table 9. Base Parameters - 50% Substitution By year Six.	62

LIST OF FIGURES

Figure 1. Ecological Regions of Guinea.	8
Figure 2. Proposed Management Structure.	42
Figure 3. Proposed Transport Structure.	43
Figure 4. The Conakry Area With Respect to Possible Site Locations.	45

EXECUTIVE SUMMARY

The Republic of Guinea, in West Africa, currently offers rather unique investment opportunities in agribusiness. The country has recently emerged from two decades of economically unsuccessful socialist policy and is now aggressively pursuing free market policies. The current Government is stable, is actively seeking foreign participation in the private sector and is putting in place an attractive investment code. Despite favorable agricultural resources, at this time there is virtually no organized agribusiness and this sector consequently presents a wide range of opportunities to early investors.

The country has a population of approximately five and a half million people, and rice is both the dominant food and dominant crop in the agricultural economy. National rice consumption is currently estimated at approximately 420,000 tons of milled rice per year and local production at 330,000 tons. The balance of requirement is made up by imports, which have recently increased significantly, and now exceed 100,000 tons per year.

Although the rice trade has been tightly controlled by the Government in the past, such controls have been lifted and for the time being the industry is controlled by free market forces. As would be expected such changes have had a significant impact on the rice industry, the results of which are not yet entirely clear.

At this time there is no industrial milling of rice in Guinea or highly organized commercialization system, and this represents an unusual opportunity. A conceptual plan has been developed based on this gap and is outlined in this review:

- * The formation of a joint venture business between off-shore and Guinean investors to mill and market rice in Guinea.
- * Construction of a modern rice mill with parboiling and bulk importation facilities within the vicinity of the capital city, Conakry.
- * Initial operation of this mill entirely on imported rice, shipped in bulk as parboiled brown rice.
- * Current import levels suggest that rice imports will be feasible for several years to come. However, the operation will gradually switch to the milling of locally produced rice. It will not become directly involved in production but will purchase paddy from local farmers. It will develop a commercialization division which will aggressively promote production of local rice for the mill and may supply inputs.

- * As envisaged, the mill will have an initial output of approximately 32,000 tons per year increasing to 54,000 tons in year six.
- * The primary mill product will be a lightly milled par-boiled rice very similar to locally produced rice and is expected to be a direct substitute for this rice. It is not expected to compete with low cost imported rice.
- * The primary markets will be the urban areas, particularly Conakry and existing trade channels will be utilized. Mill products will have significant market advantages over competing products and marketing is not expected to pose a major difficulty.

The primary requirements for the success of this plan have been assessed within the time limitations of this review, and the concept appears to be highly feasible. At the proposed scale of operation total capital costs will be approximately \$13.6 million. Appropriate financing is available for investments of this nature in Guinea, and it appears that the project could readily be funded on a 60/40 debt to equity basis.

Due to the recent changes in economic policy there is still some uncertainty regarding long-term retail rice prices and rough rice costs in Guinea. On the basis of realistic but somewhat conservative estimates for these values the proposed investment would generate an internal rate of return of 18% - 22%, depending on the rate of switch over to local rice. There is a good possibility that these estimates are in fact a little conservative and the return may well be slightly higher.

In addition to the return from rice milling, there are several directly associated opportunities such as the sale of fertilizer and other inputs, toll importation of bulk grain and transport. It is expected that these opportunities could be addressed fairly rapidly with little further capital expenditure or management complexity, and that the rate of return would thus be significantly increased.

The infrastructure, equipment and personnel established for this operation will provide an ideal base for cost-effective expansion into other areas of Guinean agribusiness which are currently unserved. A particularly attractive opportunity is flour milling as Guinea currently imports approximately 35,000 tons of milled flour per year and has no local milling capacity. Early entry into such areas of agribusiness will confer significant advantage on the business.

The perceived investment will have considerable economic advantage for Guinea. Primarily, it will provide an organized market for local farmers, which is currently lacking, and consequently provide a significant impetus to local rice production. It will also introduce some rationalization to the consumer market: stabilizing prices; providing a higher quality

product; and introducing quality and weight standards. Finally, it will have the expected benefits of conserving foreign exchange, generating local economic activity and providing by-products for associated industries.

There are some inherent risks associated with the proposed plan which are identified in this review, their seriousness assessed, and strategies to control them proposed. It appears that by taking a step-wise approach to project development and placing certain pre-requisites on investment that these risks can be controlled to a large extent. In view of the considerable economic benefits associated with the project, such pre-requisites for investment should be fairly readily attainable.

On broad balance, the proposed plan seems to represent an extremely attractive investment opportunity. It should generate an internal rate of return of 18% - 22%. There are associated opportunities which could readily push this return somewhat higher. Furthermore, it will provide investors with a somewhat unique base from which to capitalize on other opportunities in the newly emerging Guinean economy. It is expected that early entrants to the market, while it is still largely unserved, will enjoy considerable advantage once the market grows.

It is therefore recommended, that interested investors initiate their own assessment of the opportunity identified, utilizing this review as a base and following some of the recommendations to reduce initial expenditures and business risk. With regard to U.S. corporations it is likely that financial assistance could be secured from various Federal programs to reduce the costs of assessing investment feasibility.

FOREWORD

This review of Joint Venture investment opportunities in the Guinean rice industry was carried out at the request of the U.S. Agency for International Development by Chemonics International Consulting Division. The work was carried out in September and October 1986 with the cooperation of the U.S. Rice Council.

The Chemonics team was comprised of an agribusiness investment/production specialist and a rice milling/marketing expert. This team was assisted by the Rice Council's regional representative for West Africa. Individual members of the team spent between ten and thirty days in Guinea, and visited major production areas and markets.

This review is one of a series of investment profiles prepared by Chemonics under the auspices of CNPIP, Guinea's National Investment Promotion office. These profiles are collectively supported by relevant background information pertaining to the investment climate in Guinea, the Investment Code and the nature of investment financing available. These topics are therefore not discussed in detail in this particular report. They are addressed to a limited extent, only when significant changes occurred since this background information was prepared.

1. INTRODUCTION

1.1 OBJECTIVE

The primary objective of this report was to identify a sector of the Guinean rice industry which might be attractive to joint venture private investment and to profile this potential investment in sufficient detail to attract the interest of potential offshore partners. This review is not intended to serve as a detailed feasibility study or business plan - it merely identifies and ascertains the possible viability of attractive investment opportunities. Potential investors would be expected to undertake a considerably more detailed investigation prior to making an investment.

1.2 STRUCTURAL CHANGES IN THE GUINEAN ECONOMY

The Guinean economy is currently in a highly unusual situation. Radical changes are being made as the new Government moves from a system of State-controlled monopolies and artificially low prices in nearly all sectors of the economy including agricultural marketing, to a policy of free trade. These changes have very significant implications for the rice industry, which is consequently undergoing a period of major transition and many aspects of the industry are in a state of flux and difficult, if not impossible, to define empirically.

In order to meaningfully identify potentially profitable investment opportunities within the industry, it was necessary for the team to first gain a better understanding of the Guinean rice industry as a whole, the changes currently taking place and their likely consequences. This background is essential in understanding the basis of the proposed investment plan, and is therefore also summarized briefly.

2. THE GUINEAN RICE INDUSTRY FROM AN INVESTMENT STANDPOINT

2.1 GUINEAN DEMOGRAPHICS

The Republic of Guinea covers approximately 246,000 square kilometers and had an estimated population of 5.5 million inhabitants in 1985. The rural population is estimated at 4 million people and the urban at 1.5 million, of which approximately 700,000 are currently in the capital city, Conakry. The population is expected to grow to 7.25 million by 1995, 4.7 million rural and 2.5 million urban with 1.2 million in Conakry.

For administrative purposes, the country is subdivided into eight provinces comprising a total of thirty sub prefectures, of which three make up the province of Conakry.

The country is divided into four distinct regions (see Fig. 1), and the population is divided between these regions in the following proportions:

- * Maritime Guinea - 32%
- * Middle Guinea - 27%
- * Upper Guinea - 20%
- * The Forest Region - 20%

2.2 THE IMPORTANCE OF RICE IN THE GUINEAN LIFE-STYLE

From an investment perspective it is important to understand the rather special role rice plays in many aspects of Guinean life. It is very much the dominant crop in all regions, except in the weaker soils of Guinea's upland plateau, the Fouta Djallon, where it takes second place to small millet known locally as Fonio. Rice is Guinea's main food staple and the preferred food, particularly as the standard of living rises and as the population moves into the cities. It plays the dominant role in the agricultural economy and is the main source of income for a large part of the rural population.

The Guineans' involvement with rice, however, seems to go beyond these considerations. Almost every one is very aware of current rice prices, market availability and production methods as they are practiced in Guinea. Rice prices and availability are a particularly sensitive issue politically and are handled delicately. Severe shortages of rice which recently occurred in the major markets caused considerable political tension and there is little doubt that the Government will go to considerable lengths to avoid a recurrence.

There is a strong sentiment at most levels of Guinean society to achieve self sufficiency in rice, and local production appears to be a major issue in the development planning process.

2.3 HISTORICAL DATA BASE FOR DECISION MAKING

The Guinean administrative and institutional sector does not have extensive background data on agricultural production, commercialization and marketing. Despite its importance in the diet and economy as a whole, this is also the case for the rice industry.

This lack of solid information is, in large part, due to the fundamental changes recently made in trade policy which are expected to have a significant impact on production volumes and paddy prices. There has not yet been time for these changes to make themselves felt at the production and market level, and it is therefore not yet possible to assess the magnitude of their impact. It is further compounded, however, by the lack of an adequate data gathering system in the rural areas--a reflection of the general condition of the agricultural support institutions.

The production situation is particularly poorly quantified, with very little information available on the volume of paddy produced, the amount entering commercial channels and the prices. The statistics frequently used for these aspects of the industry are purely estimates at this point.

Although there is more information available pertaining to the marketing of rice, this data is still very limited as judged by normal standards, and its accuracy is somewhat suspect due to problems and inconsistencies in the gathering process and the complete absence of a uniform system of rice standards and measures. The latter question is of particular significance as paddy and milled rice are generally not sold by weight, but by traditional measure which varies in different parts of the country. These measures are frequently recorded as one kg. in statistics where as in reality they may range from 800 gms. to 1.25 kg.

The Guinean Government is aware of the current lack of reliable data pertaining to the rice industry and its impact on institutional planning and policy and investment promotion. It intends to correct this situation to some extent by carrying out a major survey of rice production and commercialization during the 86/87 harvest season.

2.4 GOVERNMENT POLICIES

During the past twenty years the former regime attempted to control the production and trade of rice by using a system of compulsory marketing through State agencies. The objective was to make milled rice available to all Guinean consumers at extremely low prices through a ration card system.

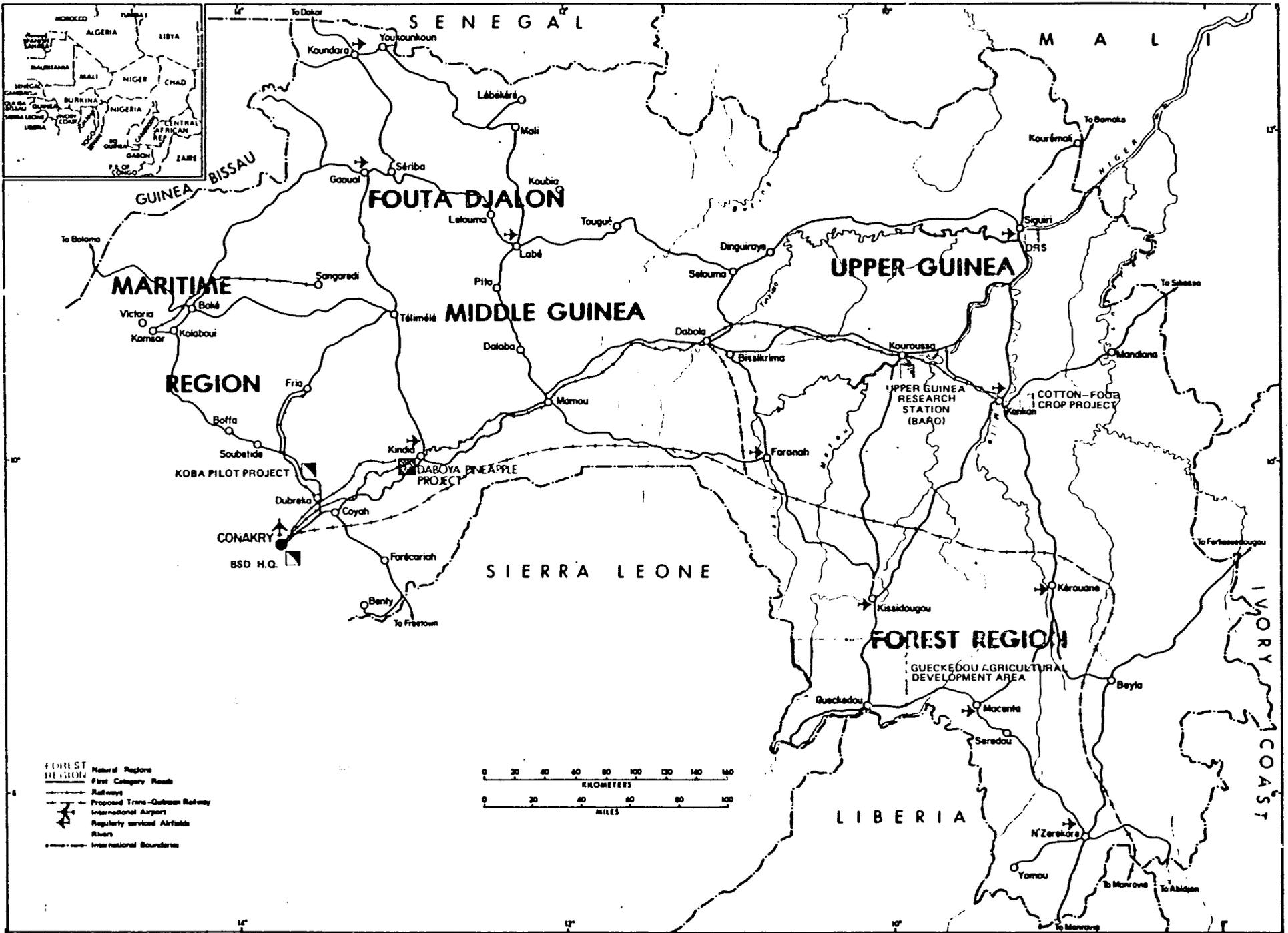


FIGURE 1
ECOLOGICAL REGIONS OF GUINEA

The Government attempted to force all rice commercialization through these state run organizations at artificially low prices. The major effects were the emergence of a strong parallel market and a disincentive to production since most farmers chose to produce only for home consumption. The amount of rice entering commercial channels either through the State agencies or through the parallel market decreased steadily. As the volume of locally produced rice available for commercialization fell, the Government relied increasingly on imports to meet the demands of urban and other non-producing consumers. The Government controlled imports tightly, passing all such trade through State organizations.

