CHEMONICS

INTERNATIONAL
CONSULTING
DIVISION

PROJECT PROFILE

PRODUCTION AND EXPORT OF N'DAMA BREEDING STOCK

Prepared under the
Guinea Private Agribusiness
Preparation Project

Project No. PIO/T-0212-3-40001
Contract No. LAC-0212-C-00-5014-00

Prepared by Joe K. Feffer, Chemonics International, April, 1986

2000 M St., N.W.
Suite 200
Washington, D.C. 20036

(202) 466-5340
Cable: CHEMONICS, Wash., D.C.
ITT Telex: 440361 CHNC UI

A PRELIMINARY EVALUATION OF THE PROFITABLE POTENTIAL FOR THE PRODUCTION AND EXPORT OF THE N'DAMA BREEDING STOCK IN GUINEA

TABLE OF CONTENTS

	Page
List of Tables	iii
List of Charts	iv
Executive Summary	1
N'Dama Livestock Venture	3
A. Project Concept	3
B. Project Structure	4
C. The Venture's Role in the National Development Plan	5
D. Marketing	5
1. Demand	5
a. Domestic	5
b. Export	6
2. Pricing	6
a. Domestic	6
b. Export	7
3. Distribution	7
4. Market Structure	7
5. Marketing Barriers	8
E. Production Site	8
1. Site 1	8
2. Site 2	10
3. Overall Suitability of Site 1	11
F. Production Methodology	11
1. Background	11
2. Production Scenario	12
3. Purchasing	12
4. Receiving	12
5. Separation	13
6. Replacements	13
7. Sales	14
a. Resale Herd	14
b. Production Herd	14
8. Grazing Patterns	14
9. Burning Schedules	15
10. Production Constraints	16

TABLE OF CONTENTS
(continued)

		Page
G.	Cost Factors	17
	1. Infrastructure Requirements and Costs	17
	2. Personnel	17
	3. Sundry Costs	19
	4. Capital Cost	20
H.	Financial Plan	21
ANNEX I	Calculation Charts based on Five Thousand Cow Production Herd	23
ANNEX II	Calculation Charts based on One Thousand Cow Production Herd	45

LIST OF TABLES

		Page
Table 1.	Coefficients of Production	13
Table 2.	Grazing Configuration	15
Table 3.	Pasture Sub-Unit Rotation	16
Table 4.	Pasture Infrastructure Costs	18
Table 5.	Personnel Cost Summary	18

LIST OF CHARTS

		Page
ANNEX I	Calculation Charts based on a Five Thousand Cow Production Herd	
Chart A.	Cattle Purchases	23
Chart B.	Production Herd Population	25
Chart C.	Sales	29
Chart D.	Personnel Numbers and Costs	35
Chart E.	Equipment Purchases	37
Chart F.	Equipment Maintenance and Operating Costs	38
Chart G.	Annual Equipment Depreciation	39
Chart H.	Construction Costs	40
Chart I.	Project Finance Summary	41
Chart J.	Profit and Loss	42
Chart K.	Cash Flow Summary	43
Chart L.	Discounted Cash Flow	44
ANNEX II	Calculation Charts based on a One Thousand Cow Production Herd	
Chart A.	Cattle Purchases	46
Chart B.	Production Herd Population	48
Chart C.	Sales	52
Chart D.	Personnel Numbers and Costs	58
Chart E.	Equipment Purchases	59
Chart F.	Equipment Maintenance and Operating Costs	60
Chart G.	Annual Equipment Depreciation	61
Chart H.	Construction Costs	62
Chart I.	Project Finance Summary	63
Chart J.	Profit and Loss	64
Chart K.	Cash Flow Summary	65
Chart L.	Discounted Cash Flow	66

EXECUTIVE SUMMARY

Cattle raising is an important agricultural component in many African economies. However, due to less productive traditional cattle raising techniques and diseases, especially trypanosomiasis, many countries of Africa cannot produce adequate meat supplies.

The N'Dama livestock venture seeks to capitalize on Africa's ongoing interest in food self-sufficiency, Guinea's improving private sector environment, the N'Dama's trypanotolerance, and a more productive, non-traditional means of herd management, by introducing a ranch-style cattle operation which will enhance the N'Dama breed's characteristics, thereby producing a better animal for sale on domestic and export markets.

A. Project Structure

The project is structured as a ranch-style operation large enough to support a production herd of 5,000 cows, with a static population (cows, bulls, and offspring) of about 20,000 head, and a resale herd (cattle purchased essentially for resale in the year of purchase) of 7,800 head at peak ranch capacity. The resale and initial production herds will be purchased locally. In later years, replacement of production herd culls and deaths will be from ranch offspring which will result in an improved, purer N'Dama breed. Output from the production herd will be targeted for export and domestic markets, while sales of the resale herd will be to the domestic market only.

B. Profitability

The project as presented in this analysis must be considered speculative, even with concessionary financing and a debt to equity of 50/50. Offspring of the production herd will not reach marketable age until three to four years (the majority being sold in their fourth year), resulting in a significant revenue lag. When combined with the required capital investment for the analyzed production scale, the project will not generate a net profit until year six.

The effect of the revenue lag, finance costs, and principal repayments delays a positive cash flow until year eight. When considered on its own merits, outside of financing, the project shows a 13.7% internal rate of return.

On the positive side, starting in year two, the venture significantly covers its variable costs. The capacity to pay for its operating costs indicates that a reduction in fixed costs (primarily expatriate salaries) and/or capital investment could have a favorable impact on profitability, financial burden, and cash flow. Just as important, the development of market acceptance of three to four year olds

and/or an increased percentage of export quality livestock can bring in greater revenue earlier in the project life, with a concomitant impact on cash flow and rate of return.

C. Marketing

Based on available information, N'Damas sell on the domestic market for more than U.S. $220/head (male) and on the export market from U.S. $700/head to U.S. $1,000/head for females and males, respectively. This information combined with logical assumptions regarding the growing expatriate community and additional historical data on domestic and export prices and demand, permit the supposition that sufficient local and export markets exist to support ranch production and sales. Unfortunately, the limited scope of this study did not allow for an in-depth market analysis. Such a review is considered a prudent and necessary pre-investment undertaking.

Working under the assumption that a sufficient market does exist, the two greatest barriers to export sales appear to be Guinea's past isolationist policy and the unknown, country-specific laws regulating the importation of livestock in each potential export market. Distribution does not pose a significant problem nor does competition, the most evident being from a similar operation in Zaire.

D. Production Site

The preferred project site is in an area of lower Guinea near the town of Boké. The site has among its attractions the availability of cattle, nearby export facilities (ports and airports), adequate overland transportation infrastructure, and sufficient rainfall to produce forage throughout the dry season. As an alternate site the area around Kankan may be feasible, but this site needs further evaluation.

E. Production Methodology

This study analyzes the feasibility of a ranch-style operation with production and resale herds. The eventual ranch population will be on the order of 20,000 head, given a production herd of 5,000 cows and the need to keep offspring on the ranch until their fourth year.

Ranch operations (purchasing, receiving, separating) follow normally acceptable practices for West Africa. Grazing and burning schedules are established to promote forage self-sufficiency on the ranch, reducing the need for a feed supplement.

The cattle to herder ratio is approximately 70-75/1. The anticipated pasture infrastructure (fences, roads, treatment centers, dipping vats, etc.) will permit a herder to tend more cattle than typically possible under traditional methods.

CNPIP PROJECT PROFILE #2

N'DAMA LIVESTOCK VENTURE

Practiced throughout much of Africa by nomadic or semi-nomadic pastoralists, by sendentary agro-pastorialists and by large ranchers in a growing number of places, cattle raising is an important agricultural component of African economies. Yet the ability of herders and ranchers to contribute to national goals of food self-sufficiency is hampered by cultural norms, production systems and diseases, e.g., trypanosomiasis. It is the N'dama's resistance to this latter constraint which the N'Dama livestock venture proposed herein particularly seeks to capitalize on in a profitable manner.

A. Project Concept

Spread by the infamous tsetse fly, trypanosomiases remains a major challenge and constraint to cattle production for much of Africa. Many methods of tsetse and trypanosomiases control have been tried and efforts continue to find the most effective and practical means of reducing this impediment.

However, in infected areas, even under trypanosome control practices, no other breed has out performed the Guinean N'Dama. Despite its characteristically small size, the N'Dama is one of the most efficient producers and maintains an excellent production index*, due partially to its trypano tolerance.

Unfortunately, previous Government of Guinea (GOG) policies combined with a decline in animal health services and a scarcity of veterinary products have resulted in a greatly reduced N'Dama population (currently estimated at 1.2 to 1.6 million head).** A recent survey of the livestock segment of the agricultural economy of Guinea indicates, however, that the potential exists for increased cattle production.*** Both pastoralists and agro-pastoralists have expressed an interest in finding means of increasing their cattle production. Moreover, the GOG has expressed an interest in encouraging the development of the livestock sector, both for increased local meat production and for the improvement of the N'Dama breed with a view toward export of breeding stock.

*ILCA studies published in F.A.O. Animal Production & Health Paper 1/20/1980.

**Derived from the lower estimates of various studies, including the World Bank Livestock Development Report (1980), the Presidential Task Force Report (1981), and others.

***Survey was undertaken by the author in late 1985 and early 1986 as part of research performed for this analysis.

The enterprise proposed herein would create a commercial unit to improve the quality of N'Dama breeding stock for export and to purchase local cattle from herders for resale either as breeding stock or for slaughter, providing meat for local consumption. The venture would capitalize on four factors:

- Africa-wide interest in promoting national food self-sufficiency
- concern regarding improved traditional cattle raising systems
- the N'Dama's ability to attain excellent production levels under difficult conditions
- Guinea's emerging positive attitude towards development of its private sector

These combined factors open the door to the premise that demand for high quality N'Dama breeding stock does and will continue to exist at levels favorable to the profitable establishment of a Guinean N'Dama export venture.

B. Project Structure

A program to export N'Dama cattle as breeding stock will require establishing a basic production unit in conjunction with a commercial activity, purchasing cattle for resale. The commercial activity will provide cash flow until the offspring of the project's breeding activities reach marketable age, usually after the third year.

The initial cow herd will be purchased locally and a herd improvement program undertaken. Concurrently, the commercial activity will begin by establishing purchasing channels, markets, and marketing strategies.

As with any breeding program, not all of the offspring will be suitable for use as breeding stock, whether for herd expansion or for sale to other breeders. The unsuitable portion will be channeled to the local butcher trade. This ability to buy cattle for breeding or for resale into the domestic market, gives the buyers greater flexibility and a distinct advantage when purchasing.

To support the production and resale herds, the project will establish a ranch-type operation which will produce forage throughout the year. The size of the ranch will be a function of the number of cattle maintained, based on 1.8 ha per UBT* plus land for forage production to supplement the animals feed during the dry season.

Regardless of the size of the operation, it is assumed that the GOG will provide land and an initial cadre of animal husbandry

*UBT= 1 Unite Betail Tropical= 250 kg. live weight. One UBT requires 6.25 kg. of dry matter per day.

technicians. Besides reducing the risk and initial capital investment, the GOG's participation is considered important because of the GOG's ability to deal directly with other neighboring governments (i.e., potential markets) regarding country-specific guidelines for the importation of live animals.

C. The Venture's Role in the National Development Plan

The project as outlined can contribute significantly to the economy of Guinea. Not only will it develop foreign exchange through the export of an agricultural product, it will also create revenue for the public and private sectors of the economy. The GOG will benefit from export permits and duties as well as a return for the use of the land. Increasing the domestic supply of cattle will reduce the need to import meat thus enhancing the balance of trade. In addition, employment will be generated through staffing and construction of the facilities.

The improved production methods applied to land management and livestock production are technical skills which can significantly contribute to the agricultural segment of the economy. Trained staff members, working with individual cattle raisers for the purchase of cattle or the sale or exchange of breeding stock, will aid in transferring technical skills throughout the private sector. The extension of these skills will improve future cattle production and the quality of the N'Dama breed throughout the country.

D. Marketing

The restricted nature of this project profile or pre-feasibility study precluded a thorough market analysis. Such an analysis is imperative before proceeding with an actual investment. Despite the lack of an in-depth market study, the availability of some historical data permits an educated assumption to be made regarding an N'Dama export market.

1. Demand

While the primary objective of the venture is to improve the bloodline of the N'Dama for export purposes, a local market should exist for breeder stock and meat. Domestic and export demand is discussed below in indicative terms. A complete market analysis would provide more definitive facts.

a. Domestic

As in most lesser developed countries, the expatriate communities and the stores, restaurants, and hotels which serve them, constitute the bulk of demand for better quality meat. There are two major expatriate markets for quality beef in Guinea--Conakry and Kamsar. Both markets could be serviced from the abbatoire in Conakry.

While a complete analysis of the domestic market must be undertaken, Conakry does have a fairly large expatriate population and current trends indicate continued growth. As new programs to encourage private investment and development assistance increase, the expatriate population will expand accordingly. Kamsar, site of the multi-national bauxite mining consortium CBG, has a large expatriate population plus a company operated hotel and restaurant.

Supplying the military is an additional local market which could be researched. Having the GOG as a participant in the project could be advantageous in this respect.

b. Export

Although Guinea does not have an active history of exportation, the N'Dama has gradually spread, in varying degrees, to all African countries faced with the problem of typanosomiasis.* In some respects, this development is seen as a plus to future exportation because governments, herders, and ranchers are familar with the breed's characteristics and performance. In other words, there already exists a great deal of breed awareness.

That a market exists has been established both through the history of previous exports and through reports on the work being done by the regional FAO Project (GCP/RAF/190/ITA), headquartered in Ouagadougou, Burkina Fasso.** For example, from 1980 through 1983, Gambia exported 4,744 females and 226 males to Nigeria.*** In addition, currently 19 African countries are engaged in programs to establish and/or increase the use of N'Dama cattle.

2. Pricing+

As mentioned above, demand and price levels for N'Dama cattle must be researched for those African countries infected with trypanosomiasis. In lieu of such information, recent local sales and past export data provide some indication of pricing at the domestic and export levels.

a. Domestic

Normal dealer profits on cattle purchased for immediate resale into the slaughter trade range from 9,000 GF per

*Among these countries are: Gambia, Guinea Bissau, Sierra Leone, Liberia, Ivory Coast, Mali, Senegal, Ghana, Togo, Benin, Zaire, the Congo.

**F.A.O. report at annual trypanosome workshop, Bamako, Mali, December, 1985.

***A.P.M. Shaw, F. Assogboke and B. Ky, "Supply and Demand for Trypano-Tolerant Cattle in West and Central Africa," 1985.

+Guinean price figures as of late 1985 and early 1986, $1/350GF.

head, with an average profit of 5,000 Guinean francs (GF). Thin, mature cattle can be purchased during the dry season for 20,000 GF to 35,000 GF. These same cattle, if pastured on the ranch, can later be resold as slaughter cattle for as much as 80,000 GF.

b. Export

Exportable quality N'Dama breeding stock can show profits in the area of U.S. $300 per head on the local Guinean market. Outside of Guinea, historical data indicating export volume and prices is limited, although Gabon reported importing 7,653 female and 966 male N'Dama from 1981 through 1984, at prices varying from 110,000 CFA to 390,000 CFA (today one dollar equals about 350 CFA).* In 1979, Gambia exported N'Dama heifers as breeding stock at U.S. $630 FOB and Senegal at U.S. $640.** At that time, males were selling at roughly U.S. $800 FOB. Assuming a nominal annual price increase of 2%, current market values would equal U.S. $710 for females and U.S. $1,005 for bulls.

3. Distribution

There are three methods by which cattle can be transported to and from the ranch. Usually, purchased cattle can be driven on foot unless time is a factor and long distances are involved. A weight loss of 5% is often experienced with this method, but can be avoided with proper herding and grazing practices, making the cost of this transportation lower than with any other method of movement.

A combination of driving and truck transport is often used where distances are great or if time is a factor. Usually under this distribution plan, cattle are driven to a specified point on an improved road and hauled from there to their destination.

If cattle are to be moved long distances and if both the point of departure and destination are on acceptable roads, cattle can be hauled by truck. The GOG controlled transport company, COTRA, has the experience and necessary equipment to perform this task.

4. Market Structure

In many countries herders find it difficult to borrow funds for the livestock purchases except through a public-financed lending program, which for livestock would normally be attached to an improved production project. In turn, most of the work being done along the lines of vector control and improved cattle production methods is either financed by donor organizations or under their supervision.

*A.P.M. Shaw, F. Assogbokpe and B. Ky, "Supply and Demand for Trypano-tolerant Cattle in West Africa," 1985. Prices received were for an improved breed from Zaire.

**World Bank Livestock Development Report (1980).

A liaison with these donor organizations and counterpart government agencies, therefore, would increase awareness of the availability of N'Dama breeding stock and, where a finance program is also attached, offer some assurance of payment. Without such an effort, interested countries may not be cognizant of the availability of N'Dama nor of Guinea's interest in their export. As a consequence, these countries would continue to look to traditional sources.

5. Marketing Barriers

Entering the export market may be slowed somewhat by Guinea's past isolationist policy. To overcome this obstacle, an effort to develop a liaison with development programs throughout the regions burdened by this trypanosome challenge should be established.

Another barrier, uncertain but perhaps more serious, is the laws regulating importation of livestock in each of the targeted export markets. Besides necessitating an import permit, livestock health regulations will probably require quarantine of cattle for some period of time at the point of entry. Such import regulations are an aspect of marketing that must be thoroughly researched.

Transportation presents another impediment, although perhaps less serious. While roads to neighboring countries are not good, they are adequate during the dry season and many cattle can be trekked overland, as discussed above. If driven when there is ample forage, by experienced and careful herders, cattle usually arrive at market in good shape.

Exporting cattle to non-contiguous countries requires sea or air freight which is more expensive. Small coastal freighters could be used to transport cattle to countries like Nigeria, Benin, Togo, or Ghana, while others would have to be reached by air. The cost of such transport should be analyzed along with the livestock reception facilities at the various points-of-entry.

