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January, 1974

UNITED NATIONS DEVELOPMENT PROGRAMME

Project of the Government of

UGANDA

Project Summary

Title: Development of the Beef Cattle Industry, Phase II

Number: UGA/73/014

Sector: Agriculture, Forestry and Fisheries

Sub-Sector: Animal Production and Health

Proposed starting date for full project operations: 1 October, 1974

Proposed duration: 2 years 3 months

Government Co-operating Agency: Ministry of Agriculture and
Animal Resources

Executive Agency: Food and Agricultural Organization of the U.N.

Amount requested from the UNDP: US.\$563,506

Proposed Government counterpart Ug. Shs.13,467,600

contribution in kind:

US. \$. Equiv.1,951,826

Please note that this document is a summary of the Project as submitted and does not represent the views of the UNDP on its merits.

1. BACKGROUND

- 1.1. The present acute shortage of beef and a population growth of about 4% underlines the necessity for a rapid increase in beef production. With the present per capita availability of 0.44 cattle and 1.15 hectares of grazing land, it is possible to satisfy the domestic as well as the export market if an intensified use of these resources is made. The potential for beef production in Uganda is high and large areas of unutilized land, especially those cleared from tsetse fly, are available for further expansion of ranching and for the establishment of intensified cattle finishing operations. The Government recognizes the importance of beef production in the economy and has given it a high priority in the Third Five Year Plan.
- 1.2. Ranching in Uganda is based on local enterprise and is probably the most successful land settlement programme in Africa. Ranch development programmes over the past ten years or so have been successful in establishing a viable commercial pattern which has opened up opportunities for intensive pasture and animal management. Phase I of the Project dealt with these aspects of ranching. At present, about a tenth of the total cattle population is raised on the ranches. Further expansion in the ranching sector would depend on the expansion of credit facilities and on effective extension services.
- 1.3. Increased beef production in the country would depend, to a large extent, on the increased offtake from the traditional grazing sector which controls the bulk of the cattle. The development strategy being followed in this regard is to effect increased offtake through extracting store cattle from the grazing areas and finishing in ranches with improved pasture or in feedlots. Selling stock at an earlier age will change the herd composition in grazing areas allowing more breeding cows to be kept and a larger number to be sold every year.
- 1.4. Phase II of the Project is designed to deal with the development of economically sound stock finishing systems and the formulation of plans to bring about an orderly centrifugal development of the beef industry.

II. THE PROJECT

- 2.1. The objective of the Project is to assist the Government of Uganda in establishing a stratified beef industry that would make intensified use of the land and livestock resources in order to satisfy the domestic market and to provide increasing quantities of quality beef for the export market.
- 2.2. Immediate objectives of the Project are:
- a. To prepare plans that would stimulate further investment in ranch development, from both internal and external sources.
 - b. To develop plans for the stratification of beef industry and for establishing disease-free zones.
 - c. To prepare plans of a framework for extension work, within the Animal Production Division of the Department of Veterinary Services and Animal Industry, that would stimulate intensified production practices in ranches and pastoral areas.
 - d. To develop Bukaleba Ranch for demonstrating the pasture finishing and feedlot finishing systems and for establishing a pilot pasture seed production unit.
 - e. To conduct feasibility studies of various systems of beef production and prepare investment plans.
 - f. To conduct a marketing survey of cattle surplus areas, e.g. Karamoja-Teso area, to determine possible offtake and prepare plans for developing marketing and abattoir facilities in the country.
 - g. To develop a carcass grading system suited to the existing and possible market conditions.
 - h. To advise the Government on the follow-up of Acholi Ranch activities initiated during Phase I of the Project.
- 2.3 The Project will be based in Kampala at the Headquarters of the Department of Veterinary Services and Animal Industry. The international staff will consist of four experts (Animal Production Officers) in the subjects mentioned below and possibly an equal number of associate experts. The location of experts and the associate experts in these subjects is given below in parentheses.
- Beef development planning and extension (Kampala)
Livestock marketing economics (Kampala)
Pasture-finishing systems (Bukaleba Ranch)
Feedlot systems (Bukaleba Ranch)
- 2.4. Phase I of the Project has been extended for one year (upto 30th September, 1974) to initiate Phase II activities. Phase II shall cover a period of 27 months starting from 1st October, 1974.