Theoretically, this system made rice available to consumers at extremely low prices - in the order of 20-30 Guinean Francs per kilo (GF/Kg). In practice, however, rice was seldom available at this price, and consumers were obliged to purchase on the extremely active parallel market at considerably higher prices. The state marketing organizations, in fact, frequently acted as a conduit of State purchased rice into the flourishing parallel market.

The new regime is committed to a policy of free trade and is making fundamental changes in the economy in pursuit of this policy. It is clear that the rice industry is undergoing major changes as a result of these new policies. However, it is still too early to assess the full impact of these changes. Farmers are now free to sell paddy at market-determined prices as opposed to the very low prices fixed by the Government in the past. The result appears to be an increase in paddy costs, but it is not yet clear by how much, and where prices will eventually settle. The effect on total production is also not yet apparent. These changes in policy are very recent and farmers have not yet passed through one production and marketing cycle under the new conditions. Therefore, it is still too early to gauge the effects. It will probably take several such cycles for the policy changes to have full effect.

From a consumer standpoint, the new Government has maintained a system of subsidized rice, although the official price has been increased significantly to 100 GF/kg (imported, unparboiled rice of very poor quality - up to 35% broken). In practice, however, relatively little rice is available through this system and it appears to have little effect on the market price. Retail rice prices are no longer controlled and are determined by the market. In most instances, actual retail prices are considerably higher than the Government-fixed price. For the time being, the authorities are taking no specific action to control rice prices and are apparently content to let them be determined by free market forces.

A further significant development relates to rice imports. Imports were previously tightly controlled by the Government and always handled by State organizations. In 1986, however, traders have been permitted to import rice apparently at will and have

imported large quantities of extremely inexpensive but poor quality rice. This rice can generally be landed in Conakry at considerably lower cost than that of locally produced and milled rice.

It is clear that the Guinea rice industry is going through a period of major change and that pricing, market and import policies implemented at this time will have a significant impact on long-term production potential. The Guinean Government is undoubtedly aware of the industry's current state of transition and the importance of setting appropriate pricing policy to support changes made in trade policy. Furthermore, there is a strong desire in Guinea at all levels for local production and self-sufficiency, and providing sufficient incentives for this to come about in a free market economy.

The normal policy requirements of ensuring a sufficiently high price to stimulate production without adversely affecting the consumer are further complicated by changes taking place in the country's salary structure. Increases in salary levels are not taking place as rapidly as rice price imports caused by trade liberalization policy. Given the importance of rice in the Guinean diet, this leads to an extremely sensitive situation with considerable political implications. This factor must be given considerable weight in determining price policy in the short term.

During the next few years, the Government must strike an extremely delicate balance between controlling consumer prices and providing sufficient producer incentives to renew commercialization of rice at this critical time in the industry. Their difficulties are compounded by the uncertainty overhanging much of the rice industry due to the lack of reliable statistics pertaining to rice production and commercialization.

The Government seems to maintain a "hands-off" policy at present, allowing the market to determine the level of imports and prices. It is not clear how long this policy will continue and it is extremely likely that as information becomes available, some controlling policies will be put in place. Preliminary indications suggest that the Government may be advised to place a ten-to-fifteen percent tariff on imported rice. It has also been suggested that major policy decisions will be strongly affected by data on quantities of paddy produced during the next harvest and its' sale price. The program to gather this information is being organized by the Ministry of Rural Development (MDR).

The bottom line from an investment perspective is that future Government policy regarding rice prices is quite unclear. Conversely, appropriate presentation of an investment with obvious economic benefit to the local industry at this point could have significant influence on future policy.

2.5 RICE CONSUMPTION LEVELS AND NATIONAL REQUIREMENTS

Total current rice consumption in Guinea, based on a per capita consumption of 78 kg/year, is estimated to be approximately 420,000 tons of milled rice per year - the equivalent of approximately 730,000 tons of paddy. Based on a very modest increase in per capita consumption to 80 Kg/year, by 1995 total consumption is expected to increase to 470,000 tons, or a paddy equivalent of 875,000 tons. Should the standard of living increase significantly during this period, the total consumption is likely to be considerably higher. This increase will be further magnified as the percentage of the total population living in urban areas increases.

Currently, approximately 40% of the total rice demand is accounted for collectively by the Conakry area, the Coastal belt and the Pre-Fouta region. This proportion is expected to increase somewhat by 1995.

2.6 RICE SUPPLY

It is extremely difficult to assess the current level of local production and estimates range from 400,000 to 640,000 tons of paddy per year. A figure of 330,000 tons of milled rice is generally accepted as a reasonable estimate for annual local production.

The shortfall between consumption and production has been met by imports which have grown steadily since the late 1970's to reach 90,000 tons in 1985 (see Appendix A). In the past, the Government has controlled the importation of rice very closely, channeling all imports through State organizations. In 1985, however, this policy was relaxed and although the Government continues to import some rice, the private sector is now free to import rice according to market requirements. Imports for 1986 have increased dramatically, already passing the 1985 levels and it is expected that they will exceed it by a considerable margin (import documentation has apparently been processed for more than 200,000 MT for 1986, although it is unlikely that all of this rice will actually reach the Guinean market). Imported rice is generally of very poor quality and due to prevailing world market prices can generally be landed in Guinea at costs considerably lower than local production and commercialization costs.

In addition to commercial imports, significant quantities of rice are being, or will shortly be supplied by various international programs such as the U.S. Food for Peace Program, Italian Bilateral assistance, and FED assistance programs.

The bulk of imports have been previously intended for the Conakry market which currently consumes approximately 75,000 tons of milled rice per year, and is expected to need 125,000 tons by 1995. Imported rice, however, is currently reaching other parts of the country in significant quantities.

Virtually all imports must pass through the Port of Conakry which is undoubtedly a serious constraint to Guinean trade and development. The port is frequently heavily congested causing vessels to incur high demurrage and discharging costs, and port losses are significant.

2.7 LOCAL PRODUCTION

Rice is grown on approximately 500,000 ha in Guinea, of which an estimated 25% is in Maritime Guinea, 17% Middle Guinea, 26% in Upper Guinea and 32% in the Forest zone. Total production in 1985 was estimated at between 400,000 and 640,000 tons of paddy.

Three distinct forms of rice culture are practiced:

- a/ Rainfed rice - the most widespread practice, is frequently practiced in a pattern of shifting cultivation. It is particularly important in the forest region.
- b/ Flooded rice is practiced in two forms - in the river bottoms and the alluvial plains of Upper Guinea.
- c/ Mangrove rice production which is practiced in the estuaries and coastal areas of the Maritime region.

There are three distinct ecological zones for rice production in Guinea:

- a/ The Forest Region is suited for rice production both in the uplands where rainfall is fairly reliable and in the many small valley bottoms, termed "Eas-Fonds", ideally suited for simple water control techniques.
- b/ The tree savannah area of Upper Guinea with its many tributaries of the Niger-Ninkisso basin is a producer of both rainfed rice and of river plain flooded rice.
- c/ The mangrove swamps along the Maritime region where saline marsh rice is grown.

From a natural resource standpoint, the agricultural base is extremely favorable, and the country should be able to satisfy all its requirements for rice and other principal food crops. The rainfall over most of the country is unusually high, and for West Africa, relatively stable. The country has varied topography and soils and there are considerable untapped water resources. Double cropping of rice is considered feasible in many of the river bottom production areas, although it is not currently widely practiced.

Yields are typically low, ranging from 0.6 to 1.2 tons/ha, and only very occasionally exceeding 1.5 tons/ha. The national average is considered to be 0.8 tons/ha. The bulk of production

is carried out at the family level on an extremely small scale, usually less than 3 ha per family, with virtually no mechanization.

Virtually all the rice currently grown in Guinea, outside of the few functioning rice development projects, is produced without improved inputs. In the past, the Government has attempted to supply seed and fertilizer at heavily subsidized prices through SEMAP, the State organization charged with making agricultural inputs available to farmers. In practice, however, SEMAP was not particularly effective in supplying inputs to the rural areas. Since there is no alternative to SEMAP, improved inputs were effectively unavailable. The Government is now moving towards a policy of unsubsidized inputs, the future of SEMAP is unclear, and alternative means of supplying inputs are being sought. The private sector is favorably considered in this respect.

Although farmers are well aware of the advantages of certain improved varieties there is little improved seed available, and farmers save seed from one year to the next or purchase stored seed from other farmers. Similarly, although farmers seem receptive to the use of appropriate herbicides and pesticides only very small quantities are available to them through private traders, and these at high cost.

The major input to family level production is labor, with an estimated 220 man-days required for each hectare of rice produced. Much of this labor is provided from within the family, however, some is provided through hired help. Production involves peak seasonal labor requirements during the harvest period, and shortage of labor is a fairly serious constraint to production.

Although the bulk of the rice is grown by small farmers using manual labor on a very small scale, significant quantities are produced on a larger scale using animal traction and mechanization, particularly in Upper Guinea. The latter involves production on a scale of up to 100 ha, usually with leased equipment. Major constraints on this type of production include lack of credit, shortage of spare parts and fuel (which, during the ploughing season may cost as much as three times the official price on major producing areas) and a complete lack of improved seeds and fertilizers.

There is considerable interest in mechanized production by Guinean farmers and businessmen which can be expanded through appropriate credit programs. This would be a fairly rapid and relatively inexpensive means of increasing local rice production.

Major constraints to increased rice production are:

- a/ Technical problems - Guinean rice growers face specific technical problems which need to be addressed. Improved varieties adapted to local conditions must be developed; cost effective and appropriate technical packages need to be determined; techniques must be developed to handle

specific production problems (mangrove and swamp); and pest problems, particularly birds and rodents must be overcome.

b/ The institutional environment - farmers also operate almost entirely without the benefit of an extension service, which is non-existent at this time. Similarly there is no effective means of securing credit and improved inputs.

c/ Market organization - finally there is no organized market for farmers to sell their production with some degree of confidence in price levels and quality standards.

The first two problems are already being addressed. The basic technical problems are being worked on in limited areas by rice development projects, particularly the World Bank sponsored Gueckedou Agricultural Project (PAG) in the Forest Region. Research is being carried out; limited quantities of improved seed are being made available; and technical packages are being developed and demonstrated which enable production to be increased to 1.5 to 2 metric tons per hectare (Mt/Ha).

Institutional problems are also being faced. A major restructuring of the Ministry of Rural Development is planned including an effective extension service, likely to be supported by several bilateral development programs. It will be some time, however, before these services take effect and the credit problem needs to be overcome effectively. Solutions to these problems have been initiated on a limited scale. The process has been started but clearly needs considerable expansion.

To be truly effective, these measures require some sort of organized market for paddy in which farmers have sufficient confidence to risk increased production levels. This market must be supported by prices sufficiently high to stimulate production, and ideally by some mechanism of supplying appropriate improved inputs.

2.8 PRODUCTION COSTS

Although paddy prices are not clear at this time, theoretical production costs can be calculated. Estimates range between 40-55 GF/Kg, depending on location (see Appendix B). The major theoretical cost is family labor and it is unclear whether or not farmers place as high a cost on their time as that used to determine theoretical production costs. An appropriate mechanism is required to take into account the realistic opportunity cost of family labor and an adequate monetary incentive to produce rice for sale.

Production costs will be considerably reduced by using improved inputs such as seed and fertilizer. The use of such inputs, however, considerably increases the farmer's level of risk, since they introduce "out of pocket" expenses over and above normal labor costs which at this time represent the major production inputs. Although farmers appear receptive to improved inputs, such risk-taking requires a more organized and assured market with reasonably stable prices.

At current yield levels, the cost of mechanized production does not compare favorably with that of small scale production. However, as yields increase beyond two tons per hectare, mechanized production becomes increasingly economical.

The brightest spot in the production sector is perhaps the Guinean farmers who work extremely hard and are well acquainted with most aspects of rice production. They are also receptive to improved techniques and inputs and, given an ensured market, are ready to grow more rice. In many instances, rice production is their major source of income with which to purchase other essentials.

2.9 COMMERCIALIZATION OF LOCALLY-PRODUCED RICE

Although several industrial rice mills have operated in Guinea in the past, there is no industrial milling of rice at this time. Almost all rice is parboiled in the villages by a simple process using claypots or petrol drums over wood fires, and then sun-dried. Rice is generally husked and polished as required either by traditional means or through small artisanal rice mills. Traditional processing involves pounding the rice in large wooden pestles and mortars, which is extremely labor intensive and results in a very high percentage of broken rice with much of the bran remaining.

Scattered in the towns and larger villages are small rice mills of the one or two pass "Engelberg" type, and significant quantities of rice are processed through these mills, usually on a toll basis. These are very artisanal operations and the condition of the mills is generally poor, resulting in a severe loss in rice quality and a complete loss of all bran which would normally be considered a by-product of significant value. Fairly large amounts of bran are left on this rice, there is a high percentage of brokens and it is heavily contaminated requiring subsequent winnowing by hand.

Commercialization of locally-produced rice is a little unclear, especially for volumes of local rice traded. Although the sale of rice is frequently the only source of cash income for farmers, previous price control policies have discouraged the production of large quantities of rice for sale. There is little data on the actual volume of rice that enters trade channels, however, it is estimated that it is only a small percentage of total production.

Although there are no established standards of rice quality, paddy prices are highly variable and trade channels unclear, a functioning system of rice commercialization seems to exist. On the one hand, imported rice is certainly available in large quantities in the rural markets and, conversely, locally grown rice is available for sale in the urban markets.

Although some paddy is sold retail in the communal markets, the bulk is sold in villages. The first link in the commercialization chain are small traders who purchase the rice in the villages and traditional trading areas. Much of this rice is transported to the purchase point by the farmers. A significant portion of the trade at this level is apparently carried out on a barter basis with cement being one commodity currently in heavy demand. Traders hold some of the rice for resale in the local area at much higher prices later in the season and sell the balance to larger traders.

The larger traders frequently also deal in imported rice, mill this rice in the artisanal mills and transport it to major markets, primarily the larger urban areas.

There are two major constraints on this trade:

- There are no established standards for paddy, and prices fluctuate widely. Farmers are faced with a highly disorganized market in which they are generally at a disadvantage, and in which they seldom have much confidence. This is a major constraint on increased production and the use of inputs which involve a cash outlay by farmers.
- Transport costs are extremely high in Guinea. This is partially due to the condition of the road network (major roads are in very bad repair and farm roads exist largely as tracks passable only in the dry season) and the lack of a competitive trucking industry. The rail system is non-functional.