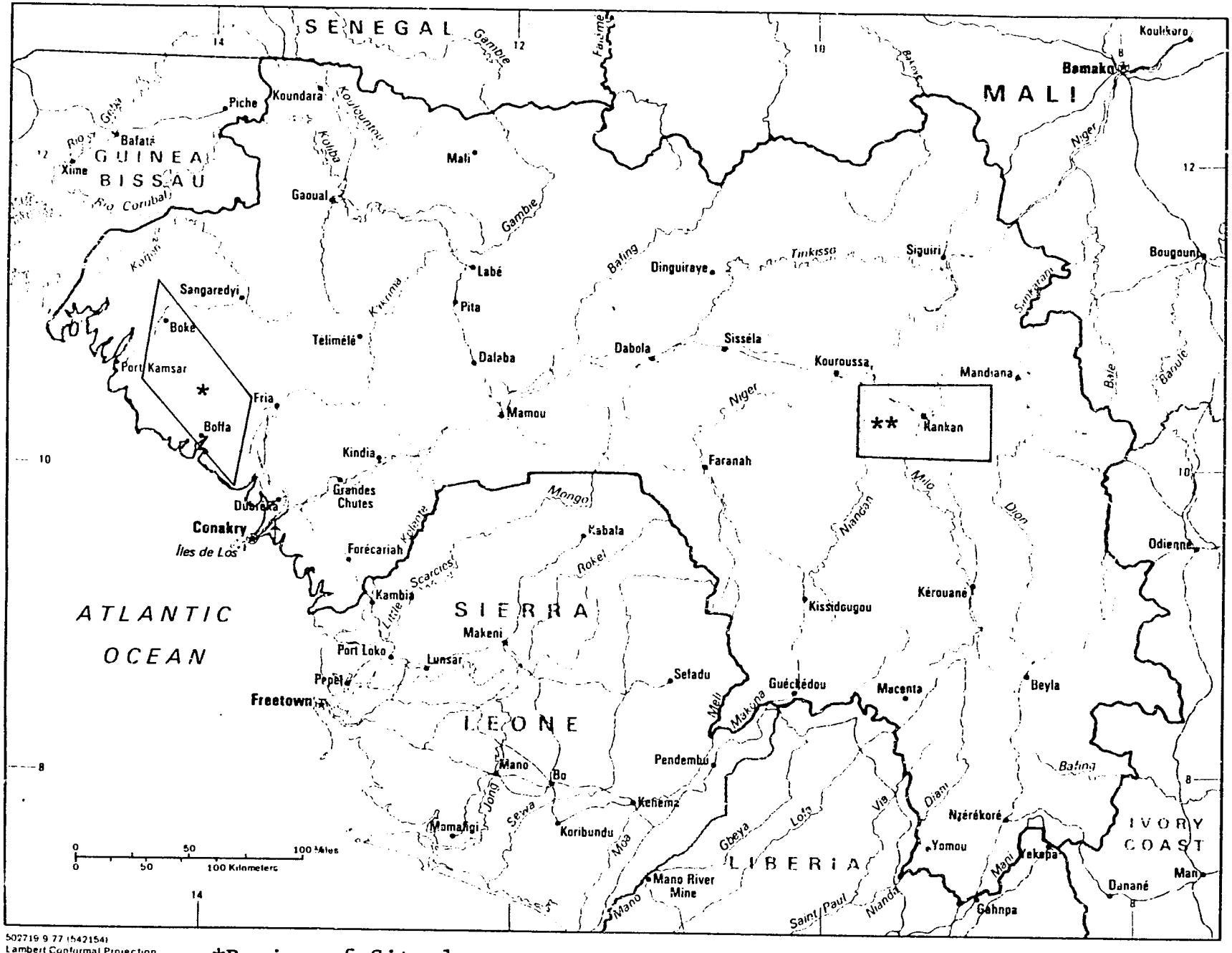
E. Production Site

To achieve an optimum balance between maximum land use and efficient animal husbandry practices, a permanent ranch-type base must be established. This will require fenced pastures and permanent watering and treatment facilities, adapted to relational grazing programs. The selection of a site, therefore, becomes very important. The study team visited, the FAO project site around Boffa and Boké, which is proposed here as Site 1 (See Figure 1). We also propose an alternate Site location as Site 2.

1. Site 1

The area in lower Guinea between Boké and Boffa was chosen as the preferred site for the combined production-purchasing operation due to a number of attractions:

Guinea



502719 9 77 (542154)
Lambert Conformal Projection
Standard parallels 8° and 32°
Scale 1:4 000 000

*Region of Site 1
**Region of Site 2

Railroad
Road
Airport

FIGURE 1

- the coastal area produces more green forage during the dry season thus reducing the need for supplemental feed for several months of the year

- fairly large numbers of cattle from the Fouta Djallon region (middle Guinea) migrate to this area for the dry season

- there is a relatively good overland link between this area and Kamsar and Conakry which are the two major projected domestic markets

- both Kamsar and Conakry have adequate port facilities for sea shipment

- nearby airport facilities are capable of handling cargo planes for air shipment.

- cattle purchased in the Fouta Djallon can be driven on foot to this area fairly easily following traditional transhumance routes

- Considerable preliminary work has been done by the FAO project at Boké in forage variety experimentation and in beginning a program of rotational grazing, which adds to the area's attractiveness. It is also recommended that the investor explore the possibility of a joint venture with UNDP and the government agency involved.

2. Site 2

Discussions with officials from the Bureau d'Etude et Planification, the Service National de l'Elevage, and with residents near the imaginary border separating the geographical regions of upper Guinea and forested Guinea (near the town of Kankan), indicate that there are other sites which will lend themselves well to a production unit. While a more in-depth examination of the physical and climatic characteristics of the area would be necessary to select a precise location, several favorable characteristics exist throughout the region in question:

- large areas are undeveloped and available for the ranch site

- soil and vegetation quality is good and numerous sources of water are available.

- the dry season is short (three months) with some precipitation during these months.

- the proximity to the Ivory Coast and Liberia with established overland travel routes for cattle could be an incentive to export.

- Nearby Kankan may be an attractive market for meat, being the second largest city in Guinea having a significant expatriate population.

3. Overall Suitability of Site 1

The location of Site 1 is an area in lower Guinea that offers available supplies of cattle, good overland transportation facilities to two potential major domestic markets (although the road from Boké to Conakry, not shown on the map, has one section which needs improving), access to two deep water ports, and proximity to airports capable of handling large cargo planes. Many cattle come from the Fouta Djallon during the dry season, not only to this area but also to much of the coastal plains. As a consequence, there are well established transhumance routes from the interior over which purchased cattle can be driven. Rainfall is adequate for development of improved pasture and the climatic conditions are favorable for continued growth of many species of forage during the dry season, thus reducing the need for supplemental feed.

Land is available for the operation. The site now being utilized by the F.A.O. project at Boké could be well adapted to this venture. There has been a good deal of pasture grass proliferation work carried out and several members of the Guinean cadre could become the project's middle management.

Unfortunately the two major domestic markets for meat, Conakry and Kamsar, are separated by a river traversable only by ferry. This could be a deciding factor in site selection as it would be easier and less costly to transport the meat from Conakry to Kamsar than to transport cattle across the river by truck to the abbatoir in Conakry and return to Kamsar with the meat. Much would depend on Kamsar's relative importance in the domestic demand for meat.

F. Production Methodology

Many local cattle raisers have indicated a willingness to sell cattle now that a controlled marketing program no longer exists, or to trade cattle for cement, roofing, veterinary products, and supplemental feed. To capitalize on the renewed interest on the part of the herders, an integral part of the operation will be the purchase and resale of cattle from traditional local producers.

1. Background

Under the previous government's policies, cattle population and production declined precipitously. The mandatory marketing quotas through official channels at very low prices and high inefficiency caused raisers to follow several alternate courses of action. To avoid giving the better cattle to the marketing agency, they hid them from the agents and either sold them or exported them clandestinely to one of the neighboring countries.

Despite this history, a review of the livestock segment of the agricultural economy of Guinea indicates that a potential exists for increased cattle production. Both pastoralists and agro-postoralists have expressed an interest in finding means to

increase cattle production. Moreover, the GOG has expressed an interest in encouraging the development of the livestock sector, both for increased domestic meat production and for the improvement of the N'Dama breed with a view toward breeding stock exports.

2. Production Scenario

This study analyzes the profitability of a 5,000 cow production herd and a separate resale herd. A herd of 5,000 cows will become static the 13th year. That is, the herd would be capable of replacing its own losses due to death or culling, plus maintain a relative constant herd of four-year-old cattle (typical marketable age). The permanent population (production herd and offspring from calves to four year olds) would be about 20,000. Relevant coefficients of production are shown in Table 1 on the following page.

It is estimated that 30% of the four year old females will produce offspring in their fourth year, resulting in the availability of pairs (female and offspring) for sale in both the domestic and export markets. It is assumed that each year's four year old herd will be sold, 25% of the males for export (75% for local slaughter) and 75% of the females (and pairs) for export (25% locally).*

3. Purchasing

The basic production herd will initially be comprised of purchased cattle. In addition, each year a herd will be purchased expressly for resale in that year. Selection against predetermined standards of conformation size and refinement must be rigorously followed. Those purchased will be sent to the ranch and segregated according to predetermined selection criteria. Chart A in Annex 1 depicts recommended cattle purchases by year.

4. Receiving

The routine receiving process for purchased cattle to be pastured on the ranch will follow generally accepted husbandry practices of deparasitization, testing for tuberculosis and brucellosis and treatment for diagnosed or suspected diseases, including trypanosomiasis. Cattle will then be segregated into groups according to health classification and quarantined for a minimum of 60 days to guard against the introducion of health problems onto the ranch. It will also be necessary to establish a tick control program which will require periodic spraying or dipping of all cattle on the ranch.

*Throughout West Africa, it is common to refer to cattle as female and male rather than heifer and steer (in the latter instance because the male is not usually castrated). In this study, females and heifers are used interchangeably.

Table 1. Coefficients of Production

	Year														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Calving Rate	70	70	70	75	75	75	75	75	80	80	80	80	80	80	80
Calving Rate 3, 4, &4 yr olds					30	30	30	30	30	30	30	30	30	30	30
Culling Rate	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Mortality 0-1 yr	15	15	15	15	15	15	15	15	15	15	10	10	10	10	10
Mortality 1-2 yr	8	8	8	8	8	6	6	6	6	6	6	6	6	6	6
Mortality 2-3 yr	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Mortality Over 3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

5. Separation

The first stage of production will be to separate the cattle which have sufficient size and flesh to go directly to slaughter. These can either be marketed for resale or sent to be slaughtered and the meat marketed through retail.

Cattle which do not have the size and flesh for immediate slaughter nor the quality for export as breeding stock will be segregated and turned over to herders for grazing after undergoing the routine receiving procedure. As these cattle reach an acceptable level of fleshiness, they will be channelled into the slaughter market.

6. Replacements

Each year cattle will be purchased for resale reaching a constant purchase figure of 3,900 head of males and females each in year seven, as shown in Chart A in Annex 1. Years one through five will see the buildup of the basic production herd (cows and bulls).

Replacements of production cows after the eighth year come solely from cattle raised on the ranch. By the 15th year the cow herd should be comprised totally of cattle raised on the ranch. With careful selection, the herd at this point can be considered as pure-bred improved N'Dama.

For herd size calculations, assume that 30% of the three-to four-year-old heifers will calve. These calves will go to replace depletions of the cow herd, resulting from culls and deaths. Up to this point, the proceeds from the sale of culled cows should be adequate to purchase replacements. By the same token, bulls culled each year will bring enough to pay for replacements until this static point is reached. Production herd population on the ranch, years one to fifteen, is shown in Chart B.

7. Sales

The general operations of the ranch and the purchase and resale of cattle are so closely allied that it would be a mistake to operate them as separate entities. Sales of both purchased cattle and produced cattle will follow similar channels and can be handled by the same people in much the same way. Sales are calculated in Chart C.

a. Resale Herd

It is anticipated that 80% of the cattle purchased for resale can be resold in the year of purchase, the remaining 20%, the following year. Of females, 1/3 are expected to be sold for export and 2/3 for slaughter. None of the locally purchased males will be sold as breeding stock for export.

Those females which can be exported will go through the established receiving procedure and will also be pregnancy tested. Pregnant animals which are beyond the fourth month will be allowed to carry to term, those which have not yet reached that point will be aborted. Selling replacement or foundation stock bred to unknown sires can seriously damage the reputation of the exporter. Purchasers of breeding stock either want cattle bred to known sires or cattle that are open.

b. Production Herd

As indicated previously, in calculating sales from the production herd, 75% of the female and 25% of the male offspring should be of acceptable export quality. Those males and females not exported will be sold on the local market.

8. Grazing Patterns

The ranch will be divided into a number of grazing sections. Table 2 on the next page gives an example configuration for a static population of 20,000 head based on an initial 5,000 cow herd. Each grazing section (I - IX in Table 3) will be subdivided into four units (A - D) of approximately 916 ha each (3 km x 3.125km). Each unit is further subdivided into four sub-units (1-4).

Cattle on the ranch will be separated into groups of 500 UBT depending on sex and age. Four of these groups will represent the carrying capacity of each section; however, a certain amount of flexibility must be maintained. To promote the regrowth of desirable forage plants, the concentration of animals on the pastures must be sufficient to physically breakdown the residual bio-mass produced each year. Pastures utilized during the rainy season will be left idle the following year and then be subjected to late burning to avoid the proliferation of woody (ligneous) plants. A controlled free choice mineral supplement program will be added to the herd's diet based on constant analysis of the available forage.

Table 2. Grazing Configuration (total herd of 20,000 head)

I-IX = Sections
A-D = Units
1-4 = Sub-units

3.125km

3km

I 916ha A	B	II 1 2 A 3 4	B 1 2 3 4	III A	B
C	D	C 1 2 3 4	D 1 2 3 4	C	D
IV A	B	V A	B	VI A	B
C	D	C	D	C	D
VII A	B	VIII A	B	IX A	B
C	D	C	D	C	D

9. Burning Schedules

Each 916 ha unit will be further divided into 4 pasture sub-units (1, 2, 3, 4), as shown in Table 2, section II, units A-D. As each unit is brought into use, three of the sub-units (1, 2, 3) will be burned in December. Cattle will be put into a rotational grazing program on these three pastures from January to May. The unused sub-unit (4) will be prepared for the rainy season by burning in February and the full 500 UBT will be placed in this pasture from June to December.

The following December, two of the four sub-units (1&2) will be burned and one sub-unit (3) will be held in reserve. In January the cattle will go to the two pastures (1&2) which were burned in December and one of the sub-unit pastures (4) will be left idle. In February pasture 3 will be burned and the cattle will be placed there in June and remain until January. The following season this pasture (3) will then be left idle and pastures 1 and 4 will be burned in December. Pasture 2 will be prepared in February for use in June through December.

Table 3, below, presents a chart of pasture sub-unit rotation. Slight variations from this schedule can be expected and will depend upon the herders and supervisors assessment of the condition and carrying capacity of each pasture. Proper rotation to assure both adequate rest and regrowth plus proper utilization of available forage is critical to the success of the program.

Table 3. Pasture Sub-Unit Rotation

Pasture sub-unit

II 1	2	1	2
A 3	4	B 3	4
1	2	1	2
C 3	4	D 3	4

ACTION	PASTURE SUB-UNIT ROTATION					
	Year					
	1	2	3	4	5	6
Burn (Dec), Pasture (Jan through May)	1-2-3	1-2	4-1	3-4	2-3	1-2
Burn (Feb), Pasture (June through December)	4	3	2	1	4	3
Idle		4	3	2	1	4

10. Production Constraints

In determining whether export of N'Dama would be a viable agribusiness investment, consideration must be given to how the traditional herding system will affect the availability of cattle for purchase. In the past, a cattle herd has been typically considered a form of savings or wealth and not a business investment. If or when producers have cash needs, they withdraw from their reserve by selling or trading livestock.

Lack of locally produced vaccines and other veterinary products will require the importation of necessary animal health products. In addition, close attention will have to be paid to maintaining grazing rotations and burning schedules, to avoid the high cost of additional food supplements not already foreseen in the analysis.

G. Cost Factors

1. Infrastructure Requirements and Costs*

Infrastructure to support the project will require fencing, fire breaks, roads, watering facilities, and cattle treatment centers. Costs indicated below for infrastructure and on Table 4 on the following page are broken out between U.S. dollar costs and local currency coss. All U.S. dollar costs reflect estimates for required materials while local currency costs correspond to equipment operating or personnel costs.

The perimeter fences will be four strand barbed wire and at least every fourth post will be metal to insure integrity of the fence in case of bush fire. All fences will be protected by fire breaks of 3 meters. Estimated fencing costs are U.S. $500/km plus 40,000 GF per kilometer.

Fire break construction is estimated at U.S. $60/km plus 65,000 GF per kilometer. Road construction costs will be U.S. $162/km plus 75,600 GF per kilometer. Cattle treatment centers will cost approximately U.S. $500 plus 300,000 GF each. Dipping vat construction is estimated at U.S. $15,000 plus 8,000,000 GF each. Water development costs are estimated at U.S. $400 plus 250,000 GF each. Table 4 on the next page summarizes the above pasture infrastructure costs.

Housing will be provided for permanent staff and employees. The total cost will depend upon the scope of the operation, but is projected here to be U.S. $365,000. Another U.S. $135,000 will be spent on support structures (garage, office, warehouse and water tower) over a three-year period.

2. Personnel

Chart D in Annex I shows detailed expatriate and local personnel costs by year. Full employment is not reached until about the 12th year. Overall management of the operation will be the responsibility of an expatriate livestock specialist with adequate farming and labor management experience. He will be assisted by two livestock production experts with ranching experience, and an accountant with livestock accounting experience. Care and maintenance of equipment will be under the supervision of an expatriate "farm mechanic."

*Infrastructure cost estimates are based on the author's African experience and a March 1980 report prepared by J. Van Lanker for a ranch project in Zaire, Vol. 1 - Programme d'Elevage, Vols. 2 & 3 - Etude de Faisabilité.

