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KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

MAIN REPORT

August, 1976

Eastern Africa Region
Agricultural Credit & Livestock Division

CURRENCY EQUIVALENTS

US$ 1.00 = Kenya Shilling 8.20 (KSh.)
KSh.1.00 = US$0.12

WEIGHTS AND MEASURES

Except where otherwise stated all tonnages are expressed in metric tons.

Metric System

1 hectare (ha)	=	10,000 m^2 = 2.47 acres
1 kilometer (km)	=	0.62 miles
1 square kilometer (km^2)	=	0.39 sq. miles = 100 ha
1 kilogram (kg)	=	2.20 pounds
1 liter (l)	=	0.26 gallons
1,000 kg = 1 metric ton	=	0.98 long ton

ABBREVIATIONS

AFC	=	Agricultural Finance Corporation
KMC	=	Kenya Meat Commission
LMD	=	Livestock Marketing Division
MA	=	Kenya Ministry of Agriculture
SIDA	=	Swedish International Development Authority
RMD	=	Range Management Division

FISCAL YEAR

July 1 - June 30

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

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KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

I. INTRODUCTION

1.01 This report is based on the findings of a review mission that visited Kenya between February 22 and March 26, 1976 composed of Mr. J.R. Peberdy, Ms. D. Lallement (IDA), Messrs. B. Falconer (ADS), H. Jahnke and M. Creek (Consultants), R. Hofforth, and F. Abercrombie (USAID), J. Morris and B. Halpin (ODM) and H. McGill (CIDA). Itinerary and list of persons met are presented in Annex 1. Round-up meetings were held at the end of the mission with representatives of the various Departments and Divisions concerned of the Ministries of Agriculture, Water Development, Treasury and AFC.

II. BACKGROUND

2.01 The beef industry is one of the largest industries in the agricultural sector in terms of value of production. At present, there are seven main sources of beef supply:

(a) Smallholders in the high potential and marginal areas;

(b) Large farms in the high potential areas;

(c) Commercial Ranches which have been developed by settlers and are being Kenyanised;

(d) Cooperative and Group Ranches which are being developed in traditional smallholder range areas on communally owned or tribal land;

(e) Company or Cooperative ranches which are being developed by small farmers from adjoining areas on poorly managed underutilized or unoccupied Government lands in Coast Province;

(f) Pastoralist areas, some of which are being subdivided into Group Ranches or, as in the case of the North East and Isiolo, into grazing management blocks.

(g) Feedlots on farms in the high potential areas taking cattle from the above sources.

2.02 Four main grades of beef are being produced:

1. The Commercial Grade is the lowest quality of beef. It basically shows none of the quality factors. The average weight (CDW) of a commercial grade carcass at KMC is 109 kg. The commercial grade is mainly produced by the smallholder and pastoralist. Perhaps 60% of the animals slaughtered are in this grade.

2. The Standard Grade is the next quality above the commercial grade. It carries an adequate amount of muscling but no finish. The average CDW of a standard grade carcass is 152 kg. It is produced by all sectors and perhaps constitutes about 30% of animals slaughtered.

3. The FAQ (Fair Average Quality) Grade is the next grade above the standard grade. It carries an adequate finish, irrespective of age. The average CDW of an FAQ carcass is 206 kg. and is mainly produced by company and commercial ranches, large farmers and feedlots.

4. The Choice Grade is one of the best quality of beef produced in Kenya. It carries an additional degree of finish over the FAQ Grade, and only young animals qualify (not more than 6 mature teeth). The average CDW of a choice carcass is 232 kg. It is produced by feedlots, large farmers and ranches which manage to produce early maturing steers.

2.03 The consumption of the various grades follows the following pattern:

1. The Commercial Grade is mainly consumed in the pastoral and smallholder rural areas; most of the surplus is exported as canned beef;

2. The Standard Grade is consumed mainly by higher income groups in the rural areas and in the low-income urban zones;

3. The FAQ Grade is consumed domestically in the upper-income urban zones and by tourists; the surplus is exported;

4. The Choice Grade is consumed locally and exported.

Annex 3 gives background to supply and demand of beef.

A. The First Livestock Project

2.04 As part of an overall long-term program for the development of the range areas, the First Livestock Project was appraised in 1967. It provided funds for: the development of commercial, company, group and individual ranches; facilities for marketing cattle; range development in the North East and the provision of technical services in the Ministry of Agriculture and Agricultural Finance Corporation (AFC). Due to problems in meeting terms of effectiveness and an initially cautious lending approach by AFC the project did not really get underway until January 1971. Thereafter it proceeded at a faster rate than expected and IDA disbursement was complete only seven months after the original closing date. The Project Completion Report (PCR) estimated that project costs probably exceeded US$12.3 million of which IDA provided US$3.6 million and SIDA US$4.1 million. IDA disbursements were completed in July 1974.

2.05 The project was generally successful in providing range development and institution building. It achieved:

(a) Full or partial development on 108 ranches compared with the projected full development of 60 ranches. Overall, 0.67 million ha were affected compared with an appraisal estimate of 0.8 million ha, although the degree and emphasis of development of the different ranch types differed considerably from that forecast.

(b) The anticipated livestock marketing target of 50,000 animals.

(c) With the funds available only one fifth (0.9 million ha) of the planned range development in the North East due to overly intensive development of water supplies.

(d) Improved services.

(e) Promotion of social change in the range areas and the testing of different ranch types.

2.06 The PCR report noted that problems in July 1975 included overstocking; appearance of a cost-price squeeze affecting ranch profitability; and the need to improve ranch and project management. It recommended continued supervision.

B. The Second Livestock Project

2.07 The Second Livestock Project was appraised in 1972 and became effective in December 1974. Similar in concept to the successful first project the second project was designed as a broadly based 5-year integrated program to increase Kenya beef production and improve range infrastructure; it also contains a wildlife development component. Its main features are:

(a) Establishment and/or improvement of:

(i) 21 Company and cooperative ranches (590,000 ha) in unoccupied, or underutilized, or poorly managed land in Coast Province and Kitui;

(ii) 100 existing commercial ranches (340,000 ha) in Nakuru, Laikipia, Nyandarua and Machakos districts;

(iii) 60 group ranches in the pastoralist (960,000 ha) areas of Kajiado, Narok and Samburu districts;

(iv) 3 feedlots outside the disease free zone, one each in Narok, Kajiado and Western Kenya;

(b) Development of 2.8 million hectare of grazing land in the North East Province and 1.2 million hectare in Isiolo District through provision of water facilities and access roads;

(c) Improvement and/or construction of new livestock marketing facilities and services, holding grounds, stock routes; provision of cattle trucks and trailers;

(d) Partial development of the Amboseli Park and Maasai Mara Game Reserve and extension of the Nairobi Park;.

(e) Establishment of a census and monitoring unit to provide up-to-date baseline data on wildlife, livestock and cultivation in pastoral areas;

(f) Provision of technical services, including:

(i) support of AFC Ranch Section;

(ii) a pleuropneumonia mobile testing unit for the Veterinary Department;

(iii) overseas training;

(iv) a feasibility study of the livestock and meat industry;

(v) project monitoring and evaluation and future project preparation;

(vi) a project coordination unit set up in the Ministry of Agriculture to coordinate and supervise project operations.

2.08 The total project cost was US$59.7 million of which IDA was projected to meet US$21.5 million; USAID at least US$7.3 million (for some ranch development and North East water); UK not less than US$3.7 million for livestock marketing; the Canadian Government not less than US$2.4 million for Isiolo water development and the census and monitoring component of wildlife development; the beneficiaries US$8.6 million; and Government the remaining US$16.2 million.

III. SUPERVISION REPORTS

3.01 The first mission to visit the second livestock project was a start-up mission in June 1974; this was followed by two supervision missions in May and November 1975. From the outset supervision reports raised the following issues:

(a) Weak project coordination leading to slow implementation.

(b) Particularly slow ranch development (AFC had approved only 16 loans by November 1975). No satisfactory ranch plans were being drawn. Ranch investment costs were far above appraisal estimates.

(c) General escalation of project costs.

(d) Continued Government control on prices, thus endangering the financial and economic viability of beef production.

(e) Various outstanding problems associated with the wildlife component.

By the end of September 1975 IDA had only disbursed US$285,000 as compared with an appraisal estimate of US$6.3 million.

3.02 In view of these serious issues the second supervision recommended an in-depth review paying particular attention to project organization and management, the current economics of beef production, and the escalation of project costs. This was agreed with the Kenya Government. The terms of reference prepared for the present mission are given in Annex 2.

IV. MAIN ISSUES AND ANALYSIS OF INDIVIDUAL PROJECT COMPONENTS

General

4.01 The second project was designed to be an integral part of the Government's overall program to develop the range areas. Problems now besetting the project affect its very viability. An examination of them, however, should not obscure the very creditable progress that Kenya has made in its attempt to develop its range areas. In answer to a Kenya criticism that reviews tend to dwell on problems without giving sufficient acknowledgement to progress made or the difficult nature of some of the problems, the following broad achievements should be recorded. The overall range program has been successful in:

(a) Testing and developing suitable ranch and range organizational structures adapted to different social requirements; there is no precedent to guide them in this work. In the pastoral areas radical changes are involved. Many problems remain but important social changes and benefits have been achieved in the pilot areas including desires to alter life styles, increase formal education and desire for the adjudication and registration of land.

(b) Aiding Kenyan individuals, companies and cooperatives with no previous experience in ranching, to take over existing commercial ranches or develop previously unoccupied land. Ranches so far affected under the first and second projects cover a fifth (200,000 ha) of all previously commercially owned land and half a million ha of unoccupied land.

(c) Developing necessary institutions including:

(i) an increasingly well staffed Range Management Division with personnel at all levels who have received specialized training in range management and who are now acquiring practical experience in implementation;

(ii) a specialized ranch unit in AFC;

(iii) special legislation and a Government department to deal with range land registration and organization;

(iv) a livestock marketing division which has tripled its handling capacity since formation;

(v) a range water section, which, despite a slow start, enabled the first project to complete its program only 6 months late;

(vi) specialized range education courses at diploma, certificate and Farmer Institute level;

(vii) a range research program and stations;

(d) Lastly, but not least, involving the Government in undertaking considerable expenditures in the range areas.

4.02 Kenya has been a leader in Africa in its attempt to arrest the degradation of its rangeland through changes in traditional systems. A feature of Kenya's experience, however, has been a growing appreciation of the complexity of the problems (a reflection of the increasing knowledge of this previously little studied subject), and the time it takes to achieve results. Unfortunately, human population growth and the meeting of human subsistence and cash requirements from a fully utilized livestock resource is proving to be a major problem affecting the introduction of technical solutions. This could in many areas undermine the technical innovations that are being attempted and which by their very nature take time to develop.

4.03 After satisfactorily concluding the first project the second one, eighteen months after signature, had run into serious problems in all components. The ranching development program has been slower than expected, particularly the development of the group ranches. Returns from ranching are depressed because producer prices between 1973 and 1976 increased about 38%, while ranching operating costs increased 90% and some capital investment costs even more; as a result new company ranches with less than 20% participant equity are on the verge of bankruptcy and other ranching enterprises have been making little, if any, profit, thus increasing the risk of major loan defalcation to AFC and eliminating the incentive for further investment. Overstocking was becoming a major problem as project commercial and company ranches vainly tried to increase their incomes by keeping more cattle and pastoralists were unable to maintain the agreed group ranch stock quotas. Feedlot production had levelled off at 20,000 head per annum, and those operators without contracts at special prices

(i.e. all the IDA financed lots) had reduced or stopped producing. The Livestock Marketing Division, having successfully built up its capacity, has 50,000 feeder cattle from the North East unsold in the holding grounds with no one with grass or money to buy them; it is losing KSh 5.0 million per year. The North East range management and water program was proceeding but with market prospects for immatures dimmed, and the problem of responsibility and payment for operating the facilities already constructed causing problems. The Kenya Meat Commission lost Ksh 10.0 million in 1975 because the corned beef made from unfinished range cattle could not be sold profitably and because deliveries of good quality cattle declined - the latter being the only type of cattle that could be sold and cover costs. In view of the stock available for fattening, the available market for quality stock and KMC's financial position, it is not irrelevant to note that in 1975/76 the Maize Marketing Board (MMB) had returned to the familiar pattern of the 1960s and was losing large sums of money on maize exports; about 30% of the producer price was apparently lost on every bag of maize it exported. (Evidently, no effort was made to determine whether the combined losses of LMD, KMC and MMB could have been reduced by feeding the maize to cattle.) The wildlife component was going very slowly.

4.04 The analysis of the livestock problems which follow will show that from this bleak picture six main issues are identifiable where the Government is in a position to take positive action which would go a long way to putting the program back on course. They are:

(a) Provision of adequate producer prices - without which the ranches cannot succeed and AFC financial viability will be seriously affected.

(b) Provision by ranching participants of sufficient capital and operating contributions - essential to ensure the sound financial structure of the entities and the continued and proper operation and maintenance of the facilities provided.

(c) Maintenance of correct stocking rates - without which the production and income objectives will not be met.

(d) Good ranch budgeting and close financial supervision accompanied by simple ranch plans and management systems for the ranches, and in the case of group ranches advice to individual members without which the full benefits from the program will not be achieved.

(e) Need to find markets for immatures from the North East and other pastoral areas - to provide income for the range people, maintain better stocking levels safeguard investments and reduce LMDs losses.

(f) Single overall direction fo the program by the Department elected by Government to be responsible

for range development - without which the above issues cannot be adequately kept under review and the program is unlikely to be implemented in a steady systematic manner at a pace at which the ranchers can absorb and undertake the program in an orderly fashion.

4.05 There are in addition two interesting and contentious questions of fundamental importance which cannot be answered now but on which some real indication of acceptance by the participants must be achieved in the next three years:

(a) In Masailand, based on promises to cooperate on stock numbers, water is being supplied to increase range productivity in an overstocked situation where perhaps 20 to 50% of the families have insufficient cattle to supply independently their present essential subsistence requirements. So far no feasible method of ensuring compliance with agreed stock numbers has been discovered while any solution to the problem of achieving a satisfactory resolution to this issue may prove very difficult, some conclusion on this problem must be reached.

(b) In the North East, where stock wealth distribution is more satisfactory, water is being supplied on the basis that the people will agree in future to use the water points and follow the new grazing patterns laid down. Failure to come to early agreement could leave the Government with major operational financing problems and the possibility of a major stock disaster in the future.

4.06 Because of the first project's slow start, much emphasis was placed by IDA and Government on achieving full disbursement by the due date; this policy led to an insufficient emphasis on the quality of implementation, particularly with regard to the stocking policy on company ranches and a properly controlled program for the group ranches (Project Completion Report, para 30.1(c)). The second project, which was appraised before the first one was half completed, called for an optimistic threefold increase in the ranch area to be developed before many of the first project problems had been overcome. While the review mission has proposed a reduction in the area by 20% and suggested a less intensive capital investment program, even this revised target is still very optimistic if the job is to be done properly (i.e. not just disbursing the money). The mission believes that the gains of the first and second projects must be consolidated and that management must first do a thoroughly good job on the ranches and schemes it tackles; no attempt should be made to move on before solutions have been found to problems already identified. This consolidation should be carried out even at the expense of not meeting disbursement targets. The mission, however,

agrees that this will be difficult to achieve, not for political reasons, but because long term success on one ranch or area may be dependent on neighboring areas receiving assistance so that some sort of balance has to be reached between prudence and the need to accept good faith in an effort to get broad progress. When such decisions have to be taken, however, a timetable of expectations from such action should be drawn up together with any follow up actions necessary.

4.07 When the mission was in Kenya the Government was reviewing producer prices, and in June 1976 it freed prices for prime and choice grades and raised the FAQ grade by 20% to KSh. 7/00 per kg with feedlot cattle continuing to receive their quality and quarantine bonus of KSh. 0/80 per kg. The prices of the standard grade remain unchanged. The effect of these changes will be discussed under the different ranch types but in general it should benefit significantly the existing feedlots and developed commercial ranches which produce mainly FAQ stock and to a lesser extent the underdeveloped ones with a reasonable production of FAQ animals. However, it will not make a significant difference to the new company ranches, group ranches or North East Development which at this stage in their development produce mainly standard and commercial grade animals.

A. Ranch and Feedlot Development Program

4.08 Under the first project, AFC approved 108 loans and disbursed KSh. 49 million over a 3-1/2 year period for the partial development of 672,000 ha. Eighteen months after the second project had become effective, AFC had approved 31 loans for KSh. 47.2 million for the development of 366,000 hectares or 19% of the area estimated for development at appraisal; this represents 25% of the funds apportioned for ranches excluding price contingencies (54%). AFC had disbursed KSh. 15.4 million by March 1976. In terms of land area to be developed, approvals of company and commercial ranches have been generally at the rate that might have been expected for an increasing pace of development over five years. (The appraisal report predicted in the circumstances an unrealistic 68 ranches in the first year with 184 ranches and feedlots forcast approved by the end of the third year.) For planning and other reasons group ranches were much behind schedule. In view of unfavorable prices, the three feedlots remain unplanned although a repeater loan was given to one of the first project operations. If the loan for Galana is excluded investment costs per hectare have been on average 54% above appraisal estimates. Less money than expected has gone into capital investment; 56% of the loans have been used for working capital (compared with 21% forecast), reflecting lower participant contributions and sales income not keeping pace with increasing costs due to the failure to adjust producer prices with inflation.

Company Ranches (Annex 4)

4.09 Under the Kenya range development program, 1.7 million ha of land is provisionally planned for development at the Coast, of which 1.4 million acres would be under company ranch or cooperative ranch development and the remainder group ranches. As part of the First Project, ten company ranches on previously unutilized land were established or assisted covering over 520,000 hectares and 50,000 head of cattle. 1/ The AFC presently has 51% or KSh. 21.0 million of its first project portfolio outstanding to these ranches. In March arrears were 3% of the amounts disbursed and due for repayment.

4.10 Under the Second Livestock Development Project (Credit 477-KE) 7 company ranches have received assistance; four of these are ranches established under the first project, and the other three are new ranches covering an area of 49,000 hectares. AFC loans committed to these ranches amount to KSh. 20.8 million (KSh. 13.2 million for repeater loans, KSh. 7.6 million for new ranches), or 44% of all ranch loans so far approved under the second project. 2/

4.11 Despite incomplete development on some ranches, the physical implementation under both projects has been generally successful. Management has been undertaken by Kenyans many of whom have had no experience in ranching. With this background it can be said that creditable progress has been made. Ranching knowledge of Ranch Directors and staff at all levels can be greatly improved but on the best ranches, after 6 or 7 years, they have achieved, despite some dry years, weaning rates of 65%, adult mortality of 3% and average annual steer growth rates of 225 grams per day on properly stocked land. The mission had a lively discussion on typical technical and financial matters with the chairman of the Teita ranches.

4.12 Despite this creditable start most ranches now face bankruptcy. The prime cause is the failure of Government to sufficiently increase producer prices at a time of rapidly rising costs. In addition, there are three other factors which have aggravated the situation: overstocking, low participant equity and a policy of building up a breeding herd rather than relying on fattening steers in the early years. Both Government and its agencies along with IDA must accept responsibility for the latter problems. Before the advent of the IDA projects, AFC loans were matched by

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1/ This includes all Galana ranch which is being developed mainly with its own finance. Of the 304,000 ha set aside for beef development at Galana, the first project 129-KE probably assisted with 40,000 ha (the area mentioned in the PCR); there are 16,000 cattle on the ranch now.

2/ The company portfolio (Annex 8, Table 7) includes Kitui cooperative ranch for KSh. 3.6 million; this ranch is not included in the total for the Coast ranches.

producer equity in cash or kind and money for stock was mainly given for steers. The rate of development was slow because it was geared to a prudent equity structure based on what the producers could contribute. The two Project budgets, however, forecast the quick build up of a breeding herd, only 20% equity participation, 10 and 12 year loans and 9% interest rates. This approach was, however, only feasible if producer prices remained very favorable. AFC staff recommenced in 1972 and 1973 the purchase by the ranches of a large number of young heifers instead of steers; it will be 6 to 7 years before these animals produce income, and in the meantime they increase the debt burden of the ranches. Between 1973 and 1976 annual operating costs rose 100% from 90/- to 180/- per animal (excluding interest) while the price of standard grade, the grade these ranches generally produce, rose from KSh. 3/67 to KSh. 4/85 per kg (32%). In an attempt to compensate for the rise in costs AFC gave large working capital loans to purchase steers. This overstocked the ranches and, to make matters worse, coincided with four drier than average years (295 to 437 mm on Rukinga, normal average for the area - 450 mm). The result has been that the liveweight gains of steers and other cattle have dropped from 225 grams per day to less than 170 grams per day, and the animals which are costing 180/- per year to keep cannot be finished. Teita Ranching Co. has had some of its steers for three years. Only now is action being taken to reduce the steer numbers by selling unfinished animals. Because of the desire to develop the land rapidly and to achieve the disbursement targets, insufficient attention has been given to equity participation so that many ranches have contributed less than 20% equity. The result of this poor financial management has been that since 1974 ranches have plunged into debt, and are being kept afloat by the provision of working capital loans by AFC. There has been a rapid and serious build up of debt burden so that on Mugeno, for example, the cost of interest alone on each animal carried has now reached KSh. 80/- per animal. The revision of prices in June 1977 will make very little difference since most of the cattle produced on the ranches grade standard and the price of this grade was not altered.

4.13 Profits made on these ranches in the past have generally been reinvested and most participants have never received a dividend. In the final meetings with Government in the Ministry of Agriculture attended by representatives of AFC and the various Government departments, the mission explained the dire financial state of the ranches and urged:

(a) an early change in beef prices and a review of LMD steer sale price policies;

(b) that before more money was lent to existing ranches a group consisting of AFC, range management and possibly outside experts with accounting and ranching experience should be convened to visit and prepare a new ranching and financial strategy for the existing ranches; that further loans be restricted to making the strategy work before further finance is given; and that in impossible cases AFC should propose foreclosure.

(c) AFC disbursement on company ranch loans already approved should not take place and new company ranch applications should not be considered until the financial prospects of ranching in Coast Province have improved.

The danger to AFC's financial structure, if decisive action was not taken, was stressed.

4.14 Conclusions and Recommendations. The main problems besetting the company have been analyzed in detail in Annex 4 and from this study the following conclusions and recommendations emerge.

4.15 Using data from ranches the mission has proposed a model illustrating the financial returns that might be expected from new ranch development at the Coast. Obviously costs vary from ranch to ranch but, as in the case with other models prepared in this report, the costs and returns represent the best estimates at this time or until other information becomes available. The company ranch model indicates that in order to achieve a reasonable financial rate of return (16%), satisfactory loan repayment and some incentive to producers on new ranches in Coast Province carrying a breeding herd, it will be necessary to increase producer prices for FAQ to KSh. 8.05 per kg CDW, standard grade to KSh. 7/25 per kg CDW (Annex 4, paras 30 to 39). The price of commercial grade cattle would remain at KSh. 4/25 per kg CDW, the price it earns as corned beef. Unfinished North East steers, whose only other alternative would be for sale as corned beef, would be purchased by ranches at the commercial grade price i.e. KSh. 1/91 per kg liveweight compared with KSh. 2/10 to KSh. 2/30 today. The loan period should be increased from 10 to 15 years to give a reasonable income to ranchers and some leeway for bad years. Ranchers must supply at least 30% equity. With this low equity it is clear that working capital will have to form a higher percentage (up to 67%) of the total loan than the 28% at appraisal (and explains why the present working capital loans comprise 60% of borrowings).

4.16 For new enterprises, operations should be restricted to steer fattening in order to maintain flexibility, make best use of seasonal water and grazing, simplify management and, from a national point of view, provide a steady market for the projected increase in flow of North East steers (see para 4.70(7)). (Excluding Galana, the 1 million hectares of unoccupied land being developed or proposed for development would go a long way to meeting the embarrassing surplus of North East steers.) Breeding herds on existing ranches should be reduced and more emphasis placed on steer fattening. Providing fattening steers could be purchased at commercial grade prices, satisfactory financial rates of return might be obtained if FAQ remained at KSh. 7/- per kg and Standard were raised by 30% to KSh. 6/30 per kg. However, at these prices ranches would run into cash flow problems and would not be able to meet their financial obligations. Also, the steer operation is very sensitive to changes in throughput and prices of immatures, which may endanger the financial viability of the ranches. It is therefore recommended that producer prices be raised another 15%, i.e., the FAQ grade to Ksh. 8/05 per kg CDW and the Standard grade to Ksh. 7/25 per kg CDW.

4.17 Slower and more cost conscious methods of development must be established. The development plan and investments should be phased commencing with the minimum requirements to start the project and making further investment conditional on satisfactory progress and participant contributions. It should not matter that only a portion of the property is developed in the first phase providing such development is financially viable in itself. Emphasis must be placed on minimizing costs, ensuring adequate equity contribution at the outset and using purchased steers as the basis of the program in the early years.

4.18 Technical and financial planning and regular reviews by AFC and RMD staff must be better and more organized than at present. Training of ranch staff should be intensified through special on ranch and training center courses.

4.19 Because many of the areas are untested, RMD (in cooperation with the research section), must institute a recording and monitoring program to record changes in animal and range productivity on these ranches. RMD staff should be in a position at all times to be able to answer questions on each individual ranch's productivity and to introduce programs to improve them where necessary.

4.20 Coast rangeland now under some stage of development totals 647,000 ha (including land being developed utilizing resources outside the project) with a further 1 million ha requiring development (including group ranches). Most of the project development to date has occurred on the 217,000 ha of Taita rangeland. The mission believes that the organization aspects of development in the next phase of ranches in Taita, Kilifi and Kwale is going to be more difficult because in many areas it involves land that already has stock; some members will have little experience with stock while others, having been associated with the Mariakani milk scheme, will have their own ideas. It will, therefore, be important that RMD and AFC work at a pace commensurate with the participation. It is estimated that development on some 16 ranches (611,000 ha) could commence in the next 3 years if problems of adequate equity participation can be solved (Annex 4, para 53). KSh. 43 million in loans has been estimated for this development phase. Combined with a further KSh. 10.4 million for financing existing ranches it would bring the total loans for Company ranches to 29 for KSh. 78.2 million covering 659,000 ha compared with the appraisal estimate of 21 ranches 558,000 ha and KSh. 28 million in loans. Finally, as part of these recommendations, it is assumed that a review of all existing ranches is being or has been undertaken.

Commercial Ranches (Annex 5)

4.21 Before Independence it was estimated there were 150 commercial ranches covering 1 million hectares. Under the First Project 38 ranches

and 4 feedlots covering 170,000 ha received KSh. 25 million in loans (KSh. 18 million for the ranches). Repayments have reduced the amounts outstanding to KSh. 15 million or 35% of the 129-KE portfolio. Under the second project, 15 ranches 1/ with 71,000 ha have received or were about to receive loan approvals for KSh. 17 million representing 36% of the funds so far approved for ranches; two of the ranches also received loans under the first project. Under the first project arrears are now 7.3% of the amounts disbursed and due for repayment. Under the second project some are in arrears on interest repayment.

4.22 The loans are assisting in the development of existing established ranchers and financing the establishment of new ranchers on newly purchased commercial ranches or in traditional areas outside Coast Province where smallholders wish to ranch their land under cooperative management. The number of shareholders in a ranch can vary from 1 to 2,600 people and equity can vary from 20 to 80%. On ranches where there are many members, AFC has insisted on the formation of management committees, accounting methods and employment of a manager with some livestock experience. Herd performance data is inadequate on the newly taken over ranches. Calving rates appear to be low, between 50 to 60%, due probably to insufficient minerals and high stocking rates. The new ranches might be getting 30 to 60% of their sales in the FAQ grade at present compared with 70 to 80% on well run ranches. The minimum of improvements and maintenance were being undertaken because of the desire of members to build up cash surpluses for land purchase elsewhere. Neighboring ranches taken over but not financed by AFC are in a very much worse state. Progress is being made on project ranches but much needs to be done before the commercial ranch program can be considered a success. Although RMD has staff in the Districts concerned there was little evidence of an active extenion and education program for management and staff. There is also need to update and regularly review budgets and help committees and management draw up long term development plans, credit needs and policies, including policies on the distribution of profits (continued failure to pay dividends could be divisive among members). Investment policies need examination. Since these ranches are usually partially developed and their productive potential is not necessarily twice that of the company ranches there is a danger that these ranches are being over-capitalized especially as a number of them are small.

4.23 The mission was not successful in collecting current information on the project ranches finances. AFCs collection of audited accounts of this sector is poor and needs improvement. The few accounts available for 1974 and those for 1973 show ranches making a profit. At a ranchers meeting

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1/ 16 ranches if the B2 Yatta Kitui Ranching Company classed under company ranches is included.

in Nyahururu the mission was told that beef prices were too low and had not kept pace with costs; established ranchers find it difficult to cover costs and would not invest at present prices. It is likely that in 1975/76 those with large loan burdens would have found it difficult to meet the necessary operating expenses.

4.24 The appraisal model ranch started with a fairly well run ranch with a weaning rate of 60% moving to 75% in 4 years. The Government decision in June 1976 to raise the FAQ price to KSh. 7/- per kg could raise the financial rate of return of the model from 5% probably prevailing in February 1976 to 11%. If the Standard grade were also raised (to KSh. 6/30) the rate of return would increase to an acceptable 16%. This percentage, however, is based on a low operating cost of KSh. 166/- per animal and a 10% increase in costs could drop the rate of return to 12%. It would seem, therefore, that in the case of experienced established ranches or those with 75% equity and over in their ranches that the change in prices for FAQ to KSh. 7/- per kg CDW combined with an increase in Standard grade to KSh. 6/30 per kg CDW might encourage some investment although ranchers attitude could still be adversely affected by a combination of 9% loan interest, taxation at 40%, present inflation rate and Government's recent poor record in adjusting producer beef prices to keep pace with inflation.

4.25 However, the majority of new commercial ranches now and in the future that will receive loans are not in a developed ranch situation. It has to be recognized that the high loan burdens that the new ranches must carry as part of the cost of the transfer program now have to be included in the cost of any quality beef production program (as it must be in the development of new land). It is also important that the Government provide income incentives if it wishes shareholders to ranch the land properly as a unit. Assuming no other debt on the ranch and a 15 year loan repayment period, the average annual surplus (with FAQ at KSh. 7/- and Standard at KSh. 6/30) in the model 3,400 ha ranch in the first 10 years is KSh. 73,000 (US$8,900) after paying 40% tax. Commercial ranches with perhaps only 30% equity and trying to repay land purchase, fixed assets, breeding stock and operating cost debts would find it very difficult with prices of KSh. 7 for FAQ and KSh. 6/30 for Standard and it will be necessary to increase these by 15% to KSh. 8/05 for FAQ and 7/25 for Standard. At the round up meeting in the Ministry of Agriculture the mission recommended that:

(a) Further lending should only be done after very careful examination of budgets.

(b) Since many ranches may have high loan burdens a review of commercial ranches with loans should be undertaken to ascertain their financial state.

4.26 Recommendations and Conclusions:

(a) To make many of the newly purchased commercial ranches a satisfactory financial investment producer prices for FAQ and standard grade should be raised to KSh. 8/05 and KSh. 7/25 per kg respectively.

(b) The financial state of all commercial ranches with loans should be reviewed.

(c) In estimating loan requirements more emphasis should be placed on utilizing existing fixed assets and greater use of purchased steers at the expense of breeding cattle.

(d) AFC must receive regular financial statements from the First and Second Project ranches and, in conjunction with RMD, undertake annual reviews of their programs.

(e) RMD must institute a more intensive extension and training program on 129 and 477-KE ranches. District Range Officers should undertake regular visits and reports.

(f) In the next three years an attempt should be made to develop a series of ranch models which justify and reflect broadly the main needs of the different ranching groups now requiring loans.

(g) It is estimated that another 30 ranches covering 132,000 ha might qualify for project loans totalling KSh. 18.5 million. The project would therefore finance 46 ranches (204,000 ha) totalling KSh. 37.7 million compared with an appraisal estimate of 100 ranches (350,000 ha) for KSh. 91.0 million.

Group Ranches (Annex 6)

4.27 The group ranching program has evolved from demands by pastoralists for range development. It is designed to replace nomadic practices no longer meeting the needs of the people by a land management system based on land tenure rights accompanied by range improvements. The basic premise being that if the growing human population in these areas is to take a full part in the development of the country, families, whenever possible, must be able to rationalize the land use, increase productivity and settle down to allow their increasing surplus population to follow alternative pursuits inside and outside their districts. As part of a British aid program, large areas of land in Kajiado and Narok Districts have been demarcated into group

ranches ready for development. According to the list of ranches given to the mission by RMD, 600,000 ha (5,000 families) out of the 1.7 million ha in Kajiado (12,400 families) have been registered and 300,000 ha (2,500 families) out of 1.5 million ha in Narok (17,800 families). Adjudication of 95,000 ha (2,900 families) of 1.7 million ha of Samburu's rangeland (9,700 families) is in process of completion.

4.28 Sociologically the program is having a major impact on pastoral thinking in Kajiado and Narok but technically or in investment terms it has been disappointing. Compared to the KSh. 28 million investment expected to be loaned under the first project only KSh. 3.0 million was lent to 15 ranches covering 220,000 ha and 1,800 families in Kajiado. Fifteen boreholes were drilled, sufficient to provide grazing within 3 miles for 109,000 ha of grazing, 13 dips were built and an unspecified number of Sahiwal bulls purchased. Under the second project after two years of planning, out of KSh. 48 million set aside for groups (60 ranches - 960,000 ha) only KSh. 3.7 million has been lent to 7 small ranches covering 27,000 ha in Narok. While disappointing to financiers, the Masai prudence in limiting their loan requirements in the present unsettled situation should be appreciated.

4.29 Since 1961, when the last catastrophic drought occurred, the cattle populations of Kajiado and Narok have grown as fast as nature would allow. These Districts are now in a seriously overstocked state, grazing is degenerating, and in due course another catastrophe will occur unless the situation can be reversed. In Kajiado cattle numbers have increased from about 280,000 to over 700,000 head in 15 years, passing the correct stocking level of 550,000 head around 1969-70. Government had hoped to mount the present group ranch program between 1965 and 1970 when there was room for manoevre but for various reasons described in the Completion Report of the First Project development did not commence in earnest until 1971. The legislation covering group ranch development incorporates provision for the limitation and allocation of stock quotas but for various administrative and other reasons, including the desire to achieve agreement by persuasion rather than force, these provisions have not been enforced although at least 5 ranches have allocated quotas. Because of the overgrazed state of the land in Kajiado in particular, Masai are now having to roam throughout their districts in search of grazing, and this state of affairs is likely to continue while the present level of overstocking prevails. The social ties and need to preserve goodwill for future reciprocation has prevented groups from prohibiting foreigners and relatives using their grazing, although for the first time, there has been talk in group ranch committees of such action.

4.30 The last supervision rightly questioned whether the group ranching program was more a concept than a working proposition - more an exercise in acquiring title to land than an effective means to commercializing beef production. This mission believes that there is grave danger that this could prove to be true unless Government takes a more positive hand in dealing with the problem of achieving more acceptable stocking levels. On the other hand the mission recognizes that the project is dealing with a very complex socio-economic problem and that the Masai social and material

environment is undergoing cousiderable change and that the ownership of title has and will lead to further changes in attitudes, hopefully in the right direction. The problem is one of time and guidance. Since some social change is evident and there is no alternative feasible solution at present it is recommended that the program be continued with the changes suggested in this report. The group ranches are definable units within which groups of people can try to come to some agreement on how best they can manage their land to their mutual advantage. The Government has provided legislation and services to support their efforts, and the technicians have a greater understanding of the complexity and dimension of the problem.

4.31 The benefits so far achieved from the program are discussed in more detail in Annex 6. They can be summarized as follows: a belief by many Masai that something like group ranching is necessary and offers a solution; appreciation now that land is finite and that at some time in the future people will determine to stay within their boundaries; an appreciation of their population problem and the wish of an increasing number to settle down and educate their children so that they can move outside the pastoral environment; the perception that the problem of distribution of stock wealth and stock quotas will have to be solved. On the few group ranches that have operated, members have listed the following benefits: rejection of nomadism, cattle watered daily and dipped weekly, reduced mortality, increased milk yields, higher prices for crossbreds produced from improved bulls, better housing, building of schools and trading centers, adoption of consumer attitudes (purchase of modern style clothes, bicycles, radios) attempts to cultivate and sell milk to milk collection centers.

4.32 Because of the complexity of the problems and the need to understand them they have been discussed at length in Annex 6. In a simplified form the major issues requiring attention can be summarized as follows:

(a) The need to find a way of implementing stock quotas on ranches that want to adopt improved methods, to determine whether to accept or alter the present disparities in stock wealth in assessment of quotas, and to determine how the quotas should be initially allocated and administered.

(b) The need to solve the problems which outsiders moving onto the ranches create for those already on the ranch who are trying to follow a development program.

(c) The need to direct attention to the increasing number of poor stock owners who pose serious economic limitations on the implementation of a stock quota system and who ultimately require alternative employment.

(d) Acceptance in the medium term of an overall herd composition of 40% mature female cattle and the development of suitable systems of offtake to accommodate them.

(e) The need to overhaul drastically the present ranch planning methods to make them more applicable to the needs of the individual in the groups.

(f) The need to develop a cohesive Government range organizational structure that will work under central direction with the Masai to achieve the objectives of the program.

At the final roundup meeting in the Ministry of Agriculture the mission stressed the above.

4.33 Conclusions and Recommendations. In the analysis of the various problems in Annex 6, a general strategy is proposed which is summarized briefly in the following mission conclusions and recommendations.

4.34 The Ministry of Agriculture should call a meeting of all departments associated with the group ranch program, review objectives and establish targets for the next three years.

4.35 The special Kajiado Range Development Committee should be reestablished and it should be given specific functions; similar committees should be considered for Narok and Samburu.

4.36 Some recognizable headway must be made over the next 3 years in the application of stock quotas if the investment program on the present premises is to have any justification. The Masai have debated the issue fully and it is now clearly the classic one of rich versus poor. The final solution can only come from Government who must decide on the policy which it considers most equitable and in keeping with its overall philosophy of land ownership (because that is what a stock quota is). It will also have to provide some muscle to see that it is implemented (Annex 6 paras 11 to 13).

4.37 The numbers and effect of the poor stockholders on the development of groups is not fully appreciated. Special measures will have to be devised by Government to deal with the increasing problem. If it is assumed that 15 mature cows might on average provide 75% of the subsistence for a family plus some income from sale of offspring then perhaps 40 to 50% of the stockholders in Kajiado and Narok may be at the basic subsistence level or lower. (This compares with about 60% of the landowners in Central Province who have holdings of 5 acres or less.) While poor stockowners inhabit every ranch, some groups have a high proportion of poor people e.g. in Kaputei there are 1,010 families on 66,000 hectares (4 ranches) while 822 families occupy 155,000 hectares on 11 ranches. The poor distribution is not a result of bad adjudication but a normal distribution found between

rich and poor in a relatively heavily populated society (and which is found throughout the smallholder areas in Kenya). This skewed distribution has many consequences and group ranches per se, credit, good extension services, organization, etc. will not be sufficient to alter their fortunes with the present system of stock management and subsistence presently being planned for these ranches. New livestock enterprises are required especially designed for the poorer members as well as training facilities so that the excess population can be moved off the land into other pursuits (Annex 6 paras 14-21). Legislation and rules were passed to provide an organizational framework in which the people could operate and regulate relations between each other. The system being developed should not be regarded as immutable. The possibility of subdivision within ranches of the various stock wealth groups could be considered while still maintaining common facilities (Annex 6, para 32). Group ranch legislation and rules should be reviewed and revised where necessary.

4.38 Planners should accept that 40% of the cattle herd are mature females and consider commercialization of milk production on a seasonal basis on some of the Group ranches. This would help the poor and paradoxically reduce the dependence on milk for subsistence. More dual purpose milk and beef bulls should be introduced, particularly Sahiwal.

4.39 If 40% of the herd remains mature females to provide subsistence (a reduction at this stage would reduce the availability of milk for subsistence and so affect human nutrition) then the correct stocking rates will only be maintained if 24-36 month old steers and heifers are removed for:

(a) fattening on commercial ranches;

(b) fattening by other specialist Masai groups or individuals in groups:

(c) fattening in special feedlots.

If Kajiado and Narok were stocked with 1.0 million head (compared with 1.5 million now), in order to stabilize the herd under average management, fattening arrangements would have to be made for 180,000 young steers and heifers annually. This number would nearly fill the presently commercially ranched areas. The solution to this problem rests with the national planning of a properly stratified beef industry.

4.40 Cropping and mixed farming should be introduced wherever possible to improve incomes of the poorer members.

4.41 While ranches are generally overstocked groups should contribute more to running expenses.

4.42 More infrastructure should be provided - schools, roads, dispensaries, banking facilities, range and other training programs for pastoralists, etc. (Annex 6, paras 37-38).

4.43 Government should consider implementing a guaranteed minimum return program for group ranches maintaining correct stocking rates, during periods of drought. Clearly an individual who should reduce his cattle numbers from 15 to 10 cattle in order to save his cattle and the land (but which takes him below the subsistence level) is in a different category from a commercial individual rancher who should reduce his cattle from 3,000 to 2,000 head (Annex 6, paras 35 to 36). There are problems of creating precedents which might be claimed by smallholder cultivator/livestock farmers in marginal areas where it would be difficult to introduce such a program. The benefits from the achievement of correct stocking rates in national terms must be considerable and the method of administration is relatively easy and cheap; before a decision was made, it would be necessary to consider its operation and estimate costs and benefits.

4.44 Several suggestions were made by AFC and RMD that the Kenya Treasury should guarantee AFC loans to group ranches in view of the high risks involved. The mission recognizes the risks but believes that for the time being no special arrangements should be made (Annex 6, paras 33 to 34). The present arrangement should ensure that AFC adopts the utmost prudence in handling this sector and must maintain responsibility for seeing that the needs of the ranches are properly assessed. A change in arrangements could lead to less examination followed by default and an unintended subsidy. If subsidies are to be given or the terms of development changed then they should be considered on their merits.

4.45 Implementation of the program requires a more coordinated effort than has been shown to date and better than is possible under the present Government division of responsibilities. Within the reorganized structure of RMD (para 5.06) there should be a Senior Range Officer responsible for the group ranch program whose duties are given in Annex 6, paras 39 to 40.

4.46 In view of the complexities of implementing the ranch operation side of the group ranch legislation, consideration should be given to transferring that part of the legislation referring to group ranches to RMD or placing the Registrar of Group Ranch Representatives in the Ministry of Agriculture as part of RMD (Annex 6, para 41).

4.47 A phased strategy with limited objectives should be developed. It is suggested that the most logical place to start would be with the first project ranches where: (a) development is now complete, (b) they have promised to control numbers, (c) they have loans to repay, and (d) they now form a fairly solid block which should be capable of protection. For the next year efforts should be directed to introducing changes in production systems, redesigning budgets, and herd structures and developing a sound range education and extension program for these ranches. To put 220,000 hectares under reproducible sound management over the next three years would be a major achievement (Annex 6, paras 42 to 47).

4.48 As a contribution to the solution of the group ranch stock problem it is believed that a major psychological gain would be made if the cattle of individual owners are restricted to the individual ranches allocated to them. Alternatively, providing the group agreed, the individuals

ranch would be absorbed by the neighboring group. These owners should not be allowed to continue to have the best of both worlds (Annex 6, para 47). Individual Masai ranch loans have the highest default rate with 35.5% in arrears. This should be examined.

4.49 Because of the failure to overcome the stock problem and the relatively poor disbursement record it can be argued that group ranch investment under the project should cease until better prospects are apparent. However, the problems are complex and although the methods for overcoming the most worrying problem of overstocking have yet to be proven, there appear to be social changes taking place which, if supported and channelled in the right direction, could lead to at least partial improvement in range management. The mission, therefore, thinks that further efforts to achieve group ranch development under the project are warranted, at least for the duration of the project. However, efforts must be increased and concentrated in the first instance in Kaputei which has the infrastructure to make the proposals work. Developments elsewhere should be based in establishing centers of development from which to expand outwards. Because of the problems of obtaining compliance to the stock quota problem the development program for Masai must remain very tentative. A list of 31 ranches covering 770,000 ha has been prepared for development and there would be more available before the project is completed. The mission suggests that investments per hectare be reduced to a lower level than presently being loaned. KSh. 16.6 million should be set aside for group development of 528,000 ha in Kajiado and Narok making a total of loans for this component to KSh. 19.9 million and 554,000 ha. This compares with an appraisal estimate of 960,000 ha and KSh. 48.0 million. The new estimate could prove optimistic but the mission does not wish to diminish the enthusiasm of the staff or be responsible for a shortage of funds should some breakthrough be made.

4.50 The mission did not visit Samburu District but was told that 19 small ranches covering 96,000 ha with 2,880 families were ready for group ranching loans. The whole District has 1.7 million ha and 12,000 families. While accepting the need for group ranch development in the District the mission is concerned about the small size of the ranches and the large population. No information was given on whether the ranches were to be integrated into other areas of the District. Before approval is given it is requested that the economics of the enterprises be closely examined and that a Bank supervision mission visits the area before final approval is given. A sum of KSh. 2.9 million has been included in the cost estimates for the development of 96,000 ha in Samburu (Annex 6, paras 55-59).

4.51 Although sympathizing with the objectives, the mission does not agree to the use of project funds for the development of group ranches in Coast Province since the problems there are somewhat different from those in the truly pastoral areas and much more information is required. It suggests that experience be gained with the Mwereni group being partly financed with British funds before further expansion is considered. Excess cattle from these areas could be used to stock up the proposed company and cooperative ranches proposed for Kwale and Kilifi Districts (Annex 6, paras 60-66).

4.52 At this stage in development the ranches produce mainly standard and commercial grade beef. Because the June 1976 prices do not increase the

price of standard grade the new prices do not achieve acceptable financial rates of return on group ranches. If the standard grade is increased 30% to KSh. 6/30 per kg CDW the financial rate of return is 9%. If benefits are increased by 15% the rate of return rises to 12%. It is recommended that the standard grade is raised to KSh. 7/05 and, as soon as corned beef prices warrant the level of commercial grade also be increased.

4.53 It is recommended that loan repayments should take place over 15 years. In their present overstocked state calculations suggest that net income could fall in the first year relative to the present overstocked state. Long-term benefits however are evident, especially if prices are increased as recommended. So far there has been an investment demand for loans although it has not been accompanied by stock limitation, thus for a short time pastoralists have enjoyed the short-term benefits of overstocking combined with better water and veterinary facilities. Much more attention should be paid to the development of realistic budgets for group ranches and their members.

4.54 The mission is concerned about the small size of the ranches approved in Narok, and recommends that they be reviewed before loans are disbursed, particularly with regard to a reduction in working capital and steers. The mission recommends that loan applications received for ranches below 7,000 ha need special examination to justify approval.

Feedlots (Annex 7)

4.55 Feedlots commenced operating in Kenya in 1971 following a revision of prices which made feeding of cattle economic. By 1973 12 farms had developed feedlots with a total capacity of 50 to 60,000 head, four of which were financed under the first project with loans for KSh. 8.4 million on farms with 2,750 ha. No new feedlots have been financed under the second project although one has received a repeater loan for KSh. 2.0 million. Three feedlots were planned at appraisal involving loans of KSh. 8.0 million; these were to be located outside the disease free zone and were to offer an outlet for cattle which would otherwise not be able to enter the other feedlots. Farmers often background cattle before putting them on feed and rations consist principally of home grown fodder purchased crop by-products such as pyrethrum marc, cotton seed cake, molasses, chopped straw and some grain. About 25% of cattle fed come from the North East. Output from the lots quickly built up to 25,000 head by the end of 1973 and have helped compensate for the declining deliveries of good quality cattle (FAQ grade and above) to KMC from ranches so that in 1975 they provided about 50 to 60% of the 30,000 head of quality cattle delivered to KMC. One of the outcomes of the feedlot program has been the acceptance in certain European markets of Kenya beef and the provision of a small EEC quota. The value of this entree is the certificate of veterinary warranty which can be used in other markets to show that Kenya beef is acceptable. KMC now offers a premium on specialy contracted cattle of 50 cts/kg for fed beef and a further 30 cts/kg if it meets export veterinary requirements. This has led to a division of feedlots into those known as the "Swiss feedlots" which have received in practice about 12% more for FAQ grade than the "non-Swiss feedlots," between 15 and 25% of cattle fed receive "non-Swiss" prices." Between 50 and 75% of production from 129-KE feedlots receive non-Swiss prices. From 1974 onwards

prices worked against feedlot operations and by 1975 "non-Swiss" feedlot operations were losing money and some began to close down. "Swiss" feedlot operators continued to function since they could still cover operating costs and they were carrying stocks of feed given in the previous year. In early 1976, however, it was apparent that feeding generally was unprofitable and that increased prices were needed for them as well.

4.56 The mission considers that at KSh. 7/80 per kg, which would be the June FAQ price plus 80 cts./kg bonus many existing feedlot operators should find it profitable to feed cattle if they could obtain fattening cattle at KSh. 2/30 per kg LW. In 1975 Swiss feedlot operators were receiving KSh. 6.49 per kg CDW for their stock when liveweight prices for their feeder steers were about KSh. 2/30 to KSh. 2/50 per kg (KSh. 6.35 to 6/90 per kg edible tissue). In July 1975 the Beef Research Station calculated that these operators would require KSh. 8.00 per kg if the price of immature ranch cattle rose to KSh. 3/56 per kg (the recent increase from KSh. 5/85 to KSh. 7/- per kg for FAQ ranch produced cattle might raise ranch immature prices to over KSh. 3/- per kg LW). The mission has not estimated what prices should be for existing operators because of the differing operations, but has estimated the returns from a new feeding operation using North East or Masai steers and sorghum forages. With FAQ at KSh. 7/80 per kg and North East steers at Ksh. 2/25 per kg and about 20% measles incidence, the financial rate of return is 23%. If the price of steers rose to 25% (which is the premium that feedlots would have to pay for better quality of immatures) and the rate of measles incidence were 3%, the financial rate of return would fall to 14%.

4.57 Conclusions and Recommendations. Provided gazetted prices once again become attractive for feed, it is recommended that:

(a) Priority be given to improving the occupancy rates of existing feedlots.

(b) As the project has only 3 years left before completion, and as the objective of the project was to experiment on cattle feeding outside the disease free zone, the mission recommends that at least one of the three proposed feedlots be considered. The siting, organization and benefits should be carefully investigated. Finance for one lot has been included in the present estimates.

4.58 If feedlots are to be regarded as a necessary and integral part of the agricultural industry then more attention must be paid to:

(a) Maintenance of adequate producer prices (e.g. more aggressive sales promotion, custom feeding for particular markets and better prices through long term contracts).

(b) Maintenance of a satisfactory feed price policy.

(c) Realistic North East feeder cattle prices.

4.59 Government should maintain beef cattle and feedlot experimentation in proportion to the size and importance of the gross production of the industry; this includes staffing with well-trained personnel experienced in feedlot work. These staff should be sufficiently experienced to advise feedlot operation and continue the monitoring operation.

B. North East Range Development Program (Annex 8, Tables 1 and 2; Full Annex to be supplied by USAID)

4.60 Between 1970 and 1974, 924,000 ha of rangeland in the North East Province were developed under the first project for KSh. 11 million (KSh. 11/84 per hectare). Permanent water was provided at an average radius of 9 km compared with the Government's original intention of permanent water on a 33 km grid; the intensity of development has been criticizied. Under the second project it was planned to develop 2.8 million ha for KSh. 12.8 million (KSh. 4/50 per ha); permanent or semi-permanent water (large dams) was to be provided at an average 13 km radius. 1/ When completed both projects would have developed 3.7 million ha of the 9.9 million ha in Wajir and Garissa Districts. However, in March 1976, the program and costs were revised (Annex 8, Tables 1 and 2). The final report was not available for inclusion in this draft but the area to be developed under the second project has been expanded to 5.7 million ha making a total of 6.6 in ha with development under the first project. Construction costs have more than doubled and with the increased number of water points to cover the expanded program, costs have risen to a tentative KSh. 59.7 million (US$7.2 million) or KSh. 10/52 per ha. A permanent water point covers an average radius of 13 km or about 55,000 ha. Operating costs have also more than doubled.

4.61 Planning of the grazing blocks is ahead of physical implementation. Despite delays in water development it is expected that, by July 1976, 1.2 million ha of development under the second project would be operational (plus 0.9 million under the first project). Two dam construction units and one track construction unit are working. The work of the dam units has been seriously delayed through lack of spare parts due mainly to cumbersome Government procurement procedures - thus increasing costs of development significantly. A third dam and a second track unit and supply vehicles for all 5 units were due to be in operation by July-August 1976. All personnel have been recruited. A contract for the first 12 to 18 boreholes has been made and, of the first 7 drilled, only 2 have satisfactory water.

4.62 The program should be completed on time if the procurement problems can be solved. The main problems which are besetting the scheme and which are interrelated in varying degrees are:

(a) the high capital costs per hectare related to intensity of water development and returns;

(b) high operating costs related to density of water supplies;

1/ Permanent water is not necessarily distributed evenly since areas are divided into wet and dry season grazing area.

(c) difficulties in selling sufficient stock;

(d) how the facilities are to be maintained and paid for;

(e) grazing management control;

(f) stock number control;

(g) power and constitution of Grazing Committees.

4.63 It must be questioned whether the intensity of development in this low potential range is justified at this stage when there is little evidence that the people are going to be able to maintain good grazing practices to maintain this intensity. Most North East cattle fetch commercial grade prices either as meat or immatures, and because of world and local prices, the returns from this grade at KMC rose only 16% from KSh. 3/70 to KSh. 4/30 between 1974 and 1976. Better management could improve the overall steer grade to standard and better prices for FAQ could raise immature prices to above that which they would receive for commercial grade corned beef.

4.64 There have, however, been problems selling the immatures. In 1975 only two sales were held by LMD in the N.E. purchasing only 25,000 head; LMD in March 1976 had a total of 50,000 cattle unsold (para 4.73). The appraisal mission has estimated that 85,000 cattle annually would require marketing from 6 districts through LMD by the fifth year and 250,000 by the 20th year The level of investment planned should be related to market prospects for stock and likely returns. If the Government is to move the number of stock planned through the LMD system it will have to do much more at the marketing end than it has done so far (i.e. preparing fattening ranches and KMC to receive them). Also in the next five years it would appear that because of marketing and likely pricing policies that the sale price to LMD of both immatures and slaughter cattle will be averaging nearer commercial than standard grade if they are to sell large numbers of North East cattle.

4.65 The more water supplies provided in a given area the higher the operating costs. Since 1970 the estimated cost to the Government to maintain facilities constructed has increased from KSh. 0.10 per ha to Ksh. 0.44 per ha at appraisal of the second project and now to Ksh. 0.68 assuming the maintenance of 61 boreholes, 305 dams on 6.6 million ha of development. This does not in many cases include the borehole operator and fuel and oil for running the boreholes (another KSh. 0.08 to KSh. 0.16 ha). It is not certain whether the revised sum of KSh. 4.5 million for operating costs will be sufficient, especially as this represents only 6% of KSh. 70.6 million shillings capital required to be spent on North East water (excluding contingencies) and may not cover other water suplies established by earlier schemes. At present there is one borehole maintenance unit working; pastoralists complain of repair delays although generally the unit appears to be coping. No maintenance has been undertaken on dams constructed under the First and Second Projects and many are showing signs of silting (USAID

estimate they are losing 10% of capacity annually) and destruction of protective fences erected to reduce silting and erosion of walls. This seriously reduces the life of the dams and the water they hold thus hastening the time for their replacement and reducing their reliability and the stock they can carry. When Government agreed to take responsibility for maintenance they thought that they would have been able to purchase equipment under a Japanese Yen loan. Because of problems of replacements this was never done. The USAID range staff are therefore proposing that this equipment now be purchased with an extra loan under USAID. The mission supports the proposal and would also support any assistance in the provision of funds for the start up of the Unit (see para 4.65).

4.66 Under the project the Government has the responsibility of meeting the operating costs. Originally it was intended to pass the maximum possible to the producers, since on present arrangements the producer receives capital costs of development free. Local Grazing Committees were to be formed which would supervise and operate the facilities and follow RMD grazing management plans. Although Committees have been formed, no satisfactory method of raising fees for maintenance of dams and running of boreholes has yet been devised. Boreholes in the first project area are usually administered by local committees; some cattle owners bring their own diesel, others are charged as they bring their stock to water. Repair costs are high due to dirty diesel and inexperienced operators.

4.67 Grazing programs in the first project area operated to some extent in 1973 and 1974 but, in late 1974 and early 1975, broke down because drought elsewhere caused an influx of pastoralists from outside the area. The program is being restored. Chiefs are confident people will adopt the schemes. Stock mortality has been reduced and people say they are getting more milk. There are indications that some outsiders are trying to settle in the area; however, because of the migratory nature of the population exact population and stock figures are not available and elders have been reluctant sometimes to discuss these aspects with range staff. Range staff estimate stock numbers at water points but do not know for certain how many people are in the blocks or who have rights there. Stock registers have yet to be compiled to monitor changes in stock numbers, stock ownership, and herd composition. Stock owners and committees are not discussing with range staff to the extent they should the stocking problem that will undoubtedly arise in the near future, as increased grazing capacity allows the herds to increase (the problems will be similar to those in Masai - see Annex 6). As human population and cash needs increase there will be increasing pressures to overstock. Many graziers will accept organization others will not. Without strong Government guidance, supported at times by legal sanctions uncontrolled (or unmarketed) stock increases could lead to a major stock disaster in the future; hastened perhaps by the drying up of dams in 5 or 10 years time due to the failure to institute satisfactory maintenance procedures now. Presently the dangers of major stock disasters are reduced because the widespread nature of permanent water puts a premium on good stock management (and past a certain herd size the labor capability of a family becomes limiting) but the provision of water, even within 20 km radii, will allow even the most inept to build his stock numbers to the detriment of all.

4.68 A valuable meeting was held with Provincial officers in Garissa on grazing management and water maintenance charges and it was apparent that if real progress is to be achieved with pastoralists on these points a more active approach to the local people will have to be made. The North East graziers (Somali people) obviously benefit from the present loose arrangements and will wish to maintain their commitments as low as possible in terms of rules and charges; grazing schemes and dams have been implemented in the past (over 100 dams and 30 boreholes were constructed in North East Province in 1950-58) but the general agreements on which they were introduced have never had to be honored with the result that many old water points are now completely silted.

4.69 At the round up meeting and the Provincial meeting the mission stressed:

(a) The need to develop a workable management system for the North East grazing blocks worked out and operated in conjunction with the people and backed by legal powers (using perhaps the cooperative or group ranch legislation) to institute grazing management stock limitation, marketing procedures and levy charges.

(b) The need to commence a regular borehole and dam operation and maintenance program now, supported preferably by charges with government meeting any shortfalls.

(c) Concern was expressed that unless solutions could be found to (i) and (ii) there was severe danger of range destruction and a major stock (and human) disaster in future; it will also result in the poor use of a very large sum of government money. Pastoralists say they will pay for water and follow grazing rules to get it. Now that some areas have water, consideration should be given to applying the corollary that further water to new areas should be dependent on the implementation of the program in the developed areas. It was recommended that a program of intensive discussion over a period of time be made, with a timetable for achieving certain agreements.

4.70 Conclusions and Recommendations. The mission makes the following conclusions and recommendations:

(1) The mission agrees with the objectives of the program but recommends a program of consultations be drawn up immediately with the relevant authorities and groups of pastoralists to renew or determine as appropriate:

(a) The system of water maintenance to be adopted in the North East. Costs be reviewed. Determine the amounts to be charged and the method of raising the fees. Who will be responsible for the different parts. It is suggested that discussions at Government level should be completed in 6 months and the program implemented over the next 12 months in the areas with water. It is not suggested that capital costs should be charged at this stage, only operating costs. However, in view of the scale of the program in the future and the policy of loans in other areas, consideration should be given to including at least a nominal capital charge in the first instance which would be increased as the project develops. IDA and the other donors would wish to be kept informed of developments during supervision missions.

(b) Whether the present grazing committees are adequate. Establish, in full cooperation with the pastoralists, stock registers and the compilation of data on a regular basis by committees and RMD staff of stock numbers, ownership, herd composition, and stock quotas. Annual recording of range condition and trend would be undertaken by field staff.

(c) The best methods for overcoming the present spare parts procurement problems.

(d) Whether special legislation is required to make the water and grazing committees functional. Determine the extent of the government assistance that will be required to help the committees enforce their rules.

(2) Efforts should be made to continue and intensify the extension program of explaining objectives and getting the people to fully participate and take responsibility for the organization and administration of the schemes. Long term success will be dependent on this.

(3) Now that some areas are developed and government has shown it is acting in good faith, development of new areas should be based on more commitment and participation by the pastoralists than is presently evident.

(4) The present costs of development in relation to benefits and operating costs to producers should be examined to ensure that the new proposals are economical. It has not been possible to revise the economic or financial returns of this sub-component although the USAID team estimate the financial return from the introduction of the dam maintenance unit to be 10%. In view of the changes in costs and prospects for marketing and pricing it is suggested that a study be undertaken in the near future so that adjustments can be made in the expenditure program if necessary. Present indications are that at this stage physical developments may be too intensive in relation to immediate benefits, capital costs, maintenance and operation costs and response from graziers warrants. It may be necessary to have a more extensive water system. Capital investment must be related to returns. Capital and operating costs per hectare and per grazier should be calculated. Provision of the revised sum of KSh. 59 million will require extra funding from the Kenya and US Governments and the full expenditure of such funds should be dependent on a satisfactory analysis of the situation (see recommendation 5 below).

(5) USAID is presently considering a request to expand the loan for North East Water Development by US$3.25 million from US$5.3 to US$8.55 to help pay for:

(a) Reservoir maintenance including the equipment;

(b) Staff houses in the North East;

(c) Vehicles and equipment for the North East team;

(d) A spare parts revolving fund.

Conditional on recommendation 4 above the mission supports the request and considers that it should be part of a review of the steps to be taken to achieve long term funding of the operation and

maintenance program on the North East. It is the mission's belief, however, that it is Government and donor responsibility to see that long term operation and maintenance is adequately funded and grazing control implemented. Otherwise the program will be largely wasted and there will be grave danger of serious ecological disaster.

(6) As the grazing block program expands, contingency planning for movements of stock between tribal groups in times of drought must be roughly worked out and methods developed to reduce the damage caused as well as providing compensation for those who give relief grazing.

(7) Annual offtake targets for the different types of cattle in the North East should be established and a determination made (with the help of LMD) as to how and when these animals are going to be removed. This will mean relating directly their offtake with ranch steer fattening, feed-lot operation and KMC intake. These targets should be reviewed at least annually.

(8) On a question of principle it is noted that the Masai are being asked to pay for the full capital and operating costs of their water supplies. In view of the problem of the poor stockowner this policy poses a number of problems but it would seem that in the light of likely future expensive development requirements in the range areas it is wise at this stage to try and maintain the policy of self help and getting the people to pay for what they want. However, in the North East we have a situation where people are relatively better off in terms of stock wealth and yet at present pay nothing directly towards range development and very little towards operating costs.

C. Isiolo Range and Water Development Program

4.71 The project agreement was signed on November 29, 1974 and became effective immediately. At present this sub project is behind schedule due to Canadian personnel recruitment problems; these could be overcome by August 1976. It is expected that this delay will entail an extension of one year and concomitant cost increases which CIDA will undertake to meet as a result of this delay. Orders have been placed for the dam construction and access track equipment, deliveries are scheduled for late 1976

and the first half of 1977. The Canadian team are to be provided with augmented resources to facilitate travel and accommodation within Isiolo District, this cost will be met from grant funds. CIDA also plans to increase the support equipment package to be provided to Range Management Division from the increase in the loan. Revised project estimates are given in Annex 9, Tables 1 and 2, but these do not take into account any provision for spares beyond the initial supply provided at time of delivery. It is unlikely that any provision could be made in the CIDA loan for the long-term supply of equipment spares. Costs have risen from KSh. 6.4 million (US$920,000) to KSh. 38.5 million (US$4.7 million). Cost estimates are found in Annex 9.

4.72 Project and operating costs have escalated. Planning of the area has not been undertaken so it is not possible to assess capital costs in relation to intensity of development. The appraisal report estimate was based on the development of 1.2 million hectares. Isiolo, however, totals 2.5 million hectares. If total project costs are regarded as capital investment then the cost of development of 2.5 million ha would be KSh. 15 per ha which is 50% more than USAID estimates. At this stage it is recommended that the planning team pay special attention to the capital and operating costs. Similarly attention will be required to determine the method of payment for the operation and maintenance of facilities. The population of the District is variously estimated at 30,000 to 65,000. The Boran, who form the majority of the stock owners in the District, are supposed to have greater stock wealth per family than many other pastoralist groups in the country.

D. Livestock Marketing (Annex 10)

4.73 The project objectives are to increase the number and effectiveness of LMDs markets, holding grounds, stock routes and transportation facilities so that it can handle 300,000 head of cattle per annum, increasing the present capacity of 50,000 head which was established under the first project. In 1974/75 90,000 cattle used the marketing system of which 70,000 came from the North East. Due to lack of demand LMD was left with 50,000 immatures unsold of the 62,000 animals it purchased; it had not been able to move them by March 1976. The lack of demand was due to (i) drought on ranches, (ii) many ranches were carrying breeding rather than purchased steers, (iii) fall off in demand from feedlots, (iv) lower than expected demand from new project ranches. Although demand in the last two years has been disappointing LMD has done a good job moving stock from the North East in the last 5 years purchased stock valued on average at KSh. 17.5 million annually.

4.74 The development program is on schedule; capital costs are expected to rise by 91% from Ksh. 19.7 million to KSh. 37.6 million. UK will consider extra funding after a further program revision. Recurrent estimates however for the project period have increased from KSh. 5.2 million shillings to KSh. 31.4 million, although the latter includes categories not previously estimated. During the 1970s, LMD has consistently made substantial financial losses.

Cattle purchasing operations have lost an average of KSh. 128 per head sold (average selling price KSh. 340 to KSh. 480). It has lost KSh. 5 million annually in the last two years, the main causes for these losses are:

(a) Paying too much for animals in an attempt to help pastoralists; partly a reflection of political pressures;

(b) Because too much has been paid LMD tends to expect too high a price from purchasers thus depressing demand and discouraging a change to steer fattening;

(c) High average mortality (11%);

(d) Insufficient attention to forward marketing prospects;

(e) Possibly insufficient appreciation of the high cost of animal health and quarantines.

If present policies and expenditures continue it is difficult to see losses being reduced in the immediate future. On present forecasts a throughput of 200,000 head would be required to meet expenditure. LMDs subsidies distort beef production systems and have eliminated the private traders in the type of operation LMD does, reduced incentives in LMD to make a profit and by supporting a high price has distorted the economies of fattening and finishing enterprises. There may be arguments for continuing subsidies but these should be fully justified and the consequences spelt out.

4.75 Conclusion and Recommendations. The mission has the following recommendations; most of these were discussed at the final round-up meeting in the Ministry of Agriculture.

(1) LMD's operations should be put on a sound financial basis and capital investment and recurrent activities of LMD should be revised in the light of its purchasing and other activities. LMD should normally operate at a profit and any diversion from such policy should be justified so that the economic effects of any distortion can be evaluated. Government should consider and establish the rate of return which LMD should be required to return on its investments. It may be necessary to review the livestock policies and objectives of the division in the light of the financial policy to be adopted (or vice versa).

(2) In the past, the Division has suffered for the lack of a full time economist. It is strongly recommended that high priority be given to keeping the post filled.

(3) The operating costs and investment program should be listed separately for the North and the South and LMD should proceed with its proposals for establishing cost accounts for each region.

(4) Consideration should be given to LMD henceforth purchasing and selling only by weight and at a purchase price which will enable LMD to cover all its operating costs. As required in the Development Credit Agreement LMD's prices should relate price paid to carcass value. LMD's proposal that they should try a margin of 50 cents per kg liveweight between purchase and sales price to cover operating costs is supported. In practical terms this would mean reducing the price of 210 kg LW annual in the North East from the present price of KSh. 400 to 440/- to about KSh. 300/- which would then allow it to be sold profitably to the KMC at the commercial grade price of KSh. 1/91 per kg LW. This may have serious political problems but one way or the other the present situation should be rationalized. Large numbers of stock must be moved from the North East if present developments are to be justified and this can only be done if they are offered to the purchasers (ranches and KMC) at prices that they can turn a profit. This means, at present, either lower prices to the producer of immaturesor a subsidy to LMD; the latter course immediately eliminates the private trader and indirectly means a subsidy to exports either as corned beef or fattened animals.

(5) LMD should continue sales and purchasing activity only in the absence of private trading activity and it should be prepared in the medium term to concentrate on providing facilities to traders for quarantine, marketing, movement on stock routes and transport and only acting as a buyer of last resort by providing a floor price based on realization price at KMC.

(6) Consideration should be given to providing a quarantine service to the private traders in the north and in the south at a more subsidized charge in order to give them sufficient incentive to accept

the considerable uncertainty which they incur in quarantining their own animals as they are unsure how long the process will take. This will enable control of the quarantine process, yet, will not effectively exclude the trader because of the quarantine requirement which provides a benefit to the whole livestock sector.

(7) Efforts must be made to reduce mortality. One possibility is to avoid buying cattle in a distressed condition unless they can be quickly moved to slaughter. Consideration should also be given to having a price differential for such cattle so that the necessary transportation cost can be covered.

(8) Consideration should be given to providing LMD with a trading account fund and requiring them to restrict any loss to the size of that fund rather than the Treasury giving them purchase money and subsequently collecting any sales revenues. Such a trading account should include any operating costs at present included in the profit and loss account.

(9) Prior to the above examination being carried out by the Kenya Government it is suggested that apart from the weighbridges and any other critical investments there should be a pause in the investment programme and in any increase in recurrent activities. This will enable the investment programme to be revised and rephased if necessary to take account of the revisions. In particular account should be taken of:

(a) cost escalation;

(b) effect of buying and selling by weight at fixed prices;

(c) demand for immatures.

(10) Final capital fund requirements from UK and Government would be decided after the investment program has been revised in the light of these suggestions.

(11) It should be noted that UK aid funds are not available for general range development in the North East and should continue to be available only for the specific development of LMD's marketing facilities.

E. Wildlife (Annex 11)

4.76 The wildlife component of the project has two main objectives:

(a) to support the establishment of the Amboseli Game Reserve into a National Park and to ensure its continued viability as well as the viability of the Nairobi National Park and Maasai Mara Game Reserve. The areas under the jurisdiction of the Nairobi National Park and the Maasai Mara Game Reserve are to be extended. Human settlements and livestock are to be excluded from the areas of the parks and reserve and special arrangements are to be made to protect wildlife in the "dispersal" areas surrounding the parks and reserve. Cattle owners who had been using the parks and reserve for dry season water and grazing and who are to continue to protect wildlife in their grazing areas are to be compensated through provision of some free water area and annual cash compensation;

(b) to improve the data base on wildlife, livestock and utilization of natural resources in Kenya.

Except for the Amboseli Water Supply Scheme, implementation of the wildlife component is very much behind schedule. However, it may be possible to complete this component within the time remaining if solutions and agreements can be quickly reached. Much will depend on Government commitment to finding solutions.

4.77 Amboseli. In Amboseli, in order to keep Masai cattle outside the Park, the Government with IDA assistance is providing a water supply scheme outside the Park at a total cost of about KSh. 7.0 million. In addition, animal cash compensation is to be paid to Maasai cattle owners for protecting wildlife grazing on their lands in the dispersal areas and for potential income losses from livestock. Although simple in concept Government's proposal has involved and still is involving, intricate bargaining between the Government, the cattle owners and their leaders. To show good faith the Government is constructing the water scheme before final agreement on all points has been reached.

4.78 According to the Development Credit Agreement, agreement on wildlife protection and fair compensation was to be reached prior to investment in the water scheme. Construction however has gone ahead and is near completion while negotiations, which are progressing, have still some way to go before the necessary agremeent is to be reached. Government defended their position by saying they wished to show good faith. The Government

should be able to deal satisfactorily with two problems which have arisen relating to the construction and design of the water supply system; one is the omission of a small amount of piping in the tender documents and the other to the choice of waste water disposal area at Serena. A third problem, which is unsatisfactory from IDA's position, has been the construction of 8 miles of piping to the water tank of an existing privately owned borehole which is not operated. The inclusion of this pipeline is neither justified on economic nor on "compensation" grounds. Even though the water supply scheme is to be completed shortly no decision has been taken, nor a draft of institutional arrangements made, to (a) ensure the operation and maintenance of the water supply scheme, (b) secure and administer the necessary budget and (c) supervise the scheme or make provision for monetary compensation for cattle owners.

4.79 At the round up meeting in the Ministry of Tourism and Wildlife the mission presented the following recommendations with regard to the Amboseli Park; the first three points were particularly stressed.

(1) Maasai cattle owners should reach an agreement with the Government as soon as possible whereby they would agree to abstain from using the park and to protect wildlife in the dispersal area. The owners should receive fair compensation for lost water and grazing rights and potential income losses through the water supply scheme, the extension of Sinet swamp, the exchanges of portions of the Park for a drier portion outside the Park. Agreement on monetary compensation should be reached as soon as possible; this agreement should be submitted for IDA's approval; and it should be made a condition of disbursement against expenditure on the Amboseli component of the project.

(2) The necessary arrangements for satisfactory operation and maintenance and supervision of the water scheme should be reviewed by IDA and be made a condition of disbursement against the Amboseli component of the project.

(3) Procurement procedures should be reviewed with all parties concerned in order to avoid further violations of ICB procedures.

(4) No disbursement should be made against items which do not seem justified; in particular, the repairs of tank I and the 8 miles of piping from the main pumphouse to tank I, nor against payment of the "guaranteed minimum return" as the funds are to be generated from the Park's revenues; and

(5) IDA's financing of the Amboseli component of the project should be raised from KSh. 1.1 million to KSh. 3.0 million due to the vital importance of this project for the coordination of development of the tourist and livestock industries. This amount represents 50% of the total costs of this component less KSh. 451,000 for the repairs of tank I and the 8 miles of piping from the main pumphouse to tank I.

4.80 Maasai Mara. In order to protect the Maasai Mara Game Reserve the Government proposed extending the boundaries on the northern flank into areas presently grazed by livestock. As at Amboseli the Government proposed obtaining an agreement with cattle owners: (i) to provide a water supply scheme outside the Park boundaries so that graziers would not have to enter; and (ii) to provide an annual cash compensation for potential income losses from livestock. The Maasai for their part would agree not to enter the Reserve and to protect wildlife in the dispersal area. IDA is to assist with provision of the water supply.

4.81 Progress on the compensation agreement is presently well advanced; no progress is reported on the water supply scheme. The final feasibility study and cost benefit analysis of four possible alternatives have yet to be done. Close cooperation should be established with RMD and AFC over the final choice since they will be responsible for the development of the group ranches that receive the water. Both the Ministries of Water and Wildlife assured the mission that the highest priority would be given. The study is not likely to be completed before 1977 and 15 months will be required for construction taking the likely operational date to early 1979.

4.82 On Maasai Mara the mission made the following recommendations:

(1) The agreement between Government and Maasai cattle owners to abstain from using the Reserve and to protect wildlife in the dispersal area, and to receive fair compensation for lost water, grazing and salt lick rights, as well as for potential income losses (compensation to be given via the water supply scheme, the excisions from the Reserve and monetary compensation) should be obtained as soon as possible. This agreement should be submitted for IDA's approval and be made a condition of disbursement against expenditure on the Maasai Mara water supply scheme.

(2) Land adjudication in Siana and in parts of blocks No. 3 and No. 5 should be given first priority in order to ensure the implementation of the compensation scheme.

(3) The water supply feasibility study should be given top priority and the Maasai be consulted on the final design, on the location of camping sites, as well as on the annual evaluation of the monetary compensation.

(4) A realistic schedule for the construction of the water supply scheme should be established and the necessary funds mobilized.

(5) The extent of the water supply scheme should be carefully considered in order not to jeopardize the development of the Reserve and of the adjacent group ranches and that assurances be obtained that alternative sources of water be provided to ranches affected by the excisions but not included in the scheme.

(6) The amount of IDA's financial contribution be kept as agreed in the Development Credit Agreement until the feasibility study and cost benefit analysis have been made. If the final option proves more costly than the amount of money marked up, additional financing could be made available out of the unallocated category of the credit.

4.83 Kitengela/Nairobi. The Kitengela dispersal area is of vital importance for the Nairobi National Park. Wildlife normally migrates to and breeds in Kitengela during the wet season and comes back to the Park to give birth during the dry season. It is therefore important that wildlife be protected in the dispersal area. For many years the Government has wanted to integrate the area into the Nairobi National Park and to develop it into a game viewing area with roads, trails, gates, housing and water points. The project provides finance for this infrastructure. The urgency of the matter has already been brought home in the 1960's by the claiming of individual ranches in the area and requests to adjudicate and register these ranches and larger group ranches. Permanent structures on incipient ranches are being constructed in Kitengela making it more difficult to reach agreement or implement a development plan to accommodate both wildlife and livestock. Poaching of wildlife is also taking place. The rationalization of the land problem in Kitengela is therefore urgently needed.

4.84 So far little progress has been made and this sub-project is well behind the implementation schedule set at appraisal. The UNDP/FAO Wildlife Project team submitted a plan to the Ministry of Tourism and Wildlife in 1971. Several meetings took place in 1972 at which some agreement was reached. There appears to have been little follow up to these meetings. The mission therefore made the following recommendations on which it strongly urged immediate action.

(1) Negotiations should be reopened and an agreement with the Kitengela livestock owners reached.

(2) A development plan should be prepared.

(3) A schedule of action on Kitengela should be established before the next supervision mission.

(4) Some conclusion with regard to land adjudication in the area must be reached by Government.

(5) IDA's contribution to the development of costs of Kitengela should remain at 50% of total costs (except for the compensation) or US$351,634 equivalent.

4.85 Wildlife Covenant in Development Credit Agreement. Covenant 4.06 (b) requires a "written" agreement between the cattle owners and the Government on the arrangements made for the three parks. Previous supervision missions had been informed that Masai cattle owners refuse to sign any agreement because of the precedent of 1904 that caused their loss of Laikipia. It had been agreed by IDA that minutes of the barazas (general meetings) at which the agreement is reached would be acceptable legal documents. However, the Review Mission's opinion is that this argument is no longer fully relevant. Group ranches now enter into written agreements, for example in land registration and when taking a loan from AFC. The mission therefore recommends:

(a) that the agreement requested be a written agreement as negotiated and agreed in the Development Credit Agreement;

(b) that the text of the Development Credit Agreement be amended to allow for the cases when it will not be feasible to have a written agreement. It is proposed that the Development Credit Agreement be amended along the lines of the text of the Development Credit Agreement of the recently negotiated Wildlife and Tourism Project (see Annex 11, Appendix III).

4.86 Wildlife Project Institutional Arrangements. The implementation of the wildlife component of the project has been slow even when taking into account personnel and institutional changes. In view of this experience the mission recommends:

(a) that a full-time staff member of MTW be seconded to the under-secretary in charge of the implementation of the project component. Such a person could carry on the day-to-day tasks related to the project as well as ensure the efficient coordination between all the Government agencies. The project manager for the Wildlife and Tourism Project who has already been selected could be appointed to such a position until the new project is approved. He would thereby gain experience with project management and Bank operations;

(b) that a follow-up and supervision of the water supply schemes at Amboseli and Maasai Mara be coordinated with the supervision work of IDA's Public Utilities Division in the context of the Wildlife and Tourism Project.

(c) The census and monitoring component of the project was selected by the Canadian Aid (CIDA) for their participation in the project. Progress has been slow and is well behind schedule and although the CIDA-COK Project Agreement was signed on November 12, 1974 the project only became effective on December 12, 1975. The project manager (a Canadian) and four of the five Canadian scientists have arrived. Delays have occurred in nominating counterparts, and lack of office space has also been a constraint. As a work program is now being formulated, first priority should be given to the census and monitoring of the Amboseli, Maasai Mara and Nairobi eco-systems as was determined at appraisal.

F. Technical Services

4.87 Project Coordination Unit. The Unit still needs to recruit a Financial Analyst. Major criticisms concerning project direction have been made in supervision reports. The mission feels that these criticisms might be the result of misunderstanding of what the unit can accomplish. This report will suggest alternative coordination and direction arrangements involving the amalgamation of the unit with the Range Management Division. This will be discussed further under Organization and Management and in Annex 14. The Coordination Unit costs have been revised upwards from KSh. 1.3 million to KSh. 2.0 million (Annex 12).

4.88 Very little money has been spent from the funds earmarked for Project Evaluation, investigational work and technical training. Costs estimates however, have increased from KSh. 3.4 million to KSh. 4.4 million although it is doubtful whether all these funds will be used (Annex 13). So far nine people have received fellowships for training and more are due to go. The KSh. 648,000 for this activity is likely to be spent as are funds for project preparation and project evaluation. No investigational research studies have yet been planned while funds set aside for the Meat Marketing study may not be required in the light of the recent tender and proposed funding by USAID (para 10.10).

4.89 Range Management Division. The Range Management Division (RMD) is the responsible executive agency in the Ministry for range development. In order to achieve better project implementation and follow up it is suggested that the RMD is reorganized and strengthened. As the missions proposals affect other departments and divisions the subject is dealt with under Organization and Management (paras 5.01 to 5.07 and in Annex 14). At appraisal Government agreed to provide from its own resources the funds necessary for extra RMD staff required for the program. However, further strengthening of RMD will require additional money. It is proposed to provide this under the project. KSh. 2.0 million is required for temporary housing and vehicles and KSh. 1.3 million for extra staff and operating costs (annual expenditure KSh. 0.8 million). Disbursement of IDA funds would be the same as that agreed in the Credit Agreement for Technical Services.

4.90 Ranch Planning is the responsibility of RMD. Part III of Annex 14 describes the operation of RMD's two ranch planning units at the Coast and in Rift Valley. The planning process is presently too slow, expensive and does not give sufficient attention to the financial aspects of ranch development or the individual financial well being of ranch members, particularly in the case of Group Ranches. The ranch planners should be familiar with budgeting and ranch management so that these aspects can be dealt with in the plans. The economics of the operation as they affect individual members of a ranch should be clearly explained and an evaluation made as to whether the proposals made offer sufficient incentive to the individuals participating. The exercise must be seen as having a strong human, social and economic bias superimposed on the physical planning aspects of the ranch. Planners should be selected for their competence in this regard. Since much of it will involve new concepts and situations, emphasis should be placed on flexibility and the building up of relevant information of value to future planning work. The USAID report on Ranch Development is given in Annex 15.

4.91 There appears to be confusion concerning the working relationships and allegiance of the American planners vis a vis USAID and RMD. The problem is probably best settled in bilateral discussions between the Government and USAID.

4.92 Agricultural Finance Corporation (AFC) (Annex 16). AFC's total loan portfolio at 31st December, 1975 amounted to KSh. 373.3 with Ranch

loans accounting for 15%. AFCs accounts for the nine months to 31st December, 1975 show a small profit of KSh. 1.9 million. The ranching loans may have a serious effect on AFC's future results if the recent unprofitability of the ranching sector continues. The amount disbursed under the First Livestock Project is KSh. 39.0 million, arrears KSh. 1.5 million and interest accrued KSh. 2.2 million making a total outstanding of KSh. 42.7 million. On the surface the arrears position, 4.5% of amount outstanding, appears satisfactory. However, only 26% of the amount disbursed is in the repayment period. When arrears are measured against disbursements due for repayment the percentage increases to 12.8%. On this basis arrears for individual ranches in Masai are 35.3%, Groups 12.2%, Companies 3.0% and Commercials 7.3%. 36 of the 69 loans in the repayment period are in arrears. 47% of the arrears were 9 - 12 months overdue, the remainder less. Under the second project KSh. 28.0 million had been approved and KSh. 15.7 million disbursed by end February 1976; none were due for repayment yet.

4.93 The Ranch Division has an Acting Head and is 2 staff short of the level required at appraisal. There is some concern that if new loan approvals cannot be made that it will be difficult to earn sufficient to pay the operating costs of the Division; conversely there is serious apprehension about the unprofitable state of the beef industry and deteriorating position of many of the new company ranches. The Corporation sees its immediate commercial future in the expansion of loans to commercial and company ranches. It wishes to see group ranch development but feels that this is very much social development with many risks and the loans to this sector should be guaranteed by Treasury. Despite the poor disbursement performance of these AFC groups has taken special measures to retain the services of one of its staff with many years experience with Masai ranchers.

4.94 The mission presented the following conclusions and recommendations:

(1) Ranch loans are becoming a significant proportion of AFCs loan portfolio and could have a markedly unfavorable effect on AFCs future financial position if the recent unprofitability of the ranching sector continues.

(2) No more loans should be made to new company ranches in the coast area until an improvement is evident in the financial prospects of this sector.

(3) AFC should only lend to the ranching sector while prices are favorable to the ranches concerned.

(4) At this stage with so many uncertainties the mission does not support the proposal to widen the geographical distribution of project loans beyond that stipulated in Schedule 2 of the Development Credit Agreement (PSA letter of 4th February to RMEA refers).

(5) The mission's recommendations will reduce the amount of loan funds to be lent by AFC. There will also be an effect on AFC cash flow from the lengthening of the repayment period on the majority of development loans. Because of the discussions to be held on these recommendations the mission has not done a cash Flow table to see the effect these will have on the profitability of the Ranch Division. This, however, will require to be done as soon as the amounts to be loaned are agreed. The effect on the staffing level of the section will need to be assessed. Loan repayments to Treasury will also have to be revised and rather than use a fixed repayment schedule as in the case of 129 KE the repayment schedule should be related to the actual drawdown from the Treasury by AFC. Repayments would be made over 20 years from the drawdown date according to DCA Section 3.02.

(6) Loan Procedures. A more searching investigation should be made of the financial position of loan applicants and greater insistence should be placed on the production of audited accounts and tax returns. Ranchers should contribute at least 30% of capital required. Loans should be geared to what he can afford - preferably 50% even though it will mean a phased investment over a long period. Standardized procedures should be drawn up and followed for determining the ranchers minimum 30% investment contribution. The mission ranch cash flows give some indication of how this might be done. Loan repayment periods must be based on the ability to repay from projected profits. Loans should not automatically benefit from the maximum period. This could be a topic for future supervision missions.

(7) The mission is reluctant to lay down the number of shareholders a ranch should have before it qualifies for a loan since the circumstances

vary so greatly. The mission prefers to rely on the spirit of the agreement. It knows that Kenya's established commercial ranching sector ranches may have from 1 to 5,000 members. Naturally, it would seem wise from Kenya's viewpoint to use IDA funds for ranches that find it difficult to get credit from an alternative source although there is no stipulation about this. The Coast ranches are somewhat different. It is understood that this is mainly unoccupied land. Such land is scarce and it is understood that Government intends that the maximum number of people should be allowed to take advantage of it. For that reason, it is expected that "a company ranch will have at least 50 shareholders." (PSA letter of 4th February to RMEA.)

(8) Considerable progress has been made in resolving differences in responsibilities between AFC and RMD. Further meetings should be held to resolve any outstanding problems. RMD must understand AFC staff responsibilities to its corporation and accept that there will be some overlapping in duties. However, it should be possible to develop a good and workable complementary work program for the development of project ranches both at Headquarters and field levels.

(9) AFC and RMD have gone some way to defining their ranch planning and loan procedures. Further meetings should be held to produce a single operation form which will prevent duplication of work. Applications and plans should be left as simple as possible.

(10) At the time of loan approval, AFC and RMD should prepare a detailed program of follow-up and reporting on the recipient ranch which each agency will undertake.

(11) While AFC has some expertise in cattle purchasing which some ranchers lack, the practice of the lender acting as broker is not satisfactory and should only be resorted to in exceptional circumstances.

(12) Ranch accounting. AFC should involve themselves more in establishing good accounting practices on the ranches and they should follow up more closely the production of audited accounts. Allied Ranching is a service company formed by most of the participating Project ranches in Coast Province. It manages their accounts and provides services for maintaining water supplies. Although still in the early stages the scheme seemed to be working satisfactorily and there might be a case for investigating whether the Allied Ranching type of operation might not be extended to ranch accounts (and services) in other parts of the country. RMD should be associated with the improvement of accounting practices on ranches.

(13) AFC should review the investment plans, financial accounts and budgets of ranches on a regular basis, not less than once a year, and insist on sound cattle and pasture management plans being carried out.

(14) Credit Control. Responsibility for credit control of all ranch loans should be vested in the Credit Control Department and they be staffed accordingly to deal with the growing problem of arrears. An immediate review should be conducted of first phase loans to establish the position and action to be taken. Procedures should be formalized and action and comments recorded.

(15) Investigations should be implemented to find ways of improving the quality and flow of information of loanee accounts.

(16) AFC ranch department staff should be brought up to full strength and all the top five personnel should receive courses on financial analysis and related matters.

(17) A manpower study in AFC incorporating job motivation, definition and grading should be carried out.

4.95 Ministry of Water Development. A Range Water Division was established under the First Project. It has responsibility for (a) investigation and survey; (b) construction and development, including work carried out on a contract basis; and (c) where required, the operation and maintenance of all range water installations under the Project. North East Range Development is funded under the USAID project. There is a special Ranch section dealing with Project Ranches. Its establishment was funded under the First

Project but no funds were provided under the Second. It operates a design unit at headquarters, a survey team, two planning teams and 2 construction teams; the planning and construction teams working in Coast and Rift Valley Provinces. All teams are now suffering from inadequate transport and a request was made for KSh. 1.2 million for vehicles for these teams. In addition, in order to cope with the increased work under the Second Project, the Division has requested a third ranch construction unit (Ksh. 1.7 million), borehole equipping unit (KSh. 1.7 million) and a small dam construction unit (Ksh. 19.6 million). The mission supports the need for the vehicles and extra construction and borehole equipping units (total cost KSh. 4.6 million with details Annex 17), but requires that more supporting information be supplied on the dam construction unit, including work load and availability of alternative equipment including the Ministry of Agriculture and Soil Conservation Service. Disbursement of IDA funds would be the same as that agreed in the Credit Agreement for Technical Services.

4.96 Veterinary Department. Funds are available for establishing and operating another Pleuropneumonia mobile testing unit. The unit has not been formed yet. Revised estimates in Annex 18 show an increase in costs from KSh. 3.3 million to KSh. 5.7 million.

4.97 In-Service Training. Throughout this report there has been a criticism of insufficient attention to regular budgeting on ranches, analysis of accounts and ranch productivity and the need to train ranch staff on the ranch. At an early stage, therefore, in service courses should be arranged for officer staff for the discussion of relevant topics, and the definition of policy and objectives (short and long-term). Two of immediate importance are:

(a) Ranch Budgeting and Management procedures;

(b) Group Ranch Development - problems arising, how they are to be overcome, budgeting and supervision.

V. ORGANIZATION AND MANAGEMENT

Organization

5.01 There are 17 Departments or Agencies whose operations in some way affect the project; all but one have executive functions in the main stream of Government activities or are statutory agencies. To co-ordinate and implement the project, IDA and the donor agencies persuaded Government to establish a small independent Project co-ordination unit in the Ministry of Agriculture. Although not stipulated in the Unit's Terms of Reference it was the implied intention that this unit was to have the powers that an in-line Government executive agency might have. The latter has not occurred and although the Unit has access to the Permanent Secretary for Agriculture his

pressure of work is such that, under the Credit Agreement, supervisory responsibility devolves on the Director of Agriculture who directs all technical Departments in the Ministry. The supervision missions have been critical of the Coordination unit, holding it responsible for many of the shortfalls in the project and requiring it to achieve more:

(a) direction;

(b) coordination;

(c) control;

(d) follow-up in management, extension and education, to assure long-term benefits.

5.02 There is no doubt that the project would benefit from these requirements but it would seem that a level of interdepartmental direction is being requested from the Coordination Unit that is not possible in any normal Government Service. Each of the Departments and Agencies associated with the project has a level of autonomy that no co-ordination unit as presently established could interfere. Departments work with each other through established channels. Discussing the problem with various Departmental heads, it was clear that there can be no question of them taking instructions from the Coordination Unit.

5.03 When fully staffed, the Coordination Unit has the capability of being able to monitor a representative sample of operations in order to identify potentially serious problems at an early stage. It can, therefore, warn the implementing agencies of impending problem areas. It is also in a position to pass an opinion on ranch loans submitted for approval but it is not in a position to re-examine them in detail. These functions cannot lead to the type of leadership needed and it is feared that, unless a change is made, the broad criticisms will continue to be levelled at the Unit rather than directed at the Executive Agency responsible which is in a position to take immediate action.

5.04 There are two possible ways of achieving better direction. The first, and from a purely project oriented viewpoint, probably the best, would be to create a Range Project Development Authority, which would be responsible for all areas under development and have under its control sections representing all Departments of Government associated with Range Development. There is a precedent for this with the creation of the Settlement Department which deals with all settlement matters and works well. The second possibility is to accept the status quo of existing Departments in Government as agencies for change in the rural areas and build into them the organization and executive functions necessary for the project. Because of the nature of Government Organization the Coordination Unit cannot have the executive and directional powers that either of these two alternatives offer. The Director of Agriculture was critical of the donors desire to use the Coordination

Unit in the way conceived by the donors, and at the final round up meeting with the Permanent Secretary expressed strong reservations about the Coordination Units position in the Ministry structure and urged a return of the functions of the Coordination Unit to a position in the Ministry of Agriculture where they can be performed more effectively. He was in favor of using existing Ministry channels and not in favor of an Authority.

5.05 Since the present coordination unit has not generally met expectations and since it does not apparently fit into the Kenya Ministry of Agriculture organization, the mission believes (with one dissension), that at this stage in the project a change should be made which should attempt to meet both Kenyan as well as donor wishes. USAID mission members expressed the view that no change is necessary as in their view the Unit was working much better now and should not be disturbed. It is apparent that at this stage a reorganization could present some problems which will require consideration. Rather than take a firm position on any particular line of action to improve the direction of the project, the mission would prefer to discuss three alternatives with the Government:

(a) Replace the Coordination Unit with an Authority;

(b) Abolish the Coordination Unit as an independent entity but incorporate the functions into the main Department responsible for Ranch Management development which is RMD; at the same time strengthening auxiliary Departments where necessary;

(c) Retain the Coordination Unit but define the objectives and targets of participating departments more closely and strengthening them where necessary.

5.06 At this stage, it is believed that the second alternative offers the best opportunity to get better project direction and implementation. The Range Management Division in the Ministry of Agriculture is responsible for Governments range development and it is preferred to strengthen this institution so that it can provide the necessary direction to the project. The Division would be split into four sections: Development, Extension, Training, and Management Studies. The Development Section would have 4 units dealing with (Chart and Duties, Annex 14, Tables 1 and 2):

(a) commercial, company and individual ranches;

(b) group ranches;

(c) project monitoring;

(d) cartography.

This section would provide the detailed program of work for the project and supervise and monitor progress. The extension services of the Division

would be responsible for implementing the program, i.e., preparation of ranches; planning, in consultation with AFC, the preparation of loan applications and the development and running of ranches; training of staff. The project Coordination Unit would be absorbed into the Development Section which would be strengthened by the addition of new staff and staff from RMD's existing establishment. It is proposed that the posts of HRMD, Provincial Range Officers and several field officer posts should be upgraded.

5.07 Annex 14, Part II, describes the staffing of RMD in the field and suggests the level of staffing that should be on full time project work. The Tables and Appendix to this Annex provide the following:

Table 1. Organization Chart of RMD.

2. Duties of the different units in the Development Division of RMD.

3. Existing HQ Staff of RMD.

4. Disposition of RMD field staff, area of rangeland, no. of ranches likely to be covered.

5. New staff requirements and regrading of RMD staff.

6. Costs of new staff and Equipment for RMD. Investment costs amount to KSh. 2.0 million and new staff and operating costs to KSh. 828,000 annually.

Appendix 1. Responsibilities of the Main Departments Associated with the Range Program.

As part of the reorganization, it is recommended that:

(1) At least one Cooperative Department staff member should be seconded to the Range Management Division to deal entirely with the accounts of Cooperative ranches.

(2) Consideration be given to vesting many of the Group Ranch Registrar's placing responsibilities for the supervision of the group ranches the Ministry of Agriculture. This could involve change in the legislation and the transfer of group ranch representative staff to Agriculture.

VI. COST ESTIMATES

6.01 The length of the project has not been altered (completion date June 30, 1980). Based on this and component revisions the revised project costs are estimated at US$74.4 million of which US$33.8 million or 45% represent the foreign exchange requirements. Details are summarized in the following table.