Current paddy costs are unclear. Prices fluctuate considerably seasonally, and with location, the lowest costs being in the forest region. There are no reliable statistics on prices, since recent changes in trade policy have not had time to have an impact. Price statistics available range from 40 GF/Kq. to approximately 70 GF/Kq, with no clear pattern emerging. Informed sources suggest that prices will settle at approximately 50 GF/Kq or less during the 86/87 harvest, although available data suggests otherwise. Rather high commercialization costs must be added to these prices to allow for the high transport costs and the profit expectations of the traders.

There is a highly active retail trade in rice in all major urban areas and villages. At this level, almost all rice is marketed by women retailers in communal markets. They purchase rice by the

sack from traders and wholesalers and transport it daily to the market in head loads. The rice is generally retailed by traditional measure which differs in most parts of the country. Traditional measures are based on volume and are seldom consistent on a weight basis. At this time therefore, Guinean consumers are not able to purchase rice on a known weight basis.

2.10 THE GUINEAN RICE MARKET

a. Taste Preference

By Western standards, the rice available on Guinean markets is of very poor quality. Local rice usually comprises a high degree of brokens and is heavily contaminated with extraneous material and insects. The imported rice is of an even lower standard.

Despite this rather poor overall quality, Guinean consumers have a marked preference for certain grain characteristics and this is reflected in a distinct price differentiation. The primary demand is for lightly milled parboiled rice (which currently equates to locally-produced rice), and this is almost universally the first choice by consumers if price is not a factor. This preference is sufficient to command a significant price premium over imported rice which is well milled and not par-boiled. It is not clear whether the preference is actually for local rice or for lightly-milled parboiled rice of any origin. This is a critical consideration for investment opportunities.

Although most local rice on the market does not appear to be either medium or long grain, but rather a mixture of the two, certain regions have a preference for local varieties of specific grain length and pay a premium for these varieties.

The extremely high percentage of brokens in both locally-produced and imported rice are accepted by the market, however consumers indicate that if available, and if the price differential is not too great, they would purchase less-broken rice.

Almost unanimously, consumer preference is currently for locally-produced, lightly-milled parboiled rice. The second choice is U.S. origin imported rice, which is long-grained, well-milled, unparboiled and approximately 20% broken. The last choice is generally imported rice of Asian origin, which is also well-milled, unparboiled rice and ranges in quality from just below that of U.S. imports to virtual floor sweepings. These preferences are demonstrated by the price differentials set by the market.

b. Market Size

Total Guinean rice consumption is estimated at 420,000 tons per year. The point of primary interest to potential investors

however, is the quantity that passes through off-farm commercial channels, which would represent the total available market for industrially-milled rice.

The volume of imported rice can be quantified fairly readily from import statistics which should be reasonably accurate. In 1985, total imports were approximately 95,000 tons. The level for 1986 will be considerably above this.

It is extremely difficult to quantify the volumes of locally produced rice that enter commercial channels since no reliable statistics exist. At the time of this survey there appeared to be at least as much local rice available on the major markets as imported rice, and in many markets there appeared to be considerably more. On this basis alone the total volume of rice commercialized might be at least twice that of rice imported.

Another reasonable means of estimating market size would be to assume that the urban population purchase their rice requirements through commercial channels. About 27% of the total population is urban so at the least 27% of the total rice consumption will pass through trade channels. This equates to approximately 115,000 Mt/year.

Actual rice requirements for Conakry, the most important single market, however, are fairly well known. In 1985, they were estimated to be 75,000 Mt. This is expected to grow to 126,000 Mt. by 1995.

c. Specialty Markets

In addition to the mass market, significant specialized markets exist in Guinea.

- The hotel and restaurant trade imports high grade parboiled packaged rice from the United States. These are high value products and although the volumes concerned are very small relative to the total market, in absolute terms they are still significant. This market is expected to grow rapidly as organized retailing outlets become established in the cities, and as the standard of living increases.
- There are several industrial organizations in Guinea which must supply significant volumes of rice to their labor forces, such as the mining companies. Currently, all this rice is imported, and although the volume involved probably does not exceed 10,000 tons per year, it represents an extremely centralized market. There are also several Government institutions, which represent equally centralized rice markets and which fall in the same category.

2.11 RICE PRICE PATTERNS

As all other aspects of the Guinean rice industry, prices are going through a period of change and are rather difficult to quantify. Indeed the change in prices is more marked than any other changes. The following observations provide some insight to the question of price patterns;

- a/ Rice prices have increased very significantly during the past two years.
- b/ Retail prices vary widely depending on location, season, type of rice, and quantity of rice available. At the time of this survey, there were considerable volumes of imported rice available and traders were holding significant stockpiles.
- c/ A price differential exists between the three major rice categories available on the market. Local rice sells for approximately 60-80 GF/Kg more than U.S.-origin imported rice, which in turn sells for 15-20 GF/Kg. more than Asian-origin rice. All sell for more than the Government subsidized price. Observed price ranges were;

Local rice	190 - 240 GF/Kg.
U.S. origin	115 - 160 GF/Kg.
Thai origin	110 - 140 GF/Kg.

- d/ The price of locally-produced rice varies seasonally, increasing significantly several months after harvest. If the wholesale price of local rice increases beyond a certain point due to traditional seasonal fluctuations, consumers turn to imported rice, even in markets outside of Conakry where local rice is readily available. In Kankan, the acceptable limit of this price differential appears to be 40-50 GF/Kg. at a wholesale level. At the time of this survey considerable quantities of imported rice were available, and the wholesale price of local rice was fairly high due to the seasonal fluctuation. Consumers were undoubtedly favoring imported rice at the expense of local production in some markets.
- e/ It is difficult to accurately ascertain retail prices in Guinea in a short period, however, some prices were observed during this review. During the past twelve months it appears that rice prices have been extremely volatile.
- f/ Although there appears to be little stability or organization in the Guinean rice market, approximate marketing costs and margins can be estimated from this price data. The wholesale/retail margin appears to be about 30%.

3. PROPOSED INVESTMENT CONCEPT

3.1 ALTERNATIVES CONSIDERED

The team reviewed all aspects of the Guinean rice industry from the perspective of identifying profitable investment opportunities. The following opportunities were considered at various scales of operation:

- a/ The supply of inputs related to rice production and possibly production of improved seed.
- b/ Direct production of rice on a large-scale and capital-intensive manner.
- c/ The production of rice on a contract basis through Guinean farmers.
- d/ The milling and marketing of locally-produced rice.
- e/ The milling and marketing of imported rice.
- f/ Importation of bulk milled rice for local packaging and marketing.

3.2 PROJECT CONCEPT

The most attractive opportunity was felt to be the milling and marketing of rice on an industrial scale and the following plan was developed based on this concept:

- * Form a commercial joint venture company with the objective of milling and marketing rice in Guinea.
- * Construct a modern rice mill with parboiling and bulk importation facilities.
- * Mill a range of products appropriate to local market preference.
- * Scale of operation - initially 30,000 tons per year, increasing to 54,000 by year six.
- * Initially address the Conakry market and Pre-Fouta urban regions, with later expansion into other urban markets.
- * Initiate operations entirely on parboiled brown rice imported in bulk.
- * Organize commercialization of locally grown rice until 100% of rice milled is from this source.

* Supplement revenues from rice milling with associated activities such as sale of fertilizer and other inputs and bulk importation of grain on a toll basis.

4. MILLING AND BULK IMPORTATION FACILITY

4.1 MILLING FACILITY

The core of the proposed investment is a modern industrial rice mill with parboiling facilities, located adjacent to a bulk importation facility. The mill will be designed with a nominal capacity to produce 36,000 Mt. of milled rice per year, based on working two shifts per day, 245 days per year. It will be designed in such a manner that it can be installed in stages, the polishing line first, with the parboiling and husking lines installed as the operation switches to milling of local rice.

Milling equipment will be designed and specified in a manner appropriate to the local environment, maintenance facilities and level of operator training. A capacity to separate the mill into two self contained mills at a later stage should be incorporated. The mill will have the capacity to produce several grades of rice and to separate the bran from the hulls.

As is common practice the mill will be housed in a purpose designed building, comprising floor slab, partial cement block walls and ventilated wall and roof cladding.

4.2 BULK IMPORTATION FACILITY

The conceptual plan is initially based on finish milling of imported parboiled brown rice, taking advantage of the cost savings involved with bulk shipping and handling. As no such facilities currently exist in Guinea the project will have to construct and operate it's own bulk importation facility.

The Port of Conakry at this time is a major choke point on Guinean trade, and cannot realistically be considered as a workable alternative. The project must seek an alternative location for construction of the facility. The additional capital costs incurred are readily justified by the cost savings associated with bulk shipping and handling. Furthermore, the facility will save considerable management aggravation and losses associated with moving large quantities of grain through the Port of Conakry.

The mill will be located adjacent to the importation facility to ensure that grain is not double-handled, thus minimizing costs, breakages and losses. In view of the rather limited road network in Guinea a considerable proportion of the operation's regular trade in rough and milled rice can be most cost effectively carried out by light coastal vessels. The discharge facility will therefore also be designed to handle such traffic, as well as the importation of fertilizers and other inputs and machinery.

The bulk handling facility should be able to serve flour and feed mills if constructed in the future, as they almost certainly will be.

4.3 STORAGE

The operation will include bulk grain storage capacity, constructed of steel or concrete depending on relative costs. Initially 10,000 tons of storage will be installed adjacent to the mill - sufficient for three months milling supply.

As the mill relies to a greater extent on locally grown paddy, additional storage will be required in order to benefit from low costs associated with buying paddy during the harvest period. This storage may be located either at the mill, or in major rice producing areas, or a combination of the two locations. Decisions concerning the nature and location of this storage will be delayed until the operation has experience in purchasing and handling local rice and possesses a clearer understanding of the problems involved. 20,000 tons of additional storage will therefore be installed incrementally, probably in years two, three and four of the operation.

The mill will incorporate silo storage capacity for 10 days of milled rice and flat storage for 21 days of bagged and packaged product in a cement block warehouse. Should additional storage be required, it can be leased at a convenient location.

4.4 GRADING, PACKAGING AND HANDLING

Market opportunities exist for different qualities of rice so the mill will have the capacity to separate different grades of milled product. This includes equipment to separate and blend various percentages of broken rice and a color sorting machine to allow production of top quality parboiled packaged rice.

Packaging equipment will be designed to allow 100% of production to be packaged in 50 Kg. polypropylene bags and 10% to be packaged in 10, 5, 2, and 1 Kg. polyethylene retail sacs.

Handling of unmilled rice will be reduced to a minimum, and such handling will be carried out in bulk as much as is possible. In handling of milled rice, a balance will be struck between the use of capital intensive equipment and labor. The operation will include two forklifts and a range of movable conveyor belts.

4.5 SUPPORT FACILITIES

The milling facility will require a range of support facilities, which are not available locally, and therefore must be incorporated into the operation. These will include:

- a/ Offices, laboratory space and workers facilities in the main mill building. Appropriate equipment and furniture has been budgeted including a radio communications network.
- b/ Maintenance facilities will be constructed and equipped to handle routine maintenance of the mill and associated vehicles, vessels and equipment.
- c/ Supply of utilities in Guinea is not reliable and so the operation will require it's own electrical generating capacity, including bulk fuel storage, switchgear and standby generators. Depending on location the operation may be entirely dependent on it's own power generating capacity.
- d/ Similarly, a water supply and treatment plant will be installed with capacity to handle parboiling and other routine requirements.
- e/ Depending on location, housing may have to be constructed for senior management and an allowance has been made for this in the capital budget. Should the mill be located in an area where suitable housing is available for rent, this allowance maybe switched to rental payments.
- f/ Security and containment of losses will be a major management consideration. Milling and storage facilities will therefore be enclosed by an effective security fence and gate system.

4.6 PHASED APPROACH

The milling, storage and support facilities will be designed in such a manner that they can be installed in stages as required. This reduces complexity of project start-up, initial capital requirements, and burdensome debt service on unproductive equipment.

5. OPERATIONAL PLAN

5.1 IMPACT OF PRODUCTION LEVEL ON PROFITABILITY

Mill profitability is highly dependent on operating at full capacity as overhead costs are expected to be high in Guinea. Historically, this has presented a major problem for operations of this nature.

In this respect the market is not expected to be a problem, however, the source of mill stock could definitely pose a problem and will require particular management attention.

5.2 SOURCE OF MILL STOCK

It is proposed that the mill operate initially on imported parboiled brown rice, imported in bulk and polished, bagged and marketed by the operation. Importation in the short term will be easy to justify, since Guinea is likely to be a net importer of rice for several years to come, despite current plans to increase production.

Brown rice will be purchased commercially from the most economical source, which initially is likely to be the U.S. As other exporters develop bulk handling facilities, however, the supply options will widen. It is proposed that the mill will import Number 5 grade rice and cash flow projections are based on this grade at current prices. The quality of brown rice imported can be adjusted upwards or downwards according to specific market demands.

In terms of the size and numbers of shipments per year, management can make a balance between the shipping and handling economies achieved by large shipments and the increased operating capital requirement associated with them. It is anticipated that individual shipments will be in the order of 3-5,000 Mt. each. Shipments of this size should achieve good shipping economy and at the same time, match the storage capacity of the mill.

5.3 CONCESSIONARY RICE COMMITMENTS

During the next few years considerable quantities of rice will be supplied to Guinea on concessionary terms by various governments. For example U.S. "Food For Peace" commitments are - 1987, 30,000 Mt.; 1988, 40,000 Mt. and 1989 30,000 Mt.

Although the business could operate entirely on commercial imports, it would be highly advantageous to secure a commitment to import and mill at least some of the concessionary imports - it could be imported as bulk parboiled brown rice and milled and packaged in Guinea. The exact mechanism of such an arrangement remains to be determined, however it would provide considerable

economic benefit for Guinea and result in considerably more efficient handling of imports. All shipments of U.S. concessionary rice to Jamaica are handled in this manner and it works extremely well. Furthermore, should the Guinean Government continue to import large quantities of rice, they could also be handled in this manner.

5.4 MILLING OF LOCALLY GROWN RICE

Although the business can be successful on imported rice alone for quite some time, it is essential that milling operations switch to local production as soon as possible in order to reduce foreign exchange expenditures. In this case, it is recommended that the operation utilize increasing volumes of local paddy, which will be parboiled, husked and lightly polished. This transition is the most difficult part of the plan to achieve.

From the outset the operation will establish a "Commercialization Division", which will be charged with the organization, production and delivery to the mill of local paddy at competitive prices. The details of this phase of the operation are discussed in greater depth in chapter seven.

It is envisaged that the changeover from milling of only imported rice to incorporating local paddy will be a gradual process which will probably start fairly slowly in years 2 or 3. A realistic target for complete operation on local paddy would be by year six and the base financial analysis of the operation is based on this rate of substitution. A second analysis is carried out with a slower rate of substitution to only 50% local component by year six.