Table 4. Pasture Infrastructure Costs
(for 32,976 ha operation)
(1 USD = 350 GF)

Fencing (257.25 Km):		
257.25 X $500	= $128,625	
(257.25 X 40,000 GF) / 350	= $ 29,400	
		$158,025
Fire Break (257.25 Km):		
257.25 X $60	= $ 15,435	
(257.25 X 65,000 GF) / 350	= $ 47,775	
		$ 63,210
Roads (128 Km):		
128 X $162	= $ 20,736	
(128 X 75,600 GF) / 350	= $ 27,648	
		$ 48,384
Treatment Centers (8 centers)		
8 X $500	= $ 4,000	
(8 X 300,000 GF) / 350	= $ 6,857	
		$ 10,857
Dipping Vats (8 vats)		
8 X $15,000	= $120,000	
(8 x 8,000,000 GF) / 350	= $182,857	
		$302,857
Water System (17 points)		
17 X $400	= $ 6,800	
(17 X 250,000 GF) / 350	= $ 12,143	
		$ 18,943
		602,276

Table 5. Personnel Cost Summary

Expatriate:	General Manager - 1	U.S. $50,000
	Ranching Specialists - 2	$30,000
	Chief Accountant - 1	$30,000
	Mechanic - 1	$30,000
Local:	Supervisors - 27	U.S. $3,250
	Bookkeepers - 3	$3,000
	Mechanics - 3	$3,000
	Drivers - 12	$1,000
	Herders - 270	$ 450
	Field Labor - 60	$ 858

The bulk of the labor requirement is for herders. At a ratio of 2 herders per 150 UBT, 270 herders will be required by the 12th year. Minimum wages for herders in the past have been about U.S. $200/year. To assure that the venture attracts quality herders and that the operation is properly handled, the cost has been based on $450 per year (13,125 GF/herder/month), including incentive payments.

The second highest demand is for field labor. Sixty field laborers, at U.S. $71.50/laborer/month (about 25,000 GF per man per month), would be required from the outset to prepare land, to construct fencing, road network and buildings and to provide maintenance and repair. Twenty-seven supervisors, preferably zootechnician graduates of the agricultural school system in Guinea, would be hired at U.S. $3,500/supervisor/year. In addition, three bookkeepers and three mechanics will be brought on board at a yearly wage of U.S. $3,000 a person. Finally, the project will hire 12 drivers, for tractors and pickups, at roughly U.S. $1,000 per driver per year. Insurance and medical expenses have been calculated at 5% of total wages.

Table 5 on the previous page summarizes expatriate and local personnel requirements and their estimated yearly costs per person:

3. Sundry Costs

A factor for handling and selling of cattle is included in the P&L calculations, but until a marketing study is completed, sales costs will remain unknown. Because livestock are a high dollar volume per unit commodity, selling commissions are a small percentage. If sales of export cattle are handled in this manner, a factor of 1 to 2% of gross sales or a flat fee of $5/per head is considered equitable.

Chart E in Annex I shows an equipment purchase and cost schedule. Maintenance of equipment has been calculated as a percentage of initial cost of the equipment and operating costs have been calculated on a cost per hour of carburant and lubricant (See Chart F). Repair and maintenance of the buildings has been calculated at 2.5% of construction costs.

Even though the program is structured on the basis of the GOG granting tax free status, all equipment purchases are depreciated rather than expensed. This recognition of use throughout the useful life of the asset does effect net income; however, it does not effect cash flow calculations, as it is a non-cash expense and, therefore, added back to income for cash-flow purposes. A depreciation schedule is shown in Chart G.

Veterinary products are calculated as U.S. $6 per head per year ($3/head for resale herd). This will cover the cost of routine processing of new arrivals and a continuing deparasitization program. Utility costs have not been included as it is assumed

that these will be covered under the cost of operating the generators and pumps and the construction and maintenance of the water tower.

4. Capital Cost

Chart H shows the necessary capital investment in site preparation. These costs are considered non-recurring and do not include 128 km of roads and 257.25km of firebreaks, which will be constructed and maintained by project personnel and equipment. The fences, dipping vats, treatment centers and watering systems are carried on the basis of material used only.

It has been anticipated that there will not be any acquisition or land rental costs. If this is not the case, the normally accepted land rental fee is 1,000 GF (U.S. $2.85 per hectare).

Livestock bought for the production unit will be purchased in local currency or by exchange for material such as cement or roofing. Table 6 lists initial equipment needs and construction costs, excluding pasture infrastructure costs which are shown in Table 4. It is assumed that equipment will not have a salvage value at the end of the useful life and that it will be replaced at that time.

Table 6. Initial Equipment and Construction Costs

Max No. In Use		U.S.$.	Useful Life
1	Diesel Truck	50,000	5 years
4	Tractor 30 HP	120,000	6 years
2	Landrover	36,000	5 years
3	Pickups	21,000	4 years
6	Motorcycles	6,000	5 years
60	Bicycles	12,000	-
6	Bush Hogs	27,000	10 years
10	Pumps	2,000	5 years
	Shop Equipment	20,000	5-10 years
	Veterinary Equip.	20,000	-
	Subtotal	314,000	
	Office	25,000	
	Lodging Expatriate	200,000	
	Lodging Local Hire	165,000	
	Garage	30,000	
	Warehouse	30,000	
	Water tower	50,000	
	Subtotal	500,000	

H. Financial Plan

It is suggested that any GOG participation be in the form of a contribution of land and a monetary investment of local currency or of necessary animal husbandry personnel. From the GOG's perspective, providing personnel will the preferred contribution as they have most of the required personnel already on the national payroll. Irrespective of its contribution, the GOG will be minority share holder and will not be involved in active management.

The debt to equity ratio is proposed at 50/50, with an initial capital investment of U.S. $2,120,000 (See Chart I). Interest is calculated at 2% on a U.S. $1.06 million line of credit for completing the capital investment required. The loan term is stated at 10 years with a three year grace on principal repayments. In addition, a line of credit for working capital requirements is estimated at U.S. $1.37 million. However, while the project generates a positive income flow in year seven (see Chart J), the accumulation of the finance burden (interest and principal repayments) and prior loss years results in the need for additional financing in years three through seven. The net effect of which is to delay a net-cumulative (positive) cash flow until year eight, as seen in Chart K.

The cash generated by the resale herd provides working capital which must cover variable cost until this production herd begins to generate rvenue. Resale herd revenue must also contribute towards fixed costs and the finance burden. Therefore, reducing the production herd revenue lag, fixed costs, and/or the level of capital investment could make the venture more attractive by allowing resale herd revenue to flow through the bottom line.

Foreign exchange needs should not be extensive beyond the initial U.S. dollar loan, as much of the capital investment and the recurring costs will be in Guinean francs. Nonetheless, as the project will bring in only Guinean francs or CFA, the issue will eventually need to be addressed.

Chart L evaluates the internal rate of return (IRR) and the net present value (NPV) for four different discount rates. The IRR is calculated outside of financing; therefore, cash outflow includes only the initial capital investment plus financed working capital, including the additional borrowings. Moreover, finance charges are added back to cash inflow (net income after financing and taxes plus depreciation).

The IRR of 13.7% is significantly influenced by the terminal value assigned to the project (liquidation value of the remaining livestock inventory in year 15). Excluding any terminal value, the IRR falls to 10%. At a 20% discount rate, the NPV of the project is a negative $948,983.

*It is assumed that the project, due to its developmental nature and the GOG's pending new investment legislation, will not be taxed for the first 15 years of operation.

The low rate of return and negative cash flow from operations through year six highlight the need to reduce some of the risk by perhaps seeking assistance and/or participation from international development organizations or other such donor agencies. The financial analysis also reflects the effects of starting on a large scale (5,000 head cow herd), as well as the inevitable revenue lag. For comparison, Annex I reviews the financial performance of a 1,000 head cow herd.

ANNEX I

CHART A

CATTLE PURCHASES

VARIABLES

PURCHASE PRICE:

PRODUCTION HERD		RESALE HERD	
COWS/HEAD	$171	FEMALE/HEAD	$94
BULLS/HEAD	$285	MALE/HEAD	$124

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
YEARLY INCREASE IN PURCHASE OF RESALE HERD (HEAD):															
FEMALE	650	650	650	650	0	0	1300	0	0	0	0	0	0	0	0
MALE	650	650	650	650	0	0	1300	0	0	0	0	0	0	0	0

INFLATION FACTOR:

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A. PRODUCTION HERD															
COWS (HEAD):*															
1. BUILD-UP	1000	1000	1000	1000	1000	0	0	0	0	0	0	0	0	0	0
2. REPLACEMENTS															
CULLS	0	100	200	300	400	500	500	500	500	500	500	500	500	500	500
DEATHS	0	20	40	60	80	100	100	100	100	100	100	100	100	100	100
3. INTERNAL TRANSFERS	0	0	0	0	0	100	100	500	600	600	600	600	600	600	600
4. COW PURCHASES (HEAD)	1000	1120	1240	1360	1480	500	500	100	0	0	0	0	0	0	0
5. COST OF COW PURCHASES	$171,000	$191,520	$212,040	$232,560	$253,080	$85,500	$85,500	$17,100	$0	$0	$0	$0	$0	$0	$0
BULLS (HEAD):*															
1. BUILD-UP	23	23	23	23	23	0	0	0	0	0	0	0	0	0	0
2. REPLACEMENTS															
CULLS	0	0	0	17	23	29	29	29	29	29	29	29	29	29	29
DEATHS	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
3. INTERNAL TRANSFERS	0	0	0	0	0	15	15	15	15	15	15	15	15	15	15
4. BULL PURCHASES (HEAD)	23	23	23	40	46	15	15	15	15	15	15	15	15	15	15
5. COST OF BULL PURCHASES	$6,555	$6,555	$6,555	$11,400	$13,110	$4,275	$4,275	$4,275	$4,275	$4,275	$4,275	$4,275	$4,275	$4,275	$4,275
SUB-TOTAL PURCHASE COST OF PRODUCTION HERD	$177,555	$198,075	$218,595	$243,960	$266,190	$89,775	$89,775	$21,375	$4,275	$4,275	$4,275	$4,275	$4,275	$4,275	$4,275

CHART A CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
B. RESALE HERD															
1. FEMALE PURCHASE (HEAD)	650	1300	1950	2600	2600	2600	3900	3900	3900	3900	3900	3900	3900	3900	3900
2. COST OF PURCHASES	$61,100	$122,200	$183,300	$244,400	$244,400	$244,400	$366,600	$366,600	$366,600	$366,600	$366,600	$366,600	$366,600	$366,600	$366,600
3. MALE PURCHASES (HEAD)	650	1300	1950	2600	2600	2600	3900	3900	3900	3900	3900	3900	3900	3900	3900
4. COST OF PURCHASES	$80,600	$161,200	$241,800	$322,400	$322,400	$322,400	$483,600	$483,600	$483,600	$483,600	$483,600	$483,600	$483,600	$483,600	$483,600
SUB-TOTAL PURCHASE COST OF RESALE HERD	$141,700	$283,400	$425,100	$566,800	$566,800	$566,800	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200
TOTAL PURCHASE COST OF RANCH HERDS	$319,255	$481,475	$643,695	$810,760	$832,990	$656,575	$939,975	$871,575	$854,475	$854,475	$854,475	$854,475	$854,475	$854,475	$854,475

*HEAD FIGURES TAKEN FROM CHART B.

CHART 8

PRODUCTION HERD POPULATION

VARIABLES

YEARS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CALVING RATE (PROD HERD)	0.7	0.7	0.7	0.7	0.7	0.75	0.75	0.75	0.8	0.8	0.8	0.8	0.8	0.8	0.8
COWS EOY CLOSING STOCK	1000	2000	3000	4000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000

RATIO OF BULLS TO COWS: 0.023

CALVING RATE OF OFFSPRING:	RETURN TO PRDTN HERD	SOLD AS PAIRS
3-4 YRS OLD	0.3	0
4 YR OLDS	0	0.3

PERCENT FEMALE CALVES: 0.5

	COWS	BULLS	CALVES	1-2 YR	2-3 YR	3-4 YR	4 YR
CULLING RATES:	0.1	0.25	0	0	0	0	0
MORTALITY RATES:	0.02	0.005	0.15	0.08	0.04	0.02	0
PERCENTAGE SOLD:							
FEMALE: DOMESTIC	0	0	0	0	0	0	0.25
EXPORT	0	0	0	0	0	0.25	0.75
MALE: DOMESTIC	0	0	0	0	0	0	0.75
EXPORT	0	0	0	0	0	0	0.25

COWS AND BULLS REPLACED FROM RANCH HERD WHEN 4 YEAR OLDS (MALE OR FEMALE) ARE GREATER THAN 1) CULLS + DEATHS OR 2) CULLS OR 3) DEATHS.

CULLING OF BULLS DOES NOT START UNTIL YEAR 4.

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A. COWS															
1. OPENING INVENTORY	0	1000	2000	3000	4000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
2. CULLS (SOLD)	0	100	200	300	400	500	500	500	500	500	500	500	500	500	500
3. DEATHS	0	20	40	60	80	100	100	100	100	100	100	100	100	100	100
4. TRANSFER FROM 3-4	0	0	0	0	0	100	100	500	600	600	600	600	600	600	600
5. PURCHASES	1000	1120	1240	1360	1480	500	500	100	0	0	0	0	0	0	0
6. CLOSING INVENTORY	1000	2000	3000	4000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000

CHART B CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
B. BULLS															
1. OPENING INVENTORY	0	23	46	69	92	115	115	115	115	115	115	115	115	115	115
2. CULLS (SOLD)	0	0	0	17	23	29	29	29	29	29	29	29	29	29	29
3. DEATHS	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
4. TRANSFER FROM 3-4	0	0	0	0	0	15	15	15	15	15	15	15	15	15	15
5. PURCHASES	23	23	23	40	46	15	15	15	15	15	15	15	15	15	15
6. CLOSING INVENTROY	23	46	69	92	115	115	115	115	115	115	115	115	115	115	115
C. CALVES (0-1)															
1. OPENING INVENTORY	0	0	700	1400	2100	2800	3829	3908	3987	4315	4431	4440	4449	4486	4499
2. CULLS (SOLD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. DEATHS	0	0	105	210	315	420	574	586	598	647	665	666	667	673	675
4. TRANSFER TO 1-2	0	0	595	1190	1785	2380	3255	3322	3389	3668	3766	3774	3782	3813	3824
5. BIRTHS: PRDTN COWS	0	700	1400	2100	2800	3750	3750	3750	4000	4000	4000	4000	4000	4000	4000
OFFSPRING (3-4)	0	0	0	0	0	79	158	237	315	431	440	449	486	499	500
6. ENDING INVENTORY	0	700	1400	2100	2800	3829	3908	3987	4315	4431	4440	4449	4486	4499	4500
D. FEMALE (1-2)															
1. OPENING INVENTORY	0	0	0	298	595	893	1190	1628	1661	1695	1834	1883	1887	1891	1907
2. CULLS (SOLD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. DEATHS	0	0	0	24	48	71	95	130	133	136	147	151	151	151	153
4. TRANSFER TO 2-3	0	0	0	274	547	822	1095	1498	1528	1559	1687	1732	1736	1740	1754
5. TRANSFER FROM 0-1	0	0	298	595	893	1190	1628	1661	1695	1834	1883	1887	1891	1907	1912
6. SALES (# HEAD): EXPORT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOMESTIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. ENDING INVENTORY	0	0	298	595	893	1190	1628	1661	1695	1834	1883	1887	1891	1907	1912
E. FEMALE (2-3)															
1. OPENING INVENTORY	0	0	0	0	274	547	822	1095	1498	1528	1559	1687	1732	1736	1740
2. CULLS (SOLD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. DEATHS	0	0	0	0	11	22	33	44	60	61	62	67	69	69	70
4. TRANSFER TO 3-4	0	0	0	0	263	525	789	1051	1438	1467	1497	1620	1663	1667	1670
5. TRANSFER FROM 1-2	0	0	0	274	547	822	1095	1498	1528	1559	1687	1732	1736	1740	1754
6. SALES (# HEAD): EXPORT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOMESTIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. ENDING INVENTORY	0	0	0	274	547	822	1095	1498	1528	1559	1687	1732	1736	1740	1754

CHART 8 CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
F. FEMALE (3-4)															
1. OPENING INVENTORY	0	0	0	0	0	197	394	592	788	1079	1100	1123	1215	1247	1250
2. CULLS (SOLD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. DEATHS	0	0	0	0	0	4	8	12	16	22	22	22	24	25	25
4. TRANSFER TO: COW HERD	0	0	0	0	0	100	100	500	600	600	600	600	600	600	600
4 AND OVER	0	0	0	0	0	93	286	80	172	456	478	501	591	622	625
5. TRANSFER FROM 2-3	0	0	0	0	263	525	789	1051	1438	1467	1497	1620	1663	1667	1670
6. SALES (# HEAD):	0	0	0	0	263	525	789	1051	1438	1467	1497	1620	1663	1667	1670
EXPORT: PAIRS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SINGLE	0	0	0	0	66	131	197	263	360	367	374	405	416	417	418
DOMESTIC: PAIRS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SINGLE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. ENDING INVENTORY	0	0	0	0	197	394	592	788	1078	1100	1123	1215	1247	1250	1252
G. FEMALE (4 AND OVER)															
1. OPENING INVENTORY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. TRANSFER FROM 3-4	0	0	0	0	0	93	286	80	172	456	478	501	591	622	625
3. SALES (# HEAD):	0	0	0	0	0	93	286	80	172	456	478	501	591	622	625
EXPORT: PAIRS	0	0	0	0	0	21	[illegible]	18	39	103	108	113	133	140	141
SINGLE	0	0	0	0	0	49	151	42	90	239	251	263	310	327	328
DOMESTIC: PAIRS	0	0	0	0	0	7	21	6	13	34	36	38	44	47	47
SINGLE	0	0	0	0	0	16	50	14	30	80	83	87	104	108	109
4. ENDING INVENTORY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H. MALE (1-2)															
1. OPENING INVENTORY	0	0	0	297	595	892	1190	1627	1661	1694	1834	1883	1887	1891	1906
2. CULLS (SOLD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. DEATHS	0	0	0	24	48	71	95	130	133	136	147	151	151	151	152
4. TRANSFER TO 2-3	0	0	0	273	547	821	1095	1497	1528	1558	1687	1732	1736	1740	1754
5. TRANSFER FROM 0-1	0	0	297	595	892	1190	1627	1661	1694	1834	1883	1887	1891	1906	1912
6. SALES (# HEAD): EXPORT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOMESTIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. ENDING INVENTORY	0	0	297	595	892	1190	1627	1661	1694	1834	1883	1887	1891	1906	1912
I. MALE (2-3)															
1. OPENING INVENTORY	0	0	0	0	273	547	821	1095	1497	1528	1558	1687	1732	1736	1740
2. CULLS (SOLD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. DEATHS	0	0	0	0	11	22	33	44	60	61	62	67	69	69	70
4. TRANSFER TO 3-4	0	0	0	0	262	525	788	1051	1437	1467	1496	1620	1663	1667	1670
5. TRANSFER FROM 1-2	0	0	0	273	547	821	1095	1497	1528	1558	1687	1732	1736	1740	1754
6. SALES (# HEAD): EXPORT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOMESTIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. ENDING INVENTORY	0	0	0	273	547	821	1095	1497	1528	1558	1687	1732	1736	1740	1754