COST ESTIMATES

	Review Mission								Appraisal				
	Ksh million			US$ million					US$ million				
	Local	Foreign	Total	Local	Foreign	Total	Foreign Exchange %	% of Project Costs	Local	Foreign	Total	Foreign Exchange %	% of Project Cost
Range Development													
Investment	56.3	38.0	94.3	6.8	4.7	11.5	40		17.45	4.77	22.22	21	
Operating Cost (Including Steer Purchase)	113.5	24.0	137.5	13.9	2.9	16.8	17		3.99	1.28	5.27	25	
Sub-Total	169.8	62.0	231.8	20.7	7.6	28.3	27	49	21.44	6.05	27.49	22	72
Range Water Development													
Isiolo District	7.4	31.1	38.5	.9	3.8	4.7	81		.46	.46	.92	50	
Northeast Province	25.9	46.2	72.1	3.2	5.6	8.8	64		.59	1.59	2.18	72	8
Sub-Total	33.3	77.3	110.6	4.1	9.4	13.5		23	1.05	2.05	3.10	66	8
Livestock Marketing													
Investment	15.7	21.9	37.6	1.9	2.7	4.6	58						
Operating Costs	21.2	10.3	31.5	2.6	1.2	3.8	33						
Sub-Total	36.9	32.2	69.1	4.5	3.9	8.4	47	14	1.61	1.89	3.50	54	9
Wildlife													
Amboseli	2.7	4.3	7.0	.33	.52	.9	61		.14	.38	.52	75	
Masai Mara	.4	1.3	1.7	.05	.15	.2	73						
Nairobi Park	4.5	1.3	5.8	.55	.15	.7	22		.47	.39	.86.	45	
Census and Monitoring Unit	5.8	17.6	23.4	.7	2.20	2.9	75		.25	.45	.70	64	
Sub-Total	13.4	24.5	37.9	1.63	3.02	4.7		8	.86	1.22	2.08	58	6
Technical Services													
Veterinary Services	3.6	2.1	5.7	.4	.3	.7	37		.31	.15	.46	32	1
Research and Technical Services	1.7	2.7	4.4	.2	.3	.5	60		.21	.25	.46	55	1
Ministry of Water Development	.5	4.1	4.6	.1	.5	.6	90						
Project Coordination Unit	1.5	.5	2.0	.18	.06	.2	25		.12	.10	.22	45	1
Range Management Division	2.5	2.0	4.5	.3	.2	.5	45						
Agricultural Finance Corporation	5.2	1.0	6.2	.63	.12	.8	15		.53	.31	.84	37	2
Sub-Total	15.0	12.4	27.4	1.81	1.48	3.3		6	1.17	.81	1.98	41	5
Total Base Costs	268.4	208.4	476.8	32.8	25.4	58.2	44	100	26.13	12.02	38.15	31	100
Contingencies													
Physical Contingencies	9.4	32.8	42.2	1.1	4.0	5.1	78	9	.17	.22	.39	54	
Price Contingencies	55.3	35.7	91.0	6.7	4.4	11.1	39	18	14.50	6.66	21.16	31	
Sub-Total	64.7	68.5	133.2	8.8	8.4	26.2	—		14.67	6.88	21.55	32	36
Total Project Costs	333.1	276.9	610.0	40.6	33.8	74.4	45		40.8	18.9	59.7		

6.02 Project costs as estimated by the Review Mission have increased by 25% despite the slower rate of development now envisaged for the ranching component. Taxes and duties on project goods have been included in costs; direct imports for the project are exempt from duty. As likely procurement patterns for some of the donor contributions could not be quantified with certainty at this stage, an estimate of taxes and duties was not made. Depending on policy decisions for LMD, revenue could be expected from LMD activities. All estimates were updated by the Review Mission, as far as it was possible to March 1976 prices (for details see Annex 19). Physical contingencies of 15% for equipment and infrastructure have been allowed. Costs due to expected price increases amount to 18% of project base costs (including physical contingencies); the following rates of inflation were assumed for 1976/77, 1977/78, 1978/79, 1979/80: for civil works, 18%, 15%, 12% and 10%, respectively; for equipment 9% in 1976/77, 8% thereafter; for operating costs 10% through 1978/79, 8% for 1979/80.

6.03 Because of difficulties in quantifying them the following items have not been included in the project estimates:

(a) land adjudication and registration expenditure in Masai and the Coast;

(b) the cost of Range Management Division services and Veterinary Department Services in the project area;

(c) the US$5.0 million loan from USAID for technical services for North East and ranch development as well as training and other assistance to RMD;

(d) USAID technical assistance to AFC.

VII. FINANCING

7.01 The revised project costs (including contingencies) would be financed as follows:

	Review Mission			Appraisal		
	KSh. million	US$ million 1/	%	KSh. million	US$ million 1/	%
IDA	122.8	15.0	20.1	153.5	21.5	36.0
USAID	105.4	12.85	17.3	54.2	7.6	12.7
CIDA	54.8	6.7	9.0	9.3	1.3	2.0
N.Y. Zoo Society	1.1	.14	0.2	-	-	-
UK	22.0	2.68	3.6	26.4	3.7	6.2
Beneficiaries	134.8	16.4	22.1	61.4	8.6	14.4
Government	169.2	20.6	27.7	120.4	17.0	28.5
TOTAL	610.1	74.37	100.0	426.3	59.7	100
Unallocated Portion of IDA Loan	56.6	6.5				

1/ In 1972 US$1.00 - KSh 7.14. In 1976 US$1.00 = KSh 8.20.

7.02 The IDA credit to be used by the Project as redesigned by the Review Mission, and along the lines and terms of disbursements defined in the Credit Agreement, would amount to US$15.0 million; the unallocated portion of the loan, US$6.5 million, would be a subject for discussion with Government. Of the US$22.4 million to be provided by other donors, U.S. financing would be for not less than US$12.85 million for ranch development, water development in the North East, and for the Meat and Livestock Study. UK financing would be for not less than US$2.68 million for livestock marketing development. Canadian financing would be for not less than US$6.7 million for later development in Isiolo and for the Census and Monitoring Unit. The New York Zoological Society financing would be for not less than US$140,000 for the water supply componnt of the Amboseli sub-project. Government of Kenya financing would amount to US$20.6 million for the balance of project costs. Details of the financing arrangements are shown in Annex 20, Table 1.

7.03 IDA's financing of US$15.0 million equivalent would represent a 16% percentage point decrease in IDA's contribution to total project costs (from 36% to 20%). IDA's contribution to each component is summarized below:

	Review Mission			Appraisal			
	(KSh million)						
	Total Costs	IDA Amount	IDA %	Total Costs	IDA Amount	IDA %	Change in Percentage Contribution
Ranch Development	294.9	63.5	21.5	307.3	106.1	35.0	- 13.5
Wildlife	17.5	7.5	43.1	15.5	5.7	36.9	+ 6.2
Technical Services	33.3	20.0	60.2	22.4	8.6	38.4	+ 21.8

The ranching component is the only component for which IDA's contribution in percentage terms of total costs is less than at appraisal. This is due to the restructuring of the program and in particular to the following factors:

(a) the change in the number of ranches and feedlots to be financed, from 21 company ranches, 60 group ranches, 100 commercial ranches, and 3 feedlots, to 18, 49, 49 and 1 of the respective ranch categories;

(b) the change in initial shareholders' equity contribution from 20% to 30%;

(c) the change in the amount of cattle to be financed from 50% of total costs of this component to 30%.

7.04 In Annex 20, Table 2, an attempt has been made to reconcile the review mission and appraisal estimates on the basis of three different hypotheses; these demonstrate that IDA's percentage contribution to total costs of the ranching component would remain unchanged (35%) if the program had not been restructured. The effect on the other donors is as follows: (1) USAID. The US share of the financing would increase from US$7.6 million (excluding the US$5.0 million technical assistance loan) 1/ to US$12.85, if agreement is reached on the proposal to provide US$3.25 million to finance the track and reservoir maintenance unit in the northeast. USAID's contribution would be as follows:

1/ See note 1 to table on the following page.

	Original Loan and TA US$ million	Proposed Revised Contribution KSh. million	US$ million	% of Costs
Ranch Development	4.1	33.5	4.1	11.4
North East Water Development	5.3	70.1	8.55	82.4
Meat and Livestock Study	0.2	1.6	.2	100.0
Total Loan (615-Y-008)	9.6	105.1	12.85	
Technical Assistance Loan /1	5.0	41.0	5.0	-
Total	14.6	146.3	17.85	24.0

/1 Part of a 10 year USAID Technical Assistance National Range/Ranch Development Program (FY 1973-82), which is present being revised. This amount was not included in the project cost or financing tables.

USAID's contribution to the ranch development component (US$4.1 million) would amount to 55% of cattle purchase costs for company, group and commercial ranches. (2) CIDA. The CIDA contribution would increase from US$1.3 at appraisal 1/ to US$6.7 million mainly because cost overruns with the census and monitoring unit and the Isiolo grazing block development. (3) UK. The capital loan currently amounts to US$2.7 million, which would be a decrease of about US$1.0 million since the time of appraisal due to the devaluation of the Pound Sterling. In addition, UK provides some technical assistance estimated at US$125,000 at appraisal and now increased to US$200,000. However, the UK representatives on the mission indicated that they would be willing to reconsider the amount of their contribution conditonal to the restructuring and performance of the livestock marketing component. (4) The New York Zoological Society was approached by the Government of Kenya after the original IDA documents were prepared and have agreed to finance US$140,000 towards Amboseli costs.

7.05 Foreign Exchange - The appraisal estimated foreign exchange requirements to be US$18.9 million or 31% of total project costs of US$59.7 million. IDA and the other donors' contribution amounted to US$36.2 million or 60% of Project costs. Following the review, project costs have increased to US$74.4 million of which US$33.8 is estimated to be foreign exchange. The donors' contribution will now be US$37 million or 50% of project costs.

7.06 Completion Date - The mission has chosen not to lengthen the period of the project beyond June 30, 1980 in order to allow more ranches to be developed as a means of utilizing the unallocated portion of the

1/ CIDA's commitment in 1974 following their own appraisal was Cdn $2.7 million for Isiolo and Cdn $2.4 million for the Ecological Monitoring Unit.

IDA credit. This decision was made as the mission believes that in two to three years time the project should be reviewed in depth again; this might best be done as part of another appraisal. Also, the mission thinks that a faster rate of sound development may be difficult to achieve, and believes that the mission's own targets could prove optimistic.

VIII. DISBURSEMENTS

8.01 The revised schedule of disbursements has not been prepared for this draft as changes could be made following discussions of the report in Nairobi. The terms and disbursements would therefore remain the same as agreed in the Credit Agreement:

I. 50% of total expenditures for the eligible portion of sub-loans channelled through AFC to company, group, and commercial ranches and feedlots; the elegible portion of sub-loans being defined as the total sub-loan amount minus 55% of cattle purchase costs to be financed by USAID;

II. 50% of total expenditure for the Amboseli, Maasi Mara and Nairobi components of the wildlife sub-project; the entire costs of the census and monitoring unit will be assumed by CIDA and Goverment;

III. 100% of foreign exchange costs or 50% of total expenditures of technical services;

IV. 50% of total expenditures of project related Ministry of Agriculture costs (Project Coordination Unit and Range Management Division).

V. 50% of project related AFC costs (logistical support to Ranch Unit).

The conditions of disbursements are stated in the recommendations for each component.

8.02 Regarding the USAID contribution to the ranch development component, different percentages of costs for disbursement have been considered. IDA therefore recommends that USAID's contribution of US$4.1 million be disbursed against 55% of all cattle purchase costs, with IDA and meeting the remainder in equal proportions.

IX. MISCELLANEOUS ISSUES

IDA's Role as an "Umbrella" Organization

9.01 The Government has suggested that there should be more coordination between the donor agencies. They see IDA as the umbrella organization and spokesman for the four donors and as the organization with which the implementing agencies deal. The bilateral agencies also see IDA as the main coordinating unit. IDA accepts this view inasmuch as the individual bilateral loan agreements with the Kenya Government allow. However, it is clear from the intricate nature of this project and the size of the components that the individual countries may wish from time to time to take a greater interest in their component than IDA or other donor time may allow. All donors have agreed to participate in the regular supervision missions and it is to be hoped that this will provide the vehicle for more official communication between Government and the donors. IDA will do its best to see that this is done, but if a more formal arrangement is required it would be necessary for Kenya to renegotiate part of its bilateral agreements with the countries concerned.

Income Tax

9.02 The Mission was not competent to investigate the nature of the country's income tax structure or to analyze the effects of all tax deductions allowable on new development. It was noted, however, that income tax could reduce incentives to develop beef enterprises and suggested that the Economic and Planning Unit of the Ministry of Agriculture might investigate the matter further. Two points of interest are:

(a) The effect of income tax on cash flows of new enterprises.

(b) The disincentive (and inequity?) of charging corporate income tax on profits made on a ranch owned by 50 or more relatively poor individuals.

Legal Document Changes

9.03 The Ministry of Agriculture made requests for changes in the following sections of the Development Credit Agreement. The sections are quoted together with the mission's views.

1) Section 4.03. "The Borrower shall:

(a) within one year of the date of this agreement present to the association a plan for a new grading and pricing structure for livestock marketing relating liveweight and grades to carcass value."

It is noted that although delayed, provision has been made in the Meat Industry Development Study terms of reference for such an assessment.

(b) "within three years of the date of this agreement phase out all price controls in respect of production, processing and marketing with the objective of ensuring (i) the encouragement of production and export of beef and beef production, (ii) the financial viability of cattle production and (iii) a reasonable allocation of investment resources in beef cattle and other sectors."

It is noted that the Meat Industry Development Study will provide recommendations on pricing and grading policy. These recommendations will be given serious consideration by Government when formulating changes in pricing policies for beef as well as for other meat. Rather than waive the three year period as requested by Government, the mission recommends that no further action is taken until the report is out.

2) Section 4.04 "The Borrower shall cause LMD to (ii) conduct its operations (including setting its scales of fees and charges) at an adequate level to ensure that it covers its total cost of operations."

The Government maintains that experience so far gained by LMD has shown that the livestock marketing component is a necessary but risky venture and one in which the absence of loss cannot be guaranteed. The purchase and holding, sometimes for long periods in quarantine, of large numbers of cattle in areas of poor range conditions is a capital risk that the private sector is as yet unwilling to accept. There are also economic and political factors associated with this component that affect the issue of cost. Thus, although a policy of covering total costs would be desirable, it is impossible to guarantee. Government would, therefore, like to change the wording and has suggested the following which the Mission agrees is probably more realistic:

"(ii) make every effort to conduct its operations in such a way as to cover its total cost of operations."

3) Section 4.05 "The Borrower shall:

(c) within one year of the date of this Agreement (or such earlier date as may be agreed between the Borrower and the Association) employ consultants to carry out a study for a future strategy for the meat processing industry, the qualifications and experience of such consultants and the terms and conditions of their employment to be satisfactory to the Association."

(d) "Pursuant to the recommendations of the consultants referred to in (c) of this Section, ensure the construction of a meat processing plant to be located, except as the Association shall otherwise agree, in the disease free zone and meeting standards satisfactory to the Association.".

Government suggested that clause (d) should be deleted as it presupposes that the consultants referred to in (c) will see a need for construction of a new meat plant. If left as it is, this clause may have undue influence on the recommendations of the consultants referred to in clause (c) The mission does not think that this will unduly affect the consultants, although it notes that unless the consultants thought otherwise, clause (d) is redundant as a result of the USAID study in 1974 which did not support this proposal. It could, therefore, be deleted if there is to be a general review of the documents.

9.04 The mission noted that the following aspects were not in accord with the Development Credit Agreement (DCA):

(a) According to Section 4.05b of the DCA, KMC was supposed to use technical assistance. The need for such assistance will presumably be considered when the Meat Study Group investigates the operations of KMC.

(b) Agreements with livestock owners in Amboseli prior to water Ddvelopment was not reached.

(c) ICB procedures were not altogether followed in the allocation of the Amboseli water supply contract.

X. LIVESTOCK MARKETING AND PRICES

Supply and Demand (Annex 3)

10.01 An estimated 1.25 million cattle were slaughtered in 1975. The Kenya Meat Commission (KMC) purchased 150,000 of them and exported 40% to 50% by weight. Except for some local and seasonal shortages supplies generally meet demand. Since 1968, KMC's intake has declined from 30.1 million kg to 18.4 million kg meat. This has been due to the gradual freeing of the main urban markets to local slaughterhouses and cattle supplies not increasing sufficiently to fulfill these new outlets and maintain the level of supplies at KMC, particularly the choice, FAQ and standard grades. Exports of FAQ, choice and corned beef have declined in the past two years; increased export opportunities exist for all three although at present only the first two grades may be exported profitably; corned beef has been unprofitable for the past two years.

KMC Cattle Deliveries and Meat Sales

		Year							
		68	69	70	71	72	73	74	75
Cattle Delivered	Av Carcass wt kg								
FAQ Choice ('000)	210	48	34	30	33	46	46	33	29
(Feedlot deliveries)						(10)	(18)	(19)	(20)
Standard ('000)	152	53	50	57	53	56	39	30	30
Top 3 grades sub total (000)		101	84	87	86	102	85	63	59
Commercial and manufacturing cattle delivered ('000)	109	85	99	107	120	93	67	91	71
Disposal of Meat									
Local Carcass meat sales (m kg)		16.6	14.2	15.6	13.6	12.7	11.8	8.4	8.3/1
Cut beef sales mainly export (m kg)		2.5	1.5	2.2	1.6	1.6	2.5	2.1	2.1
Export Carcass meat sales (m kg)		0.5	0.5	0.5	1.0	2.4	1.3	1.2	1.2
Canning meat (m kg)		10.5	10.0	9.7	9.7	10.1	7.0	6.7	7.0
Total m kg		30.1	26.2	28.0	25.9	26.8	22.6	18.4	18.0

/1 Quantities and disposal of meat in 1975 are estimates.

10.02 Choice and FAQ grades are mainly produced by ranches, feedlots and from large farms as a by product of the dairy herds. KMC supplies come from ranches and feedlots; the latter have become an important source of quality beef as ranch deliveries have seriously declined. Perhaps a total of 50,000 to 80,000 animals are produced annually of these two grades. Supplies of standard grade cattle come from ranches, pastoralists, smallholders and large farms; KMC gets its supply from the first two. Perhaps 300,000 to 400,000 of this grade of animal are produced, mostly from the traditional areas at "no cost." If the sharp fall in deliveries to KMC since 1973 are an indicator it would seem that the supply of standard grade from existing sources is coming under pressure; this is confirmed if traditional herd structures are examined. It is becoming a grade whose increase will be dependent on ranch development or improvement of grazing in pastoral or smallholder areas to allow animals to fatten in these areas; the latter grazing is presently insufficient in relation to total cattle population and the situation has been aggravated by two drought years. Deliveries of commercial grade tend to be seasonal and the KMC use it for canning; mixed with custs from higher grades, it produces a high quality corned beef. The overstocking of much of Kenyas range country and project development of the North East suggest there is still an ample reservoir of this poor quality meat. However the decline in average carcass weight between 1964 and 1974 for the two grades produced from the traditional areas illustrate declining range productivity and pressure to sell more animals at a younger age to meet income requirements and demand and give a warning of shortages in the future.

KMC - Comparison of Average Carcass Cold Dressed Weight 1964-74 (kg)

	Commercial	Standard	FAQ
1964	121	161	209
Average: 1964-68	115	155	205
Average: 1970-74	103	150	208
1974	94	143	205

10.03 The mission did not undertake a close examination of future demand as this will be investigated more thoroughly by the Meat Industry Development Study later this year. However, preliminary projections suggest that for FAQ and standard grades demand could outstrip supplies in the next several years. The project will only supply a relatively small proportion of requirements.

	Estimated /1 Consumption 1975	Estimated Required 1985	Estimated Ranch Project Production 1985 /2	KMC's Intake 1975
	(kg million)			
Choice	0.7	2.0	-	2.4
FAQ	10.0	20.0	1.5	n.a.
Standard	82.0	97.0	3.9	2.0
Commercial	62.5	82.5	3.5	6.7

/1 Excluding KMC's demand for various grades in 1975.

/2 Does not include ranches which have already received loans for which no data is available, nor North East production, nor increased livestock marketing activities.

The sources of likely future supplies is given in Annex 2, para 14. Government should establish targets and decide on the means by which the extra production will be forth coming. Adequate prices to producers will be essential if the present supply of choice, FAQ and standard grade are to be produced since grades are dependent on cash inputs. Past records show that producers of these grades respond to price incentives.

0.04 Prices. The Government fixes the minimum producer prices by grades; it also establishes the consumer prices. In practice, except for a bonus for feedlot cattle, KMC has generally only paid the minimum prices since 1972. Between December 1972 and April 1975 gazetted producer prices were increased between 32% and 45% for the four main grades. In June 1976 choice grade was decontrolled and FAQ increased a further 20%. However, in order to maintain consumer prices of the cheaper grades it has not increased the price of standard and commercial.

Gazetted Minimum Producer Prices 1972-76

Grade	Av. CDW (kg)	KSh./kg CDQ Dec. 1972	KSh./kg CDQ Apr. 1975	% Increase Since 1972	June 1976	% Increase Since 1972
Choice	232	4/67	6/15	32%	Open	-
FAQ Fed)					7/50	70%
Grass)	206	4/41	5/80	32%	7/00	59%
Standard	152	3/42	4/85	42%	4/85	42%
Commercial	109	2/94	4/25	45%	4/25	45%

The last three years have seen an expansion of cattle slaughtered in newly opened local abattoirs in and around Nairobi and Mombasa. Because of lower overheads and other factors, butchers slaughtering in these abattoirs have been able to offer a higher price than KMC (perhaps 10%) and have supplied an increasing amount of meat to the Nairobi and Mombasa markets at the expense of KMC. Generally speaking producers get a relatively better price from butchers for standard grade animals than KMC pays while for large deliveries of FAQ and choice animals KMC prices are often competitive.

10.05 On the export market KMC appears to have been able to sell its FAQ and choice grades profitably for the last 5 years. Corned beef prices were very good until 1974 and generally producer price for commercial grade up to that time were generally below realization price. However, in 1974/75 prices fell from $24 per carton to $13 per carton and have since risen to $16 to $18. KMC estimates that they need $20 per carton to break even on present commercial producer prices.

10.06 The table below presents a comparison of produce beef prices with the key price indicators for the industry.

		% Increase for the 1973/76 (June Period)	% Annual Increase
Middle Income Consumer Index /1		41.6	15.1
Lower Income Consumer Index /1		48.0	17.4
Beef Retail Prices /2			
All cuts with Bone	) mostly	13.2	4.5
All cuts without Bone	) standard grade	15.6	5.4
Beef Fillet/Sirloin	) mostly	17.0	5.8
Sirloin with Bone	) standard	19.6	6.7
Stewing steak	) and FAQ Grades	28.3	9.7
Produces Prices /2			
Commercial		33.23	11.4
Standard		32.15	11.0
FAQ		51.84	17.8
Choice		20.1	9.6
Production Costs for Standard and FAQ Grades		90.0	30.8

/1 Source: Kenya Statistical Abstract 1975: 1971 = 100.

/2 From Gazetted Prices.

It is evident from the summary table above that over the 1973-76 period, the Government's policy of controlling prices has depressed beef prices in real terms. Even after the last price revision (June 1976), producer prices are still 20-25% and 15% below the levels required for the profitability of the industry for the standard and FAQ grades respectively; consumer beef prices are still depressed by about 20% in relation to the consumer price index, although it has been kept artificially low by the Government. 1/ Producer prices paid for immatures in the North East are the only exception to this Government policy: they are about 10-15% above the equivalent price per kg CDW currently paid for commercial grade animals. This deterioration in the terms of trade of the industry has led to the following:

(a) most new ranches are facing bankruptcy;

(b) fattening operations are no longer profitable because of high immature prices and low prices for finished animals;

(c) no further investments in the industry are justified until a major improvement in the level of producer prices takes place.

10.07 The mission therefore recommends that:

(a) Producer prices be reviewed as follows:

	June '76 Price	Proposed Price
	KSh/kg	
Immatures (kg/lw)	2.10	1.90
Commercial (kg/CDW)	4.25	4.25
Standard Grade (kg/CDW)	4.85	7.25
FAW (kg/CDW)	7.0	8.05
Choice	free	free

These prices were estimated by the mission from the analysis of ranch models for consideration by Government. They represent minimum prices at which the industry would regain profitability. The top grades, FAQ and standard, are in line with export parity prices for the various grades and would not therefore affect their competitiveness in the

1/ Especially on account of the fact that beef consumption amounts to 18% at the commodity basket surveyed for the calculation of the consumer index.

world market. The commercial grade deserves to be examined more thoroughly, because it is intrinsically tied to the efficiency of KMC's canning line; this examination will be carried out by the forthcoming meat study.

(b) Consumer prices be reviewed in order to support the recommended producer prices. This review would include two elements. First, the correction of consumer prices so that they keep pace with price increases of other food products; and second, the correction of consumer prices as function of beef production costs. This would mean bringing the retail price of the lower quality (standard grade) to Ksh 11/- or 12/- per kilogram. If the Government decides on subsidizing low income beef consumers, the subsidy ought to be clearly established and financed through public funds but not through a squeeze in producer prices.

(c) At this stage the mission supports the Development Credit Agreement stipulation that within three years of the date of the agreement all price contracts be phased out in respect of production, processing and marketing of beef. Government made a strong plea that controls should be retained for the lower grades at least. Unless new evidence is raised by the Meat Industry Development Study and Kenya Government it is recommended that this condition remain. It would appear that this is the ideal time to free prices since export realisation prices of most grades appear to be are similar to those proposed. Cheap commercial grade meat, similar to that consumed in some rural areas, could be made available in the main urban areas. Those who want better beef should compete with the export price. The place of the local butcher with his favorable cost structure would ensure that the home market obtained its supplies of quality meat in competition with KMC while KMC would put the floor price on beef with the price it achieved on the overseas markets.

10.08 Grading. The carcass grading system administered by the Veterinary Department, and in operation at Athi River and Narok, is an effective system for distinguishing the various qualities of meat in relation to their marketability.

10.09 KMC. After considerable debate KMC spent KSh. 26 million (US$3.6 million) to improve and expand its facilities at Athi River and Mombasa (particularly refrigeration and equipment designed to expand corned beef production) using forecast annual profits to finance it (profits were about KSh. 6 million annually at that time). Up to the end of 1973 KMC benefitted from rising world market prices and generally obtained higher prices from these markets for carcass and corned beef than on local markets. Although it increased producer prices somewhat it used a large proportion of these export trading benefits to keep down local consumer prices and to pay for its long term investment program. In 1974 world meat prices collapsed and

KMC made a relatively small loss of KSh 5 million which was followed by a loss of KSh. 11.2 million in 1975. During this time the cost of KMC's investment program escalated to KSh. 56 million (US$6.9 million).

10.10 Presently, the Athi River and Mombasa plants are operating at an annual capacity of about 65 and 35% respectively. The unpaid long term debt has been met by a short term loan from Treasury due to be paid in July 1976. Clearly KMC is not in a position to pay and satisfactory long term funding arrangements will have to be made; the future interest charge alone of this debt will be a major drain in the commission's operations. KMC is applying a policy of attrition to its labor force in an effort to cut its relatively well paid over manned work force which has a depressing effect on producer prices (or makes exports less competitive). The KMC "profit plan" for 1976 shows the Commission breaking even but it is based on an increased throughput of high and low grade cattle and a return to a break even level of $20 per case for corned beef. For the KMC it is cheaper to handle a 200 kg carcass than a 100 kg carcass. With present producer price incentives the increase in high grade supplies is doubtful while the highest price for corned beef so far this year has been $19.5 per case. Future profitability of KMC and hence the price producers can expect is going to depend on: the price KMC gets for its products; an adequate throughput to cover overheads; its success in cutting costs; and the method of funding its long term debt.

10.11 Conclusions and Recommendations. The Meat Industry Development Study being commissioned 1/ will investigate more fully the supply and demand position and the marketing operations of KMC. The mission, however, makes the following recommendations:

(1) The beef industry (and certainly the meat industry) is probably the largest sector in terms of value of output in the agriculture industry. It is a sector which in the colonial past received little attention. Subsequently Government has constructed, through the formation of departments, agencies, projects, etc., the various pieces that can produce the completed picture of this complex industry. If the industry is to achieve its potential and provide assured beef supplies in the future the Government through the Ministry of Agriculture's Planning, Animal Husbandry, Range and Veterinary Divisions, will have

1/ Both the USAID and IDA legal documents call for a feasibility study to determine a strategy for the development of the meat processing industry in Kenya for which US$200,000 are provided by the former agency and US$100,000 by the latter. The study is behind schedule. Delays took place in drawing and finalizing the terms of reference. The terms of reference prepared in September 1975 by the Kenyan Government (and agreed upon by the Bank) calls for a much broader study than was originally envisaged. Bids by consultants have been made and a consultant firm chosen. The work should commence in September 1976. As the bid came within the financial limits of the U.S. allocation the study will be funded by them.

to first put these pieces together into a cohesive structure. This will involve defining the roles of the different segments of the industry and in the case of range production stratifying the ranching areas into feeder, holding and finishing components; demand projections for the next ten years should be developed and matching supply projections made, showing the expected number of cattle by grades to be supplied by feedlots, commercial ranches, new ranches, North East and the high potential farming areas. A national flow chart of cattle production and marketing should be prepared defining present and expected future patterns. A start could be made with the latter by introducing a policy directive that, at least until ranchers are in a position to supply their own equity to allow them to make their own free choices, all 1 million hectares of land now proposed for development at the Coast should be largely used for fattening LMD steers; and the same should apply to the commercial sector where suitable. In the Kwale ranches some priority for new company or cooperative ranch membership should be given to members who are causing the overstocking of the proposed Kwale and Kilifi group ranches. Large sums of money will be required to improve productivity and bring about social change; these investments will only be secured if the development policy is accompanied by correct pricing and marketing policies. Unlike other agricultural commodities there is no single agency to keep a full time watch over this industry, and KMC is not a suitable body for this purpose as it has its own special investments to safeguard. The Planning Division of the Ministry of Agriculture should be strengthened to enable it to maintain an up-to-date picture of the industry and all its segments to enable the Ministry to develop a comprehensive and continuous beef policy. High priority should be given to Kenyans to undertake this work.

(2) To secure and encourage investments in ranching, the producer price of beef should be revised in line with the recommendations set forth in para 10.07(a).

(3) Kenya's beef industry cannot be developed on corned beef as the price support to pay for investments. There will be a place for a canning line but the support for ranching and improved range practices will be dependent on the KMC developing markets locally and overseas for better quality carcasses

or special cuts. KMC should try to reduce its reliance on canning and should develop the marketing opportunities for all grades of carcass meat. The more volume it can generate the cheaper its costs should be. KMC must cut costs to the minimum in order to pass the maximum benefits to the producer. As with other commodity Boards, KMC should see itself as serving the producer and acting as catalyst for faster beef production development.

(4) Government should assist KMC in making satisfactory long-term arrangements for its present debt. As KMC's position is partly due to Government's consumer pricing policy (which has restrained production of the grades the Commission can sell) consideration should be given to Government meeting some of the debt as a grant; especially as this debt will now have an adverse effect on producer prices.

XI. BENEFITS AND JUSTIFICATION

Additional Output

11.01 At appraisal it was estimated that incremental production by 1985 would amount to 23,000 tons from ranches. Because of uncertainties in the North East and livestock marketing it is not possible to provide a reliable figure for total incremental output from the revised project. Production from the revised ranches and feedlot operations might amount to 10,000 tons. The appraisal report suggested that exports would increase from 10,000 to 14,500 tons. The review mission believes that in view of likely demand most, if not all, incremental production from the revised project will go towards local consumption. More corned beef, however, might be expected if more cattle could be purchased in the pastoral areas at prices which would allow the profitable manufacture of the product. Similarly increasing exports of better quality meat will probably be dependent on feedlot operations and the market and prices that KMC can obtain for these operations.

Producer Benefits

11.02 The financial rate of return on incremental investment would range from 14% to 22% on the ranches and 23% on the feedlots if prices were increased as suggested in para 10.06. The increases in incomes and financial rates of return would be sufficiently high to make the proposed investments attractive to individual ranchers but it remains to be seen whether they will be sufficient for ranches with large membership. A comparison of returns is given in Annex 21. The livestock marketing component is not likely to give acceptable financial returns unless present policies are altered (Annex 10). There are, however, other benefits from this facility which are difficult to quantify. The rates of return for the North East and Isiolo were not run as it is understood that USAID intends to undertake the exercise after the Meat Marketing study has been completed (and when more is known about marketing prospects for cattle from the area).

Economic Rate of Return (Annex 22)

11.03 The economic rate of return for the revised ranching component (excluding ranches already financed) is estimated at 17.25%. Production was valued at international prices adjusted for handling and transport costs. Foreign exchange costs and benefits were shadow priced at KSh. 10 per $1 (the official exchange rate is KSh. 8.20 per US$1). An increase of 10% in costs would lower the rate of return to 14%. The cost of services provided by the project for the ranching component were included.

The economic rate of return for each ranch model are:

Company Ranch	13.65%
Commercial Ranch	18.15%
Group Ranch	21.65%

The difference in the economic profitability of each ranch model is mainly attributable to the difference in the levels of physical development and therefore the higher level of foreign exchange costs with higher level of development. The Company ranches being created in areas with no existing facilities at all require much higher investment costs than Commercial or Group ranches. It also relates to the fact that the higher production per hectare required, the higher the inputs (see Annex 24).

11.04 The mission did not attempt to make an economic evaluation of the wildlife component as its net benefits have been integrated into the recently negotiated Wildlife and Tourism Project for which an economic rate of return of 16% was estimated, without shadow prices. With shadow prices, the economic rates of return calculated for Amboseli and Mara are 28% and 25%, respectively.

11.05 While the potential for expanding the livestock sector is great the problems of implementation, social change and prices, as have been seen to date, could adversely affect the situation. While it is too early to assess he impact of group and company ranches because of the social and technical factors enough experience has been gained to indicate that improvements will have to be made in past performance if the full benefits are to be achieved.

Employment and Income Distribution

11.06 The mission has not examined the employment aspect in detail as there seemed to be little evidence that this would have changed from appraisal. About 104 ranches might be affected under the Project and their approximate membership might be as follows:

	No. Ranches	Ha. '000	No. of Members
Commercial	46	204	10,000 /1
Company	29	639	2,300
Group	29	650	4,000
Feedlots	1	-	5

/1 2 ranches have very large membership.

In addition, ranches will employ labor. The doubling of the area to be developed in the North East could increase the number of people affected there (see Annex 23 for Summary of development program for ranches). In terms of income per capital and income distribution success will be largely dependent on the improvement in producer prices.

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KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

August, 1976

A N N E X E S

Eastern Africa Region
Agricultural Credit & Livestock Division

ANNEX 1

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Senior Officials Met and Itinerary

RMEA

Mr. T.C. Creyke - Director, RMEA
Mr. R.J. Dewar - Chief, Agriculture Division
Mr. R.H. Khouri - Livestock Specialist
Mr. J. Gregor - Financial Specialist

UNDP

Mr. P. Eglund - Resident Representative

PROVINCIAL ADMINISTRATION

Mr. E. Mahihu - Provincial Commissioner Coast Province
Mr. J. Mungovia - Deputy Provincial Commissioner, N.E. Province
Mr. J.K. Kobia - District Commissioner Narok.

MINISTRY OF FINANCE

Mr. H. Mule - Deputy Permanent Secretary
Mr. J.O. Otieno - Under Secretary

MINISTRY OF AGRICULTURE

Mr. S. Gathiuni - Permanent Secretary
Mr. J.S. Mburu - Director of Agriculture
Mr. A. Chege - Project Coordinator Livestock II
Mr. I. Mwai - Assistant Project Coordinator
Mr. J. Larsen - Assistant Project Coordinator
Mr. L. Ayuko - Head, Range Management
Mr. M. Maluki - Assistant Head, RMD
Mr. P. Sadera - Provincial Range Officer, Coast
Mr. S. Koros - Provincial Range Officer, Rift
Mr. S. Muriuki - Provincial Range Officer, N.E. Province
Mr. S. Meadows - Head, Livestock Marketing Division
Mr. I. Murithii - Director of Veterinary Services
Mr. Mutai - Department Head, Livestock Marketing
Dr. W.M. Njoroge - Deputy Director, Veterinary Department
Mr. Lijoodi - Head, Economic and Planning Unit
Mr. R. Gray - Economic and Planning Unit
Mr. J. Dunmore - Economist, Economic Planning Unit
Mr. Z. Owiro - Head, Animal Production Division

MINISTRY OF LAND SETTLEMENT

Mr. J. Njenga - Commissioner for Lands
Mr. E.A. Edwasi - Registrar of Group Representatives
Mr. Massey - Asst. Registrar of Group Representative

MINISTRY OF WATER DEVELOPMENT

Mr. D. Ngunga - Director of Water Department
Mr. R. Sawdon - Design and Construction Section
Mr. J.C. Gunther - Head, Range Water Section
Mr. D. Kasungu - Provincial Water Officer, N.E. Province

MINISTRY OF TOURISM AND WILDLIFE

Mr. D.C. Kungu - Under Secretary
Mr. Z.O. Kongoro - Assistant Secretary
Mr. D.M. Sindio - Deputy Chief, Game Warden
Mr. J. Barrah - Adviser, Game Department
Mr. Ngunga - Game Warden, Amboseli
Mr. Murithi - Resident Engineer, Amboseli
Mr. J.K. Ole Tipis - Game Warden, Maasai Maro

NEW YORK ZOOLOGICAL SOCIETY

Mr. D. Western

FAO-WILDLIFE MANAGEMENT PROJECT

Mr. G. Von des Golz - Project Manager

KREMU

Mr. Stevens

AGRICULTURAL FINANCE CORPORATION

Mr. F. Maina - General Manager
Mr. S. Hermitt - Chief Accountant
Mr. I. Gichula - Actg. Head, Ranch Section
Mr. G. Murphy - Ranch Section
Mr. A.N. Gichungwa - I/C, Ongoing Loans, Ranch Section

K M C

Mr. Mutura - General Manager
Mr. Kihuna - Marketing Manager
Mr. Maina - Financial Manager

I T I N E R A R Y

The following is the main travel schedule - the mission split to see various Project activities:

February 22-28	- Nairobi - meetings.
February 26	- Ms. Lallement to Longopito Cattle Sale.
February 29 - March 2	- Meeting with Taita Ranches - JESSEL Ranching Co; OL MOISOL Commercial Ranch; Kikapu Farmers Cooperative; ERERI Ranching Co.
March 3 - 4	- Coast Ranches: Taita Ranching Co.; Lualenyi; Mugeno; Rukinga.
March 5 - 7	- Meetings in Coast Province including P.C.; Provincial Officers and Coast Ranchers.
March 8 - 9	- Nairobi.
March 10 - 11	- North East; Garissa meeting with Provincial staff; visit Mado Gashe grazing area; part of party also visited Wajir, Buna (March 9 - 14).
March 12 - 14	- Nairobi (Ms. Lallement to Amboseli March 13).
March 15 - 16	- Group Ranches, Kajiado, Poka, Kiboko, Orkarkar. Mbilini Ole Soleitei ranch. Ms. Lallement to Amboseli.
March 17	- Narok Group Ranches: ILMASHARIANI, OLAIMUTIAI. Meeting with DC and Narok Range and Water staff. Ms. Lallement to Masai March 17/18.
March 18	- Nairobi.
March 19	- Meeting with Commercial ranchers in Nyahururu.

March 22 - 27	-	Meetings Nairobi.
March 26	-	Wildlife roundup.
March 27	-	Ministry of Agriculture Departmental officials and AFC roundup.
March 28	-	Final meeting with Permanent Secretary and Director of Agriculture.
March 29	-	Mission disperses.

ANNEX 2

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Terms of Reference

1. On or about February 23, 1976 you will commence the review of the Second Livestock Project.

2. Mr. Peberdy will lead the mission and coordinate its activities. In consultation with other members of the mission he will investigate project management and coordination, and work with Government and AFC officials on preparation of departmental work programs. He will examine problems of Group ranches including the effectiveness of present legislative and administrative measures and investigate delays on issue of title to company ranches and land problems affecting the wildlife component.

3. Mr. Jahnke will examine profitability of project ranch types (commercial, company, group) and revise ranch investment, operating costs and income schedules, assessing the impact of changes on project financing. He will suggest ways in which more North East cattle could be utilized through a change in present ranch policies. He will examine present ranch planning procedures and weaknesses in ranch management and make proposals for suitable training programs. With Mr. Peberdy he will make recommendations for monitoring activities under the Project.

4. Mr. Faulkner will examine Project accounts. He will examine the present state of ranch loans in AFC and their importance to the organization's overall financial and operational structure. He will review the capability of AFC's ranch division, the loan record system and the terms and conditions under which loans are being made. He will assist Mr. Jahnke in ranch budget financial analysis and prepare consolidated Project costs and Government cash flows.

5. Mr. Creek will examine cattle and beef prices and grading structure at different levels (producer, LMD, KMC, local abattoirs) and their adequacy for providing incentives for increasing production and Project needs. Where necessary he will make recommendations for changes and also on the role of KMC and local abattoirs in the structure of the industry and their competitiveness in local and export markets. He will make recommendations on feedlots and deal with the veterinary component. He will work closely with Mr. Jahnke and Ms. Lallement.

6. Ms. Lallement will work closely with Mr. Creek on prices and in particular examine the consequences on consumer prices of any producer price changes. She will, in consultation with the ODM team and Mr. Creek examine the economics of the present LMD marketing system and its relevance

to present producer prices. She will examine the wildlife and National Park aspects of the Project, the implications of the cost overruns and progress on solving the land tenure problems, the latter in collaboration with Mr. Peberdy. She would assist in drafting the report.

7. Terms of Reference will be issued by the other donor agencies detailing the specific duties and responsibilities of their staff. These terms of reference should aim not only at recasting, recosting and rephasing the various components of the Project but will ensure that the following aspects of the Project are covered:

USAID

(a) Preparation and processing of ranch development plans;
(b) Provision of extension services to ranches being developed;
(c) Procurement of heavy earth moving machinery, supply of spare parts and maintenance of equipment; and
(d) Operation and maintenance of range water installations.

ODM

Cattle trading operations of the Livestock Marketing Division.

CIDA

Integration of monitoring activities under the Project to ensure that they are complimentary and to avoid duplication and overlapping.

8. The mission should work closely with the Resident Mission and keep it fully informed of its activities. The mission should complete its field work by mid-March. Consultants report should be completed by end March with the aim of producing a review report in April but the final timing will, to some extent, be affected by the problems encountered. Mr. Peberdy will have responsibility for completing the report and he will consult with Mr. Walden and Mr. Dewar in Nairobi on whether the report is to be completed in Washington or Nairobi.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Beef Marketing and Price Policies

A. Project Objectives at Appraisal (1972)

1. Project objectives at appraisal were:

(a) To increase beef production by 23,000 m.t. by 1985 (circa 160,000 animals per year).

(b) To increase the proportion of beef exported as chilled or frozen by comparison with canned.

(c) To review the number, size and location of slaughter plants as part of a study to determine the strategy of the industry.

(d) To phase out price controls on all grades of beef within 3 years.

(e) To establish a grading and pricing structure relating liveweight to carcass value to provide adequate incentives to producers.

B. Background

2. National production of beef and supplies prior to 1976 - In 1968 it was estimated that just over 1 million head of cattle over 1 year old were slaughtered or consumed for meat in Kenya producing 123,700 tons. Of these animals 196,000 head were slaughtered at KMC producing 29.400 tons carcass beef of which about 8,000 tons were exported, 7,500 tons as corned beef. The mission was not in a position to determine accurately present

total national production (this will be done by the forthcoming meat study). Rough estimate (see paras 47 et seq), however, suggest that in 1975 1.2 million animals may have been slaughtered producing about 154,500 tons meant. KMC's share had fallen to about 130,000 animals producing approximately 18,000 tons meat of which 3,300 tons were exported, 9-10,000 tons chilled or frozen, and as corned beef. Per capita consumption may have fallen.

3. Traditionally, the main urban centers of Nairobi, Mombasa, Nakuru, Eldoret have received most of their meat supplies through the KMC, principally high grade and standard grades of meat, while the rural and other urban areas have received their supplies through local abattoir from small and large farms, ranches and the pastoral areas. Since urban and rural butchers effectively give higher prices to producers KMC has served as the buyer of last resort and then exported surpluses as carcass and canning meat; about 10 to 20% of high grade surpluses are exported as chilled or frozen meat and 90 to 100% of the low commercial grades is exported as corned beef. The KMC has been the weather vane of the industry since any supply shortages of any grade to KMC presage future shortages for the industry as a whole. KMC's supplies and markets can be differentiated into three main grades of meat: high grade, standard and commercial. The pattern of supplies over the last 10 years and is given in Tables 1 and 2, and is a reflection of Government policies; an analysis suggests ways in which future supplies are likely to be produced.

Supplies of High Grade Cattle

4. High grade cattle of Prime, Choice and FAQ grades are produced under commercial conditions requiring investment, operating costs and a certain standard of management. In the late 1950's and early 1960's most of this

grade was produced from beef and dairy herds on large scale mixed farms in the high potential areas. Supplies from this source declined after 1962 from 60,000 head to 41,000 head in 1965 as: (a) farms were taken over for smallholder settlement, (b) farms changed hands and moved to dairying, and (c) most importantly, more could be sold locally as the demand from new smallholder settlers grew and local villager sprang up. By 1968 very few animals came from this source. To offset this decline the Ministry of Agriculture in 1964 urged ranchers to invest more, introduce more intensive management methods and early offtake of beef. In 19o4/65 ranching was little affected by land transfer and ranchers accepted this challenge; it also coincided with benefits from the improved breeding programs instituted by ranchers in the previous ten years. The result was an increased supply to 50,000/head by 1967. With no more high grade cattle coming from the large farms and increasing demand for this type of meat from butchers, ranchers began to supply increasing numbers to butchers rather than KMC, and further increases to KMC stopped and began to decline. While total numbers of animals produced by the ranching sector overall may not have declined since 1968 they probably have not risen greatly because: (a) some expatriates have reduced the rate of investment, (b) prices for beef because less attractive between 1968 and 1970, (c) the takeover of ranches has greatly increased, and (d) on some takeover ranches production of good quality beef fell considerably.

5. By 1970 supplies to KMC from ranches had dropped to 33,000 head and there were seasonal shortages which KMC suggested might have to be met by imports. This situation had been foreseen by the Ministry in 1968 and work had been undertaken by UNDP on developing a program for feeding cattle to augment meat supplies from the ranching sector and to deal with the large numbers of immatures that the traditional livestock areas produced from their large female breeding herd (and for which there was no grass to fatten them on). Following a price increase of 20% for FAQ grade cattle 1971 designed to stimulate

ranching investment and encourage feeding some 12 feedlots were established and between 1972 and 1975 have fattened 20,000 cattle annually. In 1972 and 1973 this source increased supplies of high grade cattle to KMC despite a continuing transfer of ranch cattle to local butchers, the latter being further encouraged in 1971 by Government endorsing the expansion of local abattoirs in competition with KMC. Despite a capacity for 60,000 head feedlots throughput did not expand beyond 20,000 head and in 1974 and 1975 producer prices for this type of production for the local market were inadequate. In 1974 and 1975 therefore, total supplies of top grade cattle to KMC declined because of increasing butcher demand.

6. Kenya's development plans over the past 10 years have advocated expansion of beef production for export and to that end Government has invested considerable sums of Government, USAID and IDA money in range development. In the early sixties annual carcass meat exports were between 2,000 and 3,000 tons but between 1967 and 1970 they fell to around 500 tons. With the introduction of feedlots exports began increasing in 1971 to 2,385 tons in 1972 since then they have declined as the local market demand has increased and feedlots have failed to increase their throughput. In 1974, 6,988 tons of better quality meat were produced. 1,299 tons of carcass meat was exported. If all carcasses exports are top grades then exports represent only 20% of KMC high grade supplies. It is clear that the surplus of quality meat is not great and if feedlot and ranch development are not expanded shortages of this grade of cattle could quickly occur. Since the lead time on new ranch development is in the region of 5 years immediate increased supplies of higher grade cattle are likely to have to come from supplementary feeding of cattle from the North East and new ranches in Taita; the latter may initially find it

difficult to produce FAQ grade stock. The range areas, however, have suffered severe drought over the past two years and supplies of high grade stock from ranches to KMC could improve temporarily in the next year or two if weather conditions improve, but generally the trend of supplies to KMC from this source is now down. Therefore, if the country wishes to supply adequate quantities of this grade of beef in the future for its home, let alone export market, it will have to offer prices which will provide the incentive to: (a) develop new ranches, (b) increase development on existing ranches, (c) encourage supplementary feeding of ranch and pastoral cattle, and (d) perhaps encourage the collection and feeding of bull calves presently slaughtered in the dairy herd.

Supplies of Standard Grade Cattle

7. The second major class of beef is the standard grade which comprise mainly the better animals on ranches and large farms. KMC now gets over 50% of this grade from the pastoral areas and new ranches. It could be said that the majority of these animals were produced at "no cost" or relatively low cost as part of the communally grazed national herd. Standard animals are much sought after by butchers in all areas. Until 1972 KMC obtained adequate supplies of this grade having increased supplies between 1964 (32,000 head) to 1970 (57,000 head) reflecting the successful policy of the Ministry to get more cattle (standard and commercial grade) out of the pastoral areas for KMC to offset lost supplies from the high potential areas. After 1970 supplies to KMC flattened out and in 1973 and 1974 declined considerably. This latter development suggests that unlimited supplies of this "no cost" grade of animal are coming to an end unless steps are taken to produce more through investment. It is, of course, probable that the position is to some extent aggravated by the

drought but if the herd composition of traditional herds are examined it will be seen that male animals over 3 years old are a small proportion of the total herd and that it is most likely that the supply of this grade cannot be expected to increase greatly without development. Thus, it would appear that further production of standard grade is likely to be dependent on investment. The North East Water Development program should help future supplies but if more standard grade are to be produced they will also have to come from Group ranches and new ranching developments at the Coast; the future of both these developments are dependent on prices. Little standard grade is exported so that producer prices are dependent on local market conditions rather than export prices. The grade does, however, provide some meat for the can and with the help of fat and other waste from the higher grades helps to make Kenya corned beef a premium grade. Decline in supplies of this grade are partly responsible for a drop in corned beef production from 10,133 tons in 1972 to 6,743 tons in 1973.

Supplies of Commercial Grade

8. The commercial grade of cattle (and manufacturing grades) are still available in large numbers although the consumption of them in the rural areas (animals up to 3 years old and old cows) must be increasing rapidly and the meat content of the carcasses is low. Supplies of commercial grade to KMC have been limited by movement restrictions and ability of KMC to fit them into the delivery schedule which tends to give priority to the upper grades. Between 80,000 to 90,000 per annum are usually taken and they are the main constituent of the 7,000 to 10,000 tons canning beef exported. One factor which suggests that there might be some pressure on supplies, however, is that carcass weight

has dropped by 10% from 115 kg to 103 kg if the supplies for 1964-68 are compared with those for 1970-74 (standard has also fallen); suggesting that younger animals are being sent in since older ones are less available. Because most of this grade is exported in the can KMC must set the grade price in line with what it can get on the export market. Kenya's canning grade benefits from fat, cuts and fillers it gets from the standard and FAQ grades and should these not become available lower prices for Kenya corned beef would result. Feedlots play an important part in this process since fat from their animals is mixed with the commercial grade animals that are the main supply from the range areas out of season (fat ranch cattle are seasonally suffered). As an example of the importance of quality in 1975 Kenyan corned beef fetched US$13 to US$16 per carton when Tanzania corned beef fetched US$9 per carton; Tanzania has few better quality cattle to add to its can.

9. It should be pointed out that past and likely future prices for canning beef will not support range development and that this operation is a means to remove surplus poor quality cattle from the range areas. The present corned beef export and the large numbers of poor quality cattle in the national herd which supply this grade represent a major meat reserve to the country. If no action were taken to stimulate production of standard grades and higher, it could still be possible to make up any resulting deficiency of these grades by supplying commercial grade meat to urban markets and reducing exports of corned beef. There would be some consumer resistance and prices of the top grades would likely rise even in the face of any Government action to try and control them but meat would still be available at relatively low prices to the consumer. It is not possible to determine how long this supply could last but it could be 5 or 10 years but when it ceased meat supplies would become critical and beef prices would rise rapidly (development of alternative meat sources, pigs, poultry are hampered by the presently antificially low meat prices - and additionally the lack of development here reduces market opportunities for production of surplus cereals and crop by products). In the meantime, opportunities for organized range development may have been irretrievably lost.

Availability of Supplies to the Various Markets

10. The main urban markets traditionally supplied by KMC (and now increasingly by butchers) have generally received adequate supplies of good grade and standard meat although there are increasing seasonal shortages of the better grades. Rural and other urban markets have also been able to get reasonable supplies although they do suffer from periodic and seasonal shortages which are presently thought to be distributional problems although for the standard grade at least, could be increasingly due to competition from urban markets. The last study on livestock marketing in rural areas was done in the early 1960's (which brought to light the distributional problems) and a new study is probably warranted. might also give some attention to this problem.

11. Supplies to KMC are given in Tables 1 and 2. Further discussion on demand is given in paras. 47 et seq.

Prospects for Future Supplies

12. The estimated cattle population in 1970 and consumption in 1969 was distributed roughly as follows:

Human Population ('000)	Area	1970 Cattle Nos. ('000) Cattle Population	Consumption	% Offtake
8886	High potential (HP)	3,350	565	17%
		Ex Range areas	44	(25% if "calves died included)
(604)	Large Farms	(300)		
2007	Range areas	4,560	217	8.4% if KMC and HP consumption included; 20% if estimate of "calves" eaten or died are included.
(1,070)	(Range Smallholders)	(940)		
(67)	(Large ranches)	(230)		
10,083		7,910		

KMC deliveries:		1962 deliveries
FAQ (mostly ranches)	(30)	48 (mostly large farms
3rd & 4th from high pot areas	(47)	75
3rd & 4th from range areas	(103)	50
	1,008	

Source: Min. of Agr. "Animal Production 1970-1980 and beyond".

Recent surveys and censuses suggest a cattle population of over 9 million. Breakdown into different areas is not available but the proportional distribution may be similar; some of this increase, however, is due to gross overstocking and is not necessarily a beneficial net increase to the national herd unless it is accompanied by investment in carrying capacity improvements.

13. While there is considerable potential for rapid development of beef fattening on smallholder and large scale farms it is likely that at the present pace of grass land improvement (and meat/milk prices) that all improvements in cattle and grassland management will benefit the dairy herd while beef will remain very much a second enterprise. Increased numbers of range area cattle are being marketed in high potential smallholder rural markets to augment deficiencies in high potential meat production. Any beef expansion in the high potential smallholder areas would almost certainly involve supplementary feeding and the product would likely be consumed locally. Work at the Beef Research Station has shown that because of feed mixing problem liveweight gains and feed conversion of smallholder stall fed beef cattle are not as good as in carefully controlled feedlots but that supplementary feeding of dairy cattle under smallholder conditions is highly profitable and should be actively pursued. Expansion of beef production from large scale farms is not likely to take place other than in feedlots since any improvements in grazing or feeding techniques can be used more profitably by their dairy herds.

14. Expansion in supplies must therefore come from the range areas. The commercial ranch cattle population in Laikipia, Machakos, Nakuru Districts is relatively small (250,000 head) and under natural grazing conditions in the foreseeable future is unlikely to have an offtake greater than 20% (despite the fact that the best ranches have doubled the District average of 10 lbs beef to 20 lb/acre by reducing maturity to 3 years and could get it to 30 lbs per acre with supplementary feeding and offtake at 2 to 2 1/2 years of age). The pastoral and other range areas offer the greatest immediate scope for increasing production but most cattle herds in these areas have 35 to 45% mature females on generally overgrazed land and the animals are kept basically as milk herds, and are likely to remain so for some time while milk is so important to the owners. It is impossible to fatten properly the large numbers of young stock produced

from these herds unless their production systems are changed or alternative areas are found to fatten their cattle. Production systems have started to be changed, but it must be recognized as a slow process while the finding of alternative fattening areas is dependent on developing new ranching areas in Coast Province and feedlots. The Coast ranches initially are likely to produce a higher proportion of Standard than FAQ grade animals until the land becomes more developed. Thus future supplies of the different grades are likely to be from the following sources:

FAQ and above	Feedlots feeding cattle from the North East and ranches (including IDA financed new ranches are the most immediate source. - Existing developed ranches. - Extension of development of existing ranches. - Developnent of new ranches in most favorable areas at the Coast
Standard Grade	- North East Development. - Group Ranches. - New ranches at the Coast.
Commercial Grade	- Increased marketing development in the Range areas.

The Second Livestock Project is assisting in all these areas.

C. Kenya Meat Commission (KMC)

Performance of KMC

15. Following losses in 1967 KMC made profits from 1968 to 1973. In 1971 KMC embarked on a KSh. 26 million (US$3.2 million) renovation program at Athi River and Mombasa factories to be paid from trading profits. By end

1973 KMC had accumulated a surplus of KSh. 20 million to help pay for the improvements. Unfortunately, costs had escalated to KSh. 54 million. In 1974 and 1975 KMC suffered severe losses of KSh. 5 million (US$0.6 m) and KSh. 11 million (US$1.4 million) due to:

(a) Drop in world meat prices which, as far as KMC was concerned, primarily affected corned beef, reducing prices from US$24 per carton to US$13 to US$16 per carton.

(b) A severe drop in local carcass sales from 15,610 tons in 1971 to 8,000 tons (rough est.) in 1975 due to:- closure of the Nakuru and Ngong abattoirs; and the movement of meat into Nairobi from rural area.

(c) A decline in throughput from 210,000 head in 1971 to 130,000 head in 1975 which may have reduced trading losses of corned beef but also increased unit costs. 1974 also saw a 28% decline in supplies of quality cattle.

16. The effect of these losses has been to leave KMC with a large sum remaining to be paid for its investment program. Treasury has funded this debt on a short term basis but no decision on long term funding arrangements have been made. It will be vital that satisfactory long term funding arrangements are made. Interest charges and repayments of principal are likely to be a considerable burden on producers in future. Inview of the benefits consumers have received though KMC maintaining low prices in recent years consideration might be given to providing the money to KMC on a grant.

17. The following table summarizes KMC's operations between 1968-73:

		'000								Plan
		1968	1969	1970	1971	1972	1973	1974	1975	1976
No. of cattle purchased	No.	188	186	197	210	198	154	159	130	-
No. of animals FAQ and above	No.	48	34	30	33	46	46	33	27	-
Purchase of livestock	K£	4063	3758	3960	4242	4914	4512	4820	3751	4772
Sales	K£	5858	5593	5873	6291	8394	7106	6819	6085	8797
Surplus	K£	16	103	140	231	314	256	(253)	(564)	56
Cumulative surplus	K£	16	119	260	413	726	1024	771	-	-

(NOTE: Purchases, sales and surplus refer to all livestock products but cattle are the major component (Table 2)).

18. The impact of the increased local butcher trade will affect the KMC in two ways. First of all, directly; it reduces its throughput and hence fixed costs assume a larger proportion of total cost per unit of throughput. Secondly, there is an indirect effect by virtue of the fact that the butcher value of immatures will increase, which becomes an increased input cost for further fattening.

Thus, grazier/feedlot activities will be reduced unless high quality prices are increased further.

19. The KMC's ability to pay attractive producer prices was seriously affected by the collapse of world market beef prices in late 1974. Up to that time the unit prices received for meat exported were higher than those from sales on the local (controlled) prices. But as the main supplier of meat to Nairobi, the KMC found itself under political constraints to keep the local market supplied by foregoing sales to the export market. It was for this reason that KMC saw advantages in encouraging other operators to supply the local market, leaving itself free to concentrate upon exports. Had the world market prices remained buoyant this strategy would have worked well, since the higher prices which KMC could have paid from its export sales would have stimulated extra production.

20. While prices were high, the KMC made the cardinal error of retaining profits to finance its capital developments and it did not pass higher returns to the producer (which it was free to do under the price control rules which only laid down minimum producer prices). Thus additional ranch investments have not been forthcoming to boost the supply of cattle to KMC to compensate for the quantity of meat now being processed for the local market by local butchers.

21. A study of the total intakes shown in Table 2 shows a disturbing downward trend over the years 1973-75 of high quality and standard grade cattle. The feedlots have supplied an increasing percentage of the high grade cattle in 1974 and 1975, and by implication, if they were not operating, the KMC would lose most of its high grade meat. Likewise, the intake of standard grade cattle is at a distinctly lower level than the preceding seven years. Presumably this represents the state of affairs where local butchers are buying this grade

directly from the farmers and supplying the public direct with the cattle by-passing the KMC.

22. Any possibility of a fall in volume of throughput leads naturally to a discussion of costs. In 1970 when the cost analysis was prepared by Mr. Beddoes of the UNDP Beef Project head office, costs were calculated at 21 cents per kilogram processed, in the profit plan for 1976 these costs stand at 63 cents per kg. on a 22,000 ton planned throughput. A fall to 19,000 or 20,000 tons will increase cost by 6 to 10 cents which will further blunt the competitive edge of the KMC. Since the head office costs, which admittedly contain the interest charge on the full loans from Government, form only 32% of the total fixed expenses the importance of volume changes becomes immediately apparent.

23. Variable costs too have risen substantially since 1970 (256%); transport (266%) and packaging (260%), give an indication of the difficulty faced by KMC in attempting to keep up its producer payments in the face of a falling market. On the other hand it should be emphasized that the CCB they produce is a premium product which has maintained its price extremely well by comparison with some of its competitors.

Role of KMC

24. The present role of the KMC can therefore best be described as providing the floor price to the industry by virtue of the value which it can place on commercial grade beef for canning. In this regard it is interesting to analyze the role of LMD vis-a-vis the KMC. On average LMD sells some 33,000 head of stock into the central area of Kenya, 11,000 directly to KMC and the remainder to ranches. If we assume that the carcass weight of the

latter is increased by 50% before they are sold (i.e. they are standard grade rather than commercial), this means that LMD is responsible for providing the equivalent of some 44,000 carcasses or about half of the intake of the canning line. This is not to argue that all LMD carcasses go to the canning line at the present time. On the contrary less than half probably do. But if there was not this cattle delivery it must be safe to assume that the butcher market would divert other animals which are currently being canned.

25. The other role of the KMC should both be that of an aggressive marketing agency for high quality beef. Indeed, the ability of the KMC to pay an attractive price differential for high quality beef is an integral part of the whole strategy of the Bank loan Essentially, since the major part of the high quality intake comes from feedlots, the fact that feedlots have seldom operated at over 50% capacity on an annual basis and that currently they are cutting back their crop production plans (and two have closed) indicates that the KMC is not fulfilling this second role as effectively as its first one. While part of the problem undoubtedly lies with the price control system which prevents it exploiting quality differences to the full, it is also true that to date it has failed to capitalize on the advantage of being able to obtain regular supplies of specified grades which can be tied into higher value contracts.

26. For the future, the KMC seems intent upon trying to recapture the local market by campaigning for stricter hygiene rules together with more rigid enforcement. While this may allow them to recapture some of their lost market for standard grades it is unlikely to enhance their competitiveness in selling high grade beef. It is to this latter aim that the efforts of the KMC should be focussed if it is to fulfill its main function of injecting some dynamism into the industry.

27. It is of interest to speculate on the likely effect of de-control of FAQ and FAQ Choice grades such as is currently mooted. It would, of course, allow the KMC to promote the sale of a "luxury" quality of aged, fed beef in a way which is completely impossible at the present time. But if they attempt merely to increase the price of indifferent"high" quality beef (e.g. such as from an FAQ cow carcass) there is no reason to believe that they will improve their competitive position against the butchers who are in a position to provide an identical product. On the whole it is likely that the price of FAQ beef will rise thus assisting in improving the grade differential.

Carcass Grading at KMC

28. The carcass grading system, administered by the Veterinary Department, and fully supervised only at Athi River and Nairobi generally is used as a basis for pricing throughout the country. Research work by the FAO/UNDP Beef Industry Project has established that the grading system effectively distinguishes carcasses with differeing ratios of bone to edible tissue. The mean weight of carcass for each grade, its composition and the ruling price are shown as follows:

Grade	CDW kg	% Bone	1975 % Fat	Price KSh./kg	Total Price (KSh.)	Kg. Edible Tissue	Price/kg Edible Tissue	Kg. Bone
Commercial	109	23.0	10.3	4.25	463.3	83.9	5.52	25.1
Standard	152	20.0	15.6	4.85	737.2	127.6	6.06	30.4
FAQ	206	17.0	21.9	5.80	1,194.8	171.0	6.99	35.0
Choice	232	15.9	24.7	6.15	1,426.8	195.1	7.31	37.1
"Swiss Export"	245	16.5	23.2	6.60	1,617.0	209.5	7.72	40.4

29. The main quality indicators used in the visual grading system are:

(a) Muscling of the carcass

(b) Finish - or external fat cover

(c) Quality - as affected by age

(d) Size - which is affected by breed

30. In the following paragraphs each grade will be discussed in terms of its quality factors, origin and utilization.

31. Commercial Grade is the poorest of the four grades, and basically it shows none of the quality factors. In numbers it forms the major grade of intake by the KMC originating principally in direct purchases from the range areas in Masailand, Eastern Province and direct purchases from the stock routes particularly at Mombasa. The preferred utilization of this grade is the manufacture of Canned Corned Beef (CCB), however, since the average fat content of the carcass is only 10.3% it is debatable as to whether there would be adequate fat on a year round basis to meet the formula requirement if this was the only grade used. The commercial grade is also consumed in rural markets and on farm consumption.

32. Standard Grade carries an adequate amount of muscling, but no finish. Thus, looking at the table in para 3 it is apparent that on average the carcass has 20% more bone than commercial grade but 50% more edible tissue. The better cattle in the purchases above will fall into this grade, particularly cattle which have been grazed for a period after coming off the stock routes. It is liekly to be the principal grade produced by the Project ranches. In previous years this grade was the main carcass supply to the Nairobi wholesale market (58%) by weight, 68% by number of head). Some of the carcasses are exported as hind quarters or cut beef while a small residual amount finds its way into CCB.

33. FAO Grade is derived from any animal, irrespective of age which has an adequate finish. In past years this grade with Choice came mostly from ranches in the high potential range areas, or from the mixed farming areas, but over the last 2-3 years over 60% of the KMC high quality beef intake has come from the newly established feedlots.

34. Choice Grade carries an additional degree of finish over FAQ grade, but in addition there is an age limit of not more than 6 mature teeth which ensures that on average this grade, being younger, will have a better eating quality. Although this grade and the preceding one are distinguished when purchasing them from the producer, when the KMC sells them in its turn (at least on the export market) it mixes both together and sells them as "high grade". The origin of this practice stems from the time when intakes of Choice (in those days GAQ) and FAQ grades fluctuated widely month by month during the year. In this situation the mixing of grades allowed the KMC to meet export contracts, when it may otherwise have had to forego the order, or substitute an alternate grade. Export shipments are made in the form of side, hind quarters and pistola cuts with a certain amount of cut beef as demand indicates. In the past more high quality meat has been consumed within Kenya than has been exported.

35. "Swiss Grade" - This is not a grade at all, but is produced under contract by certain feedlots with veterinary approval. The contract stipulates that the carcass should have a minimum weight of 240 kg CDW, at least an FAQ finish and should come from a younger animal than Choice (only 4 teeth). Ideally, to achieve the correct carcass weight these carcasses are derived from crossbred cattle. Over the past 12-18 months carcasses produced under these contracts have in fact been exported to markets other than Switzerland (often with carcasses from non-Swiss feedlots).

Producer Prices Paid by KMC and Butchers

36. Government reviews producer prices at least annually and since 1972 has gazetted minimum prices to be paid by KMC. Although it has the power to do so it has seldom exceeded the gazetted price except in the case of quality grades when it has sometimes come to special terms with ranches and feedlot

operation to get early deliveries. Producer prices that have been paid for these grades by the KMC are as follows:

	Swiss Export	Choice *	FAQ *	Standard	Commercial
1972	NA	4.45	4.20	3.15	2.80
Jan. '73	5.20	4.65	4.40	3.40	2.95
Jul. '73	5.40	4.85	4.70	3.65	3.20
Jan. '74	6.00	5.30	5.00	4.20	3.60
Feb. '75	6.30	5.85	5.50	4.85	4.25
Apr. '75	6.60	6.15	5.80	4.85	4.25
% age increase	27% 1/	38%	38%	54%	52%
Proposed Apr. '76	8.30	Open	7.00	4.85	4.25

(Gazetted prices 1967-75 Table 3; KMC annual average prices paid 1967-75 Table 4).

37. It is difficult, however, to establish the prices paid by local butchers and abattoirs. There are two items of circumstantial evidence which indicate that the butchers wish to buy the better quality standard grade, and for this they pay something approaching FAQ price. Each dry season when cattle supplies are short non-Swiss feedlots are approached by butchers to sell cattle. In this case the butchers offer a better return for the unfinished cattle, but a properly finished group of cattle get a slightly better price from KMC. The other factor is that less skilled ranchers are the ones who have the greatest complaint against KMC prices vis-a-vis butcher prices. Again a nice looking group of cattle which are not quite FAQ will get a standard price from KMC. On a 190 kg carcass this differential would be substantial (190 x 5.80 - 4.85 = KSh. 180 per head).

38. Because of the butcher premium and the need to relate the average weight of the cattle to a ratio of production between two grades a special producer price table for different average weights are given in Table 5; these have been used in the farm budgets but the mission is concious that they provide an optimistic price in the case of a ranch where a high proportion of beef gives to KMC. Immature prices paid by the feedlots. Immature cattle are virtually never available at their KMC realization price. Depending on weight LMD asks Ksh 2/30 to 2/50 per Kg Lw. Thus when LMD asks an auction "floor" price of Ksh 2.50/kg liveweight this approximates the local butcher value,,while the KMC value would be closer to Ksh 2.30/kg liveweight.

1/ 7.50 plus 30 cents feedlot bonus and 50 cents Swiss loans.

* Non-Swiss feedlots with a KMC contract receive an extra 30c/kg on each of these grades

C. PROJECT PRODUCTION SCHEDULES

39. The national cattle herd is generally estimated at approximately 9.5 million head, half of which are in the sparsely populated rangelands while the remainder are in the densely populated high potential and marginal agricultural areas. The Project aims to increase production from the range areas. Insofar as beef production is concerned there are no projects aimed at the high potential farming areas. Since land is at a premium in these areas, and as incomes increase with cash cropping it is unlikely that they will contribute any surplus beef for consumption. On the contrary, it is to be expected that they will increasingly become deficit areas.

40. In the development of the 181 ranches envisaged in the Project there are two factors which will affect the production schedules (a) the numbers of ranches actually established and their phasing, and (b) the precision with which they achieve their production targets. In terms of the volume of beef produced by the Project the first factor is undoubtedly the most important, but as far as the quality of beef is concerned the second will have the greater effect.

41. Taking the numbers of ranches as laid out in the appraisal report, and assuming five years initially to get them set up, the production models would not reach maturity until year 17, i.e. 1990. The anticipated production from the ranches by grade (Standard = 152 kg FAQ = 206 kg) would appear to be as follows:

Grade of Beef:	Commercial	Standard	FAQ
1990 Production from -			
100 Commercial Ranches	480 m.t.	2,550 m.t.	3,410 m.t.
21 Company Ranches	-	1,558 m.t.	1,678 m.t.
60 Group Ranches	-	6,108 m.t.	6,192 m.t.
Total	480 m.t.	10,216	11,280
Total Production Pre-Development	1,225	5,422	2,951
	(745)	4,794	8,329

42. Altogether this leads to a total increase in production of 12,378 m.t. It should be stressed that it is unlikely that the production mix would be as shown at KMC grading. Rather the average animal will be closer to FAQ grade than to standard grade - a product which is probably ideally suited to, and best paid by, the local butcher market.

43. The production from the feedlots can now be superimposed upon the ranch models by withdrawing 19,584 animals (6528 x 3) from the standard grade - 2977 tons - for feeding into FAQ grade producing 3955 tons.

44. Thus, the final marketing mix from the ranching/feedlot sector of the Project will be:

	Metric Ton
FAQ	15,235
Standard	7,239
Commercial	480
	22,954 tons

45. For an overall increase for this sector from the pre-development level of 9,598 tons, of 13,356 tons. The fact which emerges strongly from

these models, however, is that there is a significant shift in quality, the premiums for which are presumably the main engines of development.

46. The final marketed production to be taken into account is that resulting from the North East development and the stock routes, namely 128,000 from the North East region (year 18) and 135,000 from the Southern region. However, since the latter region overlaps with the ranch development it is presumed that only 70,000 will come from the pastoral area, giving a grand total of 198,000. As these are not destined to be used in either the ranches or the feedlots at maturity, and as they will be of commercial grade, it is presumed they are destined for canning. Since this amounts to 21,600 tons it will be a significant quantity in relation to present canning usage (8 - 10,000 tons).

D. DEMAND FOR BEEF AND THE PROSPECTS FOR MARKETING THE PROJECT PRODUCTION AT PRICES ADEQUATE TO PROVIDE INCENTIVES

47. There is no recent in-depth study of demand for beef in Kenya. The lastest paper produced by the Ministry of Agriculture still uses some of the previous studies by Spinks (1964) and Adlington and Wilson (1967). It is in the terms of reference of the forthcoming Meat and Livestock Marketing Study to update these studies. Although it was not feasible for the Review Mission to investigate in detail the demand situation and prospects, it did some estimates of demand in order to appreciate the possible trends.

48. Total demand was estimated at 154.4 thousand tons for 1975 and would increase to 217.5 thousand tons by 1985 (see Table 7). Over the next five years the annual rate of increase of demand would be of 3.8%, of 3.2% over the next fifteen years i.e. that it would keep pace with population growth. These estimates do not include, however, the demand for KMC canning line, nor the demand for fresh and chilled beef for the export market if Kenya were to opt for a definite export policy.

49. An attempt was made to estimate demand by grade of beef in order to appreciate which grade will be most demanded and when, and where will new investments be necessary. It was therefore assumed that the pastoralist (25% of the rural population) assume mostly the commercial grade. Any surplus of commercial grade is sold to KMC, LMD and/or to ranches for further fattening. Settled rural consumers of the high potential areas (75% of the total rural population) and about 60% of the urban population would have a preference for the standard grade. The other 40% of the urban population would consume FAQ. Finally, Tourists would mostly consume choice grade.

50 It is apparent from these projections that the pressure will mostly be for the standard grade. New investment would therefore be required for company and group ranches, which are most likely to produce the standard to FAQ grades, provided that the price structure for beef allows for these new investments. Alternative, the production of other sources of animal proteins such as sheep and goats, pig and poultry should be developed in order to receive the pressure from beef. These other livestock are actually complementary not to livestock production but also to agricultural production.

51. An attempt was made to evaluate the contribution of the forthcoming project ranches to supplying the demand (Table 7). At full development (1985) this contribution would only amount to about 9,000 tons i.e. 4.1% of total demand, and to 3.5% of the demand for the standard grade.

Discussion of some factors affecting unfuture role of KMC

52. The tentative demand projections give some indication of the changes of the structure of the industry as the Project comes on stream with its production. The four production centers concerned are:

(a) North East Kenya where the marketing division will channel cattle into central Kenya. One factor which could affect this development will be the value of ca cattle in Somalia as that country develops its natural market for live cattle into Saudi Arabia. At present cattle more in both directions across the border as producers/traders seek markets and better prices. Evidence in conflicting about who pays the most and it appears that this can vary from mouth to mouth. Higher prices in Somalia could of course affect delevents to KMC in future.

(b) The Southern areas from where the marketing division expects to purchase the preponderance of its cattle. Here, there is no external market to compete with, although it can be surmised that local butchers will become increasingly active, particularly to the extent that they are prepared to purchase commercial grade cattle for their markets.

(c) The ranches which are currently supplying the greater proportion of their output to the local market and will presumably increasingly do so.

(d) The feedlots which are generally tied into the KMC on account of their need to market a quality product with precision.

53. A production center which is not catered for by the Project is the cattle herd of the densely settled agricultural areas, most of the cattle from

which do not currently pass through KMC hands in any event. With the competition for land in these areas, and their proximity to urban centers, it would seem likely that demand will outpace supply and they will become deficit areas.

54. As the residual market and the main price setting agency KMC will find itself facing two challenges:

(a) Can it continue to attract an adequate quantity of canning grade meat in the face of competition for its supplies from the settled agricultural areas and from Kenya's northern neighbors?

(b) Can it develop profitable markets, both domestic and foreign for the high grade beef that it purchases?

55. The key to its performance in this task will be the price spread between the low grade and high grade meat. While the traditional thinking has been that however low the price of low grade meat it would still come to the plant since there was no other outlet there are signs that this will change were it not for the efforts of LMD it is almost certain that plant throughput would have been severely restricted in 1975. Furthermore, any shift in the urban consumer preference for the better grade standard beef towards commercial grade will further erode supplies.

56. Thus the attention of the KMC must be firmly focussed upon the task of improving the marketing of its fresh, chilled and carcass meat, as the only method of improving the price spread. It would be valuable to go as far as to set up a separate sales section dealing only with these lines, and possibly embracing procurement as well since certainly some of the higher grades should only be produced against a contract.

57. To assist in product differentiation the existing grades do an effective job and are well understood by the producers. The only area where a modification could be of some value would be to reduce the finish requirements for Choice grade, but it is important that this grade is maintained to provide the valuable incentives for encouraging youth and carcass size, which should also eventually be reflected in better prices for the product when marketed by KMC.

58. Finally, there is the important point that the easily exported content of a carcass is approximately the same quantity of meat that is added during the finishing process. Viewed in this way there should be no conflict between production for local use or for export since it is possible to have the exportable cuts in addition to the quantity of beef in a standard carcass prior to finishing. The key to this solution lies with the KMC since they should actively seek to sell the lower quality cuts on the local market (e.g. stew or mince). In this respect, the proposal to control forequarter meat while freeing hindquarter prices should be welcomed as a step in the right direction.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Supply of Cattle to KMC and Sales of Beef 1961 to 1974 with Notes on Reasons for Changes

Remarks on Supply of Cattle	Year	Top Grades	Standard Grade	Total Numbers	Av. Weight CDW Kg. All Cattle	Average Price Per Kg.	Local Carcass	Cut Beef	Export Carcass	Export Canning	Remarks on KMC Sales
Decline in supplies of higher grade cattle from large farms.	1961	50 2/	NA	175	159	2.22	-		-	-	
	1962	48	NA	173	176	2.26	-	-	-	-	
Range Management Division Established	1963	NA	NA	184	169	2.20	-	-	-	-	
Minister urges ranchers to intensify ranch production resulting in increased production. At same time efforts made to take more cattle from pastoral areas resulting in more Standard and Commercial.	1964	54	32	156	164	2.33	12,350	-	2,717	10,309	Carcass exports reduced as supplies of good grade cattle decline and local consumption increases.
	1965	41	41	184	142	2.31	12,846	-	2,036	10,288	
	1966	44	47	187	147	2.49	12,234	1,706	1,147	11,728	
	1967	50	45	215	142	2.54	13,734	3,011	447	13,334	
Supplies of good grade cattle decline as butchers take more of their stock, expatriates less prepared to invest, increasing takeover of ranches. Prices satisfactory 1970-72	1968	48	53	188	158	2.54	16,064 16,064	2,510 2,510	494	10,522	
	1969	34	50	186	145	2.66	14,223	1,498	513	9,976	KMC local sales decline as other urban abattoirs increase supplies.
	1970	30	57	197	140	2.68	15,615	2,158	522	9,692	
	1971	33	53	210	132	2.86	13,582	1,809	971	9,703	Government frees local markets encourages local abattoirs.
Feedlots meeting shortfall in top grade producing 15,000 head rising to 20,000 head. Standard grade declines.	1972	46	56	198	143	3.18	12,676	1,607	2,385	10,133	Carcass exports increase as butchers supply local market and feedlot cattle provide supplies.
	1973	46	39	158	148	3.70	11,797	2,457	1,307	6,985	
Butcher claims on ranch cattle increase; ranch takeover continues development investment declines. Feedlots no longer expanding to provide the shortfall standard grade cattle continue to decline as butchers take more and range areas can not produce more without investment. Drought also affects supplies of higher grades. Commercial grade cattle still available if they can be moved to KMC.	1974	33	30	160	132	4.14	8,430	2,120	1,299	6,743	
	1975							N.A.			

1/ Cut beef is normally in the region of 1,000 to 2,000 tons
2/ Mission estimate requiring checking with old KMC reports.

Source: KMC Annual Reports 1965-74.

July 2, 1976

ANNEX 7

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

KMC

INTAKE OF CATTLE BY GRADE

1967 - 1976

Grade		1967	1968	1969	1970	1971	1972	1973	1974	1975 1/
	Average CDW/Head	143	158	145	140	127	165	149	132	
Baby Beef		123	120	101	-	-	-	-	-	-
First	/Prime	400	243	77	132	80	28	56	34	22
GAQ	/Choice	21,411	21,604	11,513	10,215	8,113	8,704	12,043	11,295	10,132
FAQ	/FAQ	27,648	26,303	22,060	19,822	25,176	37,162	33,685	21,598	17,174
Third	/Standard	44,708	52,694	50,273	56,593	52,659	56,034	38,606	29,882	34,252
Fourth	/Commercial	100,938	75,048	89,980	98,716	112,294	86,004	63,554	82,814	64,492
Manufacturing		16,443	6,341	8,561	7,948	8,063	7,044	3,629	8,666	3,604
Contract		453	3,166	578	-	-	-	-	-	-
Reject		192	819	517	579	328	312	242	206	(154)
Total	Accepted	212,316	186,338	183,660	194,005	206,713	195,288	151,815	154,495	129,830
Condemnations		3,276	1,776	2,003	2,629	3,140	2,850	2,920	5,019	1,424
Deaths and Losses		2	6	10	7	-	-	-	-	-
Purchased for Sale Liveweight		2,144	6,362	1,660	57	-	-	-	-	-
Total Purchases		217,738	194,482	187,333	196,698	209,853	198,138	154,735	159,514	131,254
Athi River Disposals										
Local Sales	Metric Tons	NA	NA	9,410	10,168	7,063	8,548	8,397	5,242	-
Export Sales				9,648	10,005	11,365	13,436	10,371	9,231	-
Total				19,068	20,173	18,428	21,984	18,768	14,473	-
Annual Feedlot Placements						N.A.	N.A.	18,000+	18,584	20,460

1/ Provisional.

July 6, 1976

ANNEX
Table

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

A. Gazetted Retail Prices
KSh./Kg.

	1967	1971	1973	1975	1976	
Date Gazetted	Dec. 16/67	Sep. 18/71	Jul.12/73	Feb. 27/75	Observed by Mission on Markets	Gazetted on June 29
All Cuts with Bone	3.60	5.80	6.40	7.40		7.40
All Cuts Without Bone	4.00	6.00	7.60	8.60		8.60
Cuts						
Beef Fillet	NA	11.00	12.60	13.00	16.00	14.75
Rump Steak	NA	9.00	10.00	10.40	10.50	12.15
Topside	NA	8.00	8.90	9.30	9.30	11.05
T-Bone Steak	NA	10.00	11.00	11.40	10.40	13.15
Stewing Steak	NA	6.00	7.60	8.00	8.00	9.75
Sirloin	NA	11.00	12.60	13.00	12.00	14.75
Sirloin on the Bone	NA	10.00	11.00	11.40	-	13.15
Silverside	NA	7.00	7.90	8.30	-	10.05
Brisket	NA	6.50	7.40	7.80	-	9.55
Boneless Shin	NA	4.50	5.00	5.40	-	5.40
Oxtail	NA	4.50	4.70	5.10	-	5.10
Ox Liver	NA	5.00	5.80	6.20	-	6.20
Heart	NA	3.50	4.90	5.30	6.00	5.30
Tongue	NA	5.00	6.80	7.20	-	7.20
Minced Steak	NA	6.50	7.90	8.30	8.30	10.05
Tripes (Matumbo)	NA	-	-	4.50	-	4.50
Calf Liver	NA	-	-	-	8.00	
Lamb	NA	-	-	-	11-12	

B. Gazetted Producer Prices

	1967	1969 (March) Min.	Max.	1971 Min.	Max.	1971 July	1972 Feb.	Dec.	1973 July	1974	1975 Feb.	1976 June	Increase 1971-1975
Baby	4.18	4.19	Open	-	-	-	-	-	-	-	-	-	- -
First/Prime (I)	3.36	3.85	Open	4.10	Open	4.50	4.70	4.70	4.90	5.35	5.90	Free	44% ≠ 9.50 p.a.
G.A.Q./Choice P	3.08	3.41	4.10	3.80	Open	4.26	4.45	4.67	4.87	5.30	5.85	Free	54% ≠ 11.4 p.a.
R	2.92	3.08	3.77	-	-	-	-	-	-	-	-	-	- -
F.A.Q. P	2.86	3.30	3.75	3.55	4.00	4.00	4.20	4.41	4.61	5.20	5.50	7.50 1/ 7.00	55% ≠ 11.5 p.a.
R	2.70	2.97	3.42	3.18	3.42	3.18	3.18	3.34	4.31	-	-	-	- -
Third/Standard P	2.53	2.75	2.97	2.90	3.25	2.75	3.15	3.42	3.67	4.20	4.85	4.85	67% ≠ 13.8 p.a.
R	2.39	2.65	2.87	2.65	2.87	2.65	2.65	2.78	3.39	-	-	-	- -
Fourth/Commercial I	2.31	2.40	2.60	2.55	2.85	2.60	2.80	2.94	3.19	3.70	4.25	4.25	67% ≠ 13.8 p.a.
R	2.20	2.30	2.50	2.30	2.50	2.30	2.30	2.42	2.89	-	-	-	- -
Manufacturing	-	1.10	1.10	1.10	1.10	1.10	1.50	1.58	2.20	2.20	2.20	-	100% ≠ 19%

1/ Grass Fed = 7.00
Fed = 7.50

July 6, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Average Producer Prices Paid by K.M.C.
(Ksh/Kg)

Grades	1967	1968	1969	1970	1971	1972	1973	1974	1975 February	1975 April
Baby Beef	3.24	3.45	4.19	-	-	-	-	-		
First/Prime	2.87	2.78	3.64	3.96	4.26	4.63	4.81	5.36	6.30 1/	6.60 1/
G.A.Q./Choice	2.62	2.53	3.30	3.49	4.06	4.40	4.76	5.30	5.85	6.15
F.A.Q.	2.44	2.35	3.16	3.32	3.76	4.07	4.42	5.00	5.50	5.80
Third/Standard	2.15	2.08	2.72	2.73	2.84	3.01	3.46	4.20	4.85	4.85
Fourth/Commercial	1.85	1.90	2.39	2.38	2.49	2.51	2.99	3.70	4.25	4.25
Manufacturing	.91	.91	1.10	1.10	1.10	1.42	1.70	2.20	n.a.	n.a.
Contract	1.91	.91	1.10	-	-	-	-	-	-	-
Reject	.85	1.14	1.05	1.06	1.10	1.06	1.28	2.20	n.a.	n.a.

1/ Swiss Export

Source: KMC Annual Reports.

NOTE: KMC annual average producer prices lower than gazetted prices because of differences in gazetting dates and condemnations in a grade.

August 24, 1976.

ANNEX 3
Table 4

KENYA*

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 29, 1976

Producer Prices Used in Budgets

	Kg. CDW	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
A. Producer Prices if prices rise in real terms at 1% p.a. between 1976 and 1980 and 2% p.a. thereafter until 1985 for Choice to Standard Grades and 5% p.a. and 1% p.a. for Commercial Grades											
FAQ (Fed)	206	7.50	7/96	8.45	8.95	9.47	9/65	9/85	10.07	10/24	10.45
FAQ (Grass Fed)	206	7/00	7.42	7.87	8.34	8/83	9/00	9/19	9/37	9.56	9/75
	190	6/56									
	180	5/96	6/52	6/70	7/10	7/52	7/67	7/83	7/99	8/14	8/31
	170	5/56	5/89	6/25	6/65	7/02	7/16	7.30	7/45	7/60	7/75
	160	5/16	5/47	5/80	6/16	6/51	6/64	6/77	6/91	7/05	7/19
Standard	152	4/85	5/14	5/45	5/78	6/12	6/25	6/57	6/50	6/63	6/76
	140	4/68	4/96	5/25							
	130	4/54	4/81								
	120		4/57								
Commercial	109	4/25	4/38	4/51	4/64	4/78	4/85	4/89	4/95	4/99	5/06
B. Producer Prices if prices rise in real terms at 5% p.a. between 1976 and 1980, and 0.2% p.a. thereafter until 1985 for Choice to Standard Grades and 1.5% p.a. and 0.2% p.a. for Commercial Grades											
FAQ (Fed)	206	7/50	7/75	7/96	8/20	8/44	8/46	8/47	8/49	8/51	8/53
FAQ (Grass Fed)	206	7/00	7/21	7/45	7/66	7/88	7/89	7/91	7/93	7/94	7/96
	190										
	180	5/96	6/13	6/32	6/51	6/71	6/72	6/73	6/75	6/76	6/77
	170	5/56	5/73	5/90	6/08	6/26	6/27	6/28	6/29	6/31	6/32
	160	5/16	5/31	5/47	5/64	5/81	5/82	5/83	5/84	5/85	5/86
Standard	152	4/85	4/99	5/14	5/30	5/46	5/47	5/48	5/49	5/50	5/51
	140	4/68		4/92							
	130	4/54	4/64								
Commercial	109	4/25	4/31	4/38	4/44	4/51	4/51	4/52	4/52	4/53	4/52
C. Producer Prices if the Standard Grade is raised 30% and prices rise in real terms at 3% p.a. between 1976 and 1980 and 0.2% p.a. thereafter unti 1985 for Choice to Standard Grades and 1.5% p.a. and 0.2% p.a. for Commercial Grades											
FAQ	206	7/-	7/21	7/43	7/65	7/88	7/89	7/91	7/93	7/94	7/96
	190	6/79	6/99	7/20	7/42	7/64	7/66	7/67	7/69	7/70	7/72
	180	6/66	6/86	7/07	7/28	7/50	7/51	7/53	7/54	7/56	7/58
	170	6/53	6/73	6/93	7/14	7/35	7/36	7/38	7/39	7/41	7/42
	160	6/40	6/59	6/79	6/99	7/20	7/21	7/23	7/24	7/26	7/27
Standard	152	6/30	6/49	6/68	6/88	7/09	7/10	7/12	7/13	7/15	7/16
	140	5/72	5/99	6/07	6/25	6/44	6/45	6/26	6/48	6/49	6/50
	130	5/25	5/41	5/57	5/74	5/91	5/92	5/93	5/94	5/96	5/97
	120	4/77	4/91	5/06	5/21	5/36	5/38	5/39	5/40	5/41	5/42
Commercial	109	4/25	4/31	4/38	4/44	4/51	4/51	4/52	4/52	4/53	4/53

N.B. Producer prices increase 3% p.a. in real terms from 1976 to 1980 and 0.2% p.a. to 1985.

N.B. Producer Prices for standard and commercial increase 3% p.a. in real terms from 1976 to 1980 and 0.2% p.a. to 1985. The commercial grade is estimated to increase at half that rate (1.5% and 0.2% respectively) because this production goes into the can and it would appear that price increases will be limited by: Market expansion opportunities; present high retail price for corned beef; increasing costs of manufacture; and a difficult carcass meat market which provides direct competition and the surplus may have to be canned.

April 29, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Demand Projections 1/
('000 tons)

Year	Commercial Grade	Standard Grade			FAO	Choice	
	Consumed by Pastoral Population	Consumed by Settled Rural Population	Consumed by 60% of Urban Population	Total	Consumed by 40% of Urban Population	Consumed by Tourist Population	Total
1975	62.5	74.0	8.0	84.0	10.0	.7	154.5
1976	65.0	76.0	9.0	85.0	10.0	.8	-
1977	67.5	78.0	9.0	87.0	12.0	.9	-
1978	70.0	80.0	10.0	90.0	14.0	1.1	-
1979	70.0	82.0	11.0	93.0	14.0	1.1	-
1980	72.5	84.0	12.0	96.0	16.0	1.3	185.8
1981	75.0	87.0	12.0	99.0	18.0	1.3	-
1982	75.0	90.0	13.0	103.0	18.0	1.4	-
1983	77.5	92.0	14.0	106.0	20.0	1.6	-
1984	80.0	95.0	15.0	110.0	20.0	1.8	-
1985	82.5	97.0	16.0	113.0	20.0	2.0	217.5
1986	85.0	100.0	17.0	117.0	22.0	2.2	-
1987	85.0	103.0	18.0	121.0	24.0	2.3	-
1988	87.5	106.0	19.0	125.0	24.0	2.5	-
1989	90.0	109.0	20.0	129.0	26.0	2.9	-
1990	92.5	112.0	21.0	133.0	28.0	3.1	256.6
Average Annual Per Capita Cons.	25	10	10	-	20	1.8	-
Average CDW per Animal kg	(109)	-	(152)	-	(206)	(232)	-
No. of Animals Equivalent ('000 head)							
1975	573.4	486.8	52.6	539.4	48.5	(2.9)	-
1980	665.1	552.6	78.9	631.5	77.7	5.6	
1985	756.9	638.2	105.3	743.5	97.1	8.6	-
1990	848.6	736.8	138.2	775.0	135.9	13.4	-

1/ Assumptions used to establish the demand projections: Population growth: 3.3% p.a. on average, 7.2% p.a. for urban population, 2.8% p.a. for rural population. Meat consuming population: 82% of total population (which represents the population of 5 year old and above). Elasticity of demand assumed to be equal to 1, taking into account a negative price elasticity, and positive income elasticity. This elasticity assumption may be over-optimistic given the population and income growth projections for Kenya. However, no other data were available.

August 31, 1976.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Beef Production by Grades
by Forthcoming Project Ranches
(cons)

		76/77									85/86			
		1	2	3	4	5	6	7	8	9	10	11	12	13-20
FAO Grade														
Commercial ranches	13	-	-	299	247	182	39	-	-	-	-	-	-	-
	13	-	-	-	299	247	182	39	-	-	-	-	-	-
	13	-	-	-	-	299	247	182	39	-	-	-	-	-
Sub-total		-	-	299	546	728	468	221	39	-	-	-	-	-
Feedlot (on average): 6,272 @		-	-	1,455	1,455	1,455	1,455	1,455	1,455	1,455	1,455	1,455	1,455	1,455
Total		-	-	1,754	2,001	2,183	1,933	1,676	1,494	1,455	1,455	1,455	1,455	1,455
Standard Grade														
Group Ranches	(6)	6	12	6	6	12	12	12	12	12	12	12	12	12
	(11)	-	11	12	11	11	22	22	22	22	22	22	22	22
	(16)	-	-	16	32	16	16	32	32	32	32	32	32	32
Sub-total		6	33	34	49	39	50	66	66	66	66	66	66	66
Company Ranches	(5)	985	995	905	1,085	1,020	1,055	985	1,035	950	980	990	990	990
	(5)	-	985	995	905	1,085	1,020	1,055	985	1,035	950	980	990	990
	(5)	-	-	985	995	905	1,085	1,020	1,055	985	1,035	950	980	990
Sub-total		985	1,980	2,885	2,980	3,010	3,160	3,060	3,045	2,970	2,965	2,920	2,960	2,970
Commercial Ranches	(13)	240	135	190	215	250	290	305	305	305	305	-	-	305
	(13)	-	240	135	190	215	250	290	305	305	305	-	-	305
	(13)	-	-	240	135	190	215	250	290	305	305	-	-	305
Sub-total		240	375	565	540	645	765	845	900	915	915	915	915	915
Total		1,231	2,388	3,484	3,569	3,694	3,975	3,971	4,041	3,951	3,946	3,901	3,941	3,951
Commercial Grade														
Group Ranches	(6)	348	552	390	426	546	558	690	654	630	630	630	630	630
	(11)	-	638	1,012	715	781	1,001	1,023	1,265	1,199	1,155	1,155	1,155	1,155
	(16)	-	-	928	1,472	1,040	1,136	1,456	1,488	1,8[illegible]	1,744	1,680	1,680	1,680
Sub-total		348	1,190	2,330	2,613	2,367	2,695	3,169	3,407	3,669	3,529	3,465	3,465	3,465
Company Ranches	(5)	170	175	140	-	-	-	-	-	-	-	-	-	-
	(5)	-	170	175	140	-	-	-	-	-	-	-	-	-
	(5)	-	-	170	175	140	-	-	-	-	-	-	-	-
Sub-total		170	-	485	315	140	-	-	-	-	-	-	-	-
Total		518	345	2,915	2,928	2,507	2,695	3,169	3,407	3,669	3,529	3,465	3,465	3,465

August 30, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Population Projections

Years	Population				Meat Consuming Population 4/			Tourist Pop.
	Total 1/	Urban 2/	Rural 2/	Nairobi 3/	Urban	Rural	Nairobi	
	million	('000)			('000)			
1973	12.90	1,453	11,447	674	1,190	9,385	550	-
1974	13.34	1,557	11,783	723	1,275	9,660	590	-
1975	13.78	1,670	12,110	775	1,345	9,930	635	418
1976	14.23	1,790	12,440	830	1,470	10,200	680	460
1977	14.70	1,920	12,780	890	1,575	10,480	730	506
1978	15.18	2,057	13,123	955	1,685	10,760	780	556
1979	15.70	2,205	13,415	1,024	1,808	11,000	840	612
1980	16.20	2,365	13,835	1,098	1,940	11,345	900	673
1981	16.74	2,512	14,228	1,177	2,060	11,670	965	740
1982	17.29	2,667	14,624	1,260	2,185	11,990	1,035	814
1983	17.86	2,833	15,027	1,315	2,323	12,320	1,080	895
1984	18.45	3,008	15,442	1,410	2,465	12,660	1,155	985
1985	19.06	3,192	15,868	1,511	2,617	13,010	1,240	1,084
1986	19.70	3,390	16,310	1,616	2,780	13,375	1,325	1,192
1987	20.34	3,600	16,740	1,730	2,950	13,730	1,420	1,311
1988	21.00	3,823	17,177	1,850	3,135	14,085	1,515	1,442
1989	21.70	4,060	17,640	1,980	3,330	14,465	1,625	1,587
1990	22.42	4,310	18,110	2,120	3,535	14,850	1,740	1,745

1/ At 3.3% p.a.
2/ Urban rate of growth: 7.2% p.a. 1973 - 1980; Rural = 2.0% p.a.
3/ At 7.2% 1973 - 1985, at 7.0% p.a. thereafter.
4/ Population of five years old and above = 82% of total population.