5.5 LONG-TERM SUPPLY SECURITY

Despite these problems the supply situation in the long term should be fairly secure. On the one hand, should local production increase fairly rapidly, the rate of substitution can be accelerated. On the other hand, should local production and supply of paddy not increase as rapidly as expected Guinea will continue to be a net importer of rice. The operation will be well situated to be a low cost importer and should be able to operate successfully under such conditions.

The major risk is that considerable expense may be incurred in developing local production without satisfactory results for reasons beyond the control of mill management. Such conditions would be a severe drain on the business.

5.6 MILL OUTPUT AND PRODUCTION BUILD-UP

The nominal capacity of the mill will be ten Mt. per hour. Projected annual output is based initially on operating two-eight

hour shifts per day, five days per week, 49 weeks per year (490 shifts per year), resulting in an annual output of 36,000 Mt. of milled rice per year. This is projected to increase gradually to three full shifts per day to an annual output of 54,000 Mt. per year by year six.

5.7 PRODUCT MIX

The mill will be designed to produce high quality rice and to enable management to have considerable control over the mix of different quality products. The primary product will be a lightly-milled parboiled rice very similar to local rice in appearance, eating and cooking qualities.

Rice will initially be milled to three quality standards:

- a/ An extremely high quality, well-milled, parboiled rice to replace imported, packaged rice typically utilized by the restaurant and hotel trade.
- b/ A high quality, lightly-milled rice to replace the higher quality rice being imported by industrial organizations.
- c/ An average quality, lightly-milled rice for the mass market. This product is expected to be considerably superior to local rice in quality and far superior to current imports, which are of very poor quality and not well suited to local taste preferences.

Initially, the mill will probably turn out more high quality rice than the high quality segment of the market can absorb and the excess will be blended back into the lower quality products.

6. THE MARKET AND MARKETING CONSIDERATIONS

6.1 MARKET DEFINITION

Based on initial operating assumptions, by the end of year two production from the mill will be 28,800 Mt. of milled rice per year, increasing to 54,000 Mt. by year six.

Initially three distinct markets will be targeted:

- a/ Specialty markets, such as the hotel trade and industrial groups and institutions.
- b/ The Conakry mass consumer market.
- c/ Urban areas in other parts of the country.

6.2 SPECIALTY MARKETS

As noted above, the specialty market can be divided into two distinct groups:

- a/ The hotel/high quality consumer market,
- b/ The industrial/institutional rice importers.

At this time the hotel/high quality consumer market is estimated at approximately 1,000 Mt. per year, of packaged, parboiled rice of a quality standard similar to "Uncle Ben's rice", which has an exceptionally high per unit value. This is possibly a somewhat conservative volume estimate and the market can be expected to grow rapidly as the standard of living in the cities increases and as more organized retail outlets are established. Initial share of this market is projected at 50%, giving the operation total annual sales of 500 Mt. per year of premium quality rice in year two of the operation. This is projected to increase by 150 Mt. per year thereafter.

The industrial market is currently estimated at approximately 10,000 Mt. per year of high quality rice, of which approximately 40% is purchased by one group alone. This market is expected to respond particularly quickly to aggressive marketing and will grow rapidly, particularly if Government institutions can be drawn into the market. It will be considerably easier for the business to dominate this market and initial market share is estimated at 75% giving annual sales of 7,500 Mt. in year two. This is expected to increase by 500 Mt. per year thereafter.

6.3 THE CONAKRY MASS CONSUMER MARKET

The bulk of mill production will be targeted at the Conakry market and other major urban areas in the coastal region. The Conakry market alone currently has an estimated annual requirement of 75,000 mt. of milled rice. This requirement is expected to increase to 126,000 mt. by 1995.

Projected marketing plans are to achieve an annual sales rate of 15,000 mt. per year in the Conakry market by the end of year two, or 1,000 mt. per month. This equates to approximately 20% of the total market, which is not an unrealistic sales target bearing in mind the concentrated nature of current importation and sales patterns. Sales are projected to increase to 28,000 Mt. by year six, which equates to 28% of the minimum demand projected for that time.

Sales at this level in the Conakry area leave approximately 25% of mill output for sale in other parts of the country. It is expected that most of this will remain in the coastal/pre-Fouta area, which accounts for approximately 43% of the population but considerably less than this amount of national rice production. Imported rice, however, currently reaches all parts of the country and it seems reasonable to expect that rice traders will treat mill production in much the same way as imported rice. Therefore mill products will reach most parts of the country without an aggressive marketing campaign in these areas.

Indeed 25% of mill output is a relatively small quantity, relative to the total market and, should sales in the Conakry market be slower than expected, larger quantities could be moved into these regional markets.

6.4 PROPOSED MARKET SHARE

The ratio of projected sales to the total market will be of particular interest to mill management. Total mill output at the end of year three is expected to be 36,000 Mt. of milled rice per year relative to an estimated total market of 430,000 Mt., which equates to 8.3% of total requirement. By year six it will be 54,000 Mt., which represents approximately 12% of total demand.

Of rather more relevance perhaps is the ratio of mill output to the total volume of rice traded. Although no solid data is available this is estimated to be approximately 200,000 tons per year which gives a ratio of 18% in year three, rising to 23% by year six.

Much more reliable data is available on rice imports, which were 95,000 Mt. in 1985, and are expected to be considerably higher in 1986. Assuming that they settle at approximately 130,000 Mt. in year three, total mill production would represent 27.5% of total rice imports. Bearing in mind the quality differential of mill product, this should not pose an excessive marketing problem.

6.5 MARKETING

Marketing should not pose a problem as existing trade channels are fairly concentrated and there is no existing competition from an industrial mill. The marketing team will include a marketing manager, who will be a Guinean of high calibre, supported by two salesmen.

The mass consumer market will be reached through established wholesalers, many of whom are currently importers. They are well known and can be reached easily through the Chamber of Commerce and directly by the Sales Force. Most will contact the mill directly. All sales will be FOB mill, and will primarily be in 50 Kg bags, which wholesalers will, in turn, sell to retailers who will market the rice in traditional manner. Some sales, however, will be made in retail packages of 1, 3, 5 and 10 Kg. packs and sales of these products should grow rapidly.

Sales to specialized markets will be handled directly from the mill without passing through wholesalers. Sales will be made in the same manner as to wholesalers, although a somewhat more aggressive approach may be required. For this product, packaging will be almost entirely in 50 kg packs and some sales may be on a CIF basis for delivery by mill vehicles and vessels.

Allowance has been made in the annual operating budget for a product promotion program. The exact channels will be determined by the mill management, however, options include local radio, television and newspaper.

6.6 MARKET ADVANTAGE

The various categories of mill products will have significant market advantages over competing products for the following reasons:

- a/ The mass consumer market is the primary market and a clear product advantage in this area is most important to the operation. The mill product will be a lightly-milled parboiled rice, which consumers are expected to view as a direct substitute for locally-produced rice. It is not expected to compete with the extremely poor quality, unparboiled highly-milled rice currently being imported. It is expected to have the following market advantages over locally-produced rice:

- * On the basis of a wholesale/retail margin of 30%, which seems realistic, mill product can profitably be priced somewhat lower than average prices for locally-produced rice. It is expected that it can profitably be marketed at a price which does not exceed the price differential consumers are prepared to pay for local rice over imported lower quality product.

- * The quality will be considerably higher than that of locally produced rice, in terms of having much fewer brokens, extraneous material and insect contamination.
 - * Some milled product will be packaged directly in smaller retail packs with a carrying handle. This is expected to be extremely popular with consumers as it will allow them to purchase a known weight of uncontaminated rice of consistently high quality without having to purchase a 50 Kg. bag, which is generally beyond their cash means. It is felt that this form of packaging will give mill product a considerable market advantage and that an increasing amount of mill sales will be made in this form.
- b/ The hotel and high quality market is currently served by packaged rice imported in relatively small shipments. This is inherently a high cost product and has the additional cost of containerized freight and discharge through the Port of Conakry. Locally-milled product should be at least equal in quality and will have the advantage of being priced slightly lower than the landed cost of current imports, and of being available locally, thus avoiding a protracted procurement process.
- c/ The industrial market is also currently served by imported rice of a somewhat lower quality, also shipped in containers at high cost. Furthermore, this rice is well-milled and therefore does not meet the preference of local consumers. Mill product in this market will have the advantage of lower CIF costs, local availability and it can be milled to meet consumer preference more closely.

6.7 PROPOSED PRODUCT PRICING

Based on the market data gathered during the review and estimated marketing spreads, FOB mill prices have been projected for the three main mill products, (see Table 1.).

For various reasons, which have been previously discussed, it is particularly difficult to estimate typical retail prices for the mass market. The prices projected are realistic estimates. However, in the financial analysis profitability of the business is estimated at both higher and lower prices and the sensitivity to price changes is discussed.

TABLE 1. PROPOSED PRODUCT PRICING

Product Quality	Premium	High grade	Mass Market.
CIF competing product	\$600/Mt.	\$450/Mt.	
Marketing margin	-	-	30%
Retail price competing product	-	-	200-240 GF/Kg.
Proposed retail price mill product	-	-	180 GF/Kg.
Proposed wholesale price mill product	\$500/Mt.	\$350/Mt.	\$350/Mt.
Price advantage of mill product	17%	22%	10-25%

7. COMMERCIALIZATION OF LOCALLY-PRODUCED RICE

7.1 CONCEPTUAL APPROACH

Although the milling operation will be initiated with imported rice, the objective is to replace at least some of this imported rice with locally grown paddy as soon as possible. The eventual goal is to operate the mill entirely on locally grown paddy.

At this point it is difficult to assess how easily and cost-effectively this objective can be reached. The primary problem is that due to current changes in trade policy and rice pricing, it is very difficult to assess the quantity of paddy available and prevailing prices.

The proposed strategy is not to become involved in direct production. This approach is fast but extremely capital intensive and has not had good results in Guinea in the past. The preferred approach is to arrange purchase of paddy from Guinean farmers, a mix of both smallholder producers and mechanized farmers working up to 100 ha. plus.

To achieve this, the operation will establish from its inception a commercialization division, which will be charged with supplying the mill with locally grown rice. This division will work with local farmers to organize the production and purchase of rough rice suitable for milling. It will be headed by a senior manager who will be a rice agronomist. This is a key position in the overall management structure.

Purchasing points will be established in the major producing areas (initially 5 or 6 are expected to be sufficient) from which purchasing agents will operate. These will be local Guineans who have some standing in the community and who have a clear understanding of rice farming, rice quality and local farmers. They will be remunerated on a performance basis linked to the cost and quality of rough rice delivered to the mill. Purchasing agents will use the well established rural administrative structure to communicate their objectives to local farmers.

7.2 PURCHASING

Buyers will purchase paddy according to certain simple quality guidelines laid down by the mill. They will assess and grade rough rice for moisture content, grain type, grain quality and contamination, and will only accept paddy of acceptable quality standards. All purchases will be made on a weight basis and rough rice with different grain characteristics will be separated to ensure milling uniformity.

It is proposed that the bulk of purchasing will be carried out during the three months following harvest in order to take

advantage of lower paddy costs. Initially it is planned that the bulk of purchases will have to be made at the purchasing station and farmers will be responsible for transport from the farm. If it becomes necessary light trucks may be leased during the purchasing season to transport paddy to the purchase point, at the farmer's expense.

7.3 EXTENSION SERVICE AND SUPPLY OF INPUTS/CREDIT

The commercialization division will provide limited extension services to farmers. In particular, the importance of quality will be addressed in order to avoid excessive levels of rejection due to poor quality and the consequent loss of farmers confidence in the system.

The division may also supply production inputs such as improved seed and fertilizer, if no alternative supply is available and it appears beneficial in terms of increased paddy availability and reduced costs. Purchasing stations and agents are a cost effective means of doing this. The extent of this involvement will be an ongoing management decision.

It may be necessary to supply improved seed early on in the commercialization effort in order to secure homogeneous paddy supplies. Improved seed should be available from the rice development projects such as PAG, and cooperation will need to be arranged at an early point in project development.

There is little doubt that, initially, farmers will request credit for production inputs. Although this represents a production constraint which must be addressed, it is an activity which involves considerable risk for a private organization. Collection of credit provided to small farmers for food crops, for which there is an alternative market, is notoriously difficult and expensive and the operation should attempt to avoid becoming involved in such activities. If credit is as much of a production constraint as envisaged, the commercialization division may cooperate closely with other institutions established to provide and administer credit.

7.4 GEOGRAPHIC AREAS OF COMMERCIALIZATION

In selecting areas in which to purchase paddy, transport costs become the limiting factor, as they are so high relative to the value of the rough rice. Initially, commercialization will be limited to the coastal and Pre-Fouta region in order to hold these costs to a reasonable level.

In addition, the division will work with any major rice development projects which represent an immediate source of paddy availability, an established extension service and a concentrated purchasing base, regardless of location. Typical of such projects is PAG, in the Forest region, which projects an incremental

15,000 Mt. of rice production within the next 5 years. Such operations should be a cost effective source of paddy, irrespective of distance from the mill, as other commercialization costs will be much lower. Furthermore, transport costs from these areas may be somewhat reduced by supplying fertilizer and other inputs to these operations as a back-haul.

7.5 METHODS OF PADDY DRYING, STORAGE AND TRANSPORT TO THE MILL

Paddy will largely be sun-dried by the farmers and only paddy of a low moisture content will be purchased. It should not require extensive drying after purchase, however, provision has been made for the operation of simple driers at each purchase point. In addition there will be aeration and drying capacity at the mill storage should subsequent problems arise.

In order to take advantage of the lower harvest season prices, considerable storage will be required in addition to the requirements projected for imported rice. An appropriate allocation is made for this in the capital budget, however, exact specifications and locations have not been determined. These decisions can best be made once the commercialization division has been in operation for some time and the exact requirements are better known. The same applies for the exact nature and design of purchasing stations, which will be leased buildings, initially.

A combination of transport methods will be used to transport locally grown rice to the mill. In view of the rather poor road network efforts will be made to locate the majority of maritime region purchase points on the coast in villages which have existing piers such as Kamsar, Cap Verga, Koba, Boffa, Dubreka and Benti. Rice will be transported from these points to the mill by barge or small coastal vessels, with shallow draft and bow doors. This method will allow extremely cost effective transport. Provision has been made for some mill owned heavy trucks and semi-trailer rigs, which will be used in the Eastern parts of the country and the coastal region purchase points within one days trucking distance of the mill. All purchase points and transport units will be connected to the mill by a radio network and transport will be controlled by a coordinator within the commercialisation division.

This combination of transport should result in extremely low transport cost relative to typical transport costs in Guinea.