III. FINANCIAL DATA

3.1. Country Programme allocation for the Project:

Revised total allocation:

(1 January 1972 to 31 December 1976) US.\$ 1,310,500

Revised Phase I budget:

(1 January 1972 to 30 September 1974) US.\$ 746,994

Proposed Phase II budget:

(1 October 1974 to 31 December 1976) US.\$ 563,506

3.2 Contribution requested from UNDP:

	<u>US.</u>	<u>\$.</u>	<u>US.</u>	<u>\$.</u>
International Staff	247,500			
Consultant services	60,000			
Administrative support personnel	15,000		322,500	
Sub-contracts (computer charges)	2,000		2,000	
Training component-fellowships	60,000		60,000	
Expendable equipment	25,000			
Non-expendable equipment	137,000		162,000	
Miscellaneous	17,006		17,006	
Grand Total:			563,506	

3.3. Government counterpart contribution:

Government contribution in cash: NIL

Government contribution in kind:

	<u>Ug. Shs.</u>	<u>US.\$ Equiv.</u>
Personnel	2,359,100	341,899
Land and buildings	2,200,000	318,841
Training of personnel	234,000	33,913
Equipment & supplies	8,230,000	1,192,753
Miscellaneous	444,500	64,420
	<u>13,467,600</u>	<u>1,951,826</u>

January, 1974

UNITED NATIONS DEVELOPMENT PROGRAMME

Project of the Government of

UGANDA

TITLE: Development of Beef Cattle Industry, Phase II

NUMBER: UGA/73/014 DURATION: 2 $\frac{1}{2}$ years

SECTOR: Agriculture, Forestry and Fisheries

SUB-SECTOR: Animal Production and Health

GOVERNMENT COOPERATING AGENCY: Ministry of Agriculture and
Animal Resources

EXECUTING AGENCY: Food and Agriculture Organization of the U.N.

STARTING DATE: First October, 1974. Phase II activities
initiated on 1st October, 1973, with one year
extension of Phase I budget.

UNDP CONTRIBUTION: US \$563,506

GOVERNMENT CONTRIBUTION: US \$ Equiv. 1,951,826

APPROVED: _____ Date _____

On behalf of the Government

_____ Date _____

On behalf of the Executing Agency

_____ Date _____

On behalf of the UNDP

1. BACKGROUND AND SUPPORTING INFORMATION

Justification for the Project

1.1 The present acute shortage of beef and a population growth of about 4% underlines the necessity for a rapid increase in beef production in Uganda. With the present per capita availability of 0.44 cattle and 1.15 hectares of grazing land, it is possible to satisfy the domestic as well as the export market if an intensified use of these resources is made. The potential for beef production in Uganda is high, effective disease control services are available and large areas of unutilized land, especially those cleared from tsetse fly, are available for further expansion of ranching and for the establishment of intensified cattle finishing operations. The rapid development of the beef cattle industry offers one of the best opportunities for Uganda in import substitution and in the development of markets in countries with hard currency. The Government recognizes this and such development has a high priority in the third five-year development plan.

1.2 A decision by the Government of Uganda to develop a beef cattle industry on the vast areas of savannah country cleared of tsetse fly had internationally been accepted as eminently sound, and has attracted technical and financial assistance from bilateral and international agencies. These agencies proposed a strategy based on the creation of combined breeding/finishing ranches widely scattered in Uganda. The ranches developed under these programmes are based on Ugandan enterprise and represent one of the most successful land settlement programmes in Africa. They have established a viable commercial pattern and are adopting improved practices directed towards the intensified use of animals and grazing land.

At present, about a tenth of the total cattle population is raised on the ranches. Further expansion in the ranching sector would depend on the expansion of credit facilities and on effective extension services.