May 19, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Development of Company Ranches in Coast Province

Definition

1. Company ranches were originally defined under 129-KE to be enterprises in which land, usually unoccupied, is leased from Government or County Councils to prospective shareholders who make a contribution - usually cattle, seldom a cash equivalent - for shares. Animals are owned by the Company and profits distributed according to the shareholders? In order to avoid confusion, the term company ranches should be used:

- to describe only the development efforts in the coastal area, i.e. the Districts of Taita-Taveta Kwale, Kilifi, Tana River, and Lamu.
- to include in that term the efforts to develop cooperative ranches although the method of shareholding is different.
- to continue using the term Company ranches for those ranches that were established under Phase I of the Livestock Development Project (and not to reclassify them as ongoing Commercial ranches).

A. Present Position of Company Ranches

2. Ten Company ranches in Coast Province were established or assisted under the First Project covering over 520,000 1/ hectares with over 50,000 head of cattle. Since project completion disbursement to these ranches has risen from KSh. 14 million to KSh. 20 million using repayments from the Commercial ranch sector. Together with arrears KSh. 21.0 million is outstanding in these ranches or 51% of the 129-KE portfolio.

1/ This includes Galana which has 304,000 ha for beef and 16,100 head of cattle; the project may have helped develop 40,000 ha of this ranch which would make a total of 257,000 ha that might be ascribed directly to the project.

3. Three ranches with 97,000 ha have received additional finance under 477-KE (KSh. 7.2 million approved). Three new ranches (49,000 ha) have received approval for KSh. 7.6 million and Galana will soon receive another KSh. 6.0 million. If the B2 Yatta ranching company in Kitui is excluded from the portfolio the Company ranches at the Coast represent 44% of the 477-KE ranching portfolio (KSh. 20.8 million).

4. The first ranches began development in 1964 and 1965, but the major thrust for development came under the first project between 1971 and 1974. Taking into account the completely untried nature of the new land and ranches the physical implementation of the program has been generally successful; serious financial problems have recently appeared directly related to a cost price squeeze but also connected with ranch stocking and equity policies; their solution will rest very much with Government. Experience on these ranches provides a good insight into the likely performance of future new company ranch development. This is important since the company sector now represents half the amount disbursed by AFC on IDA financed ranch loans (Annex 16). Progress can be examined in the light of ranch management, technical extension advice, technical coefficients achieved, financial performance and effect of Government policies.

5. Management has been undertaken by Kenyans many of whom had no experience of ranching. With this background it can be said that creditable progress has been made. Ranching knowledge of Ranch Directors and staff at all levels can be greatly improved but on the best ranches after 6 or 7 years they have achieved weaning rates of 65%, adult mortality of 3% and steer average annual growth rates of 225 grams per day on properly stocked land which suggests that they are becoming more experienced. Certainly the mission had a most lively and enjoyable discussion on typical technical and financial ranching matters with chairmen of the Taita ranches. At least one ranch manager has a Kenya certificate in Range Management and more are sought. While

management will remain a factor for improvement, ranch budgeting and producer prices have to take account of the realities of this learning process if ranching is to remain a part of the Kenya agricultural scene. During this period the Kenyan Range Management and AFC field staff have also had to learn their job. This has compounded the problems of inexperience. With more trained staff available with several years field experience this situation should now be changing and it should be possible for RMD and AFC to play a more positive role in teaching and "supervising" the development of the new ranches. This is an aspect that needs much more attention.

6. While management and technical coefficients are factors among the present problems faced by Taita ranches the principal problem now being encountered on the company ranches is financial. Increases in producer prices have not matched increases in investment and operating costs and most company ranches are now operating at a loss and being kept from going bankrupt by AFC providing working capital. A complete review of all ranch accounts was not possible, but it seems that only Galana (300,000 ha and 16,000 cattle) is operating at a profit, others have only recently moved into the red and several like Mugeno and Sagalla are in very major financial trouble. The problem has been seriously compounded by: (a) the adoption of the wrong breeding herd/steer policy, (b) too optimistic a stocking rate planned, aggravated by failure to destock when the recent drought arrived, and (c) lax enforcement of the 20% rancher equity rule, which, as a result of price/cost changes has in itself become hopelessly inadequate. The Government and AFC must take the major blame for this situation. As one Provincial Range Officer put it: "If the Government

does not do something quickly we are quite unfairly putting these people further and further into debt out of which they will not rise. It will kill a project for which the people had high hopes and thought the Government fully supported." If nothing is done to change the situation further losses will not only lead to a negative return on past investment of ranchers but also to the economy.

B. Action Required to Save Present Company Ranches

Stocking Policy

7. By past Kenya commercial ranching standards the Taita ranches are of lower carrying capacity than most existing commercial ranches in Laikipia, Machakos or Nakuru Districts and receive a more uncertain rainfall. This means that investment costs per unit of meat produced are likely to be higher and that the building of a breeding herd is likely to be slower and more costly; finishing steers to a high grade will be more difficult. Profitability on the ranches will be more sensitive to producer beef prices.

8. To counter these problems the ranches must have a stocking policy which will allow flexibility to destock in dry years (the rainfall varies 40% around the mean) and to allow a slow build up of the breeding herd at a pace that can be afforded. It must be borne in mind that unlike development of a traditional ranch where a single owner may devote his entire life to development of his ranch and live on minimum income these ranches are owned by up to 50 people, many quite poor, and they want to see some return in the foreseeable future if their beneficial interest is to be maintained.

9. The first ranches to commence development in 1965 (Taita and Lualenyi) were based mainly on fattening steers and a small breeding herd, and a rate of development that could be afforded by the owners. This policy was changed during the first project and in 1972 to 1974 a large build up of young breeding stock took place sufficient (with their offspring) to stock up most ranches in good years so removing flexibility that fattening of purchased steers allowed. It has produced a serious cash flow problem especially as it has coincided with a decline in relative producer prices and with a series of drier years which have reduced the numbers and liveweight gains of steers supposed to provide the income for these breeding herds and their proge y. In an attempt to meet the cash flow problem and counteract the fall in producer prices many ranches have become overstocked with the result that the steer liveweight gains have not been achieved and instead of finishing their purchased steers in one and two years they are taking two and three years. While there may be arguments about the correct stocking rate a visit to the ranches will show that there is now little good grazing available to fatten the animals. The results of overstocking are illustrated by the fact that despite a rise in producer prices the average value of steers sold this year has dropped to KSh. 840/- per animal compared with KSh. 940/- in 1974.

The UNDP/FAO project survey showed that liveweight gains of 227 grams per day were possible on average in Taita with North East steers (local steers somewhat lower) and prices obtained for cattle sold in 1974 would suggest that these gains were being obtained while the drop in prices in 1975 suggests that the liveweight gains are now lower, possibly in the region of 172 grams per day or less. With operating costs now averaging KSh. 180/- per head per year such loss in liveweight gains becomes crucial. The problem is that the ranches are now in a self-defeating situation. They need steer profits to carry their breeding herds yet the overstocking resulting is causing serious reduction in daily liveweight gains so reducing the margins to carry these herds.

10. It is the mission's view that planned stocking for the ranch with the present type of stock in average rainfall years should not exceed one animal per unit (all animals excluding calves) to 7.28 ha (18 acres) and that to allow for flexibility breeding herd stock should not exceed 1:10.8 ha (26 or 27 acres). In many years this stocking rate will prove too high. Taita ranches may average about 400 to 500 mm per annum but in the four years between 1972 and 1975 Rukinga ranch averaged 334, 295, 437 and 295 mm yet in 1973, 1974 and 1975 it was carrying 1:8 1:4.6 and 1:5.2 cattle per hectare. It is not surprising that it lost 2,500 head in late 1975 (60% of young stock, 25% dams, 12% steers). It should have begun reducing its stock in 1973 possibly down to 1:12 or 1 to 16 by end 1975. Under 477-KE Rukinga received KSh. 2.4 million for purchasing breeding stock. Fortunately, this is the only ranch which suffered from such bad management but some were very close to it and will suffer similar losses if stock are not reduced. This loss, however, will take many years to recover and means a rescheduling of loan payments. Stocking rates on ranches in May 1975 is given in Table 1.

11. The UNDP/FAO Range Management team strongly recommended that Taita ranches rely principally on steer fattening operations in order to maintain

flexibility in stocking rates on a range area whose production characteristics were still uncertain. The profitability of steer fattening operations, however, depends on the immediate availability of stock and E. Ledger in a paper in the East Africa Agricultural Journal has described how critical this is; improved livestock movement under the Project should make steers readily available but this factor will require close attention. Since Government, through AFC, controls the finance these ranches get there should be no problem in directing policy. While the new ranches have a basic liking for developing their own breeding herd it must be pointed out that AFC has encouraged them to do so. Another point is that many of the new ranch shareholders have lived with over-stocking in their home areas for many years and do not always share the horror of overstocking that the technician does; the difference on the ranches, however, is that instead of having free grazing each animal has to provide KSh. 180/- production for its own upkeep and at the moment this money is coming from Government via AFC. Range and AFC staff therefore must bring home to ranchers not just the fact that overstocking causes range deterioration but that it also in this case actually costs them money.

12. Unless AFC wishes to foreclose and lose some of its money it is clear that it will have to provide more working capital to the ranches to get them out of trouble. Before it does so, however, it should carefully review the situation on each ranch to ensure it does not waste money. It should review the stocking policy on all ranches, selling off all stock in excess of carrying capacity and crediting the proceeds towards loan repayment or putting it aside for working capital. Maungu which sold unfinished steers to obtain cash and reduce numbers is the only new company ranch to have covered its operating costs last year. Taita ranching company on the other hand has steers which are gaining very little weight but costing money to keep. The review should include a reduction in breeding stock on most ranches to allow greater flexibility on stocking with purchased

steers in order to ensure that reasonable liveweight gains are made on correctly stocked ranches in poor years and the advantages of good years can be gleaned by stocking up with more steers as soon as it is apparent that the grazing is there. Well fattened purchased steers will be more profitable.

Operating Costs

13. Operating costs need to be carefully examined. It should be ascertained that sufficient is being spent on the essentials for ranch performance, i.e. correct quantities of minerals, salt, dip and veterinary medicines. While overgrazing has caused lower performance it is possible that undersupply of the latter items may be a factor also. Costs of dips, salt and minerals on project ranches in 1975 appears to have been in the region of 20 to 30/- yet established commercial ranches budget KSh. 42/-; higher expenditure here might reduce mortality and increase calving and growth rates.

14. Some scope may exist for pruning operating costs. A comparison of costs per animal in 1974 between a commercial Kenyan operated ranch in Nakuru district and Mugeno in Taita gives the former at 153/- per animal and Mugeno at KSh. 180/- while in the same year costs at Galana ranch were in the region of KSh. 140/- to 145/- (Table 2). In 1975 established commercial ranches estimated costs at least KSh. 180/- per animal - one high potential beef ranch in Eldoret quoted KSh. 230/- per year, but this involved fairly intensive management; for Sagalla, Mugeno, Maungu, Lualenyi and Galana ranches costs varied between KSh. 182 and KSh. 229/- but there are significant differences in their composition as can be seen from the following table.

	Mugeno	Sagalla	Maungu	Lualenyi	Galana
Main Operating Costs	117/-	130/-	124/-	150/-	N/A
Cattle Expenses, Dips, Salt, etc.	22/-	26/-	30/-	20/-	N/A
Operating Costs	139/-	150/-	154/-	176/-	N/A
Depreciation	43/-	N/A	75/-	N/A	-
	182/-	N/A	229/-	N/A	179/-

Providing AFC and the Range Management Division insist on ranches maintaining and producing proper accounts it should be possible for every field officer to prepare a comparison between ranches and a time series of costs. With regard to the latter for example it is interesting to note that operating costs between 1971 and 1974 at Ereri rose 22% while during the same period producer prices for standard grade rose 26%/ (Table 2). This data is essential for proper management advice and for providing Government with information on profitability of beef production. Work on this could commence immediately especially as Allied Ranching is preparing data on Taita ranches. Additional information can be obtained from private ranches.

Ranching Contribution

15. One of the most critical areas needing attention is ranchers contribution. When the first new ranches were being established in the 1960's before the first IDA project commenced, loans were dependent on ranchers producing at least 50% of the capital in the form of cattle, money or fixed assets (some of which had been provided by Government grant money under earlier schemes). It was accepted that partial development of ranches would have to be accepted and further loans for further development would be contingent on the ranch building up the necessary equity. Under the first IDA project (Credit 127-KE) full ranch development was encouraged from the

beginning and ranchers equity was reduced to 20% for development and working capital. Interest was then charged at 7 1/2%, the loan period was 12 years with a moratorium on interest of 3 years. This lending period was based on the supposition of average to good ranch coefficients, relatively stable prices and costs and, most importantly, a financial rate of return of 16% or more. Cash flows under this situation were adequate although in retrospect it can be argued that insufficient attention was paid to providing for taxation (40% of profits) and income for the participants. Under the second project the loan repayment period was reduced to 10 years, the rate of interest 9%. The financial rate of return was 15% and an unfunded cash deficit was forecast in Year 4 which would have affected ranches cash balances in years 5 and 6 also. Budgets and loan repayments under Phases I and II were tight and in 1974 and 1975 when drought conditions appeared and operating and investment costs outstripped producer prices ranches began running into trouble. Prior to this balance sheets show operating profits and better debt equity ratios although principal repayments in the terms allowed would have been a problem. The ranches and AFC's present predicament has become extremely serious because of the tendency to accept an increasingly lower rancher contribution so that for example the 1974 balance sheets for the three ranches topped up under Phase II, Rukinga, Lualenyi and Mugeno, show a rancher contribution of 6%, 5% and 4% of the total paid up capital and loan outstanding. Loan approvals for company ranches for 477-KE suggest a rancher contribution of only 9% of total development costs and 4.0% if the working capital loan is included (Annex 16. Table 10) Producer prices have to be particularly favorable if loan repayments are to be made in a reasonable period under these circumstances. The change from the policy of running a mainly steer herd with phased partial development of ranches (with equity participation ranchers can afford) to full

development over a short period has helped lead to this. Ranches like Mugeno will soon be carrying KSh. 84/- per animal in interest charges alone. A steer purchased at today's LMD prices plus transport, costs KSh. 500/- landed on the ranch. Its upkeep over eighteen to twenty-four months costs KSh. 300 to 360/- and is sold to KMC at standard grade at KSh. 840/- at present prices. At these price levels it can not possibly cover these interest charges. Although not strictly comparable, if the balance sheets of Galana and the commercial ranches of Kanyanyoni, Katoteni and Ereri (given in Annex 16 Appendix 1) are examined, the advantage of a reasonable equity contrubition can be seen.

Ranch	1975 Rukinga	1974 Mugeno	1974 Lualenyi	1973 Galana	1974 Ereri
Hectares ('000)	34	22	39	303	3.3
Stock Numbers	6,800	3,300	5,000	6,900	1,300
	←		KSh. ('000)		→
Share Capital (incl. reserve account)					
Issued and Fully Paid	318	193	132	2,944	506
Accummulated Profits/Losses	(1,032)	(1,003)	(64)	20	12
Loans AFC	4,649	3,725	3,560	3,434	699
Fixed Assets	633	678	564	2,168	385
Current Assets (Other Assets/Fees)					
Stock	3,833	1,909	3,350	4,876	759
Debtors	102	218	190	10	31
Loans to Shareholders	-	-	77	-	-
Cash/Deposits/Others	23	103	35	199	49
Goodwill	-	-	-	530	-
Current Liabilities					
Creditors	(267)	(16)	(247)	(310)	(7)
Proposed Divident	-	-	(220)	-	-
Bank Overdraft	(81)	-	-	(307)	-
Taxation Equalization	(130)	-	(180)	-	1
	4,136	2,916	3,629	7,261	1,224

1/ Details are shown in Annex 16 Appendix 1 - figures not exact because of rounding

16. The Bank's position on ranchers equity in discussion with AFC has been that ranchers should subscribe a minimum of 20% of both investment and costs or whatever amount above this thought prudent. AFC's position is that the IDA loan agreement states that ranchers need subscribe only 20% investment costs (but the appraisal report puts working capital in the investment table). In practice discussion on this point is not of much value. AFC loans are repaid by the ranches not IDA. It is AFC's job to see that their loans are as secure as possible and repaid over a reasonable term; IDA appraisal budgets are only meant to give an indication of likely profitability and each ranch has to be taken on its merits. If it is necessary for ranches to have a 40, 60, 80% equity to achieve this then that must be AFC's lending position. If ranchers cannot provide sufficient equity then no development should take place. It is then up to Government to make the necessary adjustments by means of prices, direct subsidies to AFC or ranchers or whatever other method they deem necessary if they want development to take place in that type of ranch or in that area. The implications to Government are that if it wishes to develop ranching with a small equity from producers it has to build an element within the price structure to pay for debt service since this is now an important cost of production (which is a different situation from the 1960's when production came from assets already paid for). As will be explained under the ranch model it would seem that an equity contribution of at least 30% and preferably 40 or 50% is necessary when interest rates are 9% and financial rates of return are in the region of 15 to 20%. Only if producer prices are sufficient to give over 20% rates of return should 20% equity participation be considered unless unduly long repayment periods are to be accepted.

Producer Prices and Government Action

17. Two other aspects must guide AFC in its decision whether to continue financing the present company ranches. These are in the hands of the Government. While it may be possible to reduce stock numbers to carrying capacity, improve liveweight performance, hold or reduce costs it is clear that present prices for standard grade - the grade most company ranch cattle reach in the early years - are at best only likely to cover operating costs. Present prices will not meet all interest charges, principal repayments, depreciation and an adequate income for ranchers. Prices for standard grade must be increased or the ranches or AFC given some compensatory grant and as explained later prices for FAQ may also require raising. The second point is the price of LMD steers. At present and likely future meat prices, ranches should only pay the same price for steers that pay for their meat value rather than the present LMD policy of trying to sell them at nearer standard or even FAQ liveweight prices.

Recommendations at Meeting with Ministry of Agriculture

18. In the final meetings with Government in the Ministry of Agriculture attended by representatives of AFC and the various Government departments, the mission explained the dire financial state of the ranches and urged:

(a) an early change in beef prices and a review of LMD steer sale prices policies.

(b) that before more money was lent to existing ranches a group consisting of AFC, range management and possibly outside experts with accounting and ranching experience should be convened to visit and prepare a new ranching and inancial strategy for the existing ranches; that further loans be restricted to making the strategy work before further finance is given. In impossible cases AFC should propose foreclosure.

(c) AFC disbursement on company ranch loans already approved should not take place and new company ranch applications not considered until the financial prospects of ranching in Coast Province improved.

(d) the danger to AFC's financial structure if decisive action was not taken, was stressed.

The problems now being encountered by existing ranches are discussed further in considering prospective budgets for new ranch development.

Recommendations for Adoption by AFC

19. In order to ensure the survival of many of the existing ranches it is clear that AFC will have to provide further working capital (irrespective of their present financial status this was implicit when AFC overcommitted its funds under 129-KE by 50%). Further disbursements by AFC on loans already agreed under 477-KE and consideration of new loans, however, should be contingent on a complete review of the financial state of the ranch and the preparation of a new detailed budget. These should be accompanied by a regular supervising and reporting program to be undertaken by AFC and Range Management field staff. As part of the program the present and future financial aspects of company ranches not requesting loans should also be checked.

20. IDA cannot continue to disburse in a situation which if it continues unchecked will lead to an unacceptable rate of return to both ranchers and the economy and which endangers the future viability of an important financial institution. The AFC Ranch review therefore should be undertaken as quickly as possible and it is recommended that further IDA disbursements on loan expenditures incurred on Company ranches should be contingent on the provision of an acceptable budget and review of the ranch incurring the expenditure accompanying the disbursement request to IDA.

21. Since acceptable returns will be largely dependent on an increase in producer prices of Standard grade the Government is urged to make this change as soon as possible. Also in view of the importance of steers for fattening the pricing policies of LMD should also be reviewed.

22. The repayment periods of loans will have to be revised but this should be done in the light of the future financial project costs of the ranches under the new prices and after strenuous efforts have been made to increase ranches equity. It is recommended that no change be made in the IDA loan documents on these points until the review has been completed; in general, it is recommended that loan repayments beyond 15 years should be considered.

23. If AFC wishes to employ one or two outside experts with an accounting or practical ranching experience to help with the review it is recommended that 50% of the cost of their consultancy be met under the IDA loan up to a limit of 3 months each.

C. Prospects for New Company Ranch Loans

24. Phase II loans are required for:

(a) continuing development or financing existing Taita ranches. Carrying capacity 6 to 12 ha (15 to 30 acres) per animal per unit.

(b) development of new company or cooperative ranches in Taita, Kwale, Kilifi and Tana River Districts, carrying capacity 6 to 16 ha (15 - 40 acres) per animal per unit.

(c) development of new ranches in Lamu District. Carrying capacity may in some places be as low as 1 A.U. to 4 ha (10 acres) although 1 A.U. to 6 to 12 ha for those ranches farther from the coast may be more prudent until more is known about them.

Stocking Policy for Model

25. The new company ranch model proposed (Tables 3 to 9) reflects the basic physical development necessary to keep a breeding and purchased steer herd on a fully stocked basis all the year round; the original appraisal model involved steer purchase in the early years only. Costs and performance coefficients were discussed and agreed with AFC. A ranch model of 28,000 ha has been chosen with a carrying capacity of 3,900 animal per unit (A.U.), A.U.'s being all cattle excluding calves. Taking into account the variable climatic conditions and desire of most ranchers to run both breeding and steer fattening activities parallel it is proposed to reserve two thirds of the carrying capacity for the breeding herd and at the same time to limit the breeding herd by loan conditions to that size. The remaining grazing is used for the fattening of purchased steers; in the first five years there would be a greater number of purchased steers. It is recommended that providing steers remain freely available, a higher than 33% ratio of steers be kept. Experience shows that it is unrealistic to expect a one year steer turnover because the types of steers suitable for one year fattening are not always available at the right time (or price) and the weather conditions in Taita are too uncertain to rely on being able to fatten them in one year. A two year fattening period has therefore been used. It can be argued that an uneven pattern of steer purchase and sale should be used to reflect more accurately the climatic hazards and quarantine problems. This has not been done because the average working capital loan needs would be difficult to define. This problem, however, should be borne in mind in determining the loan repayment period.

Model Production Coefficients

26. For determining production increases from the breeding herd the data in the UNDP Range Survey Report on Taita, 1970, has been used. The report gives liveweights of the type of cattle normally provided as equity and the improvement in these cattle after six or seven years using improved bulls. From this it is assumed that the following improvements in liveweights will take place in 7 years.

		First Year		Seventh Year	
		Kg LW	(Lbs LW)	Kg LW	(Lbs LW)
Breeding Cows		209	(460)	280	(620)
Bulls		295	(650)	500	(1,100)
Weaners		61	(135)	98	(215)
Heifers	12-24	129	(284)	177	(398)
Steers	12-24	138	(303)	187	(412)
Heifers	24-36	182	(400)	232	(511)
Steers	24-36	182	(400)	278)	(612)
Steers	36-48	227	(499)	370	(814)
Steers	48-60	272	(599)	-	-

27. From these liveweights it is estimated that over 7 years the average cold dressed weight of animals sold would rise from 115 kg to 160 kg per animal (115; 120; 125; 133; 140; 150; 160). In the sensitivity analysis a comparison was made assuming a much heavier basic herd at establishment than has been the experience so far and an increase in cold dressed weights of animals sold from 130 to 170 kg liveweight (130; 135; 140; 147; 154; 161; 170).

28. With the steer herd it has been assumed that steers would be purchased at 212 kg, the weight of animals recently purchased from LMD at Longopito. They would be sold after eighteen to twenty-four months after a liveweight gain of 150 kg or 204 grams per day. Under present grazing conditions gains of only 170 grams per day or less are probably being made while in the past gains of 230 grams per day have been achieved (UNDP Taita report, page 27). North East steers normally weigh heavier than Taita or Coast stock and

the model assumes a carcass weight sold of 173 kg CDW. One aspect that could affect the budget is that in the past animals purchased from LMD have often averaged 240 kg liveweight which would mean higher loan requirements for steer purchase (15%) and a higher sale weight after similar daily weight gains.

Price of Purchased Steers

29. A most important aspect of budget calculations different from present practice is the assumption that purchased steers will be purchased from LMD at KSh. 1/91 per kg liveweight which is the present price for commercial grade paid by KMD, plus KSh. 70 transport to the ranch. This is the liveweight price that KMC would pay for these animals if sent to the abattoir, but is lower than that paid by LMD to North East stockowners (see Annex 10) that at which LMD offer the stock, KSg. 2/10 to KSh. 2/50 (i.e. near standard to near FAQ grade). While it is normal for ranches to share some of the profit with producers of fattening steers any decision to encourage ranchers to purchase from LMD at above commercial grade prices means that the producer prices of the end product needs to be increased.

Producer Prices

30. Financial viability of the model has been examined under four different price regimes:

(a) KMC prices 1975/76.

(b) Prices being considered by Government during the mission's visit and passed in June which involved increases in FAQ to KSh. 7/- but maintaining the same price for Standard and Commercial grades (Annex 3 Table 5B).

(c) June prices plus a 30% increase in Standard grade (Annex 3 Table 5C).

(d) A 15% increase in proposed prices at (c) for FAQ and Standard. The feasibility of KMC selling meat at this price is discussed in Annex 3.

31. It has been assumed that the price of FAQ and standard meat in real terms will increase 3% p.a. until 1980 and then 0.2% p.a. to 1985 and commercial grade at half that rate. These are about the present increases forecast for world meat prices. The effect of no price growth and alternatively a real increase of 6% and 3% were estimated in some cases.

32. KMC's grading can be related to average carcass weight; commercial grade on average weighs 109 kg CDW, standard 152 kg CDW and FAQ 206 kg CDW. In trying to determine the price of animals being sold off the ranch it can be estimated that if the average weight of animals sold off a ranch is 180 kg then half the animals will grade FAQ and half standard so that an average price of these two grades could be used. This is probably the case with commercial ranches in Laikipia but in the case of Coast ranches most animals sold seem to grade standard when sold to the KMC even though the North East steers often average between 160 and 180 kg CDW. However, when ranchers sell to butchers they do receive much higher prices. For this reason, for weights between Commercial, Standard and FAQ, average weights, the models use prices intermediate between these grades which are related to the carcass weight of the animal. This method could be a major source of error and more work is needed to determine the average price that ranchers received from butchers and KMC for any particular weight. In the financial analysis this assumption becomes more critical as the price spread between the grades widens. It is therefore important that staff collect annually information on weight, sale value and sale outlets so that realistic values can be ascribed to production and promote a more rational system of estimating ranching profitability. The following are the four different price scales used for the three main grades in the first year; the prices for the intermediate weights and annual increases in prices is given for B and C in Annex 3 Table 5.

	A Present	B Proposed March 1976	C Proposed plus 30% Standard	D C plus 15%
FAQ Grass Fed	5/50	7/-	7/-	8/05
Standard	4/85	4/85	6/30	7/25
Commercial	4/30	4/30	4/30	4/95

Alternative Models

33. In addition to the model breeding and steer herd, alternative stocking policies were tested involving either a doubling of the model stocking rate (possibly applicable to Lamu ranches) or a policy of only fattening purchased steers.

Financial Rate of Return

34. It is considered that with the risks involved and the present opportunity costs of capital in Kenya a financial rate of return of 16% to 20% is desirable. As will be explained later such a return is also necessary if ranchers are to provide less than 50% of the capital required as equity.

35. Prices prior to June 1976 (when only FAQ was increased to KSh. 7/- per kg CDW) give positive financial rates of return but they do not reach acceptable levels as can be seen from the following table:

Stocking Rate	← 1:7.2 ha →				← 1:3.6 ha →	
Stocking Policy	Breeding + Steers			Steers	B + S	Steers only
Average sale weight of ranch breeding stock herd kg CDW at full development (7th year)	160	160	160	173	160	173
Daily weight gains of purchased steers/grams per day	172	204	224	-	204	204
(Average wt. of purchased steers sold)	(160)	(173)	(185)		(173)	(173)
FRR	0%	4%	8%	9%	8%	10%
Costs + 10% 1/	0%	0%	-	2%	3%	3%
Benefits + 20% 2/	12%	-	-	-	17% 2/	25% 2/

The importance of liveweight gain and average weight of cattle sold on the gross margins earned by animals sold from the breeding and purchased steers herds at full development can be seen from the following figures:

Breeding Herd 3/

Gross margin of animals if sold @ 160 kg CDW 131/- each
@ 170 kg CDW 268/- each

Steer Herd 4/

Gross margin if daily gain 172 grams to 160 kg CDW 76/- each
Gross margin if daily gain 204 gtams to 173 kg CDW 231/- each
Gross margin if daily gain 224 grams to 185 kg CDW 390/- each

Since the proposed prices did not give acceptable returns the prices were increased by assuming a 30% increase in the standard grade. It can be seen that under Taita ranching conditions the breeding operation is still very marginal with an 11% rate of return but the pure steer operation is acceptable (22%) if liveweight gains of 204 grams per day are obtained. If twice the stocking rate per hectare can be obtained then the returns on the breeding herd reach acceptable levels as can be seen from the following table:

1/ Roughly equivalent to steer purchase price rising 20%.
2/ Equivalent to about 30% increase in standard grade or if the steers put on 240 grams/day.
3/ Total income from breeding herd less costs at 180/- per animal per unit (KSh. 466,000/-) divided by number of animals sold.
4/ Value of steers sold less purchase price (212 kg x KSh. + 70/- costs) and two years operating costs @ KSh. 180/- per year.

Stocking Rate AU:ha	← 1:7.2 →		← 1:3.6 →	
Stocking Policy	Breed + Steers	Steers only	Breed plus Steers	Steers only
Average sale weight of breeding herd stock kg CDW at full development	160	-	160	
DLWG of purchased steers/ grams per day	204	204	204	204
(Average wt. purchased steers sold kg CDW)	173	173	173	173
FRR	11%	22%	16%	23%
Costs plus 10%	7%	15%	11%	15%
plus 20%	-	8%	6%	9%
Benefits plus 10%	16%	30%	22%	31%

36. Another one possibility was investigated by assuming that the average weight of cattle sold from the breeding herd was heavier than the FAO report indicated and that average cattle weights would rise from 130 kg CDW to 170 kg CDW and this was combined with the June prices and an assumption that Government wished to increased prices in real terms by 6% p.a. to 1980 and 2% to 1985. The heavier ranch herd carcass improves the rate of return by about 2% but does not make the proposed new prices acceptable. The value of increasing the real meat prices by 6% in the next four years is significant and would make the breeding herd and steer herd policy acceptable if prices of Standard grade were also raised 30%.

Stocking Rate	← 1:7.2 ha →		
Stocking Policy	← Breeding stock and steers →		1/
Sale weight of ranch bred cattle	← 170 kg →		
DLWG of purchased steers	← 172 grams/day →		
Prices	June Prices		
Prices Changes	No increase	3% 1976-85 0.2% 1981-85	6% 1976-1980 2% 1981-1985

1/ The effect of purchasing steers every two years instead of annually was tested and this resulted in the loss of about 1 percentage point in the FAQ.

FRR	- 1%	2%	7%
Benefits + 20% 2/	6%	9%	14%
Benefits + 40%	12%	17%	22%
Costs + 10%	-5%	-2%	3%
Costs + 10% Benefits + 40%	8%	12%	-

Ranches Equity, Loan Repayment Period and Income

37. Financial rates of return by themselves, however, are not sufficient to ensure viability. The amount of the ranchers contribution (equity), terms of the loan, effect of taxation and cash income to ranches are also of importance.

38. Cash flow tables have been prepared for the breeding and steer herds assuming (a) 30% price increase in standard over presently proposed (Tables 5 and 6), and (b) a 15% price increase on (a) Tables 7 to 8). Similar information have been extrapolated for pure steer enterprises (Table 9). The following summarizes the viability of the possible alternative.

(a) Proposed prices plus 30% for Standard grade on ranches with a carrying capacity of 1:7.2 ha.

(i) A ranch with breeding herd plus steers is "only viable" if ranchers contribute more than 50% equity and terms of loans are 20 years with 3 years moratorium. There would be little income in first seven years. If a 10-year loan maturity was given the first annual surplus would be in year 12 by which time a large deficit would have been formed (Table 5).

2/ Equivalent to about 30% increase in standard price.

(ii) A ranch with purchased steers only may be viable if ranchers contribute 50% equity. Terms of loan would be 15 years, 3 years moratorium.

(b) Proposed prices plus 30% Standard increased by 15%

(i) Breeding herd and steers - viable if 30% equity and 15 year loan. Net surplus divided among 50 shareholders might average KSh. 3,200 each although dividend would be less (Table 6).

(ii) Steer herd - viable. 20 or 30% equity. 12 to 15 year loan. Based on the model the average net surplus between year 7 and 20 would be 12,000/- each for 50 shareholders (Table 9).

39. In determining the equity contribution of ranchers it is vital that all cash requirements of ranchers is taken into account during the period when income does not cover operating costs - including interest on loans. Ranchers could pay their total contribution in one lump sum in the first year or in three payments corresponding to their share in the years operating expenses. It is recommended that the payment is made at the beginning recognizing, as in the case of the model, that this represents 50% of the funds required in first year. The following summarizes the equity and cash requirement for meeting all investment operating and interest charges (details Table 6).

Cash and Livestock Requirements for Model Ranch 28,000 Ha.
(KSh.'000)

	Year 1	Year 2	Year 3	Total	Ranches Contribution	
Initial Herd	477	-	-	477	477	100%
Investments	991	501	210	1,702	510	30%
				2,179	987	45%
Steer Purchase	595	601	-	1,196	359	30%
Variable Costs	105	168	-	273	82	30%
Overheads	474	474		948	-	-
				2,417	441	18%
Interest	149	291		440	-	-
Investments + W.C.	-	-		4,596	1,428	31%
Investments + W.C. + Interest				5,036	-	
	2,791	2,035	210	5,036	1,428	28.35%
Ranches Contribution	984	381	63		1,428	
% of Year Investment	35%	19%	30%		28%	
OR						
Ranches Contribution if paid in 1st Year	1,428					
% of 1st Year Investment	51%					

Comparison of Model Investment Costs with 129-KE Disbursements and Loan Approvals Under 477-KE

40. A comparison of costs per hectare of Model costs, 129-KE disbursements and 3 loan approvals under 477-KE show:

(a) Model investment costs for facilities are more than double actual 477-KE approvals and 129-KE disbursements. Investments in fixed improvements under 129-KE were insufficient but the amount now estimated in the budget using AFC and Water Department estimates does seem high and more attention should be paid to see whether building contract costs could not be reduced. Total investments for a 28,000 ha ranch would total KSh. 4.9 million compared with KSh. 1.7 at appraisal.

(b) Low model loan requirements for purchase of breeding stock reflect the need for a greater contribution by ranchers and less emphasis on developing the breeding herd.

(c) Lower model steer working capital over recent loan approvals reflects lower steer prices, possibly fewer steers and more emphasis on actual cash for meeting operating expenses. Previous estimates underestimated this item.

(d) The higher amount for meeting operating costs in the model reflects emphasis on reducing steer overstocking and a possibly more accurate assessment of the need for this type of capital.

Investments and Loan
KSh. per Ha

	Actual 129-KE disbursed 1970-74 Appraisal Estimate in Bracket	1972 477-KE Appraisal Estimate Total Investment Required	1975 Actual Loans Approved 477-KE	1976 Review Ranch Model Total Investment Required
Company Ranch Development Capital			3 New Companies	
Facilities	18 (18)	17	24	55
Breeding Stock	16 (1)	9	42	5
Existing Stock	NA	17	NA	17
Working Capital	34	43	66	77
Steers	30 (17)	14	69	43
Operating Costs	7 (6)	3	20	44
Interest	NA	-	-	16
	37	17	89	98

Conclusions

41. Based on the model, the June 1976 prices are inadequate. Any further new Company or Cooperative ranch development at the Coast should only be considered:

(a) In the case of ranches with breeding herds if the June prices include an increase of 30% for Standard grade and the FAQ and Standard grades are further increased by 15% to KSh. 8.05 for FAQ and KSh. 7/25 per kg for Standard, followed by a 3% real annual growth in prices until 1980). The loan period should be increased to 15 years to give a reasonable income to ranchers and some leeway for bad years (for which a reserve fund equal to one year's sales should be gradually built up by the ranch). Ranchers must supply at least 30% equity.

(b) It would be possible to develop a ranch carrying only steers if June prices are used including an increase of 30% in standard grade (followed by a 3% real annual growth in prices until 1980).

42. It is also apparent that a slower and more cost conscious method of development must be established the principles of which may include the following:

(a) Phasing of investments starting with a single water point and one dip only and making all further investments conditional upon satisfactory performance and contribution from members.

(b) Insisting on the minimum of investments i.e. in particular with respect of housing only construct roundavels in the first instance, the manager could be awarded a cash compensation of KSh. 1,000 p.a., in the case of vehicles instead of a tractor and trailer and a landrover costing

KSh. 180,000 together, purchase a 1 ton pickup for KSh. 40,000 and hire a tractor for cutting and clearing firebreaks.

(c) Restrict operations initially to a steer fattening enterprise to:

(i) maintain maximum flexibility.

(ii) make best use of seasonally available water and thus of seasonally increasing stocking rates to increase long term average; on this basis although only a quarter of the ranch might have permanent water a wider area could be utilized.

(iii) simplify management.

(iv) provide a market for LMD steers.

43. The adoption of a minimum investment plan could give greater financial rates of return than the model although development would be slower. A clause in the loan agreement should limit and specify the maximum number of breeding stock to be kept in the ranch.

44. In more favorable areas consideration should be given to reducing the size of the ranches restricting them to areas that can be served by one or two permanent boreholes 8,000 to 16,000 ha ranches. This might encourage greater numbers of members to join the ranch and equity needs would be less daunting.

Recommendations

45. It is recommended that no new company ranch development take place until prices are more favorable (prices suggested). On new ranches where loans have been approved by AFC but disbursement not taken place, the loan should be withdrawn. AFC should give consideration to stopping disbursement on other loans where only a little disbursement has taken place. AFC would have to investigate the legal implications of such action before taking it.

46. When new ranch development loans are given, emphasis should be placed on minimizing costs, ensuring adequate equity contribution at the outset, adopting a phased program and use purchased steers as the basis of the program in the early years.

Management

47. The Range/Division with its field staff should institute a recording and monitoring program to record changes in animal and range productivity on these new ranches. Training of ranch staff should be intensified.

Prospects for New Company and Cooperative Ranches at the Coast

48. The Coast Provincial list of ranches identified to date as under development and to be developed is given in Table 10. Coast rangeland under some form of development amounts to 647,000 ha with a further 1 million ha requiring development.

	Ha'000					
	Under Development 1/		To be Developed		Total	
Taita (Company/Coops)	223	(12)	142	(11)	365	
Kwale (Company/Coops)	21	(1)	222	(6)	233	(6)
Group Ranches	-		174	(5)	174	(5)
Kilifi (Company/Coop)	26	(1)	181	(3)	207	(4)
Group Ranches	-		82	(5)	82	
Galana Ranch	304	(1)	-		304	
Tana River (Company/Coop)	51	(1)	123	(6)	174	
Lamu (Company/Coop)	22	(1)	113	(4)	135	
	647	(16)	1,037		1,674	

1/ Includes ranches not financed under 129/477-KE.

49. Delays have occurred in the registration of ranches in Kwale and Lamu; the first because of the desire not to register land that cannot be used because of lack of water and the latter because the needs of the local people had to be fully taken into account. Differences of opinion have had to be resolved but according to the Lands Department and Provincial Commissioner, Coast Province, these unforeseen but necessary delays have been overcome and registration is now taking place.

50. The Coast Range program will require close supervision and monitoring by extension staff of RMD and AFC. The organizational aspects could prove more difficult than in the previously unoccupied areas of Taita. The proposed Kishushe and Osa ranches in Taita already have graziers using them; reorganization on the lines of the Kitui cooperative ranches may take time.

51. The four big Kwale ranches are on unoccupied land (except for some Masai who have moved in from Tanzania) but the people who could best contribute stock for their development from the overstocked areas of Kwale still prefer to remain there and sell milk to the Mariakani milk scheme. Membership of the proposed new Kwale ranches could be increased and used to help destock some of the Group ranches that are planned for Kwale. Mwereni for example, with an assessed carrying capacity of 7,000 cattle has 14,000 cattle owned by 203 people. Many of the owners loan their cattle to stockless people who herd them and in return can milk them selling the milk to the Milk Scheme. Other Kwale Group ranches have similar problems. The development of the new Kwale Company ranches therefore could be integrated into overall Kwale development objectives even if it takes time to organize.

Loan Requirements for Existing Ranches

52. Most of the new ranches established under 129-KE would benefit from further development, particularly more water points, reticulation, handling facilities and a few dips. Topping up loans so far have been for operating costs, and more money will be required for this purpose if the ranches are to survive. It is estimated that the following might be required for existing ranches. More precise estimates are dependent on the suggested review.

	KSh.'000
6 water points, equipping and and reticulation @ KSh.302,000	1,812
4 dips and yards @ KSh. 30,000	120
5 operating costs @ KSh. 600,000	3,000
5 steer purchase @ KSh. 1,800,000	9,000
Total required	13,932
Loans if members subscribe 30% equity	10,352

Total Loan Requirements for Project

53. Present information suggests that a further sixteen new Company ranches (611,000 ha) could come forward in addition to the 3 new ones already approved (49,000 ha). They comprise:

District	Ranch Name	Area (Ha '000)
Taita	Wananchi	16
	Kishushe	31
	Osa	24
	Msamuli	6
	Shako	3
Kwale	Lunga Lunga	41
	Kwale Ranch	32
	Mwambeja	48
	Dakota	10
Kilifi	Kilifi	41
	Kilifi ADC	100
	Chakama	40
Tana River	Givitu	39
	Wachu	31
	Kitangale	24
	Kondertu	12
Lamu	Amu	33
	Tullu	40
	Witu Nangoro	32
	Buyra	8
	16 ranches	611 hectares
	Average size	41,267

The following table compares size and utilization of loan funds for the 3 new Coast Company ranches with loans so far approved under 477-KE (Annex 16).

	Ranch Size Ha.	KSh. per Hectare Dev.	W.C./ Interest	Steers	Total Loan
Original appraisal model costs	28,000	43/-	3/-	14/-	60/-
Loans approved so far	16,300	66/-	20/-	69/-	155/-
New model total costs	28,000	61/-	77/-	43/-	181/-
New model loan (70%)	-	42/-	54/-	30/-	126/-

If AFC met 30% of the investment costs then loan requirements for development of these ranches would amount to:

	Development	Operating	Steer Purchase	Total
KSh.'000	25,662	32,994	18,330	76,986

54. It is estimated that development might take place on half the area or half the ranches before the end of 1979. For convenience the ranch model has been used for annual loan requirements based on 5 ranch models being started annually.

55. The full development on these ranches will not take place for the following reasons:

(a) Review of existing loans will take time and priority should be given to consolidating and improving their position.

(b) Producer price adjustments have to be made.

(c) The increase in equity contribution to at least 30% and preferrably 50% will delay the start of some and allow partial development only on most since the equity will be slow to be found.

(d) New project ranches are being situated in new districts with no previous history of development and as with Taita at the beginning organization, management and financial aspects will need more attention.For this reason KSh. 43,440 or just over 50% of the funds required for full development have been included for the new ranches, i.e. half the area would receive full investment or the area would receive funds for 50% of its development. In view of the above constraints this could prove optimistic but the mission believes that there is a need for development to take place quickly and that it could take place if the excess cattle in Kwale/Kilifi could be mobilized as equity.

56. The following table anticipates 5 new ranches per year being added to the program:

Year	Development	No. of Ranches	Ha. ('000)	Loan Requirements 1/ (KSh.'000) Development	Operating	Total
1/2	Existing ranches already approved (excl. Kitui)	4	-	4,500	6,300	10,900
2	Galana	1	-	2,000	4,000	6,000
1/2	New already approved	3	49	3,249	4,357	7,606
	Sub-Total	8	49	9,749	14,657	24,406
2	Existing ranches to come forward	5	-	1,352	9,000	10,352
3	New ranches 2/	5	200	5,855	11,715	17,570
4	" "	5	205	5,225	11,610	16,835
5	" "	6	205	3,470	5,565	9,035
	Sub-Total	21	610	15,902	37,890	53,792
	Total Loans	29	659	25,651	52,547	78,198
Appraisal Total Investment		21	588	25,227	9,677	34,904
Loans		-	-	-	-	28,000

1/ New ranch loans will provide 30% equity participation.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Acreages and Cattle Numbers on Company Ranches

Ranch Names	Acreage 000	Cattle 1973 000	Cattle 1974 000	Cattle 1975 000	Acres per bovine 1/
LUALENYI	96.4	2.0	5.5	6.6	14.6
MUGENYO	53.0	-	3.3	4.4	12.0
SAGALLA	43.3	0.3	2.5	2.5	17.3
MAUNGU	54.0	-	1.5 (est)	2.1	25.7
KASIGAU	56.0	-	1.6	1.6	35.0
RUKINGA	85.0	4.3	7.4	6.8	12.5
TAITA Ranching Co.	94.0	5.4	5.8	6.2	
(E. Msamuli) 2/	-	-	-	1.9	10.9
(Bell) 2/	-	-	-	0.5	
I. MWANGUNDA	5.1	-	0.5	0.5	10.2
IDA SA GADANA	50.8	-	-	1.2	42.3
Sub-total 3/	537.6	12.0	28.1	34.3	15.67
Appraisal stocking rate yr. 12	-	-	-	24.3	18.00
GALANA	750.0	6.9	13.6	16.1	46.5
TOTAL	1,287.1	18.9	41.7	50.4	-

1/ No differentiation between calves and older stock have been made.

2/ In addition to its own cattle Taita Ranching Company is carrying cattle for its chairmen Mr. Edward Msamuli who is waiting for water to be supplied to his own ranch and about 450 head have been maintained on a grazing fee base for butcher Bell of Mombasa (a useful income in the early days and a possible sales outlet). Because of failure of water supply development on Kasigau ranch Taita in July was also supplying water for the Kasigau herd on 15 days per month; some grazing by these cattle inevitably takes place.

3/ Galana Ranch commenced before the project and is a wildlife cattle ranching enterprise covering 750,000 acres. It has been assumed by the mission that the money lent was sufficient to develop 100,000 acres but this is an arbitrary assumption since the investment probably complemented others which in total affected a much larger area.

4/ Loans for Choke ranch (25,000 acres) and E. Mwangunga (5,000 acres) were approved in 1972 but according to the loan balances for March 1975 do not appear to have been disbursed. They have not been included in the list because there are no cattle returns. Both these farms appear under AFC's individual farm list.

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SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Operating Expenditures: Mugeno 1974 and Ereri Ranches 1971 and 1974

	1974 Mugeno	Cost Per Head	1974 Ereri	Cost Per Head	1971 Ereri	Cost Per Head
Hectare	39		33		313	
Stock	3,300		1,300		1,300	
Staff and NSSF	207,213	64/-	58,982	46/80	34,955	26/80
Uniforms	4,333		1,867			
Directors Fees	6,943		10,744		9,537	
Entertainment	422	2/70	2,313	10/00	2,753	9/45
Subsistence	1,547					
Donations	-	-	575	-/45		
Petrol and Diesel	29,202	12/70			22,858	17/58
Maintenance of Vehicles	12,639		18,079	13/90		
Vehicle Licenses	530				200	-/15
Insurance	7,529	3/25				
Insurance	2,664		392	-/30	377	-/30
Transport and Tractor	9,458	2/86	9,857	7/60	3,125	2/40
Railway Transport	-	-	9,475	7/30	901	-/70
Tractor Expenses	-	-	967	-/75	10,394	7/99
Drugs and Veterinary	14,116		4,863			
Dip Fluid	12,830	12/-		9/55	9,140	7/00
Stock Feed	12,831		7,570			
Livestock Facilities	25,661	7/80	-	-	-	-
Roads and Firebreaks	22,468	6/80	-	-	-	-
Water Charges	1,289	-/40	1,245	-/95	-	-
Maintenance of Tools and Equipment	4,073/-	1/23	-	-	4,324	3/30
Maintenance of Building	-	-	-	-	-	-
Lighting	3,822/-	1/15	-	-	-	-
Printing and Stationery	4,040/-	1/20	844	-/65	396	-/30
Postage and Telecommunications	755/-	-/25	1,310	1/00	488	-/37
Human Drugs	4,226/-	1/28	-	-	-	-
Land Rent	8,197	2/48	775	-/60	1,521	1/17
Audit Fees	3,500		3,600		1,500	
Allied Fees	-	3/25		4/00		6/90
Legal Fees	7,185		8,086		7,440	
Bank Charges	851	-/25	438	-/30	1,384	1/05
Advertizing	-		345		87	0/05
Court Fines	-		530	-/80		
Miscellaneous	5,458	1/65	174		3,142	2/41
Sub-Total	413,831	125/40	143,031/-	110/-	114,522	88/-
Loan Interest Paid	39,421/-	1/ 11/95	23,076	17/70	-	-
Sub-Total	453,252/-	137/35	166,107/-	127/-	114,522	88/-
Depreciation	141,900	43/-	33,479	25/70	22,900/-	17/61
	595,152	180/-	199,586	153/50	137,422/-	105/70
Excess Income Over Expectation	-		176,622	135/86	1,075/-	-/80

1/ Less than due.

May 12, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Model - Company Ranch - 28,000 Ha - Herd Projection

		At Beginning of Year	Year 1	2	3	4	5	6	7	8	9	10	11	12	13-20
Herd Composition															
Breeding Cows		500	538	607	676	659	711	762	813	872	952	1,000	1,000	1,000	1,000
Bulls		25	50	37	35	35	36	37	40	43	48	50	50	50	50
Weaners	0-12	250	269	334	344	395	426	495	528	566	618	650	650	650	650
Heifers	12-24	118	118	129	160	167	192	216	240	256	275	301	315	315	315
Steers	12-24	118	118	129	160	167	192	216	240	256	275	301	315	315	315
Heifers	24-36	112	112	113	124	155	162	186	210	233	248	267	291	306	306
Steers	24-36	112	112	113	124	155	162	186	210	233	248	267	291	306	306
Steers	36-48	106	106	106	108	120	150	157	180	204	226	241	259	282	297
Steers	48-60	101	101	101	-	-	-	-	-	-	-	-	-	-	-
Sub-Total Numbers		1,442	1,527	1,669	1,681	1,853	2,031	2,255	2,461	2,658	2,890	3,075	3,317	3,224	3,239
Sub-Total A.U.		1,192	1,258	1,335	1,337	1,458	1,605	1,760	1,933	2,097	2,272	2,425	2,667	2,574	2,589
Purchased Steers 1/		0	1,187	2,340	2,232	2,137	2,028	1,911	1,790	1,672	1,454	1,242	1,242	1,242	1,242
Total A.U.		1,192	2,445	3,675	3,569	3,595	3,633	3,671	3,723	3,769	3,726	3,667	3,909	3,816	3,832
Mortality															
Breeding Cows		28	27	24	25	20	21	23	24	26	29	30	30	30	30
Bulls		2	3	2	2	1	1	1	1	1	2	2	2	2	2
Heifers	12-24	7	7	6	7	5	6	7	7	8	8	9	10	10	10
Steers	12-24	7	7	6	7	5	6	7	7	8	8	9	10	10	10
Heifers	24-36	6	6	5	5	5	5	6	6	7	8	8	9	9	9
Steers	24-36	6	6	5	5	5	5	6	6	7	8	8	9	9	9
Steers	36-48	5	5	5	5	4	5	5	6	6	7	7	8	9	9
Steers	48-60	5	5	5	-	-	-	-	-	-	-	-	-	-	-
Purchased Steers		-	63	97	93	66	63	59	55	52	45	38	38	38	38
Total Deaths															
Purchases															
Breeding Bulls		-	30	10	10	5	6	6	8	8	9	9	7	7	7
Steers		-	1,250	1,250	1,125	1,125	1,000	1,000	875	875	650	650	650	650	650
Total Purchases		-	1,280	1,260	1,225	1,130	1,006	1,006	883	883	659	659	657	657	657
Sales															
Bulls		-	20	10	3	4	4	4	4	4	5	5	5	5	5
Heifers		-	-	-	-	-	-	-	-	-	33	92	113	131	131
Steers	36-48	-	-	106	108	120	150	157	180	204	226	241	259	282	297
Steers	48-60	-	101	101	-	-	-	-	-	-	-	-	-	-	-
Purchased Steers		-	-	1,140	1,152	1,047	1,058	941	941	824	824	611	611	611	611
Cull Cows		-	43	64	66	83	90	111	117	127	138	145	145	145	145
Total Sales		-	164	1,421	1,329	1,254	1,302	1,213	1,242	1,159	1,226	1,094	1,136	1,174	1,189
Production Coefficients															
Weaning Rate		-	50%	55%	55%	60%	60%	65%	65%	65%	65%	65%	65%	65%	65%
Adult Mortality		-	5%	5%	5%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Cow Culling Rate		-	9%	11%	11%	13%	13%	15%	15%	15%	15%	15%	15%	15%	15%
Selling Age Steers		-	48	42	42	42	42	42	42	42	42	42	42	42	42

1/ For the purposes of calculating carrying capacity these A.U.s include animals purchased in years (less deaths) plus animals purchased in previous years (less deaths) but in face sold before end of year

May 6, 1976

ANNEX 4
Table 5

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Model - Company Ranch - Investment Costs 1/
(KSh.,000)

	Units	Unit Cost	Year 1	Year 2	Year 3	Total Costs	Foreign Exchange %	Foreign Exchange Eq.
INVESTMENT CATEGORY								
A. Physical Developments 1/								
Water Facilities								
Bore/Dam 2/	4	135	180	180	180	540	50	270.0
Tank, 20,000 gals. 3/	2	40	40	40	-	80	20	16.0
Engine/Pump 4/	2	75	75	75	-	150	90	135.0
Pumphouse 5/	2	20	20	20	-	40	40	16.0
Troughs 6/	8	6	24	24	-	48	40	19.2
Piping + Fitting, 2,000 ft./unit 7/	4	30	60	60	-	120	80	96.0
Trenching + Backfilling, 2,000 ft./unit 8/	4	10	20	20	-	40	-	-
Sub-Total 9/	26	316	419	419	180	1,018		552.2
Cattle Yards and Dips 10/	2	30	30	30	-	60	40	24.0
Buildings								
Manager.s House 12/	1	100	100	-	-	100	40	40.0
Office/Store 13/	1	60	60	-	-	60	20	12.0
Staff Houses 14/	3	10	30	-	-	30	20	6.0
Labor Lines	20	2	40	-	-	40	10	4.0
Sub-Total	25	172	230	-	-	230		62.0
Equipment and Vehicles								
Tractor and Trailer 16/	1	100	100	-	-	100	90	90.0
Landrover LWB 17/	1	80	80	-	-	80	65	52.0
Tools Set	1	20	20	-	-	20	40	8.0
Sub-Total	3	200	200	-	-	200		150.0
Firebreaks and Roads 18/	110	0.4	22	22	-	44	20	17.6
Sub-Total Physical Developments	-	-	901	471	180	1,552		805.80
Breeding Bulls 19/	50	3	90	30	30	150		-
Herd Value at Inception 20/	1,192	0.4	477	-	-	-		-
Total investment costs			1,368	501	210	1,702	47	805.80
Long-Term Loans								
Investment			694	351	126	1,171		
Working capital 21/			490	538	21	1,049		
Deficit financing			474	380		854		
Interest			149	291		440		
Total			1,807	1,560	147	3,514		

1/ All items discussed with AFC staff, costed jointly and agreed upon together.
2/ The most recent cost estimate for drilling is at 150 per foot. Miscellaneous charges are at 75 per foot. Assuming an average depth of 600 feet the cost of a borehole can be paid at KSh. 135,000. The ranch would need water points. While on average only 50% of the water requirements would be met by boreholes, for the purpose of costing one may assume the figure of KSh. 135,000 for all four waterpoints.
3/ For two boreholes 20,000 gal. tanks are required. The most recent cost estimate stands at KSh. 2/gal.
4/ For the two borehole fired submersible pumps with engines are assumed. The most recent cost estimate stands at KSh. 75,000 per unit.
5/ Tender of 1974 updated (AFC).
6/ Assuming 2 troughs (8 x 30 ft) per waterpoint. The updated cost estimate stands at KSh. 6,000 per unit.
7/ Assuming 2" medium grades GI piping at an average length of 2,000 ft. per waterpoint, and a cost of KSh. 15/ft. according to a tender just awarded.
8/ Assuming 12" wide x minimum 18" deep trenches at KSh. 5/ft.
9/ At the time of writing 3 large scale ranches on the coast had approved loans for water development averaging a cost of KSh. 26/ha. For the model ranch under concern this would be equivalent to KSh. 728,000. While this may be taken as an indication of savings being possible it should be noted that the detailed costings for the model ranch are based on more recent information and to a large extent on actual tenders instead of plans and projections.
10/ Two units may be considered a very minimum. Updated recent cost estimates. No allowance is made for construction.
11/
12/ Average size 3 bedroom stone house.
13/ Recent estimate by Allied Ranching plus office equipment, including safe 30,000.
14/ For driver, mechanic and dark improved rondovel type houses with minimum equipment at KSh. 10,000 each.
15/ Recent estimate by Allied Ranching. Only one third of the labor force is supposed to require housing.
16/ Recent estimate by Allied Ranching. The figure includes about 44% tax. Corresponds with recent offer of Ford 5,000 standard tractor and 5-ton BB tipping trailer net of cash discount.
17/ Including registration.
18/ Estimate by Ministry of Agriculture based on updated phase 1 costs (290 KSh./ha). Peripheral road/firebreak plus minimum subdivision yielding blocks of about 3,200 ha.
19/ Buying in 30 in Year 1 for the existing 500 cows and then building up numbers in accordance with growth of herd.
20/ Assuming a value of 400 KSh. per A.U. In the economic calculations the residual value of the herd, including an allowance for improved quality will be counted as a benefit at the end of the Project.
21/ Working capital was defined at appraisal as 100% of steer purchase and 50% of operating costs. It was deemed more appropriate to define working capital as 100% of steer purchase and those operating costs that enter directly into animal production. See operating cost and cash flow tables.

June 29, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Model Company Ranch - Income and Operating Costs
(KSh.'000)

	Year 1	2	3	4	5	6	7	8	9	10	11	12	13-20
Income Assuming June 1976 Prices 1/													
Sales													
Ranch Herd 3/	82	151	161	156	177	225	281	313	376	492	528	542	542
Purchased Steers 4/	-	1,129	1,175	1,101	1,101	1,145	1,020	897	899	668	668	668	668
Total Sales	82	1,280	1,336	1,256	1,322	1,243	1,303	1,210	1,275	1,160	1,196	1,210	1,210
Income Assuming a 30% Increase in Standard Grade Above June 1976 2/ 2/													
Sales													
Ranch Herd 3/	82	166	185	158	220	290	348	388	467	611	655	672	672
Purchased Steers 4/	-	1,327	1,381	1,293	1,346	1,196	1,202	1,053	1,056	785	785	785	785
Total Sales	82	1,493	1,564	1,451	1,566	1,488	1,550	1,441	1,523	1,396	1,440	1,457	1,457
Operating Costs													
Fixed Costs													
Salaries 5/	245	245	245	245	245	245	245	245	245	245	245	245	245
Directors Allowances	10	10	10	10	10	10	10	10	10	10	10	10	10
Vehicle Operating Expenses 6/	75	75	75	75	75	75	75	75	75	75	75	75	75
Maintenance and operation of installations 7/	80	80	80	80	80	80	80	80	80	80	80	80	80
Office 8/	10	10	10	10	10	10	10	10	10	10	10	10	10
Replacements of Equipment 9/	-	-	-	80	100	55	55	55	55	55	55	55	55
Replacement of Bulls	-	-	-	21	21	21	21	21	21	21	21	21	21
Land Rent 10/	17	17	17	17	17	17	17	17	17	17	17	17	17
Legal and Audit Fees	15	15	15	15	15	15	15	15	15	15	15	15	15
Insurance Licenses	12	12	12	12	12	12	12	12	12	12	12	12	12
Building Maintenance 11/	-	-	4	8	8	8	8	8	8	8	8	8	8
Miscellaneous 12/	10	10	10	10	10	10	10	10	10	10	10	10	10
Sub-Total Fixed	474	474	478	583	603	558	558	558	558	558	558	558	558
Variable Costs													
Dip Fluid 13/	49	74	72	72	73	73	74	75	75	73	78	76	77
Drugs 14/ and Vaccines 15/	37	55	53	54	54	55	56	57	56	55	59	57	57
Salt Minerals 16/	17	25	25	25	26	26	26	26	26	26	27	27	27
Selling Expenses 17/	2	14	13	13	13	12	12	12	12	11	11	12	12
Sub-Total Variable Costs	105	168	163	164	166	166	166	170	169	165	175	172	173
Total Operating Costs	579	642	641	747	769	724	724	728	727	722	733	730	731
Purchase of Fattening Steers	595	601	549	556	500	500	437	437	326	326	326	326	326
Total Operating Expenses	1,174	1,243	1,190	1,303	1,249	1,224	1,169	1,165	1,053	1,049	1,059	1,056	1,057

1/ Producer prices (Annex 3Table).
2/ Producer prices (Annex 3Table).
3/ Starting at an average CDW of 115 kg and developing over the years to 160 kg (based on UNDP Taita survey, see Annex 4, paras. 26 and 27).
4/ Purchased at 212 kg liveweight at KMC commercial grade price plus 70/- costs and sold at the price for 170 kg steers (see price table).
5/

1 Manager	KSh 36,000 p.a.	36,000
1 Driver	6,000	6,000
1 Mechanic	6,000	6,000
1 Clerk	6,000	6,000
2 Pump Operators	3,300	6,600
2 Dip Attendants	3,300	6,600
35 Herdsmen	2,400	84,000
7 Headmen	3,600	25,200
1 Cattle Foreman	6,000	6,000
20 General Laborers incl. watchmen	2,400	48,000
1 Headman	3,600	3,600
		234,000

The figures are assumed to include rations and bicycle allowance. While in the beginning there are fewer cattle there is more development work so that the labor force can be assumed to be constant. In addition there is the ranch's contribution to the National Social Security Fund. Following actual figures for Mugeno this was estimated at KSh. 11,000.

6/ The recent AFC estimate is KSh 1.50/km and 30,000 km p.a. for the landrover. The tractor one may assume KSh. 30,000 per kg.
7/ AFC estimate is £1,000 per waterpoint. An this ranch it gives a figure of KSh. 20 per animal per unit. These figures coincide to suggest KSh. 80,000 p.a. of operating expenses for water.
8/ To include running and replacement based on actual figures from Mugeno.
9/ Landrover after 3 years, tractor after 4 years; remaining assets should not need replacement given good care and maintenance. For simplicity's sake, a yearly allowance of KSh. 50,000 is made.
10/ Land rent 37 cents/ha plus local land tax of 25 cents/ha.
11/ 3% capital costs.
12/ Boma lighting KSh. 5,000, subsistence and entertainment at KSh. 2,000, etc.
13/ AFC estimate KSh. 25 per animal per unit. Allied ranching estimates at KSh. 15/A.U. A substantial increase is foreseen for the mid-year. This is a preliminary estimate of KSh. 20/A.U. may be accepted.
14/ Mainly against intestinal parasites and tsetse/trypanosomiasis. Estimate at KSh. 8/A.U.
15/ Allied Ranching estimate for FMD Blanthrax and antibiotics as required at KSh. 8/A.U.
16/ Actual expenses on the ranch at KSh. 7.00/A.U.
17/ Selling expenses are the Country Council at KSh.5/head. Transport (railage) is paid for by KMC or butchers, but transport costs from the ranch to the station or lorry transport costs during quarantine may occur. Therefore a cost of KSh.10/ head sold is assumed.

May 7, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Company Ranch Model - Cash Flow
Ksh '000

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Sources of Funds																				
Sales	-	82	1,493	1,564	1,451	1,566	1,488	1,550	1,441	1,523	1,396	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440
Shareholder contributions 1/	815	254	185	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Long-term loans: I + W.C. deficit financing	1,827	1,408	737	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest	165	306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	1,992	1,714	737	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total - sources of funds	2,330	2,050	2,316	1,564	1,451	1,566	1,488	1,550	1,441	1,523	1,396	1,440	1,457	1,457	1,457	1,457	1,457	1,457	1,457	1,457
Uses of Funds																				
Investment: physical 2/	901	471	180	72	72	-	72		72	72	36	-	144	-	-	140	140	-	72	-
breeding sherd and bulls	567	30	30	15	18	18	24	24	27	27	21	21	21	21	21	21	21	21	21	21
Sub-total I	1,468	501	210	87	90	18	96	24	99	99	57	21	165	21	21	161	161	21	93	21
Working capital: steer purchase	595	601	549	556	500	500	437	326	326	326	326	326	326	326	326	326	326	326	326	326
variable costs	105	168	163	164	166	166	166	170	169	165	175	172	173	173	173	173	173	173	173	173
Sub-total working capital	700	769	712	720	666	666	603	496	495	491	501	498	499	499	499	499	499	499	499	499
Total I + working capital	2,168	1,270	922	807	756	684	699	520	594	590	558	519	664	520	520	660	660	520	592	520
Overheads	474	474	478	482	482	482	482	482	482	482	482	482	482	482	482	482	482	482	482	482
Financial Charges																				
- Interest on year 1 loan	165	179	179	179	154	128	102	77	51	26	-	-	-	-	-	-	-	-	-	-
- Repayment of principal year 1 loan	-	-	-	285	285	285	285	285	285	282	-	-	-	-	-	-	-	-	-	-
- Interest on year 2 loan	-	127	154	154	154	132	110	88	66	44	22	-	-	-	-	-	-	-	-	-
- Repayment of principal year 2 loan	-	-	-	-	245	245	245	245	245	245	244	-	-	-	-	-	-	-	-	-
- Interest on year 3 loan	-	-	66	66	66	66	57	47	38	29	19	10	-	-	-	-	-	-	-	-
- Repayment of principal year 3 loan	-	-	-	-	-	105	105	105	105	105	105	107	-	-	-	-	-	-	-	-
Sub-total financial charges	165	306	368	653	886	961	904	847	790	731	390	117	-	-	-	-	-	-	-	-
Total uses of funds	2,807	2,050	1,768	1,942	2,124	2,127	2,085	1,849	1,886	1,802	1,438	1,118	1,146	1,002	1,002	1,142	1,142	1,002	1,026	1,002
Annual Surplus (deficit)	-	-	548	(378)	(673)	(561)	(597)	(299)	(425)	(280)	(34)	322	311	455	455	315	315	455	383	455
Cumulative surplus (deficit)	-	-	548	170	(503)	(1,064)	(1,661)	(1,960)	(2,385)	(2,665)	(2,699)	(2,377)	(2,066)	(1,611)	(1,156)	(841)	(526)	(71)	312	767

1/ 20% of investment and working capital costs

2/ Replacement of LRR landrover every 4 years, of tractor every 5 years, of trailers every 10 years, pumps every 15 years, tools every 20 years; replacement costs are net after deduction of scrap value.

May 19, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Company Ranch Model - Cash Flow - 2[1/]
(Ksh '000)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Sources of Funds																				
Sales	-	94	1,717	1,800	1,670	1,800	1,711	1,783	1,657	1,751	1,605	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656
Shareholder contributions	984	381	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Long-term loans: Investment	694	351	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
working capital	490	538	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
deficit financing	474	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	1,658	1,269	147	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest - loan-year 1	149	163	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest - loan-year 2		128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total long-term loans	1,807	1,560	147	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total sources of funds	2,791	2,035	1,927	1,800	1,670	1,800	1,711	1,783	1,657	1,751	1,605	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656
Uses of Funds																				
Investment: physical	901	471	180	72	72	-	72	-	72	72	36	-	144	-	-	140	140	-	72	-
breeding (herd & bulls)	567	30	30	15	18	18	24	24	27	27	21	21	21	21	21	21	21	21	21	21
Sub-total	1,468	501	210	87	90	18	96	24	99	99	57	21	165	21	21	161	161	21	93	21
Working capital: steer purchase	595	601	549	556	500	500	437	326	326	326	326	326	326	326	326	326	326	326	326	326
variable costs	105	168	163	164	166	166	166	170	169	165	175	172	173	173	173	173	173	173	173	173
Sub-total	700	769	712	720	666	666	603	496	495	491	501	498	499	499	499	499	499	499	499	499
Total investment + working capital	2,168	1,270	922	807	756	684	699	520	594	590	558	519	664	520	520	660	660	520	592	520
Overheads	474	474	478	482	482	482	482	482	482	482	482	487	482	482	482	482	482	482	482	482
Sub-total	2,642	(1,744)	(1,400)	(1,289)	1,238	1,166	1,181	1,002	1,080	-	1,040	-	1,146	-	-	1,142	-	-	1,074	-
Financial Charges																				
Year 1 - loan: interest	149	163	163	163	149	135	122	109	95	82	68	55	41	28	14	-	-	-	-	-
principal repayment	-	-	-	150	150	150	150	150	150	150	150	150	150	150	157	-	-	-	-	-
Year 2 - loan: interest	-	128	140	140	140	126	116	104	93	81	69	58	46	35	23	11	-	-	-	-
principal repayment	-	-	-	-	130	130	130	130	130	130	130	130	130	130	130	130	-	-	-	-
Short-term Year 3 - loan: interest	-	-	13	13	13	13	12	11	10	9	8	7	6	5	4	3	1	-	-	-
principal repayment	-	-	-	-	-	12	12	12	12	12	12	12	12	12	12	12	15	-	-	-
Total financial charges	149	(b4) 291	316	466	582	568	542	516	490	464	437	412	385	360	340	156	16	-	-	-
Total uses of funds	2,791	2,035	1,716	1,755	1,820	1,734	1,723	1,518	1,566	1,536	1,477	1,413	1,531	1,362	1,342	1,298	1,158	1,002	1,016	1,002
Annual surplus (deficit) before appropriations and taxes	-	--	211	45	(150)	66	(12)	265	91	215	128	243	125	294	314	328	498	654	282	654
Appropriations																				
Dividends	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90	96	88	90	90
Retained earnings	-	-	-	(150)	(150)	(12)	12	-	-	-	-	-	-	-	-	-	-	-	-	-
Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	213	231	233	227	239	239	234
Sub-total	-	-	-	(150)	150	(12)	12	-	-	-	-	-	-	-	-	-	-	-	-	-
Net annual surplus (deficit)	-	-	211	(105)	-	54	-	265	91	215	128	243	125	81	83	135	175	327	253	330
Cumulative surplus (deficit) to be reported on balance sheet	-	-	211	106	106	160	160	425	516	731	859	1,102	1,227	1,308	1,391	1,426	1,601	1,928	2,181	2,511

1/ Assumptions: sales plus 15% over sales in cash flow (1), shareholder contributions plus 10% =30%, and loan maturity 15 years instead of 10 years.

May 20, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Company Ranch Model (2) - Profit and Loss Projections
(Ksh '000)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
INCOME																				
Sales	-	94	1,717	1,800	1,670	1,800	1,711	1,783	1,657	1,751	1,605	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656	1,656
Incremental herd value	992	85	-	111	64	121	71	104	-	86	82	1	1	-	-	-	-	-	-	-
Miscellaneous 1/	-	-	-	8	8	-	8	-	8	8	4	-	14	-	-	15	15	-	8	-
Total	992	179	1,717	1,919	1,742	1,921	1,790	1,887	1,665	1,845	1,691	1,657	1,673	1,656	1,656	1,671	1,671	1,656	1,664	1,656
EXPENSES																				
Purchases of cattle: breeding herd	90	30	30	15	18	18	24	24	27	27	21	21	21	21	21	21	21	21	21	21
steers	595	601	549	556	500	500	437	326	326	326	326	326	326	326	326	326	326	326	326	326
Sub-total	685	631	579	571	518	518	461	350	353	353	347	347	347	347	347	347	347	347	347	347
Decrease in herd value	-	-	42	-	-	-	-	-	57	-	-	-	-	-	-	-	-	-	-	-
Operating costs: salaries & allowances	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255
other overheads	219	219	223	227	227	227	227	227	227	227	227	227	227	227	227	227	227	227	227	227
variable costs	105	168	163	164	166	166	166	170	169	165	175	172	173	173	173	173	173	173	173	173
Sub-total	579	642	641	646	648	648	648	652	651	647	657	654	655	655	655	655	655	655	655	655
Interest on borrowed funds	149	291	316	316	302	276	250	224	198	172	145	120	93	68	41	14	1	-	-	-
Depreciation	87	112	120	121	121	120	121	121	120	121	121	120	121	121	120	121	121	120	121	121
Total expenses	1,500	1,676	1,698	1,654	1,589	1,562	1,480	1,347	1,379	1,293	1,270	1,241	1,216	1,191	1,163	1,137	1,124	1,122	1,123	1,123
Profit (loss) before taxes and appropriations	(508)	(1,497)	19	265	153	359	310	540	286	552	421	416	457	465	493	534	547	534	541	533
Income taxes 2/	-	-	-	-	-	78	111	208	167	216	160	198	198	213	231	233	227	239	239	234
Net profit (loss)	(508)	(1,497)	19	265	153	281	199	332	119	336	261	218	259	252	262	301	320	295	302	299
Appropriations																				
Doubtful accounts allowance for unrealized profit 3/	(992)	(85)	-	(111)	(64)	(121)	(71)	(104)	-	(86)	(82)	(1)	(1)	-	-	-	-	-	-	-
unrealized sales	-	-	-	(180)	(167)	(180)	(171)	(178)	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	(992)	(85)	(170)	(291)	(231)	(301)	(242)	(282)	-	(86)	(82)	(1)	(1)	-	-	-	-	-	-	-
Retained earnings	-	-	-	(150)	150	(12)	12	-	-	-	-	-	-	-	-	-	-	-	-	-
Dividends	-	-	(16)	(46)	(27)	(48)	(66)	(97)	(168)	(75)	(78)	(65)	(76)	(75)	(78)	(90)	(96)	(88)	(90)	(90)
Sub-total	-	-	(176)	(196)	123	(60)	(54)	(97)	(168)	(75)	(78)	(65)	(76)	(75)	(78)	(90)	(96)	(88)	(90)	(90)
Annual profit (loss)	(1,500)	(1,582)	(157)	(222)	45	(80)	(97)	(47)	(47)	175	101	152	182	177	184	211	224	207	212	209
Cumulative profit (loss) to be reported on balance sheet	(1,500)	(3,082)	(3,239)	(3,461)	(3,416)	(3,496)	(3,593)	(3,640)	(3,687)	(3,512)	(3,411)	(3,259)	(3,077)	(2,900)	(2,716)	(2,505)	(2,281)	(2,074)	(1,862)	(1,653)

1/ Scrap value of vehicles and equipment at replacement.

2/ Taxable income has been defined as operating income minus depreciation, interest and amount of operating loss from previous year (cf. Income Tax Act, 1973 - Part IV). Depreciation has been defined according to Part IV of first schedule of above mentioned Income Tax Act.

3/ Doubtful accounts allowance is to cover unrealized profit and 10% of unrealized sales.

May 21, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Company Ranch Model (2) - Balance Sheet

(Ksh '000)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Liabilities and own Funds																				
Current liabilities																				
Long-term debt	1,807	3,367	3,514	3,364	3,084	2,792	2,500	2,208	1,916	1,624	1,332	1,040	748	456	157	15	-	-	-	-
Own funds																				
Equity	984	1,365	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428
Capital reserve	992	1,077	1,247	1,538	1,759	2,070	2,312	2,594	2,594	2,880	2,762	2,763	2,764	2,764	2,764	2,764	2,764	2,764	2,764	2,764
Provision for dividends	-	-	6	32	79	127	193	290	456	531	609	674	750	825	903	903	903	903	903	903
Retained earnings	-	-	-	/150/	-	/12/	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Deferred taxes	-	-	-	-	-	78	189	397	564	780	940	1,138	1,336	1,336	1,336	1,336	1,336	1,336	1,336	1,336
Sub-total	1,976	2,442	2,681	3,018	3,276	3,703	4,122	4,709	5,042	5,419	5,739	6,003	6,278	6,353	6,431	6,431	6,431	6,431	6,431	6,431
Accumulated profit (loss)	(1,500)	(3,082)	(3,239)	(3,461)	(3,416)	(3,496)	(3,593)	(3,640)	(3,687)	(3,512)	(3,411)	(3,259)	(3,077)	(2,900)	(2,716)	(2,505)	(2,281)	2,074)	(1,862)	(1,653)
Total	2,283	2,727	2,956	2,921	2,944	2,999	3,029	3,277	3,271	3,531	3,660	3,784	3,949	3,909	3,872	3,941	4,150	4,337	4,569	4,778
Assets																				
Current Assets																				
Cash (cumulative)	-	-	211	106	106	160	160	425	516	731	859	1,102	1,227	1,308	1,391	1,426	1,601	1,928	2,181	2,511
Cattle	1,469	1,554	1,512	1,623	1,687	1,808	1,879	1,983	1,926	2,012	2,094	2,095	2,096	2,096	2,096	2,096	2,096	2,096	2,096	2,096
Sub-total	1,469	1,554	1,723	1,729	1,793	1,968	2,039	2,408	2,442	2,743	2,953	3,197	3,323	3,404	3,487	3,522	3,697	4,024	4,277	4,607
Property and Equipment																				
Fixed assets and vehicles	901	1,285	1,353	1,313	1,272	1,151	1,111	990	949	909	829	707	747	626	505	540	574	453	413	292
Less depreciation	87	112	120	121	121	120	121	121	120	121	121	120	121	121	120	121	121	120	171	121
Sub-total	814	1,173	1,233	1,192	1,151	1,031	980	869	829	788	707	587	626	505	385	419	453	333	292	171
Total	2,283	2,727	2,956	2,921	2,944	2,999	3,029	3,277	3,271	3,531	3,660	3,784	3,949	3,909	3,872	3,941	4,150	4,337	4,569	4,778

May 21, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Company Ranch - Steer Model Cash Flow[1/]
(Ksh '000)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Sources of Funds																				
Sales				2,259	2,447	2,545	2,547	2,555	2,558	2,566	2,570	2,570	2,570	2,570	2,570	2,570	2,570	2,570	2,570	2,570
Shareholders' contribution	552	443	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Long-term loans: investment	-	-	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
working capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
deficit financing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	1,561	1,567	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
interest - year 1 loan	140	153	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
year 2 loan	-	155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total long-term loans	1,701	1,875	126	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total sources of funds	2,253	2,318	2,144	2,250	2,447	2,545	2,547	2,555	2,558	2,556	2,570	2,570	2,570	2,570	2,570	2,570	2,570	2,570	2,570	2,570
Uses of Funds																				
Investment: physical	901	471	180	72	72	-	72	-	72	72	36	-	144	-	-	140	140	-	72	-
Working capital: purchase of steers	879	890	903	914	925	925	925	925	925	929	929	929	929	929	929	929	929	929	929	929
variable costs	60	117	140	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Total working capital	939	1,007	1,043	1,064	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075	1,075
Total investment and working capital	1,840	1,478	1,223	1,136	1,147	1,075	1,147	1,075	1,147	1,147	1,111	1,075	1,219	1,075	1,075	1,215	1,215	1,075	1,147	1,075
Overheads	273	532	503	506	506	506	506	506	506	506	506	506	506	506	506	506	506	506	506	506
Financial charges:																				
Year 1 - loan: interest	140	153	153	153	140	128	115	102	89	76	64	51	38	25	13	-	-	-	-	-
repayment of principal	-	-	-	142	142	142	142	142	142	142	142	142	142	142	139	-	-	-	-	-
Year 2 - loan: interest	-	155	155	169	169	155	141	127	113	99	85	70	56	42	28	14	-	-	-	-
repayment of principal	-	-	-	-	156	156	156	156	156	156	156	156	156	156	156	159	-	-	-	-
Year 3 - loan: interest	-	-	11	11	11	11	10	9	8	7	6	5	4	3	2	1	1	-	-	-
repayment of principal	-	-	-	-	-	11	11	11	11	11	11	11	11	11	11	11	11	-	-	-
Total financial charges	140	308	333	475	607	603	575	547	519	491	464	435	407	379	349	185	12	-	-	-
Total uses of funds	2,253	2,318	2,059	2,117	2,260	2,184	2,228	2,128	2,172	2,144	2,117	2,016	2,132	1,960	1,930	1,906	1,733	1,581	1,653	1,581
Annual surplus (deficit)	-	-	85	233	187	361	319	427	386	422	453	554	438	610	640	664	837	989	917	989
Cumulative surplus (deficit)	-	-	85	318	505	866	1,185	1,612	1,998	2,420	2,873	3,427	3,865	4,475	5,115	5,779	6,616	7,605	8,522	9,511

1/ Shareholders contribution = 30%; prices 15%; loan maturity 15 years

May 17, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Areas of Ranch Land in Coast Province Under Range Development or Proposed for Development in the Future

TAITA DISTRICT RANCHES	Approximate Total Area (ha'000)	Remarks
Unoccupied Land		
Already Under Development (some with own funds)		
Lualenyi	42	
Mugeno	22	
Sagalla	21	
Maungu	21	
Kasigao	22	
Rukinga	34	
Taita	38	
Mkuki	2	
Mwagunda	3	
Choke	10	
Mwamunga	3	
Buchuma Holding Ground	5	
Sub-Total	223	
Requiring Development		
Wananchi	16	
Kishushe	31	Already grazed; could take time to organize Water problem.
Osa	24	
Mzamuli	4	
Shako	3	
Sub-Total	74	
Cannot be developed at present mainly because of water		
Njukini	6	
Bura	16	
Wushura	16	Little possibility of water.
Mbule	16	
Dawda	4	
Kambanga	4	
Sub-Total	62	
Total Taita	359	
KILIFI DISTRICT		
Unoccupied Land to be Developed by Company Ranches		
Mgirisma Ranch	26	50 members received 477-KE loan. Dependent on borehole being drilled.
Kilifi Ranch	41	Directed company problem of water.
ADC/Kilifi County Company	100	Water from Sabahi river.
Chakama	40	Rift among membership (200). Lease not applied for.
Sub-Total	207	
Group Ranches Being Registered		
Kyafunga	11	200 families } Being registered.
Mnagoni	14	87 "
Dola	20	200 "
Birysa	14	
Maktaa	23	
Sub-Total	82	
Total Kilifi	289	
LAMU DISTRICT		
Unoccupied Under Development		
Nairobi Ranch	22	Own and AFC funds.
Unoccupied, Requiring Development		
Amu	33	Being registered.
Tulilu	40	
Witu Nangoro	32	
Bujra	8	
Sub-Total	113	
Total Lamu	135	

KWALE DISTRICT RANCHES	Approximate Total Area (ha'000)	Remarks
Unoccupied, Required to be Developed by Company Ranches		
Lunga-Lunga (B6)	41	86 paid members; herd of 300; rainfall 500-750. 1 A.U: 8 ha. Registered.
Kanya Triangle (B7)	81	3 salty boreholes 3 experimental dams. Water problem.. Company looking for Arab finance. Registered.
Kwale Ranch (B5)	32	50 members. No test B.H.s only natural water holes. Water problem. Registered.
Mwambeja Ranch (B4)	48	50 members, 3 dams, 1 lake dip. Registered.
Taru Ranch	21	24 members 2,000 cattle; had 400 own cattle bought 1,000 steers 300 breeding cattle 100 recently died; dips understrength; much trespass. Received loan under 477-KE.
Dakota	10	70 members 300 cattle. Recommended for a lease. Take water from Mz ma pipeline. Part is grazed by neighbors. 1 A.U. to 12 ha.
Sub-Total	233	
Occupied, Proposed for Group Ranches		
Mwareni (B8)	46	In special rural development, area receiving U.K. funds. Adjudication complete. 380 families, 203 with 1,400 cattle. Stock carrying capacity 7,000 RDP building 6 or 8 dams.
Samburu South (B10)	44	Adjudication nearly complete.
Mdavaya (B9)	28	
Chenga	32	
Mwarumbo	24	
Sub-Total	174	
Total Kwale	407	
TANA RIVER DISTRICT		
Unoccupied Under Development		
Galana Company (also in Kilifi)	304 1/	Partly financed under 127-KE and 477-KE.
IDA Sa Gadana	51	Financed under 127-KE.
Cooperatives	355	Over 300 members 1,300 cattle 500 mm rainfall.
Unoccupied, Requiring Development		
D1/D2/D3	N/A	Reserved for irrigation scheme.
Giritu Company	39	Directed company 87 members. Registered.
Hagamda Company	12	Individual owner.
Kitangale Company	24	50 members. Registered.
Dalu Agricultural Polytechnic	15	Not applied for registration.
Wachu Company	31	39 members, directed company. Have applied for lease 875 mm rain.
Kon Dertu Company	12	Have applied for lease.
Sub-Total	123	

1/ 304,000 ha for beef and 304,000 ha for game.

May 25, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Commercial Ranches

General

1. Before Independence it was estimated that there were about 150 Commercial ranches covering 1 million hectares in Rift Valley Province, Central Province and Machakos (Table 1); a few other ranches existed or have since been developed in Muranga, Kitui, Meru, Embu and Kirinyaga. Since 1967 increasing numbers of ranches have been changing hands from expatriate to Kenyan ownership and over 50% of the ranches are probably now owned by Kenyans. Under 129-KE and 477-KE, AFC has approved loans for 51 ranches with over 200,000 hectares ranchland.

2. Loans are required for:

(a) Further development on existing established ranches.

(b) Financing the establishment of new ranchers on newly purchased land accompanied by some development; the least developed ranches have tended to be the first to change hands because they are cheaper. The alternative to not providing finance to assist in the transfer of ownership of these ranches, however, as has been seen on ranches not receiving credit, is a drastic fall in production, and a breakup of the unit into small farms owned by shareholders from which they harvest little and from which there is a very low level of animal production. In national economic terms financing and supervision of new Commercial ranches prevents a decline in production as well as making an attempt to redistribute income.

(c) Continuing to finance Commercial ranches financed under 129-KE.

(d) Financing new cooperative ranches in areas like Kitui, Machakos, Meru, Kirinyaga where traditional livestock owners wish to manage their land under cooperative management.

3. Under 129-KE, 38 ranches and 4 feedlots covering 170,000 ha received disbursements totalling just over KSh. 25 million; 75% of which was for working capital and steers. 25 of the ranch loans went to new Kenyan ranchers. KSh. 15.0 million is presently outstanding on these loans.

4. So far 10 ranches and 1 feedlot with 46,000 ha have received 477-KE loans (11 ranches if the Kitui ranch classified under Company ranches is included) totalling KSh. 9.6 million; 56% for development if the KSh. 2 million for the feedlot working capital is excluded, of which 45% is for development purposes. A further 6 loans with 25,000 ha for KSh. 9.5 million is in the process of being approved, of which 62% is for development. About 73% of the approved development loans are being used on purchasing breeding stock and the majority of the remainder for water supplies (Annex 16 Table 9). Most of the ranches are owned by new Kenyan ranchers. Two ranches, Ereri and Kikapu, and a feedlot Midas, received loans under the First Project.

5. Although Commercial ranches originally received the most funds disbursed under 129-KE repayments have reduced the amounts outstanding under the program to 35% (KSh. 15 million) of the 129-KE portfolio. The KSh. 19.0 million approved under 477-KE represents 40% of the money approved making Commercial lending a close second to Company lending (51% outstanding under 129-KE and 52% of 477-KE approved). Under the

first project arrears are now 7.3% of the amounts disbursed and due for repayment. Under the second project some are in arrears on interest repayment.

Financial Position and Returns from Commercial Ranches

6. The mission visited a number of Commercial ranches. With the exception of Ereri ranch and several ranching cooperatives it was not possible to obtain any financial information as AFC's collection of audited annual accounts of this sector is poor and needs improvement. At a ranchers meeting in Nyahururu the mission was told that beef prices were too low and had not kept pace with costs; established ranchers found it difficult to cover their costs and they would not invest at present prices. One estimate given during the mission was that since 1972/73 (Appraisal) operating costs had risen 100% and beef prices 38% for ranch cattle; investment costs had risen even higher.

7. There is no basic example of a Commercial ranch since the requirements of each ranch are different. The appraisal model reflects development requirements on a partly developed ranch. By updating the appraisal model investment costs (Table 3), doubling operating costs to KSh. 166/- per animal unit and increasing sales income by 38% it is possible to see that at March 1976 prices the financial rate of return on these ranches has dropped from 12% at appraisal to 5%. The increase in prices in June 1976 increases the financial rate of return to 11%. If the Standard grade were raised also by 30% the rate of return would be in the region of 16%. The latter return, however, is very sensitive to increases in costs. The animal unit costs of KSh. 166/- per animal unit compared to the often quoted figure of KSh. 180/-

may be low. An increase of 10% in costs would reduce the return to 12%. Prices used in the budget are based on a graded price depending on weight which is supposed to reflect the proportion of animals that might go into FAQ or Standard (Annex 3 Table). However, this may well overestimate the returns on the poorer ranches where finishing may not be done well and where ranchers must rely on higher butcher prices to get good returns for their cattle, otherwise, a high proportion of their animals will grade Standard and receive a lower price than budgeted.

8. It would seem therefore that in the case of experienced established ranchers or those with 75% equity and over in their ranch that a change in prices for FAQ to KSh. 7/- per kg CDW and Standard grade to KSh. 6/30 per kg CDW might encourage them to invest although their attitude could still be adversely affected by a combination of 9% loan interest, taxation at 40%, 10% inflation, and Government's recent poor record in adjusting producer beef prices to keep pace with inflation. Assuming no other debt on the ranch and a 15 year loan repayment period the average annual surplus before tax in the model in the first 10 years is KSh. 125,000 (US$15,200) which after 40% tax would still provide an incentive for an individual (Table 4). However, it would not be so attractive if it had to be shared by 100 members, and if there was an appreciable ranch purchase debt to repay. Commercial ranches with perhaps only 30% equity and trying to pay off land purchase, fixed assets, breeding stock and operating cost debts would still find it difficult with these prices, and the model indicates that prices need to be increased by a further 15% (i.e. FAQ 8/05 Standard KSh. 7/25), if adequate incentives are to be provided for these ranchers and often their many members. As with new Company ranches these newly purchased Commercial ranches should rely much more on fattening of steers from the North East.

9. The actual pattern of AFC lending with a high percentage of loan funds going for breeding stock and working capital suggest that the majority of loans are being used for helping with the takeover of ranches rather than for development; also that the low producer prices necessitate more working capital since ranch income is not meeting increasing costs (Table following para 9). Appraisal missions and Government have overestimated the funds required for physical development at this stage in the takeover cycle. The review mission has not altered this emphasis on development in the model(since it believes there is room for more than is taking place and prices should improve), but suggests that a closer look be made at this sector to determine what are the actual needs. The mission model provides only 29% (KSh. 52) of the KSh. 180 per ha for working capital, compared with KSh. 103 per ha at present. It is possible that for the further period of the Project more working capital will be required at the expense of investment but closer scrutiny must be maintained on requirements. Maximum equity participation must be obtained and producer prices must be kept in line with rising costs.

Use of Loans

10. There are some apparent inconsistencies requiring examination in AFC's lending pattern to this sector when compared with New Company ranch lending at the Coast. As will be seen from the following table, investment in facilities on a per hectare basis on Commercial ranches is 50% more than that put into new Coast Company ranches yet the Commercial ranches are supposed to be going concerns already having some development. Even though stocking rates in Laikipia are double that at the Coast, loans for breeding stock are high and consequently have had to be and are matched by a high operating cost loan. Greater reliance on fattening purchased steers could lead to a reduction in size of loans, better cash flows and possibly greater profits. Presently, these Commercial ranches are being financed by AFC as though they are new ranches as is shown by the

fact that the Company ranches with stocking rates similar to Commercial ranches give similar rates of return to the model, 16% (Annex , para 34). Another aspect that needs careful attention is that ranches are generally small and there is therefore a desire to overcapitalize and overstock in attempt to get more out of the ranch than it is possibly capable of producing with the present production system. By keeping costs to a minimum the model reduces the amount of loan to KSh. 180/- per hectare compared with KSh. 239 at present.

	Investments and Loan KSh. per Ha			
3 New Company Ranches	Actual 129-KE Disbursed 1970-74 Appraisal Est. in Brackets	1972 477-KE Appraisal Estimate Total Investment Required	1975 Actual Loans Approved 477-KE	1976 Ranch Model Total Investment Required
Commercial Ranch				
Development Capital				
Facilities	16 (50)	61	36	107
Breeding Stock	19 (5)	16	101	12
Existing Stock	N/A	142	N/A	201
	35 (55)	219	137	320
Working Capital				
Steers	34 (8)	36	58	50
w/Capital	39 (20)	13	46	28
	73 (28)	49	104	78
3 New Coast Company Ranches				
Development Capital				
Facilities	18 (18)	17	24	55
Breeding Stock	16 (1)	9	42	5
Existing Stock	N/A	17	NA	17
	34 (19)	43	66	77
Working Capital				
Steers	30 (17)	14	69	43
Working Capital	7 (6)	3	20	42/-
Interest	N/A	-	-	15
	37	17	89	100/-

Future Demand

14. It is estimated that another 30 ranches might apply over the next 3½ years requiring KSh. 18.5 million making a total of KSh. 37.6 for this sub-project.

	No. Ranches	Ha. ('000)	Development Loan	Working Capital Loan	Total
1	10	46	4,250	5,334	9,584
2	6	26	5,474	4,086	9,560
Sub-total	16	72	9,724	9,420	19,144
3	10	44	5,603	2,314	7,917
4	10	44	5,603	2,310	7,917
5	10	44	2,366	338	2,704
Sub-total	30	132	13,572	4,962	18,538
Total loans	46	204	23,296	14,386	37,682
Appraisal Total investment Cost	100	350	74,420	16,833	91,250
Appraisal Total Loans					73,000

Round up Meeting

15. At the round up meeting in the Ministry of Agriculture the mission recommended that:

(a) Further lending should only be done after very careful examination of budgets.

(b) Since many ranches may have high loan burdens a review of Commercial ranches with loans should be undertaken to ascertain their financial state.

Recommendations and Conclusions

(a) To make many of the newly purchased Commercial ranches a satisfactory financial investment producer prices for FAQ and Standard grade should be raised to KSh. 8/05 and KSh. 7/25 per kg.

(b) The financial state of all Commercial ranches with loans should be reviewed (if the work has not already commenced).

(c) In estimating loan requirements more emphasis should be placed utilizing existing fixed assets and greater use of purchased steers at the expense of breeding cattle.

(d) AFC must receive regular financial statements from 129 and 477-KE ranches and in conjunction with RMD undertake annual reviews of their programs.

(e) RMD must institute a more intensive extension and training program on 129 and 477-KE ranches. District Range Officers should undertake regular visits and reports.

(f) In the next three years an attempt should be made to develop a series of ranch models which justify and reflects broadly the main needs of the different ranching groups now requiring loans.

(g) It is estimated that another 30 ranches covering 132,000 hectares might qualify for Project loans totalling KSh. 18.5 million. The Project would finance 46 ranches (204,000 ha) totalling KSh. 37.7 million compared with an appraisal estimate of 100 ranches (350,000 ha) for KSh. 91.0 million.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Distribution of Existing Ranches (in 1958) and
Estimated Area Covered Under Credits 129/477-KE

Distribution of Ranches 1/ 1958

Area (Ha)	Laikipia No.	Laikipia %	Rift Valley 2/ No.	Rift Valley 2/ %	Machakos No.	Machakos %	Total No.	Total %
0-2,000	26	28.3	14	46.7	11	32.3	51	32.7
2,000-4,000	16	17.3	8	26.7	7	20.6	31	19.9
4,000-8,000	21	22.8	1	3.3	7	20.6	29	18.6
8,000-12,000	12	13.0	4	13.3	9	26.5	25	16.0
12,000-16,000	7	7.6	1	3.3	-	-	8	5.1
16,000-20,000	2	2.2	2	6.6	-	-	4	2.6
Over 20,000	8	8.7	-	-	-	-	8	5.1
	92	99.9	30	99.9	34	100.0	156	100.0
Ranching Area ('000 ha)	696		139		162		997	
Average Ranch Size (ha)	7,567		4,643		4,754		6,447	

Loans Approved 129-KE:

	Laikipia No.	Laikipia Ha. ('000)	Rift Valley 2/ No.	Rift Valley 2/ Ha. ('000)	Machakos No.	Machakos Ha. ('000)	Total Including Other Districts No.	Total Including Other Districts Ha ('000)
Naivasha	-	-	7	19)	-	-		
				) 26				
Nakuru 3/	-	-	8	7)				
Nyahururu	18	88	-	-	-	-		
Nanyuki	18	88						
Machakos	-	-	-	-	5	19		
Total	18	88	15	26	5	16	38	169
Kitui/Karugoya							(4)	(37)

Loans Approved 477-KE (excluding second loan to 129-KE):

Naivasha	-	-	1	9	-	-	-	-
Nakuru	-	-	4	6	-	-	-	-
Nyahururu	-	-	1	12	-	-	-	-
Nanyuki	4	17						
Machakos	-	-	-	-	2	14	-	-
	4	17	6	27	2	14	12	58
Muranga	-	-	-	-	-	-	1	3

1/ From J. Morrison, A Report on a Survey of Ranching in Kenya Highlands. Mimeo., Nairobi, 1958. The report covers the previously European owned ranching areas and relates to the ranch types covered by Commercial ranches under the Project.