7.6 SUBSTITUTION SCHEDULE FOR LOCALLY-GROWN RICE

Sale of rice is the only cash income for many Guinean farmers. It is expected that once they have developed confidence in the commercialization system and have a source of inputs to increase production they will readily market excess paddy production.

Creating the overall commercialization system and gaining the confidence of farmers, however, is expected to take some time. It may be several years before the full benefits of early expenditures in this area are realized. It would be beneficial, therefore, if the commercialization system is initiated immediately after project financing becomes effective, even ahead of mill construction. This will serve to reduce the inherent lag time.

It is difficult to estimate the exact time required to meet the commercialization goals of 50% and 100% mill capacity from local sources, however, a period of six years seems reasonable for the latter. During this time, transport and storage facilities will be phased in only as they become necessary and will not all be put in place from year one.

7.7 COST OF LOCAL PADDY DELIVERED MILL

The cost of local paddy delivered to the mill is clearly of considerable importance to overall mill profitability. This in turn will be a factor of paddy prices, commercialization costs (organizing production and purchase) and transport costs to the mill.

At this time it is difficult to estimate exact paddy prices due to the lack of data relating to historical prices and due to the fact that some fundamental structural changes are taking place within the rice industry. Statistics show a wide range of prices with little coherent pattern. Knowledgeable individuals within the Guinean rice industry suggest that paddy prices will settle at approximately 50 GF/Kg. As yields rise due to increased usage of improved inputs, paddy prices should eventually fall below this level.

For purposes of this review, a base price of 50 GF/Kg is assumed. However, project analyses are also run at 45 and 60 GF/Kg. This uncertainty may be dispelled by the survey of paddy production and prices which will be carried out by the Guinean Government in the 86/87 harvest season.

In any event, it is clear that the cost of locally produced rice is significantly higher than the cost of imported rice, which at this time is particularly low. The availability of low cost rice on the world market will continue for some time to come.

The cost of commercialization personnel are treated as a fixed cost and included as an annual operating expense. In addition, 2 GF/Kg or \$5.50 per ton is allowed as a variable, per unit cost to cover seasonal labor requirements, leased buildings and other costs directly linked to the volumes of paddy passing through the purchasing stations. Once the mill is operating at full capacity on local rice, this equates to approximately \$420,000 per year.

The final component of local rice costs will be handling and transport costs from the purchasing point to the mill. All transport costs, apart from purchase of capital equipment, are treated as variable costs directly linked to the volume of paddy handled. They include fuel, labor and lease of vehicles as necessary.

Actual costs will vary with specific point of origin and means of transport. Transport cost should be lowest for rice purchased in the Maritime region as the bulk of this rice will be transported by light vessel and transport costs are estimated at 5 GF/kg. Assuming good back-hauls can be arranged to the Eastern region, paddy transport costs from this area to the mill should be considerably below current commercial rates and on a worst-case basis are estimated at 10 GF/kg, although in actual fact they are more likely to be in the region of 7-8 GF/kg. On this basis, an average transport cost of 6 GF/kg is used in the projections. At 100% utilization of local rice this equates to \$1,250,000 per year.

Based on these estimates, the long-term cost of locally grown rice delivered to the mill will be approximately 58 GF/kg., or \$161 per ton. This is clearly more than the cost of imported rice, shipped as parboiled, brown rice in bulk.

7.8 INSTITUTIONAL COOPERATION

The proposed commercialization activities will clearly be extremely beneficial to the Guinean rice industry and fit in well with current plans for many of the major rice development projects. By the provision of an organized market at stable prices and quality standards it will eliminate a major production constraint and should provide a boost to local production.

From the standpoint of a commercial organization primarily involved in the milling and marketing of rice, however, it introduces certain drawbacks:

- * The commercial organization is forced to become involved in activities which would normally be carried out by a Government or other non-profit institution, e.g., extension services, credit, supply of inputs, establishment of market standards, etc. In so doing it incurs considerable additional cost not normally associated with milling and marketing rice.
- * In view of the lack of infrastructure and other services in Guinea, the cost of establishing a commercialization organization are likely to be abnormally high.
- * In view of the current level of technical and marketing development of the Guinean farmers there will be a

considerable lag time between initial expenditures in the program and a financial return in terms of increased paddy availability.

- * For quite some time to come the costs of locally-produced rice are going to be significantly higher than for brown rice imported in bulk.
- * This cost disadvantage is further compounded by the fact that all local rice must be purchased within a two or three month period, and heavy inventory costs paid to carry it through the year.

Although in the long term, a switch to locally produced rice makes sound economic sense, and the operation must be committed to do so, in the short term the mechanics of doing this places a heavy financial burden on the milling operation and consequently introduces considerable business risk.

In view of the considerable economic benefits such a switch would provide for the Guinean rice industry and in view of the rather abnormal demands placed on the private company due to the lack of infrastructure and services in Guinea, it seems reasonable that some assistance or cooperation be given this commercialization program by institutions normally involved in rice development in Guinea.

There are several ways in which appropriate assistance or cooperation might be structured:

- * Concessionary financing for this aspect of the project be provided with long-term loans, at low interest rates and with an extended grace period.
- * Provision of funds for farm credit to be administered through the commercialization division, e.g. local currency generated by the U.S. "Food for Peace" Program.
- * Development institutions may utilize the commercialization division on a fee basis to provide certain services which they would normally provide. The technical know-how, management discipline and profit motivation will result in more efficient provision of services thus benefiting the institution in question. On the other hand, such an arrangement will reduce the high overhead costs of the commercialization division in its early stages.

The exact mechanics of such assistance and cooperation remain to be determined, however, there is precedent for such arrangements. It would make the transition to locally-produced rice much more viable, and at the same time, would provide an extremely effective vehicle to carry out institutional rice development programs.

8. ADDITIONAL BUSINESS OPPORTUNITIES

8.1 NO ADDITIONAL CAPITAL COSTS

In addition to the primary business of milling and marketing rice there are several other business opportunities which would fit in well with the core business and associated facilities and equipment. The following opportunities involve little additional capital cost:

- * Revenues may be increased by using the bulk importation facilities to import and bag grain for other importers on a toll basis. In view of the cost savings involved with bulk shipping and handling and avoiding the Port of Conakry, this could be a high-margin service, although total revenue will be modest (probably less than \$600,000 per year). Potential clients are Government imports, concessionary grain shipments and possibly commercial rice importers handling poor quality rice which does not compete directly with mill products.
- * The importation of fertilizer for supply to the agricultural development projects and possibly commercial traders. Initially, total requirements are unlikely to exceed 10,000 Mt. per year, however, this could increase rapidly.
- * Supply of other production inputs such as herbicides and pesticides.
- * Import and sale of appropriate rice production machinery such as reaper/binders, threshers and knapsack/ULV sprayers.
- * Utilization of back-haul transport on a commercial basis (both trucks and vessels). Since transport costs in Guinea are extremely high this could be a very effective means of reducing rice transport costs.
- * Considerable quantities of rice bran will be available as a by-product from the milling process. Construction of a small feed mill to utilize this material will not require large amounts of capital and should provide a good return.

8.2 FLOUR MILLING

Involving considerably higher capital costs but likely to be extremely profitable is expansion into flour milling. This represents a very attractive opportunity as there are no existing

flour mills in Guinea, despite current imports of approximately 35,000 Mt. per year. A flour mill could utilize much of the facilities, equipment and personnel associated with the rice mill and could generate significant return on investment.

9. PERSONNEL AND MANAGEMENT STRUCTURE

9.1 MANAGEMENT STRUCTURE

A proposed management structure is shown in Figure 2. Well-trained and responsible Guineans are increasingly available for positions in private industry and expatriate personnel will be held to a minimum. If absolutely essential for development purposes such expatriates will be phased out as soon as possible.

Initially the General manager, plant manager and commercialization manager are likely to be expatriates on secondment from the offshore managing partner to the Guinean venture. The only other positions expected to be filled by expatriates are maintenance supervisor, electrician and marine maintenance. These are likely to be "third country nationals" and will be replaced by Guineans as soon as possible.

An allowance is made in the capital budget for construction of housing for senior management. This may or may not be necessary depending on location. If it is not necessary this allocation will be used for long term rental payments. Personnel costs include appropriate fringe benefits and overhead costs.

With regard to unskilled labor, daily labor will be used as much as possible, particularly for seasonal requirements to handle locally purchased paddy.

9.2 TRANSPORT STRUCTURE

The proposed vehicle and transport distribution is outlined in Figure 3.

FIGURE 2. PROPOSED MANAGEMENT STRUCTURE.

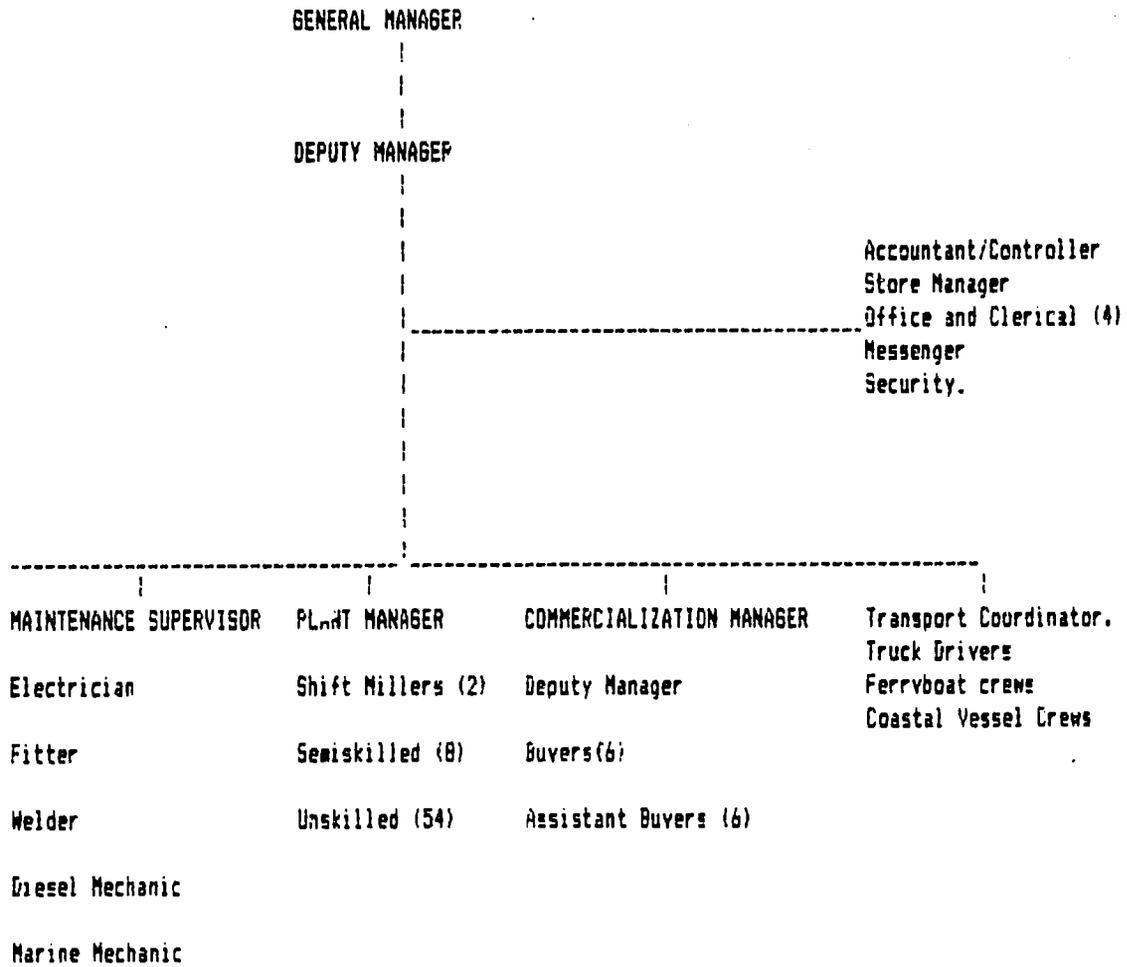


FIGURE 3. PROPOSED TRANSPORT STRUCTURE

MILL:

General manager	Station Wagon.
Plant Manager	Pick-up
Maintenance Supervisor	Pick-up
Messenger	Pick-up
Sales Manager	Station wagon.
Heavy transport	2x 25ton tractor/trailers. 1x 10ton truck with hydraulic boom.

MARINE TRANSPORT:

Coastal transport	200 ton coastal vessel, shallow draft, hydraulic boom and bow door.
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FERRYING OPERATIONS:

Ferry to Kassa Island	1x100 ton self propelled ferry. 1x10 ton light ferry. 2x light launches.
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COMMERCIALIZATION DIVISION:

Commercialization manager	4x4 Station wagon
Deputy manager	4x4 Station wagon
Heavy transport	2x 25 ton tractor/trailers.
Each purchasing point(6)	1x motorcycle 1x5ton truck with hydraulic crane. Moveable conveyor belts.

10. SITE SELECTION AND BULK IMPORTATION CONSIDERATIONS

10.1 SITE REQUIREMENTS

As Conakry is the primary market and transport costs are extremely high, the mill site should ideally be within 50 Km of Conakry. The operation will require approximately five hectares of land adjacent to a bulk discharge facility, which becomes the limiting factor in site selection. At this time there is no possibility of locating the operation within the Port of Conakry, and it is expected that port expansion will not be completed for at least five years. An alternative site therefore needs to be located.

The key issue in this context is water depth of approximately 8 meters for bulk shipment of up to 5,000 Mt. Time did not permit a detailed site survey to be made. Coastal waters are very shallow, and possibilities of constructing a suitable wharf without extensive dredging are limited. Two workable options have been identified and a more detailed review of potential sites may well identify more suitable alternatives.

10.2 CONAKRY SITE

There is approximately five hectares of suitable and currently available land adjacent to the port at the base of the North Dyke which could be used (see Figure 4). This site would require lightering by barge, construction of a short piled jetty, and limited dredging. It has good access to Conakry and rail, and is adjacent to the expanded port facility should a bulk grain facility eventually be incorporated.

10.3 KASSA ISLAND

The second option involves basing the entire operation on Kassa Island and using the existing deep water pier at Mat Point. The major draw back is the isolation from the market and locally-produced paddy. This approach will require renovation of the pier, much longer grain discharge, and the operation of a ferry of 60-100 Mt. capacity to carry trucks to and from the mill. The coastal transport vessel will act as a standby for this ferry.

The use of the island will eliminate the need for lightering and dredging and will simplify general operations.