CHART B CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
J. MALE (3-4)															
1. OPENING INVENTORY	0	0	0	0	0	262	525	788	1051	1437	1467	1496	1620	1663	1667
2. CULLS (SOLD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. DEATHS	0	0	0	0	0	5	11	16	21	29	29	30	32	33	33
4. TRANSFER TO: BULL HERD	0	0	0	0	0	15	15	15	15	15	15	15	15	15	15
4 AND OVER	0	0	0	0	0	242	499	757	1015	1393	1423	1451	1573	1615	1619
5. TRANSFER FROM 2-3	0	0	0	0	262	525	788	1051	1437	1467	1496	1620	1663	1667	1670
6. SALES (# HEAD): EXPORT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOMESTIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. ENDING INVENTORY	0	0	0	0	262	525	788	1051	1437	1467	1496	1620	1663	1667	1670
K. MALE (4 AND OVER)															
1. OPENING INVENTORY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. TRANSFER FROM 3-4	0	0	0	0	0	242	499	757	1015	1393	1423	1451	1573	1615	1619
3. SALES (# HEAD):	0	0	0	0	0	242	499	757	1015	1393	1423	1451	1573	1615	1619
EXPORT	0	0	0	0	0	61	125	189	254	348	356	363	393	404	405
DOMESTIC	0	0	0	0	0	181	374	568	761	1045	1067	1088	1180	1211	1214
4. ENDING INVENTORY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L. TOTAL PRODUCTION HERD POPULATION															
1. ENDING INVENTORY COWS	1000	2000	3000	4000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
2. ENDING INVENTORY BULLS	23	46	69	92	115	115	115	115	115	115	115	115	115	115	115
3. ENDING INVENTORY CALVES	0	700	1400	2100	2800	3829	3908	3987	4315	4431	4440	4449	4486	4499	4500
4. ENDING INVENTORY FEMALE (1-2)	0	0	298	595	893	1190	1628	1661	1695	1834	1883	1887	1891	1907	1912
5. ENDING INVENTORY FEMALE (2-3)	0	0	0	274	547	822	1095	1498	1528	1559	1687	1732	1736	1740	1754
6. ENDING INVENTORY FEMALE (3-4)	0	0	0	0	197	394	592	788	1078	1100	1123	1215	1247	1250	1252
7. ENDING INVENTORY FEMALE (4-4+)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8. ENDING INVENTORY MALE (1-2)	0	0	297	595	892	1190	1627	1661	1694	1834	1883	1887	1891	1906	1912
9. ENDING INVENTORY MALE (2-3)	0	0	0	273	547	821	1095	1497	1528	1558	1687	1732	1736	1740	1754
10. ENDING INVENTORY MALE (3-4)	0	0	0	0	262	525	788	1051	1437	1467	1496	1620	1663	1667	1670
11. ENDING INVENTORY MALE (4-4+)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12. ENDING PRODUCTION HERD STOCK	1023	2746	5064	7329	11253	13886	15848	17258	18390	18898	19314	19637	19765	19824	19869

CHART C
SALES

VARIABLES

INFLATION FACTOR: 0

	CALVES	1-2 YR	2-3 YR	3-4 YR	4 & OVER	COWS	BULLS
PRODUCTION HERD							
SALES PRICE PER HEAD:							
FEMALE: DOMESTIC	$0	$0	$0	$0	$169	$0	$0
EXPORT	$0	$0	$0	$700	$700	$0	$0
CULLS*	$0	$0	$0	$0	$0	$169	$0
MALE: DOMESTIC	$0	$0	$0	$0	$207	$0	$0
EXPORT	$0	$0	$0	$0	$1,000	$0	$0
CULLS*	$0	$0	$0	$0	$0	$0	$207
SALES PRICE PER PAIR:							
DOMESTIC	$0	$0	$0	$0	$197	$0	$0
EXPORT	$0	$0	$0	$0	$850	$0	$0

*ASSUMES ALL CULLS SOLD ON DOMESTIC MARKET

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
RESALE HERD PURCHASES* (HEAD)															
FEMALE:	650	1300	1950	2600	2600	2600	3900	3900	3900	3900	3900	3900	3900	3900	3900
MALE:	650	1300	1950	2600	2600	2600	3900	3900	3900	3900	3900	3900	3900	3900	3900

*AFTER YEAR TWO. ASSUMES 80% OF CATTLE SOLD IN YEAR OF PURCHASE AND 20% THE PRECEDING YEAR. PURCHASE FIGURES FROM CHART A.

RESALE HERD	SALES PRICE	PERCENT SOLD
FEMALE: DOMESTIC	$169	0.6666
EXPORT	$550	0.3333
MALE: DOMESTIC	$185	1.00
EXPORT	$0	0

HEAD FIGURES ARE FROM CHART B.

CHART C CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SALES OF PRDTN HERD OFFSPRING FEMALE:															
1. CALVES: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL CALVE SALES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2. 1-2 YEAR: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 1-2 YEAR SALES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3. 2-3 YEAR: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 2-3 YEAR SALES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

CHART C CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
4. 3-4 YEAR: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	66	131	197	263	360	367	374	405	416	417	418
SALES AMT.	$0	$0	$0	$0	$46,200	$91,700	$137,900	$184,100	$252,000	$256,900	$261,800	$283,500	$291,200	$291,900	$292,600
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 3-4 YEAR SALES	$0	$0	$0	$0	$46,200	$91,700	$137,900	$184,100	$252,000	$256,900	$261,800	$283,500	$291,200	$291,900	$292,600
5. 4 & OVER: DOMESTIC (HEAD)	0	0	0	0	0	16	50	14	30	80	83	87	104	108	109
SALES AMT.	$0	$0	$0	$0	$0	$2,704	$8,450	$2,366	$5,070	$13,520	$14,027	$14,703	$17,576	$18,252	$18,421
EXPORT (HEAD)	0	0	0	0	0	49	151	42	90	239	251	263	310	327	328
SALES AMT.	$0	$0	$0	$0	$0	$34,300	$105,700	$29,400	$63,000	$167,300	$175,700	$184,100	$217,000	$228,900	$229,600
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 4 & OVER SALES	$0	$0	$0	$0	$0	$37,004	$114,150	$31,766	$68,070	$180,820	$189,727	$198,803	$234,576	$247,152	$248,021
PAIRS															
1. 3-4 YEAR: DOMESTIC (PAIRS)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (PAIRS)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL PAIR SALES (3-4)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2. 4 & OVER: DOMESTIC (PAIRS)	0	0	0	0	0	7	21	6	13	34	36	38	44	47	47
SALES AMT.	$0	$0	$0	$0	$0	$1,379	$4,137	$1,182	$2,561	$6,698	$7,092	$7,486	$8,668	$9,259	$9,259
EXPORT (PAIRS)	0	0	0	0	0	21	64	18	39	103	108	113	133	140	141
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL PAIR SALES (4)	$0	$0	$0	$0	$0	$1,379	$4,137	$1,182	$2,561	$6,698	$7,092	$7,486	$8,668	$9,259	$9,259

CHART C CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
MALE:															
1. CALVES: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL CALVE SALES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2. 1-2 YEAR: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 1-2 YEAR SALES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3. 2-3 YEAR: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 2-3 YEAR SALES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

CHART C CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
4. 3-4 YEAR: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 3-4 YEAR SALES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5. 4 & OVER: DOMESTIC (HEAD)	0	0	0	0	0	181	374	568	761	1045	1067	1088	1180	1211	1214
SALES AMT.	$0	$0	$0	$0	$0	$37,467	$77,418	$117,576	$157,527	$216,315	$220,869	$225,216	$244,260	$250,677	$251,298
EXPORT (HEAD)	0	0	0	0	0	61	125	189	254	348	256	363	393	404	405
SALES AMT.	$0	$0	$0	$0	$0	$61,000	$125,000	$189,000	$254,000	$348,000	$356,000	$363,000	$393,000	$404,000	$405,000
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 4 & OVER SALES	$0	$0	$0	$0	$0	$98,467	$202,418	$306,576	$411,527	$564,315	$576,869	$588,216	$637,260	$654,677	$656,298
TOTAL SALES OF PRDTN HERD OFFSPRING	$0	$0	$0	$0	$46,200	$228,550	$458,605	$523,624	$734,158	$1,008,733	$1,035,458	$1,078,005	$1,171,704	$1,202,988	$1,206,178
SALES OF RESALE HERD															
1. FEMALE: DOMESTIC (HEAD)	200	927	1213	1647	1733	1733	2426	2600	2600	2600	2600	2600	2600	2600	2600
SALES AMT.	$33,800	$156,663	$204,997	$278,343	$292,877	$292,877	$409,994	$439,400	$439,400	$439,400	$439,400	$439,400	$439,400	$439,400	$439,400
EXPORT (HEAD)	100	463	607	823	867	867	1213	1300	1300	1300	1300	1300	1300	1300	1300
SALES AMT.	$55,000	$254,650	$333,850	$452,650	$476,850	$476,850	$667,150	$715,000	$715,000	$715,000	$715,000	$715,000	$715,000	$715,000	$715,000
SUB-TOTAL RESALE HERD FEMALE	$88,800	$411,313	$538,847	$730,993	$769,727	$769,727	$1,077,144	$1,154,400	$1,154,400	$1,154,400	$1,154,400	$1,154,400	$1,154,400	$1,154,400	$1,154,400

CHART C CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2. MALE: DOMESTIC (HEAD)	300	1390	1820	2470	2600	2600	3640	3900	3900	3900	3900	3900	3900	3900	3900
SALES AMT.	$55,500	$257,150	$336,700	$456,950	$481,000	$481,000	$673,400	$721,500	$721,500	$721,500	$721,500	$721,500	$721,500	$721,500	$721,500
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL RESALE HERD MALE	$55,500	$257,150	$336,700	$456,950	$481,000	$481,000	$673,400	$721,500	$721,500	$721,500	$721,500	$721,500	$721,500	$721,500	$721,500
TOTAL SALES OF RESALE HERD	$144,300	$669,463	$875,547	$1,187,943	$1,250,727	$1,250,727	$1,750,544	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900
SALES OF PRDTN HERD															
1. COWS: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	100	200	300	400	500	500	500	500	500	500	500	500	500	500
SALES AMT.	$0	$16,900	$33,800	$50,700	$67,600	$84,500	$84,500	$84,500	$84,500	$84,500	$84,500	$84,500	$84,500	$84,500	$84,500
SUB-TOTAL COWS	$0	$16,900	$33,800	$50,700	$67,600	$84,500	$84,500	$84,500	$84,500	$84,500	$84,500	$84,500	$84,500	$84,500	$84,500
2. BULLS: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	17	23	29	29	29	29	29	29	29	29	29	29
SALES AMT.	$0	$0	$0	$3,519	$4,761	$6,003	$6,003	$6,003	$6,003	$6,003	$6,003	$6,003	$6,003	$6,003	$6,003
SUB-TOTAL BULLS	$0	$0	$0	$3,519	$4,761	$6,003	$6,003	$6,003	$6,003	$6,003	$6,003	$6,003	$6,003	$6,003	$6,003
TOTAL SALES PRDTN HERD	$0	$16,900	$33,800	$54,219	$72,361	$90,503	$90,503	$90,503	$90,503	$90,503	$90,503	$90,503	$90,503	$90,503	$90,503
TOTAL SALES FOR YEAR	$144,300	$685,363	$909,347	$1,242,162	$1,369,288	$1,569,780	$2,299,652	$2,490,027	$2,700,561	$2,975,136	$3,001,691	$3,044,408	$3,138,197	$3,159,391	$3,172,581

CHART D

PERSONNEL NUMBERS AND COSTS

YEARLY INCENTIVE WAGE INCREASE: 0.05

INFLATION FACTOR (EXPATRIATE): 0

INFLATION FACTOR (LOCAL HIRE): 0

LOCAL: TITLE	COST/PERSON/YEAR	YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SUPERVISORS	$3.250	:: NUMBER	4	4	4	5	5	8	8	10	10	12	15	15	15	15	15
		:: COST	$13.000	$13.000	$13.000	$16.250	$16.250	$26.000	$26.000	$32.500	$32.500	$39.000	$48.750	$48.750	$48.750	$48.750	$48.750
BOOKKEEPERS	$3.000	:: NUMBER	1	1	1	2	2	3	3	3	3	3	3	3	3	3	3
		:: COST	$3.000	$3.000	$3.000	$6.000	$6.000	$9.000	$9.000	$9.000	$9.000	$9.000	$9.000	$9.000	$9.000	$9.000	$9.000
HERDERS	$450	:: NUMBER	20	35	65	100	140	157	205	230	250	260	265	270	275	300	300
		:: COST	$9.000	$15.750	$29.250	$45.000	$63.000	$70.650	$92.250	$103.500	$112.500	$117.000	$119.250	$121.500	$123.750	$135.000	$135.000
MECHANICS	$3.000	:: NUMBER	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
		:: COST	$6.000	$9.000	$9.000	$9.000	$9.000	$9.000	$9.000	$9.000	$9.000	$9.000	$9.000	$9.000	$9.000	$9.000	$9.000
DRIVERS	$1.000	:: NUMBER	10	12	12	12	12	12	12	12	12	12	12	12	12	12	12
		:: COST	$10.000	$12.000	$12.000	$12.000	$12.000	$12.000	$12.000	$12.000	$12.000	$12.000	$12.000	$12.000	$12.000	$12.000	$12.000
FIELD LABOR	$858	:: NUMBER	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
		:: COST	$51.480	$51.480	$51.480	$51.480	$51.480	$51.480	$51.480	$51.480	$51.480	$51.480	$51.480	$51.480	$51.480	$51.480	$51.480
INCENTIVE WAGE INCREASE 5%		::	$0	$4.624	$5.443	$6.390	$7.809	$9.100	$10.575	$12.184	$13.680	$14.814	$16.105	$17.510	$18.498	$19.536	$21.075
TOTAL LOCAL PERSONNEL COSTS		::	$92.480	$108.854	$123.173	$146.120	$165.539	$187.230	$210.305	$229.664	$240.160	$252.294	$265.585	$269.240	$272.478	$284.766	$286.305

CHART D CONTINUED

EXPATRIATE: TITLE	COST/PERSON/YEAR	YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
DIRECTOR	$50,000	:: NUMBER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		:: COST	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
ACCOUNTANT	$30,000	:: NUMBER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		:: COST	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
RANCH SPECIALIST	$30,000	:: NUMBER	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2
		:: COST	$30,000	$30,000	$30,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000	$60,000
MECHANIC	$30,000	:: NUMBER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		:: COST	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
INCENTIVE WAGE INCREASE 5%		::	$0	$7,000	$7,350	$7,718	$9,603	$10,084	$10,588	$11,117	$11,673	$12,257	$12,869	$13,513	$14,189	$14,898	$15,643
SUPPORT @ .25 OF EXPATRIATE COSTS		::	$35,000	$36,750	$36,838	$44,429	$44,901	$45,021	$45,147	$45,279	$45,418	$45,564	$45,717	$45,878	$46,047	$46,224	$46,411
TOTAL EXPATRIATE PERSONNEL COSTS		::	$175,000	$183,750	$184,188	$222,147	$224,504	$225,104	$225,735	$226,396	$227,091	$227,821	$228,587	$229,391	$230,236	$231,122	$232,054

CHART E
EQUIPMENT PURCHASES

ITEM	COST	LIFE	FINANCIAL TIME PERIOD / RANCH YEAR	0 / 0	1 / 1	2 / 2	3 / 3	4 / 4	5 / 5	6 / 6	7 / 7	8 / 8	9 / 9	10 / 10	11 / 11	12 / 12	13 / 13	14 / 14	15 / 15
TRUCK	$50,000	5	::QUANTITY	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
			::COST	$50,000	$0	$0	$0	$0	$50,000	$0	$0	$0	$0	$50,000	$0	$0	$0	$0	$50,000
			::# IN USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TRACTOR	$30,000	6	::QUANTITY	2	0	1	1	0	0	2	0	1	1	0	0	2	0	1	1
			::COST	$60,000	$0	$30,000	$30,000	$0	$0	$60,000	$0	$30,000	$30,000	$0	$0	$60,000	$0	$30,000	$30,000
			::# IN USE	2	2	3	4	4	4	4	4	4	4	4	4	4	4	4	4
LANDROVER	$18,000	5	::QUANTITY	1	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1
			::COST	$18,000	$0	$18,000	$0	$0	$18,000	$0	$18,000	$0	$0	$18,000	$0	$18,000	$0	$0	$18,000
			::# IN USE	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
PICK-UP	$7,000	4	::QUANTITY	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	0
			::COST	$7,000	$7,000	$7,000	$0	$7,000	$7,000	$7,000	$0	$7,000	$7,000	$7,000	$0	$7,000	$7,000	$7,000	$0
			::# IN USE	1	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
MOTORCYCLE	$1,000	5	::QUANTITY	1	0	2	1	2	1	0	2	1	2	1	0	2	1	2	1
			::COST	$1,000	$0	$2,000	$1,000	$2,000	$1,000	$0	$2,000	$1,000	$2,000	$1,000	$0	$2,000	$1,000	$2,000	$1,000
			::# IN USE	1	1	3	4	6	6	6	6	6	6	6	6	6	6	6	6
GENERATOR	$12,000	5	::QUANTITY	1	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1
			::COST	$12,000	$0	$0	$0	$12,000	$12,000	$0	$0	$0	$12,000	$12,000	$0	$0	$0	$12,000	$12,000
			::# IN USE	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2
BUSH HOG	$4,500	10	::QUANTITY	2	1	2	1	0	0	0	0	0	0	2	1	2	1	0	0
			::COST	$9,000	$4,500	$9,000	$4,500	$0	$0	$0	$0	$0	$0	$9,000	$4,500	$9,000	$4,500	$0	$0
			::# IN USE	2	3	5	6	6	6	6	6	6	6	6	6	6	6	6	6
PUMP	$200	5	::QUANTITY	5	0	2	2	1	5	0	2	2	1	5	0	2	2	1	5
			::COST	$1,000	$0	$400	$400	$200	$1,000	$0	$400	$400	$200	$1,000	$0	$400	$400	$200	$1,000
			::# IN USE	5	5	7	9	10	10	10	10	10	10	10	10	10	10	10	10
BICYCLES	$200	20	::QUANTITY	5	5	10	10	10	10	5	5	0	0	0	0	0	0	0	0
			::COST	$1,000	$1,000	$2,000	$2,000	$2,000	$2,000	$1,000	$1,000	$0	$0	$0	$0	$0	$0	$0	$0
			::# IN USE	5	10	20	30	40	50	55	60	60	60	60	60	60	60	60	60
SHOP	$0	10	::QUANTITY																
			::COST	$5,000	$2,000	$3,000	$2,000	$3,000	$2,000	$2,000	$1,000	$500	$500	$500	$500	$500	$0	$0	$0
			::# IN USE																
VETERINARY	$0	10	::QUANTITY																
			::COST	$5,000	$0	$3,000	$5,000	$5,000	$2,000	$500	$0	$500	$0	$500	$0	$500	$1,000	$0	$0
			::# IN USE																
TOTAL EQUIPMENT PURCHASES				$169,000	$14,500	$74,400	$44,900	$31,200	$95,000	$70,500	$22,400	$39,400	$51,700	$99,000	$5,000	$97,400	$13,900	$51,200	$112,000

CHART F

EQUIPMENT MAINTENANCE & OPERATING COSTS

MAINTENANCE: PERCENTAGE PER ITEM OF CUMULATIVE COST OF ITEMS IN OPERATION, EXPRESSED AS PERCENT/YEAR/ITEMS IN OPERATION.
OPERATING: CALCULATED ON COST PER HOUR OF CARBURANT AND LUBRICANT, EXPRESSED AS FIXED RATE/YEAR/ITEMS IN OPERATION.