2/ For comparative purposes with 1958 distribution Nyahururu is included in Rift Valley Province.

3/ Distribution of ranches between districts subject to revision.

August 30, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Herd Development Projection

Commercial Ranch Model - 3,400 ha

End of Year

HERD COMPOSITION	Pre-development	1	2	3	4	5	6	7
Breeding cows	400	433	516	565	565	565	565	565
Bulls	20	22	26	28	28	28	28	28
Weaners	240	260	303	387	424	424	424	424
9-24 Month Heifers	114	114	125	131	131	131	131	131
9-24 Month Steers	114	114	125	147	188	206	206	206
24-36 Month Heifers	109	108	45	0	0	0	0	0
24-36 Month Steers	109	68	109	121	142	182	199	199
36-48 Month Steers	104	0	0	0	0	0	0	0
Total Numbers	970	859	946	992	1,054	1,112	1,129	1,129
(Total Animals)	1,210	1,119	1,249	1,379	1,478	1,515	1,553	1,553
Sub-Total A.U.	970	859	946	992	1,054	1,112	1,129	1,129
Purchased Steers	0	0	187	141	79	21	0	0
Total Animal Units	970	859	1,133	1,133	1,133	1,133	1,129	1,129
MORTALITY								
Breeding cows	20	20	17	15	17	17	17	17
Bulls	1	1	1	1	1	1	1	1
Weaners	0	12	10	9	12	13	13	13
9-24 Month Heifers	5	6	5	4	4	4	4	4
9-24 Month Steers	5	6	5	4	6	6	6	6
24-36 Month Heifers	5	5	4	1	0	0	0	0
24-36 Month Steers	5	5	3	3	4	4	5	6
36-48 Month Heifers	5	0	0	0	0	0	0	0
36-48 Month Steers	5	5	0	0	0	0	0	0
48-60 Month Heifers	5	0	0	0	0	0	0	0
48-60 Month Heifers	5	0	0	0	0	0	0	0
60-72 Month Steers	5	0	0	0	0	0	0	0
Fattening Cull FEM	5	0	0	0	0	0	0	0
Sub-Total	71	60	45	37	44	45	46	47
Purchased Steers	5	0	0	6	4	2	1	0
Total	76	60	45	43	48	47	47	47
PURCHASES								
Breeding Age Heifers	0	25	25	0	0	0	0	0
Bulls	5	6	9	8	6	6	6	6
Sub-Total	5	31	34	8	6	6	6	6
Steers	0	0	187	141	79	21	0	0
Total	5	31	221	149	85	27	6	6
SALES								
Bulls	4	4	4	5	5	5	5	5
9-24 Month Steers	0	0	0	16	57	75	75	75
9-24 Month Steers Lean	0	40	0	0	0	0	0	0
24-36 Month Heifers	0	0	10	0	0	0	0	0
24-36 Month Steers Lean	0	104	0	0	0	0	0	0
36-48 Month Steers	104	0	65	106	117	138	177	193
48-60 Month Steers	0	99	0	0	0	0	0	0
Fattening Cull FEM	100	76	83	100	110	110	110	110
Sub-Total	208	323	162	227	289	328	367	383
Purchased Steers	0	0	0	182	137	77	21	0
Total	208	323	162	409	426	405	388	383
TECHNICAL COEFFICIENTS								
Weaning Rate %	60.00	65.00	70.00	75.00	75.00	75.00	75.00	75.00
Adult Mortality %	5.00	5.00	4.00	3.00	3.00	3.00	3.00	3.00
Extraction rate %	21.44	37.56	16.12	21.30	22.06	22.79	25.84	27.33
Tot. Output Rate %	21.44	37.56	17.13	22.94	27.48	29.54	32.49	33.98
Cows/Total Herd %	33.06	38.67	41.32	40.99	38.24	36.81	36.40	36.40
Bull/Cow Ratio %	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Cow Culling Rate %	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Bull Culling Rate %	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Stocking Rate Ha/A.U.	3.51	3.96	3.00	3.00	3.00	3.00	3.01	3.01
Stocking Rate A.U./Ha	0.29	0.25	0.33	0.33	0.33	0.33	0.33	0.33
Carrying Cap. A.U.	850	850	1,133	1,133	1,133	1,133	1,133	1,133

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Model - Commercial Ranch - 3,400 Hectares
(Ksh '000)

A. Updating Investment, Operating costs, Income and Financial Rates of Return

Investment Costs

	Units	Total Cost	Investment Year 1	Year 2	Total	Appraisal Estimate	Foreign Exchange Component %	Foreign Exchange Component Amount
Physical Facilities								
Water Facilities								
Bore/dam	1	135	68	67	135	60	50	87.5
Pump	1	75	-	75	75	6	90	67.5
Piping	5 km	226	-	120	120	60	80	96.0
Troughs	2	6	-	12	12	6	40	4.8
Tanks 10,000 gal.	1	22	-	22	22	11	20	4.4
Sub-total			68	296	364	143		240.2
Cattle yards and dip	1	30	30		30	20	40	12.0
Tractor, trailer, equipment	1	100	100		100	22	90	90.0
Firebreaks	10 km	1	10		10	5	20	2.0
Fencing	10 km	3	15	15	30	15	10	3.0
Bush clearing	10 ha	.4	2	2	4	2	-	-
Sub-total			157	17	174	64		107.0
Total physical facilities			225	313	538	207		347.2
Breeding Stock 2/								
Existing			685		685	497		
Heifer			17	17	34	23		
Bulls			18	27	45	36		
Sub-total			720	44	64	556		
Total Investment Costs			945	357	1,278	763	46	347.2
Long-term Loans								
Investment			182	249				
Working capital			26	152				
Total			208	401				

B. Sales and Operating Expense Projections (Details in Appraisal Report) 2/
(Ksh '000)

	1	2	3	4	5	6	7-20
Sales - present prices (see (a) below	269	141	428	417	367	329	317
Alternative sales stream (June gazetted plus 30% increase for standard) (see (d) below)	356	176	526	514	473	447	440
Operating Expenses 2/							
Operating costs	159	182	187	187	187	246	187
Steer and bull purchases	-	170	161	95	39	18	18
Total	159	252	348	282	226	264	205

C. Financial Rate of Return (Rate of Return at Appraisal 17%)

(a) Financial Rate of Return - based on increasing income 38% since 1972 — 5%
(b) Financial Rate of Return - based on increasing income 70% since 1972 — 12%
Sensitivity: 10% increase in costs — 9%
10% increase in benefits — 16%
(c) Financial Rate of Return - based on prices gazetted by Government, June 1976 and assuming price increases according to weight as suggested in Annex ___ Tables 3 & ___. — 11%
Sensitivity: 10% increase in costs — 8%
(d) Financial Rate of Return - based on prices gazetted by Government, June 1976 and increasing price for Standard grade by 30% as well, assuming price increases according to weight as suggested in Annex __ Table C. (no element for 10% contingencies have been included in the costs). — 16%
Sensitivity: 10% increase in costs — 12%
10% increase in benefits — 19%

N.B. The assumptions in (c) and (d) that sales return will reflect the average weight of the cattle according to Annex __ Table __ assumes that ranchers will sell some of their stock to local butchers at higher prices than they would get from KMC, i.e. particularly those like fat cows which normally grade Standard. However, if all cattle went to KMC the increase in income based on the proposed new prices plus an increase in Standard of 30% would more likely be 12% as shown in (b); prices in footnote 2/ to this table. It should also be noted that operating costs are estimated at 166/- per animal unit excluding depreciation (FRR however includes replacements); ranchers generally now estimate costs at KSh. 180/- per animal or 8% more but this does contain an element of depreciation. Operating costs in this model could be low. On the other hand, investment costs may be high when it is borne in mind that many of the ranches already have some form of development (see para__).

1/ Investment item costs for Commercial and Company ranches estimated at similar price although former should be somewhat less in view of more competition to undertake work.

2/ Since 1972 producers have received about 38% more for their sales while operating costs have risen 98%.

	Dec. 1972	1976	Actual % Incl.	Proposed 1976	% Incl.	Proposed & Standard Increased 30%	
Y&Q	4.41	5.50	25%	7.00	58%	7.00	58%
Standard	3.42	4.85	42%	4.85	42%	6.30	84%
Commercial	3.80	4.25	44%	4.25	44%	4.25	44%
Average per Ranch			38%		30%		70%

3/ Operating costs average about KSh. 166/- per animal unit.

June 29, 1976.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Commercial Ranches

Cash Flow
(Ksh '000)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Sources of Funds																				
Sales[1/]	356	176	526	514	473	447	440	440	440	440	440	440	440	440	440	440	440	440	440	440
Shareholder contributions	774	172	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Long-term loans: investment	182	249	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
working capital	26	152	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	208	401	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total long-term loans	208	401	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total sources of funds	1,338	749	526	514	473	447	440	440	440	440	440	440	440	440	440	440	444	440	440	440
Uses of Funds																				
Investment: physical	225	313	-	-	72	-	-	-	72	-	18	-	72	-	-	-	140	-	-	-
breeding stock	720	44	24	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Sub-total	945	357	24	18	90	18	18	18	90	18	36	18	90	18	18	18	158	18	18	18
Working capital: steers	-	170	137	77	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
variable costs	37	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Sub-total	37	217	184	124	68	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Total investment & working capital	982	574	208	142	158	65	65	65	137	65	83	65	137	65	65	65	205	65	65	65
Overheads	123	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
Total investment & operating costs	1,105	714	348	282	298	205	205	205	277	205	223	205	277	205	205	205	345	205	205	205
Financial Charges																				
Year 1 - loan: interest	18	18	18	18	17	15	14	12	11	10	8	6	5	3	2	-	-	-	-	-
principal repayment	-	-	-	17	17	17	17	17	17	17	17	17	17	17	21	-	-	-	-	-
Year 2 - loan: interest	-	36	36	36	36	36	30	27	24	21	18	15	12	9	6	3	-	-	-	-
principal repayment	-	-	-	-	33	33	33	33	33	33	33	33	33	35	33	38	-	-	-	-
Total financial charges	18	53	54	71	103	101	94	89	85	81	76	71	67	64	62	41	-	-	-	-
Total uses of funds	1,123	768	412	363	401	306	299	294	359	286	299	276	344	269	267	246	345	205	205	205
Annual surplus (deficit) before taxes and appropriations	215	(-19)	114	157	69	141	141	146	79	154	141	164	106	171	173	194	95	235	235	235

1/ Base price = Ksh6.30/kg CDW for standard grade.

June 29, 1976

ANNEX 6

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Group Ranches - Narok, Kajiado, Samburu & Kwale

Part I - Kajiado and Narok Group Ranches

1. The November 1975 Supervision mission called for a review of the Group ranch program observing that "they appear at present to be very much more a concept than a working proposition -- and more an exercise in acquiring title to land than an effective means to commercializing beef production." The report questioned whether group ownership of grazing and individual ownership (a mini communal system) could result in proper management of cattle and pastures. Because of the lack of control within the groups it noted the serious overstocking situation building up in Masailand due to:

(a) installation of additional water leading to overall increases in stock numbers.

(b) reluctance of Masai to reduce cattle numbers and their desire to increase numbers.

(c) reluctance to give up the nomadic existence.

Overstocking

2. The prevailing stock situation is serious and gives concern not only for the environment and the possibility of future human suffering following major stock losses but also because it reduces considerably the possibility of bringing about agreed change with the minimum of coercion.

The Project is not responsible for the overstocking. The build up of stock numbers was inevitable and necessary under the traditional system whereby individuals wish to feed themselves from their own cattle and achieve a degree of (temporary) independence. The problem has not necessarily been due to the people's intransigence but to the time it has taken (since 1964)to develop the framework in which the necessary fundamental changes in the traditional system can take place. First of all the Group ranching idea had to be accepted (1965) then registration passed and money found to adjudicate the land (1966-70) followed by delays in investment (1969-71), by which time overstocking began to present problems in the allocation of quotas (only 6 groups had agreed to quotas by 1975). Since the time of the last catastrophe in 1962 the cattle population in Kajiado has increased from about 250,000 head in 1962 to 700,000 head in 1975. The correct stocking level in relation to existing infrastructure i.e.550,000 head was reached about 1970/71 when the First Project got underway. As the Masai said frequently up to 1972, "we have had land adjudication but nothing has changed, as far as improvements to our grazing is concerned." An appreciation of the historical perspective gives some clue to the problems of the present.

Cattle Population

	-----Kajiado District----		----------Kaputei Section--------		
Year	(2.1 m ha.) Cattle Nos. ('000)	Stocking Rate (ha.)	Area ('000 ha.)	Cattle Nos. ('000)	Stocking Rate
1944	347	6.0	324	90	3.6
1952	500-580	4.2 to 3.6	324	NA	NA
1961	757	2.8	324	150	2.2
1962	200-300	10 to 7.0	324	30-38	11 to 8.5
1965	350	6.0	221		4.6
1968	450	4.7	221		

Objectives

3. Using the Project as a major tool the Government aims to achieve in Narok and Kajiado (and Samburu) the following interrelated goals:

(a) Gradually change the pattern of livestock production from one of basically milk subsistence production to cash production from milk and meat products.

(b) Replace the high value milk and meat products in the diet by alternative cheaper foods.

(c) Bring about a more stable production by rationalizing land use and limiting stock to the correct carrying capacity in one year by permitting groups of people to manage their land to their best mutual advantage without interference from outside.

(d) Provide the condition for major investments (on loan terms) which can increase the net output from the land several fold over a ten year period.

(e) Increase the incomes of the poorer members (the majority) through increased production and depending on the wishes of the people, some redistribution of stock wealth which might be possible if stock carrying capacity can be increased.

(f) Incentives for wealthier members might be provided through herd stability, greater incomes, less responsibility for the poorer members (perhaps controversial in view of its socio-political aspects).

(g) Definition of the depth of the poor pastoralist problems.

(h) Apart from increasing production to accommodate growth of population it is intended to improve education and other services to allow the surplus population to be more mobile and employable.

(i) Bring about a fundamental change in social relationships from one of deep interdependence to a much looser society.

(j) To be successful in broad terms the advantages of each of these goals individually and collectively must provide sufficient incentive for the majority to appreciate the advantage and be willing to enforce the change from the traditional to the new system through their own self-enforced discipline, calling on Government where necessary to assist them in overcoming outside or minority interference.

Achievements

4. In physical terms the two projects have had little impact on the Masai problem. The impact has been mainly sociological, making the Masai discuss their problems and the few improvements made by the Project have demonstrated the value of more water, dipping and better bulls. While the technical improvements are very much accepted, it remains to be seen whether the program will lead to long term changes and improvement in land use. Not so much because of traditional attitudes per se but because of the serious nature of the basic economic problems to be solved by the method being introduced. The traditional system now being used will lead to certain destruction of the land in the long term. The Masai understand this but their personal time scale in terms of life span and immediate need

to provide everyday sustenance is short term and the traditional methods have so far been the only ones to satisfy them. It is nearly 15 years since L. H. Brown, Kenya's Chief Agriculturalist, first described the essential problem of the pastoral people of Kenya. The problem was serious then. The time scale for most traditional livestock projects to have major impact is 10 to 15 years. What is being done today must have relevance to a population that will have doubled in 25 years time. It must be capable of replication quickly and relatively cheaply. Progress in this component of the Project has to be measured not only in the number of gallons of milk and weight of beef that will be produced but also what will happen not just to the land but to the human beings in 25 years time if nothing is done now. However imperfect the present impact is it is probably better and may be cheaper in the long run than stopping investment now because one is worried about land degeneration (which will take place anyway - with or without investment).

4. Under 129-KE only 5% of the funds loaned to ranchers went to groups; in fact individual ranches in Masai received more money. By March 1975 only 5 groups had drawn fully on their loans, 2 were 50% complete and the remainder less than 15%. However, 15 boreholes were drilled, sufficient to provide grazing within 3 miles for 109,000 ha of grazing. Only about 250,000 ha of Group ranches or 8% out of a possible 3.3 million ha range in Kajiado and Narok districts land adjudication has been completed. Development so far has allowed people to overgraze more land or more intensively than they otherwise might have done and if more water is introduced without some stock control it will allow stock numbers to increase beyond past crisis levels and so not only increase grazing destruction but increase the risk of a proportionately bigger catastrophe in the future. No development has taken place so far under 477-KE. After two years of ranch planning 7 small loans on 27,000 ha for Ksh 3.7 million have so far been approved. The following table gives the loans disbursed to date, amount of range covered by them and the area remaining.

Kajiado and Narok Group and Individual Ranches

Date	No. Ranches	Ha ('000)	Loans KSh.'000 Approved	Loans KSh.'000 Disbursed	Percentage Disbursement Development	Cost/Ha KSh. Approved	Cost/Ha KSh. Disbursed
A. Group Ranches							
Loans Approved Under 129-KE							
July '74	15	221		1,828	52%	-	-
Dec. '75	15	221	1[illegible],580	2,982	NA	57/-	14/-
Loans Approved Under 477-KE (Narok)							
Feb. '76	7	27	[illegible],672	-	39%	137/-	-
Other Groups Registered July 1975 - available for loans							
Kajiado	13	370					
Narok	18	300					
Land Remaining to be Demarcated, or Adjudicated or Registered (July 1975)							
Kajiado	-	1,100					
Narok	-	1,200					
B. Individual Ranches (Kajiado)							
129-KE (Kajiado)							
July '74	41	25	4,720	2,556	45%	188/-	101/-
Dec. '	41	25	3,746	2,314	-	-	-
Other Individuals Registered (July 1975)							
Kajiado	20	23	-	-	-	-	-
Narok	44	22	-	-	-	-	-

5. The Completion Report for 129-KE explained the problems that have prevented more progress and suggested solutions (see Annex 19 of PCR). The Review mission examined the problem again

and arrived at the same conclusions, namely that Group Ranch development is dealing with a very complex socio-economic change which will take time to solve but at present there is no better alternative. There is no doubt that it has brought about considerable changes in Masai thinking and their readiness to consider and accept change; just as important it has given Government and technicians a greater understanding of the complexity and dimension of the problems. The Group ranches are definable units within which groups of people can try to come to some agreement on how best they can manage their land to their mutual advantage. The Government has provided legislation and services which can support their efforts. In the 1960's when the land was generally understocked the Government had the best opportunity to establish the stocking rights with the minimum of dislocation; now the problem is more difficult.

6. Many Masai have said they would like to give up their nomadic life and settle down to ranching, and given the deteriorating prospects of the traditional system the mission believes this view to be genuine. The people are realizing that there is not enough land for everyone and their children must obtain better education and eventually work outside. The few Group ranches visited that have operated for a while were insistent that apart from community development advantages their stock management obtained real advantages from the investments and practices adopted which included lower

stock mortality, faster growth rates and higher milk yields and faster steer growth from cross breds where Sahiwal bulls had sired the progeny.

Land Tenure and Stock Numbers

7. The major problem not yet able to overcome satisfactorily has been the question of controlling stock numbers. Discussion on the subject among the Masai has now reached the stage where it should be possible to come to some conclusion on how the stock quotas are to be administered. When the land adjudication legislation was conceived the allocation of stock rights was to be a central part of the legislation in the same way that land rights in land adjudication were determined. Stock number rights were to be allocated as part of adjudication. This in fact was not covered and it left this task to a new undermanned Registrar of Group Ranches Department. The Group Registrar in cooperation with AFC and Range Management has reached agreement on quotas for 5 Group ranches and some selling of stock took place but the benefits and continued application of the quotas have been adversely affected by the general overgrazing throughout Kajiado, forcing graziers to find grazing whenever they can and persuading these groups to take some of their cattle. For very good and obvious reasons Masai want to help each other (as ranchers try to do in more developed countries) and will not as yet stop others coming on to their land providing they ask permission. It is possible to accommodate such a system in a controlled manner under the Group Ranch rules.

8. At conception it was believed that land allocation would lead some groups to want to become independent and control their land. Discussions with groups that have had improvements suggest that this is occurring and that people want to restrict and select those from outside who require to use their grazing and certainly request that they pay for any dipping or

pumped water supplies they use. Many say they see the day when people will not be able to cross boundaries without payment of a fee. They perceive that some people within a Group (those with large numbers of stock) get more advantage than the poorer people and believe that they must be controlled. The perceptions of the poor, however, conflict with the interests of the wealthy since they (the poor) believe that they must be allowed to keep more stock to provide sufficient for their needs at the expense of the wealthy. The richer members, however, believe that their position has been obtained through ability, good stockmanship and the right relations and that the others are importunate and would be better off remaining as herders and helpers for those who know best how to manage stock. These differences will have to be carefully examined and reviewed. They are serious but no more serious than those that had to be resolved and supported when the traditional form of land tenure in the cultivation areas, with all its inequities and vested interests, was replaced by a system of individual tenure which was regarded as a more equitable system by the majority.

9. As with the development of the new land tenure system in cultivation areas, the opportunity for a progressive ranch to administer quotas will not occur unless the Ranch is certain of long term support from Government to restrain outsiders coming on their land or more likely if there is a general reduction in cattle numbers throughout the District brought about by Government inducement or catastrophe. Additionally, the Program will not succeed unless real cash and subsistence advantages accrue to the majority participating. Initial experience on the first groups has been encouraging but the sensitivity of the ranch models and the over-populated nature of some groups suggest that much more attention will have to be paid to the economics of the individual in these ranches.

10. Of course, a more pessimistic interpretation of the present situation is possible. It can be argued that the Masai, who are still basically a very close community, have no wish to pursue a proper stock quota scheme and give these explanations as a placeb to. This could be demonstrated by the manner in which families have arranged to have social connections in different ranches which could militate against the development of sanctity of boundaries. The Masai could be regarding land registration as a means of preventing further loss of land to other activities and a way ofconning the Government into providing more water. There are probably Masai who do see the situation this way. They do not see how a settled existence can fit with their cattle holding tradition. The distribution of cattle among families establishes the socio-economic structure of the different sections. The distribution of this wealth is constantly changing not only between one major stock loss disaster and another (due in the past to disease now more often by drought) but also between families within such cycles caused by the general stockkeeping capacity of a family and the numbers of herders it can command. The establishment and administration of quotas within a stocking rate ceiling by elected group representatives must affect the status quo. In its present form Masai society is one of laissez faire capitalism with a safety net of socialism feeding the poorer members of the community. The vested interests in maintaining such a society are obvious. However, as the human population increases, the opportunity for all to benefit decreases and the possibilities to succor the poor decline and are required to be taken over by the state.

The evolution of this situation is seen in the kaleidoscope of declining pastoral systems in the various pastoral groups in Kenya as each one in turn begins to fail to cope with the demands of unrelenting population growth and development of a monetary economy. Thus the present ample stock wealth of the Boran and the Galla make them the main "free" pastoral groups remaining. The Somalis, and the Samburu are beginning to have difficulty in obtaining all their needs under the traditional system. The Masai have serious problems while many of the Turkana and Pokot have little hope of maintaining themselves from livestock alone and present serious economic problems incapable of solution using presently conceived economic methods of development based on livestock. In the case of the Turkana the result has been a breakdown of many tribal customs and constantly recurring famine relief.

11. The root of the problem and discussions in Kajiado and Narok is the complex relationships between rich and poor in Masai society using cattle as currency. These relationships are little different from the relationships of the rich and poor in any other society. To advocate that the Masai are not interested in change is to ignore the economic, social and outside pressures for change that are being exerted on their society at present. Change from the present stock management system, however, will only occur if the new proposals clearly bring advantage and protection to the majority. The Government certainly believes that the desire for change is real and is backing it up with large sums of money. For the mission, and probably the Government, the question is not one of whether something should be done but whether what is being done is enough or whether it could be done more effectively. The following lists some of the problems and factors that must be taken into account:

Ranch Stock Quotas

12. Correct stocking rate and land use is the only way that: (a) subsistence and income can be increased, (b) more intensive systems of livestock keeping can be introduced - milk production, fodders, etc., (c) and more people maintained on the land. Without too many improvements land productivity from domestic stock in Kajiado and Narok can be increased two or three times, without stock control, productivity will be erratic and in the long term decline. As with sanctity of title and correct land use in the cultivation areas of Kenya, the proper application and maintenance of stock quotas by ranchers and their members is essential from the outset in any development program. While some flexibility in the early stages might be justified by agreeing to investment before stock numbers are reduced there is no justification at a later stage allowing investments to be disbursed before some progress has been made in allocating and achieving the correct stocking rate. The availability of credit must be used to its maximum to induce change.

13. The method of allocation and observance of stock rights is of critical importance and it must be asked as to whether the present methods are adequate. When originally designed the conflict between rich and poor was foreseen and came out very forcefully in the many discussions at Poka Group Ranch in 1964 and 1965. For that reason RMD requested the Land Department to pass legislation which would require stock quotas to be fixed, after consultation with the Group, at the time of land adjudication. This has not been done and it is now up to the elected Group representatives to allocate and administer quotas. These representatives are elected and in view of the preponderance of smaller stockowners might sometimes be more representative of them, thus losing the confidence of the wealthier members

who must be relied upon to make the greatest stock reductions (whether on a pro-rata basis or even greater numbers to help the smaller members increase their stock quota) and who need least the extra money generated from such sales. The wealthier stockowners point out that elsewhere in Kenya, land (inthis case equivalent to stock rights) was adjudicated in relation to what a man had at the time; in the case of smallholder land owners there is no committee that remains to reallocate any portion of his land seasonally, the man can dispose of his land how he wishes. A major reason for the breakup of the original Poka Group ranch was the failure of the Group to arrive at an acceptable quota system which could be administered. The wealthy and the poor accused each other of not observing the quotas. Both were right and the outcome was unofficial subdivision of the ranch. This has not been successful and they are now re-forming to try again, as they found the advantages of the Group were worth having - an indication of the desire to arrive at a satisfactory solution. It will, however, fail again, perhaps irrevocably, unless the Government gives real assistance.

14. In ranching there must be some flexibility in fixing the stocking level from year to year in relation to weather conditions but within this there must be some basic security for the stockowner to ensure his rights are not reduced over a period of time through quota manipulation. Should he have a basic minimum quota based on his present stockholding? Perhaps assessed at a conservative rate for example of 1:12 ha with any increase, which could go as high as 1:4 ha in some years, being assessed either strictly on a pro-rata basis or on a differential basis designed to help in different degrees certain stock wealth groups. While there can be flexibility in the methods used to administer quotas within ranches according to the people's

wishes there is no doubt that groups need more assistance from Government staff in developing such systems (and if necessary making legislative changes). Government staff must know what system is being adopted, monitoring its application and the satisfaction that the various stockowners receive from it. This will not be enough. Having obtained the stock quotas for each person to be applied under various conditions the extension service must plan the overall management program for the ranch and equally vital (and a necessity if the overall plan is to have any meaning) must examine and advise each member of the group on how best he can maximize his subsistence and income within the limits that govern his use of the ranch land.

Disparities of Stock Wealth and Some Consequences

14. The acceptance and administration of correct stock quotas by stockowners must be accompanied by a recognition by Government that these quotas are only likely to be maintained in the long term if the Government does something about the below subsistence level stockowners who will multiply with the increasing population growth. As with defining the poor among cultivators it is equally difficult to define below subsistence level stock owners; the latter's position is further complicated by the fact that in an overstocked situation poorer people might temporarily have enough stock while under correct stocking rates they would have insufficient stock (halving a man's cow population to the correct stocking rate would not necessarily give him twice as much milk - certainly not immediately - nor would it help supply milk throughout the year). Similarly the effect of seasons are of major importance; where fluctuations in rainfall of 40% around the mean is common, should an above subsistence level holding be classified as one that has enough cattle to supply milk in all seasons? As with smallholding sizes it

is necessary to talk in general terms.

15. If it is assumed that 15 cows might on average provide 75% of the subsistence for a family plus some income then perhaps 40 to 50% of the stockholders in Kajiado and Narok may be at the basic subsistence level and below (Table 5 shows that 15 cows is probably very conservative and it may be nearer 20 to 25). This compares with about 60% of the land-owners in Central Province who have holdings of less than 5 acres in size (40% of the land area). Unlike the Central Province farmers where the other 40% of families can intensify operations and employ more labor, the Masai have few alternative work opportunities (other than herding a wealthier man's cattle) and few educational or technical qualifications to offer people outside the district. The Masai are seriously concerned and when they have been able to settle down (on the early Group ranches) have rapidly subscribed to schools and tried some cultivation where possible. The following table illustrates the serious nature of the subsistence problem in Kaputei Section of Kajiado and the areas so far registered in Narok by comparing stockholdings on the ranches so far registered. For example in Kaputei 56% of the families are concentrated on Olkinos, Emboliol, Mashuru and Nkama ranches and had on average only 10 cows per family in 1972 when the area was probably 15 to 20% overstocked. While there are individuals with larger stockholdings on these ranches there will be members with less. Similarly ranches with an "acceptable" average have many stockholders with below subsistence level holdings (certainly if there was pro rata destocking).

	No. of Families	No. Ranches	Total Ha. ('000)	Ha./ Family	Cattle Nos. 1/ ('000)	No. Cattle Per Member	No. Cows Per Member 2/
Registered Land							
Kaputei 129-KE Ranches							
High Family Ranches	1,010	4	66	65	25.8	26	10
Remainder Kaputei	822	11	155	188	46.0	56	22
Total	1,832	15	221	121	71.8	39	16
Narok Ranches Approved 477-KE	506	7	27	53	11.6	23	9
Total Narok Registered No Loans Approved	2,562	23	320	125	102.4	40	16
Ranches with Under 25 Cattle/Members	1,095	13	56	51	22.4	21	8
Ranches with 25 to 50 Cattle/Members	429	6	53	123	17.8	42	17
Ranches with Over 50 Cattle/Members	1,038	4	211	203	62.0	60	24

16. Group ranches per se, credit, good extension services organization, etc. are not sufficient to alter their fortunes if the present system of stock management and subsistence presently being planned for these ranches continues. What is required to change the situation is to develop livestock management systems and alternatives which are sufficiently attractive to individuals and which will increase income and hasten the present trend of moving from milk to maize for subsistence. The macro scale models aggregating all the individual herds into a single big herd obliterate the problem of the individual. Thus on average all but 1 of the 15 Kaputei ranches are over 6.500 ha and according to the Group ranch model (part 4 and Tables 2 to 6) are big enough to service a loan yet in practice in Kaputei at least

1/ Kajiado 1972 Census, Narok 1975.
2/ 40% Cattle mature females.

8 of the 129-KE ranches with 73% of the families have members whose individual incomes must be very much under pressure, since they have on average 15 or less cows. All but one of the 8 ranch loans in Narok are for ranches of less than 6,500 ha in size and all members have on average less than 20 cows.

Kaputei Ranches with loans approved	No. of Ranches	No. of Ranches Whose Families Have on Average 1/ 0 to 10 Cows	11 to 15 Cows	16 to 20 Cows	Over 20 Cows
Up to 6,500 ha.	1	1 (106)	-	-	-
6,500 - 11,000 ha.	3	-	1 (68)	-	2 (90)
Over 11,000 ha.	11	2 (342)	4 (815)	1 (113)	4 (298)
	15	3 (448)	5 (883)	1 (113)	6 (388)
Percentage Families		25%	48%	6%	21%
Narok					
Ranches registered on which stock data available					
Up to 6,500 ha.		8 (479)	5 (284)	1 (66)	-
6,500 - 11,000 ha.		3 (375)	1 (43)	-	-
Over 11,000 ha.	—	-	-	2 (243)	3 (972)
	23	11 (810)	6 (327)	3 (309)	3 (972)
		34%	13%	13%	40%

17. Where cattle are short income becomes more important to purchase food and greater pressure to increase stock numbers and so overstock. This clearly presents a problem in itself for the ranch planners. No recent data is available

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1/ Total number of families - both rich and poor - on the ranches is given in brackets.

on the former aspect although in 1965 figures from Poka Group ranch and proposed ranches in Ildamat in Narok showed a very high extraction rate of young males from the poorer members herds while among the larger stockowners the male herd structure became more normal. Although differences in ecological zones in Narok must affect interpretation of data the ranches with the greatest proportion of poor families would appear to have the highest stocking rates as can be seen from the following table:

	Stocking Rate Cattle/Ha. 1975
Families with less than 10 cows	2.50
Families with 10-20 cows	2.97
Families with over 20 cows	3.40
Average	3.13

18. In Kaputei the figures are more variable but if the four most heavily populated ranches in terms of fewer hectares per family and less than 15 cows per family there was the following situation in 1972 (since when the herds will have increased further).

	Cattle/Hectare 1972
Nkama, Mushuru, Olkinos and Emboliol Group Ranches (1,010 families)	2.56
Remaining 11 ranches (822 families)	3.37
Average	3.13

NOTE: The Project model in year 1 suggests a stocking rate (including calves) after improvements have been made of 1:3.5 ha. building up to 1 to 3.2 in the fifth year with a higher proportion of immature stock. This could prove optimistic.

this means that those ranches with the poorest stock wealth should reduce their stock the most.

19. The average Masai ranch herd usually has 40% mature females and a total female cattle population of 70%. While ownership of these animals has a skewed distribution the interdependence of families on supplying each other milk is a feature of society and essential where there are no shops. The search for independence, however, means that poorer families try to increase their stock as much as possible and at the same time tend to have a slightly higher proportion of female stock (because the extraction rate is highest). This makes the planning of a poor man's herd very difficult and the large number of females gives the ability to increase numbers quickly. Because of human pressure on available milk cows and introduction of the monetary economy the pattern of interdependence is slowly changing and is indicated by the early appearance of shops on some of the Group ranches (or increased trading activity in a nearby center). It will be hastened by Government's efforts to commercialize production even though there will be strong traditions which will work against such changes. However, the ranch planner must appreciate that subsistence with needs come first and this has to be taken account of in his planning. Government will therefore have to be prepared to do more for the under privileged in the ranching community; departments should determine how best they can help in this transition period.

Income Distribution and Capacity to Pay for Improvements

20. The Group ranch model suggests that on a macro scale a satisfactory rate of return can be achieved if the June 1976 prices are increased by 15% after adjusting the Standard grade by 30%. Because of the relatively high level of production at this stage in the stocking up cycle there is an apparent decline in overall income to meet running costs and debt service. While the former income is not sustainable in the long run and therefore rather artificial it is real for the Masai at this moment. Also the income has to be shared among a large number of families. With the skewed distribution of stock wealth

it is evident that some families will have difficulty in repaying their share of the loan. The wealthier people who own at a guess perhaps 60 to 70% of the stock should have no problem in repaying the loan and it remains to be seen whether the increased production will be sufficient to allow the poorer members to repay or whether their wealthier members will pay the debt. This matter is discussed further in Part 4 of Group ranch loans and development para 75 to 86). The advantages/as perceived by the Masai appear to be:

(a) Increased milk yields.

(b) Despite an apparent initial fall in income there are prospects of increasing income at a later date despite increases in families.

(c) Prospects of financial independence of members from each other (although among the poorer members this will in practice be difficult to achieve).

(d) The prospects of abandoning nomadism and settling near clean water followed by the building of schools, dispensaries and trading facilities.

(e) Improvement in appearance of stock and increased prices for some animals.

21. The model projects modest increases in meat production from 3.6 kg per ha to 6.7 kg per ha plus an increase in milk production. Laikipia commercial ranches average about 8 kg meat per ha, while the best ones gross over 22 kg/ha and have a target of 44 kg/ha. At Makaveti square mile in Machakos, in 525 mm rainfall, yields of 17 to 48 kg/ha meat were obtained from Kamba bullocks in half acre paddocks (Emp. J. of Exp. Agri. 29, 1961). It is possible in gross production and net income terms to do better than the model. It is clear that while the present program of land registration,

stock numbers control and investment in basic productive improvements provide the framework in which development can start it is important that Government commence immediately to develop ways in which greater output can be obtained from the land. Education facilities must be improved sufficiently to allow, if necessary, the movement of labor that cannot find employment in Range Management to other areas of the economy. It is suggested that the following short and long term possibilities be considered or given much more emphasis (many of the suggestions are part of the program).

Commercialize Milk Production

22. Measures should be considered to turn the present dairy ranching subsistence system into a commercial enterprise. A number of successful Laikipia and Machakos beef ranchers have covered their ranch operating costs by milking their cattle in the flush season. In Masai, milk commercialization could be done through hastening dietary change by encouraging the development of Group ranch trading shops on each of the large Group ranches (through loans to traders) and the sale of maize meal and alternative basic foods. At the same time develop carefully controlled seasonal milk collection centers for butter fat production, the skim being returned to the children through the schools. In some cases whole milk delivery runs could be developed similar to the Mariakani Scheme at the Coast. In theory the 34,000 gallons milk consumed on the 16,000 ha model ranch could be replaced in calorific terms by 340 bags maize sold to the consumers for 34,000/-. If only KSh. 2/50 (instead of the KSh. 3/50 presently paid for all whole milk) were obtained for the milk it would bring a return of KSh. 85,000/- or an extra KSh. 51,000/- cash income. It could be argued that the milk could be used for producing more meat on the poorly grown calves. At a rough conversion ratio of 1 gallon of milk worth KSh. 2/50 to 3/50 to 1 lb. liveweight gain worth KSh. 1/91 to 3/50 depending on grade the profitability of such an operation is doubtful, especially when the milk is sold today and the calf in four years time. A milk scheme, however, has real

dangers. Experience at Mariakani has shown that dairy ranching can lead to sole interest in cows for milking at the expense of stocking rate and calf growth with result that the herd size and productivity per animal degenerates. The same of course is happening in Masai without this increased emphasis on milk but at a slower pace. Since 1962 several milk collecting centers have been opened on Kajiado and experience with these could be examined.

Dual Purpose Bulls

23. With more emphasis on milk for either subsistence or cash sales a major program should be initiated to increase the number of young ordinary Sahiwal herd bulls for sale to Group ranches (at meat prices). Bulls from the Naivasha Sahiwal selection program and Sahiwal bull calves from the ordinary herd especially reared for that purpose could be used. This program which was popular in the 1960s appears to have been reduced yet must be one of the major benefits that can come from the maintenance of the Sahiwal Stud. Masai farmers spoke highly of increased milk and meat production from the early Sahiwal steers of the same age in the local markets. At the same time investigations should be made into the performance of the Sahiwal Ayrshire and Ayrshire Zebu crosses introduced into individual ranches around Kajiado in the middle 1960s. Results at Ngong Livestock Center support the contention that Ayrshire/Sahiwal cows are capable of sustained milk production under difficult conditions.

Need to sell young steers and heifers to maintain correct stock numbers

24. If 40% of the herd are to remain mature females then the correct stocking rate can only be maintained if young 24-36 month old steers and heifers are removed and sold for:

(a) fattening on established commercial ranches in Rift Valley (at present not possible because of Pleuropneumonia problems).

(b) fattening by other Masai Group ranches who must be encouraged to specialize in fattening their neighbors steers.

(c) fattening in special feedlots.

25. If Kajiado and Narok were stocked with 1.0 million head (compared to 1.5 million now), in order to stabilize the population, fattening arrangements would have to be made for 180,000 young steers and heifers annually, this number would alone nearly fill up the present commercially ranched areas. Masai ranchers themselves can be encouraged to specialize but it will take time to develop such enterprises on a large scale. Possibilities exist for developing better pastures on Group ranches in the high potential areas of Narok but where this is possible there is also higher population pressure and opportunities and need to obtain greater returns per acre from crops particularly wheat dairying and wool sheep. It is clear in both the short and long term that if the necessary substantial number of animals are to be moved off the range to maintain the correct numbers then some feedlotting of Masai cattle will have to be done. While the strictly financial return may be marginal from such an operation (because of the lower quality and high condemnations in the early year) a Little and Mirrless Social cost benefit study along the lines undertaken by D.G. Newbery in 1972 would probably once again show clear benefits for the country to handle the cattle in this manner (in 1972 depending on assumption the analysis gave returns of 32 to 52%). The model based on a 1.2% condemnation rate yields to __% (Annex 7).

Development of Masai Farmers Specializing in Fattening Steers

26. To deal with the fattening steer problems more effort must be made to encourage the development of specialist fattening operations among the Group ranch members. A number of Masai already engage in purchasing young steers for fattening but this should be encouraged more definitely during Group Ranch discussions and planning. In the early planning of the Poka Group ranch it was quickly evident that the best way to help the poorer members was to switch them from keeping a few cows and followers to a 6 month 18 month fattening operation in a properly stocked ranch rather than trying to make them develop impossible steer fattening operations based on five or six cows with quotas for only similar member of followers (when they would need a quota of 20 to support a balanced operation). Steer fattening enterprises had the advantage of reducing the pressure (ability) to increase numbers from at least one section of the ranch membership and removed a fear among the middle and bigger stock owners that the poor would gradually build up their stock numbers at their expense.

27. The first loans to Poka were based on giving individual steer loans to the poor. In practice, in terms of income and loan repayments this appeared to work although excess income from sales was apparently used to purchase breeding stock once the stock limitation discipline broke down. In granting loans under 129-KE and 477-KE, AFC moved away from the concept of individual steer loans to one of giving the loan for steers to the group as a whole (which was easier). The Group then used any surplus over expenses for maintaining the steer herd to pay for all ranch costs with any further balance being distributed to the poorer members. Apart from the fact that in times of stress no one took responsibility for the animals (e.g. Kiboko where "AFC steers" were unattended when the ranchers moved off the ranch in search of grazing) such a

scheme benefitted mainly the wealthy who did not have to sell any cattle to pay for the running costs of their large herds. Also once the ranches became fully stocked with their own breeding stock there was no room for such an operation again. It is strongly recommended therefore that some Group members (big or small) put aside some or all of their quotas for steer buying operations. Groups could give preference to poorer members in good years for them to purchase steers. The loans would be made to individuals with the guarantee of the Group Ranch Committee behind them. If a Kiambu farmer can specialize and put aside all his holding for coffee, tea, or dairying then the Masai farmer should be able to maintain a specialist steer operation providing it is practical for him to be able to use the money to purchase food.

Introduction of Cropping and Mixed Farming

28. The growing of crops in most areas of Kajiado has not been thought feasible because of climate and game. Now that game is declining in certain areas perhaps some consideration might be given in a few climatically favored areas to growing Sorghum for fodder or grain using a short or long rains fallow system. In 1960 at Katumani in 8" rain Tada Sorghum yielded 16 bags per acre while Taboran maize yielded 8 bags per acre. Apart from the economics of the operation which would need careful examination the dangers of land destruction are obvious and planting should only takeplace under a carefully controlled situation.

29. While the growing of any crops in Kajiado range areas would be a very contentious subject, not only among technicians,but perhaps more especially wildlife specialists, the development of farming systems in Narok on the smaller group ranches in wheat growing areas is essential if the expanding population there is to be satisfied. Now that land adjudication will have

removed a major obstacle to wheat development in Masai, it should be possible with care, to develop proper farming systems on these Masai Group ranches ensuring that the proceeds go fairly to all members rather than a few fortunate ones. While share cropping will undoubtedly have a place, efforts should be made to teach the owners of the Group ranches on farms to undertake their own cultivation. An essential part of such a program will be proper farm plans prepared by the Ministry of Agriculture Soil Conservation Service and the introduction of a rotational system with planted grasses.

30. In Narok the settlement of stockless Masai or people with small numbers of animals on individual holdings in the higher areas of the Masai suitable for smallholders should be considered. They can be settled as individuals as part of an overall Group ranch plan or settled separately in special schemes.

The national resources of Narok are such that no Masai should be destitute.

Contributions from Group Members

31. Group members are supposed to supply 20% of investment costs including operating costs. There is evidence from the loan applications that ranches are not contributing to either. The new model ranch budget is based on ranches contributing at least 30% for investment and operating costs. The case for a low investment contribution was first developed in the 1960's when ranches were still building up their herds and many below subsistence level stockholders had well below subsistence level stock numbers. The latter problem still exists to a lesser degree but the general overstocking on the ranches represents a realizable cash asset which should be capable of being used. Why for example should not a man with 300 head of stock not pay his full share of the investment costs from the cattle he should reduce perhaps

he could lend any surplus cash resulting to the Group. Perhaps he would be more interested in seeing that others kept in line with their stock numbers if he was a main contributor to investment. At the moment the ranches are being offered something for nothing. An argument sometimes used by AFC and Range officers is that the people need to be encouraged to cooperate. But perhaps this view may now be outdated. There is no other community in Kenya with such readily realizable assets which can at a stroke, without loss of benefit to the owner, be used for the benefit of production. The tragedy is that a major drought could wipe out this asset and leave behind just a picture of land degradation and human suffering. The value of the present assets can be appreciated when it is realized that on the 16,000 ha model if estimated present stock numbers were reduced by 20% from 5,600 to 4,500 it could yield over KSh. 456,000/- if each animal dressed out at 100 kg CDW. The total investment requirement for the ranch is KSh. 417,000 and operating costs for the first year are KSh. 167,000.

Changes in Group Ranch Organization

32. The subdivision of Masailand into Group ranches was primarily designed to eliminate the impossibility of dealing with a whole tribe and their stock as a monogenous problem and to replace it by a rational land use system based on giving responsibility and opportunity for smaller units of people to manage their own affairs to their advantage. The ranches were supposed to be viable grazing units on which the people would be able to remain throughout the year maintaining correct stocking numbers. Legislation and rules were passed to provide an organizational framework in which the people could operate and regulate relations between each other. However, the management and organization system being developed should not be regarded as immutable since the legislation gives flexibility to change in the light of experience. The possibility of subdivision into smaller units is a constant discussion

point among the Masai but the majority seem to see advantages in retaining group management for the time being. However, there is no reason why consideration should not be given to segregating wealth groups within a ranch with perhaps individual units for the wealthiest stock owners, mini-Group ranches for the next wealthiest and a concentration of the poorer members in the remainder (which would contain schools, etc.); each sector would have common facilities. The important aspect is to develop an organizational system that generally fits the needs of the people.

Treasury Guarantee to AFC for the Group Ranch Loans

33. Several suggestions were made by AFC and RMD that the Kenya Treasury should guarantee AFC loans to Group Ranches in view of the high risks involved. The mission recognized these risks but believes that for the time being no special arrangements should be made. The present arrangement should ensure that AFC adopts the utmost prudence in handling this sector and must maintain responsibility for seeing that the needs of the ranches are properly assessed.

34. If further examination of the problem reveals that it is not feasible for the poorer members to repay the full value of their share of loans they receive then perhaps some form of subsidy on certain improvements such as water and dips might be considered. But this could establish a precedence which may be undesirable and would require much more study.

Guaranteed Minimum Return for Maintaining Correct Stocking Rates

35. Production falls seriously in bad drought years and special Government assistance might be warranted on similar lines to the guaranteed Minimum Return for crops. GMR's in exceptional drought years could be promised to ranches maintaining the correct stocking rate through those droughts.

Droughts are regarded as risks of the trade in other Range Countries but in Masai it is not a case of large ranches supporting one or two families but people receiving subsistence from stockholdings of 1 to 300 cattle - a completely different proposition. Paradoxically it is the man with the most cows in these disastrous years who has the best chance of survival and a GMR would therefore remove the present practice of over-stocking to meet this need. It could also provide sustenance for those who might have to depend entirely on steer fattening operations. A GMR program might be the incentive which would encourage Masai to follow a sounder stocking policy since it overcomes one of the main reasons why Masai need to keep so many cattle - to supply milk in dry times. The economic benefits obtainable from correct stocking through a GMR program incentive might well be more beneficial than the long term degeneration of range land accompanied by an increasing population.

36. An interesting adjunct to a GMR system would be a Stock Bank system (as suggested by Dr. W. Goldsch, University of California), whereby pastoral cattle owners could Bank their excess cattle with a special livestock Bank and get their equivalent back when the better season returns.

Infrastructure (Banking, Schools, etc.)

37. Earlier mention has been made of the need to develop trading centers to provide food and consumer articles and to develop milk collection centers. If large amounts of money are to be distributed to the larger stock-owners some thought should also be given to a providing mobile banking facilities to serve the Group ranches. In this respect it is a pity that AFC, with its close contact with Group ranches, is not a savings society as well.

Neither, unfortunately, can the Group Ranch Registrar, who is responsible for overseeing Group Ranches accept savings in the same way that the Cooperative Department can advise Cooperative Societies to use the Cooperative Credit Bank. There would obviously be some advantage in having one of the banking concerns develop a range banking program to absorb savings of the richer members who are unlikely to spend all their income from seasonal stock sales which will be necessary to maintain proper quotas.

38. A major review of schooling opportunities (both technical and formal) for Masai children on Group ranches should be undertaken and where necessary funds should be sought to improve them as a special education program. The Isenya and Narok Range training centers have done excellent work but the range education program over the next 20 years must be considerable if the 14 to 15,000 families that will be involved are to be able to contribute effectively. Objectives and targets should be established.

Organization for Implementing the Program

39. Implementation calls for a more coordinated effort than has been shown to date and is possible under the present Government Division of responsibilities (Annex 14). The original Project application for 129-KE in 1965 called for a special development section in the Range Management Division of the Ministry of Agriculture consisting of a Chief of Section, 3 Kenya Range graduates (supervising Group, Company and Commercial ranches), 2 USAID Range Advisors and 2 Kenya Ranch Consultants, in the event responsibilities were divided among a number of separate agencies. The suggestions which follow are not criticisms of the heads of Divisions who have been responsible for implementing the program to date but are meant as a means to improving the present situation.

40. The overall responsibility for the whole Project should be firmly in the executive division of the Ministry of Agriculture responsible for Range development; this is the Range Management Division. The Division has normal well established means of communication with the various sections of Government associated with the Project. Within RMD should be a Range Development Section under HRMD dealing entirely with direction of the Project. Within this Section would be a Senior Range Officer responsible for the Group Ranch Program who would be responsible for:

(a) the development of a carefully phased and monitored Group ranch program.

(b) scrutinizing and ensuring plans, budgets, reports, accounts, are produced on time on each project ranch by DRO and AFC.

(c) from visits and reports, monitor and ensure,where necessary, that:

- Implementation takes place as planned on schedule.
- Ranch improvements are appropriate.
- The production program is sound and benefits adequately all members.
- Stock quotas are maintained (in conjunction with Group Ranch Registrar).
- The financial position is sound.
- Action is taken on problems.
- Special problems are brought to the attention of relevant Government agency (through HRMD).

(d) Initiating training and extension programs through relevant channels.

(e) Ensuring follow-up on ranches that may have repaid their loan.

(f) Liaising closely with Group Ranch Registrar (GRR) to ensure that Group ranch sizes being registered are adequate and all aspects of Group ranch legislation necessary for sound ranch management are being covered and enforced.

(g) In conjunction with (GRR) improving social and commercial aspects of Groups Ranch Development.

(h) Keeping legislation and rules under review and recommending changes where necessary.

41. The implementation of the intentions of the Group ranch legislation pose serious problems. There are three parts to the Group Ranch Registration program. The Registration of Land itself which is strictly a lands matter, secondly, the continued administration of the title which is also a lands matter and thirdly, there is the proper running of the established ranch which is the main justification of the money spent on the registration programs. The running of a Group ranch is a technical matter involving administrative, financial, ranching, farming and community development techniques; the Range Management Division was established to undertake these tasks. Before the Group ranch legislation was passed it was originally envisaged by RMD that land matters would be the responsibility of the Lands Department and the other functions would be carried out by a cooperative type staff in RMD who would supervise the organization and accounts of these ranches with the District Range officers DROs. Instead a completely separate Department in another Ministry deals with the latter matter. Cooperation between the registrar of Group Representatives (RGR) and HRMD is good but RGR has been understaffed and it has not been possible to get the integration between DRO and RGR staff that

is necessary. Apparently one or two years ago the Lands Department and the Ministry of Agriculture did consider placing the Registrar of Group Representatives ranch supervisory functions in the Ministry of Agriculture because the Lands Department felt that some of the functions were not strictly lands matters. It is recommended that this matter be reconsidered.

Possible Strategy for Implementing the Program

42. Large areas of Kajiado and Narok have been adjudicated yet the Districts are now overstocked beyond the level at which people are likely to be prepared to destock readily on a major scale. How can the program be implemented in such circumstances? Many Group ranches are ranches in name only and do not yet have the infrastructure to maintain stock at the level of the model projections. Above average rains may offer some respite and some ranches might be prepared to return to their boundaries and make a fresh start; others will return on a temporary basis. How can the program be implemented in such circumstances when the future of ranches wanting to develop must depend on other ranches respecting th sanctity of their boundaries (this is a reason why Masai must be tackled as a whole). It could be argued that further progress will not be made until another drought causes major stock losses bringing stock numbers well below carrying capacity and giving a better opportunity to introduce and enforce stock quotas on a wide scale. The introduction of more water at this stage will only delay such an event which on past records, could still be 10 years away. On this basis therefore investment should stop now and recommence after either disaster or real progress on quotas had been made. If such a policy were followed Government should prepare itself to act immediately after the next catastrophe (as well as preparing to provide large amounts of famine relief). Also, in another 10 years the population will have doubled since the last disaster in 1961;

there will be a higher number of below subsistence level herds and even the big herds with the potential for major economic output will have been reduced in size (and provide less incentive for improvement). There will therefore be less chance of solving the problem in an economic manner.

43. Such a decision, however, would be a return to the old stop go policy of the past which divided opinion on the subject simply between those - (a) who believed that no expenditure should be undertaken until the Masai mended their ways, and (b) the other view that if water were supplied the Masai would change their ways on their own.

Neither of these two policies have proved effective because they have not attached the basic problem of the interrelationship of four changing factors, subsistence needs, human aspirations, population growth and distribution of stock wealth. It is clear from the data on Masai that if the Masai range areas are not to sink to a serious level of poverty three basic changes in their mode of life will have to be made and that these are contingent on the development of education and its effect after a relatively long time span (20 years). Thus, it can be argued that unless Government is prepared to exert force in enforcing stock limitation that general overstocking of Masai can be foreseen for the next 20 to 30 years. The employment of force on a large scale could be seen as counter productive in Government's long term efforts to get the Masai people to manage their own land without undue pressure from the court and bearing in mind that livestock catastrophes relieve grazing pressure every so often then the Government might weigh the "benefits" of doing little to reduce the general overstocking situation with the long term irreversible damage that will be done to the rangeland over the next 20 to 30 years. It could react the view that if the period were only 20 to 30 years some

some deterioration could be tolerated if it led to a final solution. Kenya's territory in this century has been one of rapid change. The change in Masai attitudes over the past 20 years on many aspects has been very evident and the change over the next 20 years could be more remarkable.

44. Change through education in its widest sense and contact is limited while the population remains nomadic (Halderman's report on Poka quoted Appendix para 9 contrasts nomadic with settled Group ranch). Group ranch land registration allows people to settle in certain areas and gives them the opportunity to become responsible for a piece of land. If accompanied by development of water, schools and shops the population will become increasingly sedentary. Overgrazing could continue but education will take place which will allow the surplus population to become more mobile and, through the success of individual projects could lead people to follow a more rigid land use discipline. As the other land route to districts such as Machakos, Kitui, Baringo, Kwale, etc. where such centers have existed for 20 years or more must discredit the view that it will all happen by itself. Past experience in Kenya and other parts of the world suggests that Government has to take a hand in enforcing land use discipline and that it can be done with the people's general agreement of the system of farming being advocated providing the necessary incentives. The problem of water investment led to social change - a hen and egg problem. Some water has to be provided first to allow people to settle but, before investment is spread too widely Government has to assure that the other part of the bargain is kept. Thus, in Masai it would seem that from the outsiders point of view some appreciation of the time scale to achieve both social and technical change is needed (IDA's experience even with simple livestock projects that have been successful have demonstrated the length of time it has taken to put a reasonable

proportion of land under better management). On the country wide scale it is also evident that success will not be achieved without some Government intervention to ensure that land management progress is made. Also it will have to take active steps to improve education and other infrastructure facilities. Information and justification on these latter aspects are unavailable to make any provision for them at this stage in the Project but it is an aspect that needs investigation now so that their importance can be assessed if further projects are contemplated.

45. At this point it would seem that it should be accepted that the Masai really do want change but require some real Government muscle at the critical points, particularly the stock quota issue. The first step should therefore be for Government to go back to the people on the Group ranches, explain the need to justify further investment by implementing stock quotas and determining what the next steps must be. On stock limitation staff should firstly, help the Masai to decide how they should organize their stock holdings, secondly, help them enforce the initial quotas and thirdly, that people from outside do not come in without Government approval. These three points should not be construed as a return to police grazing control but as a backup to the desires of the Masai. The present drought conditions could possibly give a good starting point. It should also be realized that the ideal will not be immediately achieved but by following an agreed strategy it should be possible to make some headway in the next 10 years. Group committees will have to play a more important part in any new program. At this point with our present knowledge, and so far relatively small financial involvement it would still seem justified to continue to support a carefully regulated development program made dependent on some progress being made in the adaption

of grazing quotas. The point is that the longer the issue on stock quotas is delayed the less chance there is in the long run of ever producing a viable ranching program which will benefit more than 50% of the people.

46. The Government must attempt to get the groups ready for investment and those not ready for investment to adopt stock number control. The obvious carrot is the opportunity to get credit for water and dips. This causes a quandary. On the one hand there is danger that if investment is undertaken too quickly people could soon forget promises to control numbers while if it goes too slowly, as it did in the late 1960s early 1970s, the pressure from outside to trespass will remain high. While these conflicting aspects warrant attention the prime objective must be to get one area at least working properly, to test its premises and to serve as an example to others. In Kajiado the most logical solution would be to start with the 129-KE ranches where (a) development is now complete, (b) they have promised to control numbers, (c) they have loans to repay and (d) they now form a fairly solid block which should be capable of protection. For the next year efforts should be made to concentrate on this area introducing changes in production systems as desirable. Redesigning budgets and individual herd structures on present ranches will take time and should take precedence over other Group ranch development. Attention must be paid to the range education program for the project ranchers.

46. It may not be desirable or practical to stop Group Ranch Development entirely in other areas but development in such areas should be based on establishing centers of development from which to expand outwards.

47. A small but important point in this program is the status of the individual ranches. Individuals often graze their excess cattle on Group ranches causing considerable discontent among Group members. Some individuals are not keen to see groups become organized for this reason. With individual title and a greater share of land available than the ordinary

family is likely to have, these individuals are in a privileged position. Some of them have AFC loans and have on average the highest default rate of all ranch loans with 35.5% in arrears compared with 12% for Groups. 7% for Commercial and 3% for Companies (Annex 4 para 7). As a first step to bring numbers under control Government is recommended to stop these individuals grazing on Group ranches where the groups do not want it or are overstocked, and at the same time reduce the arrears.

Group Ranch Investment Program in Kajiado and Narok

48. Immediate attention should be given to completing and consolidating the program started under 129-KE in Kaputei. The mission was given a list of 15 ranches which were said to require funds for development during the next three years (Table I). The total area of these ranches exceeds 750,000 ha (Table I , figures are incomplete). It should be possible to start development on these ranches in the next year but development of all of them would not be justified unless some program on stock quota is made in the next three years.

49. In Narok loans for 7 small ranches have been approved. The proposed expenditure seems uneconomic and should be reviewed.

The loans should be reviewed with regard to (a) their contribution to investment and operating costs, (b) the availability of grazing for the proposed steer purchase, and (c) the ability of the different individuals to repay the loans in view of the relatively poor stock wealth.

50. Of this 16 other Group ranches whose registration has been or is near completion in Narok. 8 ranches are below 6,500 ha in size (25,000 ha total area), 3 are between 6,500 and 11,000 ha (21,000 ha), and only 5 are above 11,000 ha (247,000), two of which may be benefitting from investments under the wildlife project. As explained in Annex 16 ranches below 6,520 ha present a special problem and must remain doubtful. Budgets for the small ranches require

careful scrutiny before any loans are approved. These should be carefully examined during subsequent supervision missions.

51. In view of the problems of obtaining compliance to the stock quota problem the development program for Masai must remain very tentative. Considerable delays could be encountered in sorting out the stock quota problem and consolidating the existing position. It is therefore impossible to determine with any accuracy the number of ranches that might be developed. If the strictest interpretation of the stock quota question is imposed then no development might take place. If a policy of gradual compliance is apparent and thought sufficient to be acceptable then some development could be undertaken. It is quite clear to the mission that the present and prospective human needs justify development and if funds were withheld now because of the present uncertainties it would be a major blow to staff and Masai morale and there is no evidence from past experience that it would make the Masai more "cooperative"; the situation would continue to get worse and money will have to be spent at a later date more for socio political rather than economic reasons. It must be remembered that money has only recently become available for Masai development after years of promise and if it is intended to stop investment because of the stock quota question then they should be given adequate warning now. The mission is therefore proposing to allow some funds to be available until the end of the Project but during this period Government will have to make some progress on the issue of stock limitation or make a different and plausible argument for the continuation of investment in water and other livestock facilities. It will have to tell the Group ranchers that unless some progress can be made in the field it may be difficult to get assistance in the future for Group farming development. 220,000 ha was developed in 3 years under 129-KE with over half occurring in the last year. For the remainder of 477-KE a target of 554,000 ha is proposed

starting with 150,000 ha in 1977 and building up to 350,000 ha in 1979 It is appreciated that a higher figure in terms of development needs is desirable. The rate of development will be limited by the time it takes to get agreement with the ranchers and the rate at which the water and building program can be undertaken. In terms of physical inputs the target represents a doubling of the achievements under 129-KE between 1971 and 1974.

Group Ranches	Year 1	Year 2	Year 3	Total	129-KE
Target Ha./Year ('000) 1/	96	176	256	528	220 2/
Boreholes/Dams No.	6	11	16	33	15
Site Facilities No.	6	11	16	33	15
Company Ranches					
Boreholes/Dams		20	20	20	18
Facilities Sets		20	20	20	22

1/ Ranch area targets are multiples of model ranch.

2/ AFC Completion Report.

52. Costs derived from tables 2 and 3 have been used to determine total requirements. It is assumed that ranchers will subscribe all breeding stock (except a few purchased bulls) and 30% of the investment and operating costs.

Ksh per Hectare

	Ranch Size Ha ('000)	Dev.	WC	Steer	Total
Loans approved so far	4	53	53	31	137
Appraisal estimate	16	42	8		50
Model total costs (excl. breeding herd)	16	27	11	5	43
Model loan (70%)	16	19	8	4	31

53. The following loans would be required for the revised target of 554,000 ha:

Year	Development	No. of 1/ Ranches (Model Eq.)	Ha 1/ ('000)	Loan Requirement Ksh ('000) Development	Operating	Total
2	Approved	7	26	1,425	2,247	3,672
3	New Ranches	3(6)	96	1,864	1,104	2,968
4	"	6(11)	176	3,399	2,024	5,423
5	"	10(16)	256	4,944	2,944	7,888
		26(33)	554	11,625	8,317	19,941
Appraisal estimate		60	960	40,860	7,620	48,000

1/ Ranch area targets are multiples of model ranch but ranch numbers bear some relation to the size of ranches of the ranches listed.

54. To give some idea of the cost of a faster rate of development the following loans would be required if 480,000 ha (10 ranches) were developed in Kajiado and 270,000 ha (8 ranches) in Narok (Table I).

				Loan Requirement KSh. ('000)		
Year	Development	No. of Ranches	Ha. ('000)	Deve-lopment	Operating	Total
2	Approved	7	26	1,425	2,247	3,672
3	New Ranches	4	144	3,024	1,728	4,752
		6	256	5,376	3,072	8,448
		8	352	7,392	4,224	11,616
		25	778	17,217	11,271	28,488

55. A 1 million acre program similar to that envisaged at appraisal would have _____

				Loan Requirement KSh. ('000)		
Year	Development	No. of Ranches	Ha. ('000)	Deve-lopment	Operating	Total
2	Approved	7	26	1,425	2,247	3,672
3		3 (5)	150	3,150	1,800	4,950
4		5 (7)	350	7,350	4,200	11,550
5		10 (10)	500	10,500	6,000	16,500
		(29)	1,026	22,425	14,247	36,672

A Summary of Action Required

56. A summary of the principal features requiring action are as follows:

(a) The Range Division should carry out its functions of coordinating and directing the Range Management Program with vigor and authority. Consider where the Division

needs strengthening including the provision of a special Range Development Section with a Group Ranch Supervising Unit;

(b) Review and revise the present Group ranch legislation and rules where necessary;

(c) Review and where necessary strengthen the Group Ranch Registrar's Office; the Group Ranch Registrar must work closely with RMD and serious consideration should be given to:

(i) include the Group Registrar as a section of the Range Management Division; or

(ii) divide the Group Registrar's functions leaving him solely with land adjudication matters, and putting all matters concerning land use, auditing, running ranches in a special section of the Range Management Division.

(d) Reestablish the special Kajiado Range Development Committee and give it specific functions; consider similar ones for Narok and Samburu;

(e) Increase social services in the area, especially schools and develop trading center schools, etc.

(f) Review the viability of existing ranches particularly with regard to numbers of families in relation to stock numbers. Prepare detailed management plans for each ranch. With rainfall normally varying 25 to 40% about the mean plans should include destocking in poor years (automatically to be

considered when rainfall falls below a certain point) and stocking up with fattening steers in good years. Investigate the possibility of expanding the dairy ranching techniques used now by some individual Masai (and exploited so successfully by some ranches in Kenya in the past). Introduce mixed farming where practicable.

(g) More extension and educational courses must be held for all those involved. (1,000 people have attended 3-4 week short courses on ranching at Isinya near Kajiado).

(h) Begin to tackle the problem of pastoralists with below subsistence level stockholding and resettlement of people where necessary. Richer members should also be included in cultivation projects as this could provide work for the "landless" (and oxen ploughing).

(i) Ensure that ranches get the maximum income for tolerating game on their land.

Part II - SAMBURU Group Ranches

57. The Government proposes to extend the Group ranch loan program to Samburu District where the pastoral Samburu are having their land adjudicated. The mission did not visit the area or obtain a clear picture of the strategy to be employed in the District. A list of 19 small ranches (Av. 5000 ha.) with 2880 families situated in the high country was given to the mission as being ready for loan considerations. Samburu District has 1.7 million ha of rangeland and an estimated 12000 families. In the 1950's 500,000 ha in the higher areas was supplied with water and organized into grazing schemes. Although in the past there have been periods when cattle and families have remained in an area for some time as soon as cattle numbers build up there is considerable movement between the high and low country. This movement, resulting in overstocking of the highland grazing schemes led to the breakdown of the grazing schems in the past.

58. Because of their relative isolation the Samburu have been regarded as a people wedded to tradition. Paul Spencer in his study of the Samburu[1/] between 1957 to 1961 speaks often of "the tenacity of the Samburu to tradition". He discusses the cattle problem and relationships of people at length. The following extracts are of relevance to the problems of establishing Group Ranches in Samburu.

> "The economic and social value of having large numbers of cattle is unquestioningly accepted by most Samburu. The Samburu argue that with large herds of cattle, they can afford to lose considerable numbers in a drought or an epidemic, whereas with small herds such losses could be catastrophic. They are very sensitive to their own poverty and to the slender margin which separates them from utter starvation. Compared with many other Kenya tribes, they may be rich, having in their stock a nourishing source of food and a valuable commodity for trade. Yet the severity of recurrent misfortune has left an indelible scar on the minds of most of them resulting in a inflexible attitude towards the problem. Between the years of 1939 and 1961, there was nothing that did more to impair the generally cordial relations between the Samburu and the British administration than the

1/ The Samburu - a study of Gerontocracy in a Nomadic Tribe. Routledge and Kegan Paul 1965

question of limiting the total number of stock and restricting grazing in certain areas. With the administration this control was a major issue of policy in order to reclaim the land and improve the quality of the herds. With the Samburu it was the main issue of resistance and non-cooperation. The drought of 1959 to 1961 did more to solve the problem of over-stocking than 20 years of spasmodic control by the administrators, and it left the Samburu more convinced than ever of the logic of their own point of view.....The irregular and unpredictable rainfall results in migrations of large parts of the population in similarly irregular and unpredictable ways. Dispersed clusters of settlements form as people group and regroup themselves at various points over the countryside. An independent stock owner generally confines himself to certain areas and migratory tracts which he knows well. When possible he will move to a site close to the ones he previously used where he knows many of the advantages which the countryside has to offer: grasses, browse, water points, paths, dangerous places to be avoided and so on. His nomadic pattern is affected by the size of his herds and the labour force at his disposal. In theory the Samburu are free to move as they please; in practice their freedom is limited to several choices. ..... A deep-rooted Samburu ideal is that each man should have his own herd and ultimately be able to manage it independently. The inescapable fact that no Samburu can be entirely independent of his fellows, that to a large extent theirs is a collective economy in which each man must continually seek help from his neighbours does not weaken this ideal; but it does give an enhanced prestige for those who normally have enough surplus to be the givers rather than the receivers in this interdependence. Those who are forced to rely on the generosity of others would never admit to being scroungers and would still try to retain their social autonomy..... A herd of cattle may increase in size quite steadily or alternately decrease rapidly according to the care with which it is handled. It is important that the size of the homestead should be well adjusted to the size of the herd if it is to enjoy a measure of independence. It is rare that such an exact balance exists and neighbours must rely on one another for help so that, while it is ideal that each home-stead should be a self-contained unit, it is more usual for it to be dependent on other homesteads of the settlement, and economically it is the settlement which emerges as a more self-contained unit. The necessity for this wider co-operation is increased by the unpredictable demand for hospitality by frequent visitors and the frequent absence of the stock owner or another member of his family engaged on some errand. Neighbouring families are essentially interdependent, and, as we shall see, this lack of real economic independence within the homestead is concurrent with a lack of social autonomy: to a significant extent each Samburu is answerable to others for his actions and in the final resort the running of his homestead is not solely his concern."

59 In L.H. Brown's review of stock wealth of Kenya's pastoralists in 1962, he pointed out that the human population/stock ratio is still satisfactory in

Samburu but that they were likely to soon run into trouble. One of the symptoms was the widespread overgrazing taking place not only on the plains but in the Matthews Range forest reserves.

60. Nearly 15 years later the Samburu families must now be increasingly under pressure and the mission supports the need to do something in the area. However, the Samburu are probably still closely wedded to their pastoral system since there are still few alternatives to their diet of milk and meat. Trading centers are far apart. The country is also less homogenous than Masai rangeland and planning the use of the high country should not be done without some understanding of the management of the large areas of dry country (going down to 10" rain) and the inter-relationship of the two. A number of questions remain to be answered before loans are granted. Will the grazing on the Group ranches demarcated in the high country be used in times of need for relatives who came up from the low country? Should this be included in the planning? Some of the Samburu high country is suitable for cropping; Should cropping be incorporated into the system?

61. The mission does not know the general state of stocking in Samburu or details of agreements being made with the Samburu to maintain the correct stock numbers on the Group ranches. Another point that gives cause for concern at this stage is the small ranch size and the relatively high population densities. From examination of the small Narok Group ranches these groups would be too small to produce subsistence from milk for each family (each family would only have 33 ha) These matters should be discussed further when the mission discusses its recommendations with Government. For costing purposes it is recommended at this stage that funds be available for a 100,000 acre pilot area to be developed between 1977 and 1979.

Ha. ('000)	Loan Requirement KSch. ('000) Development.	Operating	Total
96	1,850	1,100	2,950

Part III - KWALE GROUP RANCHES

62. Kwale is not one of the districts in which proposed funds were to be spent on Group Ranches. The development of these ranches using project funds requires further examination and at this stage should not be approved. While there are similarities with the pastoral Group ranches being planned they present a different set of the problems and pressures. The people concerned grow crops and many of them are stockless. The land has been seriously overstocked for several decades resulting in poor grass growth, bush regeneration and a reduction in the size of stock. The area is marginal for cultivation and crop failures or low yields are common. From time to time special relief has had to be provided. The people and the area is in need of assistance. At the root of the problem has been the paucity of water and the land tenure situation whereby all grazing land is communally-owned.

63. Overgrazing in the proposed Group ranch areas became serious following the development of the Mariakani milk collection scheme and the provision of boreholes and dams in the 1950's (see ALDEV report 1940-62). A little success was achieved in the 1950s trying to organize grazing schemes in the proposed Group ranch areas but these later broke down and subsequently there has been much silting of dams. While further water distribution is needed for smallholder cultivators its present distribution is sufficient to allow cattle to graze extensively over much of the area. The Mariakani Milk Scheme operates a number of milk collection routes (including collection centers and roadside collection points) through some of the area and up to 120 miles from Mariakani. It has collected 1.5 million gallons annually - the total cattle population of Kwale and Kilifi is 180,000 head but not all supply milk to the scheme. Mariakani has profoundly affected the areas economy and land use.

64. The cattle are kept primarily for milk, much of which is sold to Mariakani. As with Masai there is a high extraction rate of male stock leaving 70 to 75% of the herd female (40% mature females). At Mwereni Group ranch where a census has just been taken 203 of the 380 families have stock. Ownership of stock is complicated by local custom. There is considerable disparity in stock wealth of individuals on the list shown to the mission but the disparities may have been greater since it is the custom for a man with considerable stock wealth to give some cattle to friends and relatives to herd for him; in censuses the herders do not always distinguish between their own and herded cattle. In payment the herders can milk the cows and sell milk to Mariakani. The owner, however, keeps all offspring. Thus, there is the situation that the herder is mainly interested in the milk he can extract and the owner the number of cattle he has and the number of young males he can sell. The result is that calves are only fed as much milk as will keep them alive and cattle numbers are well in excess of the stocking rate. Cattle and overgrazing tend to be concentrated along the main milk collection routes. At Mwereni there are 14,000 cattle on land technicians say can keep 7,000 to 10,000 animals. The following gives the structure of the Mwereni cattle herd - the age groups given by the Range Management Division appear somewhat narrow and a slightly older age grouping is suggested.

Mwereni Group Ranch 4,600 Ha

Census Designation	Female	Male	Total	Mission Revised Age Groups
Cows	5,664	-	5,664	Cows
0-6 months	1,064	1,090	2,154	0-9
6-12 months	1,060	929	1,989	9-24
12-24 months	2,877	727	3,604	24-26
Over 24 "		562	562	36
	10,665	3,308	13,973	
	76%	24%		

No. per stock holder (203 families) = 69 cattle

65. The people have become dependent on the Milk Scheme and the cattle owners have become attached to the communal system of grazing since it allows them to utilize greater areas of land than if the area were to be registered as smallholdings. In the past general meetings rejected the idea of individual land tenure and the proposal was to give the small farmer with no cattle or a few cattle 10 to 20 ha concentrated around trading centers and village points on which he could develop a farming system based on crops and two or three Sahiwal milk cows. The major stockowners would have had to reduce their animals and although they might have a plot near a trading center would have had to graze their animals in special grazing blocks individually or communally owned in less accessible areas. To alleviate the overgrazing problem the wealthier stock-owners could have subscribed their surplus stock as equity in the Company ranches proposed for the Hinterland.

66. The mission supports the efforts of the Government to organize the farming in these hinterland areas but questions whether the problem is not one of village or Group farming rather than purely Group ranching. To be successful the agriculturalists should be involved with the Range managers. The system of tenure or land allocation within the Group to the different sectional interests must produce a stable situation in which development can take place in a way that all will benefit.

67. Before approval for use of Project funds could be considered for the Coast Hinterland groups more information on them would be required including:

(a) an overall plan of the ranch apportioning the land for grazing and cultivation.

(b) the farming system to be adopted by:

(i) the cultivators with no cattle.

(ii) the cultivators with a few animals.

(iii) the cultivators with large herds.

(c) the organization of the grazing taking into account the large number of females and the dependence on the Milk Scheme.

(d) who will benefit and pay for the investments, maintenance and operating costs bearing in mind that the present surplus cattle are a reasonable asset.

(e) how will the groups be elected, organized and managed and what will the rules be and will there be separate ones for cultivators and graziers?

(f) benefits for the various types of farmer involved.

68. It is noted that the U.K. is involved in financing development in the Mwereni Group ranch and it is suggested that the development is used as a prototype for the other Group ranches and that other ranches should not be started until the organizational details have been agreed upon and some implementation progress has been made on this Project.

PART IV

Model Group Ranch - Assumptions and Benefits

Problems of Development and the Model Group Ranch

69. Pastoralism as a means of providing subsistence eventually leads to overstocking unless there are checks in the growth of either the human or stock populations. Such checks occurred in the past but in the last 70 years changes have occurred in Kenya pastoral areas which have reduced the efficacy of the pastoral system. Grazing areas have been reduced, human populations have increased several fold so increasing the capacity to herd and at the same time increasing subsistence demands. Cash needs have also appeared and increased so exacerbating the situation. Cattle diseases are better controlled and fatal epidemics avoided. There is now therefore an inbuilt tendency and necessity to overstock while the traditional pastoral subsistence production system remains. As a result the pastoral districts of Kajiado, Narok and Samburu where Group ranches are planned are now overstocked. In Kajiado there are over 700,000 cattle on 1.7 million ha (1:2.4 ha including calves and 1:2.9 to 1:3.0 ha excluding calves). This was the stocking level at which two thirds of the stock died in the drought of 1960/61. Apart from grazing availability the correct stocking rate depends on the size of animal and general age of the herd. The UNDP Range Management teams developed a carefully thought out Kenya Livestock Unit but while this is satisfying to the technician, it is not

at this moment a practical instrument in general extension work. This report is therefore returning to the Kenya ranching practice of calling any animal not a calf an Animal Unit. For the Masai type cattle and the early offtake recommended it is considered that a stocking rate of 1 to 4 or 5 ha to the animal unit may be sufficient although this will depend on experience; certainly in some years the stocking rate will have to be lower. (1:7 or more).

70. The appraisal report used a Group ranch model size of 16,000 ha. Most of the land area in Kajiado has been registered as larger Group ranches However, it is a convenient minimum unit size since it would represent a ranch that may have one natural water point but requires a second to bring water within 3 miles of all stock or villages (on the basis of 1 water point every 8,000 ha). The stocking rate chosen is one Animal Unit to 4.3 ha which is high but has been chosen since as described in Part I it will be difficult to reduce cattle numbers quickly to the safest levels. It is also recognized that ideally it would be desirable to understock to provide a quicker recovery of overgrazed land.

71. If the Project is to have any success in terms of raising production and productivity and of sustaining safe production levels the stipulation must be that the Group ranches reduce their stocking rate to a safe level which at the moment probably means a reduction of about 20%. It is only then that through very prudent management the Group ranch can be steered along just clear of an overstocking situation as production coefficients improve due to the Project.

72. Pressure to keep a high and even increased number of females in order to provide milk for subsistence will probably be the overriding concern from the Masai's point of view; under these circumstances the management alternatives are quite limited. This need accomodated in the model

and a high proportion of females are kept throughout. Since the area is already fully stocked there will be little room for steer purchases and sales will be dependent on home produced immatures. The budget is relatively simple but as explained in Part I consideration must be given to the plight of the poorer stock owners and who will buy the immatures produced. On a number of ranches/more complicated system working with production and specialist steer fattening may have to be introduced. The model is characterized by the following features:

(a) Destocking to the correct stocking level before investments are made. At present this may be about 20% below present stocking levels but it will depend on seasor

(b) Destocking should be carried out in a way that if possible the proportion of cows in the initial herd should not exceed about 36% in terms of numbers and 43% in terms of A.U. and that the proportion of females in the herd does not exceed 70%.

(c) While it is realized that a steer purchasing and fattening activity is important for a successful implementation of the Group ranch concept the number of steers purchased are kept to minimum in order to stay safely within the carrying capacity. It is appreciated that the purchase of steers is an important incentive to the members.

(d) Improved bulls particularly Sahiwals to increase milk production are important.

(e) It is essential to insist from the start on an intensification of the culling policy. Given firm insistence from the advisory agents an increase from 8% to 15% may be possible.

(f) Growth of the herd can only be contained if it is agreed to sell progressively younger stock. This is implied in the increasing culling rate for cows, it also means that the males have to be sold as immatures of about 2 to 3 years and that a proportion of the 3 year-old heifers have to be sold. Special provision will have to be made for this by Government.

(g) As a result the commercial extraction rate for sale of the herd would increase from 6.5% to a stable 14% (in terms of AU from 8% to 18%) within some 5 years. This is believed to be the maximum rate of progress that can realistically be expected.

(h) Increasing the contribution of the Masai to 30% of investment and working capital. While the Group has a large asset backing in its breeding herd it should be noted that that improved management should result in a reduction in numbers and income from such a reduction could be used to meet their contribution (see also para 31).

73. The following chart summarizes the major production coefficients and their development:

	Pre-Dev.	Year 3	Year 6	Year 9-20
Cows as % of Total A.U.	43	46	46	46
Weaning Rate (%)	50	55	60	60
Addition to herd gross (%)	21.5	25.3	27.6	27.6
Mortality & Homeslaughter as % of total A.U.	10.7	10.2	9.8	9.6
Commercial Ext. Rate as % of total A.U.	7.9	10.5	17.9	17.9
Herd growth %	2.9	5.5	- 0.1	0.1 1/

1/ rounding error; the herd is stable and not growing any more.

It is believed that the proposed model - while being very demanding on supervisory staff - has several advantages that makes acceptance possible. Milk production for home consumption increases and although availability of meat for consumption declines somewhat initially but returns to earlier levels later. In view of the need for milk to meet population growth it is important that the model allows for an increase in cow numbers. This, together with increased calvings and increased yields of milk and meat from crossbreeding with Sahiwal bulls, should be attractive components of the model.

74. The model ranch tables include:

Table 1: Herd Projection
Table 2: Production Data
Table 3: Investment Costs
Table 4: Income and Operating Costs
Table 5: Cash Flow and Loan Repayments

Production and Benefits

75. Masai assess the value of their herds by how well they provide milk and meat for subsistence, cash for daily requirements and how their asset value increases in terms of numbers. To begin to have acceptance the Group ranch should satisfy the subsistence and cash requirements of an expanding population with increasing cash needs. On the question of asset values it remains to be seen whether the Masai in general would prefer to see surplus assets held as cash in a Bank, or whether they still prefer to take the chance of outliving their assets the remainder of his life time. At the point when he might be prepared to try cash it is ironic that inflation could undermine the of such a decision!

76. It is difficult to assess present production levels of herds that provide milk and meat for consumption, cash and increases in cattle numbers. For this exercise the average weight of the different age grades in the herd have been assessed at 10% less than those measured by UNDP in Kaputei in 1968, because of overstocking and drought that has rpevailed in Masai since 1971. The UNDP survey data on mortality and local consumption has been adopted. At this moment in the cycle the returns (consumption, cash, herd growth) from the present cattle population could be relatively high although they are not sustainable over long periods. They are now probably higher than they would be in the year following a reduction of 20% to the correct stocking level as postulated in the model.

77. In determining the base production level for the financial and economic rates of return a model should ideally be constructed showing

the rise and fall of incomes over the period of a stocking up cycle followed by catastrophe and compared with sustained yield under correct management. The model in some way would also have to project the fall in land potential from one cycle to another caused by erosion and the cost of famine relief from time to time. This would be a complicated exercise full of interesting assumptions. To simplify matters for the model for this report it is proposed to take for the base year the production that would be produced with the correct stocking rate using present liveweights and high mortality, on the admittedly arguable basis that it represents the mean position over the cycle between understocking and overstocking. All benefits of decreased mortality, weight gains, improved milk yields would be ascribed to the investments on the basis that they promote better use of presently used land.

78. Because Group ranches have a large percentage of female stock and problems are encountered in finishing animals, most of the offtake can be expected to grade standard and commercial. The June 1976 gazetted prices do not include increases in these grades consequently rates of return on the model are too low. Therefore in the model income from sales of livestock have been based on the proposed prices by Government plus a 30% increase in the price of Standard grade according to the price table in Annex 3 Table C.

79. Immediately prior to development it is estimated that meat production per hectare will be about 3.6 kg and that this would increase over 9 years to 6.7 kg. per ha which, if some benefits were given for milk production would be roughly equivalent to the average yields on Laikipia ranches in the 1960s, estimated to be about 7.8 kg per ha (the best ranch in Laikipia has an output of over 22 kg/ha). Meat and milk production on the ranch would rise about 80%; total offtake, including mortality, would rise from 18.7% to 27.5%.

Project Model - 16,000 ha

	Immediate Pre-Development		Year 9	
	No. Cattle	%	No. Cattle	%
Deaths and Home Consumption	396	10.8	374	9.6
Sales	213	7.9	697	17.9
Total Offtake	609	18.7 1/	1,071	27.5
Meat Consumed kg ('000)	19		18	
Meat Sold kg ('000)	39		89	
Meat Production kg/ha	3.6		6.7	
Meat Production kg/AU	15.8		27.6	
Milk Production gals. ('000)	48		86	
Est. Meat Equivalent of Milk Production kg Meat ('000)	11 (0.7 kg/ha)		20 (1.3 kg/ha)	

80. Because the June 1976 changes did not increase the price of the standard grade the new prices do not produce acceptable rates of return. However, if the standard grade in increased 30%. The financial rates of return is 9% rising to 12% if benefits are increased 15%. The economic rate of return based on a 15% price increase for meat over that used in the model is 22%. With a 9% interest rate on borrowed funds a financial return of 15% should be the target; the orthodox view is that interest rates in Kenya should be in the region of 12% rather than 9%. A further 15 to 20% increase in prices is therefore required to provide a reasonable rate of return.

Financial Rate of Return Standard Ksh 6/30 per kg Commercial KSh. 4/30 per kg

Rate of Return	11%
Benefits + 10%	13%
Benefits + 15%	14%
Benefits + 20%	15%
Costs + 10%	9%

81. The loan should be repaid over 15 years. Since there are many members the cash return to each is low and presents a major problem. The estimated cash income (including an element for herd growth) in the present overstocked state is higher than income immediately following destocking although the former is not sustainable over a long period and therefore should not strictly be used as a form of comparison; the Masai, however, would not necessarily accept the latter conclusion. The introduction under the project of basic operating costs, consisting mainly of veterinary materials, interest and loan repayments make serious inroads into income of the people even though gross income is rising. Thus, if there were 130 families on the ranch their cash income on the prices used on the budget (Standard KSh. 6/30, Commercial 4/30) would fall from 1,500/- (US$182) to 200/- (US$24) in the first year and would not return to the original figure until the ninth year.

Estimated Income from 16,000 ha Model Fr.. Ranch

Value	Present Day Production Over Stocked	Based on Immediate Development Correct Stocking Rate	Year 1	Year 5	Year 9	Year 16
Home Consumption						
- Milk KSh. ('000)	159	112	120	181	204	204
- Meat KSh. ('000)	100	81	81	68	81	81
Cash Sales Meat KSh. ('000)	305	224	228	340	504	504
Total Production KSh.('000)	564	417	429	589	789	789
Operating Costs KSh. ('000)	41	34	205	226	222	222
Interest and Loan Repayment KSh KSh. ('000)	-	-	44	85	67	-
Surplus as Cash or Stock KSh. ('000)	264	190	20 2/	29	215	282
If No. of Families 1/	85	85	85	94	103	123
Av. Cash Income/Family KSh. ('000)	3.1	2.1	0.2 2/	0.3	2.1	2.3
If No. of Families 1/	130	130	130	143	158	188
Av. Cash Income/Family KSh. ('000)	2.0	1.5	0.2 2/	0.2	1.4	1.5
(Av. Cash Income if Prices Increased 15%)			(0.2)	(0.6)	(1.8)	(1.9)
If No. of Families 1/	240	240	240	265	293	348
Av. Cash Income/Family KSh. ('000)	1.1	0.8	0.1 2/	0.1	0.7	0.8

1/ Population increased at 2.5% p.a.; 85,130 and 240 families represents the three average levels of population density adjusted for area, found in the 11 least populated Kaputei ranches, the average and the 4 most populated.

2/ Loan repayments were made to ensure some income.

82. Future income levels will affect ranchers attitudes to the Project and loan repayments. A number of factors from the above table should be borne in mind.

(a) That if model prices are increased 15%, which is the minimum level to achieve an acceptable financial rate of return, then the picture improves considerably after the fifth year and allows a real increase in income to and by the ninth year (KSh. 1,800), taking into account increases in the number of families and price increase, and will have exceeded the pre-development period income per family (KSh. 1,600 year 9 and KSh. 1,400 year 15).

(b) If milk presently consumed could be sold and replaced by a cheaper food from the proceeds then income could be increased substantially - only possible if the group can settle around a central point.

(c) If some members, particularly the poorer ones, could specialize in steer fattening, their annual income levels could increase appreciably - only possible if the group can settle down to good grassland management and near a point where alternative food can be purchased.

83. The problems of the immediate short term income position, however, must appear to remain a disincentive to accepting a loan or adopting better veterinary practices. It has not, however, been a disincentive to taking loans in Kaputei but there they started at a full stocking rate and never seriously followed a stock limitation program, thus getting the best of both worlds. The following benefits appear to be present:

(i) the main incentive so far has been milk production, which under the model is a real benefit right from the beginning.

(ii) the cattle improve in appearance and a number of them will be sold at higher prices than normal.

(iii) stock wealth is often heavily skewed and the wealthier members who have modest income requirements have hitherto put most of their "income" into cattle growth and so are not alarmed at having to pay out large sums of money since it does not hit their pockets. They get increased herd growth from lower mortality. In some cases they have cunningly accepted the purchased steer herd as a ranch herd and defrayed expenses of the whole Group ranch herd before distributing the remainder to the poorer members.

(iv) the wealthier members who have a social responsibility to provide milk for their poorer brethren must be relieved to be able to provide milk rather than cash for the services.

(v) both wealthy and poor see this as a long term opportunity to change to a cash economy and to achieve a measure of independence, although for the poorer members this could still prove to be a mirage.

84. A major alteration to the program which is not quantifiable are the prospects of abandoning nomadism and settling near clean water followed by the development of schools, dispensaries and trading facilities (see Completion Report Annex 19 for description of these benefits).

85. While the long-term national advantage from Group ranch development can be seen it is obvious that in the short term there could be many disappointments for individuals which could affect attitudes and encourage people to renage on their loans. Loan repayments will be based on a charge on stock. If 60% are owned by the wealthier members then repayments on 60% of the loan are assured. It however remains a problem for the poorer members particularly

those who own 20 to 30 of the animals. According to the budget these people will pay for each animal unit KSh. 20/- for dip, KSh. 15/- for drugs and vaccines, KSh. 7/- for salt and KSh. 10/- for ranch running expenses of which about half will be for water; for this KSh. 52/- they will obtain an income of about 80/- to 90/- per head plus milk. Experience in the early Group ranches indicates that people reduced expenditure on drugs, salt and office expenses. It remains to be seen how much this can be done at the correct stocking rate and achieve the budgeted weaning percentage of 65%. It is quite possible that this can be done, as in the early 1960's following the drought, weaning percentages of 70% were obtained under the traditional system with little expenditure and no dipping.

86. To summarize there is conflicting evidence on the soundness of the present program. On the one hand there is much evidence to show that it does not pay the individual initially, on the other the Masai seem to want the program for a variety of contradicting reasons. Unfortunately the evidence so far is still speculative and opinions still have to be based on qualitative rather than quantitative judgement. The risks are obvious and high. n balance it would appear that the program of more water and dips accompanied by better Range Management is the only one that can be followed at present providing much more work is done in the early stages of Project implementation on the improvement of income of the poorer groups. Also attempts should be made to get the wealthier members to contribute more to running expenses and perhaps to total equity so reducing the overall debt burden. Over the next three years particular attention must be given by RMD and AFC to providing the data base on which any further extension of the project in 1980 can be justified, bearing in mind that repayments on loans may prove difficult in future but this should be verified from experience. Unfortunately the evidence

87. It can be argued that in the short term the attainment of just the correct stocking rate would have a major effect on productivity at little cost but the Masai do not want this and in the end it will be necessary to introduce water and veterinary products of the land is to carry all the people. As explained in Annex __ each year if delay means lower incomes per family and a higher proportion of those that cannot pay or find it difficult to contribute to costs. A subsidy for these people would be the answer in a developed country but in Kenya it is not feasible and attempts to solve the problem are warranted.

The Problem of Ranch Size

88. All calculations have been carried out for the model Group ranch of some 16,000 ha. Under Phase 2, however, a considerable number of very small Group ranches have been formed, are being planned and are expected to come forward for loans. The following loans to Group ranches have already been approved and are at the moment going through legal procedures.

Name	No. of Members	Size - Ha.
Ockeri	18	981
Olaimutiai	18	3,726
Murua	84	2,169
Nkairamirani	88	4,370
Ilmashariani	97	4,992
Morijo Narok	21	1,514
Olimisimis	180	9,007
		26,759

The average size is 3,822 ha. Excluding Olimisimis, the only one which approaches the order of magnitude of the assumed model Group ranch, the average size is 2,959 ha. The loan requirements per ha are double those estimated for the model. Their development loans as approved (again excluding Olimisimis) total KSh. 850,600 or KSh. 48 per ha compared with KSh. 20/- estimated for the model.

89. In addition the smaller Group ranches appear to be allocated unacceptably large working capital loans with KSh. 66/- per ha compared with the model KSh. 11 per ha.

90. Since the returns per hectare are not likely to be any higher it is clear that the internal rate of return on these ranches must be at an unacceptable level at June prices unless the investment program is revised and severely cut. It is therefore recommended to reconsider the economic and financial viability of the small Group ranches, immediately, including Olimisimis, and to carefully reexamine their loan burdens and repayment capacities especially where the loan amounts per ha and per A.U. considerably exceed the levels given for the model Group ranch. The investigation should also include the effect on individuals in the group.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Group Ranches registered but not yet planned for loans in Kajiado, Narok, Kwale and Samburu Districts

KAJIADO DISTRICT

	No. Members	Hectares
Kilonito	122	25,685
Torosei	n.a.	46,444
Elongatauas	n.a.	59,000
Oldonyonyokie	162	68,506
Olkerramatian	199	21,012
Shombole	366	62,689
Osilalei	435	38,629
Kuku	544	36,000
Rombo	512	38,265
Kimana/Kitondo	167	25,120
Enkaroni	257	n.a.
Nkoile	171	n.a.
Esoka	72	n.a.
Oloiyankalani	118	n.a.
Olkiloriti	88	n.a.
15 ranches	3,213	480,410
Ranches already covered by loans 129-KE and 477-KE		
15 Groups	1,810	221,000
41 Individuals	41	25,000
Kajiado total		1,739,000
unusable		40
unavailable for Agriculture		317,000
Total		2,096,000
Estimate population (1969)	86,600	
Estimate No. families (1969)	12,400	

NAROK DISTRICT

	No. Members	Hectares
Over 11,000 ha		
Ewaso Nyiro	136	27,704
Olkinyei	195	78,725
Koiyaki	290	87,625
Suswa Kitet	487	39,790
Ole Tukat	107	13,776
	1,215	247,620
6,500 to 11,000 ha		
Oloombokishi	134	7,629
Ololtoto	122	6,571
Naibor Ajijik	119	6,927
	375	21,127
Under 6,500 ha		
Oloisiusiu	66	5,398
Olopito	127	6,280
R. Oimakongo	69	1,661
R. Kolikash	28	959
Nairasirasa	67	2,849
Ilkurman	35	1,829
Keyian	44	891
Lemanent	66	4,968
	502	24,835
Total Narok 16 ranches	2,092	293,582
Ranches already covered by loans		
7 Groups	470	26,917
Narok		
Total usable land		1,570
Unavailable for Agriculture		241
Unusable		40
		1,851
Estimate population (1969)	124,500	
Estimate No. families (1969)	17,800	

SAMBURU DISTRICT

	No. Members	Hectares
Lodokejek Section:		
Mbaringun	307	4,800
Lmisigioi	94	4,300
Kirimum	245	9,900
L. Kiloriti	338	5,000
Lodokejek	436	12,000
Nonkeek	145	12,000
Poro Section:		
Loiting	70	1,200
Seketet	191	2,400
Serataoirobi	201	4,400
Naunaerri	161	6,060
Ngejunumung	66	2,320
Mukogodo-Ildikiri Section:		
Koija	148	6,372
Ilmotiok	59	3,320
Tiamamut	106	5,417
Kijaibe	123	5,523
Musul	82	5,214
Nkiloriti	33	2,758
Ilpolei	47	1,050
Mumishoi	30	856
Total Samburu 19 ranches	2,882	94,890
Samburu Total Usable for Agriculture		1,702,000
Unusable		49,000
Unavailable for Agriculture		330,000
		2,081,000
Estimate Population (1969)	67,800	
Estimate No. families (1969)	9,700	
Estimate Cattle Population (1970)	395,000	
Estimate No. Cattle/family (1970)	32	

Previous Grazing Schemes 500,000 ha with overall stocking capacity of 1:8 ha (range 4.1:4.5 to 1:10)

KWALE DISTRICT

	No. Members	Hectares
Mwereni		46,000
Samburu South		44,000
Ndavaya		28,000
Chenge		32,000
Nwarumbo		24,000
		174,000

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Model - Group Ranch 16,000 Ha - Herd Projections
(Numbers)

		Pre-Development Overstocked State	Immediate Pre-Development	Year 1	2	3	4	5	6	7	8	9-20
Herd Composition												
Breeding Cows		2,270	1,600	1,716	1,816	1,869	1,879	1,876	1,800	1,800	1,800	1,800
Bulls		220	80	86	91	93	94	94	90	90	90	90
Weaners		1,150	800	858	998	1,028	1,127	1,126	1,080	1,080	1,080	1,080
Heifers	12-24	400	376	376	403	469	483	529	529	508	508	508
Steers	12-24	300	320	320	343	399	412	451	451	432	432	432
Heifers	24-36	375	353	353	353	379	441	454	497	497	478	478
Steers	24-36	240	256	256	256	274	319	330	361	361	346	346
Heifers	36-48	350	332	332	332	332	356	214	220	241	241	224
Steers	36-48	200	205	205	205	205	-	-	-	-	-	-
Steers	48-60	165	164	164	164	-	-	-	-	-	-	-
Total No.		5,670	4,486	4,602	4,691	5,048	5,111	5,074	5,028	5,009	4,975	4,958
Sub-Total A.U.			3,686	3,744	3,963	4,020	3,984	3,948	3,920	3,929	3,895	3,878
Purchased Steers			-	190	180	-	-	-	-	-	-	-
Total A.U.			3,086	3,931	4,143	4,020	3,984	3,984	3,984	3,984	3,984	3,984
Mortality and Homes Slaughter												
Breeding Cows			96	103	109	112	112	112	108	108	108	108
Bulls			4	4	5	5	5	5	5	5	5	5
Weaners			-	-	-	-	-	-	-	-	-	-
Heifers	12-24		24	24	26	30	31	34	34	32	32	32
Steers	12-24		80	80	86	100	102	112	112	108	108	108
Heifers	24-36		23	23	23	24	28	29	30	32	30	30
Steers	24-36		64	64	64	69	80	82	90	90	86	86
Heifers	36-48		21	21	21	21	23	13	14	15	15	14
Steers	36-48		51	51	51	51	-	-	-	-	-	-
Steers 48-60			41	41	41	-	-	-	-	-	-	-
Purchased Steers			-	10	10	-	-	-	-	-	-	-
Total Excluding Bull Replacements			404	421	436	412	381	387	395	390	384	383
Purchases												
Breeding Bulls			-	10	5	5	5	5	5	5	5	5
Steers			-	200	-	-	-	-	-	-	-	-
Sales												
Cows			120	129	170	210	247	265	254	254	254	254
Bulls			8	8	9	9	9	9	9	9	9	9
Heifers	36-48		-	-	-	-	-	127	78	120	120	86
Steers	24-26		-	-	-	-	319	330	361	361	346	346
Steers	36-48		-	-	-	205	-	-	-	-	-	-
Steers	48-60		164	164	164	-	-	-	-	-	-	-
Purchased Steers			-	-	180	-	-	-	-	-	-	-
Total Sales			292	301	523	423	575	731	702	744	729	695
Production Coefficients												
Weaning Rate			50%	50%	55%	55%	60%	60%	60%	60%	60%	60%
Mortality Bulls, Purchased Steers			5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Mortality + Home Slaughter Steers 12-48			20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Mortality + Home Slaughter Heifers + Cows			6%	6%	6%	6%	6%	6%	6%	6%	6%	6%
Cow Percentage (1.0/A.U.)			36% (42%)		36% (46%)							
Female Percentage			68%									
Cow Culling Rate			8%	8%	10%	12%	14%	15%	15%	15%	15%	15%
Bull Culling Rate			10%									
Comm. Extr. Rate (in % of A.U.)												
Selling Age Homebred Steers			60	60	60	48	36	36	36	36	36	36
Calving Age			48	48	48	48	48	40	40	40	40	40

June 30, 1976

KENYA

ANNEX 6
Table 3

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Model - Group Ranch - 16,000 ha - Revised

Investment Costs[1/]
(Ksh '000)

	Units	Costs	Year 1	Year 2	Year 3	Total	Foreign Exchange Component %	Foreign Exchange Component Amount
Investment Category								
Water Facilities								
Borehole	1	135	135	-	-	135	50	67.5
Tank 20,000 gals.	1	20	20	-	-	20	20	4.0
Engine/pump	1	75	75	-	-	75	90	67.5
Pumphouse	1	20	20	-	-	20	40	8.0
Troughs	2	6	12	-	-	12	40	4.8
Piping/fitting 2,000 ft.	1	30	30	-	-	30	80	24.0
Trenching, backfilling 2,000 ft.	1	10	10	-	-	10		
Sub-total			302			302	58	175.8
Cattle Yards and Dips	1	30	60	-	-	60	40	24.0
Buildings (office, store, equipment)	1	60	30	30	-	60	20	12.0
Equipment and vehicles	-	-	-	-	-	-	-	-
Firebreaks and roads[2/]	50	0.4	20	-	-	20	20	4.0
Sub-total physical development	-	-	412	30	-	442	49	215.8
Estimated value of existing herd	-	1,636	1,636	-	-	1,636		
Breeding bulls	20	30	30	15	15	60		
Total investment costs			2,078	45	15	2,138	10	215.8
Incremental working capital			262	-	-	262		
Long-term loans				-	-			
Investment			309	-	-	309		
Working capital			184	-	-	184		
			493			493		
Shareholder's contribution towards breedingh herd			1,636	-	-	1,636		
Investment			132	-	-	132		
Working capital			78	-	-	78		
						1,846		

1/ For the derivation of unit costs (see the investment schedule for Company ranches).
2/ Only peripheral.