FIGURE 4

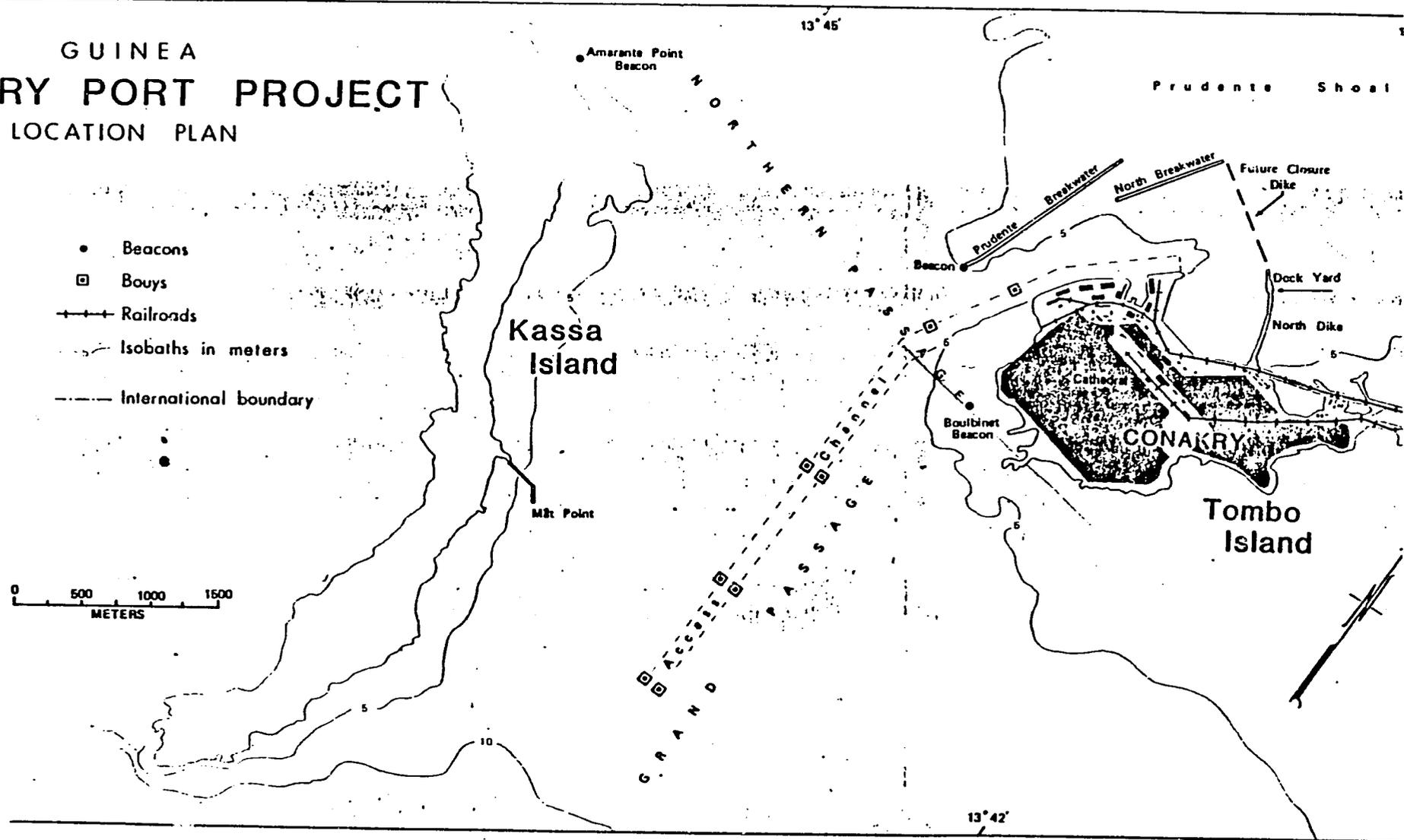
THE CONAKRY AREA WITH RESPECT TO
POSSIBLE SITE LOCATION.

GUINEA
CONAKRY PORT PROJECT
LOCATION PLAN

- Beacons
- Bouys
- +— Railroads
- - - Isobaths in meters
- - - International boundary



45



13°42'

11. DEVELOPMENT PLAN, CONSTRUCTION AND PHASED APPROACH

The development and related construction of the proposed facilities should not pose any particular problems, although construction should be scheduled around the extended rainy season.

Approximately one year will be required from time of project initiation to complete detailed design, procurement, shipping, construction, installation and commissioning.

Project plant and equipment will be procured and installed only as it becomes necessary and capital expenditures will be phased over a three to four year period.

Capital cost estimates include procurement, shipping, installation, and construction management costs.

The plant is expected to operate at an average rate of 80% of nominal capacity during the first year of production, 100% by year two of production, and thereafter increasing to 150% in year six by adding a third shift as the market warrants.

12. INVESTMENT STRUCTURE

12.1 PROPOSED INVESTMENT STRUCTURE

The proposed investment structure will be a joint venture between one or more overseas investors, a consortium of private Guinean investors and possibly the IFC. One of the major industrial groups in Guinea has indicated a possible interest in an equity position.

Key offshore investors will already be in the rice-milling or grain trade and they will become the managing partners.

The investment code currently being finalized promises to be extremely liberal. Very advantageous investment conditions can be negotiated, including a tax holiday for the first years of the project and the waiving of import duties and tariffs on all project equipment and supplies. The financial analysis is based on these concessions being achieved and they should become a prerequisite for the investment.

12.2 REPATRIATION OF PROFITS

The tax code specifically allows for repatriation of profits in a timely manner so this is not expected to be a problem. By the time the project is operational, Guinea will have hopefully entered the CFA zone and consequently local currency should be convertible. This will greatly simplify the question of availability of foreign exchange for repatriation of profits. Before this happens, foreign exchange will have to be secured on the weekly auction, which at this time is working well.

13. PROFORMA COSTS, REVENUES AND CASHFLOW

13.1 CAPITAL COSTS

The equipment and infrastructure required for the proposed investment are fairly standard for an operation of this nature and are outlined in Table 2.

These capital requirements are broken into three distinct categories for depreciation purposes:

- a/ Five year class - vehicles and similar short life equipment.
- b/ Ten year class - processing plant and equipment.
- c/ Eighteen year class - buildings, infrastructure and port.

The capital costs are broken down into two further categories related to the proposed financing source. The majority of the costs are directly related to rice milling and marketing and it is proposed that these be financed through normal commercial channels.

Approximately twenty-two percent of the projected capital costs, however, are directly related to the commercialization of local rice, as opposed to milling and marketing. Due to the unusual nature of some of these costs, and the benefits they will confer on the local rice industry it is proposed that they be financed on somewhat concessionary terms by appropriate institutions with an interest in developing local rice production in Guinea. For the purpose of the financial analysis, it is assumed that such financing can be arranged for a ten-year period, with an annual interest rate of six percent.

The remaining capital cost items are self explanatory, however, the following comments might be useful:

- No allowance is made for the purchase of a site as land in Guinea is controlled by the State and the selected site should be made available for projects with an economic benefit to the country.
- Bulk discharge equipment costs and facilities are based on utilizing the Kassa Island site, and comprise suction discharge equipment and a drag conveyor to the bulk storage facility. The conveyor could be eliminated by utilizing four bulk trailers and a dump pit. The latter would be a workable option on Kassa island but would not be feasible through the Port of Conakry.
- For ferrying operations it is proposed to purchase a used landing craft type vessel of approximately 100 ton or four semi-trailer capacity. The coastal vessel purchased

TABLE 2. CAPITAL EQUIPMENT AND COSTS (\$,000).

COMMERCIAL FUNDING.	DC5	DC10	DC18	TOTAL
Project Development.		150.00	0.00	150.00
Plant Engineering.		290.00		290.00
Site Preparation & Security.			200.00	200.00
Buildings.			750.00	750.00
Milling Equipment.		3,300.00		3,300.00
Parboiling Equipment.		2,000.00		2,000.00
Packaging Equipment.		200.00		200.00
Drying & Circulation.		250.00		250.00
Bulk Storage - mill.			1,000.00	1,000.00
Power Generation.		400.00		400.00
Bulk Discharge Equipment.	0.00	300.00		300.00
Mill Vehicles.	70.00			70.00
Mill Heavy Transport.	125.00			125.00
Purchasing Vehicles.	38.00			38.00
Purchasing Heavy Transport.	120.00			120.00
Ferry and Launches.		250.00		250.00
Infrastructure.		200.00		200.00
Housing.			305.00	305.00
Equipment Installation.		300.00		300.00
Contingency.		507.90		507.90
SUBTOTAL 1	353.00	8,057.90	2,255.00	10,665.90
CONCESSIONARY FUNDING.				
Country Storage.			2,000.00	2,000.00
Purchasing Stations.			300.00	300.00
Paddy Handling Equipment.			120.00	120.00
Coastal Vessel.			400.00	400.00
Contingency.			141.00	141.00
SUBTOTAL 2	0.00	0.00	2,961.00	2,961.00
TOTAL CAPITAL EXPENDITURES.	353.00	8,057.90	5,216.00	13,626.90

for paddy transport will serve as a back-up to the ferry and it will be further supported by a ten ton-capacity ferry for light transport and two launches.

- The funds designated for berthing facilities will be used for renovation of the existing pier on Kassa Island. It is expected that the total cost for this will be shared with another industrial user.
- Should the milling operation be located on the mainland as opposed to Kassa Island, funds earmarked for the ferry and pier renovation and the drag conveyor may be utilized to construct a light pier and to carry out necessary dredging.
- Paddy handling equipment covers the equipment required to effectively handle paddy in the purchasing stations.

In addition to these capital costs some extraordinary costs are incurred in year one. While not strictly capital costs and not included in the capital cost schedule, they are related to start-up of the operation and will be funded by medium-term debt.

13.2 REVENUES

Annual revenues, Table 3 is made up of sales of four different products which in the base case are priced at:

a/ Premium quality rice	\$500/mt. FOB mill.
b/ Industrial market rice	\$350/mt. FOB mill.
c/ Mass market rice	\$350/mt. FOB mill.
d/ Rice Bran	\$40/mt. FOB mill.

Annual revenues increase as production builds and as the proportion of higher value products in mill output increases.

13.3 OPERATING COSTS

Operating costs are broken into two distinct categories:

- a/ Cost of sales, covers all costs directly linked to the level of production. The major item in this category is the cost of mill stock, which in turn varies according to the source of raw material. A complete transfer to local rice by year six is treated as the base case and projected cost of sales for this scenario are shown in Table 4. Based on current exchange rates, the use of local rice will be slightly more expensive than imported rice (Table 5) however, several other factors such as the availability of foreign exchange will reduce this apparent advantage considerably. Other significant costs in this category are milling labor, packaging, utilities

and maintenance. Projected utility costs are based on complete reliance on self-generation. Losses and bad debts are estimated at one percent of production.

- Expenses are the fixed costs which do not vary with the production level. See Table 6. The major component in this category is the cost of fixed and commercialization personnel. Fixed maintenance and fuel (POL) cover the day to day requirements of the operation unrelated to production. General insurance provides cover for capital equipment inventory and liability; investment insurance covers offshore investor risk associated with adverse political changes or blockage of dividends.
- Extraordinary expenses are "one-of" costs related to the start-up of the operation and will be financed partially through owner equity and partially through medium-term debt.

13.4 PROPOSED FINANCING AND SOURCE OF OPERATING FUNDS

Total capital requirements are divided into two categories:

- a/ Normal mill operations, which comprise the bulk of the capital requirement.
- b/ Commercialization of locally-produced rice.

The former will be financed through normal project financing channels and the latter will be financed through some form of extremely concessionary financing provided by institutions seeking to promote development of local rice production in Guinea. For financing of the total operation an equity investment of 40% is projected.

As indicated, the balance of the requirement will be met through a combination of medium-term borrowing and longer-term concessionary loans. The medium-term financing is expected to be secured through the IFC, the African Development Bank and appropriate supplier credit. It appears that sufficient medium term credit could be secured to cover these needs satisfactorily. The loan conditions for such financing varies with the source, however, for purposes of this review a loan period of seven years with a ten percent annual interest rate is assumed.

This analysis is based on securing financing for the commercialization costs on concessionary terms, such as a ten year loan period and an annual interest rate of six percent. On a worst case basis an analysis is carried out on the assumption that such financing would not be available and that the commercialization activities would have to be financed through the same channels as the main milling operation.

TABLE 3. ANNUAL REVENUES (\$,000).

	YEAR					
	1.00	2.00	3.00	4.00	5.00	6.00
Premium Rice.	0.00	225.00	292.50	360.00	427.50	495.00
Industrial Rice.	0.00	2,625.00	2,800.00	2,975.00	3,150.00	3,325.00
Mass Market Rice.	0.00	7,280.00	9,572.50	10,605.00	12,267.50	15,190.00
Rice Bran.	0.00	128.00	160.00	176.00	200.00	240.00
TOTAL REVENUES	0.00	10,258.00	12,825.00	14,116.00	16,045.00	19,250.00

	YEAR					
	7.00	8.00	9.00	10.00	11.00	12.00
Premium Rice	562.50	630.00	697.50	765.00	832.50	900.00
Industrial Rice	3,500.00	3,675.00	3,850.00	4,025.00	4,200.00	4,375.00
Mass Market Rice	14,962.50	14,735.00	14,507.50	14,280.00	14,052.50	13,825.00
Rice Bran	240.00	240.00	240.00	240.00	240.00	240.00
TOTAL REVENUES	19,265.00	19,280.00	19,295.00	19,310.00	19,325.00	19,340.00

TABLE 4. COST OF SALES - COMPLETE SUBSTITUTION LOCAL RICE (\$,000).

	YEAR					
	1.00	2.00	3.00	4.00	5.00	6.00
Imported Rice.	0.00	6,080.00	5,840.00	5,016.00	2,950.00	0.00
Local Paddy.	0.00	0.00	805.56	3,544.44	7,048.61	12,083.33
Milling Labor.	0.00	149.60	187.00	205.70	233.75	280.50
Packaging.	0.00	400.00	500.00	550.00	625.00	750.00
Utilities & PDL.	0.00	222.40	278.00	305.80	347.50	417.00
Plant Maintenance.	0.00	160.00	200.00	220.00	250.00	300.00
Bad Debts.	0.00	102.58	128.25	141.14	160.45	192.50
TOTAL COST OF SALES.	0.00	7,114.58	8,938.81	9,983.10	11,515.31	14,023.33

	YEAR					
	7.00	8.00	9.00	10.00	11.00	12.00
Imported Rice.	0.00	0.00	0.00	0.00	0.00	0.00
Local Paddy.	12,083.33	12,083.33	12,083.33	12,083.33	12,083.33	12,083.33
Milling Labor.	280.50	280.50	280.50	280.50	280.50	280.50
Packaging.	750.00	750.00	750.00	750.00	750.00	750.00
Utilities & PDL.	417.00	417.00	417.00	417.00	417.00	417.00
Plant Maintenance.	300.00	300.00	300.00	300.00	300.00	300.00
Bad Debts.	192.65	192.90	192.95	193.10	193.25	193.40
TOTAL COST OF SALES.	14,023.48	14,023.63	14,023.78	14,023.93	14,024.08	14,024.23

TABLE 5 COST OF SALES - 50% SUBSTITUTION LOCAL RICE (\$,000).