ITEM	COST	MAINT %	OPTG COST/YR	RANCH YEARS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	0
TRUCK	$50,000	0.12	$4,250	:: MAIN COST	$0	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000
				:: OPTG COST	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250
				:: # IN USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TRACTOR	$30,000	0.1333	$9,000	:: MAIN COST	$0	$7,998	$7,998	$11,997	$15,996	$15,996	$15,996	$15,996	$15,996	$15,996	$15,996	$15,996	$15,996	$15,996	$15,996
				:: OPTG COST	$18,000	$18,000	$27,000	$36,000	$36,000	$36,000	$36,000	$36,000	$36,000	$36,000	$36,000	$36,000	$36,000	$36,000	$36,000
				:: # IN USE	2	2	3	4	4	4	4	4	4	4	4	4	4	4	4
LANDROVER	$18,000	0.1666	$5,000	:: MAIN COST	$0	$2,999	$2,999	$5,998	$5,998	$5,998	$5,998	$5,998	$5,998	$5,998	$5,998	$5,998	$5,998	$5,998	$5,998
				:: OPTG COST	$5,000	$5,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
				:: # IN USE	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2
PICK-UP	$7,000	0.1428	$1,000	:: MAIN COST	$0	$1,000	$1,999	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999
				:: OPTG COST	$1,000	$2,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000
				:: # IN USE	1	2	3	3	3	3	3	3	3	3	3	3	3	3	3
MOTORCYCLE	$1,000	0.2	$350	:: MAIN COST	$0	$200	$200	$600	$800	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200
				:: OPTG COST	$350	$350	$1,050	$1,400	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100
				:: # IN USE	1	1	3	4	6	6	6	6	6	6	6	6	6	6	6
GENERATOR	$12,000	0.025	$2,500	:: MAIN COST	$0	$300	$300	$300	$300	$600	$600	$600	$600	$600	$600	$600	$600	$600	$600
				:: OPTG COST	$2,500	$2,500	$2,500	$2,500	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000
				:: # IN USE	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2
BUSH HOG	$4,500	0	$150	:: MAIN COST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				:: OPTG COST	$300	$450	$750	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900
				:: # IN USE	2	3	5	6	6	6	6	6	6	6	6	6	6	6	6
PUMP	$200	0	$40	:: MAIN COST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				:: OPTG COST	$200	$200	$280	$360	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400
				:: # IN USE	5	5	7	9	10	10	10	10	10	10	10	10	10	10	10
BICYCLES	$200	0.1	$0	:: MAIN COST	$0	$100	$200	$400	$600	$800	$1,000	$1,100	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200
				:: OPTG COST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				:: # IN USE	5	10	20	30	40	50	55	60	60	60	60	60	60	60	60
SHOP		0	$0	:: MAIN COST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				:: OPTG COST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				:: # IN USE															
VETERINARY		0	$0	:: MAIN COST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				:: OPTG COST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				:: # IN USE															
TOTAL ANNUAL MAINTENANCE & OPERATING COSTS					$31,600	$51,346	$68,526	$86,703	$94,342	$95,242	$95,442	$95,542	$95,642	$95,642	$95,642	$95,642	$95,642	$95,642	$95,642

CHART G
ANNUAL EQUIPMENT DEPRECIATION

ITEM	COST	LIFE	RANCH YEAR DEPR CHARGE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
TRUCK	$50,000	5	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
TRACTOR	$30,000	6	$5,000	$10,000	$10,000	$15,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000
LANDROVER	$18,000	5	$3,600	$3,600	$3,600	$7,200	$7,200	$7,200	$7,200	$7,200	$7,200	$7,200	$7,200	$7,200	$7,200	$7,200	$7,200	$7,200
PICK-UP	$7,000	4	$1,750	$1,750	$3,500	$5,250	$5,250	$5,250	$5,250	$5,250	$5,250	$5,250	$5,250	$5,250	$5,250	$5,250	$5,250	$5,250
MOTORCYCLE	$1,000	5	$200	$200	$200	$600	$800	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200
GENERATOR	$12,000	5	$2,400	$2,400	$2,400	$2,400	$2,400	$4,800	$4,800	$4,800	$4,800	$4,800	$4,800	$4,800	$4,800	$4,800	$4,800	$4,800
BUSH HOG	$4,500	10	$450	$900	$1,350	$2,250	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700	$2,700
PUMP	$200	5	$40	$200	$200	$280	$360	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400
BICYCLES	$200	20	$10	$50	$100	$200	$300	$400	$500	$550	$600	$600	$600	$600	$600	$600	$600	$600
SHOP		10		$500	$700	$1,000	$1,200	$1,500	$1,700	$1,900	$2,000	$2,050	$2,100	$1,650	$1,500	$1,250	$1,050	$750
VETERINARY		10		$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500
TOTAL ANNUAL DEPRECIATION CHARGE				$30,100	$32,550	$44,680	$50,710	$53,950	$54,250	$54,500	$54,650	$54,700	$54,750	$54,300	$54,150	$53,900	$53,700	$53,400

CHART H
CONSTRUCTION COSTS

FINANCIAL TIME PERIOD / RANCH YEAR / ITEM#	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
EXPATRIATE LODGING	$50,000	$50,000	$100,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
LOCAL LODGING	$30,000	$30,000	$60,000	$45,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
GARAGE	$0	[illegible]	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
OFFICE	$0	[illegible]	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WAREHOUSE	$0	$0	$30,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WATER TOWER	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FENCING (257.25 KM)	$25,725	$25,725	$25,725	$25,725	$25,725	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DIPPING VATS (8)	$30,000	$30,000	$15,000	$15,000	$15,000	$15,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TREATMENT CENTERS (8)	$1,000	$1,000	$500	$500	$500	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WATER POINTS (17)	$1,200	$1,200	$800	$800	$800	$800	$800	$400	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL NON-REOCCURING CONSTRUCTION COST**	$187,925	$192,925	$232,025	$87,025	$42,025	$16,300	$800	$400	$0	$0	$0	$0	$0	$0	$0	$0

*WHILE CONSIDERED NON-REOCCURING ALL ITEMS ARE DEPRECIATED OVER 20 YEARS.

ANNUAL DEPRECIATION CHARGE	$0	$9,396	$19,043	$30,644	$34,995	$37,096	$37,911	$37,951	$37,971	$37,971	$37,971	$37,971	$37,971	$37,971	$37,971	$37,971

**MAINTENANCE CALCULATED AS .025 OF THE PREVIOUS YEARS' CUMULATIVE COST OF CONSTRUCTION.

ANNUAL MAINTENANCE CHARGE	$0	$0	$4,698	$9,521	$15,322	$17,498	$18,548	$18,956	$18,976	$18,986	$18,986	$18,986	$18,986	$18,986	$18,986	$18,986

CHART I
PROJECT FINANCE SUMMARY

PHASE I

FINANCIAL TIME PERIOD	0	1	2	3	4	5
RANCH YEAR		1	2	3	4	5
NEEDS:						
EQUIPMENT*	$169,000	$14,500	$74,400	$44,900	$24,200	$6,000
CONSTRUCTION	$187,925	$192,925	$232,025	$87,025	$42,025	$16,300
CATTLE PURCHASES**	$0	$319,255	$177,555	$177,555	$177,555	$177,555
SUB-TOTAL CAPITAL EXPENDITURES	$356,925	$526,680	$483,980	$309,480	$243,780	$199,855
WORKING CAPITAL***	$0	$148,958	$210,024	$270,061	$344,569	$394,630
TOTAL NEEDS PHASE I:	$3,488,942					
SOURCES:						
EQUITY @ 0.5 OF CAP. EXPEND.	$1,060,350					
DEBT @ 0.5 OF CAP. EXPEND.+	$1,060,350					
DEBT @ 100% OF WORKING CAPITAL++	$1,368,242					
CASH FLOW PHASE I	$0					
TOTAL SOURCES	$3,488,942					
SURPLUS (DEFICIT) OF SOURCES - NEEDS	$0					

*INITIAL PURCHASES, DURING PHASE I (UP TO MAXIMUM INDICATED IN CHART E), ARE FINANCED, SUBSEQUENT PURCHASES COVERED INTERNALLY AND THROUGH WORKING CAPITAL LOAN.

**INITIAL PRODUCTION HERD (EXCLUDING CULLS AND DEATHS) IS FINANCED (SEE CHART A); CULLS AND DEATHS OF PRODUCTION HERD AND ANY OTHER SUBSEQUENT REPLACEMENTS ARE COVERED FROM INTERNAL CASH FLOW. AND WORKING CAPITAL LOAN. REPLACEMENTS OF RESALE HERD AFTER YEAR 1 ASSUMED TO BE COVERED BY CASHFLOW FROM PREVIOUS SALES AND WORKING CAPITAL LOAN.

***TOTAL OF 35% PG LIVESTOCK PURCHASES (AFTER YEAR ONE), PLUS REMAINING VARIABLE COSTS, PLUS EXPATRIATE SALARIES.

+INTEREST ON CAPITAL EXPENDITURE LOAN AT 2% P.A., 10 YEAR TERM FOR EACH DRAW DOWN, YEARLY DRAWN DOWN FOR SIX YEARS, GRACE ON PRINCIPAL REPAYMENT FOR EACH DRAW DOWN OF 3 YEARS.

FINANCIAL PERIOD	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
YEAR		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PRINCIPAL	$0	$0	$0	$22,308	$55,225	$85,474	$104,817	$120,053	$132,544	$132,544	$132,544	$110,236	$77,318	$47,070	$27,727	$12,491
INTEREST	$0	$8,836	$13,676	$16,771	$18,762	$19,656	$17,947	$15,851	$13,449	$10,799	$8,148	$5,497	$3,292	$1,746	$804	$250

++INTEREST ON WORKING CAPITAL LOAN AT 4% P.A., 10 YEAR TERM FOR EACH DRAW DOWN, YEARLY DRAW DOWN FOR FIVE YEARS, GRACE ON PRINCIPAL REPAYMENT FOR EACH DRAW DOWN OF 1 YEAR.

FINANCIAL PERIOD	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
YEAR		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PRINCIPAL	$0	$0	$16,551	$39,887	$69,894	$108,179	$152,027	$152,027	$152,027	$152,027	$152,027	$157,400	$112,140	$82,133	$43,848	0
INTEREST	$0	$5,958	$14,359	$24,500	$36,687	$49,676	$45,349	$39,268	$33,187	$27,106	$21,025	$14,944	$8,48	$4,162	$877	$0
YEARLY PRINCIPAL REPAYMENTS	$0	$0	$16,551	$62,195	$125,119	$193,653	$256,843	$272,080	$284,571	$284,571	$284,571	$267,636	$189,458	$129,203	$71,575	$12,491
YEARLY INTEREST	$0	$14,794	$28,035	$41,270	$55,449	$69,333	$63,296	$55,119	$46,637	$37,905	$29,173	$20,441	$11,940	$5,908	$1,681	$250

CHART J

PROFIT & LOSS

YEAR		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SALES:*																
PRDTN HERD OFFSPRING		$0	$0	$0	$0	$46,200	$228,550	$458,605	$523,624	$734,158	$1,008,733	$1,035,488	$1,078,005	$1,171,704	$1,202,988	$1,206,178
RESALE HERD		$144,300	$668,463	$875,547	$1,187,943	$1,250,727	$1,250,727	$1,750,544	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900
PRDTN HERD		$0	$16,900	$33,800	$54,219	$72,351	$90,503	$90,503	$90,503	$90,503	$90,503	$90,503	$90,503	$90,503	$90,503	$90,503
GROSS SALES		$144,300	$685,363	$909,347	$1,242,162	$1,369,288	$1,569,780	$2,299,652	$2,490,027	$2,700,561	$2,975,136	$3,001,891	$3,044,408	$3,138,107	$3,169,391	$3,172,581
COMMISSIONS	0.02	$2,886	$13,707	$18,187	$24,843	$27,386	$31,396	$45,993	$49,801	$54,011	$59,503	$60,038	$60,888	$62,762	$63,388	$63,452
NET SALES:		$141,414	$671,656	$891,160	$1,217,319	$1,341,902	$1,538,384	$2,253,659	$2,440,226	$2,646,550	$2,915,633	$2,941,853	$2,983,520	$3,075,345	$3,106,003	$3,109,129
VARIABLE COSTS:**																
LIVESTOCK PURCHASES***																
PRODUCTION HERD		$0	$20,520	$41,040	$66,405	$88,635	$89,775	$89,775	$21,375	$4,275	$4,275	$4,275	$4,275	$4,275	$4,275	$4,275
RESALE HERD		$0	$283,400	$425,100	$566,800	$566,800	$566,800	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200
LIVESTOCK FREIGHT+	0.032	$10,216	$15,407	$20,598	$25,944	$26,656	$21,010	$32,079	$27,890	$27,343	$27,343	$27,343	$27,343	$27,343	$27,343	$27,343
LIVESTOCK MEDICINE/SUPPLIES																
PER HEAD PRDTN HERD	$6	$6,138	$16,476	$30,384	$47,574	$67,518	$83,316	$95,088	$103,548	$110,340	$113,388	$115,884	$117,822	$118,590	$118,944	$119,214
PER HEAD RSALE HERD	$3	$3,900	$7,800	$11,700	$15,600	$15,600	$15,600	$23,400	$23,400	$23,400	$23,400	$23,400	$23,400	$23,400	$23,400	$23,400
LOCAL WAGES		$92,480	$108,854	$123,173	$146,120	$165,539	$187,230	$210,305	$229,664	$240,160	$252,294	$265,585	$269,240	$272,478	$284,766	$286,305
MEDICAL/INSURANCE	0.05	$4,624	$5,443	$6,159	$7,306	$8,277	$9,362	$10,515	$11,483	$12,008	$12,615	$13,279	$13,462	$13,624	$14,238	$14,315
EQUIPMENT/CONST																
MAINTENANCE/OPRTG		$31,600	$56,044	$78,047	$102,025	$111,840	$113,790	$114,398	$114,518	$114,628	$114,628	$114,628	$114,628	$114,628	$114,628	$114,628
TOTAL VARIABLE COSTS		$148,958	$513,944	$736,201	$977,774	$1,050,865	$1,086,883	$1,423,760	$1,382,078	$1,382,354	$1,398,143	$1,414,594	$1,420,370	$1,424,538	$1,437,794	$1,439,680
CONTRIBUTION:		($7,544)	$157,712	$154,959	$239,545	$291,037	$451,502	$829,899	$1,058,148	$1,264,196	$1,517,491	$1,527,259	$1,563,150	$1,650,807	$1,668,209	$1,669,449
FIXED COSTS:++																
EXPATRIATE SALARIES/SUPPORT		$175,000	$183,750	$184,188	$223,147	$224,504	$225,104	$225,735	$226,396	$227,091	$227,821	$228,587	$229,391	$230,236	$231,122	$232,054
DEPRECIATION		$39,496	$51,593	$75,324	$85,705	$91,046	$92,161	$92,451	$92,621	$92,671	$92,721	$92,271	$92,121	$91,871	$91,671	$91,371
G&A		$20,000	$20,000	$20,000	$25,000	$25,000	$25,000	$30,000	$30,000	$30,000	$35,000	$35,000	$35,000	$40,000	$40,000	$40,000
TOTAL FIXED COSTS		$234,496	$255,343	$279,512	$333,852	$340,550	$342,265	$348,186	$349,017	$349,762	$355,542	$355,858	$356,512	$362,107	$362,793	$363,425
INCOME B/4 FINANCE COSTS & TAXES		($242,040)	($97,631)	($124,553)	($94,307)	($49,513)	$109,237	$481,713	$709,131	$914,434	$1,161,949	$1,171,401	$1,206,638	$1,288,700	$1,305,416	$1,306,024
FINANCE COSTS#		$14,794	$28,035	$41,270	$55,449	$69,333	$63,296	$55,119	$46,637	$37,905	$29,173	$20,441	$11,940	$5,908	$1,681	$250
TAXES	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NET INCOME AFTER FINANCE COSTS AND TAXES		($256,834)	($125,666)	($165,823)	($149,756)	($118,846)	$45,941	$426,594	$662,494	$876,529	$1,132,776	$1,150,960	$1,194,698	$1,282,792	$1,303,735	$1,305,774

*FROM CHART C.