June 30, 1976

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SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Model-Group Ranch 16,000 ha. Income and Operating Costs Projections
(KSh.'000)

	Overstocked 1976	Immediate Pre Development	Year 1	2	3	4	5	6	7	8	9	10-20
Sales 1/												
Cattle (Tables 2 and 5)	305 2/	224	228	446	216	255	340	366	438	517	504	504
Value of Pre-Development Sales Adjusted for Producer Price Increases	(305)	(224)	(224)	(230)	(235)	(241)	(247)	(248)	(248)	(248)	(248)	(248)
Value Home Consumption (Table 5)												
Value Meat	100	81	81	84	74	60	68	73	77	81	81	81
Value Milk	159	112	120	143	155	173	181	181	193	204	204	204
Sub-total	259	193	201	227	229	233	249	254	270	285	285	285
Total Value of Production	564	417	429	693	445	488	589	620	708	802	789	789
OPERATING COSTS												
Fixed Costs												
Salaries 3/	-	-	7	7	7	7	7	7	7	7	7	7
Operation and Maintenance of Water Supplies	-	-	20	20	20	20	20	20	20	20	20	20
Office & Miscellaneous	-	-	1	1	1	1	1	1	1	1	1	1
Repairs and Replacements	-	-	10	10	10	10	10	10	10	10	10	10
	-	-	-	-	-	15	15	15	15	15	15	15
	-	-	38	38	38	53	53	53	53	53	53	53
Variable Costs												
Dip Materials 4/	-	-	78	83	80	80	79	78	78	78	77	77
Drugs, Vaccines 5/	26	21	59	62	60	60	59	59	59	58	58	58
Salt Minerals 6/	12	10	27	29	28	28	28	27	28	27	27	27
Selling Expenses 7/	3	3	3	5	5	4	6	7	7	7	7	7
Sub-total	41	34	167	179	172	174	173	171	172	170	169	169
Total Operating Costs	41	34	205	217	210	227	226	224	225	223	222	222
Steer Purchase 7/	-	-	95	-	-	-	-	-	-	-	-	-
GRAND TOTAL	41	34	300	217	210	227	226	224	225	223	222	222

1/ Prices (Annex 3 Table 5). FAQ KSh. 71/- Standard KSh.6/30, Commercial KSh. 4/25.
2/ Some of these sales may be represented by growth in the herd rather than actual sales.
3/ 1 Pump operator and 1 dip attendant at KSh. 300/-.
4/ KSh. 20/- per animal unit.
5/ KSh. 15/- per head.
6/ KSh. 7/- per head.
7/ Steers purchased at 225 kg LW at 1/91 per kg LW plus 70/- transport and other costs.
Sold at 360 kg LW or 173 kg CDW.

July 8, 1976

AMEC 7.5.18.4

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY [illegible] - MARCH [illegible], 1976

Model - Group Ranch - 16,000 Ha - Rangeland

Production Data

MEAT

Sales

	Immediate Pre-Development	Year 1	2	3	4	5	6	7	8	9
Cattle Sold (Numbers)										
Cows	120	139	170	210	247	266	254	254	254	254
Bulls	8	9	9	9	9	9	9	9	9	9
Heifers 36-48 months	-	-	-	-	-	127	79	120	120	86
Steers 24-36 months	-	-	-	-	314	350	361	361	346	346
Steers 36-48 months	-	-	-	206	-	-	-	-	-	-
Steers 48-60 months	164	164	164	-	-	-	-	-	-	-
Purchased Steers	-	-	180	-	-	-	-	-	-	-
Total Number	292	301	523	425	575	751	702	744	729	696
Average Liveweight Kg.										
Cows	227	227	229	232	236	246	259	272	286	286
Bulls	364	364	368	372	381	400	418	436	454	454
Heifers 24-36 months	182	182	184	186	189	195	205	215	227	227
Steers 24-36 months	182	182	184	191	200	218	236	254	282	282
Steers 36-48 months	259	259	263	268	277	295	313	332	373	373
Steers 48-60 months	336	336	341	-	-	-	-	-	-	-
Purchased Steers	-	364	-	-	-	-	-	-	-	-
Total Liveweight Sold (kg.'000)	85	87	163	107	128	170	171	218	202	194
Average Liveweight/Animal kg. Excluding Purchased Steers	290	290	286	252	218	243	243	245	276	279
Average CDW Per Animal (Kg.)										
Cows	102	102	103	104	106	110	117	123	129	129
Bulls	175	175	175	175	179	190	201	214	222	222
Heifers 12-24 months	59	59	60	61	63	65	68	71	74	74
Steers 12-24 months	62	61	63	64	66	68	71	74	77	77
Heifers 24-36 months	82	83	84	86	87	88	94	98	103	103
Steers 24-36 months	82	84	86	88	90	98	106	114	127	127
Heifers 36-48 months	102	102	104	106	110	119	127	136	152	152
Steers 36-48 months	116	116	118	120	124	132	142	152	168	168
Steers 48-60 months	150	158	160	-	-	-	-	-	-	-
Average Price Received Per Animal (KSh.) 1/										
Cows	435	435	446	457	471	498	580	601	701	765
Bulls	1,117	1,117	1,164	1,225	1,301	1,467	1,552	1,692	1,760	1,765
Heifers 36-48 months 2/	-	-	-	-	-	396	415	435	461	469
Steers 24-36 months	-	-	-	-	399	442	480	565	732	735
Steers 36-48 months	-	-	-	530	-	-	-	-	-	-
Steers 48-60 months	996	996	1,054	-	-	-	-	-	-	-
Purchased Steers	-	-	1,164	-	-	-	-	-	-	-
Total Value (KSh.'000)										
Cows	52	56	76	96	116	132	147	168	193	196
Bulls	9	9	10	11	12	13	14	15	16	16
Heifers 36-48 months	-	-	-	-	-	50	32	52	55	40
Steers 24-36 months	-	-	-	-	127	155	173	205	259	258
Steers 36-48 months	-	-	-	109	-	-	-	-	-	-
Steers 48-60 months	165	165	170	-	-	-	-	-	-	-
Purchased Steers	-	-	210	-	-	-	-	-	-	-
Total (KSh.'000)	226	228	466	216	255	360	366	440	517	508

Home Consumption

Cattle Consumed at Home (Numbers) 3/										
Cows	15	16	17	18	13	14	17	17	17	17
Bulls	-	-	1	1	1	1	1	1	1	1
Heifers 12-24 months	4	4	4	5	5	5	5	5	5	5
Steers 12-24 months	60	60	66	75	76	96	81	81	81	81
Heifers 24-36 months	4	4	4	4	4	4	5	5	5	5
Steers 24-36 months	48	48	48	52	60	62	67	67	64	64
Heifers 36-48 months	3	3	3	3	3	2	2	2	2	2
Steers 36-48 months	48	48	48	48	-	-	-	-	-	-
Steers 48-60 months	31	31	31	-	-	-	-	-	-	-
Total	213	214	211	196	167	176	178	178	175	175
Weight of Meat Consumed ('000 kg)	19.1	19.1	19.4	16.9	15.5	15.1	16.1	17.0	17.9	17.9
Value @ Commercial Grade Price(KSh.'000)4/	81	81	84	74	66	68	75	77	81	81
Consumption (kg) per head if there are 910 people on ranch (i.e. 7 per family)	21	21	23	18	15	16	18	19	19	19

MILK PRODUCTION - HOME CONSUMPTION

Depending on number of families, stockholdings, milking capacity of cattle, other opportunities for earning cash or cultivating a Model family might depend on milk to supply 50 to 90% of its diet with meat and blood supplying 10 to 15%. An adult would require at least 2,100 gals./day and this would be supplied by 5 to 6 pints milk depending on fat content (1,600 calories are supplied by one lb. maize meal costing 35 cents). The average figures for number of families in Reputel would suggest that there might be 130 families on 16,000 ha (but 56% of the families are on only 30% of the land equivalent to 242 families per 16,000 ha with 85 families/16,000 ha on the remainder).

	No. Families	No. ('000)	No./ Family	Families Per Ranch
Olkinos, Embolioi / Naabaru, Shaam	1,010	61.5	64	[illegible]
Other 14 ranches	822	155.0	189	[illegible]
	1,832	220.5	120	130

The following table gives the milk requirements and milk production under various assumptions. For the model a production of 40 gals./cow calved for human consumption has been used but this is probably conservative and a figure of 60 gallons/cow is probably nearer the actual. It will be noted that the overstocked situation provides more milk and possibly allows a 70 to 90% diet of milk for 85 families depending on assumption. It illustrates, however, the predicament of a ranch with 150 families.

	Annual Milk Reqmts. for 1 Family	No Cows in Milk Required @ 40 gal/cow	@ 60 gal/cow	Annual Milk Required ('000 gals.)for 85 Families	150 Families
No families	1	-	-	-	-
Human adult equivalent per family	4.5	-	-	-	-
Pints/day/human AE	5.5	-	-	-	-
Gals. required/year 100% milk	1,150	28	19	96	167
Gals. required if 90% diet milk	1,017	25	17	86	150
Gals. required if 80% diet milk	904	22	15	80	117
Gals. required if 70% diet milk	791	19	13	67	109
Gals. required if 60% diet milk	678	17	11	58	84
Alternative					
No families	1	-	-	-	-
Human AEs/family	4.0	-	-	-	-
Pints/day/AE	5.0	-	-	-	-
Gals. required/year 100% milk	912	23	15	78	118
Gals. required if 90% diet milk	820	20	14	70	107
Gals. required if 80% diet milk	729	18	12	62	96
Gals. required if 70% diet milk	638	16	11	54	85
Gals. required if 60% diet milk	547	14	9	47	71

Possible Production Model Ranch

	Pre-Development	Year 1	2	3	4	5	6	7	8
No cows	2,270	1,600	1,716	1,816	1,869	1,879	1,876	1,800	1,800	1,800
Cows in milk	1,135	800	868	998	1,008	1,127	1,126	1,080	1,080	1,080
Gals./cow in milk for home consumption 4/	40	40	40	40	42	44	46	48	51	54
Total gals. ('000)	45.4	32.0	34.3	40.0	44.2	49.5	51.8	51.8	55.0	58.3
Value (KSh. '000) 5/	109	112	120	140	158	175	181	181	193	204
or										
Gals./cow	60	60	60	62	64	66	69	72	76	80
Total gals. ('000)	68.1	48	51.5	61.8	65.8	67.6	77.7	77.7	82.1	86.4
Value (KSh.'000) 5/	238	168	180	216	230	236	272	272	287	302

NOTE: In assessing meat house cow option there is an anomaly whereby the percentage mortality not consumed remains the same throughout the period yet it can be expected that mortality will decrease with the Project. This is because a constant factor of 30% for mortality and home consumption for males and 6% for females has been used of which 15% and 1% respectively have been used for home consumption. In practice more cattle would have died in the early years if they had not been eaten before they died. The following summarizes the position:

	Year 0 No.	%	Year 9 No.	% of A.B.S
Died	183	5.0	199	5.1
Consumed	213	5.8	175	4.5
Sales	292	7.9	487	12.4
	688	18.7	1,061	27.1
Meat Corned kg.	19,100		17,900	
Meat Sales kg.	39,200		89,300	

Obviously production can be affected by weights used. In 1968 at the time of the UNDP, the average weight of the herd was 203 kg. liveweight in an understocked situation while the average used in the model is 180 kg or 11% less representing more the present overstocking.

1/ Producer Price, Annex 3, Table 3 Section C. FAQ KSh. 7/- Standard KSh. 6/50 Commercial KSh. 4/25/
2/ This age group kept until 36-42 months of age. It is assumed cull heifers will be young and poorly grown and therefore valued at average weight of 24-36 months heifers - this could be conservative.
3/ Assumes 75% male "mortality" consumed and 15% females (Table 2) - based on UNDP Reputel report.
4/ Assumes each lactation at beginning 100 to 120 gals./cow
5/ KSh. 3/50 per gallon

June 23, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Group Ranches - Cash Flow

	Pre-Development	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Sources of Funds																					
Net sales 1/		224	228	446	216	255	340	366	438	517	504	504	504	504	504	504	504	504	504	504	504
Shareholders contribution 2/		1,847																			
Long-term loans																					
Investment		309																			
Working capital		184																			
Sub-total		493																			
Total sources of funds		2,564	288	446	216	255	340	366	438	517	504	504	504	504	504	504	504	504	504	504	504
Uses of Funds																					
Investment: physical		412	30	-	-	-	-	-	-	-	-	-	-	-	-	-	121	-	-	-	-
breeding stock		1,666	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Sub-total		2,078	45	15	15	15	15	15	15	15	15	15	15	15	15	15	136	15	15	15	15
Working capital: steers		95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
operating costs		167	179	172	174	173	171	172	170	169	169	169	169	169	169	169	169	169	169	169	169
Sub-total		262	179	172	174	173	171	172	170	169	169	169	169	169	169	169	169	169	169	169	169
Total investment & working capital		2,340	224	187	189	188	186	187	185	184	184	184	184	184	184	184	305	184	184	184	184
Overheads		38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
Total investment, working capital & overheads		2,378	262	225	227	226	224	225	223	222	222	222	222	222	222	222	343	222	222	222	222
Financial Charges																					
Loan: 3/ Interest		44	44	44	44	41	37	33	30	26	22	19	15	11	7	4	-	-	-	-	-
Principal					41	41	41	41	41	41	41	41	41	41	41	42	-	-	-	-	-
Sub-total		44	44	44	85	82	78	74	71	67	63	60	56	52	48	46	-	-	-	-	-
Total uses of funds		2,422	306	269	312	308	302	299	294	289	285	282	278	274	270	268	343	222	222	222	222
Annual surplus (deficit) before appropriations		142	(78)	177	(96)	(53)	38	67	144	228	219	222	226	230	234	236	161	282	282	282	282
Dividends		20	20	20	20	20	20	40	110	110	110	110	110	185	190	190	130	225	225	225	225
Net annual surplus (deficit)		122	(98)	157	(116)	(73)	18	27	31	118	109	112	116	25	44	46	31	57	57	57	57
Cumulative surplus (deficit)		122	24	181	65	(10)	8	35	66	184	293	405	521	546	590	636	667	724	781	838	895

1/ Cash sales earned in one year have been placed in the following year; this is probably conservative since in the early years stock sales will probably take place throughout the year.
2/ Shareholder contribution consisting of KSh. 1,636,000 value of breeding herd; KSh. 132,000 contribution to first year investment costs and KSh. 78,000 towards operating costs.
3/ Interest of 9%, 3-year moratorium on Principal. Interest paid on declining balance.

July 8, 1976

ANNEX 6
Table 6

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Feedlots

Background and Experience of Existing Feedlot Operations

1. In 1968 the UNDP/Kenya Beef Project commenced investigations into all aspects of fattening beef in the high potential areas, costs of production of grass, fodders and grain were defined. Prices at KMC were investigated and some assessment made of marketing opportunities for various qualities of cattle. In 1970 and 1971 beef prices and grading were reviewed making it profitable to finish cattle in feedlots. Since 12 commercial feedlots with an annual capacity of 60,000 head have been established. At the time of the Second Livestock appraisal most were in operation. Six feedlots supply a special market through KMC, known as the "Swiss Market" which gives a greater return to producers. Feedlots produce Choice and FAQ grades of cattle which are mainly sold to KMC but an increasing share (10 to 15% of the total) are sold to butchers who pay a higher price than KMC (one operator custom feeds and sells all his production to butchers). In 1971 KMC began paying an extra 20 cents/kg, known as the feedlot bonus for cattle produced in approved feedlots or under supplemental feeding providing they met age and grade requirements. In 1973 a further 33 cents/kg was added for cattle meeting certain export requirements known as the Swiss feedlot bonus. The present feedlot bonus stands at 30 cents/kg and Swiss bonus 50 cents/kg.

2. No accurate figures are available on the breed of cattle fed but it is estimated that in 1972/73 roughly 30 to 40% of the cattle fed were Boran from LMD and the North East but that this percentage has

dropped to 20% because of increasing measles incidence and because exotic grade cattle more easily reach the grade required for the Swiss feedlot bonus which is now vital for the financial viability of the lots.

3. Producer prices for feedlot cattle were favorable until 1974 when increases in prices failed to match the substantial increase in costs (compared with 1971 by 1975, feeder cattle prices up 75%; higher feed costs - cotton seed up 43%; molasses 66%; maize 61%; silage 100%; producer prices during this period rose 38% for Choice and FAQ grades, Table 1). The feedlots have been closely monitored by the UNDP Beef Project and a review in July 1975 demonstrated that margins since 1973 have generally declined but that cattle in 1975 fattened for the Swiss or similar priced markets with a special price premium (KSh. 6/30 per kg compared with non-Swiss at KSh. 5/80 per kg) continued to provide satisfactory margins in line with target margins while margins of those feedlots selling to "non-Swiss" markets had declined to a level that will not repay capital or cover any loan repayments or interest. Under the First Livestock Project four loans to feedlots were made by AFC of which over KSh. 900,000 remains outstanding. Unfortunately AFC feedlots have a high non-Swiss market throughput (75% in 1975) and between 1973 and 1975 this resulted in them having lower occupancy rates 35%, compared with 63% for Swiss market lots and a target of 80%. Since July 1975 margins have declined further and have become less attractive resulting in a decline in the occupancy rates of Swiss feedlots to 48% (33% for non-Swiss) by January 1976. Despite the fall in margins and partly because food is grown in one year for feeding in the following year throughput of cattle held in 1974 and 1975 although 1976 placements are down on a year ago. According to the Beef Research Station records which record about 80 to 90% of all cattle fed, the following have been produced in feedlots since 1974:

	Non Swiss Market	"Swiss" Market	Total
1974	3,482	15,102	18,584
1975	5,412	15,048	20,460
Placements in February 1976	655	1,360	2,015

4. Supplies of feedlot cattle since 1971 have been of critical value to KMC in maintaining their throughput at reasonable levels, assuring a supply of quality beef and reducing the effect of seasonal shortages.

5. Since 1973, feeding costs have increased greatly. At the same time immature costs have continued to rise in reflection of the butcher prices paid for partially finished immatures:

	Feedlot Grade Price of Ranch Bred 2-Year Old Feeder Cattle		
	Liveweight price KSh./kg	Equivalent CDW price at 48% dressing	KMC FAQ price
1973	2.10	4.37	4.55
1974	2.42	5.05	5.00
1975	2.71	5.64	5.68
January 1976	2.90	6.04	5.80

6. The feeding of cattle originating from LMD auction sales has diminished because (a) these cattle will not finish to a suitable standard for the present Swiss Export requirements, and (b) there has been a noticeable increase in the measles incidence in such cattle which increases the uncertainty on the part of the buyer. Prices over the past years have not been sufficient to cover these risks.

7. These factors combined have led feedlots to change their strategy. Where possible they graze cattle for a longer period before feeding, and operate more on a seasonal basis feeding cattle from October through June. Somewhat surprisingly more cattle were placed on feed during 1975 than in 1974 (20,460 head compared to 18,584). This is partly explained by the need to use supplies of silage carried over from previous years. Overall the existing feedlot capacity was only used to the extent of 42% of its possible throughput. In view of this excess capacity, plus the poor response to the LMD auction sales, it is questionable whether additional capacity should be added at the present time. However, feeding cattle outside the disease free zone would still deserve experimentation.

Effect of Proposed Price Increases

8. As suggested in March, if the basic price for FAQ grade is raised by KMD from KSh. 5/50 to KSh. 7/50 per kg, and feedlot and Swiss bonus continue to be paid in addition, then feeding cattle will once again become profitable for producers. Grade and well bred Boran cattle from ranches for feeding will be in demand but supply of this higher grade stock will be limited and could become increasingly so as more ranches are taken over and not followed by measures to preserve their output. Providing North East stock are not sold at much higher prices than their grades would fetch in the KMC it should be possible to fatten increasing numbers of these cattle providing measles do not affect the grading unduly.

9. Research work at the Beef Research Station has continued in two main areas: (a) the use of available by-products for cattle feeding, and (b) identification of feeding systems applicable for use outside the disease free area.

More economic analysis should be done by the Planning Division on the profitability of feeding maize (and other cereals like sorghum which could be grown by smallholders in marginal areas who are searching for cash crops), if it is the intention of Government to increase the production of this crop. It is possible that in some circumstances it might be more profitable to feed maize to cattle (and all livestock for that matter) than to export it at a financial loss. The same bag of maize might earn more foreign exchange if it were fed to cattle and then exported as beef. During the 1950s and 1960s the internal producer prices of maize were often set too high to be exported profitably. It is understood that in 1975 considerable losses were again suffered. If the maize had been available at farm gate export parity prices it would have been interesting to calculate whether it might have induced existing feedlot operators to increase operations and what effect and economic advantages that this might have had on the following interrelated problems of 1975:

(a) LMD losing money because it could not sell 50,000 head of cattle.

(b) Pastoralists in turn could not sell their animals.

(c) KMCs loss of KSh. 10 million due to low total throughput (affecting overheads) and low availability of quality cattle which, according to the previous Managing Commissioner could have been exported profitably.

(d) The advantages of maintaining in operation AFC financed feedlots that had to close.

(e) Maize Marketing Board earnings.

(f) Foreign exchange earnings.

Prospects for Developing More Feedlots Under the Second Project

10. Under the Second Livestock Project it is intended to establish three strategically placed feedlots outside the disease free zone to increase offtake from those areas. Two were to be located in Narok and Kajiado to fatten cattle produced by group and individual ranches in those areas (whose 40% mature females would provide a good source of young fattening cattle). The third lot was to be established in West Kenya to utilize surplus molasses using cattle from West Kenya and Narok. The Project would provide funds for feedlot development through AFC; these would be owned either by private individuals or by Masai cattle owners, and organized as companies or cooperatives with or without Government participation.

11. On the basis of the new information available, three new feedlot models have been prepared for high level molasses feeding and sugar cane feeding in addition to a sorghum-based unit. All three have been planned for the same size of throughput (6,400 animals at 80% capacity) to make them comparable and the following production coefficients and prices used.

Production Coefficients and Prices

	Sugarcane	Molasses	Sorghum
Average purchase weight (kg)	220	220	220
Average price/kg liveweight 1/	2/25	2/25	2/25
Average purchase price/head	495	495	495
Liveweight out of feedlot	340	340	340
Daily liveweight gain (g)	700	800	950
Days on feed	171	150	126
Dressing percent	51	51	51
CDW sold	173.4	173.4	173.4
KMC price	1,017	1,017	1,017
Conversion ratio (DM:Lwght)	8.73:1	11.2:1	7.35:1
Purchased feeds (KSh./kg DM)	0.56	0.43	0.45 2/

1/ LMD floor price equivalent to KSh. 5.55/kg CDW less 10%.
2/ Only 50% of ration is purchased, remainder is home grown sorghum silage.

12. The price of mixed feed which stood at KSh. 24 per 100 kg dry matter at the time of appraisal has increased to KSh. 45 now. Furthermore, this price results from the heavy use of by-products, substituted for the ingredients formerly used, in order to reduce costs to the minimum. At the time of maximum cattle feeding in 1974 shortages developed in these by-products such that prices were forced up towards those of the main ration ingredients that they replaced. Thus, with an increase in the throughput of the existing feedlots, it is anticipated that feed costs will rise to about KSh. 54 per 100 kg DM. At this price, which allows for maize to be included at the equivalent of KSh. 58.50 per bag, the growing of sorghum for grain must become competitive in some of the drier areas.

13. At the prices ruling in March 1976 none of the alternative options for cattle feeding under the Project were attractive. The low level of activity in the existing local feedlots supports the view that feeding was not a viable activity, moreover this was true in an area of the country without disease risks and where the fixed investments were already committed at pre-inflation prices. Thus it must be expected that should prices once more become favorable the existing feedlots will operate closer to capacity before new feedlots are built.

14. Investment, operating, ration costs and cash flows are given in Tables 1 to 4. The liveweight of steers to be fattened has been changed to be closer to those provided for the North East. No allowance has been made for pasturage since it is assumed that gains on pasture will be credited to pasture feeding and any investment here would be covered by this income.

15. Feedlotting is very sensitive to variations in costs and benefits. In assessing the accuracy of the model the mission is assuming that the feed input costs of the grain forage model are likely to be the most accurate at this moment and that the greatest difficulty and variation is probably in the prices to be paid for the immatures and the grading that the North Eastern and pastoral cattle will obtain.

16. In the analysis of the financial profitability of the Forage model, three hypothesis were studied:

Hypothesis I where the feedlot would operate at 80% capacity (annual throughput of 6,400 animals), the price for FAQ in year 1 would be KSh. 7.80/kg, and the average price for immatures is KSh. 2.25/kg. The financial rate of return would be 39.7%. If costs were to increase by 10% the financial rate of return would fall to 24.7%. Benefits were to decrease by 10%, the financial rate of return would fall to 7.45%. These financial rates of return do not include tax payments.

Hypothesis II - the feedlot would also operate at 80% capacity, but its output would be downgraded as a result of a higher incidence of measles from 3% to 10% so that instead of having all the animals graded FAQ, they would have the following grading: 70% FAQ (passed), 10% FAQ (retained), 20% Standard (retained). The prices used are shown in Table 5. The financial rate of return would be 23%.

Hypothesis III - the feedlot would also operate at 80% capacity, but the price of immatures would be raised by about 25%, from KSh. 2.25 per kg to KSh. 280/kg, which represents the premium which feedlots would have to pay to obtain feeders from ranches rather than feeders from the Northeast. All animals would grade FAQ. The financial rate of return would be 14.13%. The financial rates of return for the sugar cane and molasses models were estimated at 29.8% and 21.25%, respectively.

Some Requirements for Successful Development of Supplemental Feeding

17. If feedlots are to become an integral part of the Kenya beef industry then Government will have to develop a long term policy towards (and where necessary, keep under review) the following major points in order to maintain stable conditions conducive to development:

(a) the maintenance of adequate producer prices in relation to costs. Prices could be improved through more active KMC sales development of FAQ and Choice grades and the introduction of more custom feeding for certain marketable grades for the home and export markets which could be developed on a long term contract basis.

(b) the provision, as far as is possible, of stable feed prices.

(c) realistic prices for feeder cattle from the North East if those cattle are to be used in feedlots in any quantity. It is usual in countries with relatively stable producer and feed prices for feedlot operators and producers of fatteners

to share the returns from grade improvement in the prices paid for fatteners. However, LMD for North East steers was recently claiming the full grade improvement to FAQ in its prices (KSh. 2/50 per kg liveweight) at a time when the industry clearly could not even pay the grade the unfinished animal was receiving at KMC (commercial grade KSh. 1/91 per kg liveweight), and when measles incidence was rising.

(d) The above will need constant attention by the Economic Division of the Ministry of Agriculture. In addition to these points, it will be necessary to maintain experimentation at the Beef Research Station into improved forage varieties and systems of feeding. Most important, experienced staff must be available to advise feedlot operators and backgrounders and to monitor their operations so that the up-to-date information now obtained is maintained to facilitate the correct national policy decisions.

18. It is suggested that before investment in new feedlots is considered, throughput of existing feedlots should be improved. It is appreciated that the 3 lots under the Project will take cattle that would not normally go to the commercial feedlots but first priority should go to safeguarding the existing investment.

Proposed Masai Feedlots

19. Providing KMC can take an increased quantity of FAQ type beef produced from North East and Masai steers then further thought should be given to the siting and development of the two project feedlots for Masai in the next two years with a final decision being made in three years time. At this stage, because of the risks involved, it would seem that Government, through ADC or some other quasi Government body, will have to undertake the initial feedlot

development in Masai (or outside Masai for Masai stock) or as a Government-run project in cooperation with a group ranch. Proposals should be closely examined by the Economic Planning Division and IDA supervision mission before investment takes place. The social, environmental and economic benefits from increasing the offtake of young stock from Masai could be considerable as well as providing a market for fodder and other crops produced in the high potential areas. A major problem will be to find a suitable site and crop; Nairobi would seem to have the highest potential. Some irrigated development might be considered for Kajiado or the growing of sorghums in more favorable areas (also in Narok) although such areas may be some distance from the KMC Athi River plant. With the location and degree of mechanization uncertain, it is difficult to provide accurate forecasts of costs.

Proposed Feedlot for Crop By-Product Feeding (Western Kenya)

20. The most commercially feasible new feedlot could be the one proposed for Western Kenya using molasses. Suitable organization to undertake the by-product feeding of molasses, pineapple and sisal are the factories concerned. The sugar factories in Western Kenya presently have export markets for 90% of their molasses production and are keen to see export parity prices for the product and are presently not willing to take the risk and invest in feedlots. It is possible that the new feedlot prices will allow molasses to be fed profitably at average export parity prices but even if it does not, there is a case for evaluating the benefits in social and economic terms (Government, foreign exchange, KMC costs, railways, preferential tariffs, environmental, pastoralists, maize growers) of feeding molasses to livestock in Kenya and exporting the product; the same applies to cotton seed cake and Pyrethrum marc as part of general livestock rations in Keny

21. It would seem that feeding sugar cane also could be run as part of sugar factory operations although alternatively, consideration might be given to establishing it in a sugar cane growing area not presently considered for sugar factory development. Unfortunately, it is not possible to cost this operation accurately because it is difficult to forecast the location and degree of mechanization involved.

22. The only commercial concern feeding large amounts of home produced by products is Delmonte at Thika who are feeding beef cattle to get rid of the large quantities of pineapple waste. While the operation is achieving the latter objective its technical efficiency could be improved. However, if they choose to make improvements it is unlikely to take a loan from AFC.

Recommendations

23. In conclusion, it is recommended that provided gazetted prices once again become attractive for feeding that:

(a) Priority be given to improving the occupancy rates of existing feedlots.

(b) As the Project has only 3 years left before completion, and as the objective of the Project was to experiment on cattle feedings that at least one of the three proposed feedlots be considered. The siting, organization and benefits should be carefully investigated. Finance for one lot has been included in the estimates.

24. If feedlots are to be regarded as a necessary and integral part of the agricultural industry then more attention must be paid to:

(a) Maintenance of adequate producer prices (e.g. more aggressive sales promotion, custom feeding for particular markets and better prices through long term contracts).

(b) Maintenance of a satisfactory feed price policy.

(c) Realistic North East feeder cattle prices.

(d) Maintenance of beef cattle and feedlot experimentation in proportion to the size and importance of the gross production of the industry; this includes staffing with well trained personnel experienced in feedlot work. These staff should be sufficiently experienced to advise feedlot operation and continue the monitoring operation.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Feedlot Costs for Selected Feedlots 1973-75

DATES OF SALE	FEEDLOT	HEAD	AVERAGE LIVE WEIGHT PRICES SHILLINGS/KG INTO FEEDLOT	AVERAGE LIVE WEIGHT PRICES SHILLINGS/KG OUT OF FEEDLOT	CARCASS PRICES SH/KG CDW	AV. DAYS ON FEED	VALUE ADDED Per Day	FEED COST Per Day	INTEREST & MORTALITY CHARGES Per Day	PERCENT CONCENTRATES IN RATION DM	RATION COST cents per KG DM
JAN-JUNE 1973	A	303	2.08	2.49	4.76	99.8	3.99	2.56	0.24	50.6	27.15
" "	B	280	1.92	2.38	4.67	87.3	5.01	3.23	0.22	60.2	27.71
" "	C	229	1.75	2.44	4.58	116.3	3.76	2.39	0.18	43.7	27.07
		812	1.93	2.44	4.68	100.1	4.22	2.70	0.21	51.2	27.29
JULY-SEPT 1973	A	50	2.33	2.83	5.34	111.0	4.01	3.20	0.34	62.5	29.31
" "	B	406	1.87	2.44	4.70	106.9	3.37	2.30	0.19	52.2	27.75
		456	1.92	2.48	4.77	107.3	3.44	2.40	0.21	53.4	27.93
OCT-DEC 1973	A	162	2.32	2.73	5.12	93.6	3.98	2.77	0.31	62.4	29.44
" "	B	235	1.99	2.48	4.82	77.3	6.13	3.64	0.31	59.1	28.33
" "	C	486	2.11	2.69	4.94	137.2	3.40	2.77	0.23	54.6	28.54
		883	2.12	2.64	4.94	113.2	3.98	2.93	0.26	56.6	28.64
JAN-MAR 1974	A	291	2.29	3.01	5.70	101.5	5.87	3.16	0.30	52.7	29.24
" "	B	725	2.19	2.98	5.63	92.8	6.18	2.83	0.27	55.0	28.61
" "	C	351	2.09	2.71	5.25	96.4	4.62	2.85	0.22	61.4	30.28
		1367	2.19	2.92	5.55	95.6	5.71	2.91	0.26	56.1	29.18
APR-JUNE 1974	A	428	2.48	3.10	5.93	92.8	4.97	3.18	0.31	58.8	33.14
" "	B	283	2.22	2.81	5.39	103.3	4.99	3.19	0.27	55.9	31.74
" "	C	74	1.82	2.84	5.56	110.1	4.61	3.00	0.19	57.3	35.34
		785	2.32	2.97	5.70	98.2	4.94	3.16	0.28	57.5	32.84
JULY-SEPT 1974	B	419	2.35	2.78	5.43	96.4	4.07	2.99	0.26	50.5	32.93
" "	C	275	2.08	2.52	5.04	120.7	3.36	2.71	0.19	41.8	33.05
" "	D	225	2.40	3.21	5.91	111.7	5.35	3.70	0.30	50.5	33.14
		919	2.28	2.80	5.43	107.4	4.16	3.08	0.25	47.6	33.02
OCT-DEC 1974	B	856	2.43	2.82	5.34	94.1	4.25	3.31	0.28	55.8	36.54
" "	D	118	2.45	2.95	5.57	98.3	4.68	3.52	0.29	44.9	31.57
" "	E	268	2.47	2.90	5.88	76.2	5.64	3.83	0.32	54.9	42.63
		1242	2.44	2.85	5.48	90.6	4.55	3.43	0.29	54.5	37.13
JAN-MAR 1975	A	100	2.56	2.98	5.78	87.0	3.36	3.25	0.28	48.9	43.55
" "	B	101	2.59	3.08	6.06	61.7	6.42	3.76	0.37	33.5	32.64
" "	D	221	3.00	3.25	5.99	89.5	4.66	4.04	0.41	52.6	34.40
" "	E	282	2.51	3.04	5.84	90.9	5.30	4.05	0.30	58.6	44.16
		704	2.68	3.10	5.91	85.7	4.93	3.90	0.34	52.6	39.68
APR-JUNE 1975	B	730	2.57	2.93	5.81	74.9	3.96	2.85	0.29	33.7	33.57
TOTAL - SWISS ...	...	3456	2.37	2.96	5.63	94.9	5.17	3.24	0.295	54.7	32.69
TOTAL NON SWISS ...	...	4442	2.21	2.70	5.21	98.2	4.07	2.91	0.235	50.7	31.49
GRAND TOTAL ...	...	7898	2.28	2.81	5.39	96.8	4.54	3.05	0.26	52.4	32.02

SOURCE: A Review of Operating Margins of Beef Feedlots in Kenya. UNDP/FAO Kenya Beef Industry Development Project; UNDP/SF: Ken/72/008.

ANNEX 7
Table 1

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Rations Used - Dry Matter Basis (100% DM)

	Forage	Sugarcane	Molasses
Silage	50.0	-	-
Corn	37.0	-	20.00
Cotton Seed Cake	2.5	13.0	8.75
Straw	-	-	18.80
Minerals/Urea	-	-	1.85
Molasses	-	-	50.60
Minerals-Urea-Molasses	10.5	10.0	-
Sugar Cane	-	77.0	-

Feed Costs:

	Price/ton Fresh	% DM
Silage	-	28%
Corn 1/	610%	86%
Cotton Seed Cake	1,000%	92%
Straw	360%	90%
Minerals-Urea-Molasses	370%	69%
Molasses	140%	75%
Sugar Cane	105%	32%
Minerals/Urea	1,300%	100%

1/ Price is blend of corn grain (722 %/ton), and maize germ and bran meal (450%/ton)

FOOTNOTES:

Silage Model - 10,080 tons silage would be made. Silage item costs include KSh. 270,000/- for seed and fertilizers, KSh. 100,000 storage and feeding including mixing with purchased feeds, repair, fuel and maintenance includes KSh. 230,000/- for land preparation, cultivation and handling and 40,000/- for running of vehicles. Included under salaries is KSh. 169,000 for management and KSh. 40,000 for labor. Replacements depreciation and interest are estimated by Beef Research Station to be KSh. 400,000/-. Total cost per ton silage is 120/-.

Sugar Cane Model - Silage costs would include making some silage from the purchased cane. Purchased feed would consist of 16,130 tons sugar cane at KSh. 76/- per ton (KSh. 1,226,092/-) and KSh. 1,311,800/- of purchased feeds (1,542 tons DM). Transport of cane and feeds at KSh. 15/- per ton. Repairs, fuel and maintenance include handling and chopping of cane and mixing with purchased feeds and feeding at KSh. 29/- per ton cane, KSh. 467,000/-, plus 40,000/- for running of personnel vehicle.

Molasses Model - Purchased feed would count of KSh. 645,000/- of straw and KSh. 3,047,000 of other feeds.

ANNEX 7
Table 3

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Feedlot Investment Costs
(For three types of feedlot: forage, molasses and sugar cane)
(Ksh.'000)

Investment Item	Unit	Unit Cost	Forage Model No.	Forage Model Cost	Molasses Model No.	Molasses Model Cost	Sugar Cane Model No.	Sugar Cane Model Cost	No.	Total	Foreign Exchange Component %	Foreign Exchange Component Amount
Buildings												
Grade 1 House	No.	160.0	1	160.0	1	160.0	1	160.0	3	480.0	40	192.0
Grade 2 House	No.	38.0	3	114.0	2	76.0	2	76.0	7	266.0	10	26.6
Grade 3 House	No.	6.0	10	60.0	6	36.0	6	36.0	22	132.0	10	13.2
Workshop	No.	52.0	1	52.0	1	52.0	1	52.0	3	156.0	20	31.2
Office	No.	25.0	1	25.0	1	25.0	1	25.0	3	75.0	20	15.0
Stores	No.	40.0	1	40.0	1	40.0	1	40.0	3	120.0	20	24.0
Sub-Total				451.0		389.0		389.0		1,229.0	25	302.0
Infrastructure												
Roads	Km.	4.0	10	40.0	2	8.0	2	8.0	14	56.0	20	11.2
Fencing	Km.	3.0	35	105.0	4	12.0	4	12.0	43	129.0	50	64.5
Water Installation	Unit	60.0	1	60.0	1	60.0	1	60.0	3	180.0	60	108.0
Electricity Installation	Unit	100.0	1	100.0	1	100.0	1	100.0	3	300.0	60	180.0
Silos	Unit	10.0	5	50.0	-	-	-	-	5	50.0	80	40.0
Feed Yards	Unit	25.0	16	400.0	20	500.0	25	625.0	51	1,525.0	20	305.0
Handling Yards	Unit	52.0	1	52.0	1	52.0	1	52.0	3	156.0	20	31.2
Spray Race	Unit	25.0	1	25.0	1	25.0	1	25.0	3	75.0	20	15.0
Sub-Total				832.0		757.0		882.0	4,471.0	2,471.0	31	754.9
Equipment and Vehicles												
Passenger Vehicle	Unit	70.0	1	70.0	1	70.0	1	70.0	3	210.0	65	136.5
Truck (8 ton)	Unit	160.0	1	160.0	2	320.0	2	320.0	5	800.0	90	720.0
Harvester	Unit	50.0	2	100.0	-	-	-	-	2	100.0	90	90.0
Forage Unit	Unit	332.0	2	664.0	-	-	-	-	2	664.0	90	597.6
4-Wheel Bucket Loader	Unit	16.0	1	16.0	1	16.0	1	16.0	3	48.0	90	43.2
Cultivation Unit	Unit	68.0	2	136.0	-	-	-	-	2	136.0	90	122.4
Feeder Wagon	Unit	120.0	1	120.0	-	-	1	120.0	2	240.0	90	216.0
Cane Mill	Unit	85.0	-	-	-	-	1	85.0	1	85.0	90	76.5
Feed Unit	Unit	174.0	1	174.0	1	174.0	1	174.0	3	522.0	90	469.8
Trailers	Unit	20.0	-	-	1	20.0	-	-	1	20.0	90	18.0
Weighbridge	Unit	180.0	1	180.0	-	-	1	180.0	2	360.0	90	324.0
Cattle Scale	Unit	70.0	1	70.0	1	70.0	1	70.0	3	210.0	90	189.0
Tools	Unit	20.0	1	20.0	1	20.0	1	20.0	3	60.0	40	24.0
Motorcycle	Unit	4.0	1	4.0	1	4.0	1	4.0	3	12.0	75	9.0
Sub-Total				1,714.0		694.0		1,059.0		3,467.0	88	2,944.8
Total Investment Cost				2,997.0		1,840.0		2,330.0		7,167.0	56	4,001.7

July 1, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Feedlot

Operating Costs
(Ksh '000)

	Unit	Unit Cost	----Forage Model---- Year 1		Year 2-20		---Sugar Cane Model---- Year 1		Year 2-20		----Molasses Model---- Year 1		Year 2-20	
Operating Costs														
(Cattle on feed at any one time)														
Wages and Salaries					(2,760)				(3,750)				(3,920)	
Manager	Man-year	120.0	(1)	120.0	(1)	120.0	(1)	120.0	(1)	120.0	(1)	120.0	(1)	120.0
Supervisor	"	30.0	(1)	30.0	(2)	60.0	(1)	30.0	(2)	60.0	(1)	30.0	(2)	60.0
Labor	"	2.4	(50)	120.0	(65)	156.0	(37)	89.0	(25)	60.0	(37)	89.0	(25)	60.0
Sub-total				270.0		336.0		239.0		240.0		239.0		240.0
Variable Costs														
Silage costs/cane preparation/straw				370.0		370.0		76.0		130.0		15.0		30.0
Feed purchase				372.0		1,986.0		1,488.0		2,539.0		1,883.0		3,692.0
Veterinary expenses				10.0		51.0		30.0		51.0		26.0		51.0
Rent				50.0		50.0		20.0		20.0		20.0		20.0
Repairs for equipment and vehicles, land preparation and handling				60.0		135.0		147.0		234.0		20.0		40.0
Fuel, maintenance vehicle, implements 2/				65.0		135.0		147.0		234.0		84.0		170.0
Maintenance of buildings and infrastructure 3/				-		42.0		-		47.5		-		43.7
Transport costs				22.0		82.0		132.0		265.0		80.0		170.0
Miscellaneous				40.0		40.0		40.0		40.0		40.0		40.0
Sub-total				989.0		2,891.0		2,080.0		3,560.5		2,168.0		4,256.7
Total operation and maintenance costs				1,259.0		3,227.0		2,319.0		3,800.5		2,407.0		4,496.7
Cattle purchase @ 495/animals 4/				1,449.0		2,969.8		1,968.8		4,035.0		1,727.3		3,540.0
Total operating costs				2,708.0		6,196.8		4,287.8		7,835.5		4,134.3		8,036.7

1/ 3.5% of investment costs in year 1, 7% p.a. th4reafter; replacement has been entered on the cash flow.
2/ 7.0% p.a. of investment cost.
3/ 3.2% p.a. of investment cost.
4/ Purchase cost of animals will vary with the relative increase in beef prices; see price schedule and cash flow. Prices used in hypothesis III are different - see cash flow.

[illegible] 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Feedlots

Prices[1/]
(Ksh '000)

	1	2	3	4	5	6	7	8	9	10-20
Purchase Price (used in all models except forage model - Hypothesis III)										
Ksh/kg/lw	2.25	2.31	2.38	2.46	2.53	2.54	2.54	2.55	2.55	2.56
Average price per animal (220 kg/lw): Ksh	495	508	524	541	556	559	559	561	561	563
Transport cost: Ksh/animal	30	30	30	30	30	30	30	30	30	30
Total purchase price per animal: Ksh	525	538	554	574	586	589	589	591	591	593
Purchase Price (used in forage model - Hypothesis III										
Ksh/kg/lw	2.80	2.88	2.97	3.06	3.15	3.16	3.16	3.17	3.18	3.18
Average price per animal (220 kg/lw): Ksh	616	634	653	673	693	695	695	697	700	700
Total purchase price per animal with transport) Ksh	646	674	683	703	723	725	725	727	730	730
Sale Price										
FAQ Grade: Ksh/kg/lw (June 1976)	7.50[2/]	7.73	7.96	8.20	8.44	8.46	8.47	8.49	8.51	8.53
+ premium for fed cattle (Ksh/kg)	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
Total sale price	7.80	8.03	8.26	8.50	8.74	8.76	8.77	8.79	8.81	8.83
Average sale price per animal (173.5 kg CDW)	1,353	1,393	1,433	1,475	1,516	1,520	1,522	1,525	1,529	1,532
FAQ grade: Ksh/kg/lw (February 1976)	5.80[3/]	5.97	6.15	6.34	6.53	6.54	6.55	6.57	6.58	6.59
+ premium for fed cattle (Ksh/kg)	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
Total sale price	6.10	6.27	6.45	6.74	6.83	6.84	6.85	6.87	6.88	6.89
Average sale price per animal (173.5 kg CDW)	1,058	1,088	1,119	1,152	1,185	1,187	1,188	1,192	1,194	1,195
FAQ retained: Ksh/kg/lw (June 1976)	7.05[4/]	7.26	7.48	7.70	7.93	7.95	7.97	7.98	8.00	8.01
Average sale price per animal: Ksh	1,223	1,260	1,298	1,336	1,376	1,379	1,383	1,385	1,388	1,390
Standard retained: Ksh/kg/lw (June 1976)	5.80[4/]	5.97	6.15	6.34	6.53	6.54	6.55	6.56	6.58	6.59
Average sale price per animal: Ksh	1,006	1,036	1,067	1,100	1,133	1,135	1,136	1,138	1,142	1,143

1/ Annual relative price increase: 1976-1980; 3% p.a.; 1981-1985: 0.2% p.a.
2/ June 1976 price.
3/ February 1976 price.
4/ Estimated on the basis of June 1976 price with grade differential applied by KMC in 1974; retained grades lose the bo bonus for fed cattle.

September 1, 1976

[illegible]

[illegible] - [illegible]

Review Meeting - [illegible] - March [illegible], 1976

[illegible] - Portage Model

Cash Flow - Hypothesis 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Sources of Funds																				
Sales 1/	-	7,536.1	11,608.8	7,979.8	8,201.6	12,336.9	8,236.0	9,260.3	11,607.8	9,299.1	9,299.1	12,452.2	9,288.1	9,288.1	12,452.2	9,288.1	9,288.1	12,452.2	9,288.1	9,288.1
Owners' contributions: I + O.C.	1,711.8																			
Interest	87.3																			
Sub-total	1,798.8																			
Long-term loans: Investment	2,098.0																			
Working capital	1,706.5																			
Deficit financing	189.0																			
Sub-total	3,993.3																			
Interest-loan year 1	203.7																			
Interest - loan year 2																				
Sub-total	4,197.2																			
Total Sources of Funds	5,996.0	7,536.1	11,608.8	7,979.8	8,201.6	12,336.9	8,236.0	9,260.3	11,607.8	9,299.1	9,299.1	12,452.2	9,288.1	9,288.1	12,452.2	9,288.1	9,288.1	12,452.2	9,288.1	9,288.1
Uses of Funds																				
Investment (and replacement)	2,977.0	90.0	108.0	93.6	90.0	1,209.6	93.6	108.0	-	93.6	1,314.0	-	201.6	90.0	-	1,323.7	90.0	108.0	93.6	90.0
Working capital: Steer purchase	1,449.0	2,969.8	4,587.1	3,151.9	3,234.7	3,251.3	4,876.9	3,262.3	3,260.3	4,410.0	3,273.4	4,410.0	3,273.4	3,273.4	3,273.4	4,880.0	3,273.4	3,273.4	4,880.0	3,273.4
Variable costs	989.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0
Sub-total	2,438.0	5,860.8	7,478.1	6,042.9	6,125.7	6,142.3	7,767.9	6,153.3	6,151.3	7,301.6	6,164.4	7,301.0	6,164.4	6,164.4	6,164.4	7,771.0	6,164.4	6,164.4	7,771.0	6,164.4
Total investment and working capital	5,415.0	5,950.8	7,586.1	6,136.5	6,215.7	7,351.9	7,861.5	6,261.3	6,153.3	7,394.6	7,478.4	7,301.0	6,366.0	6,254.4	6,164.4	9,115.7	6,254.4	6,272.4	7,859.6	6,254.4
Overheads	270.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0
Total Investment and operating costs	5,700.0	6,286.8	7,922.1	6,472.5	6,551.7	7,687.9	8,197.5	6,597.3	6,489.3	8,030.6	7,814.4	8,137.0	6,702.0	6,590.4	6,500.4	9,452.7	6,590.4	6,608.4	8,195.6	6,590.4
Financial Charges																				
Year 1 - loan: Interest	291.0	277.7	255.8	233.8	211.8	189.8	167.9	125.9	83.0	41.9	-	-	-	-	-	-	-	-	-	-
Principal repayment		466.4	466.4	466.4	466.4	466.4	466.4	466.4	466.4	466.0	-	-	-	-	-	-	-	-	-	-
Total financial charges	291.0	844.1	821.2	799.2	778.2	656.2	634.3	592.3	549.4	507.9	-	-	-	-	-	-	-	-	-	-
Total uses of funds	5,991.0	7,130.9	8,743.3	7,271.7	7,329.9	8,344.1	8,831.9	7,189.6	7,038.7	8,538.5	7,814.4	8,137.0	6,702.4	6,590.4	6,500.4	9,452.7	6,590.4	6,608.4	8,250.6	6,590.4
Annual surplus (deficit) before taxes	-	405.2	2,864.5	707.1	871.7	3,990.7	(597.8)	370.7	3,569.1	(460.4)	473.7	4,315.2	2,586.1	1,697.7	5,951.8	(1,174.6)	1,697.7	5,843.8	87.5	1,697.7
Taxes	-	-	606.6	341.0	440.9	2,501.7	515.4	355.2	1,242.8	692.9	149.9	1,605.3	621.2	668.4	2,360.4	669.1	896.4	1,486.4	667.6	789.9
Net cash income	-	405.2	2,258.9	366.1	430.8	1,489.0	(1,113.2)	15.5	2,326.3	(1,137.3)	(76.1)	2,709.9	964.9	1,029.3	3,563.4	(1,731.7)	1,101.3	2,357.4	(819.1)	907.8
Appropriations																				
Retained earnings and provision for dividends	-	150.0	400.0	100.0	100.0	500.0	+1,944.[illegible]	250.0	1,[illegible]	+1,297.[illegible]	173.1	900.0	200.0	200.0	600.0	+1,313.8	200.0	500.0	+700.0	-
Dividends	-	120.0	800.0	250.0	500.0	1,100.0	170.0	150.0	1,500.0	170.0	170.0	1,570.0	500.0	500.0	2,500.0	500.0	500.0	1,500.0	500.0	600.0
Sub-total	-	270.0	900.0	350.0	600.0	1,600.0	+1,115.[illegible]	400.0	3,000.0	+1,127.[illegible]	76.1	2,470.0	700.0	700.0	3,100.0	813.8	700.0	2,000.0	+200.0	600.0
Annual cash surplus (deficit)		135.2	1,358.9	16.1	30.8	89.0	-	15.5	83.3	-	-	239.9	264.9	329.3	463.4	(920.8)	401.3	357.4	(419.1)	307.8
Cumulative cash surplus (deficit) to be reported on balance sheet	-	135.2	1,494.1	1,510.2	1,681.0	1,770.0	1,770.0	1,785.5	1,868.8	1,868.8	1,868.8	2,108.5	2,373.4	2,702.7	3,166.1	2,246.9	2,647.2	3,004.6	2,775.5	3,167.3

1/ Assumptions - 80% capacity, 2% miscellaneous incidences + costs.

June 17, 1976

KENYA

DAIRY DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 24, 1976

Forage Model - Hypothesis 1

Profit and loss statement
(Ksh'000)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Income																				
Intermediate herd value	1,649	-	1,329.0	47.0	47.6	-	1,625.6	5.6	-	1,636.7	-	-	-	-	-	1,636.7	-	-	1,636.7	-
Sales	-	7,536.1	11,020.0	7,979.0	8,201.6	12,334.0	8,234.0	8,250.1	12,407.6	8,268.1	8,268.1	12,432.2	8,268.1	8,268.1	12,432.2	8,268.1	8,268.1	12,432.2	8,268.1	8,268.1
Miscellaneous	-	10.0	12.0	10.4	10.0	134.4	10.4	22.0	-	10.4	146.0	-	22.4	10.0	-	447.3	10.0	12.0	30.4	10.0
Total	1,649	7,546.1	12,349.0	8,037.2	8,251.0	12,469.2	9,870.0	8,277.7	12,407.6	9,915.2	8,414.1	12,432.2	8,290.5	8,278.1	12,432.2	10,372.1	8,278.1	12,444.2	9,935.2	8,278.1
Expenditure																				
Operating costs	2,708.0	6,196.8	7,816.1	6,378.9	6,461.7	6,478.3	8,102.9	6,489.3	6,489.3	8,117.0	6,500.6	8,137.0	6,500.6	6,500.6	6,500.6	8,137.0	6,500.6	6,500.6	8,137.0	6,500.6
Interest on borrowed funds	291.0	277.7	335.8	293.8	251.8	209.8	167.9	125.9	83.9	41.9	-	-	-	-	-	-	-	-	-	-
Depreciation	439.3	439.3	439.0	439.3	439.3	439.0	439.3	439.3	439.6	439.3	439.3	439.6	439.3	439.3	439.0	439.3	439.3	439.6	439.3	439.3
Income taxes	-	-	885.6	341.0	480.9	2,301.2	515.6	555.5	2,285.0	606.8	549.8	1,099.2	671.7	654.4	2,368.4	559.1	396.6	3,864.6	665.6	704.9
Total expenditures	3,438.3	6,913.8	9,195.1	7,453.0	7,633.7	9,428.4	9,225.8	7,610.0	9,297.7	9,205.0	7,587.5	10,161.8	7,310.9	7,594.3	9,308.4	9,135.4	7,336.1	10,474.5	9,242.0	7,645.5
Net profit (loss)	(1,789.3)	632.3	3,154.7	584.2	617.3	1,039.8	643.2	667.7	3,110.1	630.2	826.6	2,270.4	979.6	683.8	3,123.8	936.7	941.8	2,017.8	693.2	632.5
Appropriations																				
Unrealized profits	1,649	-	1,329.0	47.0	41.0	-	1,625.6	5.6	-	1,636.7	-	-	-	-	-	1,636.7	-	-	1,636.7	-
Retained earnings	-	150.0	450.0	140.0	100.0	500.0	+1,233.3	250.0	1,500.0	+1,253.3	+196.1	900.0	300.0	300.0	600.0	+1,313.5	200.0	500.0	+900.0	-
Dividends	-	120.0	500.0	250.0	300.0	1,100.0	120.0	150.0	1,500.0	120.0	120.0	1,300.0	500.0	500.0	2,500.0	500.0	500.0	1,500.0	500.0	600.0
Sub-total	1,649.0	270.0	2,279.0	437.0	441.6	1,600.0	317.4	405.6	3,000.0	499.3	76.1	2,230.6	700.0	700.0	3,100.0	823.3	700.0	2,000.0	1,636.7	33.3
Annual profit (loss)	(2,438.3)	362.3	1,365.7	187.2	177.7	1,439.8	111.1	262.1	110.1	130.7	1,020.7	39.6	49.6	-	23.8	113.3	92.0	17.8	(243.6)	33.3
Cumulative profit (loss) to be reported on balance sheet	(2,438.3)	(2,176.0)	(1,030.3)	(1,443.1)	(1,265.4)	174.4	285.5	548.0	658.1	808.8	1,829.5	1,869.1	1,919.2	1,919.2	1,943.0	2,056.3	2,148.3	2,166.1	1,922.5	1,955.8

June 21, 1976

[illegible]

[illegible] DEVELOPMENT PROJECT - CREDIT 477-KE

Service Division - February 22 - March 26, 1976

Corporate Planning Model - Alternative 1
(Ksh '000)

BALANCE SHEET

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Liabilities and own Funds																				
Current liabilities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Long-term debt	4,197.2	3,730.8	3,264.4	2,798.0	2,331.6	1,865.2	1,398.8	932.4	466.0	-	-	-	-	-	-	-	-	-	-	-
Own Funds																				
Equity	1,798.0	1,798.0	1,798.0	1,798.0	1,798.0	1,798.0	1,798.0	1,798.0	1,798.0	[illegible]	1,798.0	1,798.0	1,798.0	1,798.0	1,798.0	1,798.0	1,798.0	1,798.0	1,798.0	1,798.0
Retained earnings	-	30.0	630.0	530.0	630.0	1,130.0	16.8	26.8	1,576.8	464.6	313.5	313.5	313.5	313.5	313.5	-	-	200.0	-	-
Provision for dividends	-	120.0	120.0	120.0	120.0	120.0	-	240.0	240.0	120.0	-	-	200.0	400.0	500.0	-	200.0	500.0	-	-
Unrealized profits	1,449.0	-	1,529.0	1,536.0	1,617.4	-	1,623.6	1,623.2	-	1,636.7	1,636.7	1,636.7	1,636.7	1,636.7	-	1,636.7	1,636.7	-	1,636.7	1,636.7
Sub-total	3,247.0	1,948.0	3,877.0	4,026.0	4,166.2	3,048.8	3,441.2	3,688.0	3,615.6	3,955.1	3,748.0	3,749.0	3,847.0	4,147.0	2,611.2	3,435.3	3,635.3	2,498.0	3,435.3	3,435.3
Accumulated profit (loss)	(3,438.3)	(3,176.0)	(1,630.3)	(1,443.6)	(1,265.2)	176.6	305.7	548.0	678.1	908.6	1,810.5	1,679.9	1,929.5	1,929.5	1,953.1	2,066.0	2,370.0	2,466.6	1,661.2	1,654.7
Total liabilities and own Funds	4,046.2	2,503.8	3,211.9	3,379.7	3,212.6	3,089.6	3,155.7	3,197.2	4,709.7	4,753.9	5,378.5	5,428.9	5,876.5	6,076.5	5,065.3	5,501.3	5,944.3	4,965.6	5,096.5	5,090.2
Assets																				
Current Assets																				
Cash (cumulative)	-	135.2	1,534.1	1,590.2	1,844.0	1,710.6	1,710.0	1,715.2	1,808.5	1,808.5	1,808.5	2,296.0	2,563.4	2,902.7	3,366.1	8,443.9	2,842.2	3,184.6	2,374.5	3,067.9
Savings account		150.0	550.0	850.0	750.0	1,250.0	16.8	266.8	2,744.8	509.6	313.5	313.5	513.5	713.5	1,313.5	-	200.0	700.0	-	-
Cattle on hand	1,449.0	-	1,529.0	1,576.0	1,697.4	-	1,625.6	1,631.2	-	1,636.7	1,636.7	1,636.7	1,636.7	1,636.7	-	1,636.7	1,636.7	-	1,636.7	1,636.7
Sub-total	1,449.0	285.2	3,613.1	3,816.2	4,090.6	2,960.6	3,352.4	3,613.2	4,553.3	3,954.8	3,758.7	4,246.2	4,713.6	5,252.9	4,679.6	9,082.6	4,681.9	3,884.6	4,411.2	4,884.6
Property and Equipment																				
Fixed assets	1,283.0	1,218.3	1,154.0	1,089.5	1,025.0	960.5	896.0	831.5	767.0	702.5	638.0	573.5	509.0	444.5	380.0	360.5	276.0	211.5	147.0	82.5
Depreciation	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5
	1,218.5	1,153.8	1,089.5	1,025.0	960.5	896.0	831.5	767.0	702.5	638.0	573.5	509.0	444.5	380.0	315.5	276.0	211.5	147.0	82.5	18.0
Vehicles and equipment	1,734.0	1,499.2	1,184.4	913.3	638.5	1,607.7	1,336.6	1,181.8	807.0	539.9	1,031.2	1,344.3	1,095.3	820.4	445.4	1,310.5	1,343.7	988.9	717.8	443.8
Depreciation	374.8	374.8	375.1	374.8	374.8	375.1	374.8	374.8	375.1	374.8	374.8	375.1	374.8	374.8	375.1	374.8	374.8	375.1	374.8	374.8
	1,359.2	1,084.4	809.3	538.5	263.7	1,232.6	961.8	807.0	431.9	165.1	1,246.5	871.2	720.5	445.5	70.5	1,143.7	968.9	613.8	343.0	68.2
Sub-total	2,577.7	2,238.6	1,898.8	1,563.5	1,225.2	2,128.6	1,793.3	1,574.8	1,136.6	777.1	1,819.8	1,380.2	1,165.2	925.9	386.0	1,512.2	1,080.4	588.8	425.5	86.2
Total assets	4,026.7	3,503.8	3,211.9	3,379.7	3,212.6	3,089.6	3,155.7	3,197.2	4,709.7	4,753.9	5,378.5	5,626.9	5,878.5	6,078.5	5,065.6	5,501.3	5,944.3	4,465.4	4,836.7	4,890.2

June 10, 1976

[illegible]

[illegible] LIVELIHOOD DEVELOPMENT PROJECT - CREDIT - [illegible]

Review Session - February [illegible] - March [illegible], 197[illegible]

Feasibility - Farmer Model

Cash Flow - Hypothesis II
(Feb [illegible])

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Sources of Funds																				
Sales: 70% FAQ - F	-	5,304.7	8,265.5	5,[illegible]	5,[illegible]	[illegible],767.4	[illegible]	5,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10% FAQ - R	-	695.0	1,068.6	754.[illegible]	754.0	1,[illegible]	[illegible]	761.[illegible]	1,045.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	754.5	754.5	1,[illegible]	754.5	754.5
20% standard R	-	1,157.8	1,758.4	1,207.8	1,[illegible]	1,[illegible]	1,[illegible]	1,349.5	1,[illegible]	1,[illegible]	1,[illegible]	1,[illegible]	1,[illegible]	1,[illegible]	1,[illegible]	1,[illegible]	1,[illegible]	1,[illegible]	1,[illegible]	1,[illegible]
Total sales	-	7,[illegible]	11,095.5	7,[illegible]	7,[illegible]	11,[illegible]	7,[illegible]	7,[illegible]	[illegible]	7,[illegible]	7,[illegible]	11,[illegible]	7,[illegible]	7,[illegible]	11,[illegible]	7,[illegible]	7,[illegible]	11,[illegible]	7,[illegible]	7,[illegible]
Owners' contribution	1,798.0																			
Long-term loans	4,197.2																			
SUPPOSE - I Total Sources of Funds	8,996.0	7,[illegible]	11,095.5	7,[illegible]	7,[illegible]	11,[illegible]	7,[illegible]	7,[illegible]	11,[illegible]	7,[illegible]	7,[illegible]	11,[illegible]	7,[illegible]	7,[illegible]	11,[illegible]	7,[illegible]	7,[illegible]	11,[illegible]	7,[illegible]	7,[illegible]
Uses of Funds																				
Investment and operating costs	5,705.0	6,206.8	7,[illegible]	6,472.5	[illegible]	7,[illegible]	[illegible]	[illegible]	6,409.5	[illegible]	7,[illegible]	[illegible]	[illegible]	6,[illegible]	6,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Financial charges	291.0	844.1	[illegible]	7[illegible]	7[illegible]	[illegible]	[illegible]	[illegible]	569.4	507.9	-	-	-	-	-	-	-	-	-	-
Total uses of Funds	8,996.0	7,150.9	8,7[illegible]	7,[illegible]	7,[illegible]	9,[illegible]	[illegible]	7,[illegible]	6,[illegible]	[illegible]	7,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SUPPOSE - I Annual surplus (deficit) before taxes and appropriations	-	54.5	2,904.5	747.1	857.4	5,430.1	(975.1)	595.[illegible]	4,[illegible]	(950.0)	94.1	3,[illegible]	1,[illegible]	1,[illegible]	3,487.3	(1,884.8)	1,[illegible]	4,476.9	(502.1)	1,[illegible]
Taxes	-	-	591.4	234.0	331.[illegible]	1,877.5	96.5	94.7	2,[illegible]	555.0	39.0	1,[illegible]	4[illegible]	506.6	2,190.6	407.3	444.6	2,[illegible]	306.0	305.0
Net cash income	-	54.5	1,313.1	513.1	[illegible]	3,531.6	(1,[illegible])	[illegible]	[illegible]	(1,[illegible])	(93.9)	[illegible]	92[illegible]	811.3	1,293.7	(1,[illegible])	873.3	3,367.7	(830.5)	700.1

July 8, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT [illegible]

Review Mission - February [illegible] - March 26, 1976

Smallholder - Forage Model

Cash Flow - Hypothesis III
(Ksh '000)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Sources of Funds																				
Sales		7,536.1	11,628.8	7,979.8	8,201.6	12,336.8	8,234.8	8,250.3	12,607.8	8,288.1	8,288.1	12,632.2	8,288.1	8,288.1	12,632.2	8,288.1	8,288.1	12,632.2	8,288.1	8,288.1
Owners' contribution: I + O.C.	1,811.7																			
Interest	114.1																			
Sub-total	1,925.8																			
Long-term loan: Investment + O. C	4,227.3																			
Interest	266.4																			
Sub-total	4,493.7																			
Total sources of funds	6,419.5	7,536.1	11,628.8	7,979.8	8,201.6	12,336.8	8,234.8	8,250.3	12,607.8	8,288.1	8,288.1	12,632.2	8,288.1	8,288.1	12,632.2	8,288.1	8,288.1	12,632.2	8,288.1	8,288.1
Uses of Funds																				
Investment	2,997.0	90.0	108.0	93.6	90.0	1,209.6	93.6	198.0	-	93.6	1,314.0	-	201.6	90.0	-	1,325.7	90.0	108.0	93.6	90.0
Working capital: steer purchase	1,783.0	3,720.5	5,655.2	3,880.6	3,991.0	4,002.0	4,003.0	4,013.0	4,209.6	4,044.4	4,029.6	4,044.4	4,029.6	4,029.6	4,029.6	4,044.4	4,029.6	4,029.6	4,044.4	4,029.6
variable costs	989.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0	2,891.0
Sub-total	2,772.0	6,611.5	8,546.2	6,771.6	6,882.0	6,893.0	6,894.0	6,904.0	6,920.6	6,935.4	6,920.6	6,935.4	6,920.6	6,920.6	6,920.6	6,935.4	6,920.6	6,920.6	6,935.4	6,920.6
Total investment and working capital	5,769.0	6,701.5	8,654.2	6,865.6	6,972.0	8,102.6	6,987.6	7,102.0	6,920.6	7,029.0	8,236.6	6,935.4	7,122.2	7,010.6	6,920.6	10,261.1	7,010.6	7,020.6	7,029.0	7,010.6
Overheads	270.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0	336.0
Total investment and operating costs	6,039.0	7,037.5	8,990.2	7,200.6	7,308.0	8,438.6	7,323.6	7,438.0	7,256.6	7,365.0	8,572.6	7,271.4	7,458.2	7,346.6	7,256.6	10,597.1	7,346.6	7,356.6	7,365.0	7,346.6
Financial charges: interest	380.5	406.4	406.4	406.4	346.7	317.0	303.3	269.6	236.0	202.3	168.6	134.9	101.2	67.5	33.8	-	-	-	-	-
principal	-	-	-	374.4	374.4	374.4	374.4	374.4	374.4	374.4	374.4	374.4	374.4	374.4	575.3	-	-	-	-	-
Sub-total	380.5	406.4	406.4	778.8	721.1	711.4	677.7	644.0	610.4	576.7	543.0	509.3	475.6	441.9	609.1	-	-	-	-	-
Total uses of funds	6,419.5	7,443.9	9,396.6	7,979.4	8,029.1	9,150.0	10,001.3	8,082.0	7,867.0	7,941.7	9,333.6	7,780.7	7,933.8	7,788.5	7,865.7	10,597.1	7,346.6	7,356.6	7,365.0	7,346.6
Annual surplus (deficit) before taxes	-	74.2	2,236.2	.4	172.5	3,186.8	(1,766.5)	172.3	4,540.8	(1,653.6)	(1[illegible])	2,851.5	354.3	499.6	4,776.5	(2,309.0)	941.5	5,067.6	(1,076.9)	941.5
Taxes ⊕	-	-	1,493.3	44.4	146.3	1,750.6	160.9	197.7	1,917.6	320.2	179.9	1,101.5	278.2	328.9	2,052.4	256.6	293.6	1,983.9	365.1	402.6
Debts from previous year	-	-	-	-	-	-	-	-	-	-	-	546.0	-	-	-	-	-	-		
Net cash income	-	74.2	740.9	(44.0)	26.4)	1,436.2	(1,927.4)	(25.4)	2,623.2	(1,973.8)	(1,005.4)	1,104.5	76.1	170.7	2,724.1	(2,565.6)	647.9	3,083.7	(1,442.0)	539.1

July 2, 1976

[illegible]

[illegible] LIVESTOCK DEVELOPMENT PROJECT - CREDIT 571-SE

Review Mission - February [illegible] - March [illegible], 197[illegible]

[illegible] - Reference Model

Cash Flow
(Rsh '000)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Sources of Funds																				
Sales	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Owners' contribution: I + O.C.	1,782.5																			
Interest	112.9																			
Sub-total	1,895.2																			
Long-term loans: interest	1,[illegible]																			
working capital	2,726.7																			
overheads	167.3																			
Sub-total	4,[illegible]																			
Interest	353.5																			
Sub-total long-term loans	4,443.5																			
Total sources of funds	6,[illegible]	[illegible]	[illegible]	[illegible]	9,770.2	[illegible]	[illegible]	[illegible]	[illegible]	4,940.7	[illegible]	[illegible]	[illegible]	9,901.4	9,901.4	9,901.4	9,901.4	9,901.4	9,901.4	[illegible]
Uses of Funds																				
Investment	1,840.0	-	-	[illegible]	-	[illegible]	[illegible]	-	-	[illegible]	[illegible]	-	[illegible]	-	-	[illegible]	-	-	[illegible]	[illegible]
Working capital: stores	1,727.3	3,848.0	3,645.3	3,757.2	3,855.9	[illegible]	[illegible]	1,944.4	[illegible]	3,901.9	3,901.9	3,901.9	3,901.9	3,901.9	3,901.9	3,901.9	3,901.9	3,901.9	3,901.9	3,901.9
variable costs	2,168.0	4,256.7	4,256.7	4,256.7	4,256.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sub-total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Investment and working capital	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Overheads	259.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0
Investment and operating costs	5,974.3	8,056.7	8,148.0	8,269.5	8,352.6	8,097.9	8,375.9	6,441.1	[illegible]	8,462.2	8,966.6	8,388.6	8,462.2	8,388.6	8,388.6	8,968.3	8,388.6	8,388.6	8,462.2	8,388.6
Financial charges: interest	376.4	400.0	400.0	400.0	346.8	333.4	300.0	[illegible]	233.3	200.0	[illegible]	133.3	99.9	66.3	33.3	-	-	-	-	-
principal	-	-	-	370.5	370.5	370.5	370.5	370.5	370.5	370.5	370.5	370.5	370.5	370.5	370.5	-	-	-	-	-
Sub-total	376.4	400.0	400.0	770.5	717.3	703.9	670.5	[illegible]	603.8	570.5	537.2	503.8	470.4	436.8	403.3	-	-	-	-	-
Total uses of funds	6,350.7	8,456.7	8,548.0	9,040.0	9,069.9	8,801.8	9,046.4	7,087.3	7,781.7	7,972.7	8,595.[illegible]	8,392.4	8,932.6	8,825.4	8,791.9	8,968.3	8,388.6	8,388.6	8,462.2	8,388.6
Annual cash surplus (deficit) before taxes	-	848.1	700.9	[illegible]	[illegible]	[illegible]	709.5	2,7[illegible]	2,[illegible]	(4,052.0)	397.6	979.0	1,[illegible]	1,046.0	1,079.0	931.1	1,[illegible]	1,402.0	1,379.0	1,480.0

July 2, 1976

[illegible]

[illegible]

[illegible]

[illegible]

Cash Flow
(Rs. '000)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Sources of Funds																				
Sales	-	10,238.6	5,266.3	10,841.3	11,169.6	11,177.0	[illegible]	11,[illegible]	11,[illegible]	[illegible]	11,[illegible]	11,[illegible]	11,[illegible]	[illegible]	11,260.2	11,260.2	5,630.1	11,260.2	11,260.2	11,260.2
Owners' contribution: I + O.C.	1,986.3																			
Interest	126.1																			
Sub-total	2,112.4																			
Long-term loan: Investment	2,451.8																			
working capital	2,034.2																			
deficit financing	107.3																			
Sub-total	4,632.3																			
Interest	241.8																			
Sub-total	4,386.3																			
Total sources of funds	7,836.7	10,238.6	5,266.3	10,841.3	11,169.6	11,177.0	[illegible]	11,[illegible]	11,[illegible]	5,630.1	11,260.2	11,[illegible]	11,260.2	5,630.1	11,260.2	11,260.2	5,630.1	11,260.2	11,260.2	11,260.2
Uses of Funds																				
Investment	2,350.0	-	104.5	3.6	-	710.1	3.6	104.5	-	3.6	724.5	-	104.1	-	-	736.2	-	104.5	3.6	-
Working capital: stock purchase	1,868.8	4,036.0	2,077.3	4,202.8	4,396.0	2,[illegible]	4,417.5	4,417.5	4,[illegible]	[illegible]	4,447.5	4,447.5	2,223.8	4,447.5	4,447.5	4,447.5	2,223.8	4,447.5	4,777.8	2,223.8
operating costs	2,080.0	3,560.5	3,560.5	3,560.5	3,560.5	3,560.5	3,560.5	3,560.5	[illegible]	3,560.5	3,560.5	3,560.5	3,560.5	3,560.5	3,560.5	3,560.5	3,560.5	3,560.5	3,560.5	3,560.5
Sub-total	4,048.8	7,596.5	5,638.0	7,763.0	7,956.5	5,704.5	7,978.0	7,993.0	7,[illegible]	[illegible]	7,[illegible]	[illegible]	5,784.5	7,008.0	8,008.0	8,008.0	[illegible]	8,008.0	8,338.0	5,784.5
Investment and working capital	6,398.8	7,596.5	5,742.5	7,766.6	7,956.5	6,414.6	7,982.1	[illegible]	7,[illegible]	5,787.9	7,732.5	[illegible]	5,972.4	7,008.0	8,008.0	8,744.2	5,784.5	8,112.2	8,341.6	5,784.5
Overheads	250.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0
Investment and operating costs	6,617.8	7,836.5	6,042.5	8,006.6	8,196.5	6,719.4	8,222.1	8,411.5	8,135.5	6,027.9	7,972.5	8,24[illegible]	6,212.4	7,248.0	8,248.0	8,984.2	6,024.5	8,432.5	8,581.6	6,024.5
Financial charges: interest	416.9	443.2	443.2	443.2	579.9	516.[illegible]	555.2	[illegible]	[illegible]	[illegible]	-	-	-	-	-	-	-	-	-	-
principal	-	-	-	705.5	705.5	705.5	705.5	705.5	705.5	705.5	-	-	-	-	-	-	-	-	-	-
Sub-total	416.9	443.2	443.2	1,146.7	1,285.4	1,[illegible]	956.7	[illegible]	90.1	[illegible]	-	-	-	-	-	-	-	-	-	-
Total uses of funds	7,034.7	8,279.7	6,485.7	9,153.3	9,481.9	7,739.5	9,17[illegible]	9,[illegible]	[illegible]	[illegible]	7,9[illegible]	[illegible]	[illegible]	7,248.0	[illegible]	[illegible]	6,024.5	8,432.5	8,581.6	6,024.5
Annual cash surplus (deficit) before taxes	-	1,959.9	(1,219.4)	1,[illegible]	1,[illegible]	3,456.5	[illegible]	1,[illegible]	2,[illegible]	(1,1[illegible])	3,[illegible]	1,01[illegible]	3,047.[illegible]	(1,017.9)	3,012.2	2,[illegible]	(394.2)	2,827.7	2,678.6	5,235.9

July 2, 1976

KENYA

Livestock Development Project

Review Mission 22 February to 26 March 1976

NORTH EAST RANGE DEVELOPMENT

A. Record of Escalation of Costs between 1970 and 1976

Blocks		Development under 129-ke 1970-1974: 1,2,3 1/	4 and 5 2/	Total	Actual Unit Cost K Sh (000)	Total to be developed Appraisal Estimate	477-ke 1975-1979: Completed June 1976	Review Mission Estimate to be Developed	Appraisal Unit Costs K Sh (000)	Review Unit Costs K Sh (000)
Total area to be developed (000 ha)		681				2,834	3/	5,676		
Area developed to date (000 ha)		681	243 2/	924			1,237			
Boreholes	No.	10	3	13	138	18	4/	48	124	330
Large Dams	No.	17	7	24		38	(14) 4/	45	110	260
Medium Dams	No.	-	-	-	91	-	(6)	24	-	60
Small Dam	No.	47	5	52		120	4/	160	15	30
Tracks	Km	1,305	770	2,545	0.3	1,700	(650)	4,186	.5	.5
Actual Total Cost	(K Sh 000)	7,778	3,166	10,944		12,762	23,080	59,715		
Actual Total Cost per hectare	(K Sh)	11/42	13/02	11/84			18/64	20/52		
Revised Estimated Cost per hectare	(K Sh)	5/00	5/00	5/00		-	-			
Appraisal Estimate of Cost per hectare	(K Sh)	1/50	1/50	1/50		4/50	-	4/50		
Estimated Total Operating Cost per annum at appraisal	(K Sh 000)	69	24	93		946	987 5/	4,496 6/		
Estimated Cost per hectare at appraisal and review	(K Sh)	0.10	0.10	0.10		0.33	0.46	0.68 (0.79 if only 477-ha area included)		
Comparison with producer price of 1 kg commercial grade beef by KMC	(K Sh)	2/40 (1970)		3/70 (1974)				4/30 (1976)		

B. Spacing of Water Points

		129-ha: Blocks 1,2,3	Total	477-ha: Proposed at Appraisal	Proposed at Review
Total area developed or planned to be developed	(000 ha)	681	924	2,834	2 834
Permanent Water Points					
Boreholes	No.	10	13	18	48
Large Dams	No.	17	24	38	45
Total Permanent Water	No.	27	37	56	93
Area served by one permanent water point	(000 ha)	25	25	51	55
Radius served	Km	9	9	13	13
Medium and Small Dams	No.	47	52	120	186
Average Area for water point (large and small)	(000 ha)	9	12	16	18
Average Radius served	Km	5	6	7	10

C. Estimated Stock Population Wajir, Mandera, Garissa Districts 1969

	Area ha (000)	Cattle Nos. (000)	Camels, Sheep, Goats, Stock Units (000)	Total Nos.	hectare per Stock Unit
Garissa	4,343	361	121	482	9
Wajir	5,597	132	91	243	23
	9,940	513	212	725	14
Mandera	2,615	81	105	186	14
	12,555	594	317	911	14

1/ Original No.	Ha ('000)	New Blocks	Area to be Developed 129/477-KE Ha ('000)	Area Developed 129-KE Ha ('000)	Area Developed by 477-KE to Date Ha ('000)
1	332	East Nado Gashe	332	332	-
2	125	West Nado Gashe	125	125	
3	224	Kalalute	224	224	
4		Ajao	442		442
	233	Bona	313	243	42
5	726	Girifta	419		
		Terbaj	307		307
6	803	West Dadaab	711		
7	424	Sabule	504		
		Benane	435		
8	518	East Dadaab	404		
		Ellein	371		
9	448	Hadado	401		
		Jira	348		
10	476		424		
11	596	Avaro	348		
15	570	Tohabe	570		
	5,675		6,800	924	1,238

1/ Bona and Girifta blocks only partially developed under 129-KE.
2/ According to USAID report 2-1 m ha could be ready by June 1976. If 0.9 in ha were developed under 129-KE this would leave 1.2 m ha for 477-KE or 242 of the 5.1 million.
3/ Estimated number of facilities to be built in first two years.
4/ Under USAID contract 37 production wells and four dry wells together with equipping 11 existing boreholes. The first drilling contract negotiated for 12 to 18 boreholes; 7 have been drilled so far, of which only 2 supply sufficient potable water.
5/ It assumes that the estimates cover the Government maintenance costs of both 129-KE and 477-KE; this should be confirmed. It does not include the fuel and oil for boreholes supposed to be supplied by pastoralist replacement costs of repair machinery.

August 30, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Northeast Province Grazing Block Development

Investment and Recurrent Costs
(Ksh '000)

	Unit Cost	Year 1	Year 2	Year 3	Year 4	Year 5	Total Cost	Foreign Exchange Component %	Foreign Exchange Component Amount
INVESTMENT									
Borehole construction	350.0	1,650.0 (5)	(7) 2,450.0	(10) 3,500.0	(10) 3,500.0	(10) 3,500.0 1/	(42) 14,600.0	50	7,300.0
Reservoir construction unit	6,500.0	6,500.0				(3,250.0)	3,250.0	90	2,925.0
Large reservoir construction	240.0	1,000.0 (4)	(10) 2,400.0	(11) 2,640.0	(12) 2,880.0	(12) 2,880.0	(49) 11,800.0	50	5,900.0
Medium reservoir construction	60.0		(6) 360.0	(6) 360.0	(6) 360.0	(6) 360.0	(24) 1,440.0	50	720.0
Small reservoir construction	30.0		(40) 1,320.0	(40) 1,320.0	(40) 1,320.0	(40) 1,320.0	(160) 5,280.0	50	2,640.0
Road construction unit	2,700.0	2,700.0				(902.0) 1/	1,753.0	90	1,620.0
Road construction (miles)	.8		(650) 520.0	(650) 520.0	(650) 520.0	(650) 520.0	(2,600) 2,080.0	50	1,040.0
Housing	100.0		(3) 300.0	(3) 300.0	(1) 100.0		(7) 700.0	40	280.0
Vehicles: 3/4 ton pick-up	70.0		(15) 1,050.0	(14) 980.0			(29) 2,030.0	90	1,827.0
7 ton pick-up	230.0		(5) 1,150.0	(5) 1,150.0			(10) 2,300.0	90	2,700.0
Caravans	60.0		(2) 120.0				(2) 120.0	90	108.0
Workshop wajir	350.0		(1) 350.0				(1) 350.0	90	315.0
Motor cycles	10.0		(10) 100.0	(5) 50.0			(15) 150.0	90	135.0
Sundry equipment			70.0	70.0	70.0	70.0	280.0	80	112.0
Reservoir & track maintenance equipment 2/	-		-	4,505.9	4,505.9	4,505.9	13,517.7	90	12,165.9
Office equipment	20.0		(1) 20.0	-			20.0	40	8.0
Total investment costs		11,850.0	10,210.0	15,305.9	13,255.9	9,003.9	59,715.7	61	39,795.9
RECURRENT COSTS									
Equipment and management specialist	210.0	-	(1) 210.0	(1) 210.0	(1) 210.0	(1) 210.0	840.0	75	630.0
Master mechanics	175.0	-	(2) 350.0	(2) 350.0	(2) 350.0	(2) 350.0	1,400.0	75	1,050.0
Master warehouseman	175.0	-	(1) 175.0	(1) 175.0	(1) 175.0	(1) 175.0	700.0	75	525.0
Assistant range officers	27.0	-	-	(1) 27.0	(2) 54.0	(4) 108.0	189.0		
Range assistants	7.5	-	-	(4) 30.0	(8) 60.0	(8) 60.0	150.0		
Technical Assistants	16.5	-	-	(10) 165.0	(10) 165.0	(10) 165.0	495.0		
Junior staff	7.0	-	(3) 21.0	(8) 56.0	(13) 91.0	(13) 91.0	259.0		
Vehicle maintenance & running costs		-		875.0	1,712.0	1,712.0	4,299.0	50	2,150.0
House maintenance	2½%	-		7.5	15.0	17.5	40.0	40	16.0
Road maintenance	5%	-	26.0	52.0	78.0	104.0	260.0	50	130.0
Reservoir maintenance	5%	-	-	420.0	648.0	776.0	1,844.0	50	922.0
Borehole maintenance	5%	-	205.0	380.0	555.0	730.0	1,870.0	50	935.0
Total recurrent costs			987.0	2,747.5	4,113.0	4,498.5	12,346.0	52	6,358.0
Total costs		11,850.0	11,197.0	18,143.0	17,368.9	13,502.4	72,061.7	64	46,153.9
Appraisal Estimate of Costs						Yr. 5-20	Total Yrs. 1 to 4		
Investment		6,377.0	2,883.0	2,694.0	808.0	110.0	12,762.0		
Recurrent		448.1	628.6	804.1	946.1	946.1	2,826.9		

1/ Represents trade-in value based on six years of life.
2/ Details Table 3.

August 30, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Northeast Province Grazing Block Development

Reservoir and Track Maintenance Equipment

Item	Description	Quantity	Unit Cost US$	Total Cost US$
1.	Pumps, trash	2	1,500	3,000
2.	Tractor, crawler, 180 hp with dozer	1	115,000	115,000
3.	Tractor, crawler, 180 hp	1	115,000	115,000
4.	Scraper towed, 12 yd. (Rome Rg 7h)	1	60,000	60,000
5.	Truck, dump 7 cu. yd.	1	35,000	35,000
6.	Truck, cargo, 32,000 GVW	3	30,000	90,000
7.	Truck, pickup, 3/4 ton 4 x 4	2	12,000	24,000
8.	Truck-tractor with 50 ton howbed	1	120,000	120,000
9.	Truck, carryall, 4 x 4	1	12,000	12,000
10.	Trailer, hube unit	1	20,000	20,000
11.	Trailer, fuel tank, 200 gal.	2	30,000	60,000
12.	Trailer, water tank, 2,000 gal.	2	30,000	60,000
13.	Trailer, shop	1	90,000	90,000
14.	Trailer, parts van	1	20,000	20,000
15.	Truck mechanics	1	50,000	50,000
16.	Truck, fuel, 1,500 gal.	1	40,000	40,000
17.	Truck, water, 1,500 gal.	1	40,000	40,000
18.	Welder, trailer, Mtd, 300 Amp	1	10,000	10,000
19.	Mics. tools	1 lot	35,000	35,000
20.	Motor grader, 145 hp	1	100,000	100,000
				1,099,000
	Spare parts			549,500
				1,648,500

6/10/76

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Isiolo Grazing Block Development
(Ksh '000)

	1	2	3	4	5	Total Costs	Foreign Exchange %	Foreign Exchange Amount
INVESTMENT								
Dam construction unit								
Access track unit		6,816.0	10,053.6			16,869.6	90	15,336.0
Borehole equipment			3,280.2			3,280.2	90	2,982.0
Drilling costs			2,642.8			2,642.8	90	2,402.6
Shallow well development			70.3			70.3	90	63.9
Equipment package for RMD			848.5	848.5		1,697.0	81	1,381.9
Miscellaneous equipment			796.4	796.4		1,592.8	88	1,412.2
Sub-total		6,816.0	17,691.8	1,644.9		26,152.7		23,578.6
Professional and technical services			2,272.0	2,272.0	2,272.0	6,816.0	100	6,816.0
Training and studies				255.6	255.6	511.2	75	383.4
Sub-total			2,272.0	2,527.6	2,527.6	7,327.2	98	7,199.4
Total investment costs		6,816.0	19,963.8	4,172.5	2,527.6	33,479.9	92	30,778.0
OPERATING COSTS								
Staff								
Range Management Division								
Senior range officer	(1)	48.8	(1) 48.8	(1) 48.8	(1) 48.8	195.2		
Range officer I	(1)	34.2	(1) 34.2	(1) 34.2	(1) 34.2	136.8		
Technical officer	(3)	80.9	(3) 80.9	(3) 80.9	(3) 80.9	323.6		
Technical assistants	(6)	51.3	(6) 51.3	(3) 51.3	(3) 51.3	205.2		
Clerical officer	(4)	26.	(4) 26.6	(4) 26.6	(4) 26.6	106.4		
Driver	(6)	42.4	(6) 42.4	(6) 42.4	(6) 42.4	169.6		
Subordinate staff	(1)	3.0	(1) 3.0	(1) 3.0	(1) 3.0	12.0		
Casual labor	(6)	10.8	(6) 10.8	(6) 10.8	(6) 10.8	43.2		
Sub-total		298.0	298.0	298.0	298.0	1,192.0		
Range Water Development								
Civil engineer	(1)	32.0	(1) 32.0	(1) 32.0	(1) 32.0	128.0		
Hydrogeologist	(1)	27.0	(1) 27.0	(1) 27.0	(1) 27.0	108.0		
Superintendent	(1)	27.0	(1) 27.0	(1) 27.0	(1) 27.0	108.0		
Senior inspector	(4)	66.0	(4) 66.0	(4) 66.0	(4) 66.0	264.0		
Inspector	(2)	32.0	(2) 32.0	(2) 32.0	(2) 32.0	128.0		
Survey assistant	(2)	42.0	(2) 42.0	(2) 42.0	(2) 42.0	168.0		
Draughtsman	(1)	21.0	(1) 21.0	(1) 21.0	(1) 21.0	84.0		
Secretary	(1)	12.0	(1) 12.0	(1) 12.0	(1) 12.0	48.0		
Medical assistants	(2)	24.0	(2) 24.0	(2) 24.0	(2) 24.0	96.0		
Clerk	(1)	7.0	(1) 7.0	(1) 7.0	(1) 7.0	28.0		
Storeman	(4)	28.0	(4) 28.0	(4) 28.0	(4) 28.0	112.0		
Plant operators	(13)	91.0	(13) 91.0	(13) 91.0	(13) 91.0	364.0		
Drivers	(21)	147.0	(21) 147.0	(21) 147.0	(21) 147.0	588.0		
Mechanic I	(1)	12.0	(1) 12.0	(1) 12.0	(1) 12.0	48.0		
Mechanics II and III	(5)	35.0	(5) 35.0	(5) 35.0	(5) 35.0	140.0		
Driller	(1)	12.0	(1) 12.0	(1) 12.0	(1) 12.0	48.0		
Mason	(1)	7.0	(1) 7.0	(1) 7.0	(1) 7.0	28.0		
Carpenter	(1)	7.0	(1) 7.0	(1) 7.0	(1) 7.0	28.0		
Pipefitter	(1)	7.0	(1) 7.0	(1) 7.0	(1) 7.0	28.0		
Subordinate staff	(36)	144.0	(36) 144.0	(36) 144.0	(36) 144.0	576.0		
Sub-total		780.0	780.0	780.0	780.0	3,120.0		
Total staff		1,078.0	1,078.0	1,078.0	1,078.0	4,312.0		
Vehicle operation and maintenance		140.0	140.0	140.0	140.0	560.0	50	280.0
Miscellaneous		40.0	40.0	40.0	40.0	160.0		
Sub-total		180.0	180.0	180.0	180.0	720.0		280.0
Total operating costs		1,258.0	1,258.0	1,258.0	1,258.0	5,032.2	6	280.0
Total Investment and Operating						38,512.2		
Appraisal Estimate					Yr. 5 to 20	Total First 4 Years Only		
Investment	4,441.8	1,191.8	1,348.8	(2,285.0)	89.5	4,697.4		
Recurrent Costs	319.5	372.3	511.9	521.0	651.0	1,724.7		
						6,422.1		

NOTE ON COSTS

Cost estimates are very rough. Investment costs provided by the Canadians (summarised Table 2), do not include transport to Project site. 10% has therefore been added for transport.

Recurrent costs seem underestimated in documents provided figures were by Canadians to Financial Analyst on the mission, e.g. no information on house allowances, and other social benefits.

August 30, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Isiolo Range Water Development Project - Revised
Canadian Estimate of Canadian Contribution

COSTS

LOAN FUNDS

As estimated in IBRD appraisal document 193a-KE, 1974

Local	$460,000
Foreign	$460,000
Total	$920,000 (U.S.)

As estimated by CIDA in	1974	1976
Dam construction and access track equipment	$1,004,000	$1,800,000
Borehole equipment	280,000	350,000
Contribution to drilling costs	225,000	282,000
Shallow well development	6,000	7,500
Local operating and service costs	100,000	125,000
Equipment package, Range Management Division	85,000	107,000
	$ 1,800,000	$2,671,500

GRANT FUNDS	1974	1976
As estimated by CIDA in		
Cost of Canadian project personnel	$ 730,000	$ 800,000
Project equipment for Canadian team	90,000	135,000
Training	30,000	30,000
Miscellaneous	30,000	30,000
TOTAL	$ 880,000	$ 995,000

Total Project Funding (Cdn. $)	$ 2,680,000	$3,666,500

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

The Role of the Livestock Marketing Division

1. The Livestock Marketing Division is responsible for providing market outlets for livestock in those areas where the private sector is either limited in its activities or is unable to comply with disease quarantine requirements. For the most part these areas are in the rangelands where sale of livestock is the sole form of income.

2. In addition to its own direct participation in marketing the Division also offers facilities for quarantine and movement to the private sector.

3. The marketing program is directed largely towards the offtake of immature male animals from the northern Districts of the country for supply to ranchers and other secondary producers in the higher potential areas of the southern half of the country. Slaughter stock are also purchased and disposed of to the Kenya Meat Commission.

4. The expansion of activities proposed under the Livestock Development Project for the southern Districts relates almost exclusively to the procurement of slaughter stock, while expansion in the north is largely be based on immature purchase.