	YEAR					
	1.00	2.00	3.00	4.00	5.00	6.00
Imported Rice.	0.00	6,080.00	6,840.00	6,688.00	6,175.00	5,700.00
Local Paddy.	0.00	0.00	805.56	1,772.22	3,544.44	6,041.67
Milling Labor.	0.00	149.60	187.00	205.70	233.75	280.50
Packaging.	0.00	400.00	500.00	550.00	625.00	750.00
Utilities & POL.	0.00	222.40	278.00	305.80	347.50	417.00
Plant Maintenance.	0.00	160.00	200.00	220.00	250.00	300.00
Bad Debts.	0.00	102.58	128.25	141.16	160.45	192.50
TOTAL COST OF SALES.	0.00	7,114.58	8,938.81	9,882.88	11,336.14	13,681.67

	YEAR					
	7.00	8.00	9.00	10.00	11.00	12.00
Imported Rice.	5,700.00	5,700.00	5,700.00	5,700.00	5,700.00	5,700.00
Local Paddy.	6,041.67	6,041.67	6,041.67	6,041.67	6,041.67	6,041.67
Milling Labor.	280.50	280.50	280.50	280.50	280.50	280.50
Packaging.	750.00	750.00	750.00	750.00	750.00	750.00
Utilities & POL.	417.00	417.00	417.00	417.00	417.00	417.00
Plant Maintenance.	300.00	300.00	300.00	300.00	300.00	300.00
Bad Debts.	192.65	192.80	192.95	193.10	193.25	193.40
TOTAL COST OF SALES.	13,681.82	13,681.97	13,682.12	13,682.27	13,682.42	13,682.57

TABLE 6. ANNUAL EXPENSES (\$,000)

	YEAR					
	1.00	2.00	3.00	4.00	5.00	6.00
Promotion & Advertising.	0.00	50.00	50.00	50.00	50.00	50.00
Fixed Personnel.	0.00	374.00	374.00	374.00	374.00	374.00
Comm'n Personnel.	0.00	0.00	243.00	243.00	243.00	243.00
Fixed Maintenance.	0.00	50.00	50.00	50.00	50.00	50.00
Fixed PDL.	0.00	80.00	80.00	80.00	80.00	80.00
General Insurance.	102.20	102.20	102.20	102.20	102.20	102.20
Investment Insurance.	40.88	40.88	40.88	40.88	40.88	40.88
General & Admin.	0.00	120.00	120.00	120.00	120.00	120.00
Extraordinary Expenses	150.00	546.00				
TOTAL EXPENSES	293.08	1,363.08	1,060.08	1,060.08	1,060.08	1,060.08

Expenses are constant year 6 through 12.

For simplicity of analysis all capital loans are drawn down in the first year. In reality they will be spread over years one, two and three, which will improve returns slightly.

In addition, operating credit will be required to cover inventory of raw material, milled product and receivables. Initially, while the mill is operating on imported rice it is proposed that all operating funds be secured on a commercial basis with a projected interest rate of ten percent.

As increasing reliance is placed on the milling of local rice, the inventory of mill stock will increase significantly due to seasonal purchasing patterns and the requirement for operating funds will increase threefold. As this substitution is extremely beneficial to the local rice industry while placing an additional burden on the operation, it is proposed that operating funds for the purchase of local paddy be made available by appropriate institutions at concessionary rates. Therefore, an interest rate of six percent has been used in this analysis. In the financial analysis, the effect of not being able to secure operating capital at concessionary rates is also assessed.

13.5 CASHFLOW

A summary cashflow for the proposed operation, on a constant dollar basis, is shown in Table 7. Year two of the operation shows a small negative flow, however, this can be offset by the larger positive flow at the end of year one. This suggests that a small part of the commercial loan could be deferred until year two.

It is expected that a tax holiday will be negotiated as a precondition for investment and taxes are therefore not taken into account in the cashflow analysis.

Depreciation is treated as a sinking fund to maintain plant and equipment at original value. Consequently the operation is regarded as having a terminal value of one hundred percent initial capital costs in year thirteen. The effect on profitability of a fifty percent or zero terminal value is also assessed in the financial analysis.

TABLE 7. CASH FLOW (\$,000).

	YEAR												
	1	2	3	4	5	6	7	8	9	10	11	12	13
REVENUES	0	10,283	12,858	14,156	16,093	19,305	19,328	19,350	19,373	19,395	19,418	19,440	19,463
COST OF SALES.	0	7,115	8,939	9,984	11,516	14,024	14,024	14,024	14,025	14,025	14,025	14,025	14,025
GROSS EARNINGS.	0	3,168	3,918	4,172	4,577	5,281	5,303	5,326	5,348	5,370	5,392	5,415	5,437
EXPENSES.	293	1,363	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060
CAPITAL TRANSACTIONS.													
Sales													13,627
Capital Expenditures.	(13,627)												
OPERATING CASH FLOW.	(13,920)	1,805	2,858	3,112	3,516	4,221	4,243	4,266	4,288	4,310	4,332	4,354	18,003
FINANCING.													
Equity Capital.	5,451												
Capital Loan, Comm'l.	6,281												
Capital Loan, Concessionary.	2,961												
Total Inflow.	14,693												
DEBT SERVICE.													
Principal Comm'l Cap. Loan.	0	875	882	890	897	905	912	920	0	0	0		
Interest Comm'l Cap. Loan.	0	52	45	38	30	23	15	8	0	0	0		
Principal Con'y Cap. Loan.	0	289	291	292	294	295	297	298	300	301	303		
Interest Con'y Cap. Loan.	0	15	13	12	10	9	7	6	5	3	2		
Interest Comm'l Op. Funds.	0	149	181	181	184	196	196	196	196	196	196	196	196
Interest Con'y Op. Funds.	0	0	24	105	209	358	358	358	358	358	358	358	358
Total Outflow.	0	1,381	1,437	1,517	1,625	1,785	1,785	1,785	858	858	858	554	554
DEPRECIATION/SINKING FUND.	0	1,168	1,168	1,148	1,168	1,168	1,168	1,168	1,168	1,168	1,168	1,168	1,168
NET CASH FLOW.	773	(745)	253	427	723	1,267	1,290	1,312	2,262	2,284	2,306	2,633	16,282

14. FINANCIAL ANALYSIS

14.1 MEASURING PROJECT WORTH

For an assessment of project worth Internal Rate of Return (IRR) is considered the yardstick most appropriate to the nature and objectives of this review. The IRR has been calculated to assess the potential return from the project and its sensitivity to changes in some of the base parameters.

14.2 BASE CASE

Table 8, outlines the basic parameters for the perceived operation with total production increasing to 54,000 mt. by year six, and a complete transition to local paddy by that time.

Under the somewhat conservative conditions assumed the operation could be expected to show an internal rate of return of at least 18%, which represents an attractive investment opportunity.

With the possibility of additional revenues from the importation of fertilizers, contract importation and bagging of grain and sale of inputs, all with no increased capital costs, this rate of return could be increased significantly.

14.3 SENSITIVITY TO LEVEL OF PRODUCTION

The profitability of the operation is extremely sensitive to the level of production and if sales build-up does not justify an eventual operation of three shifts per day the IRR will fall dramatically to a negative value. This suggests that potential investors should be particularly prudent in assessing market volume and sales potential, and should take particular care to scale the operation accordingly.

14.4 SENSITIVITY TO SALES PRICE

The major revenue generator for the business is mass market quality rice, so the effect of changes in this price is of particular significance.

The base case, generating an IRR of eighteen percent, assumes a retail price of 180 GF/kg and an ex-mill price which allows a thirty percent wholesale/retail spread. This seems to be an extremely realistic and somewhat conservative target price.

Profitability, however, is extremely sensitive to this price. Should it fall to 170 GF/kg the IRR will be reduced to twelve percent. Conversely, if it should be increased to 200 GF/kg the IRR would be twenty-nine percent. A retail price of 190 GF/kg,

TABLE 8. BASE PARAMETERS - COMPLETE SUBSTITUTION LOCAL RICE BY YEAR SIX.

Exchange Rate - GF/\$	360.00	Foreign Exchange Premium.			1.00		
SALES PRICE.	US\$/MT.	Marketing Margin	GF/Kg. Retail				
Premium Rice.	500.00						
Industrial Quality Rice.	350.00						
Mass Market Rice.	350.00	30%	180.00				
Rice Bran.	40.00						
COST OF RAW MATERIAL.	US\$/MT	Price.	Freight.	Factor.			
Imported Brown Rice.	190.00	160.00	30.00	1.00			
Local Paddy.	161.11	50.00	6.00	2.00			
PRODUCTION (,000 Tons/year).		1.00	2.00	3.00	YEAR	5.00	6.00
Nominal Mill Capacity.	36.00				4.00		
Production Build-up - % cap'y.		0%	90%	100%	110%	125%	150%
Milled Rice output MT/year.		0.00	28.80	36.00	39.60	45.00	54.00
SALES (,000 Tons/year)							
Premium Rice		0.00	0.50	0.65	0.80	0.95	1.10
Industrial Rice		0.00	7.50	8.00	8.50	9.00	9.50
Mass Market Rice		0.00	20.80	27.40	30.30	35.00	43.40
Total Milled Rice Production		0.00	28.80	36.00	39.60	45.00	54.00
Rice Bran.		0.00	3.20	4.00	4.40	5.00	6.00
RAW MATERIAL SOURCE.							
% Imported Rice.		0.00	100%	90%	60%	30%	0%
% Local Rice.		0.00	0%	10%	40%	70%	100%
Imported Rice (,000 Tons/year).		0.00	32.00	36.00	26.40	15.00	0.00
Local Rice MT/year (,000 Tons/year)		0.00	0.00	5.00	22.00	43.40	75.00
INVENTORY/RECEIVABLES. \$,000	Days.						
Inventory Imported Rice.	30.00	0.00	499.73	562.19	412.27	234.25	0.00
Inventory Local Paddy, days.	180.00	0.00	0.00	397.26	1,747.95	3,476.03	5,958.90
Inventory milled product.	21.00	0.00	409.35	514.31	574.39	662.55	806.85
Receivables.	30.00	0.00	584.78	734.72	820.56	946.50	1,152.65
FINANCING	Rate.	Term.	Total (\$,000)				
CAPITAL EXPENDITURES.							
Equity.	40%		5,450.76				
Commercial medium term debt.	10%	7.00	6,281.14				
Conc'y medium term debt.	5%	10.00	2,961.00				
Total			14,692.90				
OPERATING FUNDS.	Rate						
Revl'g credit commercial.	10%						
Revl'g credit concessionary.	5%						
TERMINAL VALUE	100%		IRR.	18%			

Year 6 - 12 Product volume and raw material source is constant.

which is by no means out of the question, would make the investment extremely attractive with an IRR of twenty-four percent.

14.5 SENSITIVITY TO RAW MATERIAL COSTS

As would be expected, profitability is also extremely sensitive to the cost of raw material, particularly local paddy prices. A ten percent drop in paddy prices to 45 GF/Kg, which is also not out of the question, would increase the IRR to twenty-four percent. Such a paddy price would also enable the operation to be profitable at considerably lower retail prices:

* 160 GF/Kg. IRR - 12%

* 170 GF/Kg. IRR - 17%.

Conversely should paddy prices increase to 60 GF/Kg without a corresponding increase in retail prices the IRR would fall to five percent. Paddy prices at this level would require a retail price of 200 GF/Kg to remain attractive (IRR - 19%).

An increase of twenty-five percent in the transportation and commercialization costs of local rice would reduce the IRR to sixteen percent and a fifty percent increase to thirteen percent. As envisaged the operation is less sensitive to changes in the cost of imported rice. A reduction of \$10/mt. in landed costs, which could reasonably be achieved on the projected freight costs, would increase the IRR to twenty percent. A \$10/mt. increase, however, would lower the IRR to sixteen percent.

14.6 SENSITIVITY TO FOREIGN EXCHANGE COSTS

An exchange rate of 360 GF/\$ is assumed for the base case analysis, with no additional premium for foreign exchange. Should the exchange rate fall to 400 GF/\$ the IRR falls to fourteen percent.

A ten percent premium on Foreign Exchange lowers the IRR to fifteen percent and a twenty percent premium to thirteen percent. This suggests that, although it is manageable, management should make every effort to reduce reliance on the foreign exchange auction as soon as possible.

14.7 SENSITIVITY TO FINANCING COSTS

The internal rate of return will be somewhat affected by the debt/equity ratio. An increase to 70/30 debt to equity would push the IRR to twenty percent, whereas a reduction to 50/50 would lower it to sixteen percent.

Profitability will also be reduced if concessionary financing is not available for the commercialization of local rice. If all capital loan requirements are met commercially the IRR falls to seventeen percent and commercial rates for all the operating funds would reduce it a further one percent.

14.8 SENSITIVITY TO SLOWER SUBSTITUTION OF LOCAL RICE

Table 9, represents a second basic scenario, whereby the operation switches to milling of local rice at a slower rate and by year six only achieves fifty percent local component.

Assuming that foreign exchange for purchase of imported rice does not pose a problem the IRR would increase to twenty percent. Should the availability of foreign exchange become a problem, however, and a premium have to be paid the IRR will fall off rapidly. A ten percent premium will reduce the IRR to fifteen percent and a twenty percent premium, to nine percent.

TABLE 9. BASE PARAMETERS - 50% SUBSTITUTION LOCAL RICE BY YEAR SIX.