**FROM CHARTS A, B, D, F.

***LIVESTOCK PURCHASES DO NOT REFLECT BUILD-UP OF INITIAL PRODUCTION HERD NOR FIRST YEAR PURCHASE OF RESALE HERD. THESE COSTS ARE FINANCED.

+PERCENTAGE OF THE DOLLAR VALUE OF TOTAL HERD PURCHASES IN A GIVEN YEAR, INCLUDING INITIAL PRODUCTION HERD AND FIRST RESALE HERD.

++FROM CHARTS D, E, G, H.

#FROM CHART I.

CHART K

CASH FLOW SUMMARY

FINANCIAL TIME PERIOD	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
YEAR		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SOURCES:																
NET INCOME AFTER TAXES & FINANCING*	$0	($256,834)	($125,666)	($165,823)	($149,756)	($118,846)	$45,941	$426,594	$662,494	$876,529	$1,132,776	$1,150,960	$1,194,698	$1,282,792	$1,303,735	$1,305,774
DEPRECIATION*	$0	$39,496	$51,593	$75,324	$85,705	$91,046	$92,161	$92,451	$92,621	$92,671	$92,721	$92,271	$92,121	$91,871	$91,671	$91,371
CASH FLOW FROM OPERATIONS	$0	($217,338)	($74,073)	($90,499)	($64,051)	($27,800)	$138,102	$519,045	$755,115	$969,200	$1,225,497	$1,243,231	$1,286,819	$1,374,663	$1,395,406	$1,397,145
CASH FROM FINANCING**																
EQUITY	$1,060,350	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DEBT***	$178,463	$412,298	$452,014	$424,801	$466,459	$494,558	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CASH FLOW FROM FINANCING	$1,238,813	$412,298	$452,014	$424,801	$466,459	$494,558	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL SOURCES:	$1,238,813	$194,960	$377,941	$334,302	$402,408	$466,758	$138,102	$519,045	$755,115	$969,200	$1,225,497	$1,243,231	$1,286,819	$1,374,663	$1,395,406	$1,397,145
USES:**																
CAPITAL EXPENDITURES	$356,925	$526,680	$483,980	$309,480	$243,780	$199,855	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WORKING CAPITAL	$0	$148,958	$210,024	$270,061	$344,569	$394,630	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
LOAN REPAYMENTS	$0	$0	$16,551	$62,195	$125,119	$193,653	$256,843	$272,080	$284,571	$284,571	$284,571	$367,636	$183,458	$129,203	$71,575	$12,491
TOTAL USES:	$356,925	$675,638	$710,555	$641,736	$713,468	$788,138	$256,843	$272,080	$284,571	$284,571	$284,571	$367,636	$183,458	$129,203	$71,575	$12,491
NET CASH FLOW	$881,888	($480,678)	($332,614)	($307,434)	($311,060)	($321,380)	($118,741)	$246,965	$470,544	$684,629	$940,926	$875,595	$1,097,361	$1,245,460	$1,323,831	$1,384,654
CUMULATIVE CASH FLOW B/4 ADDITIONAL BORROWINGS	$881,888	$401,210	$68,596	($238,839)	($549,899)	($871,279)	($990,020)	($743,055)	($272,511)	$412,119	$1,353,045	$2,228,640	$3,326,001	$4,571,461	$5,895,292	$7,279,946
ADDITIONAL BORROWINGS				$248,800	$399,200	$527,900	$469,600	$218,200	$0	$0	$0	$0	$0	$0	$0	$0
INTEREST @ 0.04				$9,952	$25,920	$44,548	$56,852	$53,821	$37,366	$21,217	$9,060	$2,182	$0	$0	$0	$0
PRINCIPAL REPAYMENTS+				$0	$62,200	$162,000	$293,975	$411,375	$403,725	$303,925	$171,950	$54,550	$0	$0	$0	$0
NET CUMULATIVE CASH FLOW				$10	$30	$2	$34	$3	$29,456	$389,943	$1,148,859	$2,067,722	$3,165,093	$4,410,543	$5,734,374	$7,119,028

*FROM CHART J.

**FROM CHART I.

***CAPITAL INVESTMENT PLUS WORKING CAPITAL.

+FIVE YEAR TERM FOR EACH ADDITIONAL BORROWING, WITH ONE YEAR GRACE ON EACH DRAW DOWN.

CHART L
DISCOUNTED CASH FLOW

RANCH YEAR	FINANCIAL YEAR	CASH OUTFLOW*	CASH INFLOW**	INTEREST***	NET CASH FLOW
0	0	$356,925	$0	$0	($356,925)
1	1	$675,638	($217,338)	$14,794	($878,182)
2	2	$694,004	($74,073)	$28,035	($740,042)
3	3	$828,341	($90,499)	$51,222	($867,618)
4	4	$925,349	($64,051)	$81,369	($908,031)
5	5	$960,385	($27,800)	$113,881	($874,304)
6	6	$175,625	$138,102	$120,148	$82,625
7	7	$0	$519,045	$55,119	$574,164
8	8	$0	$755,115	$46,637	$801,752
9	9	$0	$969,200	$37,905	$1,007,105
10	10	$0	$1,225,497	$29,173	$1,254,670
11	11	$0	$1,243,231	$20,441	$1,263,672
12	12	$0	$1,286,819	$11,940	$1,298,759
13	13	$0	$1,374,663	$5,908	$1,380,571
14	14	$0	$1,395,406	$1,681	$1,397,087
15	15	$0	$1,397,145	$250	$1,397,395
TERMINAL VALUE EQUALS EOY 15 LIVESTOCK INVENTORY VALUE					$6,263,180

INTERNAL RATE OF RETURN: ESTIMATE 0.1

INTERNAL RATE OF RETURN: ACTUAL 13.74%

NET PRESENT VALUE CALCULATION:

DISCOUNT RATE	NPV
0.1	$1,242,224
0.15	($275,777)
0.2	($948,983)
0.25	($1,222,933)

*FROM CHART I AND K.

**FROM CHART K.

***FROM CHART J AND K.

ANNEX II

One Thousand Cow Production Herd

Charts A through L of Annex II provide calculations and estimates for the preliminary, anticipated results of establishing a ranch-style operation for a one thousand cow production herd. This scenario was analyzed at closer to market rates and terms to highlight its profit making potential without concessionary financing.

The option analyzed here assumes a 60/40 debt to equity split. Capital investment financing is structured on the basis of a ten year term per draw down, at 12% p.a., and a three-year grace on prinicipal repayments. Working capital needs are financed at 15%, with a five-year term per draw down and a grace period on principal repayments of one year.

The internal rate of return is 28.19%, with a net present value of U.S. $563,700, at a 20% discount rate. The terminal value has far less impact on the return, reducing it to 27.76% without it. Even over a ten year period, with no terminal value, the rate of return is still 23.23%.

The sharp turnaround in profitability and attractiveness between this scenario and the five thousand cow production scenario reflects the effects of several factors. The one thousand cow production herd requires a shorter investment phase. Moreover, this option greatly reduces the required capital investment, from U.S. $2,120,000 to U.S. $772,000.

The resale herd remains unchanged, providing significant cash flow in both scenarios. However, rather than being eaten up by increased variable costs and larger fixed costs, due to expansion as in the five thousand cow herd option, more of the cash generated by the resale herd goes directly to the bottom line. The resulting profit covers more of the financial burden earlier. In addition, working capital needs are reduced, which further decreases the need for financing and, hence, the financial burden in subsequent years.

Developmentally, the purpose of the venture is to produce a purer N'Dama breed for export to help alleviate cattle production problems in other developing countries. Without a doubt, it is the resale herd which essentially enables the venture to succeed from both a developmental and a bottom-line perspective. To attempt to succeed from only one or the other perspective means falling short of potential in the latter instance or, in the former, infusing what would probably become a public enterprise with significantly more money.

[redacted] II

CHART A

CATTLE PURCHASES

VARIABLES

PURCHASE PRICE:

PRODUCTION HERD		RESALE HERD	
COWS/HEAD	$171	FEMALE/HEAD	$94
BULLS/HEAD	$285	MALE/HEAD	$124

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
YEARLY INCREASE IN PURCHASE OF RESALE HERD (HEAD):															
FEMALE	650	650	650	650	0	0	1300	0	0	0	0	0	0	0	0
MALE	650	650	650	650	0	0	1300	0	0	0	0	0	0	0	0

INFLATION FACTOR: 0

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A. PRODUCTION HERD															
COWS (HEAD):*															
1. BUILD-UP	1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. REPLACEMENTS															
CULLS	0	100	100	100	100	100	100	100	100	100	100	100	100	100	100
DEATHS	0	20	20	20	20	20	20	20	20	20	20	20	20	20	20
3. INTERNAL TRANSFERS	0	0	0	0	0	120	120	120	120	120	120	120	120	120	120
4. COW PURCHASES (HEAD)	1000	120	120	120	120	0	0	0	0	0	0	0	0	0	0
5. COST OF COW PURCHASES	$171,000	$20,520	$20,520	$20,520	$20,520	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
BULLS (HEAD):*															
1. BUILD-UP	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. REPLACEMENTS															
CULLS	0	0	0	6	6	6	6	6	6	6	6	6	6	6	6
DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. INTERNAL TRANSFERS	0	0	0	0	0	3	3	3	3	3	3	3	3	3	3
4. BULL PURCHASES (HEAD)	23	0	0	6	6	3	3	3	3	3	3	3	3	3	3
5. COST OF BULL PURCHASES	$6,555	$0	$0	$1,710	$1,710	$855	$855	$855	$855	$855	$855	$855	$855	$855	$855
SUB-TOTAL PURCHASE COST OF PRODUCTION HERD	$177,555	$20,520	$20,520	$22,230	$22,230	$855	$855	$855	$855	$855	$855	$855	$855	$855	$855

ANNEX II

CHART A CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
B. RESALE HERD															
1. FEMALE PURCHASE (HEAD)	650	1300	1950	2600	2600	2600	3900	3900	3900	3900	3900	3900	3900	3900	3900
2. COST OF PURCHASES	$61,100	$122,200	$183,300	$244,400	$244,400	$244,400	$366,600	$366,600	$366,600	$366,600	$366,600	$366,600	$366,600	$366,600	$366,600
3. MALE PURCHASES (HEAD)	650	1300	1950	2600	2600	2600	3900	3900	3900	3900	3900	3900	3900	3900	3900
4. COST OF PURCHASES	$80,600	$161,200	$241,800	$322,400	$322,400	$322,400	$483,600	$483,600	$483,600	$483,600	$483,600	$483,600	$483,600	$483,600	$483,600
SUB-TOTAL PURCHASE COST OF RESALE HERD	$141,700	$283,400	$425,100	$566,800	$566,800	$566,800	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200
TOTAL PURCHASE COST OF RANCH HERDS	$319,255	$303,920	$445,620	$589,030	$589,030	$567,655	$851,055	$851,055	$851,055	$851,055	$851,055	$851,055	$851,055	$851,055	$851,055

*HEAD FIGURES TAKEN FROM CHART E.

MODEL II

CHART B

PRODUCTION HERD POPULATION

VARIABLES

YEARS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CALVING RATE (PROD HERD)	0.7	0.7	0.7	0.7	0.7	0.75	0.75	0.75	0.8	0.8	0.8	0.8	0.8	0.8	0.8
COWS EOY CLOSING STOCK	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

RATIO OF BULLS TO COWS: 0.023

CALVING RATE OF OFFSPRING:	RETURN TO PRDTN HERD	SOLD AS PAIRS
3-4 YRS OLD	0.3	0
4 YR OLDS	0	0.3

PERCENT FEMALE CALVES: 0.5

	COWS	BULLS	CALVES	1-2 YR	2-3 YR	3-4 YR	4 YR
CULLING RATES:	0.1	0.25	0	0	0	0	0
MORTALITY RATES:	0.02	0.005	0.15	0.08	0.04	0.02	0
PERCENTAGE SOLD:							
FEMALE: DOMESTIC	0	0	0	0	0	0	0.25
EXPORT	0	0	0	0	0	0.25	0.75
MALE: DOMESTIC	0	0	0	0	0	0	0.75
EXPORT	0	0	0	0	0	0	0.25

COWS AND BULLS REPLACED FROM RANCH HERD WHEN 4 YEAR OLDS (MALE OR FEMALE) ARE GREATER THAN 1) CULLS + DEATHS OR 2) CULLS OR 3) DEATHS.

CULLING OF BULLS DOES NOT START UNTIL YEAR 3

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A. COWS															
1. OPENING INVENTORY	0	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
2. CULLS (SOLD)	0	100	100	100	100	100	100	100	100	100	100	100	100	100	100
3. DEATHS	0	20	20	20	20	20	20	20	20	20	20	20	20	20	20
4. TRANSFER FROM 3-4	0	0	0	0	0	120	120	120	120	120	120	120	120	120	120
5. PURCHASES	1000	120	120	120	120	0	0	0	0	0	0	0	0	0	0
6. CLOSING INVENTORY	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

CHART B CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
B. BULLS															
1. OPENING INVENTORY	0	23	23	23	23	23	23	23	23	23	23	23	23	23	23
2. CULLS (SOLD)	0	0	0	6	6	6	6	6	6	6	6	6	6	6	6
3. DEATHS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4. TRANSFER FROM 3-4	0	0	0	0	0	3	3	3	3	3	3	3	3	3	3
5. PURCHASES	23	0	0	6	6	3	3	3	3	3	3	3	3	3	3
6. CLOSING INVENTROY	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
C. CALVES (0-1)															
1. OPENING INVENTORY	0	0	700	700	700	700	829	829	829	879	894	894	894	899	901
2. CULLS (SOLD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. DEATHS	0	0	105	105	105	105	124	124	124	132	134	134	134	135	135
4. TRANSFER TO 1-2	0	0	595	595	595	595	705	705	705	747	760	760	760	764	766
5. BIRTHS: PRDTN COWS	0	700	700	700	700	750	750	750	800	800	800	800	800	800	800
OFFSPRING (3-4)	0	0	0	0	0	79	79	79	79	94	94	94	99	101	101
6. ENDING INVENTORY	0	700	700	700	700	829	829	829	879	894	894	894	899	901	901
D. FEMALE (1-2)															
1. OPENING INVENTORY	0	0	0	298	298	298	298	353	353	353	374	380	380	380	382
2. CULLS (SOLD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. DEATHS	0	0	0	24	24	24	24	28	28	28	30	30	30	30	31
4. TRANSFER TO 2-3	0	0	0	274	274	274	274	325	325	325	344	350	350	350	351
5. TRANSFER FROM 0-1	0	0	298	298	298	298	353	353	353	374	380	380	380	382	383
6. SALES (# HEAD): EXPORT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOMESTIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. ENDING INVENTORY	0	0	298	298	298	298	353	353	353	374	380	380	380	382	383
E. FEMALE (2-3)															
1. OPENING INVENTORY	0	0	0	0	274	274	274	274	325	325	325	344	350	350	350
2. CULLS (SOLD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. DEATHS	0	0	0	0	11	11	11	11	13	13	13	14	14	14	14
4. TRANSFER TO 3-4	0	0	0	0	263	263	263	263	312	312	312	330	336	336	336
5. TRANSFER FROM 1-2	0	0	0	274	274	274	274	325	325	325	344	350	350	350	351
6. SALES (# HEAD): EXPORT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOMESTIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. ENDING INVENTORY	0	0	0	274	274	274	274	325	325	325	344	350	350	350	351

[redacted] II

CHART B CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
F. FEMALE (3-4)															
1. OPENING INVENTORY	0	0	0	0	0	197	197	197	197	234	234	234	247	252	252
2. CULLS (SOLD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. DEATHS	0	0	0	0	0	4	4	4	4	5	5	5	5	5	5
4. TRANSFER TO: COW HERD	0	0	0	0	0	120	120	120	120	120	120	120	120	120	120
4 AND OVER	0	0	0	0	0	73	73	73	73	109	109	109	122	127	127
5. TRANSFER FROM 2-3	0	0	0	0	263	263	263	263	312	312	312	330	336	336	336
6. SALES (# HEAD):	0	0	0	0	263	263	263	263	312	312	312	330	336	336	336
EXPORT: PAIRS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SINGLE	0	0	0	0	66	66	66	66	78	78	78	83	84	84	84
DOMESTIC: PAIRS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SINGLE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. ENDING INVENTORY	0	0	0	0	197	197	197	197	234	234	234	247	252	252	252
G. FEMALE (4 AND OVER)															
1. OPENING INVENTORY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. TRANSFER FROM 3-4	0	0	0	0	0	73	73	73	73	109	109	109	122	127	127
3. SALES (# HEAD):	0	0	0	0	0	73	73	73	73	109	109	109	122	127	127
EXPORT: PAIRS	0	0	0	0	0	16	16	16	16	25	25	25	27	29	29
SINGLE	0	0	0	0	0	39	39	39	39	57	57	57	65	66	66
DOMESTIC: PAIRS	0	0	0	0	0	5	5	5	5	8	8	8	9	10	10
SINGLE	0	0	0	0	0	13	13	13	13	19	19	19	21	22	22
4. ENDING INVENTORY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H. MALE (1-2)															
1. OPENING INVENTORY	0	0	0	297	297	297	297	352	352	352	373	380	380	390	382
2. CULLS (SOLD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. DEATHS	0	0	0	24	24	24	24	28	28	28	30	30	30	30	31
4. TRANSFER TO 2-3	0	0	0	273	273	273	273	324	324	324	343	350	350	350	351
5. TRANSFER FROM 0-1	0	0	297	297	297	297	352	352	352	373	380	380	380	382	383
6. SALES (# HEAD): EXPORT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOMESTIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. ENDING INVENTORY	0	0	297	297	297	297	352	352	352	373	380	380	380	382	383
I. MALE (2-3)															
1. OPENING INVENTORY	0	0	0	0	273	273	273	273	324	324	324	343	350	350	350
2. CULLS (SOLD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. DEATHS	0	0	0	0	11	11	11	11	13	13	13	14	14	14	14
4. TRANSFER TO 3-4	0	0	0	0	262	262	262	262	311	311	311	329	336	336	336
5. TRANSFER FROM 1-2	0	0	0	273	273	273	273	324	324	324	343	350	350	350	351
6. SALES (# HEAD): EXPORT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOMESTIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. ENDING INVENTORY	0	0	0	273	273	273	273	324	324	324	343	350	350	350	351