5. Animals from the northern areas are a disease risk to the central and southern areas were they to be moved without exacting quarantine procedures, and conforming with these procedures is one of the Division's most important functions in the marketing operation. It is one which would not lightly be undertaken by the private sector because of the long periods of time frequently

involved with the livestock confined to low production range conditions for an indefinite period of time.

6. There is thus a high risk element in this part of the marketing program and one that only a Government organization can be expected to accept.

7. The Division's overall role may be summarized as follows:

(a) The purchase of livestock in pastoral areas, thereby contributing to national income distribution and to control of livestock numbers is a very sensitive environment.

(b) The supply of quarantined feeder animals, to secondary producers.

(c) The supply of slaughter stock to the Kenya Meat Commission.

(d) The provision and operation of stock routes, and quarantine stations, holding grounds and livestock transporters for use both by the Division and the private sector in furtherance of national marketing objectives.

Project Objectives

6. The Project objective is to increase the number and effectiveness of LMD's markets, holding grounds, stock routes and transportation facilities so that LMD can fulfill its role in the livestock sector. Marketing facilities for about 300,000 head of cattle per annum are being established. LMDs own capacity is being increased from 50,000 head per annum to 148,000 by the seventh year of the project.

Cost Escalation

7. Over the investment period (1974/75- to 1978/79) capital costs have escalated from KSh.19.7 million to KSh.37.6 million an increase of 91%. Recurrent costs have increased from KSh.5.2million to KSh. 31.4 million though the latter figure includes several categories which were excluded

in the Project appraisal document and now also includes the full cost of operating Markets and transport development for 5 years instead of one (KSh. 4.7 million p.a. (Table 8). UK aid is committed to supplying £1.388 million Sterling which /at the March 1974 exchange rate is Ksh.1.11 million. Part performance of the Division is given in Tables 1 to 5 and revised cost estimates in Tables 6 and 7. Appendix 1 describes the revision of project date.

Numbers of Cattle Handled by LMD

8. In the IBRD appraisal report, 183,000 head of cattle were forecast as passing through the marketing system in the first year of the Project, 54,000 from the North East and 129,000 from the South. In 1974/75, effectively the first year of the Project, probably around 90,000 head of cattle used the marketing system, 70.000 from the north east and 20,000 from the south. However, although LMD purchased about 60,000 head of cattle in the north east they sold less than 20,000 head. Although 1975/76 is now effectively the first year of the project, the overall level of marketing activity is considerably less than forecast. In the previous year there had been severe decline in the marketing activities of LMD. Just over 23,000 head of cattle were purchased, 57% less than 1972/73, and just under 14,000 head sold, 76% less than in 1972/73 (Table 1).

9. This reduction in both sales and purchase activity by LMD since the middle of 1973 would appear to be caused by a lack of demand. Since the end of 1972/73 cattle on hand have increased from 12,089 to 50,012, a level three times the average of the previous seven years. The price at which LMD is prepared to sell its cattle must of course have an effect on the level of demand. However, at an auction of 4,000 head early in 1976 only about half of the cattle were sold because the four or five buyers present quite clearly did not physically require any further cattle even at a substantially reduced price. One general reason given is the uncertainty in the industry and the poor KMC prices.

10. A particularly severe dry season during 1975 on the group, company, and commercial ranches has resulted in some fall-off of demand as they have been

unable to finish their cattle for slaughter and they have not purchased further cattle. Delays in issuing land title certificates and organizing new ranches at the coast have meant that LMD have not been able to sell to this market as forecast.

Past Financial Performance

11. During the 1970s LMD has consistently made a substantial financial loss. In 1973/74 and 1974/75 it made a loss purely on its cattle trading activities. This is illustrated in Table 2 which provides financial data on LMD's operations during the last seven years. This table excludes depreciation and either interest charges or return on capital to show the cash implication of LMD's cattle operation. Apart from 1974/75 when head office staff were absorbed into the Ministry of Agriculture's personnel vote all of LMD's non-project staff are included, although some perform an extension function and are unrelated to LMD's direct marketing activity.

12. Table 5 relates LMD's loss to the cattle sold. Over the last seven years LMD's loss has never been less than KSh.60 per head and in one year was as much as KSh. 360 per head. Over the period as a whole the average loss per head was KSh.128. The very poor performance in 1970/71 was principally caused by a high mortality and large expenditures on transporting cattle out of drought areas. The even worse performance in 1973/74 and the poor performance in 1974/75 were due to the relative small numbers of cattle sold.

13. These tables understate LMD's operating costs as development staff employed on the first phase of the project, yet retained for operation, are not included in LMD's recurrent costs. However, they do include the costs of operating the stock routes and employing staff with an extension function which provide a service to the industry as a whole. From 1974/75 the salaries of head office staff are not included. LMD's profit and loss account also understates LMD's loss as depreciation is based on an incomplete list of current assets and no allowance is made for interest charges on working capital.

On the whole, LMD has controlled its operating costs adequately although staff numbers may be in excess of that warranted by throughput in 1975/76. Its losses have been mainly due to:

(a) Paying too high a price for the animals in an attempt to help the pastoral people.

(b) As a result of (a) asking too high a p rice from producers thus depressing demand.

(c) High average mortality.

(d) Paying insufficient attention to forward marketing prospects, thus, finding itself having large numbers of animals unsold incurring increased operating costs and greater risk of mortality.

(e) Possibly insufficient appreciation of the high cost of the animal health and quarantine costs which are part of the Government's attempt to protect disease entering the high potential areas.

Prices

14. Since 1971/72 there has been a substantial increase in the purchase price paid by LMD for their cattle. There was a 35% increase in 1972/73, a further 34% in 1973/74 and 4% in 1974/75, overall an 88% increase. The sale price increased by 18% in 1972/73, 42% in 1973/74 and fell back by 4% in 1974/75, an overall increase of 59% In two years, 1972/73 and 1974/75 the average sale price received by LMD was actually less than that paid by LMD. Thus over 1972/73 to 1974/75 LMD bought at an average price of KSh.376 and sold at an average price of KSh.396 (Table 3).

15. Without taking into account mortality and operating costs it would seem from the prices paid for the animals that LMD was paying at source a higher price than their intrinsic value on meat, certainly between 1972 and 1974. Liveweights of animals purchased are not available and while some animals off the stock route may fetch standard grade at KMC many grade as commercial and

certainly the liveweight value of immatures, the majority of stock purchased, would be commercial grade if sent to KMC. It could be argued that immatures should fetch slightly higher prices but the financial state of the industry recently has been such that ranches have been reluctant to pay high prices and are anxious to keep as much of the grade improvement as possible for themselves. The following table illustrates the commercial grade value of steers weighing 210 to 260 kg liveweight. North East immatures weigh between 200 and 240 kg (the average at the recent Longopito sale was 209 kg) while the average weight of a commercial grade animal going to KMC is 240 kg.

	(KSh.)						
	1969	1970	1971	1972	1973	1974	1975
Price/kg CDW	2/40	2/40	2/60	2/80	3/19	3/70	4/25
Price/kg LW	1/08	1/08	1/17	1/26	1/43	1/66	1/91
If 260 kg LW	280/-	280/-	304/-	327/-	371/-	431/-	496/-
240 kg LW	259	259	280	302/-	343/-	3/98	458
210 kg LW	227	227	246	264/-	300/-	348/-	401/-
Actual average paid by LMD (Table 1)	210/-	217/-	252/-	340/-	456/-	475/-	425/-
Price sold	290/-	246/-	271/-	330/-	468/-	447/-	478/-

16. The position has improved somewhat in the current year, 1975/76. During the first six months a sales price of KSh.478 was achieved as against a purchase price of KSh.426. Yet even so, with an 11% mortality LMD are only just covering their purchase price.

17. It was noted that LMD has been paying substantially higher prices to traders than the traders themselves were paying to individuals and some mark ups of 100% were quoted. While this might be due to high traders margins it also reflects the over pricing by LMD and the traders appreciation of their own operating costs, costs of money, losses and sometimes the length of time they have to hold cattle before they can eell them.

Mortality

18. Animal mortality has varied from .5 to 27% (average 11%); in 4 years out of 7, it has been 5% or less/ Table 4. The high mortality years reflect the early problems with the stock routes and periods when cattle had to be held for a long time. However, there are indications that mortality is often higher than that which traders would sustain and this suggests that some cattle are being bought in extremely poor condition. That this mortality is not due to the grazing available to LMD and the range management performance is borne out by the privately owned herded cattle suffering a very much lower mortality rate. For example in a recent analysis of cattle moving on the same stock route privately owned cattle suffered a mortality rate of the order of 1% at a time when LMD's mortality was about 8%.

Market Forecasting

19. On several occasions in the past LMD has had large numbers of cattle on hand unsold; presently it has 50,000 head. Part of the problem is quarantining which sometimes delays cattle movement so missing the time when ranches or KMC are prepared to take the cattle. Uncertain weather is also responsible since cattle have to be available for purchase before it is known whether ranches have had good rains and consequently can take cattle. Recently, cost inflation not matched by producer price increases has often altered ranchers investment intentions and at the same time made LMD more anxious to obtain better prices to lower its own increasing margins. The present situation, however, in large measure due to inadequate forecasting of new ranch cattle needs and the slow pace of development at the coast.

Quarantines

20. While cattle theoretically should be held up for only 3 months LMD and traders are often forced to hold them longer. Government believes that stringent quarantine regulations are required to protect high potential area livestock development (from Pleuropneumonia and Foot-and-Mouth) and safeguard export markets. There is thus a case for maintaining that the pastoral people should not have to meet all the quarantine costs.

LMD's Future Prospects

21. LMD is currently losing on average about KSh. 5.0 million annually without taking depreciation capital charges and some hidden costs into account (Table 2). Government has to date accepted this loss as part of its efforts to increase the income of pastoral people. Since 1971 annual purchases have averaged about KSh.17.5 m. (range KSh.10.5 to KSh.29.4 m.). The grades marketed are mainly commercial and standard and so this subsidy also benefits canning exports and the local consumer of standard; in fact it can be argued that it benefits (or subsidies) canning exports entirely since standard grade is also canned and immatures that are fattened only release other animals from elsewhere in the pastoral areas to go into the can.

22. If present policies and expenditures continue it is difficult to see these losses getting less in the immediate future. As can be seen in Table VI, based on LMD's forecast operating costs and 10% mortality trading, losses of KSh.5.0 m. to KSh.6.0 m. per year will be sustained while the present level of sales (averaging 35,000 immatures for the past 4 years) are maintained and this estimate assumes a 25% mark up between purchase and selling price which has so far not been achieved(and must also imply a

reduction in purchase price while commercial and standard producer prices remain the same);without this mark-up future losses could therefore be greater. It is not until LMD achieves a throughput of 200,000 head (forecast by year 7 or 8 in the appraisal report) that total operating costs are covered (Table 9). The rate of return on investment is of course negative. At the present time it is not clear whether this throughput can be achieved and it would seem that it will only be obtained through a combination of LMD and trader activity with the latter paying for quarantine charges. If recurrent costs could be drastically reduced from current forecasts, purchase price reduced by 25%, and mortality reduced to 5% then a break even point might be achieved between 70,000 and 100,000 head with the latter giving a low financial rate of return 2.3%; a throughput of 200,000 would return 8.6% (see Table k0).

23. The following table gives some indication of margins and the price LMD could pay to North East graziers if the purchase price were dropped, and costs and mortality reduced so that LMD could make a trading profit.

	Proposed		Present Forecast	
210 kg immature	300/-	1/42 per kg LW	439/-	2/09
Costs	50/-		140/-	
Mortality 5%	15/-		40/-	
Materials	10/-		10/-	
Interest on	3/-		4/-	
	378/-	= 1.80 per kg LW	633/-	
Margin	23/-		Loss	
Value as commercial	401/-	1/91 per kg LW	401/-	
Value as standard		2/28 " " "	478/-	

Conclusions and Recommendations

Conclusion

24. Capital and recurrent costs have escalated as follows:

	Appraisal Report	Present Estimate (including price contingency)
Capital	K£0.99 million	
Recurrent	K£0.26 million	

The "present estimate" includes a price contingency at 10% per annum.

25. The UK aid contribution is presently fixed at Sterling £1.388 million which is KSh.22million at the 1974 exchange rate. There is also some Technical Assistance which contributes to the recurrent costs. As presently agreed any additional funds have to be provided by the Kenya Government.

26. In the last two years there have been serious problems over the demand for cattle from LMD.

	1972/73	1973/74	1974/75
Sales	58,518	13,858	19,746
Purchases	53,976	23,043	62,227

27. Since 1970/71 prices paid by LMD have substantially increased at a faster rate than prices received. Furthermore, LMD appear to be paying considerably more to the traders than the traders are paying to individuals.

28. LMD have been making a large and consistent operating loss before depreciation and interest charges: KSh.4.9 million per annum average over the last five years, KSh.4.8 million in 1974/75. This is with no charge for working capital (at the beginning of 1975/76 Financial Year about KSh.20 million) and investment (presently estimated at KSh.50 million from Phases I and II). Losses have been due to: (a) too high purchase prices, (b) high mortality, (c) purchasing cattle when forward marketing opportunities were uncertain.

29. There is considerable uncertainty over the demand for LMD's cattle. Given the current negative profitability of the ranching sector in the short term there may be a much reduced demand for immature cattle for finishing than forecast at appraisal.

30. The main medium term function of LMD would appear to be providing quarantine, stock route and transport facilities. The need to continue to purchase cattle, especially in the south, after the marketing infrastructure has been established will depend on the rate of expansion of the private traders.

31. The financial prospects of LMD look poor given current projections of recurrent costs: at 50,000 head of cattle the incremental cost per head is KSh. 215. At 100,000 head it is KSh. 137 (10% mortality). With reduced operating costs and 5% mortality the figures are KSh. 82 and KSh. 66, respectively.

Recommendations

32. It is suggested that capital investment program and the recurrent activities of LMD should be revised in the light of the numbers of cattle it

is required either to buy and sell and to provide with suitable marketing facilities.

33. In order to assist this process it is suggested that the operating costs and the investment program should be listed separately for the North and the South and that LMD should proceed with its proposals for establishing cost accounts for each region.

34. In view of the importance of moving cattle from the N.E. and Masai in order to pay for the water supplies and range facilities LMD; RMD and KMC should decide on the best strategy to increase the movement of cattle from these areas.

35. It is suggested that full consideration should be given to LMD henceforth purchasing and selling only by weight and at a purchase price which will enable LMD to cover all its operating costs. LMD's proposal that they should try a margin of 50 cents per kg liveweight between purchase and sales price is supported.

36. It is agreed that LMD should continue to regard its sales and purchasing activity as being justified only in the absence of private trading activity and it should be prepared in the medium term to concentrate on providing facilities to traders for quarantine, marketing, movement on stock routes and transport and only acting as a buyer of last resort at a floor price.

37. It is suggested that consideration should be given to providing a quarantine service to the private traders in the north and in the south at a more subsidized charge in order to give them sufficient incentive to accept the considerable uncertainty which they incur in quarantining their own animals as they are unsure how long the process will take. This will enable control of the quarantine process yet will not effectively exclude the trader because of the quarantine requirement which causes a benefit to the whole livestock sector rather than the individual.

38. Full consideration should continue to be given to ways of reducing mortality. One possibility is to avoid buying cattle in a distressed condition unless they can be quickly moved to slaughter. Consideration should also be given to having a price differential for such cattle so that the necessary transportation cost can be covered.

39. LMD has 12 holding grounds totalling over 260,000 ha. They represent a major range (ranch) management exercise. LMD should review its managerial activities on these properties to determine whether its management capabilities in this field are adequate.

40. Government should consider and establish the rate of return which LMD is required to earn on their investment.

41. It is suggested that full consideration should be given to providing LMD with a trading account fund and requiring them to restrict any loss to the size of that fund rather than the Treasury giving them purchase money and subsequently collecting any sales revenues. Such a trading account should include any operating costs at present included in the profit and loss account.

42. Prior to the above detailed work being carried out by the Kenya Government it is suggested that apart from the weighbridges and any other critical investments there should be a pause in the investment programme and in any increase in recurrent activities. This will enable the investment programme to be revised and rephased if necessary to take account of the detailed work. In particular account should be taken of:

(i) the cost escalation;

(ii) the effect of buying and selling by weight at fixed prices;

(iii) the demand for immatures for finishing.

43. Prior to the above considerations it would not be appropriate to finalize the capital funds necessary for the project.

44. UK aid funds are not available for general range development in the North East and should continue to be available only for the specific development of LMD's marketing facilities.

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LIVESTOCK MARKETING PROJECT

REVISION OF PROJECT DATA

1. Capacity of the LMD Transport Fleet (Appraisal Annex 3 Table 1)

1.1. As a result of changes in the capacities of the cattle trains and trucks and a reduction in their average speeds the maximum number of cattle transported by the trains each year is 51,590 (a reduction of 10% from 57,000) and by the cattle trucks is 102,960 (an increase of 43% from 72,000). A revised table is presented at Table 8.

2. Cattle passing through the Stock Route System (Appraisal Annex 3 Table 2)

2.1. As LMD do not purchase all the cattle passing through the marketing system and as there are parts of the system where no charges are made LMD can only guess at the marketing of privately owned cattle. It is thus not possible from LMD's data to revise the forecasts for the number of cattle passing through the stock route system.

2.2. In the project document several assumptions were made which are not valid today. The main changes are:

(i) Cattle marketed by LMD do not average 250 kg live-weight. Those purchased are thought to average 190 kg and the immatures considerably less. Verification of this is not possible until the weighbridges are installed.

(ii) There is no market charge.

(iii) There is no charge for the use of stock routes.

(iv) There is no veterinary charge other than for drugs.

(v) A charge is made for the use by private traders of holding grounds and their facilities.

3. Cattle Marketed from the North East (Appraisal Annex 3 Table 3)

3.1. There is no indication that the surplus of cattle available in the north east is different from that projected: i.e. 54,000 in 1975 increasing to 92,000 in 1980 and 132,000 in 1985. The indications are that supply of cattle from the north will not be a constraint on the Livestock Development Programme. For this reason the substantial research required to establish the current livestock population is not required at this time.

4. Cattle Marketed from the South (Appraisal Annex 3 Table 4)

4.1. Similarly there is no indication that the supply from the southern region is likely to be any different from projected in the project document i.e. 129,000 in 1975 increasing to 187,000 in 1980 and to 258,000 in 1985. For the reasons given above no investigation of the cattle population in the south is proposed at this stage.

5. Details of Investments in Markets and Transport Developments

5.1. The locations and nature of investment facilities have been refined by LMD since the project document. The present proposals for locations are detailed at Appendix 2. The following section describes this revision of the programme.

5.2. Sales Yards

These will be established at the sites listed at Appendix 2.

Each Yard will be provided with a loading ramp.

5.3. Weighbridges

These will be located at the Sales Yards mentioned above. In addition two weighbridges will be installed at sites where sales facilities already exist. Instead of purchasing 5 large weighbridges at KShs:30,000 each, LMD felt it more appropriate to buy 33 of intermediate type at a cost of KShs:33,000 each. The weighbridges have all arrived in Kenya. Four have been installed and a contract for the installation of the others has been agreed.

5.4. Two Way Radios

These are now considered unnecessary by LMD and have been omitted.

5.5. Housing and Building

The requirement for housing for this section has been reduced although cost escalations have increased the total amount required.

6. Market and Transport Development:
Operation and Maintenance Costs (Appraisal Annex 6 Table 20)

6.1. Weighbridges

There will be 36 of these (including three already existing before the project). The cost of maintenance will be KShs:36,000 per year, in contrast to the 32,000 allowed in the project appraisal document (see Table 6).

6.2. Other Facilities

At 5% of the total investment in sales yards, loading ramps and buildings including housing and maintenance costs will amount to:

KShs:

1975/76	1976/77	1977/78	1978/79
22,000	69,000	108,000	122,000

If the building programme is accepted then provision must be made for this maintenance.

6.3. Transport

The figures given in the project appraisal document (Table 20 of Annex 6) for mileages for the cattle trains have been revised in Table 8.

6.4. Other Expenses

Travelling expenses, and Other Expenses (such as uniforms, postal charges, office equipment, stationery etc) are not included in the project appraisal document. The following sums have been extracted from the Ministry's estimates:

KShs:

1975/76	1976/77	1977/78
708,000	800,000	860,000

6.5. Technical Assistance

The figures given in Table 6 are actual expenditures for the years up to 1974/75, and estimates for 1975/76. Sums are also forecast for 1976/77. Because of the late starting of the project, provision has been made for the technical assistance staff to remain for one more year than was originally planned.

6.6. Staff

The revised staff requirements are shown in Tables 6 and 7. The post of "weighmaster" is now abolished as weighing will be carried out by the marketing overseers. The post of "Livestock Marketing Officer" replaces that of "Buyer", the duties being the same, but the title being more descriptive of them.

7. Details of Investment in Holding Grounds (Appraisal Annex 3 Table 5 and Annex 6 Table 19)

7.1. The locations and nature of investment facilities have been refined by LMD since the project document. The present proposals for locations are detailed at Appendix 2. The following section describes this revision of the programme.

7.2. Development of Holding Grounds - Clearing Bush

LMD now requires to clear only 3,000 hectares of land, not 40,000 as stated in the appraisal document. However the cost mentioned in that document, KShs:20 per hectare, is one exceeded many years ago. For the 3,000 hectares a more likely cost of KShs:3,000,000 (KShs:1,000 per hectare) has been inserted. At this cost the extent of bush clearance needs to be further reviewed to see if it is economically sound bearing in mind that the clearing of the 3,000 hectares will eliminate tsetse fly challenge from a much larger area, and it is to this greater area that the benefits of clearing must be applied.

7.3. Boreholes

LMD now considers that ten boreholes will prove sufficient. Boreholes are being drilled at Bombing range, Kitengela, Namanga and Bissel, and prospecting for borehole sites has been requested for Turbi Holding Ground, Marsabit (two boreholes), Serolsvi, Mado Gashu, Kula Mawe, Lak Katulo, Debel, a point some 16 kms

south of Buna, on the Wajir-Merti road 110 kms from Wajir and also 145 kms from Wajir. It is expected that at least six successful boreholes can be found from these ten investigations.

7.4. Storage Tanks and Surface Water Ponds

The numbers of these have also been reduced by LMD to the level of need and two tanks will be erected at each borehole.

7.5. Water Troughs

Two are now required for each water tank.

7.6. Piping

This item was not included in the appraisal but was subsequently inserted by LMD.

7.7. Spray Races/Dips

In the appraisal document 48 spray races were sited almost at random through the country, ignoring the ecological fact that there is no purpose in tick control in the more desert areas to the east and north, such as Wajir, Garissa and Marsabit districts. Only two species of tick, neither known to transmit disease to cattle, are to be found in any numbers in these desert areas, Rhipicephalus pulchellus and a Hyalomma species (Walker, 1974). LMD consider that spray races, properly maintained and used, are more efficient than dips and have therefore chosen to install these. The sites chosen are listed at Appendix 2.

7.8. Fencing

LMD consider it unnecessary to provide all the 550 miles of fencing mentioned in the appraisal document, and that 205 miles will suffice. This will consist of 30 miles of "Flextella" fencing around certain sales yards where there are problems of trespass and damage, at a cost of KShs:8,000 per mile, and 175 miles of simple post and wire fencing elsewhere at a cost of KShs:[illegible],800 per mile.

7.9. Launch and Jetties

These were intended to provide a means of travelling between the mainland and Lamu Island, but there is now a sufficiency of Government and public transport at this point. These items have therefore now been omitted.

7.10. Tractors, Trailers, D4 Tractor, Caterpillar Grader, Water Trailers

These items were not in the appraisal document but have been found necessary by LMD. The tractors and trailers are to be used as general transporters for material, fodder etc. The D4 tractor and caterpillar grader are to be used to maintain and develop roads in the Holding Grounds. The water trailers are to be used to supply water to temporary encampments within Holding Grounds. Usually, herders choose to camp near water, and this restricts grazing. With these trailers the cattle camps can be situated far from water-points, and the cattle grazed around the camps, trekking down to the water-points or rivers only for their own watering.

7.11. Low Loader

This has been omitted as it is not now necessary as the Ministry of Works or Land and Soil Conservation Division transport can be used on the few occasions when it is necessary to move heavy equipment. For the lighter equipment the D4 tractor will fit inside the Hippo lorries.

7.12. Housing

In the project appraisal document the total number of houses to be built was insufficient for the number of staff it will be necessary to employ. LMD have altered the housing programme accordingly.

7.13. Office/Stores

A realistic current cost is KShs:30,000 each which was obtained from the Ministry of Works. This has been inserted instead of the figure of KShs:10,000.

8. Stock Route and Holding Ground Development: Operation and Maintenance (Table 6)

8.1. Staff

Estimates of the Ministry of Agriculture show that posts have been created for 356 extra staff, of whom 143 are to be employed or are already employed in 1975/76. (Tables 6 & 7). While it is difficult to justify this increase in staff at the present moment, if the project is to develop and succeed, many of these men will be required. A decision as to whether they should be recruited therefore depends on the complete review of the whole programme.

8.2. Boreholes

The sum of KShs:5,000 per year per borehole for maintenance is too little. It is considered by LMD that a more realistic figure would be KShs:15,000 per year.

8.3. Water Ponds

LMD now suggest 20 water ponds instead of 62. At 5% of the investment cost, the maintenance and operation costs are estimated at:

KShs:

1975/76	1976/77	1977/78	1978/79
-	60,000	130,000	200,000

8.4. Stock Routes and Holding Grounds, Maintenance

The figures mentioned in footnote 4 of the appraisal's Table 21 were purely notional. The following revised figures have been obtained from LMD.

KShs:

1975/76	1976/77	1977/78	1978/79
290,000	400,000	400,000	400,000

8.5. Vehicles including tractors, graders, etc.

The Land Rovers are already covered in the Marketing Section. The following sums are required for the operation of the other vehicles:

KShs:

1975/76	1976/77	1977/78	1978/79
120	180,000	180,000	180,000

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1. SITES FOR WEIGHBRIDGES, SALES YARDS AND LOADING RAMPS

NORTH EASTERN PROVINCE

Garissa District

Garissa Town
Dadab

Wajir District

Wajir Town
Habaswein
Khot Khot

Mandera District

Lak Katulo
Gari Hills

COAST PROVINCE

Lamu District

Bodhai

Tana River District

Kurawa
Wenji

EASTERN PROVINCE

Isiolo District

Garba Tulla
Merti

Marsabit District

Bodasa
Moyale

Kitui District

Nguni
Mutito

Machakos District

Kibwezi

RIFT VALLEY PROVINCE

West Pokot District

Kacheliba/Kongelai
Nasukuta

Narok District

Narok Town
Mulot

Kajiado District

Kajiado Town
Kuku

Samburu District

Kilele
Amaya

Baringo District

Nyinyang
Marigat

Laikipia District

Dol Dol

South Nyanza District

Lichota
Macalder

Kericho District

Bomet

Elgeyo Marakwet

Sergoit

Turkana District

Lotongot

2. SITES OF SPRAY RACES/DIPS AND PIPELINES

Sites for dips or spray races and water pipelines have been found at the following places:

Kitegela (2)
Bombing Range
Lichoto
Kibwezi
Lotongot
Nanyuki Stock Route (2)
Narok
Bamba
Macalder
Mado Gashi
Kula Mawe
Suswa
Dol Dol
Mulot
Nginyang
Longopito (2)
Isiolo (2)
Kacheliba
Merti
Bodasso
Nguni
Mutito
Nasakuta
Luoniek
Kamutei
Mutara Stock Route

(TOTAL : 30)

3. HOLDING GROUNDS

(a) The following are being obtained for quarantine purposes:

	ha		ha
Mwisho	1,100	Wenje	15,000
Kirimun	12,000	Kurawa	16,000
Isiolo Complex	150,000	Luoniek	20,000
Lamu Complex	40,000	Kibiko	1,000
Bombing Range	2,000	Macalder	1,200
Kitengela	4,000	Amaya	4,000
	209,100		5,72,000

(b) LMD wishes to purchase:

	ha
Marmar	20,000
Mujie	20,000

which lie between the Lakipia grounds and the Isiolo complex and will enable LMD to move cattle into the disease free area which these two grounds abut.

4. LOCATION OF PONDS

LMD is proposing that Range Management Division should install identical ponds to those put in by USAID and that LMD should be able to use RMD's facilities.

5. LOCATION OF TROUGHS

Two will be installed at each pond, others on pipelines.

6. LOCATION OF BOREHOLES

Borehole sites cannot be named until prospecting is complete and a successful bore has been made. Investigation has been made by geologists at the following sites and contracts have been signed for drilling:

Bombing Range
Kitengela
Namanga
Bissel

Investigation has been requested for:

Turbi Holding Ground, Marsabit (2 boreholes)
Serolsvi
Mado Gashe
Kula Mawe
Lak Katulo
Debel
Buna
Wajir Merti Road (110 km from Wajir)
Wajir Merti Road (145 km from Wajir)

It is hoped that successful bores can be made from these 10 investigations.

7. LOCATION OF TANKS

Two will be installed on each successful borehole.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Livestock Marketing Division

I CATTLE HANDLED BY LMD

	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	First Half 1975/76
Stock on hand at beginning of the year	7,707	26,756	15,865	20,633	16,911	12,084	14,856	50,012
Number bought in the year	35,789	25,307	52,068	45,432	53,970	23,043	62,227	3,796
Number sold in the year	15,544	34,866	32,691	50,145	58,518	13,857	19,746	4,875
Number died in the year	1,196	1,332	14,609	991	274	6,419	7,325	2,061
Stock on hand at end of year	26,756	15,865	20,633	16,911	12,089	14,856	50,012	
Change in Stock on hand (Δ) - daily	19,049	(10,891)	4,768	(3,722)	(4,822)	2,767	35,156	

II FINANCIAL PERFORMANCES OF LMD

								KE
(1) Cattle sales during the year	237,668	493,560	402,039	698,693	966,798	324,034	441,469	116,726
(2) Cattle purchases during the year	490,297	267,046	567,025	574,266	921,075	526,024	1,479,324	80,744
(3) (1) - (2)	(252,629)	226,514	(164,986)	124,427	45,723	(201,990)	(1,037,855)	35,982
(4) Change in cattle on hand at average purchase price during the year	299,949	(202,865)	84,295	(56,640)	(13,665)	123,833	908,612	
(5) Cattle trading balance (3) + (4)	47,320	23,649	(80,691)	67,787	(22,058)	(78,157)	(129,243)	
(6) Net operating costs	153,855	144,637	314,007	221,629	199,993	174,617	113,376	
(7) Operating balance (6) + (7)	(106,535)	(120,988)	(394,698)	(153,842)	(177,933)	(252,774)	(242,619)	

III AVERAGE PURCHASE AND SALE PRICES

								KE
Average Purchase Price	13.700	10.552	10.890	12.640	17.066	22.828	23.773	21.271
Average Sale Price	15.290	14.156	12.298	13.933	16.521	23.384	22.357	23.944

IV MORTALITY AS A % OF CATTLE BOUGHT IN YEAR

Mortality as a % of cattle bought	3.34	5.26	28.06	2.18	0.51	27.86	11.77
Mortality as a % of cattle bought plus the average of cattle on hand at the beginning and end of year	2.43	2.86	20.78	1.54	0.40	17.58	7.74

V DEFICIT (SURPLUS) PER HEAD OF CATTLE SOLD

								KE
Cattle Trading Balance	3.04	0.68	(2.46)	1.35	0.38	(5.64)	(6.54)	
Net Operating Costs	(9.90)	(4.15)	(9.60)	(4.42)	(3.42)	(12.60)	(5.74)	
Operating Balance	(6.85)	(3.47)	(12.07)	(3.07)	(3.04)	(18.24)	(12.29)	

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 677-KE

Review Mission - February 22 - March 26, 1976

Livestock Marketing

Markets and Transport Development
(Ksh '000)

	Unit	Unit Cost	Year 1 (1974/75 Actual)	Year 2 (1975/76 Estimated)	Year 3	Year 4	Year 5	Total Cost	Foreign Exchange %	Foreign Exchange Amount
Investment Costs										
A. Sales yards										
Loaders ramps				(5) 50.0	(15) 150.0	-	-	(20) 200.0	10	20.0
Weighbridges: large				(5) 20.0	(15) 60.0	-	-	(20) 80.0	20	16.0
small				-	-	-	-	-		-
Sub-total		52.1	(12) 366.0	(33) 1,354.0	-	-	-	(33) 1,720.0	80	1,376.0
			366.0	1,424.0	210.0	-	-	2,000.0		1,412.0
B. Vehicles and Equipment										
Cattle trains (36 ton)		391.8		(5) 1,959.0	-	-	-	(5) 1,959.0	80	1,567.2
Cattle trucks (30 ton)		190.7	-	(10) 1,907.0	-	-	-	(10) 1,907.0	80	1,525.6
Pick-up trucks		48.5	-	(10) 485.0	-	(2) 97.0	-	(12) 582.0	80	465.6
Shop equipment		34.0	-	(3) 102.0	-	-	-	(3) 102.0	80	81.6
Two-way radios			-	-	-	-	-			
Sub-total			-	4,453.0		97.0		4,550.0		3,640.0
C. Housing and Buildings										
Senior housing			-	(1) 120.0	(1) 120.0	(3) 36.0	-	(5) 600.0	30	180.0
Junior housing		40.0	(1) 40.0	(5) 200.0	(14) 560.0	(4) 160.0	-	(24) 960.0	10	96.0
Store/office		30.0	-	-	(2) 60.0	(9) 270.0	(9) 270.0	(20) 600.0	10	60.0
Sub-total			40.0	320.0	740.0	790.0	270.0	2,160.0		336.0
Total investment costs			406.0	6,197.0	950.0	887.0	270.0	8,710.0		5,388.0
Operating Costs										
Staff										
Coordinator buyer Senior Livestock Marketing Officer			(1) 122.0	(1) 122.0	(1) 122.0	(1) 39.0	(1) 39.0	444.0 1/		366.0
Transport officer/senior mechanical engineer			(1) 105.0	(1) 105.0	(1) 105.0	(1) 39.0	(1) 39.0	393.0 1/		315.0
Maintenance supervisor			(1) 25.0	(1) 25.0	(1) 25.0	(1) 30.0	(1) 30.0	135.0 1/		75.0
Cost accountant			(1) 150.0	(1) 150.0	(1) 150.0	(1) 39.0	(1) 39.0	528.0 1/		450.0
Livestock Marketing Officers (buyers)		21.0	-	-	(4) 84.0	(4) 84.0	(4) 84.0	252.0		
Animal health assistants		8.0	-	(10) 80.0	(20) 160.0	(31) 248.0	(31) 248.0	736.0		
Assistant transport officers			-	-	22.0	22.0	22.0	66.0		
Market overseers		6.0	-	(15) 90.0	(31) 186.0	(31) 186.0	(31) 186.0	648.0		
Weighmasters/Plant Operators		6.0	(6) 36.0	(16) 96.0	(16) 96.0	(16) 96.0	(16) 96.0	420.0		
Drivers		12.0	-	(30) 360.0	(30) 360.0	(32) 384.0	(32) 384.0	(30) 1,488.0		
Mechanics		6.0	(6) 36.0	(6) 36.0	(6) 36.0	(6) 36.0	(6) 36.0	180.0		
Subordinate staff	100	2.7	(50) 135.0	(100) 270.0	(100) 270.0	(100) 270.0	(100) 270.0	1,215.0		
Sub-total - staff costs			609.0	1,334.0	1,616.0	1,473.0	1,473.0	6,505.0	19	1,206.0
Operation and Maintenance										
Markets										
Weighbridges			(3) 3.0	(36) 36.0	(36) 36.0	(36) 36.0	(36) 36.0	147.0	50	73.5
Other facilities 2/				22.0	69.0	108.0	122.0	321.0	10	32.1
Sub-total			3.0	58.0	105.0	144.0	158.0	468.0		105.6
Transport 3/										
Cattle trains			200.0	825.0	2,196.0	2,196.0	2,196.0	7,613.0	50	3,806.5
Cattle trucks					2,121.0	2,121.0	2,121.0	6,363.0	50	3,181.5
Pick-ups					274.0	329.0	329.0	932.0	50	466.0
Workshop equipment 4/				5.0	5.0	5.0	5.0	20.0	50	10.0
Sub-total			200.0	830.0	4,596.0	4,651.0	4,651.0	14,928.0		7,464.0
Total operation and maintenance costs			203.0	863.0	4,701.0	4,795.0	4,809.0	15,396.0	49	7,469.6
Total operating costs			812.0	2,222.0	6,317.0	6,268.0	6,282.0	21,901.0	40.0	8,775.6
Appraisal Report Estimate										
Investment			4,450.0	414.0	748.0	-		5,612.0		
Operating Costs			3,794.0 6/	240.0	240.0	-		4,274.0		
Total			8,244.0	654.0	988.0	2,940.0	2,940.0	9,886.0		

1/ Posts filled by technical assistance during the first three years of the Project.
2/ 5% of investment costs of sales yards, loading ramps and housing.

3/ Miles travelled

	Year 1	Year 2	Year 3	Years 4-5
Cattle trains	79,200	79,200	211,200	211,200
Cattle trucks			343,200	343,200
Pick-ups			13,200	158,400

4/ 5% of investment costs.

5/ Operation and maintenance of markets transport development (Ksh 2,940 by year 3) was only financed for one year since it was expected that revenues would cover expenditure.

August 30, 1976.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 677-KE

Review Mission - February 22 - March 26, 1976

ANNEX 10
Table 7.

Livestock Marketing

Stock route and Holding ground Development
(Ksh '000)

	Unit	Unit Cost	Year 1 1976/75 (Phase out started)	Year 2 1975/76 (Estimated)	Year 3	Year 4	Year 5	Total Costs	Foreign Exchange %	Foreign Exchange Amount
Investment										
Infrastructure and water Development										
Development of holding grounds										
Clearing	ha		-	1,800.0	2,000.0	-	-	(30) 3,800.0	60	2,280.0
Access roads	ha	1.0	-	-	1,500.0	1,500.0	-	3,000.0	60	1,800.0
Boreholes	mile	50.0	-	-	33.0	67.0	-	(200) 100.0	50	50.0
Storage tanks 30,000 gals.	(1,000 gal./how)	170.0	(4) 680.0	(4) 680.0	(2) 340.0	-	-	(10) 1,700.0	60	1,020.0
Surface water points		36.7	-	-	(10) 367.0	(10) 367.0	(10) 367.0	(30) 1,101.0	20	220.0
Water troughs		200.0	-	-	(6) 1,200.0	(7) 1,400.0	(7) 1,400.0	(20) 4,000.0	60	2,400.0
Piping		4.0	(4) 16.0	(20) 80.0	(19) 76.0	(17) 68.0	-	240.0	20	48.0
Sub-total	mile	40.0	(20) 800.0	(30) 1,200.0	(30) 1,200.0	(20) 800.0	-	4,000.0	80	3,200.0
			1,296.0	3,060.0	4,950.0	2,635.0		17,941.0	61	11,018.0
Holding Ground Facilities										
Spray races/dips			(12) 240.0	(9) 180.0	(9) 180.0	-	-	(30) 600.0	20	120.0
Cattle crushes			(24) 48.0	(24) 48.0	(24) 48.0	-	-	(96) 144.0	5	7.2
Fencing (miles)			-	(100) 341.0	(105) 359.0	-	-	(205) 700.0	90	630.0
Camps			-	(5) 10.0	-	-	-	(5) 10.0	5	.5
Bomas			-	(21) 63.0	-	-	-	(21) 63.0	5	3.2
Jetties			-	-	-	-	-	-	-	-
Laboratory			-	(1) 120.0	(1) 120.0	-	-	(2) 240.0	50	120.0
Sub-total			288.0	762.0	707.0			1,757.0	39	880.9
Vehicles and Equipment										
Land rovers			389.0	-	-	-	396.0	1,385.0	90	1,246.5
Seven-ton lorries			-	640.0	-	-	-	640.0	90	576.0
Motor launch			-	-	-	-	-	-	-	-
Tractors			468.0	-	-	-	-	468.0	90	421.2
Trailers			223.0	-	-	-	-	223.0	90	200.7
D-6 tractor			-	-	301.0	-	-	301.0	90	270.9
Caterpillar grader			-	635.0	-	-	-	635.0	90	571.5
Water tank trailers			102.0	-	-	-	-	102.0	90	91.8
Sub-total			1,182.0	1,275.0	301.0	396.0		3,356.0	90	3,318.6
Housing										
Senior housing		120.0	(1) 120.0	(11) 1,320.0	(8) 896.0	-	-	(19) 2,400.0	30	720.0
Junior housing		40.0	(5) 200.0	(30) 1,200.0	(25) 1,000.0	-	-	(60) 2,400.0	10	240.0
Other housing		4.0	(10) 40.0	(40) 160.0	(30) 120.0	-	-	(80) 320.0	5	16.0
Office/store		30.0	(1) 30.0	(2) 60.0	-	-	-	(3) 90.0	10	9.0
Sub-total			390.0	2,740.0	2,080.0			5,210.0	19	985.0
Markets for Sheep and Goats										
Sale yards				(3) 30.0	-	-		30.0	10	3.0
Loading ramps				(3) 12.0		-		12.0	20	2.4
Fencing (miles)					-	-		-		-
Junior housing					-	-		-		-
Office/store					-	-		-		-
Sub-total				42.0				42.0	13	5.4
Total Investment costs			3,356.0	11,879.0	8,038.0	3,031.0		26,304.0	37	16,207.9
Operating Costs										
Staff										
Deputy head of division		51.0	-	(1) 51.0	(1) 51.0	(1) 51.0		153.0		
Stock route co-ordinator		51.0	-	(1) 51.0	(1) 51.0	(1) 51.0		153.0		
Livestock marketing officer - Grade I		27.0	-	(2) 54.0	(4) 108.0	(7) 189.0		351.0		
Livestock marketing officer - Grade II		22.0	-	(4) 132.0	(12) 264.0	(19) 418.0		814.0		
Water inspector		22.0	-	(1) 22.0	(1) 22.0	(1) 22.0		66.0		
Executive officer		17.0	-	(1) 17.0	(1) 17.0	(1) 17.0		51.0		
Accounting assistant		17.0	-	(1) 17.0	(1) 17.0	(1) 17.0		51.0		
Executive assistant		17.0	-	(1) 17.0	(1) 17.0	(1) 17.0		51.0		
Water foreman		17.0	-	(1) 17.0	(1) 17.0	(1) 17.0		51.0		
Foreman mechanic		17.0	-	(1) 17.0	(1) 17.0	(1) 17.0		51.0		
Foreman plant operator		17.0	-	(1) 17.0	(1) 17.0	(1) 17.0		51.0		
Medical assistants		12.0	-	(1) 17.0	(1) 17.0	(1) 17.0		51.0		
Shorthand typist		12.0	-	(3) 36.0	(6) 72.0	(6) 72.0		180.0		
Plant operators		6.0	-	(1) 12.0	(1) 12.0	(1) 12.0		36.0		
Clerical officers		7.4	-	(8) 48.0	(8) 48.0	(8) 48.0		144.0		
Drivers		6.0	(10) 76.0	(20) 148.0	(31) 229.0	(31) 229.0		680.0		
Copy typists		7.4	(34) 204.0	(34) 204.0	(34) 204.0	(34) 204.0		816.0		
Animal health assistants		8.0	(5) 37.0	(5) 37.0	(5) 37.0	(5) 37.0		148.0		
Storeman		7.4	(6) 48.0	(12) 96.0	(18) 144.0	(18) 144.0		432.0		
Water technicians		7.4	(1) 7.4	(1) 7.4	(1) 7.4	(1) 7.4		29.6		
Artisans			-	(3) 22.2	(3) 22.2	(3) 22.2		66.6		
Mechanics		7.4	(6) 44.4	(12) 88.8	(12) 88.8	(12) 88.8		310.8		
Subordinate staff		6.0	(6) 36.0	(6) 36.0	(6) 36.0	(6) 36.0		144.0		
		2.7	(75) 203.0	(100) 270.0	(100) 270.0	(100) 270.0		1,013.0		
Sub-total			651.8	1,617.4	1,748.4	2,001.4		6,018.0		
Operation and Maintenance										
Boreholes			15.0	90.0	135.0	150.0		390.0	50	195.0
Water points				60.0	130.0	200.0		390.0	50	195.0
Sheep and goat market facilities				2.1	2.1	2.1		6.3	10	.6
Stock route/holding grounds			290.0	400.0	400.0	400.0		1,490.0	50	745.0
Vehicles			120.0	180.0	180.0	180.0		660.0	50	330.0
Housing (5%)			19.5	136.5	260.5	260.5		697.0	10	69.7
Laboratory (10%)			-	12.0	24.0	24.0		60.0	20	12.0
Sub-total			444.5	900.6	1,131.6	1,216.6		3,693.3	42	1,547.3
Total operating costs			1,096.3	2,518.0	2,900.0	3,220.0		9,734.3	16	1,547.3
Appraisal Report Estimate										
Investment Costs		7,278	4,838.0	2,008.0	-	-		14,124.0	-	-
Recurrent Costs		960	-	-	-	-		960.0		
Total		8,238	4,838.0	2,008.0				15,084.0		

August 30, 1976.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT CREDIT 477-KE

REVIEW MISSION FEBRUARY 22 - MARCH 26, 1976

MARKET AND TRANSPORT DEVELOPMENT

CAPACITY OF LMD TRANSPORT FLEET

YEAR	CATTLE TRAINS				CATTLE TRUCKS			
	No	Mileage Per Year	Trips Per Year (a)	Max No of Cattle Transported (c)	No	Mileage Per Year (b)	Trips Per Year	Max No of Cattle Transported (d)
1975/76	3	79,200	176	19,366	-	-	-	-
1976/77	8	211,200	469	51,590	10	343,200	2,288	102,960

(a) at 450 miles per trip.

(b) at 150 miles per trip.

(c) 110 immature cattle per cattle train.

(d) 45 slaughter cattle per cattle truck.

NOTES ON ANNEX 10 TABLE 8

Transport mileage assumptions

8 Hippo cattle trains

100 miles a day for 6 days	=	600	miles per week
	=	2,400	miles per month
	=	28,800	miles per year
at KShs:10 per mile	=	288,000	Shs:
plus accident repairs at 4%	=	11,520	Shs:
		299,520	per vehicle
	=	2,400,000	per 8 vehicles
less 1/12 for time spent off the road	=	200,000	
		2,200,000	Shs per year

10 Clydesdale cattle trucks

130 miles per day for 6 days	=	780	miles per week
	=	3,120	miles per month
	=	37,440	miles per year
at KShs:6 per mile	=	224,640	Shs:
plus accident repairs at 3%	=	231,379	Shs:
		2,313,790	per 10 vehicles
less 1/12 for time spent off the road		2,123,970	Shs: per year

12 Pickups

50 miles per day for 6 days	=	300	miles per week
	=	1,200	miles per month
	=	14,400	miles per year
at Shs:2 per mile (including accident repairs)	=	28,900	Shs: per vehicles
less 1/20 for time spent off the road	=	27,455	
12 pickups from 1977/78		329,460	KShs per year

Source: LMD

ANNEX 10
Table 9

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT CREDIT 477-KE

REVIEW MISSION FEBRUARY 22 - MARCH 26, 1976

End of Programme
Forecast Cost in Relation to Numbers
of Cattle Handled (1976 prices)

£'000

'000 Head of Cattle	25	50	100	150	200
Recurrent Costs	350	350	350	350	350
Materials	13	25	50	75	100
Mortality at 10%	50	100	200	300	400
Working Capital	5	9	18	28	37
Total Operating Costs	418	484	618	753	887
Revenue from 25% markup	113	225	450	675	900
Profit/loss with 25% markup	(305)	(259)	(168)	(78)	3

Incremental Cost

Per head (Shs)	372	215	137	112	98.6
Per kilo (Shs)	1.96	1.13	0.72	0.59	0.52

Assumptions

(a) Average weight 190 kg.
(b) 10% mortality.
(c) £20 purchase price i.e. Shs:2.10 per kg live weight.
(d) Recurrent costs as currently projected by LMD (1976 prices).
(e) Materials at Shs:10 per head.
(f) Cattle held on average for six weeks.
(g) Interest charged at 8% on working capital.
(h) Capital investment taken as K£2.5 million as at March 1976 including estimated planned expenditure 1976 - 1978 at 1976 prices.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT CREDIT 477-KE

REVIEW MISSION FEBRUARY 22 - MARCH 26, 1976

End of Programme
Costs in Relation to Numbers of
Cattle Handled (1976 prices)

£'000

'000 Head of Cattle	25	50	100	150	200
Recurrent Costs	100	125	175	225	275
Materials	13	25	50	75	100
Mortality at 5%	19	38	75	113	150
Working Capital	3	7	14	21	28
Total Operating Costs	135	195	314	434	553
Revenue from 25% markup	89	178	356	534	713
Profit/loss with 25% markup	(46)	(17)	42	100	160
Incremental Cost					
Per head (Shs)	114	82.1	66.1	60.9	58.2
Per kilo (Shs)	0.60	0.43	0.35	0.32	0.31
Rate of Return	(2.5)	(0.9)	2.3	5.4	8.6

Assumptions

(a) Average live weight 190 kg.
(b) 5% mortality.
(c) £15 purchase price.
(d) Recurrent costs reduced from levels currently projected by LMD (at 1976 prices).
(e) Materials at Shs:10 per head.
(f) Interest charged at 8% on working capital.
(g) Cattle held on average for six weeks.
(h) 1976 - 1978 investment programme reduced by 50%. Capital invested taken as £1.85 million as at March 1976 expenditure at 1976 prices.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CR. 477-KE

Review Mission - February 22 - March 26, 1976

Wildlife

I. PROJECT AS APPRAISED AND APPROVED

Background

1.01 The inclusion of a wildlife component in the Second Livestock Development Project was dictated by the necessity:

a) to overcome the competition for grazing and water resources between wildlife and livestock in three eco-systems of Kenya; Amboseli, Maasai Mara and Kitengela/Nairobi ; and

b) to protect wildlife in the dispersal areas and maintain the income generated from wildlife mainly through the tourism industry.

1.02 The three eco-systems selected have the following characteristics:

a) They have been traditionally used both by the Maasai for grazing their livestock and by the wildlife, because of the presence of high-quality grasses and of year-round grazing and water. People, cattle and wildlife have cohabited for years in these eco-systems. Pastoralists traditionally regard wildlife as their "second cattle" which may provide emergency food supplies in the event of periodic decimations of cattle through drought and disease.

b) They have similar utilization patterns: 1) movement/dispersal of wildlife and livestock away from the area of permanent water and grazing during the wet seasons, and progressive concentration

of livestock and wildlife towards the area of permanent water and grazing during the dry seasons; 2) complementary utilization of various areas and grasses by livestock and wildlife species according to the seasons and the status of the vegetation.

c) Wildlife spends approximately 70% of the year in the dispersal of the eco-systems and only 30% in the areas chosen for the Amboseli National Park, the Nairobi National Park and the Maasai Mara Game Reserve. The latter three areas represent the dry season concentration areas within the eco-systems and are therefore ideal for tourists' game viewing.

1.03 The traditional mechanism which secured the survival of wildlife in the dispersal areas are rapidly eroding. The dispersal areas are being divided into ranches held by small groups of families to which land is adjudicated, largely in order to provide the basis for higher livestock productivity through controlled stocking rates and range improvement. In view of the importance of the parks and of wildlife for the further development of the tourist industry of Kenya it therefore became imperative to provide for both the protection of wildlife and ranch development in the dispersal areas.

Objectives

1.04 The wildlife component of the project had two main objectives:

a) to support the establishment of the Amboseli Game Reserve into a National Park and to ensure its continued viability as well as the viability of the Nairobi National Park and Maasai Mara Game Reserve. The areas under the jurisdiction of the Nairobi National Park and the Maasai Mara Game Reserve were to be extended. Human settlements and livestock were to be excluded from the areas of the parks and reserve and special

arrangements were to be made to protect wildlife in the "dispersal" areas surrounding the parks and reserve. Cattle owners who had been using the parks and reserve for dry season water and grazing and who were to continue to protect wildlife in their grazing areas were to be compensated through provision of some free water area and annual cash compensation;

b) to improve the data base on wildlife, livestock and utilization of natural resources in Kenya.

Description of the Wildlife Component of the Project

1.05 The International Development Association (IDA) agreed to provide financial support for the following items requested by the Government of Kenya:

a) the development of a water scheme in the Amboseli eco-system (1,800 km^2) which would provide permanent sources of water for cattle owners outisde the proposed boundaries of the Amboseli National Park;

b) the development of a water scheme in the Maasai Mara eco-system to provide permanent sources of water for cattle owners outside the 1,872 km^2) earmarked for the Maasai Mara Game Reserve;

c) the provision of infrastructure to extend Nairobi Park Game dispersal area to include an additional 350 km^2 contiguous to the said park; and

d) the establishment of a census and monitoring unit to provide up-to-date baseline data on wildlife, livestock, and cultivation in pastoral areas. The program would cover 255,000 km^2; the eco-systems of Amboseli, Maasai Mara, and Kitengela/Nairobi would get first priority.

Covenant in Development Credit Agreement

1.06 A special covenant was agreed upon by the Government of Kenya and IDA on the implementation of the wildlife component of the project. It reads as follows (Development Credit Agreement, Article IV, Section 4.06 (b)):

> "prior to making any investment under Part E of the project, [the Borrower shall] provide written confirmation to the Association that agreements have been reached with cattle owners in the Amboseli and Maasai Mara dispersal areas and the Nairobi Park area (i) for the exclusion of livestock from the reserve areas (ii) for the entry of wildlife to graze on ranch land and (iii) for the compensation of the cattle owners commensurate with their loss of potential ranching income;"

Institutional Arrangements

1.07 The immediate responsibility for the implementation of the wildlife component of the project was vested in the Ministry of Tourism and Wildlife which was to ensure coordination with the National Parks Administration and with the County Councils.[1/] The Census and Monitoring Unit was to be established also within the Ministry of Tourism and Wildlife. Coordination of the implementation of this component was to be assured by the Project Coordination Unit.

Cost and Financing

1.08 Project costs estimated at appraisal were as follows:

Investment Costs	Ksh '000	US$'000
Part E - Amboseli & Maasai Mara	2,928.0	410.10
Nairobi/Kitengela	5,594.0	783.47
Part F - Census & Monitoring Unit	3,946.0	552.66
Sub-total	12,468.0	1,746.23
Recurrent Costs	**Ksh '000**	**US$'000**
Part E - Amboseli & Maasai Mara	729.5	102.17
Nairobi/Kitengela	756.5	105.95
Part F - Census & Monitoring Unit	1,098.3	153.82
Sub-total	2,584.3	361.94
Total base costs	15,052.3	2,118.17
Price contingencies 55%	8,278.8	1,164.99
Physical contingencies 10%	1,505.2	211.82
Total costs	24,836.3	3,494.98

a) IDA agreed to finance 50% of all expenditures under Part E, i.e., US$800,000:

	Ksh '000	US$'000
Investment	8,522.0	1,193.56
Recurrent cost	1,486.0	208.12
Sub-total	10,008.0	1,401.68
Physical contingencies	1,000.8	140.17
Total	11,008.8	1,541.85

b) 100% of foreign or 50% of total expenditures under Part F, i.e., US$497,360

	Ksh '000	US$'000
Investment	3,946.0	552.66
Recurrent	1,098.3	153.82
Sub-total	5,044.3	706.48
Physical contingencies	504.4	70.65
Total	5,548.7	777.13

CIDA, the Canadian International Development Agency, agreed to finance the costs of the Wildlife and Monitoring Unit. The GOK also approached the New York Zoological Society which agreed to finance US$140,000 against the costs at Amboseli. The balance of project costs would be met by the Government of Kenya.

II. IMPLEMENTATION

AMBOSELI

Background

2.01 Because of its relatively small size (150 km^2), the Amboseli National Park suffers two major problems. The first problem is the over-grazing caused by the intensive utilization of its water and grazing resources by wildlife and, to a lesser extent, livestock during the dry seasons The second problem is its great reliance on the adjoining "dispersal" area to support its wildlife population during the wet seasons.

2.02 To overcome these problems, the Government proposed obtaining agreement with cattle owners on the following:

a) to provide a water supply scheme outisde the Park boundaries so that grazers would not have to enter; and

b) to provide annually a cash compensation to Maasai cattle owners for protecting wildlife grazing on their lands in the dispersal area and for potential income losses from livestock. In return the Maasai would agree to stay outisde the Park and protect wildlife in the dispersal area. The Government's proposal was acknowledged at appraisal of the Second Livestock Development Project and IDA was to support it under the Project and agreement on the package was supposed to be obtained before the project commenced.

2.03 Although simple in concept the Government's proposal has involved and still is involving considerably intricate bargaining between the Government, the cattle owners concerned and their leaders (some of which have gone on for a number of years preceding the project). To show good faith the Government is implementing the water scheme before the final agreement

on all points has been reached with the Maasai cattle owners. As the latter have claimed compensation for lost grazing in addition to water, a point which was apparently neglected at appraisal, the Government is now also proposing to return two small portions of the Park (in exchange for a drier portion outside the Park) where additional grazing is to be created through the extension of the Sinet swamp outside the Park. As far as IDA is concerned the following aspects of the project need to be considered: a) the agreement with Maasai cattle owners on wildlife protection and fair compensation for lost water and grazing rights and for potential income losses; and b) the implementation of the water supply scheme.

Agreement with Maasai Cattle Owners

2.04 Although the agreement on wildlife protection and fair compensation was to be reached prior to investment in the water supply scheme (see para 1.04), it is still pending. This is not in accordance with the Development Credit Agreement. The Government explained it had started the scheme before concluding any agreement with the Maasai, because of time pressure and rapidly increasing costs; it also thought that its negotiating position with the Maasai would be reinforced if it had a concrete achievement to present before concluding the terms of the agreement.

2.05 The assurance that wildlife will be protected in the dispersal areas and that the Maasai will no longer use the Park area is still pending until agreement on fair compensation is reached.

2.06 Compensation for lost water rights is to be provided through the water scheme which is at an advanced stage of implementation (see paras 2.10-2.14 below). However, there are indications that the Maasai were not fully consulted on the design of the scheme and many appeared to learn about the details only after the initiation of construction. Some have therefore also

expressed their dissatisfaction with the location of water tanks and troughs which may cause inefficient grazing utilization. They reported their grievances to the Park Warden and to the resident engineer who cannot do anything about it at this late stage of implementation.

2.07 Compensation for lost grazing is to be provided in two ways: through 2 excisions from the park, in the southern and south-western part of the Park in exchange for a plot of similar area in the drier eastern part of the Park (Kimana ranch) (see map); and through the extension of Sinet swamp which will create additional grazing in the south-western excision. The two excisions from the Park were agreed upon in principle at a meeting between elders of the Maasai and the President in 1975. They have yet to be exactly determined by survey of Kenya and to be degazetted. The extension of Sinet swamp is to include: upgrading of the causeway on the Enkongo/Narok streams in order to permit a greater flow of water, building up two weirs downstream, grading the channel to lake Conch which is to become a permanent lake, and grading the south-western part of the swamp. Total costs are estimated at Ksh160,000. The plans were drawn in 1974 by the Ministry of Water Development and were submitted for approval to the Ministry of Tourism and Wildlife. They do not seem to have received further consideration and have not been included in the contract for the water supply scheme. The implementation of the swamp extension is however a condition of disbursement in the agreement between the Government of Kenya and the New York Zoological Society for the financing of the works at Amboseli (see para 2.18)

2.08 The compensation for potential income losses is to be provided in two ways: through the provision of a Guaranteed Minimum Return (GMR) and through the creation of alternative sources of income. An estimate of the

Guaranteed Minimum Return was made by the consultants who prepared a Development Plan for Amobseli at the time of appraisal of the Wildlife and Tourism Project; it amounted to £11,000 per annum. Since these calculations were made in 1973, this figure of £11,000 would have to be updated by the rate of inflation which would give approximately £15,500 (ksh310,000) This figure is only a guideline which would have to be reviewed. The formula to be used is explained in Appendix I. The substitution ratio would also have to be revised in the light of information that has become available since 1973. The Guaranteed Minimum Return would be distributed to the four ranches in the dispersal area, in the following proportions: Lolarashi, 80%; Makutana, 10%; Lengisim, 8% and Kimana Tikondo 2%. This distribution was estimated on the basis of grazing utilization by wildlife on the various ranches. The Guaranteed Minimum Return would be reviewed annually and would be decreased, eventually eliminated, as alternative sources of income arose The Guaranteed Minimum Return would be financed from the Park revenues, and the transfer of the compensation would be supervised by the Kajiado County Council. The final decision and arrangements for the provision of the GMR have yet to be made.

2.09 Three alternative sources of income are currently being considered: income from hunting blocks, income from development of camp sites, and income from new employment opportunities arising from the development of tourism. Progress has been made only on the hunting blocks.

Implementation of the Water Supply Scheme

2.10 Implementation Schedule. The engineers' design was completed by the first quarter of 1974. Invitations to tender were published on

April 9, 1974 and the closing date was set at October 1974. The contract was awarded on January 7, 1975 to a Kenyan firm: Kundan Singh Construction (Kenya) Ltd. Work at Amboseli started early 1975 and has been progressing satisfactorily. At the time of the review mission, progress of the works was as follows:

Item	% of Construction
Main pump house	35.0
Booster pump house	80.0
Grade 9 house 1	90.0
Grade 9 house 2	0.0
20,000 gal tanks	40.0
50,000 gal tanks	35.0
Water points	35.0
Water troughs	60.0
Pipe installation	80.0

Construction of the scheme should be completed by mid-July 1976, with a two-month delay over the original schedule.

2.11 The major delay occurred in the construction of the main pumphouse for the following reason: some objections were raised to the location of the main pumphouse because it was within hearing and sight of Serena Lodge's residents and visitors, although the engineers' design had been approved by the Ministry of Tourism and Wildlife. The Ministry of Water Development, which is the executive agency for MTW for this component of the project, was asked to study an alternative less noisy system, i.e., electrical power (vs. diesel power) and to propose an alternative location. The generator for Serena Lodge could have been used but proved of insufficient capacity for the pumping scheme. The costs of a new generator and of procuring and

installing electrical pumps were estimated to be an additional Ksh314,000. This alternative was therefore dropped for lack of funds but might be implemented later on when funds become available. It was agreed to locate the pumphouse 50 meters further away from Serena Lodge than originally planned; the pumphouse is now rather well hidden by trees and bushes; it is also sound proof.

2.12 Problems requiring attention by Government. Two major problems relate to the construction and design of the water supply scheme. The first problem is the completion of the booster pumphouse. The inside parts and piping for the booster pumphouse necessary to connect the pumps to the rest of the scheme were apparently omitted from the awarded contract, and the contractor claims that he is not therefore responsible for procuring these items and completing this part of the scheme. However, a careful review of the tender document indicated that a line had been entered for items possibly omitted and that the contractor's responsible for making the scheme work as 5% of his bill is to be retained for 12 months following completion of works as a guarantee against operational deficiencies. The costs incurred by the contractor to procure and install the inside parts and piping of the booster pumphouse ought to be covered therefore in his provision for contingencies and it is expected that the Ministry of Water Development, which is the executive agency of the Ministry of Tourism for the construction of the scheme, will soon take the steps necessary for the scheme to be completed on schedule.

2.13 The second problem is the proximity of the waste water disposal area of Serena Lodge to the source of water supply for the scheme. The water disposal area might pollute the source by infiltration. This problem has been brought to the attention of Serena Lodge's managers but no decision has yet been taken. It is also worth mentioning that the actual design of the scheme is not fully satisfactory. It appears that there would have been more efficient and less costly alternatives which do not seem to have been

fully investigated prior to the final decision on the scheme. However it does not seem feasible to change the design of the scheme at this late stage of implementation.

2.14 The third problem requiring Government's consideration is the operation, maintenance and supervision of the scheme. Even though the water supply scheme is going to be completed very shortly no decision has been taken, nor a draft of institutional arrangements made, to ensure the operation and maintenance of the water supply scheme, to secure and administer the necessary budget, and to supervise the scheme as well as the provision of the monetary compensation to cattle owners. The Ministry of Water Development indicated that it can provide the manpower for the operation and maintenance of the water supply scheme. The funds have to be provided by the Ministry of Tourism and Wildlife, but no indication was given to the mission that such funds were already available. It is not clear either who in the Ministry of Tourism and Wildlife will be responsible for supervising the scheme.

2.15 Tender and Procurement Procedures. The Amboseli water supply contract was awarded in violation of IDA procurement procedures as explained in Schedule 5 of the Development Credit Agreement. Although the correct international competitive bidding procedures were followed, neither the tender documents nor the bids were submitted to IDA for its review and approval. In addition, the contract was awarded without informing IDA (not even the Project Coordinator) until a month later. This issue has been discussed extensively with the Government and several explanations were given: lack of familiarity with the procedures, time pressure because of cost escalation etc.

Costs and Financing

2.16 Total costs of the Amboseli component of the project are now estimated at Ksh7.0 million (US$853,700), which represents a 285% increase over the costs estimated at appraisal. The major cause of increase in total costs is the cost of PVC piping (+295%) which has itself increased because of the in costs of all petroleum products. Details of revised costs are presented in Table 1.

2.17 However, it first must be stressed that part of the cost of the final increase must be attributed to the change in water supply scheme design since design of the water supply scheme differs from the appraisal design. The comparison of the two designs, which is shown below, indicates that the final design includes more items than the appraisal design.

	Unit	Appraisal	Engineer's Design
Pipeline installation	(miles	45	55
Storage tanks capacity	(gal. '000)	110	170
1 main tank	(gal. '000)	unspecified	50
5 secondary tanks	(gal. 20,000)	"	100
Pumps & diesel engines	No.	5	4
Main pumphouse	No.	unspecified	1
Booster pumphouse	No.	"	1
Water troughs	No.	0	10
Cattle	No.	0	5
sheep & goats	No.	0	5
Water points	No.	0	5
Pump operator houses	No.	0	2

Most of the items included in the final design of the scheme are deemed indispensable for its adequate operation. There is one exception, the inclusion of tank I into the water supply scheme, which has entailed the unjustified construction costs of 8 miles of expensive pipeline. Tank I is located south-east of the Park and already exists. It is in fact the water tank of an existing privately-owned borehole which is not operated. The inclusion of tank I in the scheme is neither economically justified nor justifiable on "compensation" grounds like the remainder of the scheme.

2.18 Also, part of the cost increase must be attributed to the costs of the grazing scheme and of the monetary compensation, which had not been included in the appraisal estimates although they are an integral part of the project costs.

2.19 IDA had agreed to finance about Kshl,131,600 or 50% of estimated total base costs plus physical contingencies. The New York Zoological Society has agreed to finance Kshl,148,000. At the current exchange rate of Ksh8.20 = $1, these contributions would cover Ksh2,279,600, which leaves a balance of Ksh4.8 million to be financed by the Government of Kenya.

Recommendations on Amboseli

2.20 The mission recommends:

a) that Maasai cattle owners reach an agreement with the Government as soon as possible to abstain from using the park and to protect wildlife in the dispersal area, and to receive fair compensation for lost water and grazing rights, and potential income losses, through the water supply scheme, the extension of Sinet swamp, the exchanges of portions of the Park for a drier portion outside the Park, and a monetary compensation be reached as soon as possible; that this agreement be submitted for IDA's approval, and that it

be made a condition of disbursement against expenditure on the Amboseli component of the project (paras 2.04-2.09);

2.21 b) that the necessary arrangements for satisfactory operation and maintenance and supervision of the water scheme be reviewed by IDA and be made a condition of disbursement against the Amboseli component of the project (para 2.14);

c) that procurement procedures be reviewed with all parties concerned in order to avoid further violations of ICB procedures (para 2.15);

d) that no disbursement be made against items which do not seem justified in particular, the repairs of tank I and the 8 miles of piping from the main pumphouse to tank I (para 2.16), nor against payment of the Guaranteed Minimum Return as the funds are to be generated from the Park's revenues (para 2.08); and

e) that IDA's financing of the Amboseli component of the project be raised from Kshl.1 million to Ksh 2.9million due to the vital importance of this project for the coordination of development of the tourist and livestock industries. This amount represents 50% of the total costs of this component less Ksh451,000 for the repairs of tank I and the 8 miles of piping from the main pumphouse to tank I, and less the costs of the Guaranteed Minimum Return (Ksh 1,058,500).

MAASAI MARA

Background

2.22 In order to protect the Reserve the Government proposed extending the boundaries of the Maasai Mara Game Reserve on the northern flank into areas presently grazed by livestock. As at Amboseli the Government proposed obtaining an agreement with cattle owners a) to provide a water supply scheme outside the Park boundaries so that graziers would not have to enter; and

b) to provide an annual cash compensation for potential income losses from livestock. The Maasai for their part would agree not to enter the Reserve and to protect wildlife in the dispersal area.

2.23 Because the Maasai also requested compensation for lost grazing and salt licks, the Government's proposal is now to excise three portions of the Reserve rather than extending its boundaries. The Reserve will still be protected as assurances will be obtained that wildlife will be protected in the dispersal area. Although progress has been made there are outstanding issues on the compensation agreement and on the water supply scheme.

Agreement with Maasai Cattle Owners

2.24 Progress on the compensation agreement is presently quite well advanced. The assurance that Maasai will abstain from using the Reserve area and will protect wildlife in the dispersal area is still pending on the provision of fair compensation for lost water, grazing salt licks rights and potential income losses. Compensation for lost water rights is to be provided through the water supply scheme (see paras 2.33 to 2.36 below)

2.25 Compensation for lost grazing and salt licks is to be provided through three excisions from the Reserve. They were proposed by the Minister of Tourism and Wildlife in a letter dated April 1975 to the Narok County Council and at a meeting attended by members of Parliament and Representatives of the Narok County Council on June 6, 1975. The three excisions would be as follows (see map):

i) Oloololo area - 20 km^2 from the game camp in a straight line to the Mara river. Governor's camp would remain within the Reserve because it is the most important tourist area in the Reserve;

ii) Talek area - 48 km^2 from Doinyoloi up to Tsetse fly camp; and

iii) Siana area - 94 km^2 from the game reserve boundary due north of the source of the river Olaimutiek following Olaimutiek in the southern direction then following the base of Olenteroto Hill

to the Kenya-Tanzania boundary.

As Maasai settlements are within the boundaries of the three excisions proposed, no families would have to be displaced as was originally thought at appraisal (Appraisal Report, Annex 2, para 14).

2.26 At a meeting on February 12, 1976, the Game and Forest Committee of the Narok County passed the following resolution:

> "That the Game Committee highly appreciates the sympathetic consideration of the Minister for Wildlife and Tourism for agreeing to excise parts of the Game Reserve to give the Maasai adjacent to the Reserve access to important water sources and Salt Licks"

It was reported to the mission that the Narok County Council had agreed t. the proposed boundaries. However, the minutes of the February 12, 1976 meeting also state the following:

> "It was generally observed that two most important water sources and Salt Licks were not accessible and the Committee recommended that the Minister be requested to consider a further excision on Olare-Orok and Oloolaimutia points".

It seems therefore that the boundary question is not quite solved yet, although much progress has been accomplished. The recommendation on the three excisions of the Game and Forest Committee has to be approved by the Narok County Council itself, and the question of Olare-Orok and Oloolaimutia will have to be solved.

2.27 Monetary compensation for potential income losses from livestock would be provided through a Guaranteed Minimum Return (GMR), and through income generated from photographic fees, hunting rights, camping fees and from the development of a new lodge.

2.28 The Guaranteed Minimum Return will be determined and reviewed by the Game Department as a function of wildlife utilization of natural resources mainly on the Koyaki and Olkinyei group ranches.(Fewer game is dispersing on Siana group ranch which is not yet fully adjudicated).

2.29 Photographic fees, which up to now were collected by the Narok County Council, will now be a direct source of income for the Koyaki, Siana and Olkinyei group ranches which have been marked as photographic block while the rest of Narok district has been divided into hunting blocks (see map). Income from photographic fees is estimated at Ksh80,000 -150,000 a year.

2.30 15% of the gross income of hunting blocks No. 7 (west), No. 1 and No. 2 (east), and No. 3 and No. 5 (east) would be given to the photographic block (Koyaki, Siana, part of Olkinyei). It would not be justified to require from hunting blocks Nos. 4 and 6 to contribute the 15% because of their more distant location from the dispersal area. The total annual income for the photographic block would therefore be Ksh261,421. However, if the total income of the photographic block becomes superior to the income of hunting blocks, the 15% contribution will be reduced to 5% or possibly the photographic block would contribute to hunting blocks.

2.31 The development of camp sites in the photographic block will be encouraged. Camp sites concessions will be selected by the Ministry of Tourism and Wildlife in agreement with group ranches and put to tenders. Concessions will be granted on an annual tenancy basis. A Guaranteed Minimum Return from the camp site will be paid by the tenant to the owner in order to encourage the promoter to develop his own business. Additional revenues will be paid on a per bed occupancy basis. Income generated from camp sites could amount to Ksh200,000 per annum.

2.32 Three lodges currently exist in Maasai Mara Game Reserve: Musiara, Keekerok and Mara Serena Lodge. A fourth one is going to be built outside

the Reserve boundaries. The income generated would go to Siana group ranch and to two group ranches (yet to be determined and adjudicated) from hunting block No. 5.

Water Supply Scheme

2.33 No progress is reported on the water supply scheme at Maasai Mara. Preliminary surveys were made by the Ministry of Water Development in 1974 but the final feasibility study and the cost benefit analysis have not yet been done. Four alternatives would be possible: 1) to pump water from the Mara river; 2) to pump water from the Nyongore river; 3) to build a dam and reservoir in Koyaki; and 4) to build boreholes whichever of the 4 solutions is finally adopted, water will have to be treated in order to be potable.

2.34 Two reasons were advanced to explain this delay in implementation: first reason that priority was given to the Amboseli Water Supply Scheme; second reason that the Ministry of Tourism and Wildlife first wanted to settle the compensation issue with the Maasai (see paragraphs below). The mission was given assurances by the Ministry of Tourism and Wildlife that Maasai Mara was now going to put on their project list. The Ministry of Water Development which will be the executive agency of the Ministry of Tourism and Wildlife for the construction of the water supply scheme may not be able to finish the feasibility study before 1977. Assuming that 18 months will be necessary for construction, the scheme could start operating early 1979, i.e. six months before the project completion date. Also, as for development under Livestock II, there will be need to coordinate with the Range Management Division of the Ministry of Agriculture and with the Agricultural Finance Corporation, the design and implementation of the water supply scheme.

2.35 Koyaki and Olkinyei group ranches will be the major beneficiaries of the water supply scheme. However cattle from other ranches from hunting

blocks No 1. 3, and 5, come down to Maasai Mara in the dry season mainly to drink water. However it is not currently envisaged that the project water supply scheme be extended to their areas because it is felt that alternative sources of water could be developed.

Costs and Financing

2.36 Total base costs of the water supply scheme had been estimated at Kshl,828,700 at appraisal. The latest estimate available dated October 1973, is of Ksh200,000 for design and Ksh3,400 for construction and 1 year supervision which would give a total cost of Ksh3,600,000. If updated by the rate of inflation since 1973, this figure would become approximately Ksh5.0 million. A similar figure was derived by the mission for an update of a pumping scheme for Maasai Mara on the basis of the costs at Amboseli. However it is unsatisfactory to put down a cost figure before the feasibility study has been done. The original cost figure has therefore been kept as cost estimate of the project, but only half a year of recurrent costs have been included the cost of the Guaranteed Minimum Return has been added, as well as some money for financing the feasibility study. The total cost for this component of the project is therefore Ksh 1,7 million. With contingencies, the costs could be raised to Ksh 2.4 million.

Recommendations on Maasai Mara

2.37 The mission recommends that:

a) that the agreement between Government and Maasai cattle owners to abstain from using the Reserve and to protect wildlife in the dispersal area, and to receive fair compensation for lost water, grazing and salt lick rights, and potential income losses, through the water supply scheme, the excisions from the Reserve and a monetary compensation, be obtained as soon as possible; that this agreement be submitted for IDA's

approval and that it be made a condition of disbursement against expenditure on the Maasai Mara water supply scheme (paras 2.22-2.30).

b) that land adjudication in Siana and in parts of blocks No. 3 and No. 5 be given first priority in order to ensure the implementation of the compensation scheme (paras 2.26 and 2.30);

c) that the Maasai be consulted on the final design of the water supply scheme, on the location of camping sites, as well as on the annual evaluation of the monetary compensation;

d) that a realistic schedule for the construction of the water supply scheme be established and the necessary funds mobilized (para 2.32);

e) that the extent of the water supply scheme be carefully considered in order not to jeopardize the development of the Reserve and of the adjacent group ranches and that assurances be obtained that alternative sources of water be provided to ranches affected by the excisions but not included in the scheme (para 2.33)

f) that the IDA's financial contribution be kept as agreed in the Development Credit Agreement. In an amount of Ksh 1.1 million until the feasibility study and cost benefit analysis have been made. If the final option proves more costly than the amount of money marked up, additional financing could be made available out of the unallocated category of the credit (para 2.34).

KITENGELA/NAIROBI

Background

2.38 The Kitengela dispersal area is of vital importance for the Nairobi National Park. Wildlife normally migrates to and breeds in Kitengela

during the wet season and comes back to the Park to give birth during the dry season. It is therefore important that wildlife be protected in the dispersal area. For many years the Government has wanted to integrate the area into the Nairobi National Park and to develop it into game viewing area with roads, trails, gates, housing and water points. The project provides finance for this in frastructure. The urgency of the matter has already been brought home in the 1960's by the claiming of individual ranches in the area and requests to adjudicate and register these ranches and larger group ranches. There is now poaching of game taking place in Kitengela. The rationalization of the land problem in Kitengela is therefore an urgent need.

Progress to Date

2.39 So far very little progress has been made on the Kitengela part of the project and it is well behind the implementation schedule set at appraisal. Following appraisal the Ministry of Tourism and Wildlife commissioned to UNDP/FAO Wildlife Management Project to prepare the development plan for Kitengela (the main objective of the Wildlife Management Project was to prepare a development plan for the whole of Kajiado District). This plan was submitted to the Ministry of Tourism and Wildlife.

2.40 A meeting took place in mid-1972 at the headquarters of the Kajiado District Council, with representatives of the Kajiado District Council of the Ministry of Tourism and Wildlife, and of the Maasai to discuss the proposals. Agreement on the proposed development of Kitengela was reached. Kitengela were to receive every year a minimum of £10,000 plus 50% of the National Park revenues. The money would not be paid to individuals but to a committee of the people which would decide on the utilization of the money (schools, dispensaries, etc.) provided that they agreed to the development

strategy for the area. However, there appears to have been little follow-up to this meeting. An incident took place towards the end of 1973 when some Maasai cattle trespassed the park boundaries and were shot by the staff of the Park. This incident caused a complete break in the relations between the Kitengela Maasai and the Government. Relations do not appear to have improved although the cattle owners concerned received monetary compensation for the animals that were shot. Changes in Ministry of Tourism and Wildlife staff dealing with Kitengela have not helped continuity.

2.41 The reasons advanced by Government for slow progress at Kitengela are that priority was given to Amboseli and that time was needed to allow for the tension to ease following the 1973 events. Further delays could reduce the potential for compromise. The more permanent structures are erected in the incipient ranches the more difficult it will be to implement a development plan that accommodate both wildlife and livestock. It is clear therefore that if development is to take place at Kitengela immediate attention will have to be paid to:

a) coming to some agreement with the Kitengela livestock owners; and

b) preparing a development plan and machinery for implementing such a plan.

Land Adjudication

2.42 This is the major issue. Until solved, little progress can be expected on the other aspects of the project. Adjudication in Kitengela was already an issue back in 1967. Given the importance of the area for the survival of the Park it had been agreed by Cabinet that Kitengela should not be adjudicated,

but that it should become an integral part of the Park. (There were talks at some point to purchase Kitengela).

2.43 This Cabinet decision was rejected by the local population. Pressure was made for land to be adjudicated. In 1972, a verbal agreement was reached between the Ministry of Tourism and Wildlife, the Lands Department, the Ministry of Agriculture, the Kajiado County Council and representatives of the Maasai, that land would be adjudicated in Kitengela to one group ranch but that there would be no individual ownership. The Kitengela component of the project was approved on the basis of this agreement although this agreement was never legalized.

2.44 In spite of the terms of this verbal agreement, individual cattle owners have started setting up permanent structures. At the same time, pressure to proceed with land adjudication has been increasing. The current situation is as follows: land claims have been submitted to the Lands Department for one group ranch and 47 (or 50) individual ranches. Development of these ranches mainly for water development has been started in some cases with private financing.

2.45 The mission did not receive any clear statement from the various Government bodies of the steps which they intend to take with respect to the final adjudication of these ranches. The Ministry of Tourism and Wildlife has asked the Ministry of Land to slow down on adjudication in Kitengela until the development plan for the area is finalized. The Ministry of Land is cooperating as much as it can but it is pressed by local politicians and by the Kajiado County Council to finalize land adjudication. The final decision on land adjudication in Kitengela is of extreme importance and urgency for the future of Nairobi National Park (see para 2.36 above).

Cost and Financing

Total costs are estimated at Ksh 7.8 million with contingencies

2.46 /In the absence of a final development plan for Kitengela, it was difficult for the mission to update costs. Costs of items identified at appraisal were updated on the basis of unit costs included in the Wildlife and Tourism Project. Costs have been revised to take into account the elimination of year 4 investment items and to include the monetary compensation since the project is running behind schedule. Total costs have therefore decreased by 10% over the appraisal estimates.

Recommendations on Kitengela/Nairobi

2.47 The mission recommends:

a) that a schedule of action on Kitengela be established and submitted to IDA before the next supervision mission:

b) that land adjudication be given first priority for, as long as as the decision is not taken, the development plan cannot be finalized since the landowners will have to agree to it; and

c) that IDA's contribution to the development of costs of Kitengela remain at 50% of total costs(except for the compensation) or US$427,659 equivalent.

CENSUS AND MONITORING UNIT

2.48 The census and monitoring component of the project was selected by the Canadian Aid (CIDA) for their participation in the project. Progress has been slow and is well behind schedule although the CIDA-GOK Project Agreement was signed on November 12, 1974 the project only became effective on December 12, 1975. CIDA's report is attached as Appendix III to this Annex.

2.49 The Kenya Rangeland Ecological Monitoring Unit /Kremu was established on February 13, 1976 in the context of the wildlife (Conservation and Management) Act of February 13, 1976. The project manager (a Canadian) and four of the five Canadian scientists have arrived. The aerial photography expert still has to be found. CIDA is also to provide 3 pilots; none has arrived yet. Delays have occurred in nominating counterparts. A project co-manager had been assigned but left because of some conflicts with the technical assistance team. A replacement has not yet been found. Only two of the other counterpart positions have already been filled. Lack of office space has also been a constraint.

2.50 All the vehicles for Kremu have arrived in Kenya. Most of the technical equipment has been procured and is waiting in storage in Montreal until storage space is made available in Nairobi. The equipment should arrive around July 1976. No schedule of activities or comprehensive work program have yet been fully established. Attempts are made to coordinate census and monitoring activities undertaken by several other parties, both under the project and in Kenya as a whole, namely by USAID (Satellite monitoring), UNESCO/UNEP (arid lands), ILCA (ground monitoring) FAO/UNDP (Kajiado), and individuals (Amboseli, Tana River, Samburu etc.).

2.51 The work program is being formulated and the mission stressed that first priority should be given to the census and monitoring of the Amboseli; Maasai Mara and Nairobi eco-systems as was determined at appraisal.

COVENANT IN DEVELOPMENT CREDIT AGREEMENT

2.52 Progress on the agreement between the cattle owners and the Government of Kenya has been discussed in detail in the sections of the report dealing with Amboseli, Maasai Mara and Kitengela/Nairobi. However, a specific point concerning the text of the covenant has to be clarified.

2.53 The covenant (see para 1.05) requires a written agreement between the cattle owners and the Government. The previous supervision missions had been informed that cattle owners refuse to sign any agreement because the precedent of 1904 that caused their loss of Laikipia. It had been agreed by IDA that minutes of the barrazas (general meeting) at which the agreement is reached would be acceptable legal documents.

2.54 However, the Review Mission's opinion is that this argument is no longer fully relevant. Group ranches now enter all the time in written agreements, for example when taking a loan from AFC. The mission therefore recommends:

a) that the agreement requested be a written agreement as negotiated and agreed in the Development Credit Agreement;

b) that the text of the Development Credit Agreement be amended to allow for the cases when it will not be feasible to have a written agreement. It is proposed that the Development Credit Agreement be amended along the lines of the text of the Development Credit Agreement of the recently negotiated Wildlife and Tourism Project (see Appendix III).

INSTITUTIONAL ARRANGEMENTS

2.55 Several institutional changes have taken place since appraisal. The Ministry of Tourism and Wildlife is still responsible for implementing the wildlife component of the project. However, the National Park's Administration is no longer a separate Government entity; it has been incorporated into the Ministry by virtue of the Wildlife (Conservation and Management) Act of February 13, 1976. The National Park's Administration is henceforth a department of the Ministry like the Game Department; the latter keeps the responsibility for game reserves such as Maasai Mara Game Reserve.

2.56 The implementation of the wildlife component of the project has been slow even when taking into account the institutional changes that took place and some personnel appointments. Progress has been slow on the compensation and agreement issues in the three project areas, on the development plan in Kitengela and on the Maasai Mara water supply scheme. Coordination with the Project Coordination Unit as well as with other Government agencies could be improved.

2.57 In view of this experience the mission recommends: a) that a full-time staff member of MTW be seconded to the under-secretary in charge of the implementation of the project component. Such a person could carry on the day-to-day tasks related to the project as well as ensure the efficient coordination between all the Government agencies. The project manager for the Wildlife and Tourism Project who has already been selected could be appointed to such a position until the new project is approved. He would thereby gain experience with project management and Bank operations; and b) that a follow-up and supervision of the water supply schemes at Amboseli and Maasai Mara be coordinated with the supervision work of IDA's Public Utilities Division in the context of the Wildlife and Tourism Project.

Costs and Financing

2.58 Total costs and financing arrangements of the Wildlife component are summarized below.

Item 1/	Total Costs	Financing				
		GOK	IDA Agreed	IDA Proposed	CIDA	New York Zoological Society
	KSh '000					
Amboseli	7,322.0	3,267.7	-	2,906.3	-	1,148.0
Maasai Mara	2,377.7	1,266.3	-	1,111.4	-	-
Kitengela/Nairobi	7,780.8	4,274.0	-	3,506.8	-	-
Census and Monitoring Unit	28,765.8	5,186.7	-	-	23,579.1	-
Total	46,246.3	13,994.7	6,560.0	7,524.5	23,579.1	1,148.0

1/ Physical contingencies are included in total costs.

The mission recommends that IDA's total contribution be increased from US$800,000 to US$917,600 in order to meet part of the cost over-runs. IDA's contribution would represent 16.3% of the total costs of the wildlife component. The GOK's contribution will now amount to US$1,7 million.

CONCLUSION

2.59 Except for the Amboseli water supply scheme, implementation of the wildlife component is very behind schedule. A revised implementation schedule is shown on the individual investment tables for each of the parts of the component Tables 1 and 2 and the Project Cost Table Annex 19. The mission feels that it is possible to complete most of this component of the project within the three and half years which are left to implement the Project if solutions and agreements can be quickly reached. However, the successful completion of this component of the project will very much depend on the Government's commitment to finding solutions to the issues which are still pending. Failure to solve these issues would present a major obstacle to IDA's disbursements against the various parts of the component.

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ASSUMPTIONS USED IN CALCULATING THE GUARANTEED MINIMUM RETURN

1. The wildlife/livestock substitution rate is assumed to be 1:1. This will overestimate the forage losses to the farmers, but since a more accurate substitution ratio is not available, it is considered a useful first approximation.

2. The average annual biomass occupancy of Park animals on the surrounding ranches is calculated from the difference between the dry season biomass counts in the Park and those of the wet season, data being drawn from the Amboseli Ecological Monitoring Program. The value is calculated at 0.48×10^5m kg/annum.

3. The average value of each unit of livestock is assumed to be Ks.134 per annum, based on the value of the subsistence herd to the ranchers.

4. The average weight of each stock unit is assumed to be 180kg, a value close to the average weight of zebu cattle, taking a herd cross-section.

5. The average cost of herd management is taken as 52sh/stock unit, again based on the assumptions set forth in the Development Plan.

The Calculation of Guaranteed Minimum Return

6. The opportunity costs of the National Park animals to the surrounding ranchers can be calculated by the equation:

$$C = \frac{B}{} \quad V - m$$

Where:
C = opportunity costs
B = assumption 2)
W = " 4)
V = " 3)
m = " 5)

The value calculated for the W.U.F. (or opportunity cost) on this basis is £10,935, or for all practical purposes, £10,000, allowing that there is an upward bias introduced by a substitution rate favorable to the ranchers.

7. It is to be expected that the W.U.F. will increase as the size of the Park wildlife herds build up with the exclusion of cattle following the completion of the water compensation scheme. However, it cannot now be envisaged that the pipeline will be complete before 1976, so little increase in the W.U.F. will be incurred before 1977 or 1978. Since the herds will presumably continue to be monitored throughout, adjustments to the fee can be made after evidence of such increases. Ecological monitoring flights should continue to be used as a baseline for such calculations. There is no value in attempting to calculate the W.U.F. fees beyond 1977, and for the present planning purposes, the calculated figure can be used as a base projection of costs that will have to be met by the Park.

Kenya Rangeland Ecological Monitoring Unit (KREMU)

1. The project agreement was signed on November 12, 1974, and the project became effective on December 12, 1975 with the arrival of the three project aircrafts(Cessna 185's) in Nairobi. We are therefore only in year one of the project although the Kenya Second Livestock Project is in year two. Given the difficulties presently being encountered, it is likely that further slippage will occur.

Personnel

2. Candidates have been nominated to the Government of Kenya for all the positions to be occupied by Canadians, including the pilots, however, response has been given only on five of a total of nine. The staffing of the photo-technician has been at issue since October 1975, and the staffing proposal for the pilots has been outstanding since the end of January 1976. None of the work involving use of the aircraft can be planned, let alone begun, until staff are available for these positions. To date CIDA has fielded the project manager, senior aerial biologist, systems ecologist, aerial biologist and junior range ecologist, all having arrived in Kenya from December 1 1975. A major problem with nominations has been the length of time taken by the project steering committee to be convened and to consider the candidacies, this we feel has caused some delay in our assigning staff to the field.

3. The matter of counterpart staff is now becoming a problem. According to project agreements the Government of Kenya is to provide counterparts for the six professional/scientific positions initially to be staffed by Canadians, most critical of which is the position of co-manager, to be occupied by the person who in four years assumed responsibility for the Unit. To date the action we have seen relates solely to the range ecologist positions. We are most concerned that no candidates have been put forward for the position of project/unit co-manager. Furthermore with the recently undertaken re-

organization of the Game Department and National Park's authority with the Ministry of Tourism and Wildlife we believe that a realignment of the administrative arrangements for our project is in order.

Logistics

4. The present accommodation for the unit is unsatisfactory. Given the requirement for data processing facilities, key-punch equipment, mathematical computing facilities and laboratory space as well as office facilities, the unit is in serious difficulties. Present plans call for renting the required space. This we feel is unacceptable and we are requesting that priority be given to the construction of a permanent facility designed to meet the units specific requirements. There also are problems regarding the storage of the unit's scientific equipment and in the absence of any steps to guard against pilfering we have not been able to deliver any of it from Canada as yet. The Ministry Tourism and Wildlife are also rather slow in providing basic office support, this has held back the development of project operations as well.

Equipment

5. The project aircraft have been delivered and now await the arrival of the pilots (see above). The ten landrovers for the field survey work have been delivered and handed over to the Government of Kenya as has a Peugeot station-wagon. The remaining vehicles, a bus and two lorries, are presently being shipped to Kenya. The scientific, laboratory and computing equipment has been purchased and we await confirmation of the availability of secure storage before shipping. Technical, camping and office equipment which are to be provided by the Government of Kenya have not yet appeared.

Other

6. CIDA is to make a contribution to project operating costs, i.e. aircraft,

vehicles, and certain of the laboratory costs. As none of these functions can be said to be underway, no funds have been transferred, nor are they likely to be until the aircraft is operating.

7. The project manager is to be an ex officio member of the project steering committee, as yet he has not been included in its meetings. The project's technical advisory committees have not been established.

8. Phase I of the project, scheduled to last eight months, is now half over and approximately one-sixth of the activities for this phase has been completed. Expenditures are _____% of the total.

Kenya Rangeland Ecological Monitoring Unit

Costs - Loan Funds

9. Estimate made by CIDA in preparing project agreements in 1974:

Equipment (aircraft, vehicles, laboratory equipment)	$400,000
Vehicle spares and aircraft price contingency	157,500
Contribution to project operating costs	540,000
Total (Cdn $)	1,097,500

Grant Funds

10. Estimate made by CIDA in preparing project agreements in 1974:

Scientific, technical, and air service personnel	$1,182,500
Training	120,000
Project manager imprest account	25,000
Contingency	75,000
Total (Cdn $)	$1,402,500

It may become necessary to increase the provision for scientific, technical and air service personnel by $250,000 due to increases in salaries and overheads since early 1974 when the above calculations were made. This would increase the grant portion of the project to $1,652,500 and the total project cost to $2,750. No other increases are contemplated.

Extracts from Development Credit Agreement for Wildlife and Tourism Project

1. Section 3.07 (a) Except as the Borrower and the Bank shall otherwise mutually agree, and subject to the provisions of paragraphs (b) and (c) of this Section 3.07, the Borrower shall: (i) enter into agreements in writing with the Narok, Samburu and Isiolo County Councils providing, inter alia, for the Borrower to undertake to manage, on behalf of said County Councils, respectively, the Masaai Mara, Samburu, Buffalo Springs and Shaba Reserves, and for the payment by the Borrower to the said County Councils, of certain minimum returns from their respective Reserves; (ii) enter into agreements in writing with all (or, if the Bank shall so agree, substantially all) competent authorities (including, in the case of Trust Lands not yet adjudicated, the respective County Councils) in the wildlife dispersal areas associated with the Park and Reserves included in Part I of the Project and the Marmar Ranch, providing inter alia for such competent authorities to undertake to follow (or in the case of such County Councils, to agree to take all necessary measures as will ensure that the persons ordinarily resident on such Trust Land will follow) prescribed ranching and (if applicable) cultivation practices consistent with continued wildlife migrations, and for the Borrower to undertake to pay to the said competent authorities such amounts as shall be required to provide the guaranteed minimum return from wildlife and to assist competent authorities to earn direct returns from wildlife; and (iii) consult with the Bank, prior to entering into any such agreement, regarding the form thereof and the terms and provisions to be included therein.

(b) In the case of wildlife dispersal areas which have not yet been fully adjudicated into group ranches and are held in trust by the relevant County Councils, i.e. in particular, at the Samburu, Buffalo Springs and Shaba Reserves, and at the Marmar Ranch, the Borrower shall initially enter into agreements under paragraph (a) of this Section 3.07 with the relevant County Council,

and thereafter, as the land is adjudicated, with the competent authorities to whom such land is adjudicated. Such agreements with County Councils shall, without limitation, include specific undertakings on the part of the County Council that any grazing schemes administered by such County Council on behalf of pastoralists shall be consistent with the wildlife conservation objectives for the relevant Reserve and its associated wildlife dispersal area and that a substantial portion of the revenues accruing to the County Council pursuant to such agreement in respect of each such Reserve shall be applied to benefit the pastoralists in the respective adjacent wildlife dispersal area under the jurisdiction of such County Council.

(c) The parties recognize that it may not be feasible, initially in particular and in all cases, to enter into written agreements with competent authorities other than County Councils as envisaged in paragraph (a) of this Section 3.07. Where it appears that written agreements with such competent authorities are impracticable as so envisaged, the Borrower shall consult with the Bank with a view to formulating, and the Borrower shall implement, other arrangements under which the purposes intended to be achieved under such written agreements can be achieved. Such arrangements may include (i) the recording of minutes of meetings (barazas) between the Borrower's and competent authorities' representatives, recording verbal ageeements/understandings reached, signed or acknowledged (by thumb print or otherwise) by the said representatives, together with the Borrower's undertaking to take all appropriate measures to enforce such verbal agreements/understandings, or (ii) other statutory measures provided pursuant to the Act or regulations adopted thereunder.