Exchange Rate - GF/\$	360.00	Foreign Exchange Premium.			1.00		
SALES PRICE.	US\$/MT.	Marketing Margin		GF/Kg. Retail			
Premium Rice.	500.00						
Industrial Quality Rice.	350.00						
Mass Market Rice.	350.00	30%			180.00		
Rice Bran.	40.00						
COST OF RAW MATERIAL.	US\$/MT	Price.	Freight.	Factor.			
Imported Brown Rice.	190.00	160.00	30.00	1.00			
Local Paddy.	161.11	50.00	5.00	2.00			
				YEAR			
PRODUCTION (,000 Tons/year).		1.00	2.00	3.00	4.00	5.00	6.00
Nominal Mill Capacity.	36.00						
Production Build-up - % cap'y.		0%	50%	100%	110%	125%	150%
Milled Rice output MT/year.		0.00	28.80	36.00	39.60	45.00	54.00
SALES (,000 Tons/year)							
Premium Rice		0.00	0.50	0.65	0.80	0.95	1.10
Industrial Rice		0.00	7.50	8.00	8.50	9.00	9.50
Mass Market Rice		0.00	20.80	27.40	30.30	35.00	43.40
Total Milled Rice Production		0.00	28.80	36.00	39.60	45.00	54.00
Rice Bran.		0.00	3.20	4.00	4.40	5.00	5.00
RAW MATERIAL SOURCE.							
% Imported Rice.		0.00	100%	70%	80%	85%	50%
% Local Rice.		0.00	0%	10%	20%	35%	50%
Imported Rice (,000 Tons/year).		0.00	32.00	36.00	35.20	32.50	30.00
Local Rice MT/year (,000 Tons/year)		0.00	0.00	5.00	11.00	22.00	37.50
INVENTORY/RECEIVABLES. \$,000	Days.						
Inventory Imported Rice.	30.00	0.00	499.73	562.19	549.70	507.53	468.49
Inventory Local Paddy, days.	180.00	0.00	0.00	397.26	873.97	1,747.95	2,979.45
Inventory milled product.	21.00	0.00	409.35	514.31	574.39	562.55	806.85
Receivables.	30.00	0.00	584.78	734.72	820.56	946.50	1,152.65
FINANCING	Rate.	Term.	Total (\$,000)				
CAPITAL EXPENDITURES.							
Equity.	40%		5,450.76				
Commercial medium term debt.	10%	7.00	6,281.14				
Conc'y medium term debt.	5%	10.00	2,961.00				
Total			14,692.90				
OPERATING FUNDS.	Rate						
Rev'l'g credit commercial.	10%						
Rev'l'g credit concessionary.	5%						
TERMINAL VALUE	100%			IRR.	20%		

Year 5 - 12 Product volume and raw material source is constant.

15. RECOMMENDATIONS, RISKS AND INVESTMENT PRE-REQUISITES

15.1 RECOMMENDATIONS FOR PROJECT DEVELOPMENT

From the preceding discussion it is clear that the conceptual plan to mill and market rice in Guinea offers an attractive investment opportunity. Not only would the business be profitable in its own right, but it represents an ideal opportunity to expand into other areas of Guinean agribusiness, which at this time are virtually untapped and represent considerable profit potential. An early establishment of a business of this nature would confer on it considerable long-term advantage in the Guinean agribusiness sector.

It is therefore recommended that interested investors proceed with this opportunity by carrying out their own feasibility review in more depth, both of the base concept and some of the associated opportunities. The latter would considerably enhance the profitability of the operation with little additional capital investment or management complexity.

Where U.S. firms are concerned the cost of this stage of project investigation can be significantly reduced by utilizing some of the Federal Government programs available to assist in funding of feasibility studies and project development. A project of this nature would undoubtedly qualify for such assistance.

15.2 ASSOCIATED RISKS

Although the conceptual plan appears to be profitable in the long term it is also evident from the preceding discussion that there are some inherent risks involved. A closer examination of these factors seems appropriate in order to place them in perspective and to develop strategies to manage them.

15.3 GOVERNMENT POLICY AND CONTROLS

A major uncertainty is future Government policy with regard to price controls and import tariffs. At this time the Government appears to be adapting a "hands-off" policy, but it is not clear whether or not this is a long-term policy. It has been suggested that major policy decisions have been deferred until a clearer picture of the Guinean rice industry emerges from the production and price survey to be carried out during the 86/87 harvest season.

It is clear that the cost of locally-produced rice is not competitive with the low quality rice currently imported, due to the extremely low price of the latter on the world market. It seems likely that world rice prices are going to be low for some time to come as Asia, once a significant rice importer is now a

net exporter. If the local rice industry is to be encouraged, it seems appropriate that the industry be afforded some degree of protection in its early years.

The easiest way of achieving this is the introduction of an import tariff on all imported rice, and it seems likely that this approach will be recommended to the Government. This would be advantageous for the proposed investment as it would support rice prices; indeed such a tariff would eliminate a major risk from the proposed business provided all unmilled and brown rice are exempt from the tariff. This exemption is a pre-requisite for investment, to be clearly agreed upon in the investment conditions.

There is no current indication that the Government plans to impose price controls on milled rice, however, should this occur the result could be extremely severe for the business if prices are set below a profitable level.

Potential investors are advised, therefore, to carefully monitor Government policy over the next year, during which time any major changes will occur. On a more direct basis, potential investors should bring to the attention of Guinean policy makers at an early date, the considerable potential economic benefits of this project and the conditions it would require to be successful. This would ensure that policy decisions would be made that favor the local industry. Policy makers in Guinea are by and large accessible and openminded, and it is expected that such an approach could be extremely successful.

15.4 MARKET UNCERTAINTIES

It is difficult to assess accurately the size of the rice trade in Guinea and long term retail price levels, since the industry is in a state of change. The values upon which this review is based seem to be reasonable, if somewhat conservative estimates derived from a rather limited exposure to the market. It would be appropriate for potential investors to substantiate these estimates at an early point in the project development process.

In the first instance the rice commercialization study planned for the 86/87 harvest season, if carried out effectively, will go a long way towards answering these questions. The results of this survey should be made available to potential investors as soon as possible.

Secondly, potential investors would be advised to carry out a somewhat detailed market survey as part of their project assessment process. In view of the current market uncertainty this is likely to have to be more comprehensive than a typical market survey, and if possible should cover several markets over an extended period of time. Cooperation of the USAID office in

Conakry, the Commercial Officer in the U.S. Embassy, and/or CNPIP might be secured in order to reduce the costs of carrying out a survey over an extended period of time.

These two approaches should result in a much clearer picture of the actual market size and retail prices and will confirm the preliminary estimates used in this review.

15.5 PADDY AVAILABILITY AND PRICES

It must be understood that the production sector of the Guinean rice industry is also going through fundamental changes in terms of marketing options. It is therefore also difficult at this point to estimate the quantity of paddy that will be available commercially and what prices it will bring.

Paddy should be available in the long term at a price close to that used in this review, however, investors are advised to pay particular attention to ascertaining this point before making a final commitment.

Again, the planned rice commercialization review should shed considerable light on this matter, but potential investors should support this with their own assessment in the proposed production areas, preferably during the harvest period.

15.6 RICE COMMERCIALIZATION STUDY - 86/87 HARVEST

The planned study of rice production and commercialization to be carried out by the Guinean Government in the 86/87 harvest season is clearly going to be extremely useful, both from the standpoint of determining policy and assessing possible investments.

In order to avoid the loss of another year in making such decisions it is essential that this survey be carried out in an effective manner, and sufficient resources be made available to ensure that it is.

The results should be made available to potential investors as soon as they are complete.

15.7 MARKET PREFERENCE AND TEST MARKETING

This investment opportunity is in large part based on the assumption that Guinean consumers will view lightly milled imported parboiled rice as a direct substitute for local rice, and will pay approximately the same price for it.

This seems to be a reasonable assumption, however, it does need to be confirmed before an investment is made. This could be done quickly and at relatively little cost through a limited test-market survey which is recommended.

In order to reduce the cost of this exercise the survey might be carried out in cooperation with the U.S. "Food For Peace" Program. The proposed investment certainly provides sufficient economic benefit to Guinea to justify such a cooperation.

15.8 AVAILABILITY OF FOREIGN EXCHANGE

Availability of foreign exchange is a major deterrent to investment in countries such as Guinea, and must be given very serious consideration in assessing the viability of the proposed investment.

At this time foreign exchange is available through a recently introduced auction system, which works well, although it does not yet have an extended track record. In the medium and long term it is expected that Guinea will enter the CFA zone within three years, which is about the time the investment would start to require foreign exchange. Should this happen, Guinean currency will be much more readily convertible and foreign exchange will cease to be a problem.

Should Guinea's entry into the CFA zone be delayed, however, the business would have to depend on the auction system for its foreign exchange requirements, and this introduces an element of risk. There will be three major components to this requirement, which represent varying levels of risk.

The purchase of imported rice during the early stages of the project represents the largest requirement by far, and if necessary, this could conceivably be achieved through the auction system. Any problem with securing this foreign exchange or an increased cost of dollars, however, will have a serious impact on profitability. Management can follow two strategies to reduce this risk to an acceptable level;

- a/ Firstly, investors should secure commitments to handle as much of the rice imported to Guinea on concessionary terms as possible. Over the next several years, large quantities of rice will be supplied to Guinea on such a basis. Investors could arrange to purchase some of this in the form of brown rice in local currency which is the current practice. This would provide a good base load for the mill for several years and would completely avoid the requirement for foreign exchange for mill stock. Such an arrangement should prove to be advantageous to the Guinean Government as well as the donor agencies, and there is considerable precedent for such cooperation. Commitment along these lines may be an appropriate prerequisite for the investment and should not be difficult to secure.
- b/ Secondly, every effort should be made to substitute locally grown rice as soon as is feasible. If possible

this should be done even more rapidly than the schedule proposed in this review.

Operating inputs and expenses represent a much smaller foreign exchange requirement, which could be easily managed through the auction system. A significant increase in Foreign Exchange costs for these purposes will not have a major impact on profitability.

Some assurance of availability of foreign exchange for offshore dividend repatriation and debt service is essential to attract appropriate investors and to secure financing. In the unlikely event that Guinea does not enter the CFA zone the sums involved should also be manageable through the auction system. At this point it is not possible to secure insurance against unavailability of hard currency for this purpose as the auction has such a limited history in Guinea. It is expected, however, that once the system has been functioning successfully for approximately one year such coverage will become available. This will coincide well with the likely schedule for project start-up, and such insurance might be made a further pre-requisite for investment by offshore partners.

Although the proposed investment clearly has a significant foreign exchange requirement, the risk involved can be reduced to an acceptable level. In the first instance, Guinea should be within the CFA zone by the time the business requires foreign exchange for operating purposes and the problem will consequently not arise. Secondly off-shore investors can place certain preconditions on their investment, which would considerably reduce the risk even if for some reason Guinea does not enter the CFA zone on schedule.

15.9 CONCESSIONARY FINANCING

A major component of the proposed business involves the commercialization of local rice. In view of the rather unusual conditions in the Guinean agricultural sector this will draw the business into certain other activities normally carried out by Governmental institutions, thus increasing business costs significantly. Furthermore, there is expected to be considerable delay before expenditures in this area show results in increased paddy production.

These activities introduce considerable unusual expense and risk to the operation, however, they also provide considerable economic benefit to the local rice industry.

In view of their unusual cost to the business and the economic benefit they generate, it is proposed that concessionary funding be made available for these components of the project. Without such funding for some components of the proposed plan the

investment becomes increasingly marginal. There is considerable precedent for such financing and this proposition has already received favorable reaction during preliminary discussion.

The availability of concessionary financing for the capital and inventory costs of commercializing local rice might therefore be made a further pre-requisite for investment.

15.10 EXPROPRIATION, WAR AND CIVIL STRIFE

The current Government in Guinea appears to be stable and the political climate favorable for investment. The potential for political change, however, undoubtedly exists and offshore investors require some protection against expropriation, war and civil strife. Insurance coverage against these eventualities is currently available for Guinea and should be put in place prior to investment.

16. ECONOMIC BENEFITS AND JUSTIFICATION

16.1 JUSTIFICATION

The rice industry is a major factor in both the economy and politics of Guinea, and any venture that benefits the industry therefore has a positive impact on the country as a whole. It is expected that the proposed investment will produce significant economic benefit and will be extremely advantageous to Guinea. It is felt that the potential benefits far outweigh the special considerations required to make the investment profitable and that these conditions are readily justified. Furthermore, as a private enterprise, the proposed investment will bring about certain improvements in the industry far more effectively than Government intervention would be able to.

16.2 RATIONALIZATION OF THE RICE MARKET

The proposed venture would go a long way to rationalizing trade channels and the consumer market, particularly in the urban areas. Some degree of consistent standards will be established; the quality of rice will be improved and will be more in keeping with local taste preferences; consumer prices will be stabilized and rice will be available at retail level on a known weight basis.

These improvements in mill product are likely to exert an upward influence on other rice on the market and the overall effect will be a significant improvement on the quality, supply, price and consistency of rice available to Guinean consumers.

16.3 STIMULUS TO LOCAL PRODUCTION

By providing an organized market for paddy at consistent prices the business is likely to provide a major impetus to local rice production. The current lack of such a market is considered to be a major constraint on local production and would be largely overcome by the commercialization division of the operation. The plan fits extremely well with, and compliments current rice development programs, none of which include a commercialization component.

Futhermore, the commercialization division will be an efficient mechanism for provision of improved inputs and extension to rice producers in the purchasing areas.

16.4 ADDITIONAL BENEFITS

In addition there would be the obvious economic benefits normally associated with such an investment:

- a/ Considerable foreign exchange would be saved. Initially more brown rice could be imported for the same hard currency expenditure than fully milled rice. Subsequently savings will be increased more significantly as the operation stimulates local production and imports can be reduced.
- b/ Milling by-products will be generated, thus facilitating the operation of associated industries such as feed milling and brewing.
- c/ Significant local employment will be generated, transfer of technology will occur and Guineans will be trained in skills useful to other areas of the economy.

APPENDIX A: GUINEAN RICE IMPORTS (1,000 Tons).

YEAR	IMPORTS
1950	6.9
1958	7.0
1959	24.0
1960	20.0
1961	20.7
1962	25.3
1963	20.0
1964	25.0
1965	14.6
1966	14.5
1967	25.4
1968	11.2
1969	26.4
1970	35.0
1971	35.0
1972	45.0
1973	40.0
1974	35.0
1975	42.7
1976	34.7
1977	51.1
1978	44.3
1979	62.5
1980	61.9
1981	72.6
1982	82.8
1983	84.1
1984	90.4
1985	90.0

Source: Caisse Centrale De Cooperation Economique
Rapporte D'Une Mission Preliminaire Sur Le Secteur Rizicole Guineen,
July 1986.

APPENDIX B. ESTIMATED PADDY PRODUCTION COSTS (GF/Kg.)

	DISTANCE FROM SOURCE OF INPUTS.		
	100 Km	500 Km	800 Km
Upland rice - traditional.	41.9	41.9	41.9
Upland Rice with Fertilizer.	37.3	40.9	43.6
River bottom - traditional.	42.9	42.9	42.9
River Bottom with fertilizer.	37.2	40.8	43.5
River plain, animal traction uncontrolled irrigation no fertilizer.	41.7	41.7	41.7
River plain, motorized uncontrolled irrigation, no fertilizer	49.1	49.1	49.1
River plain, animal traction controlled irrigation, fertilizer.	38.0	41.6	44.3
River plain, motorised, controlled irrigation, fertilizer.	45.6	49.2	51.9
Plain rice, no irrigation, with fertilizer.	41.0	44.6	47.3
Traditional mangrove production.	55.3		
Improved mangrove production with fertilizer.	55.9		

Source: Republic of Guinea Ministry of Rural Development.
Scetagri Report April 1986.