CHART B CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
J. MALE (3-4)															
1. OPENING INVENTORY	0	0	0	0	0	262	262	262	262	311	311	311	329	336	336
2. CULLS (SOLD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3. DEATHS	0	0	0	0	0	5	5	5	5	6	6	6	7	7	7
4. TRANSFER TO: BULL HERD	0	0	0	0	0	3	3	3	3	3	3	3	3	3	3
4 AND OVER	0	0	0	0	0	254	254	254	254	302	302	302	319	326	326
5. TRANSFER FROM 2-3	0	0	0	0	262	262	262	262	311	311	311	329	336	336	336
6. SALES (# HEAD): EXPORT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOMESTIC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. ENDING INVENTORY	0	0	0	0	262	262	262	262	311	311	311	329	336	336	336
K. MALE (4 AND OVER)															
1. OPENING INVENTORY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. TRANSFER FROM 3-4	0	0	0	0	0	254	254	254	254	302	302	302	319	326	326
3. SALES (# HEAD):	0	0	0	0	0	254	254	254	254	302	302	302	319	326	326
EXPORT	0	0	0	0	0	64	64	64	64	76	76	76	80	82	82
DOMESTIC	0	0	0	0	0	190	190	190	190	226	226	226	239	244	244
4. ENDING INVENTORY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L. TOTAL PRODUCTION HERD POPULATION															
1. ENDING INVENTORY COWS	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
2. ENDING INVENTORY BULLS	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
3. ENDING INVENTORY CALVES	0	700	700	700	700	829	829	829	879	894	894	894	899	901	901
4. ENDING INVENTORY FEMALE (1-2)	0	0	298	298	298	298	353	353	353	374	380	380	380	382	383
5. ENDING INVENTORY FEMALE (2-3)	0	0	0	274	274	274	274	325	325	325	344	350	350	350	351
6. ENDING INVENTORY FEMALE (3-4)	0	0	0	0	197	197	197	197	234	234	234	247	252	252	252
7. ENDING INVENTORY FEMALE (4-4+)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8. ENDING INVENTORY MALE (1-2)	0	0	297	297	297	297	352	352	352	373	380	380	380	382	383
9. ENDING INVENTORY MALE (2-3)	0	0	0	273	273	273	273	324	324	324	343	350	350	350	351
10. ENDING INVENTORY MALE (3-4)	0	0	0	0	262	262	262	262	311	311	311	329	336	336	336
11. ENDING INVENTORY MALE (4-4+)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12. ENDING PRODUCTION HERD STOCK	1023	1723	2318	2865	3324	3453	3563	3665	3801	3858	3909	3953	3970	3976	3990

ANNEX II

CHART C

SALES

VARIABLES

INFLATION FACTOR: 0

	CALVES	1-2 YR	2-3 YR	3-4 YR	4 & OVER	COWS	BULLS
PRODUCTION HERD							
SALES PRICE PER HEAD:							
FEMALE: DOMESTIC	$0	$0	$0	$0	$169	$0	$0
EXPORT	$0	$0	$0	$700	$700	$0	$0
CULLS*	$0	$0	$0	$0	$0	$169	$0
MALE: DOMESTIC	$0	$0	$0	$0	$207	$0	$0
EXPORT	$0	$0	$0	$0	$1,000	$0	$0
CULLS*	$0	$0	$0	$0	$0	$0	$207
SALES PRICE PER PAIR:							
DOMESTIC	$0	$0	$0	$0	$197	$0	$0
EXPORT	$0	$0	$0	$0	$850	$0	$0

*ASSUMES ALL CULLS SOLD ON DOMESTIC MARKET

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
RESALE HERD PURCHASES* (HEAD)															
FEMALE:	650	1300	1950	2600	2600	2600	3900	3900	3900	3900	3900	3900	3900	3900	3
MALE:	650	1300	1950	2600	2600	2600	3900	3900	3900	3900	3900	3900	3900	3900	3

*AFTER YEAR TWO, ASSUMES 80% OF CATTLE SOLD IN YEAR OF PURCHASE AND 20% THE PRECEDING YEAR. PURCHASE FIGURES FROM CHART A.

RESALE HERD	SALES PRICE	PERCENT SOLD
FEMALE: DOMESTIC	$169	0.6666
EXPORT	$550	0.3333
MALE: DOMESTIC	$185	1.00
EXPORT	$0	0

HEAD FIGURES ARE FROM CHART B.

ANNEX II

CHART C CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SALES OF PRDTN HERD OFFSPRING															
FEMALE:															
1. CALVES: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL CALVE SALES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2. 1-2 YEAR: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 1-2 YEAR SALES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3. 2-3 YEAR: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 2-3 YEAR SALES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

CHART C CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
4. 3-4 YEAR: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	66	66	66	66	78	78	78	83	84	84	84
SALES AMT.	$0	$0	$0	$0	$46,200	$46,200	$46,200	$46,200	$54,600	$54,600	$54,600	$58,100	$58,800	$58,800	$58,800
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 3-4 YEAR SALES	$0	$0	$0	$0	$46,200	$46,200	$46,200	$46,200	$54,600	$54,600	$54,600	$58,100	$58,800	$58,800	$58,800
5. 4 & OVER: DOMESTIC (HEAD)	0	0	0	0	0	13	13	13	13	19	19	19	21	22	22
SALES AMT.	$0	$0	$0	$0	$0	$2,197	$2,197	$2,197	$2,[illegible]7	$3,211	$3,211	$3,211	$3,549	$3,718	$3,718
EXPORT (HEAD)	0	0	0	0	0	39	39	39	39	57	57	57	65	66	66
SALES AMT.	$0	$0	$0	$0	$0	$27,300	$27,300	$27,300	$27,300	$39,900	$39,900	$39,900	$45,500	$46,200	$46,200
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 4 & OVER SALES	$0	$0	$0	$0	$0	$29,497	$29,497	$29,497	$29,497	$43,111	$43,111	$43,111	$49,049	$49,918	$49,918
PAIRS															
1. 3-4 YEAR: DOMESTIC (PAIRS)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (PAIRS)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL PAIR SALES (3-4)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2. 4 & OVER: DOMESTIC (PAIRS)	0	0	0	0	0	5	5	5	5	8	8	8	9	10	10
SALES AMT.	$0	$0	$0	$0	$0	$985	$985	$985	$985	$1,576	$1,576	$1,576	$1,773	$1,970	$1,970
EXPORT (PAIRS)	0	0	0	0	0	16	16	16	16	25	25	25	27	29	29
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL PAIR SALES (4)	$0	$0	$0	$0	$0	$985	$985	$985	$985	$1,576	$1,576	$1,576	$1,773	$1,970	$1,970

CHART C CONTINUED

MALE: YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. CALVES: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL CALVE SALES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2. 1-2 YEAR: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 1-2 YEAR SALES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3. 2-3 YEAR: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 2-3 YEAR SALES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

CHART C CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
4. 3-4 YEAR: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 3-4 YEAR SALES	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5. 4 & OVER: DOMESTIC (HEAD)	0	0	0	0	0	190	190	190	190	226	226	226	239	244	244
SALES AMT.	$0	$0	$0	$0	$0	$39,330	$39,330	$39,330	$39,330	$46,782	$46,782	$46,782	$49,473	$50,508	$50,508
EXPORT (HEAD)	0	0	0	0	0	64	64	64	64	76	76	76	80	82	82
SALES AMT.	$0	$0	$0	$0	$0	$64,000	$64,000	$64,000	$64,000	$76,000	$76,000	$76,000	$80,000	$82,000	$82,000
CULLS (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL 4 & OVER SALES	$0	$0	$0	$0	$0	$103,330	$103,330	$103,330	$103,330	$122,782	$122,782	$122,782	$129,473	$132,508	$132,508
TOTAL SALES OF PRDTN HERD OFFSPRING	$0	$0	$0	$0	$46,200	$180,012	$180,012	$180,012	$188,412	$222,069	$222,069	$225,569	$239,095	$243,196	$243,196
SALES OF RESALE HERD															
1. FEMALE: DOMESTIC (HEAD)	200	927	1213	1647	1733	1733	2426	2600	2600	2600	2600	2600	2600	2600	2600
SALES AMT.	$33,800	$156,663	$204,997	$278,343	$292,877	$292,877	$409,994	$439,400	$439,400	$439,400	$439,400	$439,400	$439,400	$439,400	$439,400
EXPORT (HEAD)	100	463	607	823	867	867	1213	1300	1300	1300	1300	1300	1300	1300	1300
SALES AMT.	$55,000	$254,650	$333,850	$452,650	$476,850	$476,850	$667,150	$715,000	$715,000	$715,000	$715,000	$715,000	$715,000	$715,000	$715,000
SUB-TOTAL RESALE HERD FEMALE	$88,800	$411,313	$538,847	$730,993	$769,727	$769,727	$1,077,144	$1,154,400	$1,154,400	$1,154,400	$1,154,400	$1,154,400	$1,154,400	$1,154,400	$1,154,400

CHART C CONTINUED

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2. MALE: DOMESTIC (HEAD)	300	1390	1820	2470	2600	2600	3640	3900	3900	3900	3900	3900	3900	3900	3900
SALES AMT.	$55,500	$257,150	$336,700	$456,950	$481,000	$481,000	$673,400	$721,500	$721,500	$721,500	$721,500	$721,500	$721,500	$721,500	$721,500
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
SUB-TOTAL RESALE HERD MALE	$55,500	$257,150	$336,700	$456,950	$481,000	$481,000	$673,400	$721,500	$721,500	$721,500	$721,500	$721,500	$721,500	$721,500	$721,500
TOTAL SALES OF RESALE HERD	$144,300	$668,463	$875,547	$1,187,943	$1,250,727	$1,250,727	$1,750,544	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900
SALES OF PRDTN HERD															
1. COWS: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	100	100	100	100	100	100	100	100	100	100	100	100	100	100
SALES AMT.	$0	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900
SUB-TOTAL COWS	$0	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900	$16,900
2. BULLS: DOMESTIC (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
EXPORT (HEAD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALES AMT.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CULLS (HEAD)	0	0	0	6	6	6	6	6	6	6	6	6	6	6	6
SALES AMT.	$0	$0	$0	$1,242	$1,242	$1,242	$1,242	$1,242	$1,242	$1,242	$1,242	$1,242	$1,242	$1,242	$1,242
SUB-TOTAL BULLS	$0	$0	$0	$1,242	$1,242	$1,242	$1,242	$1,242	$1,242	$1,242	$1,242	$1,242	$1,242	$1,242	$1,242
TOTAL SALES PRDTN HERD	$0	$16,900	$16,900	$18,142	$18,142	$18,142	$18,142	$18,142	$18,142	$18,142	$18,142	$18,142	$18,142	$18,142	$18,142
TOTAL SALES FOR YEAR	$144,300	$685,363	$892,447	$1,206,085	$1,315,069	$1,448,881	$1,948,698	$2,074,054	$2,082,454	$2,116,111	$2,116,111	$2,119,611	$2,133,137	$2,137,238	$2,137,238

ANNEX II

CHART D

PERSONNEL NUMBERS AND COSTS

YEARLY INCENTIVE WAGE INCREASE: 0.05

INFLATION FACTOR (EXPATRIATE): 0

INFLATION FACTOR (LOCAL HIRE): 0

LOCAL: TITLE	COST/PERSON/YEAR	YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SUPERVISORS	$3,250	:: NUMBER	3	5	6	6	6	6	6	6	6	6	6	6	6	6	6
		:: COST	$9,750	$16,250	$19,500	$19,500	$19,500	$19,500	$19,500	$19,500	$19,500	$19,500	$19,500	$19,500	$19,500	$19,500	$19,500
BOOKKEEPERS	$3,000	:: NUMBER	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
		:: COST	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000
HERDERS	$450	:: NUMBER	20	40	50	55	55	55	55	55	55	55	55	55	55	55	55
		:: COST	$9,000	$18,000	$22,500	$24,750	$24,750	$24,750	$24,750	$24,750	$24,750	$24,750	$24,750	$24,750	$24,750	$24,750	$24,750
MECHANICS	$3,000	:: NUMBER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		:: COST	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000
DRIVERS	$1,000	:: NUMBER	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		:: COST	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000
FIELD LABOR	$858	:: NUMBER	40	30	20	20	20	20	20	20	20	20	20	20	20	20	20
		:: COST	$34,320	$25,740	$17,160	$17,160	$17,160	$17,160	$17,160	$17,160	$17,160	$17,160	$17,160	$17,160	$17,160	$17,160	$17,160
INCENTIVE WAGE INCREASE 5%		::	$0	$3,404	$3,920	$4,074	$4,390	$4,610	$4,840	$5,082	$5,337	$5,603	$5,884	$6,178	$6,487	$6,811	$7,151
TOTAL LOCAL PERSONNEL COSTS		::	$68,070	$78,394	$78,080	$80,484	$80,800	$81,020	$81,250	$81,492	$81,747	$82,013	$82,294	$82,588	$82,897	$83,221	$83,561

EXPATRIATE: TITLE	COST/PERSON/YEAR	YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
DIRECTOR	$50,000	:: NUMBER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		:: COST	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
ACCOUNTANT	$30,000	:: NUMBER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		:: COST	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
RANCH SPECIALIST	$30,000	:: NUMBER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		:: COST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
MECHANIC	$30,000	:: NUMBER	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		:: COST	$30,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
INCENTIVE WAGE INCREASE 5%		::	$0	$5,500	$4,275	$4,489	$4,713	$4,949	$5,196	$5,456	$5,729	$6,015	$6,316	$6,632	$6,964	$7,312	$7,677
SUPPORT @ .25 OF EXPATRIATE COSTS		::	$27,500	$21,375	$21,069	$21,122	$21,178	$21,237	$21,299	$21,364	$21,432	$21,504	$21,579	$21,658	$21,741	$21,828	$21,919
TOTAL EXPATRIATE PERSONNEL COSTS		::	$137,500	$106,875	$105,344	$105,611	$105,891	$106,186	$106,495	$106,820	$107,161	$107,519	$107,895	$108,290	$108,704	$109,140	$109,597

MODEL II

CHART E

EQUIPMENT PURCHASES

ITEM	COST	LIFE	FINANCIAL TIME PERIOD / RANCH YEAR	0 / 0	1 / 1	2 / 2	3 / 3	4 / 4	5 / 5	6 / 6	7 / 7	8 / 8	9 / 9	10 / 10	11 / 11	12 / 12	13 / 13	14 / 14	15 / 15
TRUCK	$50,000	5	::QUANTITY	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
			::COST	$50,000	$0	$0	$0	$0	$50,000	$0	$0	$0	$0	$50,000	$0	$0	$0	$0	$50,000
			::# IN USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TRACTOR	$30,000	6	::QUANTITY	2	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0
			::COST	$60,000	$0	$0	$0	$0	$0	$60,000	$0	$0	$0	$0	$0	$60,000	$0	$0	$0
			::# IN USE	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
LANDROVER	$18,000	5	::QUANTITY	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
			::COST	$18,000	$0	$0	$0	$0	$18,000	$0	$0	$0	$0	$18,000	$0	$0	$0	$0	$18,000
			::# IN USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PICK-UP	$7,000	4	::QUANTITY	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0
			::COST	$7,000	$0	$0	$0	$7,000	$0	$0	$0	$7,000	$0	$0	$0	$7,000	$0	$0	$0
			::# IN USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MOTORCYCLE	$1,000	5	::QUANTITY	3	3	0	0	0	3	3	0	0	0	3	3	0	0	0	3
			::COST	$3,000	$3,000	$0	$0	$0	$3,000	$3,000	$0	$0	$0	$3,000	$3,000	$0	$0	$0	$3,000
			::# IN USE	3	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
GENERATOR	$12,000	5	::QUANTITY	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1
			::COST	$12,000	$0	$0	$0	$0	$12,000	$0	$0	$0	$0	$12,000	$0	$0	$0	$0	$12,000
			::# IN USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
BUSH HOG	$4,500	10	::QUANTITY	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
			::COST	$9,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,000	$0	$0	$0	$0	$0
			::# IN USE	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
DUMP	$200	5	::QUANTITY	3	2	0	0	0	3	2	0	0	0	3	2	0	0	0	3
			::COST	$600	$400	$0	$0	$0	$600	$400	$0	$0	$0	$600	$400	$0	$0	$0	$600
			::# IN USE	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BICYCLES	$200	20	::QUANTITY	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			::COST	$2,000	$2,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
			::# IN USE	10	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
SHOP	$0	10	::QUANTITY																
			::COST	$3,000	$2,000	$0	$0	$0	$0	$0	$0	$0	$0	$3,000	$2,000	$0	$0	$0	$0
			::# IN USE																
VETERINARY	$0	10	::QUANTITY																
			::COST	$1,500	$2,000	$1,500	$0	$0	$0	$0	$0	$0	$0	$1,500	$2,000	$15,000	$0	$0	$0
			::# IN USE																
TOTAL EQUIPMENT PURCHASES				$166,100	$9,400	$1,500	$0	$7,000	$83,600	$63,400	$0	$7,000	$0	$97,100	$7,400	$82,000	$0	$0	$83,600

ANNEX II

CHART F

EQUIPMENT MAINTENANCE & OPERATING COSTS

MAINTENANCE: PERCENTAGE PER ITEM OF CUMULATIVE COST OF ITEMS IN OPERATION, EXPRESSED AS PERCENT/YEAR/ITEMS IN OPERATION.
OPERATING: CALCULATED ON COST PER HOUR OF CARBURANT AND LUBRICANT, EXPRESSED AS FIXED RATE/YEAR/ITEMS IN OPERATION.