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Wildlife - Amboseli National Park
Ksh '000

	Unit	Unit Cost Ksh	Year 1 (1975 Actual)	Year 2	Year 3	Year 4	Year 5 (6 months)	Total Cost No.	Foreign Exchange Component %	Foreign Exchange Component US$ Eq.	Total Cost At appraisal	% house
Investment												
Water Supply Scheme												
Contractor's camp	No.	370,000	370.0	-				370.0				
Excavation and site clearance		566,700	566.7	-				566.7				
Main pumphouse	No.	38,363	25.0	13.4				38.4				
Booster pumphouse	No.	24,629	16.0	8.6				24.6				
Pumps and diesel engines (plus spare parts)	No.	37,750	37.7	113.3				151.0				
Repairs Naiperon tank	No.	12,000	5.6	6.4				12.0			270.0	
50,000 gal. storage tank	No.	78,168	15.6	62.5				78.1				
20,000 gal. storage tank	No.	44,709	44.7	178.8				223.5			(88.0	
Water points and troughs	No.	22,500	28.1	84.4				112.5			(	
Pipework and fittings	Mile	60,466	2,128.4	1,197.2				3,325.6			1,080.0	
Plant, materials and labor			22.2	10.9				33.1				
Contractor's contingencies			214.0	15.0				229.0				
Consultant engineer's fees			166.0					166.8				
Sub-total			3,640.8	1,690.5				5,331.3	75	3,998.5	1,438.0	+ 271
Engineer's house	No.	70,000	70.0	-				70.0	40	28.0		
Grade 9 house (for pump operators)	No.	40,000	25.9	54.1				80.0	10	8.0		
Landrover pick-up	No.		-	81.0				81.0	90	72.9	26.0	
Sub-total			95.9	135.1				231.0	54	108.9	26.0	+ 788
Sinet Swamp Extension												
Causeway upgrading												
Weirs												
Swamp extension												
Sub-total			-	160.0				160.0	40	64.0		
Total Investment Costs			3,736.7	1,985.6				5,722.3	73	4,171.4	1,464.0	+ 291
Operation and Maintenance 1/												
Water Supply Scheme												
Main pumphouse operator	Man-year	9,000	-		(2)18.0	(2)18.0	(2) 18.0	(4)54.0	-			
Booster pumphouse operator	Man-year	9,000	-		(1) 9.0	(1) 9.0	(1) 9.0	(3)27.0	-			
Drive	Man-year	9,000	-		(1) 9.0	(1) 9.0	(1) 9.0	(3)27.0	-		22.8	
General laborer	"	5,400	-		(1) 5.4	(1) 5.4	(1) 5.4	(3)16.2	-		13.0	
Pump, engine and pipework maintenance	Year	20,000			80.0	80.0	80.0	240.0	50	120.0	280.0	
Building maintenance	Year	3,500			3.5	3.5	3.5	10.5	40	4.2		
Vehicle maintenance	Year	17,500			17.5	17.5	17.5	52.5	50	26.3	49.0	
Replacement 2/												
Sub-total					142.4	142.4	142.4	427.4	35	150.5	364.8	+ 17
Grazing Scheme					8.0	8.0	4.0	20.0	-			
Total operation and maintenance		4,000										
Guaranteed Minimum Return to Livestock Owners					150.4	150.4	146.4	447.2	34	150.5		
Total base costs			155.0	155.0	310.0	232.5	175.0	872.5	-	-		
			3,736.7	2,140.6	460.4	382.9	321.4	7,042.0	61.4	4,321.9	1,828.8	+ 288

1/ Buildings: 2% of investment costs; vehicle, 50 miles/day @ Sh.95/mile; grazing scheme 2.5%.

2/ Replacement: pumps every 15 years; vehicle every four years.

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Kitengela/Nairobi National Park
Ksh '000

	Unit	Unit Cost	Year 1	Year 2	Year 3	Year 4	Year 5	Total Cost	Foreign Exchange Component %	Foreign Exchange Component US$ Eq.	Total Cost Estimated at Appraisal	% Change
INVESTMENT ITEM												
Game barriers	Km	25.0	-	-	(6) 150.0	(6) 150.0	(6) 150.0	(18) 450.0	25	112.5	240.0	
Game viewing tracks	Km	20.0			(40) 800.0	(40) 800.0	(40) 800.0	(120) 2,400.0	20	48 .0	4,800.0	
Senior housing	No.	134.0			(1) 134.0	(1) 134.0	-	(2) 268.0	40	107.2	180.0	
Junior housing (grade 9)	No.	40.0			(2) 80.0	(2) 80.0	(2) 80.0	(6) 240.0	10	24.0	200.0	
Office equipment	Set	30.0			(1) 30.0	(2) -	-	(1) 30.0	40	12.0	20.0	
Entry gates	No.	118.0			(1) 118.0	(2) 236.0	(1) 118.0	(4) 472.0	30	141.6	50.0	
Ticket office (30 m^2)	No.	31.5			(1) 31.5	(2) 63.0	(1) 31.5	(4) 126.0	30	37.8		
Landrover pickup	No.	81.0			(1) 80.0	(1) 80.0	(1) 80.0	(3) 240.0	90	216.0	104.0	
Sub-total					1,423.5	1,543.0	1,259.5	4,226.0	26.8	1,131.1	5,594.0	
Consultant fees					100.0	-	-	100.0	-	-		
Total investment costs					1,523.5	1,543.0	1,259.5	4,326.0	26.8	1,131.1	5,594.0	- 22
OPERATION AND MAINTENANCE												
Supervisor	Man-year	45.0			(1) 45.0	(1) 45.0	(1) 45.0	(3) 135.0	-	-	144.0	
Assistant	"	13.0			(2) 26.0	(4) 52.0	(6) 78.0	(12) 156.0	-	-	180.0	
Junior staff	"	9.0			(3) 27.0	(5) 45.0	(7) 63.0	(15) 135.0	-	-	144.0	
Building maintenance	Year				3.0	9.3	14.0	26.3	40	10.5	18.5	
Game barriers maintenance	"				1.5	4.5	7.5	13.5	15	2.0		
Track maintenance	"				20.0	60.0	100.0	180.0	50	90.0	360.0	
Office expenses	"				15.0	15.0	15.0	45.0	20	9.0	40.0	
Vehicle operation and maintenance	"				17.5	17.5	17.5	52.5	50	26.3	140.0	
Total operation and maintenance costs					155.0	246.3	340.0	743.3		137.8	756.5	- 2
MINIMUM GUARANTEE RETURN TO LANDOWNERS					310.0	232.5	155.0	697.5				
Total base costs					1,988.5	2,023.8	1,754.5	5,766.8	22.0	1,268.9	6,350.5	- 10

1/ Costs estimated at appraisal are higher than revised costs because one year of the project period has been lost without any investment.

June 1, 1976

TABLE 2

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT - 477-KE

Review Mission - February 22 - March 26, 1976

Costs of Project Co-ordination Unit
(Ksh '000)

	Unit Cost	Year 1	Year 2	Year 3	Year 4	Year 5	Total	Foreign Exchange Component %	Foreign Exchange Component US$ Eq.
Capital									
Vehicles 1/		(1) 60.0		(1) 80.0		80.0	220.0	65	143.0
Office equipment		9.0	7.5	10.0	10.0	5.0	41.5	40	16.6
Total capital costs		69.0	7.5	90.0	10.0	85.0	261.5	61	159.6
Recurrent									
Project co-ordinator	56.0	)	(1) 56.0	(1) 56.0	(1) 56.0	(1) 56.0)			
Assistant project co-ordinator	40.0	)	(1) 40.0	(1) 40.0	(1) 40.0	(1) 40.0)		100.0	40.0
Financial analyst	33.0	)	(1) 33.0	(1) 33.0	(1) 33.0	(1) 33.0)		-	
Secretary	13.0	) 129.0	(1) 13.0	(1) 13.0	(1) 13.0	(1) 13.0)	1,200.0	-	
University graduates	27.0	)	(1) 27.0	(4) 108.0	(4) 108.0	(4) 108.0)		-	
Clerical officer	8.0	)	(1) 8.0	(1) 8.0	(1) 8.0	(1) 8.0)		-	
Drivers	6.0	)	(2) 12.0	(3) 36.0	(3) 36.0	(3) 36.0)		-	
Sub-total		129.0	189.0	294.0	294.0	294.0	1,200.0	3.3	40.0
Housing allowance 2/		15.3	20.0	10.0	-	-	45.3	-	79.3
Travel and accommodation		34.3	50.0	60.0	60.0	60.0	264.3	50	132.1
Vehicle expenses		9.5	25.5	36.5	40.0	40.0	151.5	50	75.8
Office expenses		8.0	18.0	20.0	20.0	20.0	86.0	20	17.2
Total recurrent costs		196.1	302.5	420.5	414.0	414.0	1,747.1	19.7	344.4
Total costs		265.1	310.0	510.5	424.0	499.0	2,008.6	25	504.0
Total costs at appraisal		(402.6)	(312.6)	(312.6)	(312.6)		(1,340.4)		

1/ Replacement vehicle in year 5
2/ Housing allowance payable to advisor; advisor paid from USAID grant funds.

June 29, 1976

ANNEX 13

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT - 477-KE

Review Mission - February 22 - March 26, 1976

Costs of Project Evaluation, Investigational work and Technical Training
(Ksh '000)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total	Foreign Exchange Comp. %		Appraisal Report
Project evaluation and monitoring		120.0	240.0	240.0	120.0	720.0	50	360.0	(720.0)
Investigational research		120.0	240.0	240.0	120.0	720.0	30	216.0	(720.0)
Project preparation			180.0	360.0	180.0	720.0	50	360.0	(720.0)
Meat marketing, pricing and processing strategy study 1/			1,000.0	640.0		1,640.0	75	1,230.0	(720.0)
Education and training		96.0	159.0	126.0	123.0	504.0	90	453.6	(350.0)
Overseas study			48.0	48.0	48.0	144.0	30	43.2	(144.0)
		336.0	1,867.0	1,654.0	591.0	4,448.0	60	2,662.8	
Appraisal report	(846.0)	(846.0)	(846.0)	(846.0)	-	(3,384.0)			

1/ Quotations for meat study had not been received at time of Review Mission. See comments about financing of study in main text para _____

August 20, 1976

KENYA

Livestock Development Project 477-KE

Review Mission - February 22 to March 26, 1976

Organization, RMD Field Requirements and Ranch Planning

Part I. Organization

1. These are 17 Departments or Agencies whose operations in some way affect the project; all but one have executive functions in the main stream of Government activities or are statutory agencies. To coordinate and implement the project, IDA and the donor agencies persuaded Government to establish a small independent Project co-ordination unit in the Ministry of Agriculture. It was the implied intention that this unit was to have the powers that an in line Government executive agency might have. The latter has not occurred and although the Unit has access to the Permanent Secretary his pressure of work is such that much of the supervisory responsibility devolves on the Director of Agriculture who directs all technical Departments in the Ministry. The supervision missions have been critical of the Co-ordination unit, holding it responsible for many of the shortfalls in the project and requiring it to achieve more:

(a) direction

(b) co-ordination

(c) control

(d) follow up in management, extension and education, to assure long term benefits.

2. There is no doubt that the project would benefit from these requirements but it would seem that a level of interdepartmental direction is being requested from the Co-ordination Unit that is not possible in any normal Government Service. Each of the Departments and Agencies associated with the project has a level of autonomy with which no coordination unit as presently established could interfere. Departments work with each other through established channels and jealously guard their responsibilities. Discussing the problem with various Departmental heads its was clear that there can be no question of them taking instructions from the Co-ordination Unit.

3. There are two possible ways of achieving direction. The first is to create a Range Project Development Authority, like the Settlement Department, which would have under its direct control sections representing all Departments of Government associated with range development. It could incorporate credit functions instead of using AFC although this would be a retrograde step. The Authority would "take over" for a given length of time all areas coming under the Project. Thus, for example, all existing staff of the Range, Group Ranch Registrar, Water, Veterinary and Co-operative Departments associated with range in Kajiado, Narok, Laikipia and Coast Province range areas would become staff of the Authority during the period when the Authority had responsibility for the area. A subdivisional or substitute arrangement might involve the formation of a Masai Range Development Authority or a Coast Range Development Authority. An authority would require gazettment under the Agriculture Act and would require special action of the Treasury and Director of Personnel. It could provide the executive single line direction that is most desirable.

4. The second possibility is to recognise the status quo of existing Departments in Government and that, they are the executive agencies that Government generally uses for change in the rural areas. The long term success of their activities can be seen in the progress that is apparent in many of Kenya's rural areas. If existing agencies are to be used, as they are at present, then the most important should be recognized and be built into directional and executive function of the Project as much as possible. Because of the organizational structure of the Kenya Government, one Department will, from its terms of reference, occupy a pivotal position and should provide the overall policy direction and determine the roles of the supporting departments in an agreed plan.

5. The co-ordination unit falls between these two positions. Under the first and second projects institutional arrangements have been super imposed which do not fit the Government structure. As several Departmental Directors mentioned, the Head of the Unit is in an impossible position. It is clear that the choice should be between a real Authority or the strengthening of existing

institutions. The Director of Agriculture was critical of the donors desire to use the Co-ordination Unit in the way originally conceived and, at the final round up meeting with the Permanent Secretary expressed strong reservations about the Co-ordination Unit's position in the Ministry Structure and urged a return of the functions of the Co-ordination Unit to a position in the Ministry of Agriculture where they can be performed more effectively. He does not favor an Authority.

6. The mission, with one dissension, believes that, at this stage in the project a change should be made which would meet both Kenyan as well as donor wishes. If over the next three years the arrangements do not prove satisfactory then perhaps thought should be given to establishing an Authority over all or part of the project (possibly the group ranching areas which have particular problems). USAID mission members expressed the opinion that the present arrangements were working much better and that they should not be disturbed.

7. It is intended to discuss the three alternatives with Government when the report is presented to come to a decision.
(a) Replace the Co-ordination Unit with an authority (b) abolish the Co-ordination unit as an independent entity and incorporate its function into the main Department responsible for Range Management Development; at the same time strengthening ancillary Departments where necessary. (c) Retain the Co-ordination Unit but define its objectives more clearly and define the objectives and targets of participating Departments more closely strengthening them where necessary. Except for USAID which favors the status quo (c) the mission generally would at this stage for the reasons given in the following paragraphs, like to attempt (b) since it accords more natually with the present Ministry of Agriculture structure.

8. Range development will be a long term program. The institution chosen to spearhead the program must be fully integrated into the Government machine and rely principally on Kenya Staff. The 17 agencies associated with the program can be conveniently divided into three separate functions.

A. Departments with responsibility for Policy, Direction and Execution in Range Affairs

Range Management Division (Ministry of Agriculture)

9. The Department responsible in the Ministry for range development policies. The policy directive ratified by the Permanent Secretary in May 1964 states "All matters relating to the conservation, management, development and usage of rangelands shall be referred to the Range Management Division for information, advice, action, or approval as necessary"

Group Ranch Registrars Department (Ministry of Lands)

10. Responsible for organising, supervising and overseeing the affairs and finances of Group Ranches

B. Departments with executive function for particular physical aspects of project implementation

11. (Acting on programs or submissions from others) Livestock Marketing Division (Ministry of Agriculture) Range Water Section (Ministry of Water Development) Agricultural Finance Corporation (Ministry of Agriculture) Co-operatives Department (Ministry of Co-operatives) Ministry of Commerce (Companies and Directed Companies Ordinance). Ministry of Works.

C. Overall Beef Policy and other Institutions

12. Economic Planning Division (Ministry of Agriculture) Kenya Meat Commission. Ministry of Finance and Planning. Department of Wildlife (Ministry of Wildlife). Animal Production Division (Ministry of Agriculture) Crop Division (Ministry of Agriculture). Maize and Produce Marketing Board. Directorate of Personnel.

13. Since RMD is the Department officially responsible for range affairs it would be logical to make RMD responsible for the overall direction and execution of the project. Unless the Government believes otherwise it is recommended that this should be tried for the duration of this project and that the Division be reorganised to undertake its responsibilities. The Division has been insufficiently forceful in guiding and developing policy in the project; the overstocking of the Coast ranches and the continued

approval of steer loans for ranches in overstocked Masai are cases in point. RMD must take some responsibility for this but the emphasis given firstly in 129-KE to AFC and latterly to the Co-ordination Unit has placed other sections in the forefront and has inevitably blurred responsibility with the result that RMD has not been able to control the pace or direction of development properly and has no special unit to do so.

Since the project represents the major financial contribution to range development it is difficult to see how RMD staff can be justified if they are not fully integrated with the project. As an official executive arm of Government it has contacts along recognized channels with other Departments of Government and within the Ministry of Agriculture it is the direct link between Ministry and range stock owners and ranchers. With some additions and modifications the Division has the resources to regulate the pace of the program, prepare areas, help AFC plan ranches, carry out extension and training, during and after disbursement and monitor progress. If the long term viewof Range development is taken it is clear that RMD must be capable of undertaking these functions.

Resolving Differences of Interest

14. It should be recognised that there are differences of interest between the agencies associated with the program. The two most difficult to resolve are those between RMD and AFC and RMD and the Group Ranch Registrar. The one most in evidence at present is that between AFC and RMD and it is important that both understand each others problems. AFC is meant to run on a commercial basis. Interest from loans must cover running costs. It must therefore have a fair idea of how many loans it will issue and gear its staff levels accordingly before the applications arrive so that they can be processed properly. In the range projects it has been the Government's Planning Division, supposedly in consultation with the Range Division, which has established the targets for Development and therefore induced AFC to staff up to expected levels. It has been the Range Management Division that has had to produce the plans for the Company and Group ranches because RMD has the level of staffing that can do this time consuming task (it

being much more complicated than evaluating an existing commercial ranch). Lastly, the Water Departments' capacity to instal supplies has controlled the pace of disbursement. In both 129-KE and 477-KE, overestimates were made on the number of ranches to be developed, planning output and physical implementation. This has put AFC in a difficult position and, consciously or unconsciously has led them to take independent action, in both the Company and Group ranching sectors to get its loans moving and the interest coming in; the granting of large short term loans for steer purchases to company ranches under 129-KE was partly an effort to improve the AFC's Ranch Division cash flow but was not in accordance with good range management. It has been IDA's philosophy (backed by experience) that in order to avoid complicated linkages Credit Institutions should have the capacity to undertake the whole task on their own from planning, appraisal, implementation and follow-up and this is why so much emphasis was (unsuccessfully) given to this aspect under 129-KE.

15. Kenya Government maintains that the preparation process in traditional areas (both range and smallholder) is too long and intricate with many failures for AFC to do it alone and that it should be up to the Government service to bring them to the stage of application. There is no doubt that at this point in range development the present level of AFC staff are insufficient to be responsible for Compar present weaknesses it is apparent that more must be expected from Government than AFC services if they are going to achieve the targets In practise this is only likely to be done by concentrating as much of the executive power as possible in one Government Department and making it very clear to

and Group ranch formation and that the level needed would be in excess of the interest rate they could charge for solving what is partly a social change. If Kenya wishes to develop its rangeland, using a number of different agencies it must solve this central problem of meeting AFC's requirements by supplying it with a realistic program and then keeping it on schedule. While the objective of this analysis is not to apportion "blame" for the independent supporting departments what their responsibilities are and the targets they are supposed to achieve. This central Unit must be in a position to point out, through the usual channels, the weaknesses in any particular supporting unit and the action required to rectify them.

Working relationships between RMD and and the Group Ranch Registrar are good. The problem between RMD and the Group Ranch Registrar is whether the technical and financial aspects of Group ranching can be successfully introduced if they remain in what it essentially a non technical Department. To take an analagous situation, all legal technical powers governing coffee growing are held by the Ministry of Agriculture while Cooperative membership and financial matters are held by the Ministry of Cooperatives; the latter is not entirely satisfactory to some agriculturalists but at least the maintenance of good coffee culture rests in the Ministry of Agriculture. Unlike a Coffee Co-operative nearly all the activities of a Group Ranch have to do with better and more productive range management. This problem is discussed in more detail in Annex 8 and the Completion Report to 129-KE./ The Ministry of Agriculture has to be more involved. It is understood that two or three years ago the Ministry of lands recognised this problem and discussed the possibility of transferring some of the powers and perhaps the Registrar's office to the Ministry of Agriculture. It is strongly recommended that the subject be reopened. This administration of Ranch programs and the setting of objectives needs much more attention paid to it than it has received so far by better Government and donor agencies.

Organization of RMD to Provide Their Direction

16. If the RMD is to provide the necessary direction and supervision of the project is will have to form a special Development Section. The Section could absorb the staff, and functions of the present Co-ordination Unit. The Development Section be divided into sub units to provide the necessary daily attention to the main components of the project. Using a reorganization paper prepared by RMD as the basis of its proposals it is recommended that RMD be divided into four main Sections:

Extension Services	responsible for the efficiency of the field services and implementing the development program at field level.
Development Section	- responsible for 477-KE and 129-KE/project activities with the following sub units at head-quarters (i) Commercial/Company/Individual ranches. (ii) Group ranches. (iii) Project Monitoring. (iv) Cartography.
Training Section	
Management Studies	

17. The Development Section will maintain liason with other Departments through regular meetings. If possible the Development Section should have seconded to it:-

(a) Co-operative Department staff to supervise the specialised cooperative ranches in the Commercial ranch sector.

(b) Group Ranch Registrar staff to organise the Group Ranch program.

An organisation chart and list of responsibilities is given in Tables 1 and 2. An opinion was sought from the mission whether Research and the Range Training Institutions should once again come under the direct control of RMD. This is a

Ministry organization problem which the mission was not able to examine properly although it warrants further attention by Government. However, it is apparent that at this stage only very applied research is required and that much valuable information can be achieved from monitoring and analyzing existing programs. Observing and recording range trend and livestock performance data in the various schemes and under different ecological conditions would, in themselves, provide a wealth of new practical data for application in the field. Strong links, therefore, must be forged between field and research staff.

18. Table 1 describes the proposed organization of the Range Management Division. The service staffing level of the different sections is given with an asterisk showing new posts. Table 2 describes the responsibilities of the various people working in the Development Section.

19. Part II of this annex explains the role and needs of the RMD extension service to cope with the development expected. Tables 3 and 4 give PTO the present distribution of staff, the range area covered and an estimate of the ranches and work they may have to handle under the project. Since the project must form a major part of RMDs activities staff within the mission should be used on project work as a first priority. However, at headquarters and in the field some extra staff will be needed.The mission is also recommending the upgrading of the Head of Range Management Post, the officer in charge of the proposed monitoring section and the 4 Provincial Range Officers. The Head of RMD prepared a paper in January 1976 suggesting that the ratio of different grades of posts in RMD was sometimes adversely different from their Departments in the Ministry; this obviously affects morale (as does a reported lack of transport funds) especially in a

Department that has to work under difficult physical conditions and with human problems of great complexity and in need of dedication and perseverance if they are to be solved. Four unnamed posts have, therefore, been included for upgrading in the field. Staff requirements and upgrading have been given in Table 5 while costs of the new posts are given in Table 6. Included in the latter costs are prefabricated housing, vehicles and motor bikes. On the question of PTO the upgrading of HRMD, it is clear that the grading of the senior post directly responsible in Government for this major program (over $60 million) is grossly undergraded. In view of the wide responsibilities of the post, it should be upgraded to the level of other Heads of important technical divisions in the Ministry of Agriculture. In terms of comparable status, this would help when dealing with Heads of Departments in the Ministries.

Part II - Field Requirements of RMD

20. The Range Management Division is responsible for introducing land management over 45 million hectares of Kenya. This land supports over 2.0 million pastoralists, semi-pastoralists and subsistence cultivators who depend significantly on livestock for their well being (Kenya - 58 million hectares 13 million people). Each district has a District Range Officer (DRO) and several Range assistants whose task is to encourage and find people who wish to adopt improved practices and to receive financial assistance. Assistant Range officers and further Technical officers It is policy to add as development warrants.

21. IDA projects 129-KE and 477-KE are the main outside source of funds for Range Development and success is vital for verifying the Range management strategy being tried and for obtaining continued financing. Since 477-KE now touches to some degree most districts it can be said that the raison d'être of the Range Management Division must be the accomplishment of the 477-KE objectives. Only through a successful project can further funds for Range management be justified on the basis so far proposed, and also the continued employment of the increasing numbers of Range staff. It has been assumed, therefore, that except for DRO and a few Range assistants who have more general duties to perform all other staff should be directing their full time attention to getting the Project underway and ensuring its successful performance. Their duties include:

(a) Locating the Ranch Projects - involving many discussions on agreements, etc.

(b) Where necessary, land adjudication and registration - discussions with the staff of the Registrar of the Group Ranch Representatives.

(c) Preliminary rough ranch plans - discussing general objectives with the people - getting their agreement in principle to: financial contributions, rules that will be applied, the type of organization etc.

(d) Definitive Ranch plans and budgets worked out in cooperation with the Provincial Planning Teams, Water Department, AFC and where necessary Registrar of Lands.

(e) In cooperation with AFC and Water Department ensure: (i) that the physical development takes place as scheduled, (ii) breeding cattle and steers of the right quality are purchased (iii) that the ranch committees function, (iv) that improved Range and livestock practices are undertaken.

(f) Frequent follow-up visits on pre-scheduled work programs to help with Ranch field, office and financial organization, calling in the relevant specialists where necessary. In cooperation with the AFC representative undertake annual revision of budgets and plans including stocking rates.

(g) Extension and Range Education Work with committee members and ordinary members arranging courses as necessary.

(h) Gathering information on physical and financial performance of Project ranches for analysis at both District and Headquarters level.

(i) Maintaining Project targets and performance at District level.

22. The numbers and type of staff needed for the Project are dependent on a number of factors: Level of extension needed; number and type of ranches; number of members; distances to be covered. Government originally estimated

that in order to establish new Company, Group or Cooperative ranches there the following staff would be needed for every 80,000 ha of new ranch development:

1 Assistant Range Officer and 2 Range Assistants

1 Accounts Officer and 1 Accounts Inspector

1 Veterinary Assistant and 1 Veterinary Scout

Under 129-KE only 7 AFC personnel were financed and Government provided staff it thought necessary. Range and veterinary staff have been provided but not accounting personnel.

23. If the 477-KE revised mission targets are met, some 2.5 million hectares of land would be organized into ranches involving KSh. 210 million loan approvals producing KSh. 144 million annual income at full development. To achieve this, Extension staff will require to concentrate particularly on productivity, financial control and organization. It will require a sound knowledge of these factors and considerable vigilance and attention to detail.

Combined 129/477-KE Area, Productivity and Loans
(Details in Table 4)

	Commercial	Company	Group Ranches	Total
Area ha ('000)	391	1,205	923	2,519
Estimated No. Members	14,260 1/	2,790	5,820	-
Model Gross Income/Ha. Ksh.	93	52	49	-
Gross Income/A.U. KSh.	280	259 2/	203	-
Gross Production m. KSh.	36	63	45	144
Estimated Loans Approved or to be Approved m. KSh.	73	96	41	210

1/ Two ranches have 5,600 members.
2/ Ranch herd projections exclude purchase steer returns.

Commercial Ranches

24. Commercial Ranches, which include companies and cooperatives, are being financed in Rift Valley Province and Eastern Province. AFC and RMD know very little about the financial state of many of the companies while the accounts for the cooperatives usually appear to remain with the Cooperative Department who are responsible for their audit. Over 50% of the ranches now being financed have been purchased with a high loan element by groups of people who have little or no previous experience in ranching.

25. In Rift Valley Province if development takes place as forecast up to 70 Commercial ranches (and feedlots) covering a quarter of the commercially owned rangeland may receive KSh. 56 million (US$6.8 million) in 477-KE development loans in addition perhaps to land purchase loans. RMD has not had much influence on these ranches to date and for such a major component of the Project their staffing appears inadequate compared to other Districts. Apart from DRO's in Nakuru and Laikipia Districts there are just 5 technical assistants. AFC has had more influence with its three Branch Managers and two assistants to deal with the total ranch and farming program in Nakuru, Naivasha and Laikipia. No special planning team works in the area.

26. Some of the ranchers now receiving loans may not require much assistance but the majority do. With the growing transfer program of ranches in the area occupying the time of the DRO's it is recommended that two Assistant Range Officers be posted to Nakuru and Laikipia Districts to work on the Project Ranches in particular. They would be assisted by two Range Assistants. In view of the need for a fairly sophisticated form of management in these two districts consideration should be given to upgrading the DRO posts to degree level personnel. In cooperation with AFC staff, the Assistant Range Officers would pay special attention to budgeting, ranch planning and finances of

these ranches. In conjunction with AFC staff RMD would ensure that the companies accounts were kept up to date and consideration should be given to developing an Allied Ranching type organization for accounting in the area if the present situation cannot be improved. Range officers would work closely with the Cooperative Department to see that the Cooperative accounts are kept up to date. Range officers would examine the stability of the ranches in relation to the number of members and the importance of income for them. It is assumed that Veterinary advice is adequate in view of the extra attention the area receives because it is in the Disease Free Zone.

27. The number of Range staff in the Eastern Province districts of Machakos Kitui, Embu and Meru is sufficient for the number of Project ranches being developed in those districts. It is proposed that motorbikes should be made available to two Range Assistants in Machakos and 1 each in Kitui and Embu so that Project ranches can be supervised more efficiently. A work program for regular supervision visits to ranches is required for the DRO and his staff. The Cooperative Department staff would be responsible for ensuring that the Cooperative Ranch records are in order. The AFC Branch Manager or Assistant Branch Manager at Machakos would be responsible for AFC affairs in these ranches.

28. The following table roughly summarizes the scope of the Commercial ranch program in Rift Valley and Eastern Provinces:

Commercial Ranch Development

	Province/ Districts	No. Ranches	Members	Hectares ('000)	Total Area Rangeland Ha ('000)	Estimated Loans Approved KSh.'000
Existing 1971-76	Rift Valley Prov.	45	9.270	153	-	-
	Eastern	13	1,456	103	-	-
Est. New 1977-79	Rift Valley	25	3,040	112	-	-
	Eastern	5	500	23	-	-
Total 1971-79	Rift Valley	70	12,310	265	1,040	56,176
	Eastern	18	1,956	126	3,170	16,966
		88	14,266	391	4,210	73,142

(NOTE: Figures are approximate (see footnote to Table)

Range Management Staff

Range Management	Present: Staff No. RVP	Present: Staff No. East	Present: Vehicles No.	Proposed Full Time on Project Work: Staff No. RVP	Proposed: Staff No. East	Proposed: No. Vehicles	Proposed: Motorbikes
Range Officer	-	-	-	Upgrade DRO, RVP			-
Technical Officer	-	1	1	2	1*	2	-
Technical Assistant	5	13	-	2*	3*		3

* - Already supplied by existing establishment.

Agricultural Finance Corporation Staff

Rift - Nakuru Branch Manager (no expertise in range).

- Naivasha Branch Manager and Asst. Branch Manager*

- Nanyuki Branch Manager and Asst. Branch Manager*

Central Province
Eastern/- Machakos Branch Manager and Asst. Branch Manager*

- Kerugoya Branch Manager

- Kitui Branch Manager

Company Ranches

29. The needs of the Company ranches in Coast Province have been explained in Annex . In view of the fact that the whole of the Teita Range program is concerned with the Project, DRO's can be expected to participate full time. It should therefore be possible for the DRO Teita; the Technical Officer and 6 Range Assistants to develop a good management and extension program for the 17 ranches under their control. Their first task in cooperation with AFC and Allied Ranching will be to revise the present ranch plans and budgets of most of the existing ranches In Kwale and Kilifi DROs will also be involved in Group Ranching and other Range matters but the Technical Officer and the 3 Range Assistants should be able to cope with the ranches expected, Range staff in Lamu and Teita are adequate. Pre-fabricated housing is required for all Technical Assistance staff so that they can live out on the ranches. They will also require motorbikes.

30. AFC Branch Managers and their Assistants at the Voi and Mombasa office will be concerned with AFC affairs. It is assumed that Allied Ranching will continue its accounting services to all Teita Ranches and that its services could be used in other Districts. If this is not possible then Range Mangement should employ or obtain on Secondment a cooperative accounts man for three years to assist in developing proper accounting methods.

31. The Ranch Planning Team in Mombasa will have to produce 20 new Project Ranch plans in the next three years. It should be possible to do this if they stick to essentials for Ranch establishment and concentrate particularly on the budgeting and financial aspects.

Company Ranches - Coast Province

	No. Ranches	Estimated No. Members	Hectares ('000)	Total Area Rangeland Ha. ('000)	Estimated Loans to be Approved (KSh.'000)
Existing 1971-76	17	1,149	294	-	-
Estimated New 1976-79	20	1,640	611	-	-
Total	37	2,789	905	6,140	96,382

Range Management Staff

	Present		Proposed for Project			
	Staff No.	Vehicles	Staff Nos.	Vehicles Nos.	Motor-bikes	Prefab-Houses
Technical Officer	4	4	4*	-	-	-
Technical Assistants	25	-	19*	-	19	19
Cooperative Accounts Officer	-	-	1	1	-	1

* - Posts already exist and filled.

AFC Staff

Voi - Branch Manager

Mombasa - Branch Manager and Assistant Branch Manager

Group Ranches

32. The main work on the Group ranches will be large numbers of meetings (often in conjunction with the Group Ranch Registrar) with various groups on the ranch:

(a) To get agreement with all members to the proposals before investment takes place.

(b) To ensure that action is taken to observe the agreements.

(c) Implementing the development plan.

(d) Implementing the Range and stock improvement program once the investments are made.

(e) Discussing with every individual, the stock improvement program for each of the family herds.

(f) Meetings to resolve problems as they occur.

Each staff member will have to work to a carefully prepared program of work which will need constant supervision and revision. The key men in the program should be the Range Assistants who must live on the ranches. The Technical officers must be in constant touch with them helping them with their problems and taking back problems that they cannot solve for immediate attention of the relevant authority - Administration, Development Committee, Group Ranch Registrar, Wildlife or Veterinary Departments. TOs should see that Field staff are supplied with what they need. Those living on the ranch must be familiar with all aspects of Group ranching and special short courses will have to be arranged for them so that they are fully aware of what is required of them.

33. The following is the Group Ranch Program in Kajiado and Narok:

	No. Ranches	No. Members	Hectares ('000)	Total Areas Rangeland Ha ('000)	Estimated Loans to be Approved (KSh.'000)
Existing 1971-76	22	2,180	248	-	-
Est. New 1977-79	19	3,460	550	-	-
	41	5,820	798	3,310	40,733

Range Management Staff

	Present		Proposed for Full Time Work on Project			
	Staff No.	Vehicles	Staff	Vehicles	Motorbikes	Prefab Housing
Technical Officers	6	6	6*	-	-	-
Technical Asst.	22	-	18*	-	18	18

* - Posts already exist and established.

AFC Staff

Headquarters - Officer I/C Group Ranches.

Athi River - Branch Manager and Assistant Manager

Group Ranch Registrar

2 Assistant Registrar of Group Ranches.and two vehicles.

2 Accountants and two vehicles.

34. There are sufficient TOs and TAs if their programs are organized. If four of the 22 TAs undertake general duties discussing the future program with Group ranches outside the Project and Individual ranch problems this would leave 18 Technical Assistants for 22 existing ranches established with 2,180 members. One Technical Assistant should be able to manage during the Project period Group ranches with an aggregate of about 250 families as the minimum. The 41 ranches that would be developed by 1979 would have about 5,800 members and the 18 TAs should be able to manage these providing they are supplied with motor bikes and prefabricated housing placed on one of the ranches under their guidance.

35. Accounting and administration matters on Group ranches are un-complicated but the people or staff have no experience of what is involved. It is essential that they are properly supervised and kept up to date. This is the Group Ranch Registrar's duty. The Assistant Registrars of Group ranches are

so far have had little time to deal with the matters associated with normal ranch training. The accountants have only recently been employed. There must still remain doubts as to whether the proposed level of staffing is sufficient and it will be up to RMD to backstop where necessary. This aspect will require careful attention by RMD and future supervision and immediate strengthening if arrangements are insufficient.

Costs

36. Investment and Recurrent costs are given in Annex 6. Investment requirements, mainly for field staff amount to K sh 2 million while the staff and operating costs amount to KSh. 828,000 annually.

Part III - Ranch Planning Procedures

1. Ranch Planning Units

RMD has two Ranch Planning Units (RPU)

(i) based in Narok - mainly concerned with the planning of group ranches in Kajiado, Narok and Samburu districts.

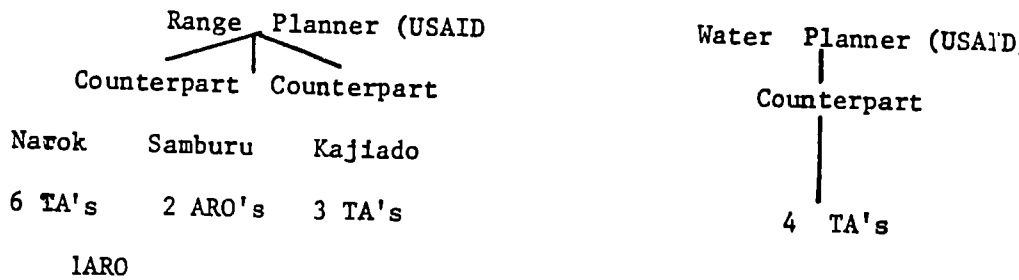
(ii) - based in Mombasa - mainly concerned with the planning of the Company ranches (and some other ranch types) in Coast Province

RMD also has a range planning unit in the North East

Each RPU is basically composed as follows:

Range Planner (USAID)	and a	Water Planner (USAID)
Counterpart		Counterpart
Technical Assistants		Technical Assistants

Depending on the tasks there is a certain flexibility in the organisation and staffing. Thus the team in Narok is presently composed as follows:



i.e. a total of 2 expatriates

3 senior counterparts

13 technical assistants

3 assistant range officers

Each RPU has one vehicle but in addition is normally able to use vehicles of the Government agencies with which they cooperate.

2. The Planning Procedure

37. The identification of the ranches to be planned in the case of the group ranches is mainly done by the Registrar of Group Ranches, while in the case of the coastal ranches it is mainly the function of RMD and AFC.

38. The actual planning starts with a discussion with the ranch owners, with the TA's doing a ranch inventory and with the mapping of the ranch. The further planning is in principle done in consultation between the RPU and the ranch on one side and on the other between the RPU and the other government agencies involved on the district level. The latter liason is in the case of group ranch planning organised as follows: As a subcommittee of the District Agricultural Committee Chaired by the District Commissioner there exists the Range Working Party (RWP). For this RWP an Executive Committee has been formed consisting of:

District Range Officer	- Chairman
Assistant Registrar of Group Representatives	- Secretary
Agricultural Finance Corporation	- Member
Range Planner	- "
Water Planner	- "

This Executive Committee has full authority to establish priorities. The EC not only calls a meeting with the representatives of each group but also works continuously together with them in developing an acceptable proposal development plan. Once the RPU is satisfied with the plan they have produced it more or less automatically implies that the EC is also satisfied since they have been in close working relationship. The working party is then called, the plan endorsed by the EC and sent on to the HRMD with a copy to the PRO. The HRMD bears the ultimate responsibility for the technical aspects of the ranch plan. Once accepted the plan is passed on to the

Ministry Coordination Unit from where, if accepted, it is given to AFC to be used as a loan document. At the same time the local AFC officer may have prepared the loan application forms with the ranchers. Both sets of documents are then analysed by AFC to ensure that they are compatible and financially sound.

3. Problems

39. The planning and approval procedures have been changed several times over the years and never laid down clearly until recently. It is still not clear what the ranch plan should contain and what the different parties expect from it. While RMD and AFC have their own idea of what the plan should contain there is no single agreed form that should be used to reduce duplication of work. The greatest weakness concerns the financial and economic aspects. Here it is strongly recommended that the AFC Branch manager ensures as his major responsibility in the working party that all physical, financial and economic projection sheets the AFC is using for loan appraisal be also used as part of the ranch plan. These sheets should be filled out by a ranch planner with the assistance of the AFC branch manager and it may be advisable for him to send a copy to headquarters to make sure at an early stage of planning that the plans are acceptable from the financier's point of view.

40. The donors should examine the ranch plans when and if considered necessary in the course of the regular supervision missions.

While the procedures as suggested above may speed up the approval process it still appears that the ranch planning as set up at present is

41. a slow and expensive activity. Thus the annual cost of personnel alone of the Narok RPU may be estimated as follows:

	Costs per Unit KSh.	Total KSh.
2 Expatriate Senior Planners	320,000	640,000
9 Technical Assistants	20,000	180,000
3 Assistant Range Officers	15,000	45,000
		865,000

In addition transport costs may be estimated at some Ksh 90,000 (i.e. using 2 Landrovers for 30,000 km p.a.). Together with the costs for offices, equipment and material the RPU's annual costs are probably in the order of 1 million shillings. According to the RPU in Narok, some 5 to 6 plans can be expected to come out every year which puts the average planning cost per ranch at a figure between sh. 160,000 and sh. 200,000. Considering that the average ranch invests only some sh. 500,000 altogether (physical developments, breeding stock, and working capital for steer purchase and operating costs) the planning costs are excessive. Ways should be sought to reduce the costs to about 10% of the total investments.

42. The present situation is somewhat analagous to the farm planning problem in the Kenya Smallholder areas 20 years ago when complicated farm plans with descriptive detail of physical conditions, elaborate rotations and complicated forecasts were produced. It was soon realized that the farmer kept to the simple aspects and these plans were replaced by farm layouts which could be prepared in half a day and concentrated on the essentials; when the farmer later showed competency in any particular enterprise he was given more specialised assistance. Similarly with the ranches comprehensive range resource inventories are made and management

program produced but little is done to explain how the members of groups and companies are going to get to the starting point i.e. reduce their stock, how they should manage their stock within the limited stock quotas or in the case of companies how they should go about providing equity and how AFC loans should be disbursed in relation to an equity position which may rise over a period of time to the required level. Farm planning procedures must be reviewed with the objective of providing in less than a month a practical working document.

43. The ranch planners should be familiar with budgeting and ranch management so that these aspects can be dealt with in the plans. The economics of the operation as they affect individual members of a ranch should be clearly explained and an evaluation made as to whether the proposals made offer sufficient incentive to the individuals participating. The exercise must be seen as having a strong human, social and economic bias superimposed on the physical planning aspects of the ranch. Planners should be selected for their competence in this regard. Since much of it will involve new concepts and situations emphasis should be placed on flexibility and the building up of relevant information of value to future planning work.

44. There appears to be confusion concerning the working relationships of the allegiance of the American planners vis a vis USAID and RMD. The problem is probably best settled in bilateral discussions between the Government and USAID.

KENYA

LIVESTOCK DEVELOPMENT PROJECT

Review Mission 22 February - 26 March, 1976

Responsibilities of the Main Departments Associated with the Range Program (based on Papers Submitted by the Departments)

A. Range Management Division

Range Management Division is the Executive Agency of the Government responsible for the development and rehabilitation of the Republic's range lands, and the IDA Livestock Development Project, and all the other agencies work to it. Specifically RMD is responsible for:

(a) arranging for land-use surveys to be carried out, as a basis for detailed range development planning, in areas where such surveys are not available;

(b) determining the forms of sub-division and organization (ranch units, rehabilitation areas and grazing blocks) which are most appropriate to the range condition;

(c) consulting with the Commissioner of Lands, the Director of Land Adjudication and the Registrar of Group Representatives in respect of Letters of Allotment. Adjudication and Incorporation of the forms of sub-division and organization as determined above (11.b);

(d) establishing priorities in development of ranch units, grazing blocks and rehabilitation projects;

(e) production of acceptable management plans for all ranch units for which development in planned. Such management plans will be produced by the respective Range Planning Team responsible for the area in which the unit to be developed is situated, and in a manner and procedure approved by the Project Coordination Committee.

(f) ensuring orderly implementation of approved development plans and adequate management programme to ensure:

(i) effective control over stock numbers;

(ii) proper utilization of the grazing and water;

(iii) proper breeding programme;

(iv) effective disease control facilities; and

(v) effective dissemination of reserach results to ranchers.

(g) To achieve the above, RMD shall, in consultation with the other agencies involved in the Livestock Development Project:

(i) control and coordinate all livestock purchases in consultation with the Livestock Marketing Division to ensure proper distribution of available immature cattle, and to control stock numbers on ranches;

(ii) assist the Management of ranches to implement the approved ranch and grazing management plans;

(iii) assist the ranches in acquiring improved and acceptable breeding bulls and heifers as per the Development Plan.

(iv) advise ranches on disease and predator control measures;

(v) extend to ranchers up to date research information which would aid in solving range development problems.

(h) In consultation with the Economic Planning Unit KMC and LMD establish the range development policy and targets necessary to releive the overstocking situation and ensure the maximum sale of immatures from pastoral areas for fattening purposes on ranches (and in feedlots):

(i) In consultation with LMD and AFC determine priority areas requiring markets and deciding on ranching developments that should be need for immature fattening. Establish targets and a monitoring agency which will allow LMD to relate its purchases more accurately with likely future sales.

(j) RMD will cooperate and assist in the implementation of cooperative programmes such as:

(i) Kenya Rangeland and Ecological Monitoring Project by the Canadian International Development Association (CIDA).

(ii) The Monitoring and Evaluation of On-going Projects by International Livestock Centre for Africa (ILCA).

(iii) The Development of Game Parks and Game Reserves in Kajiado and Narok Districts.

(Based on RMD's paper of 15th January, 1976 to the Project Co-ordinating Committee).

B. Agricultural Finance Corporation

The Agricultural Finance Corporation has the ultimate responsibility of accepting a loan. In order that it can undertake its functions properly AFC has established a Ranch Department RD) whose tasks under the project include:

1. Administering the ranch development operation of the project as they affect AFC.

2. Approving and recommending loans to AFC's Loan Committee.

3. Providing supporting technical services to participating ranching enterprises, assisting them in the preparation of individual development plans and supervising the execution of plans for which loans are made.

4. Maintain an active interest in the progress of the ranches during the period of the loan at a level sufficient to ensure, as much as possible, the Safety of the loan.

5. Liasing with other agencies associated with the program and ensuring that AFC's interests are not adversely affected or that AFC, actions do not conflict with overall national raise policy.

(Based on some of the points raised in AFC's letter AFC/RD5102/REMK/DCW of 21st January, 1976 to the Co-ordinating Committee).

C. Water Development Department

General

Range: Development (including the North East)

1. It is WDD responsibility to plan, construct, and maintain Tracks, Reservoirs and Boreholes and related equipment in the Range Water Programme in accordance with priorities established by Range Management Division, MIMAG. In the absence of such priorities, it is our duty to utilize our resources in the most effective way possible to further the objectives of the programme.

Ranches:

2. It is our responsibility to plan water installations on the Ranches in accordance with priorities established by Range Management Division, MIMAG.

3. It is our responsibility to advise and supervise design, construction, and maintenance of water installations on the ranches based on priorities established by the Coordinating Committee.

Maintenance of installations:

4. It is our responsibility to maintain Range Water installations in the N.E.P. for the forseeable future. Financing of this work comes under the recurrant budget with the exception that spare parts and fuels and lubricants of the maintenance equipment is provided out of project funds.

(Copy of the Director of Water Departments undated paper WD/2/3/354 to the Project Co-ordinating Committee).

D. Ministry of Lands and Settlement

The responsibilities of the Director of Land Adjudication and Registrar of Group Representatives is laid down in the Ordinances and gazette notice governing their activities.

E. Responsibilities of the Livestock Marketing Division

1. The Division is responsible for providing market outlets for livestock in those areas where the private sector is either limited in its activities or is unable to comply with disease quarantine requirements. For the most part these areas are in the rangelands where sale of livestock is the sole form of income.

2. In addition to its own direct participation in marketing the Division also offers facilities for quarantine and movement to the private sector.

3. The LMD marketing programme is directed largely towards the offtake of immature male animals from the northern Districts of the country for supply to ranchers and other secondary producers in the higher potential areas of the southern half of the country. Slaughter stock are also purchased and disposed of to the Kenya Meat Commission.

4. The expansion of activities proposed under the Livestock Development Project for the southern Districts will relate almost exclusively to the procurement of slaughter stock, while expansion in the north will largely be based on immature purchase. Movement of northern stock will involve quarantoring animals.

5. LMD will liase with the Economic and Planning Unit to determine the most effective National Marketing program. It will leave with AFC and RMD on the Provision of immatures.

(Based on undated paper for LMD to the Project Co-ordination Unit).

F. Duties and Responsibilities of the Project Co-ordinating Unit

The following lists the duties and responsibilities of the present Project Co-ordination Unit as prepared by them in January 1976. If a special Range Development Section were established in the Ministry of Agriculture these duties would be incorporated into the duties presently conceived for that Division.

The Unit is responsible for the general co-ordination of the Livestock Project. More specifically, duties and responsibilities of the unit include the following:

1. Maintain an up-to-date record of physical project progress and expenditures.

2. Maintain liason between and among implementing agencies in the project.

3. Keep policy makers in the Ministries involved with project implementation. Fully informed of the project and project related issues.

4. Planning and scheduling donor missions to the project.

5. Identification of existing and potential problems related to project implementation and take action to resolve existing problems and to act or suggest means of preventing potential problems of developing into a state whereby project progress is hampered.

6. Identification of project components where corrective action or quidance toward corrective action requires reserach or technical studies.

7. Development of terms of reference for reserach and technical studies.

8. Arrangements for and advise on selection of consultants and other specialists required for the project.

9. Co-ordination of monitoring activities of the project.

10. Evaluate and approval of ranch loans.

11. Arrangements for and decisions on selection of persons for training under the project.

12. Liason between donors and Government Ministries and departments.

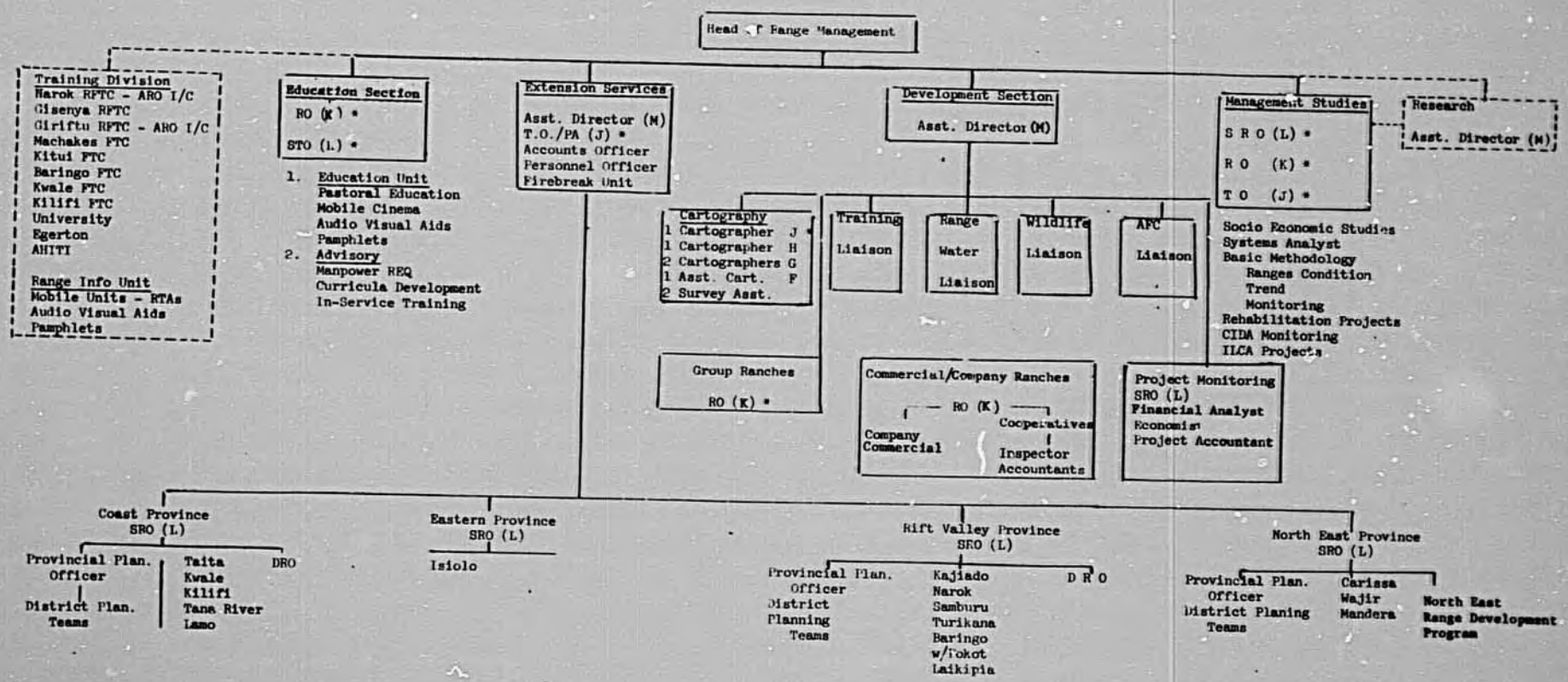
ANNEX 14
TABLE 1

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Range Management Division Organization Chart



* - New posts.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Range Development Section Organization and Functions

Range Development Section

Asst. Director I/C (M)
Secretary

CARTOGRAPHY

Cartographer J *
Cartographer H
Cartographer G
Asst Cartographer

Range revision
Base maps
Plan maps
Aerial photographs
Compilation of data for map making

GROUP AND MASAI INDIVIDUAL RANCHES

SRO (1)

Secretary (shared with commercial)

1. Same as (a) to (d) on commercial ranches.
2. Liaise closely with Group Ranch Registrar (GRR) to ensure all aspects of legislation covered and enforced.
3. In conjunction with (GRR) improve social/commercial aspects of groups.
4. Keep legislation and rules under review and recommend changes when necessary.
5. No. of Groups

Phase 1	Phase 2
14	26

RESPONSIBILITIES OF ASST. DIRECTOR

In conjunction with his 4 heads of units, he will be:

1. Responsible to HRMD for implementation and coordination of the Project-working with RMD staff and other agencies.
2. Keep all implementing Ministries and Departments fully informed of Project progress.
3. Maintain liaison and Project coordination with Implementing Agencies.
   AFC; LMD; DVS;) Monthly
   Water Department) Executive
   Group Ranch Registrar) Meeting
   Cooperatives; Companies Registrar; MOW, Economic Planing, KMC, Ministry Finance, Wildlife, DoFP.
4. Ensure complete agreement and compliance of RMD staff on Project objectives and implementation by:
   Extension Service
   Training Unit
5. Selection of consultants and other Project specialists.
6. Selection of staff for training.
7. Approve Ranch Development Plans for forwarding to AFC.
8. Liaison donors, Government Ministries and Departments.
9. Provide up-to-date quarterly schedules of Project work to be completed by associated Departments and keep HRMD/DA/PS informed of any failures to meet targets.
10. Monitor North East range.

COMMERCIAL AND COMPANY RANCHES

SRO (L)
Secretary (with Groups)

COMPANIES
COMMERCIAL

1. Ensures plans, reports, accounts, produced on each Project Ranch by DROs/AFC.
2. From reports monitor and ensure where necessary:
   Implementation
   Ranch improvement
   Financial position
3. Ensures action on problems
4. Initiates training and extension programs through relevant channels.
5. Ensures follow-up after repayment.
6. Ranches to be supervised:

	Phase I	Phase II
Commercial Company	29	32
Coast Company	9	20

COOPERATIVES (Est.)

1 Seconded Accountant from Cooperative Department:

1. Actions similar to above.
2. Ranches to be supervised

	Phase I	Phase II
Commercial Coops.	13	14
Coast Cooperatives	1	7

PROJECT MONITORING AND OPERATIONS UNIT

SRO (L)
Financial Analyst
Economist
Secretary
Clerical Officer (OPS)

1. Maintain and compare plans and progress of Project physical and financial targets/achievements.
2. Monitor all reports, identify and suggest solutions to problems.
3. Maintain and improve data on Project technical coefficient.
4. Continuous economic evaluation of Project progress.
5. Monitor Project output and review effect of prices on Project performance.
6. Advise Head of Section on Ranch Loan Development Plans.
7. Develop TOR for any necessary research or technical studies.
8. Coordinate any outside monitoring activities.
9. Planning and scheduling donor and other visits to the Project.
10. Work closely with the Economic Planning Unit and Animal Production Division.
11. Issue standard recommendation for Project Ranches.

ANNEX 14
Table 3

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 28, 1976

PRESENT RMD Headquarters and Other Staff

	Chief	Senior Range Officer	Range Officer (Econ.)	Districts Range Officer	Technical Officer	Clerical Officer	Carto-graphers	Technical Assistants	Secre-taries	Copy Typists	Drivers	Plant Operator	Sub. Staff	Vehicles LR/PU/Tractor/Grader		
Headquarters	1	1	2	-	1	1	3	1	1	1	1	-	5	1		
Firebreak Construction Unit	-	-	-	1	-	-	-	1	-	-	2	1	3	2	1	1
South Nyanza	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Agricultural Info. Center	-	-	-	-	-	-	-	3	-	-	-	-	-	2 (cinema vans)		
Giriftu RTC	-	-	-	-	2	-	-	1	-	-	-	-	-	-		-
Narok RTC	-	-	-	-	1	-	-	1	1	-	-	-	-	-	-	-
Ahiti	-	-	-	-	2	-	-	1	-	-	-	-	-	-	-	-
Overseas	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-

June 22, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477 KE

REVIEW MISSION - FEBRUARY 22 - MARCH 28, 1976

Range Management Field Staff Disposition - Present and Forecast

Ranching Development 1970-79 by Districts

	Provincial Range Officer	District Range Officer	Technical Officers	Technical Assistants IA	Technical Assistants JTA	Drivers/ Clerks	Sub-Staff	Vehicles Toyota, LR, PU	Vehicles Lorry	Available for Range Management (Ha. '000)	1970-79 Total 129/477-KE 1/ Estimated Numbers Ranches/Members	1970-79 Total 129/477-KE 1/ Ha. Schemes	1970-79 Total 129/477-KE 1/ Loans Approved (Ksh.'000)	1970 - 74 129-KE 2/ Estimated Numbers Ranches/ Members	1970 - 74 129-KE 2/ Ha. ('000)	1970 - 74 129-KE 2/ Loans Approved (Ksh.'000)	1975-76 477-KE Approved 3/ No. Members	1975-76 477-KE Approved 3/ Ha. ('000)	1975-76 477-KE Approved 3/ Loans Approved (Ksh.'000)	Estimated New 477-KE 1976/79 3/ Estimated Numbers Ranches/ Members	Estimated New 477-KE 1976/79 3/ Ha. ('000)	Estimated New 477-KE 1976/79 3/ Loans Approved (Ksh.'000)
RIFT VALLEY PROVINCE	1							1														
Baringo/Koibatek	-	1	-	1		1	-	-	1	230	20 (5,640)	87	26,254	15 (1,500)	16	9,526	7 (3,501) 4/	25	5,924	10 (1,200	45	10,800
Laikipia (Nanyuki APC Branch)	-	1	-	4		1	-	7	1	810	32 (6,000)	160	26,072	( )	} 88	( )	4 (3,016) 4/	25	7,080	12 (5,280	54	12,960
Nyahururu C.P. (Laikipia Covers)	-	-	-	-		-	-	-	-	NA	5 (430)	28	3,423	(18 (1,797)		(1,525)	1 (1)	12	760	2 (240)	9	2,160
Nyeri/Meranga (Laikipia Covers	-	-	-	-		-	-	-	-	10	3 (240)	8	2,427	1 (90)		80	1 (50)	3	1,267	1 (100)	4	1,000
Kajiado	-	1	4	9		3	-	6	5	1,740 (Gr.)	23 (3,972)	621	27,680	15 (1,832)	221	14,080	-	-	-	8 (2,140)	400	12,800
										(Ind.)	42 (42)	25	4,560	42 (45)	15	4,560	-	-	-	-	-	-
Narok	-	1	3	13		3	-	6	5 1 1	1,570	18 (1,806)	177	8,675	-	-	-	7 (506)	27	3,673	11 (1,200)	150	4,800
Samburu	-	1	2	8		1	-	-	3 - -	1,700	3	100	2,900	-	-	-	-	-	-	2	100	2,000
West Pokot	-	1	-	5		1	-	12	1	240	-	-	-	-	-	-	-	-	-	-	-	-
Baringo	-	1	-	3		1	2	5	1	810	-	-	-	-	-	-	-	-	-	-	-	-
Turkana	-	1	-	-		1	-	5	1	5,990	-	-	-	-	-	-	-	-	-	-	-	-
Planning Team Province	-	1	-	-		1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Narok	-	2	1	-		1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Kajiado	-	1	-	2		1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
EASTERN PROVINCE	1	-	-	-		2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Kitui	-	1	1	5		2	-	2	2	1,920	5 (896)	67	6,688	1 (460)	10	2,008	1 (336)	32	3,600	1 (100)	5	1,000
Machakos	-	1	-	4	2	2	-	2	1	1,100	11 (940)	51	9,410	5 (540)	19	991	2 (4)	14	4,099	4 (400)	18	4,320
Embu/Kirinyaga (CP)	1	1	-	4		1	-	-	1	150	1 (120)	8	868	1 (120)	8	868	-	-	-	-	-	-
Meru	-	1	-	3		1	-	-	1	330	-	-	-	-	-	-	-	-	-	-	-	-
Tsiolo	1	1	-	3		7	-	4	1	2,560	- (11,060)	-	-	-	-	-	Canadian N.E. Water Supplies Project					
Marsabit	-	1	-	2	1	1	-	-	1	7,280	-	-	-	-	-	-	-	-	-			
NORTH EASTERN PROVINCE	1	-	-	-		1	-	1	2	-	-	-	-	-	-	-	-	-	-			
Garissa	-	1	2	5		4	-	-	4	1 4,400	- (12,000) 7/	-	-	USAID Project			USAID N.E. Water Project					
Wajir	1	1	2	18		9			7	5,650	- (17,300) 7/	-	-									
Mandera	-	1	-	4		1	-	1	1	2,650	- (13,200) 7/	-	-									
N.E. Planning	-	-	-	-		2	-	-	3	-	-	-	-	-	-	-	-	-	-			
COAST PROVINCE	1	-	-	-		1	-	2	1	-	-	-	-	-	-	-	-	-	-			
Taita Taveta	-	1	1	4	2	2	2		2	550	17 (1,155)	303	43,822	11 (750)	137	17,112	4 (455)	100	7,738	5 (400	80	10,972
Kwale	-	1	1	7		2	-	3	2	480	5 (294)	152	11,453	-	-	-	1 (14)	21	3,200	4 (280)	131	8,253
Kilifi	-	1	1	5	2	2	-	1	2	670	4 (210)	207	15,267	-	-	-	1 (50)	26	3,868	3 (160)	181	11,403
Tana River/Galana	-	1	1	3		1	-	-	2	4,160	7 (730)	430	18,721	2 (330)	314	5,593	1 (8)	303	4,000	4 (400	106	6,678
Lamu	-	1	-	4		1	-	-	1	280	4 (400)	113	7,119	-	-	-	-	-	-	4 (400)	113	7,119
Planning Province	-	2	-	-		1	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Taita	-	2	-	-		2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-

1/ Membership figures are not available for all ranches and guestimates have had to be made in many cases. 129 KE figures are based on extrapolation from ranches with data; 22 of the Commercial ranches had 4,000 members while the other 5[illegible] had about 40.
2/ Figures of loan amounts are from RMD Report "Proposed Reorganisation of RMD" Jan. 1976; this differs somewhat from APC figures but the general level of magnitude is correct.
3/ Includes repeater loans.
4/ Includes 1 ranch with 2,642 members in Baringo and 1 ranch in Laikipia with 3,000.

NOTE: This table is in attempt to relate staff with present and future project commitments as well as with the size of the range area in a particular district. Figures come from a number of sources and there are inconsistencies. They do however, give a general picture of the situation. They should, however, be revised and kept up to date.

August 31, 1976

ANNEX 11
Table 6

ANNEX 14
Table 5

KENYA

Kenya Livestock Development Project

Review Mission 22 February to 26 March 1976

RMD Staff Requirements for Project Direction and Implementation

	R.M.D. Establishment	Agreed Coordination Unit Establishment	Upgrading of Post	New Post	Remarks
Head of Range Management	1(M)		1		
(A) Development Section					
Officer in charge		1(M)			Project Co-ordinator Post
Group Ranches in charge 1/	New	-	-	1(K)	
Commercial/Company Ranches officer in charge	New	-	-	1(K)	
Accounts Officers	New	-	-	2(J/K)	One to be seconded from Department of Cooperatives
Project Monitoring:					
Officer in charge		1	1(L)		Assistant Project Co-ordinator Post
Financial Analyst		1			
Economist	1				
Project Accountant	(1)				(Ministry Accounts Officer dealing with Project Accountants)
USAID Seconded Staff		1			
Cartography:					
Cartographers and Assistants	6			1(J)	
(B) Extension Services					
Assistant Director in charge	1M				
To/PA	1				
Accounts Officer/Clerk	1				Existing
Personnel Officer/Clerk	1				
Firebreak Unit	1				
Provincial Range Officers	4		4(L)		
STO Nakuru/Laikipia	-			2(K)	
(C) Training					
Range Officer	New			1(K)	
Senior Technical Officers	New			1(J)	
(D) Management Studies					
Range Officer	New			1	) Because it affects all Range
Range Officer	New			1	) Development they should be
Technical Officer	New			1	) financed under ILCA and other projects

1/ Working closely with Registrar of Group Representatives Staff

ANNEX 14
Table 6

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Costs of Extra Staff Requirements and Equipment for RMD
(KSh.'000)

	Unit Cost		Year 3	Year 4	Year 5	Total	Foreign Exchange Component %	Foreign Exchange Component Amount
Investment								
Pre-fab Housing	10		370 (37)	-	-	370	40	148.0
Landrovers	44		352 (8)	-	-	352	65	288.8
Motor Bicycles 250 cc	16		640 (40)	-	640 (40)	1,280	95	960.0
Total Investment			1,204	-	640	2,002	70	1,396.8
Recurrent Costs								
Staff								
Upgrading Posts 1/	9	10	90	90	90	270	-	
Range Officer (K) 2/	32	3	96	96	96	288	-	
Senior Technical Officer (K) 3/	27	3	81	81	81	243	-	
Accounts Officer (J) 4/	27	2	54	54	54	162	-	
Cartographer (Div./Sec.)	16	1	16	16	16	48	-	
Drivers		7	56	56	56	168	-	
			393	393	393	1,179		
Operating Costs								
Landrovers	20		160 (7)	160	160	480	50	240.0
Motorbikes	6		240 (40)	240	240	720	50	360.0
Subsistence			25	25	25	75	-	
Education and Demonstration Materials			10	10	10	30	20	6.0
Total Operating Costs			435	435	435	1,305	46	606.0
Total recurrent cost			828	828	828	2,484	24	606.0

1/ Upgrading (a) Head of Division (b) 1 post in Project Monitoring (c) 4 Provincial Range Officers (d) and changing designation or upgrading 4 field TO posts (Ref. HRMDs paper of January 1976 on reorganization). See Table 5.
2/ Development Section 2, Range Education 1.
3/ Nakuru, Laikipia, Range Education 1 each.
4/ Accounts Officers to deal with Company, Commercial and Co-operative ranch problems.

5/ Allowances: KSh. 30 per day Levels J K, others KSh. 15 70 days per year.

June 29, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

USAID Report on Ranch Development

The Project Review Mission was composed of the IDA Mission leader, two financial analysts, an agriculture economist, representatives of USAID, CIDA, CDM and all GOK agencies concerned.

During this review, meetings were held with the Project Coordinating Committee, Range Management Division, Economic Planning Division, and Livestock Marketing Division. A meeting was also scheduled with the Managing Director of AFC. Only the Washington IDA representatives were included in this meeting. Field visits included two commercial ranches, one co-operative ranch, five company ranches and five group ranches.

During the field visits, meetings were held with the Allied Ranching Board of Directors and employees, ranch representatives in Coast Province and the Ranch Planning team for Rift Valley Province.

Most of the areas visited were suffering from drought conditions. The ranches visited included ranches started under Phase I; operations continuing under Phase II assistance, on-going ranches receiving Phase II assistance and new ranches with proposed or approved loans for Phase II financing.

There was evidence of improved ranching operations on some of the Phase I ranches despite difficult conditions, also improved livestock and facilities were in evidence on several ranches as a result of Phase I and II assistance.

One of the Mission's primary objectives was to examine the present viability of ranches financed under the project by AFC. The economist and financial analyst examined the available ranch records. Preliminary examinations indicated that most ranches were in serious cash flow difficulty. This resulted largely from operating cost increases of the magnitude of 50-300% while prices for slaughter cattle remained fairly stable due, in part to government price controls in retail meat markets.

Newly established ranches were incurring heavy expenditures for development and livestock purchases as well as overhead costs. Most ranches were also suffering from prolonged drought conditions.

The examinations of available financial accounts indicate that ranches in 3rd-5th years of operation (Phase I plus additional Phase II financing) were in some cases incurring heavy losses. Most were, at best, marginal operations under present conditions. Ranches under the greatest stress appear to be the company type operations on which there was little or no previous development and few or no livestock available at the start up point of ranch operations.

The commercial ranches which were on-going operations appeared to require modest improvements or livestock increases. Group ranches were generally fully or even over-stocked and had modest development inputs. Both the commercial and group ranches appear to be in a fairly sound financial position. However individual members of group ranches may be under considerable stress to meet their share of loan repayment with very small stock holdings.

Ranch development and operating models developed by mission members utilizing present costs, and projected livestock prices further substantiated the above described situation. The difficult economic conditions have been often aggravated by other management factors which could probably be modified by governmental agencies and/or ranches themselves.

Some of these factors and examples are:

1. The heavy front end load of capital investments, in ranch developments (often over extending inexperienced management) with little owner equity in the operations. This places a repayment burden on the ranch which could be extremely difficult to meet even under expert management and very favorable economic conditions.

2. Heavy early investment in breeding herd operations. These operations require a high degree of management skill and require a much longer period for full returns to be realized.

3. There appears to be a conscious government policy of buying immature cattle from livestock traders in N.E. Province, at prices which are reported to be close to 100% above producer prices. This inflated price plus handling and transport costs of moving the cattle to growing/fattening ranches often results in nil profit to these ranches. Direct purchases from the producer (if such a system can be established) would almost surely result in better prices to producers while at the same time lowering costs to ranchers, thus improving returns to each.

4. There appears to be a practice of loan approvals and disbursments to ranches for livestock (steer) purchases for the sake of (paper) cash flow improvements in financial projections without due consideration for the ranches' capability to support increased herd size. Some ranches have suffered very heavy cattle losses resulting from large livestock purchases without sufficient forage and/or water.

5. Range Management officers must accept and fulfil their role of advising both ranchers and AFC on the proper stocking rates. This is particularly important with regard to the time of sales and purchases of livestock.

6. While there may be some merit to AFC's belief that it has expertise in cattle purchasing which some ranchers lack, the practice of the lender also acting as the broker is considered inappropriate for a sound lending operation. Past events have also shown that insufficient coordination of stock purchases with capacity of ranches to carry the livestock can produce adverse effects.

7. The role and capability of the Ministry of Water Development in assisting ranches develop and maintain livestock water systems should be made known to all officers in Range Management and AFC and ranchers concerned in ranch development.

8. Project donors should recognize that the original project appraisal reports were far too optimistic concerning the early profitability of ranching enterprises and their ability to make early repayment of loans. That loan repayment periods for ranches should in many

cases be extended by at least five years. The original planned loan dispursement schedules should also be revised to reflect the caution required at present in providing sound financial assistance.

9. The Project Coordination Unit (PCU) should complete its staffing by including a financial analyst at the earliest possible date. They should then accept the responsibility of monitoring a representative number of operations in order to identify potentially serious problems at an early stage. The implementating agencies could thus be warned and better able to deal with the problem areas.

   The PCU should continue to be strengthened but should for the forseable future retain its present locus in the government structure.

10. Ranch planning teams (working parties), including AFC branch managers must take care to recommend only viable development/ management plans even if this means very modest development in the ranches' early stages. Such plans must give attention to the carrying capacity of the ranches, realistic cash flow projections, levels of capital development, ability to repay loans, environmental considerations, managerial capability, and a realistic time frame in which the ranches can become self-sustaining, profitable operations.

    It must be understood that once accepted and approved, ranch plans are a flexible basic working document. As modifications are required, the concerned agencies should reach agreement and make the necessary changes. The most important issue is that the agent requesting the change must accept the responsibility of informing all parties concerned. Finally close working relationships must be maintained.

    As is true in most beef producing countries of the world, the beef industry in Kenya is presently operating with very narrow margins. This is a phenomena which is experienced in a fairly regular cycle. Now is the time to act with caution and consideration. Investments in beef producing units must be carefully phased and overhead cost must be reduced to the minimum consistant

with sound ranching practices. The very closest scrutiny should be given to proposed investments to insure the ability to repay interest, particularly during the early and medium years, without sacrificing capital investments. However, the beef industry in Kenya should not be allowed to stagnate and revert to disorganized and unmanaged production systems. As a result of the biological nature of its product, the beef industry has a slow response rate. If the industry is allowed to fall into disuse and disrepair during the periods of low economic returns and over supplied markets it cannot respond quickly to favorable economic conditions. This industry must therefore be maintained in a healthy and growing (through perhaps more slowly in lean times) condition if the country and people are to receive real benefits from an economic activity for which this country is so well suited. Kenyan beef has a role to play in meeting the ever expanding need for more food throughout the world.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

AGRICULTURAL FINANCE CORPORATION

A. AFC - FINANCIAL RESULTS

1. AFC has during this year started to produce its results on a quarterly basis and the figures for the 9 months to December 31, 1975 have been included in the annual statement of accounts 1970-76, in tables 1 to 4. However, it must be noted that these accounts are internal documents and are subject to year end adjustments and audit. As at December 31, 1975 AFC is showing a profit of KSh. 1.19m, which is in line with the revised budget. The turnround from the 1974/75 loss is due to a rise in interest being received on the increased protfolio. On the basis of the interest received for the nine months, expressed as an annual figure, the increase would amount to 24%. However, if a detailed review of the provision for doubtful debts is made at the year end an increase in the provision may be required and at this stage it is safest to assume that the final results will be closer to a break even situation. The financial controller also expresses some doubts that the year end position will show a profit in view of the fact that the provision for doubtful debts on ranch loans may have to be increased.

2. The total AFC agricultural loan portfolio continues to increase. The 1970 loans were KSh. 178.1m, 1975 were KSh. 373.7m. The last two years have shown an increase of just over 20% per annum. Ranch loans amount to KSh. 57.2m or 15% of the total portfolio. Ranch loans this year have

shown a slower rate of increase. The annual increase in ranch loans as a percentage of the annual increase in total portfolio for this year is only 17% as against 27%, 67%, 33% and 81% for the preceding four years (Table 1).

3. On the basis of the figures AFC administrative costs do appear to be more under control and on a yearly basis costs in 1975/76 may be only slightly increased (5%) over 1974/75. When measured as a percentage of the increased portfolio the increasing percentage from 1970 to 1975 has been reversed and there has been a healthy fall from 4.37% in 1975 to 3.6% from 1976; this is, however, still short of the 3.0% recorded in 1971 (Table 2).

4. The Ranch division had at March 31, 1975 accumulated losses of KSh. 5.38 m. The nine months accounts shown a profit of KSh. 0.31m, but in view of the remarks on provision for doubtful devts it is questionable if this position will be maintained (see para 1.2). It is possible that the Ranch division will have an unfavorable effect on AFC's future results because of the likely deterioration of ranches being able to meet their commitments.

5. The financial analyst, who has recently joined AFC, has made an attempt to project the cash flow situation forward by quarters until March 31, 1978. However, this document is not supported by profit and loss and balance sheet projections at this stage. They are about to start on the preparation of the 1976/77 budget. The cash flow does not take account of arrears or bad debts and is based on the due dates for repayments of capital and interest from beneficiaries. The net result of the forecast is that very large cash surpluses are forecast as from the end of the current financial year, rising in due course to well in excess of KSh. 100m. The variance at the end of the third quarter was 11%. In view of this

situation a detailed projection over the next three years should be prepared so as to assist AFC management in policy decisions regarding the cash surpluses.

6. The accounts for the year ended March 31, 1975 have been audited but still await the approval of the Board.

B. FIRST LIVESTOCK PROJECT LOANS

7. As at December 31, 1975 the development capital loans approved were KSh. 25.5m, working capital KSh. 33.5m, making a total of KSh. 59.0m. The amount undrawn was KSh. 20.0m which made the amount disbursed KSh. 39.0m. Arrears were KSh. 1.5m (Tables 3 and 4). On the surface the arrears position, 4.5% of amounts disbursed, appears satisfactory. However, this does not reflect the true position because only 26% of the amount disbursed has finished the grace period and is now in the repayment period. When arrears are measured against the amounts disbursed and due for repayment the percentage increases to 12.8. On this basis the arrears on the different types of loans are Individuals 35.3%, Groups 12.2%, Companies 3.0% and Commercial 7.3% (Table 5).

8. There are now 69 loans in the repayment period of these 36 are in arrears (52%). An aged arrears schedule was compiled from the records available and this showed that 16% of arrears were 0.3 months overdue, 37% 4-6 months overdue and 47% 9-12 months overdue (see Table 6).

9. While the total percentage provision for doubtful debts is in line with the actual arrears there is reason to be concerned with repayments, especially in the Company and Group sector where the security in land is of little value. The companies visited were not in a good financial state (see Appendix 1) and this sector represents half the total amount disbursed.

C. SECOND LIVESTOCK PROJECT LOANS

10. Loan Approvals, Disbursement and Investment Costs - As at February 29, 1976 a total of 10 Commercial ranch loans and 7 Company ranch loans for KSh. 28.0 million were approved and in the disbursement stage. Included in this number 1 Commercial ranch loan and 2 Company ranch loans had not begun disbursement. In addition to those loans which were operative a further 6 Commercial ranch loans, 7 Group ranch loans and 1 Company ranch loan had been approved for KSh. 19.2 million by the loans committee but were not processed through all the legal procedures. The position of approval and disbursement on these loans is summarized as follows: (details Tables 7 and 8).

Loans Approved and in Process of Disbursement 1/	No. Ranches	Ha. ('000)	Development Loans Approved (KSh.'000)	Development Loans Disbursed (KSh.'000)	Working Capital Loans Approved (KSh.'000)	Working Capital Loans Disbursed (KSh.'000)	Total Approved (KSh.'000)	Total Disbursed (KSh.'000)
Commercial Ranches	10	46	4,251	5,178	5,334	3,300	9,585	5,478
Company Ranches	7	168	7,749	3,624	10,657	6,392	18,406	10,016
Sub-Total	17	214	12,000	5,802	15,991	9,692	27,991	15,494
Loans in Process of Approval								
Commercial Ranches	6	25	5,474	-	4,086	-	9,560	-
Company Ranches	1	1/	2,000	-	4,000	-	6,000	-
Group Ranches	7	27	1,425	-	2,247	-	3,672	-
Sub-Total	14	52	8,899	-	10,333	-	19,232	-
Total	31	266	20,899	5,802	26,324	9,692	47,223	-

1/ Galana 303,000 ha - game/cattle ranching enterprise.

At appraisal it was estimated that 100 Commercial ranches covering 350,000 ha involving KSh. 90.0 million investment would require loans; 21 Company ranches 588,000 ha KSh. 35.7 million; 60 Group ranches, 960,000 ha KSh. 60.0 million; 3 feedlots, KSh. 9.6 million.

11. Fifteen months after the 5 years Project became effective, loans have been approved representing 17% of the number estimated for development at appraisal. The funds committed, KSh. 47.2m represent 25% of the funds estimated at appraisal, excluding price contingencies. AFC has disbursed KSh. 15.4 million by end of February 1976 (8% of funds estimated). The total cost per hectare in the appraisal report is calculated at KSh. 98.9. The actual loans approved work out at a cost of KSh. 54.1 per hectare. However, the loan approved for Galana Game and Ranching Limited, distorts the figures because of the size of the ranch - 607,017 hectares. If this loan is excluded the cost per hectare is then KSh. 155.1, nearly 57% above appraisal indicating the increase in costs since appraisal.

12. In terms of numbers, approval of company and commercial ranch loans have been generally at the rate that might be expected. Because of delays in the Range Planning Teams providing satisfactory Group Ranch plans these have not been up to schedule. Details of loan approvals are as follows:

(a) 8 company ranches or 38% of the company ranches planned for the Project; loan funds committed, KSh. 24.4 million, are 70% of funds estimated required at appraisal for all company ranches excluding price contingencies. KSh. 10.0 million has been disbursed by AFC. Four of the ranches, Lualenyi, Rukinga, Mugeno and Galana are continuing their development started under the first project while a fifth, B2 Yattas Ranching is a cooperative ranch that received a loan under the first project and should be classified as a commercial ranch. Therefore, only three ranches are new ranches.

(b) 16 commercial ranch loans or 16% of the ranches planned for the Project; loan funds committed, KSh. 19.1 million, are 21% of the funds estimated required for commercial ranches at appraisal excluding price contingencies. KSh. 5.5 million has been disbursed by AFC. Two ranches Ereri and Kikapu and a feedlot, Midas, among these approvals, also received finance under the First Project.

(c) 7 Group ranch loans in Narok or 12% of the ranches planned for the Project; loan funds committed, KSh. 3.7 million, are 6% of the funds estimated required for groups at appraisal excluding price contingencies. Although approved the loans have not yet completed all legal procedures and no funds have therefore yet been disbursed.

(d) No new feedlot loans have been considered although one ongoing feedlot, Midas, financed under the First Project has received a second phase loan for working capital. However, as it is an ongoing feedlot it has been classified under the commercial ranch category.

13. Company ranch sizes have been roughly as expected while commercials have been a little larger. The 13 new commercial ranches loans under this Project added to the 42 commercial ranch loans given under the First Project means a third of the commercial ranching sector is receiving loans from AFC (estimated at 150 ranches in 1958). At 3,820 ha each, the Group ranches are much smaller than expected (16,000 ha).

14. Compared with appraisal estimates development loan funds approved per hectare are greater than expected on company ranches reflecting higher costs. On groups development loan funds per hectare are the same as appraisal and on commercial ranches less than expected at appraisal due in both cases to less development being undertaken. In all three ranch types the working capital requirements are several times that forecast at appraisal due in part to the low contribution of the participants in meeting ranch running costs and in the case of ongoing company ranches due to the failure of sales to cover operating costs (Tables 9, 10 and 11, for analysis of loan expenditures).

Investment and Loans Per Enterprise and Per Hectare - KE 477

	Company: Excluding Galana	Company: Including Galana	Commercial Ranches and Feedlots	Groups
Average hectares/ranch				
Appraisal	28,000 (20)	28,000 (21)	3,400 (100)	16,000 (60)
Actual to date	24,000 (7)	96,870 (8)	4,440 (16)	3,820 (7)
Average total investment/ranch				
Appraisal total investment (Ksh.'000)	1,662 (7) 1/	1,662 (8)	912 (16) 2/	1,010
Appraisal loan estimate (KSh.'000)	1,330	1,330	730	808
Actual loan (KSh.'000)	2,629 (7)	3,486 (8)	1,196	525
Average development capital/ranch				
Appraisal total investment (KSh.'000)	460	460	168	159
Actual loan (KSh.'000)	1,776 (6)	2,093 (7)	607 (16)	321 (7)
Average working capital/ranch				
Appraisal total working capital (KSh.'000)	1,202	1,202	744	851
Actual loan (KSh.'000)	1,549 (5)	1,624 (6)	589 (16)	204 (7)
Average total capital per hectare				
Appraisal total investment (KSh.)	59 1/	-	268 2/	63
Appraisal loan estimate (KSh.)	48	-	215	51
Actual loan (KSh.'000)	109 (155/-) 3/	-	269	137
Average development capital per hectare				
Appraisal total investment (KSh.)	43	-	219	53
Actual loan (KSh.'000)	46 (66/-) 3/	-	137	53
Average working capital per hectare				
Appraisal total investment (KSh.)	17	-	49	10
Actual loan (KSh.'000)	63 (89/-) 3/	-	132	84

1/ Includes pre-development breeding herd valued at KSh. 474,000 (at 17/- per ha) with purchases valued at KSh. 234,000 (8/- per ha).

2/ Includes pre-development breeding herd valued at KSh. 485,000 or KSh. 142/- per ha with purchases valued at KSh. 16/per ha.

3/ Includes ranches already receiving loans. Figures in brackets give investment costs of new ranches, Mkuki, Giriama and Taru.

15. There are 3 commercial ranch applications, 1 company ranch and 3 group ranches in the pre-loan committee stage.

16. Classification of Ranches. There is currently some inconsistency on the classification of ranches between Commercial and Company in the Second Livestock Devleopment Project by AFC. The Development Credit Agreement states that "Company or cooperative located mainly on range lands in Taita/Taveta, Tana, Kwale, Kilifi and Kitui districts and established on land leased from Government or on land with appropriate title" and that "commercial ranches located in Nakuru, Laikipia, Nyandarua and Machakos districts". Clearly the intention is that new ranches on previously undeveloped land in the coastal area should be classified as company ranches even if they have received a loan under the first phase.

17. Arrears of Second Livestock Project Loans. The position on the first phase livestock loans is summarized in para 7. On the second phase livestock loan all loans are in the grace period. However, interest payments are due every six months and the total interest accrued at February 29, 1976 was KSh. 351,038. 9 of the 14 ranches are in arrears on their interest payments.

18. Reimbursement Claims. The total amount incurred in Ranch loan disbursements, up to December 31, 1975, was KSh. 14,082,000 and for the technical services KSh. 1,567,000. IDA's contribution is 50% of this amount, KSh. 7,775,000, of which KSh. 2,048,000 was reimbursed in 1975. AFC submitted to the Treasury in late February their reimbursement claim for expenditure up to December 31, 1975. This should be forwarded to IDA before the end of March. The amount due from USAID is KSh. 1,978,000 and this is to be paid soon. Claims for reimbursement will be made in future on a quarterly basis direct to the Treasury.

D. RANCH VISITS, ACCOUNTS, AND FINANCIAL STATE

19. Ranch Visits. Visits were made to four ranches in the Laikipia district and three ranches in the Taita district. In addition discussions were held with the Allied Ranching Company in which seven of the nine members are ranchers in the Taita district. Discussions were held in Mombasa with several ranchers, who are awaiting letters of allotment, and in Nyanhururu with a group of commercial ranchers. A report on visits made to ranches, accounting records of ranches and balance sheets of six ranches are contained in Appendix 1.

20. Ranch Accounts. Production of audited accounts by the ranches is generally slow with the exception of the ranches covered by Allied Ranching. Examination was made of the files in the Ranch section of AFC of

21. In the case of Company ranches, Allied Ranching has produced and implemented with five of its members a simplified accounting system which enables the ranches to produce their own profit and loss account and balance sheet on a monthly basis. The other two members will be implementing this system shortly. It is claimed that the system can be taught in 4 to 8 weeks to ranch accountants with standard VII education and some accounting background. Company ranches will probably rely on Allied Ranching for some time for financial interpretation of the accounts. The Allied system of accounting is technically sound and has definite possibilities of expansion to other ranches in the program. It produces basic information quickly and keeps them up to date on their progress. The next stage of development of budgets and cash flows is to be implemented shortly.

22. No examination of ranch accounting records on old established commercial ranches was possible as the only ranch visited in this category did not have records available. Also the files examined in the Ranch section of AFC contained no accounts in this category.

23. The records of newly owned commercial and cooperative ranches seem to be well kept but the annual accounts are prepared by accountants off the ranch and this leads to long delays. With the exception of the accounts of the B2 Yatta Cooperative Ranches shown in Appendix 1 only old accounts prior to 1973 were found to exist on AFC files.

24. No accounts were found for Group ranches. The Registrar of Group Companies is aware of the problems. Accountants posts for supervision should have been established several years ago, however, the Director of Personnel has only recently approved the posts and staff are now being recruited. Immediate attention should be paid to establishing proper accounting and auditing procedures.

25. Serious Financial Position of Company Ranches. AFC has a serious problem with loans disbursed to company ranches. The state of the company ranches examined is not good. Most over the last two years have been losing money because of drought, overstocking, cost increases and low produce prices and now are experiencing extremely difficult cash flow problems. AFC is currently faced with a situation of adding to their investment to keep the ranches operative. All the Company ranch balance sheets examined show a badly under-capitalized position. One ranch visited, Mugeno, has accepted this situation and will soon be holding a meeting when it hopes to persuade its members to increase their equity stake by issue of additional shares to existing members or by introducing new members. Unless the profitability

of these ranches can be improved those ranches that are due to make repayments will only be able to do so by selling of some of their livestock. Lualenyi was currently in the position of selling 300 steers to KMC in order to meet their commitments to AFC. Balance sheets for Mugeno, Lualenyi, Rukinga and B2 Yatta are reproduced in Appendix 1. The balance sheets of Galana Game and Ranching are produced to show the progress of a ranch which is obviously prospering under good management and a better capital structure.

26. Including the First Project, the total amount disbursed to company ranches is KSh. 30m and the security to this investment does not cover this amount. An immediate review must be made of each ranch to devise plans for dealing with the situation on a technical and financial basis. A rescheduling of the loan repayments will be inevitable but consideration of this must only be given when the full review and revised plans to keep the company afloat have been drawn up.

27. With the current state of the industry it will be very difficult to establish new company ranches in new areas of Coast Province on a sound financial base without greater equity participation and better returns. Until the financial situation improves consideration of new company ranch loans should therefore be curtailed. In future it should be noted that the untried nature of the ranchland, the erratic rainfall and the inexperience of the new ranchers must mean that only average performance can be expected in early years. It is therefore, important that special attention be paid to cash flows, phased investments and the length of the terms of the loan. There can be no short cuts in consideration of ranch and investment plans as it is wrong that the individual members of these new ranches should be placed at the financial risk they are now facing.

28. Need to Improve Financial Position of All Ranches. In view of the increased costs which have not been accompanied by adequate beef price increases it is clear that all ranches under the Project must be under a severe cost price squeeze and AFC and RMD should pay special attention to the financial position of all ranches under the first and second projects. Actions that can be taken by ranches to improve their overall trading results can include:

(a) Ranches should examine the possibility of increasing their equity stake in order to replace or minimize loan finance.

(b) Ranches should examine critically their over head structure to eliminate all possibility of excess costs. Items of expenditure such as directors allowances, travel and entertainment, vehicle expenses and labor should be reviewed.

(c) Great restraint on any divident policy in early years should be employed until a sound financial base has been established.

(d) Where hunting rights are granted on ranches the income from this source should be maximized.

29. Ranchers 20% Investment Contribution. In many cases, it is evident that ranchers are not contributing the full 20% investment due to the manner in which the contribution is estimated. The Subsidiary Loan Agreement between IDA and AFC states that "Ranchers and feedlot operators shall be required to contribute a minimum of 20% of their investmnet cost". Investment is then further defined as being development and working capital. AFC follow this in respect of development loans but not in the case of working capital loans. For working capital they fix a ceiling of 80% on the loan with the remaining 20% as a contingency which is at the option of AFC. No rancher contribution is required. In the early stages it would appear that ranchers contributions were not shown at the time the loan was being approved.

Some of the rancher's contributions supplied by AFC for a schedule produced in the December supervision report would appear to be overstated.

30. The main area of concern is in the category of company ranch loans. From discussions held in Mombasa with prospective loanees it was stated by AFC that the 20% contribution was taken over the life of the loan and not at the point of investments. If this is continued it can only further increase the problems of these new ranches and it is recommended that either the loans should be declined or a phased investment program should be drawn up to match the ranchers contribution. Rancher investment should be established by a valuation of assets, excluding value of new leasehold land (20 years and under), less depreciation allowance and loans outstanding. This would then lead to uniformity in loan consideration. Equity participation is discussed further for Company ranches (Annex 3 paras 15 and 16) and for Group ranches (Annex 6 paras 31 and 72) where it is concluded that the minimum 20% should be raised to 30% and in the case of Company ranches a higher rate would be more prudent even if it means slowing development of a ranch.

31. Taxation. Taxation is a major problem on new company and other new commercial ranching enterprises using large proportion of loan money. Payment of tax often causes cash flow problems and on ranches when there are large numbers of relatively poor shareholders, such as in cooperative ranches; taxation can take a relatively large proportion of their income and because net returns are not as great as under the communal badly managed traditional system, could encourage the break up of large holdings into small individual units owned by the same individuals who would not have to pay tax. A note on taxation is included in Appendix 2.

E. AFC LOAN PROCEDURES, CREDIT CONTROL AND ORGANIZATION AND TRAINING

Loan Procedures

32. The Loan procedures are comprehensive and the majority of the information that is supposed to be supplied is usually made available (details of Loan procedures is shown in Appendix 3). Some of the areas which will require attention are:

(a) More insistence should be made on beneficiaries producing up to date audited accounts, tax returns, etc. to help in establishing the overall financial position of the applicant.

(b) The investment plan should always be drawn up on the most up to date information available.

(c) More note should be taken on the ranchers 20% investment contribution and standardized procedures should be drawn up to provide uniformity in interpretation. This is discussed more fully in para 7.

(d) Closest cooperation must be forged with Government departments, in particular Range Management Division, if the best results are to be obtained for the beneficiaries. The lack of cooperation between the parties weakens the examination of loan requests and mistakes that may result will always accrue to the financial detriment of the loan applicant.

In discussions with the new company ranches there were indications that the full financial implications of taking a loan to develop had not been sufficiently explained. These discussions should emphasize such points as equity participation and dividend policies.

Credit Control and Collection

33. The Accounts and Computer departments supply the following information for credit control:

(a) Large scale loans - A listing by branches of all accounts in arrears is produced quarterly, on request from credit control, but apparently it is not usually available until two months after the end of the quarter.

(b) Small scale loans - Full computer print out by account produced monthly and is usually available about six weeks after the end of the month.

(c) Ranch loans - there does not appear to be any regular list issued.

(d) Aged arrears - None of the listings provided give the ageing of debts. However, a summary by branches is produced for the IDA credit loans (105-KE and 344-KE) on a quarterly basis. This however does not individually list the accounts. The September 30, 1975 listing showed on the first IDA loan (105-KE) to have arrears of KSh. 5.9m of which 49.2% were more than twelve months old.

34. The Credit Control Department is currently staffed by a credit controller, 1 accounts clerk, 1 general clerk and 2 secretaries. The Department is responsible for all loanee accounts, but it would appear that it is only able to handle adequately large scale farm loans due to their limited staff. This they do by writing to the Branch Manager with details of approximately the top ten outstanding accounts in each branch, and the Branch Manager reporting to Head Office within two weeks of progress. Small scale loans are handled directly by the Branch Manager. Ranch loans are currently handled by the ranch accountant, who is situated in the general accounts section, and the branch manager. There are no formal procedures for ranch loans. All collection procedures are backed up by a sound foreclosure system.

35. A reorganization plan was submitted by the Credit Control Department in January 1976, as part of the reorganization of AFC, and this requests an expansion of the department to twelve to cover the full list of AFC loans (Appendix 4).

36. Undoubtedly a lot of effort is put in by individual employees of AFC but modifications and additions to staff and procedures could lead to improved performance. Such actions might include:

(a) Increase in level of staffing in credit control.

(b) Investigations be made to try and improve the time factor for producing of current information on arrears.

(c) Investigations be implemented to examine the possibility of producing the aging of arrears information by individual accounts.

(d) Investigations be implemented to examine the possibility of producing consolidated infromation of a loan account. For example Machakos Ranching was in arrears on a tractor loan but unknown to the credit Controller they were also in arrears on interest on the second phase livestock loan.

(e) Ranch loan control responsibility be placed with the Credit Control Department as soon as staff are available.

(f) Aged arrears statistics and control information on ranch loans be made available as laid out in annexes and this information took less than a morning's work to produce.

(g) A review of the loans under phase one livestock loan be conducted as soon as possible to decide action to be taken with each beneficiary. Procedures should be formalized and action taken should be written and placed in beneficiary files for future use.

(h) A detailed review be carried out at March 31, 1976 to examine the adequacy of the provision.

37. In discussion with various people within AFC it became evident that political pressures did impede at times the progress of credit collection. The effect of this was impossible to judge,

AFC Organization and Training

38. AFC is currently in the process of a reorganization and the proposed organization chart with ranch loans department and credit control department charts are included in Appendix 4 and 5. If the credit control organization is approved then with the increased staffing some progress may be able to be made, even if the ideal support information is not readily available.

39. The Ranch Department currently has four of the five posts filled filled but it is possible that group loans processing officer may be leaving. Functions and responsibilities are given in Appendix 6. It is imperative for the continued operation of the Ranch Department that the department be at full strength as soon as possible. The Ranch Department should ensure that the files are brought up to date and kept up to date with the audited accounts of the ranches. When the accounts are received they should be sent with comments of the state of the loan and any other pertinent points to the AFC Financial Controller, who should make his comments and action to be taken. All accounts should be kept on the herd register files in the Ranch Department. The Ranch Loan Agreement requires the beneficiary to produce annually audited accounts.

40. It would be advantageous if the top staff within AFC Ranch Department were given a short course on financial analysis and interpretation. The head of training in AFC should investigate possible courses - (IBRD/EDI Courses).

41. Discussions should be held with the "Kenya Institute of Management" or similar type organizations to see what assistance can be given towards the training of ranch personnel and support staff in the basic understandings of accounting interpretation and management.

42. Consideration should be given by AFC to the better use of its manpower. The corporation has grown considerably over the years and there is a further need for development in the field of job descriptions, grading and the defining of lines of responsibility. Some confusion on job responsibility was found to exist. Systems of motivation and job definition and grading such as that operated by HAY MSL might be appropriate. It is understood that USAID will be providing shortly three experts in the fields of credit, finance and data processing. This should then enable AFC to investigate these crucial areas of the Corporation's operation and therefore hopefully resolve some of the underlying problems which are hampering an expanding business concern.

Revised Costs of the Ranch Division Technical Services.

Costs of Project Technical Services are estimated to increase from KSh.5.9 million to KSh.6.2 million over the period of the project (Table 12)

Conclusions and Recommendations (Including replies to queries raised in correspondence with RMEA).

1. Ranch loans are becoming a significant proportion of AFCs loan portfolio and could have a markedly unfavourable effect on AFCs future financial position if the recent unprofitability of the ranching sector continues.

2. The mission strongly supports the maintenance of AFC as a strong financial institution and the changing of interest rates which, providing the Corporation is run efficiently will maintain it in that way. It does not support the lowering of interest rates or lengthening of loan periods to support an industry whose prices are naturally or artificially depressed; In such circumstances AFC should not lend (Permanent Secretary of Agriculture (PSA) letter of 4th February to RMEA refers).

3. No more loans should be made to new company ranches in the coast area until an improvement is evident in the financial prospects of this sector.