ITEM	COST	MAINT %	OPTG COST/YR	BRACH YEARS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
TRUCK	$50,000	0.12	$4,250	:: MAIN COST	$0	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000	$6,000
				:: OPTG COST	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250	$4,250
				:: # IN USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TRACTOR	$30,000	0.1333	$9,000	:: MAIN COST	$0	$7,998	$7,998	$7,998	$7,998	$7,998	$7,998	$7,998	$7,998	$7,998	$7,998	$7,998	$7,998	$7,998	$7,998
				:: OPTG COST	$18,000	$18,000	$18,000	$18,000	$18,000	$18,000	$18,000	$18,000	$18,000	$18,000	$18,000	$18,000	$18,000	$18,000	$18,000
				:: # IN USE	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
LANDROVER	$18,000	0.1666	$5,000	:: MAIN COST	$0	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999	$2,999
				:: OPTG COST	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000
				:: # IN USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PICK-UP	$7,000	0.1428	$1,000	:: MAIN COST	$0	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
				:: OPTG COST	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
				:: # IN USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MOTORCYCLE	$1,000	0.2	$350	:: MAIN COST	$0	$600	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200
				:: OPTG COST	$1,050	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100	$2,100
				:: # IN USE	3	6	6	6	6	6	6	6	6	6	6	6	6	6	6
GENERATOR	$12,000	0.025	$2,500	:: MAIN COST	$0	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
				:: OPTG COST	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500
				:: # IN USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
BUSH HOG	$4,500	0	$150	:: MAIN COST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				:: OPTG COST	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
				:: # IN USE	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
PUMP	$200	0	$40	:: MAIN COST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				:: OPTG COST	$120	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
				:: # IN USE	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BICYCLES	$200	0.1	$0	:: MAIN COST	$0	$200	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400
				:: OPTG COST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				:: # IN USE	10	20	20	20	20	20	20	20	20	20	20	20	20	20	20
SHOP		0	$0	:: MAIN COST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				:: OPTG COST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				:: # IN USE															
VETERINARY		0	$0	:: MAIN COST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				:: OPTG COST	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
				:: # IN USE															
TOTAL ANNUAL MAINTENANCE & OPERATING COSTS					$32,220	$52,446	$53,246	$53,246	$53,246	$53,246	$53,246	$53,246	$53,246	$53,246	$53,246	$53,246	$53,246	$53,246	$53,246

ANNEX II

CHART 6

ANNUAL EQUIPMENT DEPRECIATION

ITEM	COST	LIFE	RANCH YEAR DEPR CHARGE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
TRUCK	$50,000	5	$10,000 ::	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
TRACTOR	$30,000	6	$5,000 ::	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
LANDROVER	$18,000	5	$3,600 ::	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600	$3,600
PICK-UP	$7,000	4	$1,750 ::	$1,750	$1,750	$1,750	$1,750	$1,750	$1,750	$1,750	$1,750	$1,750	$1,750	$1,750	$1,750	$1,750	$1,750	$1,750
MOTORCYCLE	$1,000	5	$200 ::	$600	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200	$1,200
GENERATOR	$12,000	5	$2,400 ::	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400	$2,400
BUSH HOG	$4,500	10	$450 ::	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900	$900
PUMP	$200	5	$40 ::	$120	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
BICYCLES	$200	20	$10 ::	$100	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
SHOP		10	::	$300	$550	$550	$550	$550	$550	$550	$550	$550	$550	$550	$550	$550	$550	$550
VETERINARY		10	::	$150	$350	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500
TOTAL ANNUAL DEPRECIATION CHARGE				$23,920	$31,150	$31,300	$31,300	$31,300	$31,300	$31,300	$31,300	$31,300	$31,300	$31,300	$31,300	$31,300	$31,300	$31,300

ANNEX II

CHART 4

CONSTRUCTION COSTS

FINANCIAL TIME PERIOD	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ROACH YEAR	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ITEM*																
EXPATRIATE LODGING	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
LOCAL LODGING	$30,000	$15,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
GARAGE	$0	$30,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
OFFICE	$0	$10,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WAREHOUSE	$0	$0	$10,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WATER TOWER	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
FENCING (257.25 KM)	$22,500	$11,250	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DIPPING VATS (8)	$30,000	$15,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TREATMENT CENTERS (8)	$1,000	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WATER POINTS (17)	$800	$400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL NON-REOCCURING CONSTRUCTION COST**	$184,300	$82,150	$10,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

*WHILE CONSIDERED NON-REOCCURING ALL ITEMS ARE DEPRECIATED OVER 20 YEARS.

ANNUAL DEPRECIATION CHARGE	$0	$9,215	$13,323	$13,823	$13,823	$13,823	$13,823	$13,823	$13,823	$13,823	$13,823	$13,823	$13,823	$13,823	$13,823	$13,823

**MAINTENANCE CALCULATED AS .025 OF THE PREVIOUS YEARS' CUMULATIVE COST OF CONSTRUCTION.

ANNUAL MAINTENANCE CHARGE	$0	$0	$4,608	$6,661	$6,911	$6,911	$6,911	$6,911	$6,911	$6,911	$6,911	$6,911	$6,911	$6,911	$6,911	$6,911

ANNEX II

CHART I

PROJECT FINANCE SUMMARY

PHASE I

FINANCIAL TIME PERIOD	0	1	2	3	4	5
RANCH YEAR		1	2	3	4	5
NEEDS:						
EQUIPMENT*	$166,100	$9,400	$1,500	$0	$0	$0
CONSTRUCTION	$184,300	$82,156	$10,000	$0	$0	$0
CATTLE PURCHASES**	$0	$319,255	$0	$0	$0	$0
SUB-TOTAL CAPITAL EXPENDITURES	$350,400	$410,811	$11,500	$0	$0	$0
WORKING CAPITAL	$0	$205,000	$200,000	$0	$0	$0
TOTAL NEEDS PHASE I:	$1,177,711					
SOURCES:						
EQUITY @ 0.4 OF CAP. EXPEND.	$309,084					
DEBT @ 0.6 OF CAP. EXPEND.+	$463,627					
DEBT @ 100% OF WORKING CAPITAL**	$405,000					
CASH FLOW PHASE I	$0					
TOTAL SOURCES	$1,177,711					
SURPLUS (DEFICIT) OF SOURCES - NEEDS	$0					

*INITIAL PURCHASES, DURING PHASE I (UP TO MAXIMUM INDICATED IN CHART E), ARE FINANCED, SUBSEQUENT PURCHASES COVERED INTERNALLY.

**INITIAL PRODUCTION HERD (EXCLUDING CULLS AND DEATHS) IS FINANCED (SEE CHART A); CULLS AND DEATHS OF PRODUCTION HERD AND ANY OTHER SUBSEQUENT REPLACEMENTS ARE COVERED FROM INTERNAL CASH FLOW. REPLACEMENTS OF RESALE HERD AFTER YEAR 1 ASSUMED TO BE COVERED BY CASHFLOW FROM PREVIOUS SALES.

+INTEREST ON CAPITAL EXPENDITURE LOAN AT 12% P.A., 10 YEAR TERM FOR EACH DRAW DOWN, GRACE ON PRINCIPAL REPAYMENT FOR EACH DRAW DOWN OF 3 YEARS.

FINANCIAL PERIOD	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
YEAR		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PRINCIPAL	$0	$0	$0	$26,280	$57,091	$57,953	$57,953	$57,953	$57,953	$57,953	$57,953	$31,673	$863	$0	$0	$0
INTEREST	$0	$54,807	$55,635	$55,635	$52,482	$45,631	$38,676	$31,722	$24,767	$17,813	$10,859	$3,904	$104	$0	$0	$0

++INTEREST ON WORKING CAPITAL LOAN AT 15% P.A., 5 YEAR TERM FOR EACH DRAW DOWN, GRACE ON PRINCIPAL REPAYMENT FOR EACH DRAW DOWN OF 1 YEAR. SEE CHART K - ADDITIONAL BORROWINGS.

FINANCIAL PERIOD	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
YEAR		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PRINCIPAL	$0	$0	$51,250	$101,250	$101,250	$101,250	$50,000	$50,000	$0	$0	$0	$0	$0	$0	$0	$0
INTEREST	$0	$30,750	$60,750	$53,063	$37,875	$22,688	$2,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
YEARLY PRINCIPAL REPAYMENTS	$0	$0	$51,250	$127,530	$158,341	$159,203	$107,953	$107,953	$57,953	$57,953	$57,953	$31,673	$863	$0	$0	$0
YEARLY INTEREST	$0	$85,557	$116,385	$108,698	$90,337	$68,318	$40,676	$31,722	$24,767	$17,813	$10,859	$3,904	$104	$0	$0	$0

ANNEX II

CHART J

PROFIT & LOSS

YEAR		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SALES:*																
PRDTN HERD OFFSPRING		$0	$0	$0	$0	$46,200	$180,012	$180,012	$180,012	$188,412	$222,069	$222,069	$225,569	$239,095	$243,196	$243,196
RESALE HERD		$144,300	$668,463	$875,547	$1,187,943	$1,250,727	$1,250,727	$1,750,544	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900	$1,875,900
PRDTN HERD		$0	$16,900	$16,900	$18,142	$18,142	$18,142	$18,142	$18,142	$18,142	$18,142	$18,142	$18,142	$18,142	$18,142	$18,142
GROSS SALES		$144,300	$685,363	$892,447	$1,206,085	$1,315,069	$1,448,881	$1,948,698	$2,074,054	$2,082,454	$2,116,111	$2,116,111	$2,119,611	$2,133,137	$2,137,238	$2,137,238
COMMISSIONS	0.02	$2,886	$13,707	$17,849	$24,122	$26,301	$28,978	$38,974	$41,481	$41,649	$42,322	$42,322	$42,392	$42,663	$42,745	$42,745
NET SALES:		$141,414	$671,656	$874,598	$1,181,963	$1,288,768	$1,419,903	$1,909,724	$2,032,573	$2,040,805	$2,073,789	$2,073,789	$2,077,219	$2,090,474	$2,094,493	$2,094,493
VARIABLE COSTS:**																
LIVESTOCK PURCHASES***																
PRODUCTION HERD		$0	$20,520	$20,520	$22,230	$22,230	$855	$855	$855	$855	$855	$855	$855	$855	$855	$855
RESALE HERD		$0	$283,400	$425,100	$566,800	$566,800	$566,800	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200	$850,200
LIVESTOCK FREIGHT+	0.032	$10,216	$9,725	$14,260	$18,849	$18,849	$18,165	$27,234	$27,234	$27,234	$27,234	$27,234	$27,234	$27,234	$27,234	$27,234
LIVESTOCK MEDICINE/SUPPLIES																
PER HEAD PRDTN HERD	$6	$6,138	$10,338	$13,998	$17,190	$19,944	$20,718	$21,378	$21,990	$22,806	$23,148	$23,454	$23,718	$23,820	$23,856	$23,880
PER HEAD RESALE HERD	$3	$3,900	$7,800	$11,700	$15,600	$15,600	$15,600	$23,400	$23,400	$23,400	$23,400	$23,400	$23,400	$23,400	$23,400	$23,400
LOCAL WAGES		$68,070	$78,394	$78,080	$80,494	$80,690	$81,020	$81,250	$81,492	$81,747	$82,013	$82,294	$82,598	$82,897	$83,221	$83,561
MEDICAL/INSURANCE	0.05	$3,404	$3,920	$3,904	$4,024	$4,040	$4,051	$4,063	$4,075	$4,087	$4,101	$4,115	$4,129	$4,145	$4,161	$4,178
EQUIPMENT/CONST MAINTENANCE/OPRTG		$33,220	$57,054	$59,997	$60,157	$60,157	$60,157	$60,157	$60,157	$60,157	$60,157	$60,157	$60,157	$60,157	$60,157	$60,157
TOTAL VARIABLE COSTS		$123,948	$471,151	$627,379	$795,334	$738,420	$767,366	$1,068,537	$1,069,403	$1,070,486	$1,071,108	$1,071,709	$1,072,281	$1,072,708	$1,073,084	$1,073,465
CONTRIBUTION:		$17,467	$200,505	$247,219	$386,629	$500,348	$652,537	$841,185	$963,170	$970,319	$1,002,681	$1,002,080	$1,004,937	$1,017,766	$1,021,409	$1,021,028
FIXED COSTS:++																
EXPATRIATE SALARIES/SUPPORT		$137,500	$106,875	$105,244	$105,611	$105,831	$106,186	$106,495	$106,820	$107,161	$107,519	$107,895	$108,290	$108,704	$109,140	$109,597
DEPRECIATION		$39,135	$44,473	$45,123	$45,123	$45,123	$45,123	$45,123	$45,123	$45,123	$45,123	$45,123	$45,123	$45,123	$45,123	$45,123
G&A		$10,000	$10,000	$10,000	$13,000	$13,000	$13,000	$16,000	$16,000	$16,000	$20,000	$20,000	$20,000	$24,000	$24,000	$24,000
TOTAL FIXED COSTS		$186,635	$161,348	$160,467	$163,734	$164,014	$164,309	$167,618	$167,943	$168,284	$172,642	$173,018	$173,413	$177,827	$178,263	$178,720
INCOME B/4 FINANCE COSTS & TAXES		($169,169)	$39,157	$86,752	$232,895	$336,334	$488,228	$673,570	$795,227	$802,035	$830,039	$829,062	$831,524	$839,939	$843,146	$842,308
FINANCE COSTS#		$95,557	$116,385	$108,698	$50,357	$68,318	$40,676	$31,722	$24,767	$17,813	$10,859	$3,904	$104	$0	$0	$0
TAXES	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NET INCOME AFTER FINANCE COSTS AND TAXES		($254,726)	($77,228)	($21,946)	$182,539	$268,016	$447,552	$641,848	$770,460	$784,222	$819,180	$825,159	$831,420	$839,939	$843,146	$842,308

*FROM CHART C.

**FROM CHARTS A, B, D, E.

***LIVESTOCK PURCHASES DO NOT REFLECT BUILD-UP OF INITIAL PRODUCTION HERD NOR FIRST YEAR PURCHASE OF RESALE HERD. THESE COSTS ARE FINANCED.

+PERCENTAGE OF THE DOLLAR VALUE OF TOTAL HERD PURCHASES IN A GIVEN YEAR, INCLUDING INITIAL PRODUCTION HERD AND FIRST RESALE HERD.

++FROM CHARTS D, E, G, H.

#FROM CHART I.

ANNEX II

CHART K

CASH FLOW SUMMARY

FINANCIAL TIME PERIOD	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
YEAR		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SOURCES:																
NET INCOME AFTER TAXES & FINANCING*	$0	($254.726)	($77.228)	($21.946)	$182.538	$268.016	$447.552	$541.848	$770.460	$784.232	$819.180	$825.158	$831.420	$839.939	$843.146	$842.308
DEPRECIATION*	$0	$39.135	$44.473	$45.123	$45.123	$45.123	$45.123	$45.123	$45.123	$45.123	$45.123	$45.123	$45.123	$45.123	$45.123	$45.123
CASH FLOW FROM OPERATIONS	$0	($215.591)	($32.755)	$23.177	$227.661	$313.139	$492.675	$686.971	$815.583	$829.345	$864.303	$870.281	$876.543	$885.062	$888.269	$887.431
CASH FROM FINANCING**																
EQUITY	$309.084	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
DEBT***	$463.627	$205.000	$200.000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
CASH FLOW FROM FINANCING	$772.711	$205.000	$200.000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL SOURCES:	$772.711	($10.591)	$167.245	$23.177	$227.661	$313.139	$492.675	$686.971	$815.583	$829.345	$864.303	$870.281	$876.543	$885.062	$888.269	$887.431
USES:**																
CAPITAL EXPENDITURES	$350.400	$410.811	$11.500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WORKING CAPITAL	$0	$205.000	$200.000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
LOAN REPAYMENTS	$0	$0	$51.250	$127.530	$159.341	$159.203	$107.953	$107.953	$57.953	$57.953	$57.953	$31.673	$863	$0	$0	$0
TOTAL USES:	$350.400	$615.811	$262.750	$127.530	$159.341	$159.203	$107.953	$107.953	$57.953	$57.953	$57.953	$31.673	$863	$0	$0	$0
NET CASH FLOW	$422.311	($626.402)	($95.505)	($104.353)	$59.320	$153.936	$384.722	$579.018	$757.630	$771.392	$806.350	$838.608	$875.680	$885.062	$888.269	$887.431
CUMULATIVE CASH FLOW B/4 ADDITIONAL BORROWINGS	$422.311	($204.091)	($94.595)	$1.051	$70.371	$224.307	$609.029	$1,188.047	$1,945.677	$2,717.069	$3,523.419	$4,362.027	$5,237.707	$6,122.769	$7,011.038	$7,898.469
ADDITIONAL BORROWINGS (WC)**		$205.000	$200.000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NET CUMULATIVE CASH FLOW	$422.311	$919	$105.404	$1.051	$70.371	$224.307	$609.029	$1,188.047	$1,945.677	$2,717.069	$3,523.419	$4,362.027	$5,237.707	$6,122.769	$7,011.038	$7,898.469

*FROM CHART I.

**FROM CHART I.

***CAPITAL INVESTMENT PLUS WORKING CAPITAL.

*FIVE YEAR TERM FOR EACH ADDITIONAL BORROWING, WITH ONE YEAR GRACE ON EACH DRAW DOWN.

**SEE CHART I FOR INTEREST AND PRINCIPAL REPAYMENT CALCULATIONS FOR ADDITIONAL FUNDS (WORKING CAPITAL) BORROWED.

ANNEX II

CHART L

DISCOUNTED CASH FLOW

RANCH YEAR	FINANCIAL YEAR	CASH OUTFLOW*	CASH INFLOW**	INTEREST***	NET CASH FLOW
0	0	$350,400	$0	$0	($350,400)
1	1	$615,811	($215,591)	$85,557	($745,845)
2	2	$211,500	($32,755)	$116,385	($127,870)
3	3	$0	$23,177	$108,698	$131,875
4	4	$0	$227,661	$50,357	$278,018
5	5	$0	$313,139	$68,318	$381,457
6	6	$0	$492,675	$40,676	$533,351
7	7	$0	$686,971	$31,722	$718,693
8	8	$0	$815,583	$24,767	$840,350
9	9	$0	$829,345	$17,813	$847,158
10	10	$0	$864,303	$10,859	$875,162
11	11	$0	$870,281	$3,904	$874,185
12	12	$0	$876,543	$104	$876,647
13	13	$0	$885,062	$0	$885,062
14	14	$0	$888,269	$0	$888,269
15	15	$0	$887,431	$0	$887,431

TERMINAL VALUE EQUALS EOY 15 LIVESTOCK INVENTORY VALUE $1,254,590

INTERNAL RATE OF RETURN: ESTIMATE 0.3

INTERNAL RATE OF RETURN: ACTUAL 28.19%

NET PRESENT VALUE CALCULATION:

DISCOUNT RATE	NPV
0.1	$2,465,249
0.15	$1,249,181
0.2	$563,711
0.25	$165,017

*FROM CHART I AND K.

**FROM CHART K.

***FROM CHART J AND K.