3. AFC should only lend to the ranching sector while prices are favorable to the ranches concerned.

4. At this stage with so many uncertainties the mission does not support the proposal to widen the geographical distribution of project loans beyond that stipulated in Schedule 2 of the Development Credit Agreement (PSA letter of 4th February to RMEA refers).

5. The mission's recommendations will reduce the amount of loan funds to be lent by AFC. There will also be an effect on AFC cash flow from the lengthening of the repayment period on the majority of development loans. Because of the discussions to be held on these recommendations the mission has not done a cash Flow table to see the effect these will have on the profitability of the Ranch Division. This, however, will require to be done as soon as the amounts to be loaned are agreed. The effect on the staffing level of the section will need to be assessed. Loan repayments to Treasury will also have to be revised and rather than use a fixed repayment schedule as in the case of 129 KE the repayment schedule should be related to the actual drawdown from the Treasury by AFC. Repayments would be made over 20 years from the drawdown date according to DCA Section 3.02.

6. Loan Procedures. A more searching investigation should be made of the financial position of loanee applicants and greater insistence should be placed on the production of audited accounts and tax returns. Ranchers should contribute at least 30%. Loans should be geared to what he can afford - preferably 50% even though it will mean a phased investment over a long period. Standardized procedures should be drawn up and followed for determining the ranchers <u>minimum</u> 30% investment contribution. The mission ranch cash flows give some indication of how this might be done. Loan repayment periods must be based on the ability to repay from projected profits. Loans should not automatically benefit from the maximum period. This could be a topic for future supervision missions.

7. The mission is reluctant to lay down the number of shareholders a ranch should have before it qualifies for a loan since the circumstances vary so greatly. The mission prefers to rely on the spirit of the agreement. It knows that Kenya's established commercial ranching sector ranches may have from 1 to 5,000 members. Naturally, it would seem wise from Kenya's viewpoint to use IDA funds for ranches that find it difficult to get credit from an alternative source although there is no stipulation about this. The Coast ranches are somewhat different. It is understood that this is mainly unoccupied land. Such land is scarce and it is understood that it is intended that the maximum number of people should be allowed to take advantage of it. For that reason, it is expected that "a company ranch will have at least 50 shareholders." (PSA letter of 4th February to RMEA).

8. Considerable progress has been made in resolving differences in responsibilities between AFC and RMD. Further meetings should be held to resolve any outstanding problems. RMD must understand AFC staff responsibilities to its corporation and accept that there will be some overlapping in duties. However, it should be possible to develop a good and workable complementary work program for the development of project ranches both at Headquarters and field levels.

9. AFC and RMD have gone some way to defining their ranch planning and loan procedures. Further meetings should be held to produce a single operation from which will prevent duplication of work. Applications and plans should be left as simple as possible.

10. At the time of loan approval, AFC and RMD should acquire a detailed program of follow up on the recipients voucher which each agency will undertake.

11. While AFC has some expertise in cattle purchasing which some ranchers lack, the practice of the lender acting as broker is not

subsidiary and should only be resorted to in exceptional circumstances.

12. Ranch accounting - AFC should involve themselves more in establishing good accounting practices on the ranches and they should follow up more closely the production of audited accounts. The Allied Ranching system of accounts should be investigated further to see whether it might be possible to install the system at other ranches. PMD should associate themselves with the attainment of these objectives.

13. AFC should review the investment plans, financial accounts and budgets of ranches on a regular basis, not less than once a year, and insist on sound cattle and pasture management plans being carried out.

14. Credit Control. Responsibility for credit control of all ranch loans should be vested in the Credit Control department and they be staffed accordingly to deal with the growing problem of arrears. An immediate review should be conducted of first phase loans to establish the position and action to be taken. Procedures should be formalized and action and comments recorded.

15. Investigations should be implemented to find ways of improving the quality and flow of information of loanee accounts.

16. AFC ranch department staff should be brought up to full strength and all the top five personnel should receive courses on financial analysis and related matters.

17. A manpower study incorporating job motivation, definition and grading should be carried out.

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SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Ranch Visits and Accounts

1. Visits: Visits were made to four ranches in the Laikipia District and three ranches in the Taita District. In addition discussions were held with Allied Ranching Company, which has out its nine members seven ranches in the Taita District and with commercial ranches in Nyahururu.

2. The ranches visited with comments on accounting are as follows:

Jessel Ranching Company (Commercial Ranch Laikipia)	- Nobody present so no examination could be made.
Ol' Maisor (Commercial Ranch-Laikipia)	- Family company. All information kept in haphazard manner, no records available.
Kikapu Farmers Cooperative Society, Ltd.	- Basic books well kept and up to date but the accounts are compiled off the ranch so no real knowledge of current situation. Latest Blanace Sheet available at Ranch was 1971. However, led to understand that 1974 Balance Sheet had been prepared by Accountants and awaited their collection.
Maai Mahiu Co. Ltd. (Commercial Ranch-Laikipia)	- Basic books kept at ranch and trial balance produced. Final accounts prepared off the ranch. No accounts at Ranch office were available for inspection. Current financial situation not known.
Lualenyi Ranching Co. (Company Ranch-Taita District)	- Currently in progress of up dating on books written up to March 31, 1975. Audited accounts for 1974 available for review.
Mugeno Ranching Co. (Company Ranch-Taita District)	- Operating on Allied Ranching Company accounting system and records up to date. December 31, 1975 accounts (unaudited) were available for review together with budget for 1976. Manager had a good understanding of financial position.

Rukinga Ranching Co. (Company Ranch-Taita District)	- Currently changing to Allied Ranching Company accounting system. June 30, 1974 audited accounts available for inspection. 1975 accounts were with the accountants in Nairobi. Manager had no detailed knowledge of financial position.

Allied Ranching Company Accounting System

3. The Allied Ranching accounting system is simple and can be operated by ranch accountants with a basis of standard VII education and some accounting background. It is claimed that it has been possible to train up ranch accountants in the operation of the system within a period of 4 to 8 weeks. The system allows for the presentation of profit and loss account and balance sheet within days after the closing of the transaction for the month. The system also takes account of debtors and creditors and therefore very little year end adjustment is required. Five of the seven ranches who are members of the company are already up to date.

4. It is claimed that the ranch accountants are able to advise the management of variations in figures, but the real financial advice is still vested in Allied Ranching. The use of the figures is obviously fundamental in the progress of the ranch and these must remain considerable doubt that this will be forthcoming from the ranch accountant for a long time to come.

5. Allied Ranching stated that 'The Kenya Institute of Management' is prepared to visit to Taita District to give their assistance to the ranch Directors and Managers in the basic understanding of management principles. This undoubtedly can only help in the progress of these ranches.

6. Development is taking place in the preparation of budgets but as yet no attempt has been made with cash flow projections.

7. The system is technically very sound and has obvious potential for expansion. If it were possible to expand this to other ranches it would be to their advantage. Allied Ranching does not currently have the resources or time to implement this outside their members or an individual basis. However, if there were enough ranches prepared to participate it would certainly be worth investigating. Allied Ranching claim a 50% reduction in outside accounting changes but against this must be offset a charge of KSh. 20,000 per annum as their service charge - no doubt it would be higher for non members and there would be a consultancy charge for implementation.

AFC Files

8. AFC's files on ranch accounts is very badly in arrears on current information. Examination was made of the files in the Ranch section of 17 ranch loans which are operative under the second phase livestock development project. Eleven of the files contained no ranch accounts, one contained 1972 as the latest accounts, one contained 1973, three contained 1974 and one contained 1975.

9. Every effort must be made to improve the situation for collecting the required information to monitor the financial position of the ranches. When accounts are received they must be studied and interpreted so that AFC can take appropriate action on their loans. The financial controller has stated that he has requested Ranch section to provide him with accounts of ranches but he does not receive them. In the reorganization this function will be the responsibility of the loans servicing section.

10. A summary of accounts for six ranching enterprises follows:

Table 1 - Galana - A Coast Company Ranch showing the value of a better financial structure and a phased development program.

Table 2 - Lualenyi - A Coast Company Ranch
3 - Rukinga - A Coast Company Ranch
4 - Mugeno - A Coast Company Ranch

All these ranches have a poor capital structure and are in financial difficulties.

Table 5 - Kanyanyoni and Katoteni Ranching Cooperatives in Kitui - demonstrating that a sounder capital structure can be built by multi-member cooperatives(or Companies.

ANNEX 16
Appendix 1
Table 1

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SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Galana Game and Ranching Limited

Balance Sheets as at June 30, 1975

	1970		1971		1972		1973		1974		1975
Share Capital											
Issued & Paid & Share Premium	2,244,000		2,364,000		2,484,000		2,944,000		2,944,000		2,944,000
Acc. Profit (Loss)	(516,530)		(511,622)		(385,346)		19,768		545,660		949,724
	1,727,470		1,852,378		2,098,654		2,963,768		3,489,660		3,893,724
Loans	2,396,728		2,396,728	Inc AFC 1,765,478	3,029,163	Inc AFC 3,434,105	4,297,812	Inc AFC 3,736,297	4,859,054	Inc AFC 3,845,244	5,664,104
	4,124,198		4,249,106		5,187,839		7,261,580		8,348,714		9,557,828
Fixed Assets	908,381		1,033,615		1,472,759		2,168,376		3,910,163		4,176,441
Goodwill	530,000		530,000		530,000		530,000		530,000		530,000
Current Assets											
Livestock	2,423,131		2,413,400		3,629,560		4,876,706		5,493,827		6,655,350
Other Stock	44,682		48,382		47,462		140,529		231,949		194,424
	2,467,813		2,461,782		3,677,022		5,017,235		5,725,776		6,849,774
Debtors	51,507		26,139		40,054		100,920		95,371		376,979
Cash	192,363		203,716		35,824		58,474		481,481		9,907
	2,711,683		2,691,637		3,752,900		5,176,629		6,302,628		7,236,660
Current Liabilities											
Creditors	(41,652)		(25,203)		(548,833)		(309,817)		(1,100,400)		(1,037,826)
Overdraft	(3,271)		-		(38,044)		(303,608)		(1,293,677)		(1,240,149)
Tax Provision		2,666,760		2,666,434		3,166,023		4,563,204		3,908,551	(107,298)
Formation Expenses		19,057		19,057		19,057					4,851,387
		4,124,198		4,249,106		5,187,839		7,261,580		8,348,714	9,557,828

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SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

LUALENYI Ranching Co. Ltd.

Balance Sheet as at December 31, 1975

		1972		1973		1974
Share Capital						
Issued and Fully Paid		90,720		90,720		132,960
Accumulated Profits/(Loss)		71,023		225,526		(63,852)
		161,743		316,246		69,108
AFC Loan		492,837		1,501,409		3,560,394
		654,580		1,817,655		3,629,502
Fixed Assets		277,257		254,240		564,722
Survey Fees				70,834		58,333
Current Assets						
Livestock	691,589		1,668,988		3,349,754	
Tax Refund Due	32,196		16,882		16,882	
Debtors & Deposits	4,072		27,828		190,853	
Loans to Shareholders					77,750	
Cash	1,272		143,197		18,777	
	729,129		1,856,895		3,654,016	
Current Liabilities						
Creditors	(277,117)		(184,322)		(247,077)	
Bank Overdraft	(24,377)		-		-	
Taxation	(54,488)	373,147	(179,992)	1,492,581	(179,992)	
Divident Provision					(220,500)	3,006,447
		4,176		-		-
		654,580		1,817,655		3,629,502

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SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Rukinga Ranching Company Limited (Incorporated, March 4, 1971)
(KSh.)

	1972		1973		1974		1975 Draft
SHARE CAPITAL							
Issued and fully paid		171,700		254,380		254,380	317,975
Capital reserve		68,680		-		-	-
Accumulated profits/(losses)		11,216		10,527		112,647	(1,032,442)
Loans (AFC)	2,794,674	2,794,674	2,659,198	2,659,198	2,349,062	4,659,539	4,649,544	4,849,544
		3,046,270		2,924,105		4,936,566	4,135,077
FIXED ASSETS		603,749		545,201		564,743	632,569
Preliminary expenses		5,768		5,768		5,768	5,768
Unquoted investment							20,000
CURRENT ASSETS		603,749		545,201		564,743	632,569
Stock - livestock	2,361,680		2,360,580		4,517,720		3,833,000
Other stocks	3,825		-		-		-
Short term deposits and advances	203,795		361,373		936,113		14,840
Debtors	12,925		5,383		62,608		101,965
Cash	8,360		1,913		867		5,143
CURRENT LIABILITIES							
Creditors and provisions	(71,832)		(38,676)		(731,196)		(267,576)
Taxation	(25,500)		(47,040)		(144,097)		
Proposed dividend			(25,438)		(25,438)		
Bank overdraft		2,493,233	(99,859)	2,458,236	(148,382)	4,468,196	(80,924)	3,606,448
Taxation Equalization		(56,500)		(85,100)		(102,140)		(129,708)
		3,046,270		2,924,105		4,936,566		4,135,077

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ANNEX 16
Appendix 1
Table 3

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SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

MGENO Ranching

Balance Sheet as at December 31, 1975

		1972		1973		1974
Share Capital						
Issued + Capital Reserve		149,225		168,665		192,915
Accumulated (Loss)		(193,526)		(479,034)		(1,002,505)
		(44,301)		(310,369)		(809,590)
Loan AFC		1,005,042		2,789,254		3,725,380
		960,741		2,478,885		2,915,790
Fixed Assets		353,754		535,212		678,416
Sharehold in other Co.						20,322
Share Assets						
Livestock	573,390		1,954,900		1,909,150	
Other Debtors			5,354		218,883	
Cash	49,393		203,072		103,801	
	622,783		2,163,326		2,231,834	
Current Liabilities	17,284	605,499	221,141	1,942,185	16,270	2,215,564
Preliminary Expenses		1,488		1,488		1,488
		960,741			2,478,885	2,915,790

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SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

	B2 Yatta Kanyonyoni Ranching Cooperative Society, Ltd.						B2 Yatta Katoteni Ranching Cooperative Society, Ltd.					
		1972		1973		1974		1972		1973		1974
SHARE CAPITAL												
Issued and Paid		315.470		324,800		352,185		148,310		169,945		187,690
Statutory Reserve		85,970		151,762		230,842		19,782		23,860		42,113
Capital Reserve		75,715		75,715		75,715		-		-		-
Accumulated Losses		(332,142)		(240,033)		(133,822)		(5,231)		477		25,293
		145,013		312,244		524,920		162,861		194,282		255,096
Loans - AFC	151,016	-	135,886	-	482,930	-		64,556		63,718		63,718
- Kitui County Council	114,120	265,136	114,120	250,006	114,120	597,050		-		-		-
		410,149		562,250		1,121,970		227,417		258,000		318,814
FIXED ASSETS AND INVESTMENTS		330,654		312,656		298,204		45,450		45,403		50,126
CURRENT ASSETS												
Livestock	282,080		551,850		1,215,350		222,660		208,850		269,960	
Other Debtors	12,336		22,484		5,639		651		1,470		4,271	
Cash	1,985		5,693		54,867		9,860		60,990		89,508	
	296,401		580,027		1,275,856		233,171		271,310		363,739	
CURRENT LIABILITIES												
Creditors	((4,666)		(9,226)		(12,554)		(1,100)		(2,086)		(9,202)	
Taxation	(212,240)		(317,407)		(439,536)		(50,104)		(56,627)		(85,849)	
Bank Overdraft	-	79,495	(3,660)	249,594	-	823,766	-	181,967	-	212,597	-	268,688
		410,149		562,250		1,121,970		227,417		258,000		318,814

NOTES: The above two cooperatives have been amalgamated and have received a loan under Phase II of KSh. 3.6 m. Although 1975 figures are not available there has apparently been a deterioration of the financial situation due to the viability to sell because of quarantine restrictions. 3,000 head of cattle were moved off the ranch in January 1976 to other grazing because they were overstocked

April 28, 1976

ANNEX 16
Appendix 1
Table 5.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Taxation

1. Companies currently pay corporation tax on the adjusted profit for tax purposes at a rate of 45%.

2. Adjusted profit for tax purposes specifically excludes depreciation charged in the accounts. In its place capital allowances are given as follows:

Tractors, combine harvesters, heavy earch moving equipment and such other heavy self-propelling machines	- 37%
Other heavy self-propelling machines	- 25%
All other machinery, including ships	- 12%

The percentage is based initially on cost and then on the reducing balance. Balancing deductions and charges are made in the year in which the item is disposed of.

3. Private Limited Companies (Controlled Companies - usually family businesses) are subject to further rules on retention and distribution of profits.

Profit	100%
Corporation Tax	45%
Balance Available	55%
Maximum Retention (55%)	30.35%
Minimum Dividend that must be declared	24.25%

4. There is a special provision for exemption of Cooperative Societies where the following condition can be fulfilled.

> "The income of a cooperative society registered under the Cooperative Societies Act derived solely from selling on behalf of its members agricultural produce, dairy produce, the products of animal husbandry, handicrafts or fish of which the members of

> the society are the prime producers if the gross income (sales before deduction of any expenditure) of such cooperative society when divided by the number of its members does not exceed KSh. 3,000."

This exemption would only apply to smaller cooperatives and would be unlikely to exempt any of the cooperative ranches.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Loan Procedure

1. The ranch initially approaches the local Branch office with its request.

2. An application form is sold to the applicant (cost KSh. 10).

3. The Branch Manager then assists the applicant in completing the loan application form. At this point in time the Branch Manager may make his field inspection.

4. The loan application form is then forwarded to the District Range Officer (RMD) for the completion of the ranch plan by that division.

5. If problems of finance or doubts concerning the application it is quite probable that a representative from the AFC head office will attend the field visit.

6. When this stage is completed the loan application form and ranch plan are forwarded to the AFC head office. Other information to accompany this is:

- Memorandum and Articles of Association/Company
- List of shareholders/members
- List of directors
- Minutes of last meeting
- Resolution to borrow from AFC
- Authority to borrow if a cooperative
- Management if by agent, copy of management agreement
- Management if by employed manager mention of auditors and secretaries
- Ranch plan, development program and ranch layout
- Loan amount required breakdown by items of expenditure
- Security offered, document proof
- Any financial projections
- Latest balance sheet
- Latest land register
- Ranch inventory
- Financial commitments and mortgages

7. At the time of application form, ranch plan and other information being forwarded to AFC head office, the District Range Officer forwards the Ranch Plan to RMD at Ministry of Agriculture for clearance.

8. The loans processing officer in AFC head office examines and clears all outstanding points with Branch Manager and RMD. When he is satisfied this is then passed to the Head of Ranch Division.

9. The investment plan is now prepared and a report is prepared for the loans committee.

10. The format of the report has been standardized and contains the following:

- Organization structure
- Structure formation
- Location
- The Sponsors
- Shareholders/ownership
- Directors and management
- Technical aspects
- Acreage and carrying capacity
- Ranch planning
- Costs and Income projections
- Costs, fixed, variable, income
- Financial Analysis
- Investment Structure
- AFC Investment Development and working capital
- Financial Structure
- Break Even Sales Analysis
- Income Statement Analysis
- Cash Flow Analysis
- Discounted Cash Flow Analysis
- Debt/Equity Ratio
- Conclusions and Recommendations

This is then forwarded to the Loans Committee.

11. If approval is given, it is then forwarded to the Legal Section who follow up on all conditions of the loan and complete the legal formalities and the loan agreement.

12. The loan paper are then signed by the General Manager and Chairman.

13. The final stage is that the Legal Section issue a form to state that the loan can become operative.

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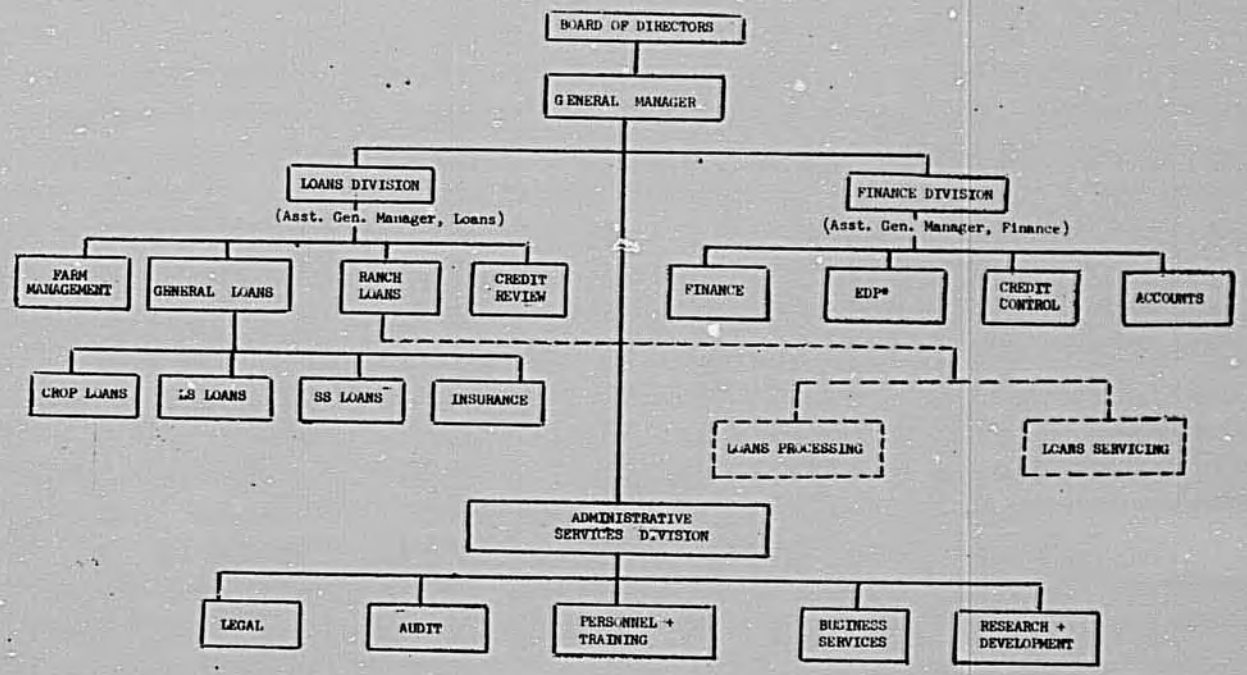
SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

AGRICULTURAL FINANCE CORPORATION

PROPOSED ORGANIZATION CHART (JANUARY, 1976)



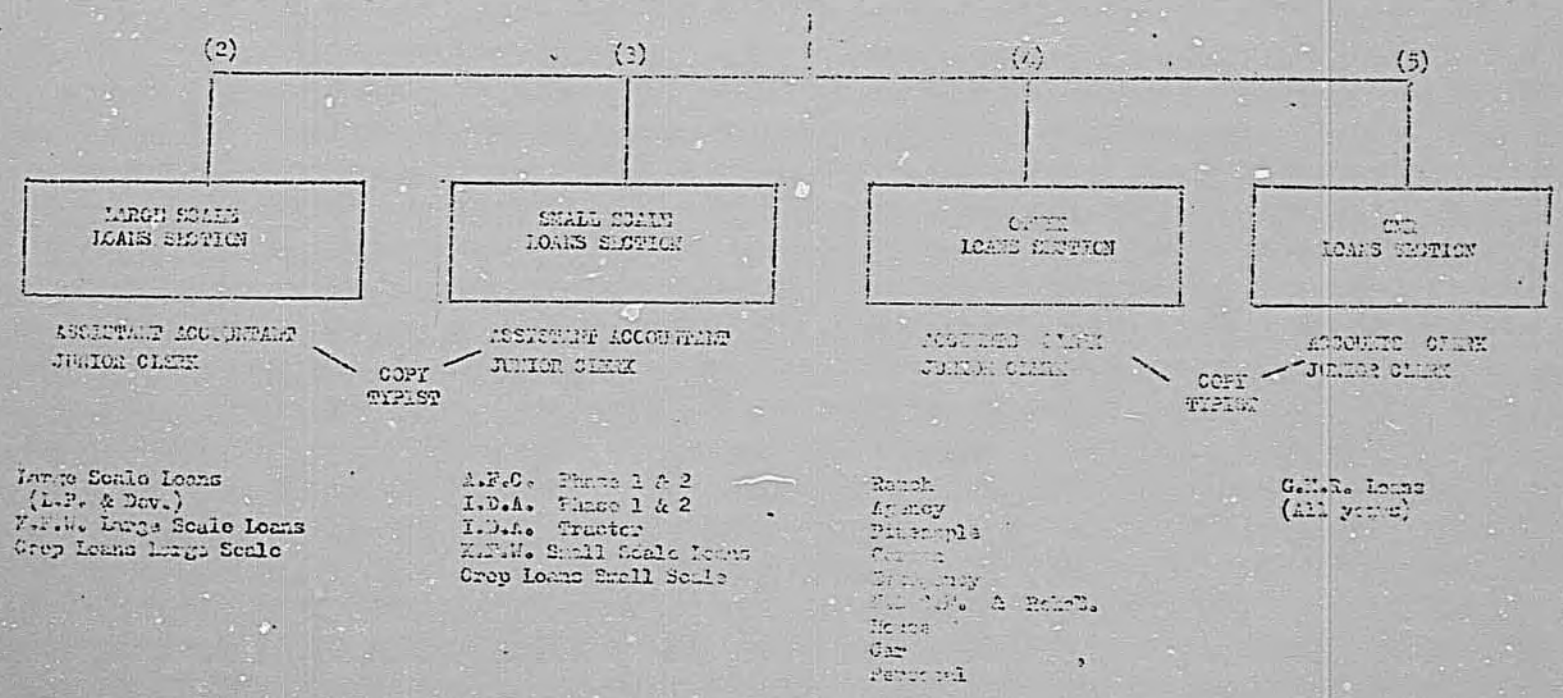
* EDP - Electronic Data Processing.

ANNEX 16
Appendix 4

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976



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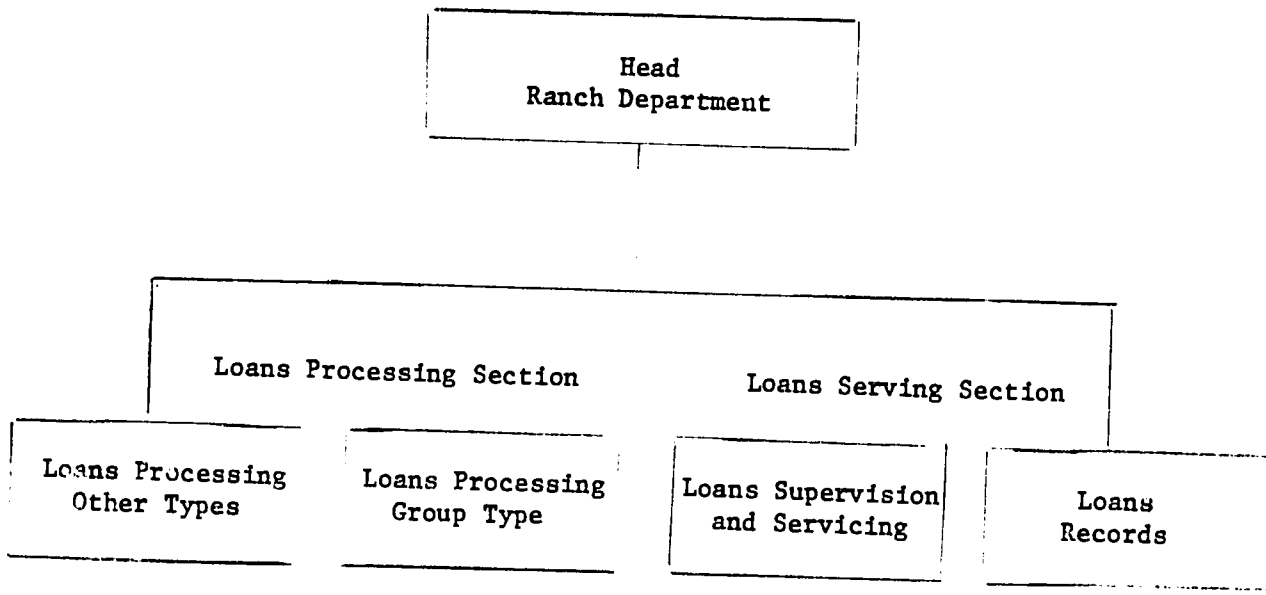
ANNEX 16
Appendix 5

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Ranch Department



1. Head: Ranch Department - The Head of the Department would have to be preferably a graduate from a recognized university with a post graduate in range management and with or a minimum of 5 years experience in credit administration. He should be conversant with:

- Credit procedures and policies.
- Economic policy formulation and analysis.
- Institutional studies and translation of contractual agreements.
- Livestock development inputs and requirements.
- Project analysis and evaluation.

2. Job Description - He will be responsible to the Assistant General Manager (Loans Division) for the general conduct of all aspects of the Livestock Development Project credits.

3. He will coordinate, liaise and work with other Departments (AFC), the Government of Kenya Departments, and credit donor agencies such as IDA, USAID, etc.

3. Loans Processing Section - Loans Processing Officer (other than Group Ranch) - A Senior Loans Officer preferably a graduate in Agriculture from a recognized University with a minimum of 3 years experience of relevant field experience, or a diploma in range management with a minimum of 5 years experience in credit administration. He should be conversant with:

- Credit procedures and policies.
- Economic policy formulation and analysis.
- Livestock development inputs and requirements.
- Project analysis and evaluation.

4. To avoid overstaffing in Head Office this section will be headed by head of Ranch Department.

5. Job Description - He will be responsible to the Head of Ranch Department for the processing of all new loans, except for the group and individual ranches in group ranches areas. He will be responsible to the Head of Ranch Department for keeping the project commitments on schedule in accordance with the Project Agreements with other agencies involved.

6. Loans Processing Officer (Group Ranch) - A Senior Loans Officer preferably a graduate in Agriculture (Animal Production, or Agricultural economics) with a minimum of 3 years experience in group ranch program or

a diploma in range management with a minimum of 5 years in group ranch program. He should be very conversant with credit procedures and policies. He should have good training in livestock techniques and animal production. He should have good industrial relations background.

7. Job Description - He will be responsible to the Head of Ranch Department for all group ranch aspects of the Livestock Development Project. He will be responsible to the Head of Ranch Department for all individual ranch aspects in the group ranch areas of the Livestock Development Project.

8. Loans Servicing Section - Loans Servicing Officer - A Senior Loans Officer preferably a graduate in Agriculture (Animal Production) from a recognized University with a minimum of 3 years experience with Kenya's rangeland development program; or a diploma in rangeland management with a minimum of 5 years experience in Credit Administration. In addition, he should be conversant with:

- Credit procedures and policies.
- Formation and translation of contractual agreements.

He should have good training in livestock techniques and animal production and he should have good industrial relations background.

9. Job Description - Responsible to the Head of Ranch Department for the supervision of the on-going company, cooperative and commercial ranch loans. He will be responsible for the field extension services to the on-going company, cooperative and commercial ranch loans.

10. Loans Records Officer - A Loans Officer, preferably a diploma in Agriculture with a minimum of 3 years field experience in Credit Administration. He should be conversant with livestock development inputs and requirements. He should be very conversant with Credit procedures and policies, and with statistical accounting and bookkeeping.

11. Job Description - He will be responsible to the Head of Ranch Department for company, cooperative, commercial and group ranches loans disbursements; checking the authencity of the documents and passing them for payments. He will be responsible for all data collections, recording and processing in Computer Section. He will be responsible for all data collections, recording and processing of invoices, advances, reimbursements, quarterly reports, etc., as required by Departments recording system and by the agreements with donor agencies.

12. Secretarial Services:

(a) Secretary/Stenographer - A very good secretary to be in charge of all Secretarial Services of the Department;

(b) Clerk/Copy Typist - To assist with special clerical and secretarial duties such as data extraction, copy typing and filing.

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SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Agricultural Finance Corporation: Balance Sheets June 30, 1970-1975 and December 31, 1975 (Unaudited)

	1970	1971	1972	1973	1974	1975	Dec. 31, 1975
				(KSh. million)			
LIABILITIES							
Capital Funds (Irredeemable)	124.2	124.8	124.9	125.9	127.2	127.5	127.5
General Reserve	6.8	5.9	5.0	4.6	3.7	2.5	3.7
Sub-Total	131.0	130.7	129.9	130.5	132.9	130.0	131.2
Redeemable Capital							
Others	65.5	76.5	88.1	100.8	114.7	149.0	191.1
129-KE	N/A	2.2	9.5	24.4	36.0	37.7	49.9
477-KE	-	-	-	-	-	12.6	16.7
Sub-Total Redeemable	65.5	78.7	97.6	125.2	150.7	199.3	257.7
Sub-Total	196.5	209.4	227.5	255.7	283.6	329.3	388.9
Deposit Liabilities	8.3	4.2	2.1	2.1	2.1	.4	.1
Loans Unissued	6.1	13.7	7.4	3.1	2.8	5.4	5.2
Other Current Liabilities	4.9	5.2	5.2	6.5	5.5	6.0	6.9
Sub-Total	19.3	23.1	14.7	11.7	10.4	11.8	12.2
Total Liabilities	215.8	232.5	242.2	267.4	294.0	241.1	401.1
Debt/Equity Ratio	1:0.50	1:0.60	1:0.75	1:0.96	1:1.13	1:1.53	1:1.96
ASSETS							
Agricultural Loans							
Large Scale: Not yet due	140.5	152.9	147.7	158.4	164.1	199.0	209.6
Arrears	19.9	24.0	26.0	29.9	26.7	21.4	26.3
Less provision	(3.2)	(4.8)	(6.8)	(8.3)	(9.7)	(11.0)	(11.8)
Sub-Total	157.2	172.1	166.9	180.0	181.1	209.4	224.1
Ranching: Not yet due 129-KE	-	1.8	11.5	20.1	29.3	41.3	40.6
" " " 477-KE	-	-	-	-	-	5.2	14.0
Arrears 129-KE + 477-KE	-	-	-	1.6	4.7	1.9	2.4
Less provision	-	(0.1)	(0.3)	(0.9)	(3.7)	(6.0)	(6.9)
Sub-Total	-	1.7	11.2	20.8	30.3	42.4	50.3
Small Scale: Not yet due	14.3	19.8	22.3	24.4	27.0	40.7	66.4
Arrears	3.4	4.8	6.8	10.4	11.4	12.2	14.2
Less provision	(5.5)	(6.1)	(6.6)	(7.5)	(3.3)	(4.0)	(4.7)
Sub-Total	12.2	18.5	22.5	27.3	35.1	48.9	75.9
Total Agricultural Loans	169.4	192.3	200.6	228.1	246.5	300.7	350.3
Investments	29.4	23.6	23.2	11.9	20.7	23.1	31.1
Cash and Bank Balances	7.0	6.9	7.3	14.1	11.0	7.1	1.6
Total Banking Assets	206.8	222.8	231.1	254.1	278.2	330.9	383.0
Fixed Assets	5.3	5.8	5.9	5.8	5.6	6.2	6.6
Farm Properties and Livestock	1.5	0.6	.2	.3	1.0	.2	.2
Agency Commission & Repayment	3.2	3.5	5.0	7.2	9.2	3.8	11.3
Total Assets	215.8	232.5	242.2	267.4	294.0	341.1	401.1
NOTES ON BALANCE SHEET							
Total agricultural loans before provision (KSh. m)	178.1	203.3	214.3	244.8	263.2	321.7	373.7
Percentage arrears in portfolio	11.9%	12.4%	15.3%	17.1%	16.2	11.0%	11.6%
Provision for bad debts as percentage of portfolio	4.9%	5.4%	6.4%	6.8%	6.3%	6.5%	6.3%
Total 129/477-KE ranching loans before provision (KSh. m)	-	1.8	11.5	21.7	34.0	48.4	57.2
Ranching loans as percentage of portfolio	-	0.9%	5.4%	8.9%	12.9%	15.0%	15.3%
Percentage arrears of ranching loans	-	-	-	7.4%	13.8%	4.0%	4.5%
Provision of bad debts in ranching loans as % of portfolio	-	3.5%	2.6%	4.2%	10.8%	12.4%	12.1%
Percentage arrears large scale loans	11.8%	13.6%	15.0%	15.9%	14.0%	9.7%	11.1%
Percentage arrears small scale loans	19.2%	19.5%	23.4%	29.9%	29.7%	23.0%	17.6%
Annual increase in total agricultural portfolio	9.2%	14.3%	5.4%	14.2%	7.5%	22.2%	21.6% 1/
Annual increase in 129/477-KE	-	-	539.0%	89%	57.0%	45.0%	24.2% 1/
Annual increase in large scale	4.9%	10.2%	- 1.8%	8.9%	1.3%	15.7%	9.3% 1/
Annual increase in small scale	65.4%	39.0%	18.3%	16.2%	10.3%	37.8%	69.8% 1/
Annual increase of 129/477-KE loans as a percentage of the annual increase in total portfolio	-	7.0%	81.0%	33.0%	67.0%	27.0%	16.9%

1/ Pro-rata of 9 months to annual basis.

Source: AFC figures and financial reports.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Agricultural Finance Corporation: Income & Expenditures 1970-1975
(KSh. million)

	1970	1971	1972	1973	1974	1975	9 months to Dec. 31, 1975 (Unaudited)
INCOME							
Interest receivable (others)	12.69	13.10	15.17	15.86	16.52	18.90	17.56
Interest receivable IDA KE/477-KE	-	0.03	.51	1.27	2.00	3.14	2.87
Agency commissions receivable	1.05	1.10	1.64	2.34	2.07	3.10	2.25
Operating income	0.91	1.00	1.31	1.22	1.08	1.57	1.02
Sub-Total	14.65	15.23	18.63	20.69	21.67	26.71	23.70
Profit on sale of assets	0.05	0.32	-	0.18	.18	.19	.19
Bad debts recovered and written back	0.0	-	-	-	2.86	.10	-
Gross Income	14.71	15.55	18.63	20.87	24.71	27.00	23.89
EXPENSES PAID							
Interest paid (others)	7.45	7.83	8.27	8.63	8.98	9.68	7.78
Interest paid IDA 129-KE/477-KE	N/A	.03	.17	.53	.97	1.37	1.42
Staff and board expenses (others)	4.56	4.24	5.53	6.97	6.95	8.27	7.99
Staff and board IDA 129-KE/477-KE	N/A	0.42	.57	.17	.43	.48	.47
Miscellaneous operating expenses (others)	0.82	1.05	1.20	1.52	2.51	4.21	1.75
Miscellaneous operating expenses IDA 129-KE	N/A	.04	.04	.05	.17	.21	.20
Depreciation (others	0.28	0.40	.64	.74	.81	1.04	.77
Depreciation IDA 129-KE/477-KE	-	.03	.03	.02	.03	.06	.04
Provision for bad and doubtful debts (others)	3.79	2.24	2.57	2.16	-	1.96	1.48
Provision for bad and doubtful debts IDA 129-KE/477-KE	-	.11	.22	.56	2.79	2.38	0.81
Amount written off	1.01	-	.06	-	.05	.60	(0.01)
Gross Expenses	17.91	16.39	19.30	21.35	23.59	30.26	22.70
Net Income (or Loss)	(3.20)	(0.84)	(0.67)	(0.48)	1.12	(3.26)	1.19
Profit/(Loss) for 129/477-KE included					(2.26)	(1.28)	0.31
Administrative costs as percentage of total assets	2.5%	2.5%	3.0%	3.25%	3.39%	3.86%	3.46% 1/
Administrative costs as percentage of total loan portfolio	3.2%	3.0%	3.7%	3.82%	4.04%	4.37%	3.62% 1/

1/ Administrative costs pro-rata for a full year basis.

Source: AFC figures and financial reports.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Agricultural Finance Corporation: Ranch Division

Balance Sheets 1970-75 and December 31, 1975 (Unaudited)
(KSh. million)

	1971	1972	1973	1974	1975	Dec. 31 1975
LOANS TO RANCHERS						
Loans approved 129-KE						
Development	2.82	7.48	24.09	23.79	23.41	25.52
Working Capital	7.72	14.23	31.24	36.99	36.89	33.50
	10.54	21.71	55.33	60.78	60.30	59.02
Less: Not yet drawn	8.76	10.69	34.18	31.47	19.30	19.98
	1.78	11.02	21.15	29.31	41.00	39.04
Add: Accrued interest	.03	.46	.62	.70	.38	1.52
arrears	-	-	-	-	1.90	2.17
	1.81	11.48	21.77	30.01	43.28	42.73
Loans approved 477-KE	1.81	11.48	21.77	30.01	43.28	-
Development	-	-	-	-	3.68	10.19
Working Capital	-	-	-	-	8.42	16.95
	-				12.10	27.14
Less: Not yet drawn	-	-	-	-	6.88	13.68
Add: Accrued interest					5.22	13.46
arrears						0.60
Less: Provision for doubtful debts	.11	1.33	.89	3.68	6.06	0.37
	1.70	11.15	20.88	26.33	42.44	14.43
FIXED ASSETS	.07	05	05	.05	.07	6.87
CURRENT ASSETS						50.29
						.09
Investments	-	-	-	3.00	-	
Debtors	-	.01	.02	.08	.04	.19
Livestock on hand (investments)	-	-	.09	.80	-	12.00
Bank balances	.39	1.67	3.14	2.50	3.33	.74
Sub-Total assets	0.39	1.68	3.25	6.38	3.37	13.02
TOTAL ASSETS	2.16	12.88	24.18	32.78	45.95	63.31
CURRENT LIABILITIES						
Accrued interest on capital	.03	.19	.41	.17	.24	1.28
Creditors and accrued charges	.09	.06	.12	.11	.05	0.54
	.12	.25	.53	.28	.29	1.82
	2.04	12.63	23.65	32.50	45.66	61.49
FINANCED BY:						
Redeemable loans 129-KE	2.20	9.48	24.43	35.97	37.69	49.92
477-KE	-	-	-	-	12.56	16.65
Advances by AFC	1.10	4.93	1.06	.63	.79	
	3.30	14.41	25.49	36.60	51.04	66.57
LESS: NET ACCUMULATED (PROFIT AND LOSSES)						
Carried forward for	(.67)	(1.26)	(1.78)	(1.84)	(4.10)	(5.38)
New Year	(.59)	(.52)	(.06)	(2.26)	(1.28)	0.30
	(1.26)	(1.78)	(1.84)	(4.10)	(5.38)	5.08
	1.04	12.63	23.65	32.50	45.66	61.49

Source: AFC figures and financial reports.

ANNEX 16
Table 4

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Agricultural Finance Corporation: Ranch Division Income and Expenditure Account
(KSh.'000)

	1971	1972	1973	1974	1975	9 MONTHS TO 31 DECEMBER'75 (UNAUDITED)
[illegible]						
[illegible]	27	[illegible]	1218	1891	2089	2273
[illegible]	-	-	-	-	90	598
[illegible]	5	10	54	105	56	78
[illegible]	-	-	-	-	305	298
	32	512	1272	1996	3140	3,247
[illegible]						
[illegible] of: Assets	-	-	3	10	-	1
Livestock	-	-	5	108	81	-
[illegible]	-	-	-	1	8	9
[illegible]	32	512	[illegible]	2115	3229	3,257
[illegible] PAYABLE						
[illegible] on: Redeemable loan	27	160	529	965	1375	1,422
Bank overdraft	-	5	-	-	-	
	27	165	529	965	1375	1.422
[illegible]						
Salaries and Wages	346	501	110	405	444	451
Leave pay and passages	10	7	15	11	26	13
Commodities	30	18	21	15	10	8
Travelling expenses	40	49	27	-	-	-
	426	575	[illegible]	431	480	472
[illegible] EXPENSES						
Vehicle running expenses/travel	21	35	39	117	146	153
Loss on sale of fixed assets	-	2	-	-	-	-
Bank charges	-	-	3	5	7	3
General expenses	16	-	-	-	-	-
Office rentals	-	8	8	41	61	46
	37	45	[illegible]	[illegible]	[illegible]	202
Provision for doubtful debts	106	227	[illegible]	[illegible]	[illegible]	812
Depreciation	[illegible]	25	27	[illegible]	[illegible]	43
[illegible] EXPENSES	625	[illegible]	[illegible]	[illegible]	[illegible]	2,951
Net Profit (loss) for year	(593)	(525)	[illegible]	[illegible]	[illegible]	306

SOURCE: AFC figures and Financial Reports

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SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Figures on Phase One Loans 129-KE (KSh.)

Type	Total Loans Approved	Amount Disbursed	Include Arrears and Interest	Arrears of Capital and Interest	Percentage Arrears on Amount Disbursed Including Arrears and Interest		Amount Disbursed and Due Loan	Arrears Percentage
Individual	3,745,610 (6%)	2,313,604 (6%)	3,198,543 (7%)	757,992	32.8%	23.7%	2,147,202	35.3%
Groups	12,580,168 (21%)	2,982,474 (8%)	3,311,804 (8%)	224,197	7.5%	6.8%	1,844,968	12.2%
Companies	23,018,318 (39%)	19,810,297 (51%)	21,268,600 (50%)	92,004 222,775	1.6%	1.5%	3,085,243 8,951,558	3.0% 3.5%
Commercial	19,674,867 (34%)	13,929,245 (35%)	14,953,345 (35%)	223,553	1.6%	1.5%	3,053,220	7.3%
	59,018,963	39,035,620	42,732,292	1,520,521	3.9%	3.6%	10,130,633 15,996,948	12.8% 9.5%

Note:- Companies disbursed on due loans is split, due to the fact there is amount overdrawn of KSh. 222,775 on loans not yet due and this has been included in arrears.
- Disbursed to date is 66% of total loans approved.

Source:- A.F.C Records.

ANNEX 1.6
Table 5

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

review mission - FEBRUARY 22 - MARCH 26, 1976

Schedule of Arrears of Capital and Interest as at December 31, 1975
(Phase One Loans - KSh.)

		0-3 months	4-6 months	7-9 months	10-12 months	Over 12 months	Remarks
GROUP							
Kiboko	224,197		102,806 (46%)	-	121,391 (54%)		Paid 4,570 in Feb. 1976
COMPANIES							
Lualenyi	92,004		92,004				
Sagala	200,034	100,000	20,000		80,034		Paid 54,150 in Jan. 1976
Galana	5,030	5,030					N.P
Mugeno	17,711				17,711		All paid since Jan. 1976
	314,779	105,030 (33%)	112,004 (36%)	-	97,745 (31%)		N.P
INDIVIDUALS							
Moses Tlekayo	3,713		3,713				
Ntusemo Ole Lengina	5,888				5,888		N.P
Jonathan Solitie	14,602				14,602		N.P
James Ole Tumste	26,098				26,098		N.P
Moses Samuni Ole Musoku	6,881				6,881		N.P
Parsauti Ole Mkoi	6,624				6,624		N.P
Masange Ole Mburu	5,111		5,111				N.P
Karei Ole Kanyiko	2,313				2,313		N.P
Joshui Wot. Aikoske	9,312		9,312				Paid 800 in Jan. 1976
Moses Ole Yiane	40,205		22,650		17,555		N.P
Manana Ole Mapi	58,639		22,042		36,597		N.P
Joseph Ole Mponda	111,609		52,509		59,100		N.P
Naingogu Leponyo	16,148				16,148		N.P
Toto Leponyo	2,549				2,549		N.P
Singel Ole Mutami	13,829		13,829				Balance remaining from March after 28,900 paid in 1975.
Teita Ole Nasunku	17,868				17,868		Balance remaining from September after 28,000 Paid Oct. 1975
Gideon Leparakuo	28,176	28,176					Balance remaining from March after 6,000 paid September 1975.
Paita Kiono	23,684				23,684		N.P
Silos Saropay	29,964				29,964		N.P
James Ratwega	5,693				5,693		N.P
Meltopa N. Nchono	38,251		38,251				Balance remaining from March after 3,600 paid Nov. 1975
Joseph Nasan Ntipili	62,683		23,513		39,170		N.P
Joseph Osumoi Metuo	8,086		8,086				Paid 50,000 in Jan.&Feb.1976
Joel Orumoi	29,571		29,571				N.P
Lekisambo Ole Naodo	50,106		24,302		25,804		All paid since Jan. 1976
Leontasati Ole Lewvaya	1,356		1,356				N.P
Ikonge Mwamugunda	3,582		3,582				All paid since Jan. 1976
Hon. E.T. Mwamunga	37,543				37,543		N.P
Koikoi Ole Soletei	97,908		31,330		66,578		N.P
	757,992	28,176 (4%)	289,157 (38%)	-	440,659 (58%)		N.P
COMMERCIALS							
Mohamed Saddie	22,287		22,287				N.P
Hog. Gikaria	85,389		41,545		43,844		N.P
J.M. Hopcraft	2,267				2,267		All paid since 1976
Mrs. Mary Wamaitha	1,610				1,610		Balance remaining from March after 736 paid in 1975
Ol Goroshe Feedlot	112,000	112,000					N.P
	223,553	112,000 (50%)	63,832 (29%)	-	47,721 (21%)		
TOTAL	1,520,521	245,206 (16%)	567,799 (37%)	-	707,516 (47%)		N.P = Nothing Paid

ANNEX 16
Table 6

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

477-KE Loans Fully Operative as at February 29, 1976

NAME	TYPE	No. Shareholders	Area in Hectares	Branch Served	Development Loans KSh.	Disbursed at 29.2.76	Balance Available	Working Loan KSh.	Disbursed at 29.2.76	Balance Available	Interest Accrued
COMMERCIAL (10)											
PATRICK C. GRATTAN	INDIVIDUAL	1	8.084	NANYUKI	700,000	700, 000	-	496,000	397,000	99,000	21,948
JESSEL RANCHING	PRIVATE CO.	5	3,875	NANYUKI	697,000	494,514	292,486	334,000	151,229	182,771	28,411
MACHAKOS RANCHING	PRIVATE CO.	2	5,771	ATHI RIVER	468,600	9,074	459,526	797,000	672,741	124,771	39,277
MOROGO ARAP CHEBET	INDIVIDUAL	1	209	NAKURU	145,000	139,000	6,000	167,200	45,000	122,200	3,475
MAAI MAHIU	PUBLIC CO.	2642	9,712	NAIVASHA	292,000	70,393	221,607	616,000	241,670	374,330	3,755
MUMOI FARMERS LTD	PUBLIC CO.	205	2,234	NAKURU	380,000	326,585	53,415	125,000	50.647	74,353	24,369
MIDAS LTD	PRIVATE CO.	7	226	NAKURU	-	-	-	2,000,000	1,482,800	517,200	62,161
OL-MASSOR RANCH	INDIVIDUAL	1	12,025	NYAHURURU	560,000	478,440	81,560	200,000	117,782	82,218	18,931
KIKAPU FARMERS	Co-op	260	871	NAKURU	80,000	50,000	30,000	260,000	141,167	118,833	805
THUGI	PRIVATE CO.	50	2,853	MURANGA	928,000	-	928,000	339,000	-	339,000	-
			45,860		4,250,600	2,178,600	2,072,594	5,334,200	3,300,036	2,300,200	203,132
* Feedlot - 2nd Phase Refinancing											
COMPANY (7)											
MKUKI RANCHING CO.	PRIVATE CO.	5	2,024	VOI	181,000	-	181,000	357,000	-	357,000	-
GIRIAMA RANCHING	PRIVATE CO.	50	25,900	MOMBASA	1,268,000	-	1,268,000	2,600,000	-	2,600,000	-
BZYATTA RANCHING	CO-OP SOC	336	31,528	KITUI	2,100,000	573,156	1,526,844	1,500,000	1,117,235	382,765	132,355
TARU RANCHING	PRIVATE CO.	14	20,970	MOMBASA	1,800,000	651,298	1,148,702	1,400,000	1,234,952	165,048	79,495
MUGENO RANCHING	PUBLIC (DX)CO.	352	21,043	VOI	-	-	-	2,400,000	1,687,405	721,595	104,094
LUALENYI RANCHING	PRIVATE CO.	50	42,105	VOI	-	-	-	2,400,000	2,352,367	47,633	155,725
RUKINGA RANCHING	PRIVATE CO.	50	34,413	VOI	2,400,000	2,400,000	-	-	-	-	176,137
			167,983		7,749,000	3,624,454	4,124,546	10,657,000	6,391,959	4,265,041	647,906

ANNEX 16
Table 7

ANNEX 16
Table 8

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Loans Approved But Not Yet Through Legal Procedures
(KSh.)

	Type	No. Shareholders	Area in Hectares	Branch Served	Development Loan	Working Capital Loan
COMMERCIAL (6)						
Ereri	Public Co.	134	8,340	Nawasha	1,215,000	720,000
Kimuri	Partnership	10	1,806	Nanyuki	352,000	216,000
Game	Private Co.	2	8,213	Athi River	1,680,000	1,154,000
Rarre Farm	Private Co.	250	2,319	Nakuru	60,000	625,000
Madrugaba	Private Co.	2	1,217	Nakuru	478,500	700,000
Gatarakwa Farmers Co.	Public Co.	3,000	3,290	Nanyuki	1,679,000	671,000
			25,185		5,473,500	4,086,000
GROUP (7)						
Olkeri	Communal	18	931	Narok	73,600	158,400
Olaimutiai	Communal	18	3,726	Narok	113,000	330,000
Narua	Communal	84	2,169	Narok	104,000	150,700
Nkairamiram	Communal	88	4,370	Narok	211,000	306,400
Ilmashariani	Communal	97	4,992	Narok	252,000	188,000
Morijo Narok	Communal	21	1,514	Narok	97,000	48,000
Olomisimis	Communal	180	9,007	Narok	575,000	1,066,000
			26,759		1,425,600	2,247,500
COMPANY (1)						
Galana	Private Co.	8	607,017	Mombasa	2,000,000	4,000,000

April 23, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

477-KE - Analysis of Loans - Commercial Ranches.

	Contingencies	Water Facilities	Livestock Facilities	Machinery	Firebreaks/ Roads	Fencing	Bush Clearing	Buildings	Breeding Stock	Ranchers Contribution	Total Development Loan	Operating	Steers	Contingencies	Total Working Capital Loan
FARM															
Patrick and Grattan		250,000		23,000	8,000	50,000		10,000	625,000	(175,000)	700,000	400,000	96,000		496,000
Jessed Ranching		190,000		23,000	8,000	50,000	8,000	10,000	408,000	-	697,000	142,000	192,000		334,000
Machakos Ranching	42,600					15,000			411,000	-	468,600	200,000	597,000		797,000
Morogo Arap Chebet		15,000		51,000		18,000	10,000		84,600	(33,600)	145,000	62,000	90,000	15,200	167,200
Maai Mahiu	33,120	210,000	50,000		20,000				51,200	(72,320)	292,000	200,000	360,000	56,000	616,000
Mumoi Farmers, Ltd.	10,000	50,000	20,000			20,000			280,000	-	380,000	50,000	75,000		125,000
Midas, Ltd.											-	1,800,000	-	200,000	2,000,000
Kikapu Farmers		30,000							50,000		80,000	10,000	250,000		260,000
Ol' Massor	63,000			149,000		17,000			450,000	(134,000)	560,000	200,000	-		200,000
Thug	93,300	155,000		85,000		50,000			775,000	(230,300)	928,000	176,000	132,000	310,000	339,000
Ereri	150,000			180,000		10,000			1,309,400	(434,400)	1,215,000	440,000	280,000		720,000
Kimuri		200,000				105,000			135,000	(88,000)	352,000	120,000	96,000		216,000
Game		48,000	15,000	82,000		750,000		50,000	1,166,000	(422,000)	1,689,000	578,000	576,000		1,154,000
Rarie Farm				70,000					60,000	(70,000)	60,000	100,000	525,000		625,000
Madrugada	43,500							435,000			478,500	100,000	600,000		700,000
Gatarakwa Farmers Co.	190,800	146,000	27,500	272,450		53,190		62,150	1,347,300	(420,390)	1,679,000	401,000	270,000		671,000
	641,320	1,244,000	112,500	912,450	28,000	1,088,190	18,000	557,150	7,152,500	(2,080,010)	9,724,100	4,979,000	4,139,000	302,200	9,420,200
Average Over Ranches	40,082	80,875	7,031	57,028	1,750	68,012	1,125	34,822	447,031	(130,000)	607,756	311,188	258,687	18,887	
% of Total Loans	6.6	13.3	1.1	9.4	0.3	11.2	0.2	5.7	73.6	(21.4)	-	52.9	43.9	3.2	
Model Ranch (Appraisal Report)		143,000	20,000	22,000	5,000	15,000	2,000		537,200		744,200	46,700	121,600	168,300	
% Total Loan		192	2.7	2.9	0.7	2.0	0.3		72.2			27.8	72.2		

Increase Over Model	Appraisal	Actual	Increase	%
Development Loan	744,200	607,756	136,444	(18.3)
Working Capital	168,300	588,762	420,462	249.8
Total	912,500	1,196,518	284,018	31.1

Cost Per Hectare

	Total	Dev.
Model	268.4/-	218.9/-
Actual	269.5/-	136.9/-
(71,045 ha)		
19,144,500/-		

Revenues Approved 16%
Loan Funds Committed 21%

April 23, 1976

ANNEX 16
TABLE 9

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

Analysis of Loans - Company

	Contingencies	Water Facilities	Livestock Facilities	Machinery	Firebreaks/ Roads	Fencing	Bush Clearing	Buildings	Breeding Stock	Ranchers Contribution	Total Development Loan	Operating	Steers	Total Working Capital Loan
FARM														
Mkuki Ranching Company	20,000	75,000	30,000	-	15,000	-	-	20,000	66,000	(45,000)	181,000	90,000	267,000	357,000
Giriama Ranching	157,400	500,000	100,000	50,000	70,000	-	-	90,000	616,200	(315,600)	1,268,000	500,000	2,100,000	2,600,000
B2 Yatta Ranching	-	900,000	80,000	80,000	21,000	-	250,000	170,000	1,127,500	(528,500)	2,100,000	500,000	1,000,000	1,500,000
Taru Ranching	80,000	300,000	60,000	-	-	-	-	-	1,360,000	-	1,800,000	400,000	1,000,000	1,400,000
Mugeno Ranching	-	-	-	-	-	-	-	-	-	-	-	600,000	1,800,000	2,400,000
Lualenyi Ranching	-	-	-	-	-	-	-	-	-	-	-	600,000	1,800,000	2,400,000
Rukinga	-	-	-	-	-	-	-	-	2,400,000	-	2,400,000	-	-	-
Galana	-	2,000,000	-	-	-	-	-	-	-	-	2,000,000	2,000,000	2,000,000	4,000,000
	257,400	3,775,000	270,000	130,000	106,000	-	250,000	280,000	5,569,700	(889,100)	9,749,000	4,690,000	9,967,000	14,657,000
Average Over Ranches	36,772	539,286	38,571	18,571	15,143	-	35,714	40,000	795,67[illegible]	(127,014)	1,392,714	670,000	1,423,857	2,093,857
% of Total Loan	2.6	38.7	2.8	1.3	1.1	-	2.6	2.9	57.1	(9.1)	-	32.0	68.0	-
% of Total Loan w/o Galana	3.3	22.9	3.5	1.6	1.3	-	2.9	3.6	71.8	(11.4)	-	-	-	-
Model Ranch (Appraisal Report)	-	320,000	40,000	47,000	24,000	-	-	52,000	718,300	-	1,201,300	-	-	-
		26.7	3.3	3.9	2.0	-	-	4.3	59.8	-	-	-	-	-

Increase Over Model	Appraisal	Actual	Increase	%
Development Loan	1,201,300	1,392,714	191,414	15.9
Working Capital	460,800	2,093,857	1,633,057	354.4
	1,662,100	3,486,571	1,824,471	109.8

Cost Per Hectare Dev.

Model	59.4/-	42.9/-
Actual	31.5/-	12.6/-
(775,000 ha)		
24,406,000 w/o		
Without Galana	109.6/-	46.1/-
(167,983 ha)		
18,406,000		

Ranches Approved 38%
Loan Funds Committed 70%

(74/- if only acreage on development loan ranches is taken into account)

ANNEX 16
TABLE 10

April 29, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

REVIEW MISSION - FEBRUARY 22 - MARCH 26, 1976

(KSh.)

Analysis of Loans - Groups

Name	Contingencies	Water Facilities	Livestock Facilities	Machinery	Firebreaks/ Roads	Fencing	Bush Clearing	Buildings	Breeding Stock	Ranchers Contribution	Total Development Loan	Operating	Steers	Total Working Capital Loan
Olkeri		25,300	-	-	2,000	-	-	20,000	26,300	-	73,600	74,000	84,400	158,400
Olaimutiai	10,000	40,000	15,000	-	8,000	-	-	10,000	30,000	-	113,000	240,000	90,000	330,000
Murua	-	-	25,000	-	3,000	-	-	10,000	66,000	-	104,000	150,700	-	150,700
Nkairamiram	10,000	70,000	25,000	-	6,000	-	-	10,000	90,000	-	211,000	156,400	150,000	306,400
Iimajheriani	20,000	90,000	25,000	20,000	10,000	-	-	15,000	72,000	-	252,000	188,000	-	188,000
Manjo Narok	9,000	20,000	25,000	-	6,000	-	-	10,000	27,000	-	97,000	48,000	-	48,000
Olomisimis	25,000	150,000	25,000	60,000	10,000	-	-	65,000	240,000	-	575,000	566,000	500,000	1,066,000
	74,000	395,300	140,000	80,000	45,000	-	-	140,000	551,300	-	1,425,600	1,423,100	824,400	2,247,500
Average Over Ranches	10,571	56,471	20,000	11,429	6,429	-	-	20,000	78,757	-	203,657	203,300	117,771	321,071
% of total loans	5.2	27.7	9.8	5.6	3.2	-	-	9.8	38.7	-	-	63.3	36.7	-
Model Ranch (Appraisal Report)		284,000	60,000	47,000	24,000	-	-	52,000	384,100	-	851,100	50,400	108,700	159,100
% of Total Loan		33.4	7.0	5.5	2.8	-	-	6.1	45.2	-	-	31.7	68.3	-

Income Over Model	Appraisal	Actual	Increase/(Decrease)	%
Development Loan	851,100	203,657	(647,443)	(76.1)
Working Capital	159,100	321,071	161,971	101.8
	1,010,200	524,728	(485,472)	(48.1)

Cost Per Hectare

Model	63.1/-	532/-
Actual	137.3/-	533/-
(26,759 ha)		
3,673,100/-		

Dev. Ranches Approved 12%
Loan Funds Committed 6%

Total for Whole Project Per Hectare	Development		Total
(1,888,000 ha) Model	79.8/-		98.9/-
150,700,000/-		186,760,000/-	
(872,804 ha) Actual	23.9/-		54.1/-
20,898,700/-		47,223,400/-	
Without Galana	71.1/-		155.1/-
(265,787 ha)		41,223 400/-	
18,898,700/-			

April 30, 1976

ANNEX 15
Vol. II

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Agricultural Finance Corporation

Project Technical Services
(Ksh '000)

	Unit	Unit Cost	Year 1 (Actual)	Year 2	Year 3	Year 4	Year 5	Total Cost	Foreign Exchange Component %	
INVESTMENT										
Vehicles: Landrover LWB	Vehicle	44.0 (Hw)	(1) 44.0				(1) 80.0	(2) 124.0	65	80.6
Rangerover	Vehicle	82.0	(1) 82.0					(1) 82.0	65	53.3
Undefined	Vehicle	60.0			(2) 120.0			(2) 120.0	65	78.0
Office equipment	Set					40.0		40.0	40	16.0
Total investment			126.0		120.0	40.0	80.0	366.0	62	227.9
OPERATING COSTS										
Salaries and Allowances										
Section head	Man-year	72.0)		(1) 72.0	(1) 72.0	(1) 72.0	(1) 72.0)		-	-
Loans processing	"	57.0)		(2) 114.0	(2) 114.0	(2) 114.0	(2) 114.0)		44	228.0
Loans supervision	"	45.0)		(2) 90.0	(2) 90.0	(2) 90.0	(2) 90.0)		-	-
Livestock credit officers	"	38.0)	642.0	(8) 304.0	(9) 342.0	(9) 342.0	(9) 342.0)	4,632.0	-	-
Ranch technical assistant	"	33.0)		(1) 33.0	(1) 33.0	(1) 33.0	(1) 33.0)		-	-
Accounts staff	"	24.0)		(2) 48.0	(2) 48.0	(2) 48.0	(2) 48.0)		-	-
Loan clerks	"	20.0)		(4) 80.0	(5) 100.0	(5) 100.0	(5) 100.0)		-	-
Secretaries/clerks/typists	"	19.0)		(9) 171.0	(9) 171.0	(9) 171.0	(9) 171.0)		-	-
Drivers	"	12.0)		(2) 24.0	(4) 48.0	(4) 48.0	(4) 48.0)		-	-
Sub-total			642.0	936.0	1,018.0	1,018.0	1,018.0	4,632.0	5	228.0
Vehicle running expenses and travel costs	Year		109.5	125.0	175.0	175.0	175.0	795.5	50	379.8
Office expenses	Year		80.5	92.0	102.0	102.0	102.0	478.5	20	95.6
Total operating costs			832.0	1,153.0	1,295.0	1,295.0	1,295.0	5,870.0	12	703.4
Total costs			958.0 1/	1,153.0	1,415.0	1,335.0	1,375.0	6,236.0	15	931.3
Total costs estimated at appraisal			(1,100.0)	(1,365.0)	(1,795.0)	(1,705.0)	-	(5,965.0)	30.6	1,705.0

1/ An additional Ksh152,000 of expenditure (from October 1973 to June 1974) has been submitted by AFC to the Treasury for reimbursement by IDA, but would not qualify for disbursement as there is no retroactive financing clause in the Development Credit Agreement.

June 29, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Ministry of Water Development

Investment Costs
(Ksh.'000)

	Unit Cost	1	2	3	4	5	Total Cost	Foreign Exchange %	Foreign Exchange Amount
Investment									
Ranch water Section									
Design team 1: station wagon	82.0			(1) 82.0			82.0	90	73.8
pick-up	73.0			(1) 73.0			73.0	90	65.7
Sub-total				155.0			155.0		139.5
Planning team 1: station wagon	82.0			(3) 246.0			246.0	90	221.4
truck, 5-7 ton	229.6			(1) 229.6			229.6	90	206.6
water tank trailer	41.0			(1) 41.0			41.0	90	36.9
Sub-total				516.6			516.6		464.9
Planning team 2: station wagon	82.0			(3) 246.0			246.0	90	221.4
pick-up	73.0			(1) 73.0			73.0	90	65.7
Sub-total				319.0			319.0		287.1
Survey team 1: station wagon	82.0			(1) 82.0			82.0	90	73.8
pick-up	73.0			(1) 73.0			73.0	90	65.7
water tank trailer	41.0			(1) 41.0			41.0	90	36.9
Sub-total				196.0			196.0		176.4
Construction team 3: truck dump	246.0			(1) 246.0			246.0	90	221.4
truck carry	82.0			(1) 82.0			82.0	90	73.8
truck pick-up	41.0			(1) 41.0			41.0	90	36.9
trailer, parts van	123.0			(1) 123.0			123.0	90	110.7
trailer caravan	205.0			(1) 205.0			205.0	90	184.5
trailer generator	82.0			(1) 82.0			82.0	90	73.8
trailer concrete mixer	41.0			(1) 41.0			41.0	90	36.9
trailer water, 1,500 gals.	180.4			(1) 180.4			180.4	90	162.4
tools (1 lot)	82.0			(1) 82.0			82.0	90	73.8
radio set	41.0			(1) 41.0			41.0	90	36.9
spare parts				561.7			561.7		505.5
Sub-total				1,685.1			1,685.1		1,516.5
Sub-total ranch water section				2,871.7			2,871.7	90	2,584.5
Ranch/Range water Section									
Borehole equipping unit - truck dump	246.0			(1) 246.0			246.0	90	221.4
truck, carry all	82.0			(1) 82.0			82.0	90	73.8
truck pick-up	73.0			(1) 41.0			41.0	90	36.9
trailer, parts van	123.0			(1) 123.0			123.0	90	110.7
trailer, caravan	205.0			(1) 205.0			205.0	90	184.5
trailer, generator	82.0			(1) 82.0			82.0	90	73.8
trailer, concrete mixer	41.0			(1) 41.0			41.0	90	36.9
trailer, water, 1,500 gals.	180.4			(1) 180.4			180.4	90	162.4
tools	82.0			(1) 82.0			82.0	90	73.8
radio set	41.0			(1) 41.0			41.0	90	36.9
spare parts				561.7			561.7	90	505.5
Sub-total				1,685.1			1,685.1		1,516.5
Total investment costs				4,556.8			4,556.8		4,101.0
Dam construction unit 1/					(19,606.2)		(19,606.2)		(17,645.6)

1/ Cost of dam construction unit requested. Approval would be dependent on further examination of request. Funds would have to come from contingencies.

June 21, 1976

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT - 477-KE

Review Mission - February 22 - March 26, 1976

Costs of Veterinary Services
(Ksh'000)

	Unit	Unit Cost	Year 1	Year 2	Year 3	Year 4	Year 5	Total	Foreign Exchange Comp. %	
Capital										
CBPP										
Mobile testing unit	No.	190.0		190.0				190.0	90.0	171.0
Mobile crush	No.	16.0		16.0				16.0	90.0	14.4
Sub-total			-	206.0	-	-	-	206.0	90.0	185.4
Pastoral Areas										
Vehicle - landrover	No.	55.0		(2) 110.0	(2) 110.0	(2) 110.0		330.0	65.0	193.0
Senior housing 1/	No.	190.0		(2) 380.0	(2) 380.0	(2) 380.0		1,140.0	40.0	456.0
Junior housing 1/	No.	60.0		(3) 180.0	(3) 180.0	(6) 360.0		720.0	10.0	72.0
Laboratory units	Set	240.0		(1) 240.0	(1) 240.0	(1) 240.0		720.0	90.0	648.0
Camping gear	Set	4.3		(5) 21.5	(5) 21.5			43.0	80.0	34.4
Radios	No.	28.0		(1) 28.0	(2) 56.0			84.0	80.0	67.2
Sub-total			NIL	959.5	987.5	1,090.0	-	3,037.0	48.0	1,470.6
Total capital costs			NIL	1,165.5	987.5	1,090.0		3,243.0	51.5	1,656.0
Recurrent										
CBPP										
Laboratory assistants	Man-year	7.5		(3) 22.5	(3) 22.5	(3) 22.5	(3) 22.5	90.0		
Laboratory assistants JAH	May-year	4.0		(1) 4.0	(1) 4.0	(1) 4.0	(1) 4.0	16.0		
Drivers	May-year	7.5		(2) 15.0	(2) 15.0	(2) 15.0	(2) 15.0	60.0		
Allowances	Man-year	4.5		(6) 27.0	(6) 27.0	(6) 27.0	(6) 27.0	108.0		
Testing unit and maintenance costs		60.0		(1) 60.0	(1) 60.0	(1) 60.0	(1) 60.0	240.0	50.0	120.0
Sub-total				128.5	128.5	128.5	128.5	514.0	50.0	120.0
Pastoral Areas										
Veterinary officers	Man-year	38.5		(1) 38.5	(2) 77.0	(3) 115.5	(3) 115.5	346.5	-	
Livestock officers	Man-year	20.0		(1) 20.0	(2) 40.0	(3) 60.0	(3) 60.0	180.0	-	
Animal health assistants	Man-year	7.5		(3) 22.5	(6) 45.0	(2) 90.0	(12) 90.0	247.5	-	
Drivers	Man-year	7.5		(2) 15.0	(4) 30.0	(6) 45.0	(6) 45.0	135.0	-	
Allowances	Man-year	4.5		(7) 31.5	(14) 63.0	(24) 108.0	(24) 108.0	310.5	-	
Vehicle maintenance & running costs		30.0		(2) 60.0	(4) 120.0	(6) 180.0	(6) 180.0	540.0	50.0	270.0
Laboratory expenses		12.0		12.0	24.0	36.0	36.0	108.0	50.0	54.0
House maintenance - 2½% of cost				-	12.0	24.0	40.0	76.0	40.0	30.4
Sub-total			NIL	199.5	411.0	658.5	674.5	1,943.5	18.2	354.4
Total recurrent costs			NIL	328.0	539.5	787.0	803.0	2,457.5	19.3	474.4
Total costs			NIL	1,493.5	1,527.0	1,877.0	803.0	5,700.5	37.4	2,130.4
Total costs at appraisal			(814.0)	(820.1)	(1,051.5)	(597.7)		(3,283.3)		

1/ High cost due to location

June 29, 1976

Notes

Project Costs and Financing

For existing ranches, for which loans have already been approved, no costs estimates have been provided, nor their income. This is a misleading element in the calculation of total project costs as well as in the financing of the Project. It is therefore assumed that any additional cost will be met from ranch revenues.

oreign exchange costs were estimated on the basis of the percentages calculated respectively for investment and operating costs in the models done by the Mission.

Census and Monitoring Unit

Project Costs were arbitrarily spread over the last three years of the project as no detailed information was provided by the Canadians.

Isiolo

Cost estimates are very rough. Investment costs provided by the Canadians apparently do not include transport to project site. 10% has therefore been added for transport.

Recurrent costs seem underestimated in documents provided by Canadians to Financial analyst on the mission. E.g., no information on house allowances, and other social benefits.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 677-KE

Review Mission - February 22 - March 26, 1976

Project Costs

ANNEX 10
Table 1

	1	2	3	4	5	Total	Foreign Exchange Amount	Component %
	Ksh. '000							
Component Ranches								
Investment	10,630.1	9,372.0	9,864.0	10,095.0	40,690.1	14,375.4	35
Operating Costs	14,437.0	18,615.0	15,283.0	11,813.0	69,372.0	8,499.8	12
Sub-total	25,095.1	27,987.0	24,130.0	22,710.0	110,022.1	22,875.2	21
Commercial Ranches								
Investment	11,804.1	3,380.0	8,021.0	8,333.0	31,538.1	14,961.0	47
Operating Cost	9,420.2	2,316.0	7,844.0	12,338.0	31,938.2	4,871.0	16
Sub-total	21,224.3	5,696.0	15,865.0	20,891.0	63,476.3	19,832.0	31
Group Ranches								
Investment	1,425.6	2,652.0	7,784.0	7,927.0	19,788.6	7,266.0	37
Operating Costs	2,247.5	2,064.0	7,414.0	11,463.0	23,190.5	10,233.5	44
Sub-total	3,673.1	4,716.0	15,198.0	19,390.0	42,979.1	17,499.5	41
Total Ranch Development								
Investment	23,867.8	15,304.0	25,690.0	27,355.0	91,976.8	36,602.4	40
Operating Costs	26,324.7	22,993.0	29,363.0	37,836.0	116,498.7	23,406.3	19
Sub-total	50,192.5	38,297.0	54,993.0	72,991.0	216,473.5	60,008.7	28
Feedlots								
Investment	-	-	-	2,330.0	-	2,330.0	1,24[illegible].4	54
Operating Costs	-	-	-	4,706.7	8,278.7	12,983.4	378.5	3
Sub-total	-	-	-	7,036.7	8,278.7	15,313.4	1,847.1	12
Range Water Development								
Northeast Province Grazing Block Dev.								
Investment	11,850.0	10,210.0	15,305.9	13,255.9	9,003.9	59,715.7	39,795.9	67
Operating Costs	-	987.0	2,747.1	4,113.0	4,498.5	12,345.6	6,358.0	52
Sub-total	11,850.0	11,197.0	18,143.4	17,368.9	13,502.4	72,061.7	46,153.9	64
Tanple Grazing Block								
Investment		6,816.0	19,963.8	4,172.5	2,557.4	33,479.9	30,[illegible]78.0	42
Operating Costs		1,258.0	1,258.0	1,258.0	1,258.0	5,032.0	280.0	6
Sub-total		8,074.0	21,221.8	5,430.5	3,785.6	38,511.9	31,038.0	43
Livestock Marketing								
Investment	406.0	12,153.0	12,829.0	8,925.0	3,301.0	37,614.0	21,835.9	58
Operating Costs	812.0	3,320.3	8,635.0	9,168.0	9,302.0	31,437.3	10,323.9	33
Sub-total	1,218.0	15,473.3	21,464.0	18,093.0	12,603.0	69,051.3	32,158.8	47
Wildlife								
Amboseli:								
Investment	3,736.7	1,985.6	-	-	-	5,722.3	4,171.4	73
Operating Costs	-	155.0	460.4	382.9	325.4	1,323.7	150.5	11
Sub-total	3,736.7	2,140.6	460.4	382.9	325.4	7,046.0	4,321.9	61
Shaba/Mara								
Investment	-	-	732.0	732.0	-	1,464.0	1,098.0	75
Operating Costs	-	-	103.3	103.8	103.8	311.1	164.5	53
Sub-total	-	-	835.3	835.8	103.8	1,775.1	1,262.5	71
Kitengela/Nairobi								
Investment	-	-	1,523.5	1,543.0	1,259.5	4,326.0	1,138.1	26
Operating Costs	-	-	463.8	480.8	493.0	1,440.8	137.8	10
Sub-total	-	-	1,988.3	2,023.8	1,756.5	5,766.8	1,268.9	22
Census and Monitoring Unit								
Investment	-	-	1,583.3	1,583.3	1,583.3	4,749.9	3,562.4	75
Operating Costs	-	-	6,226.7	6,226.7	6,226.7	18,680.1	14,010.0	75
Sub-total	-	-	7,810.0	7,810.0	7,810.0	23,430.0	17,572.5	75
Total:								
Investment	3,736.7	1,985.6	3,838.8	3,858.3	2,842.8	16,262.2	9,962.9	61
Operating Costs	-	155.0	7,303.8	7,194.2	7,151.9	21,705.7	14,487.8	67
TOTAL	3,736.7	2,140.6	11,044.6	11,052.5	9,993.7	37,967.9	24,421.7	64
Technical Services								
Veterinary Services								
Investment	-	1,165.5	987.5	1,060.0	-	3,243.0	1,656.0	51.0
Operating Costs	-	328.0	339.5	797.0	803.0	2,457.5	474.4	19
Sub-total	-	1,493.5	1,327.0	1,857.0	803.0	5,700.5	2,130.4	37
Agricultural Finance Corporation								
Investment	126.0	-	120.0	40.0	80.0	366.0	227.9	62
Operating Costs	832.0	1,153.0	1,293.0	1,293.0	1,293.0	5,870.0	703.6	12
Sub-total	958.0	1,153.0	1,413.0	1,333.0	1,373.0	6,236.0	931.5	15
Project Coordination Unit								
Investment	69.0	7.5	90.0	10.0	83.0	261.5	159.6	61
Operating Costs	196.1	302.5	420.5	416.0	416.0	1,747.1	344.4	20
Sub-total	265.1	310.0	510.5	426.0	499.0	2,008.6	504.0	25
Project Evaluation, Investigational Work, Technical Training								
Investment	-	336.0	1,867.0	1,654.0	591.0	4,448.0	2,663.8	60
Ministry of Water Development								
Investment	-	-	4,556.8	-	-	4,556.8	4,101.0	90
Ministry of Agriculture/ Ranch Management Division								
Investment	-	-	1,362.0	-	660.0	2,022.0	1,396.8	70
Operating Costs	-	-	828.0	828.0	828.0	2,484.0	904.0	36
Sub-total	-	-	2,190.0	828.0	1,488.0	4,506.0	2,002.8	45
Total Technical Services								
Investment	195.0	1,509.0	8,983.3	2,794.0	1,396.0	14,877.3	10,592.9	72
Operating Costs	1,028.1	1,783.5	3,083.0	3,336.0	3,340.0	12,550.6	2,128.2	16
Sub-total	1,223.1	3,292.5	12,066.3	6,118.0	4,736.0	27,435.9	12,721.1	47
Total Base Costs								
Investment	72,729.1	76,314.8	60,985.7	46,226.3	256,255.9	190,833.6	59
Operating Costs	35,668.6	45,922.1	59,106.9	79,866.1	220,561.7	37,537.7	29
Total	108,397.7	122,236.9	120,092.6	126,092.4	476,817.6	228,371.3	44
Physical Contingencies		9,948.8	6,412.0	23,441.0	42,801.8	32,790.4	76
Price Contingencies		11,858.4	29,021.1	50,184.7	91,064.2	35,719.8	39
Total Project Costs	108,397.7	144,044.1	155,523.7	201,718.1	610,083.4	276,841.5	45

August 24, 1976.

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SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Revised Financing March 1979 1/
(KSh.'000)

	Total Project Costs	IDA	USAID	CIDA	New York	UK	Beneficiaries Total	Beneficiaries Initial Equity Contribution	Beneficiaries Increases in Equity	GOK
I. A. Ranch Development	276,361.1	60,663.7	33,620.0	-	-	-	121,413.8	55,291.0	66,122.8	60,663.6
(AFC Loan Amount)	(154,947.3)									
Feedlot	18,613.6	2,992.3	-	-	-	-	12,629.0	2,110.4	10,518.6	2,992.3
(AFC Loan Amount)	(5,984.6)									
Range Water Development										
B. Isiolo Grazing Block	43,166.0	-	-	31,238.6			-	-	-	11,927.4
C. Northeast Province Grazing Block	85,086.9		70,110.0	-	-	-	750.0	-	-	14,226.9 1/
D. Livestock Marketing	81,263.3	-	-	-	-	22,000.0	-	-	-	59,263.3
II. E. Wildlife										
Amboseli	7,322.0	2,906.3			1,148.0					3,267.7
Maasai Mara	2,377.7	1,111.4								1,266.3
Kitengela/Nairobi	7,780.8	3,506.8								4,274.0
Census	28,765.8	-		23,579.1	-	-				5,186.7
Total	46,246.3	7,524.5		23,579.1	1,148.0					13,994.7
III. F. Technical Services										
Veterinary Service	7,544.9	3,772.5								3,772.4
Project Investigational Work	5,061.5	3,036.9	1,640.0							384.6
Ministry of Water Development	6,000.5	5,454.4								546.1
Total	18,606.9	12,263.8	1,640.0							4,703.1
IV. Project Related Ministry of Agr. Costs										
Project Coordination Unit	2,285.5	1,142.8								1,142.7
Range Management Division	5,309.6	2,654.8								2,654.8
Total	7,595.1	3,797.6								3,797.5
V. Project Related AFC Costs	7,068.1	3,534.1								3,534.0
VI. Balance of Contingencies/Unallocated	26,076.3	31,980.0								(5,903.7)
Total Ksh. '000	610,083.6	122,756.0	106,370.0	54,817.7	1,148.0	22,000.0	134,792.8	57,401.4	77,391.4	169,199.1
US$ m (US$1 = Ksh 8.2)	74.4	15.0	12.85	6.7	.140	2.68	16.4	7.0	9.4	20.6
% of total Cost	100.0	20.1	17.27	9.0	.2	3.6	22.1	9.4	12.7	27.7
(Unused Portion of IDA Loan $m)		(6.5)								
USAID Tech. Asst. Loan			41,000.0							(41,000.0)

1/ Individual sub-projects include physical and cost contingencies as indicated in cost estimates.
2/ KSh. 2,940,000 of these costs are to be met by USAID as part of the Technical Assistance loan.

August 31, 1976

ANNEX 20
Table 1

FINANCING OF RANCHING COMPONENT

(Ksh million)

	Review Mission				Appraisal				Change in Percentage Contribution
	Total Cost	AFC Loans	IDA Amount	% of total costs	Total Cost	AFC Loans	IDA Amount	% of total costs	
Hypothesis I	294.9	160.9	63.5	21.5	307.3	245.7	106.1	35	- 13.5
" II	294.9	160.9	63.5	21.5	194.6	159.7	63.0	32	- 10.5
" III	294.9	160.9	63.5	21.5	194.6	136.2	51.3	26	- 4.5
" IV	207.3	145.1	72.6	35.0	136.2	95.3	47.7	35	-

	Review Mission	Appraisal
Hypothesis 1		
Cattle: As % of Total Cost	30	50
Costs	as estimated by mission	as estimated at appraisal
No. of Ranches:		
Company	18	21
Group	49	60
Commercial	49	100
Feedlot	1	3
Equity Contribution	30	20
IDA Loan Amount	50% of AFC Loan Amount net of USAID net of USAID contribution (US$4.1 million)	
Hypothesis 2		
Cattle:	Same as Hypothesis I	As estimated at
Costs	as estimated by Review Mission	appraisal per unit
No. of Ranches:		
Company	18	18
Group	49	49
Commercial	49	49
Feedlot	1	1
Equity Contribution	30	20
IDA Loan Amount	Same basis as Hypothesis I	
Hypothesis 3		
Cattle:	Same as Hypothesis 1	
Costs	as estimated	as estimated per unit
No. of Ranches:	(Same as Hypothesis 2)	
Equity Contribution	30	30
IDA Loan Amount	Same basis as Hypothesis 1	
Hypothesis 4		
Cattle: As percentage of total costs	30	30
Total Amount KSh. million:	87.6	58.4
in AFC loan KSh. million:	61.3	40.9
Costs	exclude cattle	exclude cattle
AFC Loan Amount	exclude cattle	exclude cattle
No. of Ranches	same as in Hypothesis 2	
Equity Contribution	30	30
IDA Loan Amount	50% of AFC Loan Amount	

IDA Loan Amount would be more when cattle purchases are excluded, because USAID Loan is to be used only for cattle purchases.

KENYA

Livestock Development Project

Review Mission February 22 - March 26 1976

Summary of Financial Rates of Return on Ranches and Feedlots

Producer Price Trends	Ranch Type: Commercial Ranch Model	Company Ranch Model Carrying Capacity 1AU:7.3 ha: Breeding and Purchased Steers Standard Ranch 1/ Model	Company Ranch Model Carrying Capacity 1AU:7.3 ha: Steers only	Company Ranch Model Carrying Capacity 1AU:3.6 ha: Breeding plus Steers	Company Ranch Model Carrying Capacity 1AU:3.6 ha: Steers only	Group Ranch Model	Feedlot Model
A) Appraisal Estimate	12%	15%	-	-	-	23%	-
B) Prices February 1976	5%	not run	-	-	-	not run	-
C) New Prices June 1976							
FRR	11%	0%	9%	8%	10%	not run	23% 2/
D) New Government Prices plus 30% increase in standard grade							
FRR	16%	11%	19%	16%	23%	9%	23% 2/
Costs + 10%	12%	7%	15%	11%	15%		14% 3/
E) New Government Prices + 30% standard and a further 15% increase in all prices	24%	16%	24%	-	-	12%	-

1/ This is the model ranch.

2/ North East type cattle Purchase price of steers K Sh 2/25 per kg - Sale price FAQ K Sh 7/80 per kg CDW and Standard (Retained) K Sh 5/80 per kg CDW.

3/ Steers purchased at K Sh 2/80 per kg LW.

KENYA

SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Economic Evaluation

1. The economic rate of return was estimated to be 17.25%. The calculations are given in Table 1. The basic data for this table were obtained from Annexes 4, 5 and 6. The economic rate of return for each Ranch Model is given below:

	Economic Rate of Return	Sensitivity Analysis			
		Costs +10%	Ben. -20%	Costs +10%	Ben. -10%
Company Ranch Model	13.65	10.45	6.25		7.05
Commercial Ranch Model	18.15%	14.85%	10.95%		11.55%
Group Ranch Model	21.65%	18.75%	15.15%		15.75%
Ranching Component (see para 2)	17.25%	14.05%	9.95%		10.65%

The difference between the economic profitability of each ranch model is mainly attributable to the difference between the levels of physical development, and therefore to the higher level of foreign exchange costs with higher level of development. As the company rannhes are being set up in areas with no existing facilities at all, they require much more costly investments than commercial or group ranches.

2. It was not possible to calculate an economic rate of return for the whole project because the following information was missing:

Ranch Development: Only partial cost information is available, in particular, actual cost information on the ranches which have already received loans from the AFC is in complete. Also, little information is available on the income which these ranches have already generated. It was not possible to estimate what the future operating costs and revenues of these ranches will be until a complete reassessment of their performance is done as recommended by the mission.

Feedlots: Lack of information on value of by-products of sugar industry.

Range Water Development: Only incomplete information has so far been received by the mission from USAID, which finances the Northeast Province Grazing Block Development, and by CIDA, which finances the Isiolo Grazing Block Development. It is not clear whether the costs which they provided are in line with the other cost estimated for the other components of the project, in particular, some of their costs seem to be fob.—Mombasa while other project costs are "delivered at site'. Also, neither of the co-financers sent the required estimate of the benefits from their respective component.

Livestock Marketing: This component is being financed by the British aid. There are similar problems as those mentioned for the Range Water Development component of the project.

Wildlife: The mission did not attempt to make an economic evaluation of this component as its net benefits have been integrated into the recently negotiated Wildlife and Tourism Project, for which an economic rate of return of approximately 15.5% has been calculated, without shadow prices. With shadow prices, the economic rates of return calculated for Amboseli and Maasai Mara are of 28% and 25% respectively. (The Wildlife and Tourism Project does

not include a component on Nairobi/Kitengela). As our revised costs for Nairobi, are only preliminary, until a feasibility has been completed, it is not worthwhile updating the appraisal estimates.

3. An economic rate of return has therefore been calculated only for the Ranch Development component of the project, which, under the current mission's proposal and excluding technical services represents 49% of total project base costs. The basic assumptions used in this analysis are the following:

a) the economic life of the project was assumed to be 20 years, taking year 3 of the project as agreed in June 1974 as year 1 of the economic life of the project.

b) Only the Company, Commercial, and Group Ranches which are going to come forward in the last three years of the project have been included in the economic evaluation of Ranch Development. The feedlot operation was left out of the global evaluation for the reasons mentioned in paragraph 2 above.

c) price contingencies, and import taxes and duties were excluded from the cost estimates;

d) Physical contingencies (9 % of base costs) were included.

e) Foreign exchange costs were shadow priced at Ksh10 = $1 to reflect the scarcity value of foreign exchange.

f) Production was valued at international prices adjusted for transport and handling costs, as was done in the financial analysis of the various ranch models. The basic price is of Ksh7.25/kg CDW for the standard Grade of beef. Likewise the financial price of milk used in the valuation of milk production on Group Ranches was deemed to be the economic price.

g) Costs were based on March, 1976 prices and include:

i) 100% of the costs of water and infrastructure development, vehicles and equipment;

ii) 100% of the purchase price of the breeding herd and of steers;

iii) 100% of operation and maintenance costs; unskilled labor costs were shadow priced at 50% of the market wage as in the original appraisal of the project;

iv) some of the costs of the technical services were included. The cost of the veterinary services was not included as it bears no direct relation to the Ranch Development Component; likewise for the cost of the project evaulation, investigational work and technical training. Costs of the other technical services are as follows:

1) 100% of the incremental, investment, operation and maintenance costs of the Ranch Section of the Agricultural Finance Corporation.

2) 80% of the investment, operation and maintenance costs of the Project Coordination Unit from year 1 through year 7, 20% of these costs thereafter;

3) 100% of the investment costs of the Ranch and Range Water Development Sections of the Ministry of Water Development. Their operation and maintenance costs are included in the investment, operation and maintenance costs of the various ranches.

4) 100% of the incremental investment, operation and maintenance costs of the Ranch Management Division of the Ministry of Agriculture.

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SECOND LIVESTOCK DEVELOPMENT PROJECT - CREDIT 477-KE

Review Mission - February 22 - March 26, 1976

Economic Analysis of Ranch Development - Different Ranch Types
(Ksh '000)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Company Ranch Model																				
Investment																				
Shadow priced foreign exchange costs	645.0	551.5	126.0	65.0	97.0	-	65.0	-	87.0	65.0	11.5	-	150.0	-	-	144.8	166.8	-	65.0	-
Local costs	973.2	246.2	115.0	15.0	16.0	17.0	34.0	34.0	16.0	97.0	53.0	21.0	29.0	21.0	21.0	29.6	32.6	21.0	21.0	21.0
Sub-total	1,619.0	797.5	241.0	70.0	113.0	17.0	97.0	34.0	103.0	90.0	64.5	21.0	179.0	21.0	21.0	169.4	201.4	21.0	21.0	21.0
Recurrent Costs																				
Shadow priced foreign exchange costs	206.5	215.4	209.0	199.3	212.3	213.4	213.4	217.8	210.7	213.4	224.3	220.0	221.0	221.0	221.0	221.0	221.0	221.0	221.0	221.0
Local costs	929.8	953.2	899.8	902.9	851.1	850.2	797.2	776.6	676.5	675.2	675.2	676.8	676.9	676.9	676.9	676.9	676.9	676.9	676.9	676.9
Sub-total	1,136.4	1,168.6	1,108.8	1,102.2	1,063.4	1,063.6	1,010.6	994.4	887.2	888.6	900.5	896.8	897.9	897.9	897.9	897.9	897.9	897.9	897.9	897.9
Total costs	2,755.4	1,966.1	1,349.8	1,172.2	1,176.4	1,081.6	1,007.6	918.4	1,010.2	978.6	964.0	917.8	1,076.9	918.9	918.9	1,066.3	1,099.3	918.9	921.9	918.9
Benefits	-	96.3	1,758.2	1,843.2	1,710.0	1,843.2	1,752.1	1,825.8	1,696.8	1,791.0	1,441.3	1,695.6	1,695.6	1,695.6	1,695.6	1,695.6	1,695.6	1,695.6	1,695.6	1,987.0
Net Benefits	(2,755.4)	(1,667.8)	408.4	663.0	533.6	761.6	744.5	907.4	685.6	814.4	478.3	777.8	618.7	776.7	776.7	629.3	596.3	776.7	773.7	1,068.0

Economic rate of return - 13.65

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Commercial Ranch Model																				
Investment																				
Shadow priced foreign exchange costs	194.1	326.2	-	-	87.0	-	-	-	87.0	-	21.8	-	87.0	-	-	-	169.0	-	-	-
Local costs	788.3	114.2	24.2	18.0	26.0	18.0	18.0	18.0	26.0	18.0	20.0	18.0	26.0	18.0	18.0	18.0	88.6	18.0	18.0	18.0
Sub-total	982.4	440.4	24.0	18.0	113.0	18.0	18.0	18.0	113.0	18.0	41.8	18.0	113.0	18.0	18.0	18.0	257.6	18.0	18.0	18.0
Recurrent Costs																				
Shadow priced foreign exchange costs	48.5	55.1	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.7
Local costs	76.3	257.4	227.0	167.0	111.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0
Sub-total	124.8	312.5	283.7	223.7	167.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7
Total costs	1,107.2	752.9	307.7	241.7	280.7	164.7	164.7	164.7	259.7	164.7	188.5	164.7	259.7	164.7	164.7	164.7	404.3	164.7	164.7	164.7
Benefits	411.0	203.2	199.7	593.5	344.2	535.5	508.9	508.9	508.9	508.9	508.9	508.9	508.9	508.9	508.9	508.9	508.9	508.9	508.9	1,397.9
Net Benefits	(696.2)	(549.7)	(178.0)	351.8	263.5	370.8	344.2	344.2	249.2	344.2	370.4	344.2	249.2	344.2	344.2	344.2	104.6	344.2	344.2	1,233.2

Economic rate of return - 18.15

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Group Ranch Model																				
Investment																				
Shadow priced foreign exchange costs	206.3	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	81.8	-	-	-	-
Local costs	1,862.6	40.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	17.6	15.0	15.0	15.0	15.0
Sub-total	2,148.9	48.5	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	99.4	15.0	15.0	15.0	15.0
Recurrent Costs																				
Shadow priced foreign exchange costs	191.0	201.9	199.7	197.5	194.5	191.0	192.1	189.9	188.8	188.8	188.8	188.8	188.8	188.8	188.8	188.8	188.8	188.8	188.8	188.8
Local costs	131.4	39.4	39.2	38.0	39.7	40.4	40.5	40.5	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2
Sub-total	322.4	241.3	238.9	235.8	234.0	231.4	232.6	230.2	229.0	229.0	229.0	229.0	229.0	229.0	229.0	229.0	229.0	229.0	229.0	229.0
Total costs	2,471.3	289.6	253.9	250.8	249.0	246.4	247.6	245.2	254.0	254.0	254.0	254.0	254.0	254.0	254.0	328.0	254.0	254.0	254.0	254.0
Benefits	471.8	507.8	796.1	506.3	565.3	661.4	706.8	805.9	897.8	883.0	883.0	883.0	883.0	883.0	883.0	883.0	883.0	883.0	883.0	1,838.0
Net Benefits	(1,999.5)	218.2	542.2	255.5	316.3	415.0	459.2	560.7	643.8	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	1,584.0

Economic rate of return - 21.65

August 31, 1976

KENYA

Livestock Development Project

Review Mission February 22 - March 26, 1976

Summary of Ranch Development Program

	Ke-129 Total Loans 1/ Disbursed	ke-477 Appraisal Estimates	ke-477 Actual To Date	ke-477 Review Mission Estimates
Commercial Ranches (excluding feedlots)				
Area (ooo ha)	166	350	71	204
Number ranches	38	100	15	46
Loans (K Sh million)	18	73	17	52
Company Ranches				
Area (ooo ha)	257 3/	588	268 2/	659
Number Ranches	10	21	8	29
Loans (K Sh million)	20	28	24	78
Group Ranches				
Area (ooo ha)	221	960	27	650
Number Ranches	15	60	7	29
Loans (K Sh million)	3	48	4	23
Feedlots				
Area (ooo ha)	3	-	-	1
Number	4	3	1 4/	-
Loans (K Sh million)	7	8	2	-
Total				
Area (ooo ha)	682	1,898	366	1,513
Number of Ranches/Feedlots	108	184	31	104
Loans (K Sh million)	48	157	47	153

1/ Due to repayments of short-term capital the total of K Sh48 million disbursed is higher than present AFC record of disbursements outstanding (K Sh 39.0 million) Annex 11 Table 5. Ke-129 also lent K Sh2.5 million to 41 individual ranches on 25,000 ha.
2/ Includes 100,000 ha for Galana and investment on ranches started under ke-129.
3/ 40,000 ha of Galana Ranch included.
4/ Developed under ke-129.