1.3 A breeding/finishing ranch, if installed on country with a higher fattening potential, lowers the return on capital invested and in fact lowers the national offtake by grazing breeding cows on fattening pasture when they could with no difficulty be handled on breeding country. The finishing of steers and other animals can be done under a ranch system. The returns on capital invested are high under a finishing scheme. From this it follows that ranch development in the first instance should be in finishing country solely for the purpose of finishing; the supply of unfinished steers to come from the small-holders. To ensure an adequate supply of quality meat from the small-holder as well as a fair price for their store cattle, an adequate infrastructure has to be developed. This would include a marketing and transport system which ensures an acceptable farm gate price to the producer and a concentration of extension services to ensure adequate disease control, management and breed improvement in these small-holders' herds strategically placed in respect of the finishing ranches.

1.4 Rapid finishing of the stock can also be done in feedlots. Uganda presents a very high potential for growing good quality forages and grain needed for feedlot finishing. There is no surplus grain in the country and a forage-grain feeding operation would be possible only on a grow-your-own basis. Such an enterprise appears to be commercially possible if one looks at the Kenyan experience in the context of Ugandan price structure. Uganda being a sugar producing country, has a large surplus of molasses. This presents a possibility of establishing feedlots, near sugar factories, that utilize molasses as a major source of energy. Cottonseed cake and fish meal can form a source of protein feeds for feedlot operations. There is a potential for the expansion of fish meal industry in the country.

1.5 The breeding/finishing concept, so widely used in assisting development countries, is the dominant feature of beef farming in the countries in which ranching is already established, e.g. South America. There appear to be, however, the following important considerations when dealing with the savannah:

1. 90 percent of the cattle are in the hands of the traditional livestock owners. The success achieved in developing the beef industry will depend on the extent to which the owners can be involved in the development process.
- ii. There are no fences and in many instances the precipitation pattern may not allow for settled livestock production.
- iii. Traditional customs cannot be expected to change quickly.

The savannah in Uganda has a variety of rainfall patterns with a wide range in useful precipitation. Soil fertility varies as widely as sociological customs. The vast majority of livestock is in the hands of small holders who, depending on the environment and their customs, can be semi-nomadic and semi-settled. Under this pastoral system of management, the cattle are known to be slow-growing, of low fertility and to suffer high death rates. The marketable offtake is thought to be very low, i.e. less than 10 percent. But it should be realized that these cattle also provide milk, blood and salvaged meat (of dying animals) for home consumption. The large number of small livestock holders constitutes a very large potential supplier of steers for finishing and of finished steers, provided disease control, better management practices, breed improvement measures and good markets are made available.

1.6 Any beef cattle industry must be geared to markets, whether they be local, city or export. Productive efficiency in the grazing areas can be stimulated through markets. Reproductive efficiency of the herds would increase if market can be found for the large number of infertile and old cows

that accompany the herds. When immatures or stores are sold for finishing, larger numbers of breeding cows can be kept on the same grazing area. The number of young sold would go up accordingly. It is not only the provision of market facilities that should constitute marketing development. An awareness of the existing attitudes towards selling various types of stock and towards different methods of selling, a vigorous extension service, adequate abattoir facilities and a practical carcass grading system should also be the components of an effective marketing system.

1.7 A great deal of investigational work has been carried out during the past years on animal production and range/pasture management in various parts of Uganda which needs to be scrutinized and taken into consideration while attempting to build up a beef industry. A major part of work during the Phase 1 of the Project was directed towards investigating the extensive ranching systems. A field station was set up at Acholi Ranch for the investigations and for establishing a source of improved beef stock, viz, Boran and Charolais breeds. Investment follow-up of the Phase 1 needs to be taken up now especially for ranch development and extension. Production practices that remain to be investigated are those pertaining to the feedlot finishing and pasture-finishing systems. Possible systems in this regard need to be identified, their feasibility studied and incorporated, together with a marketing system, in a plan for the stratification of the beef industry that the Government likes to establish in the country. Phase II of the Project is designed to cover this need.

Results of Phase 1 of the Project

1.8 It has been demonstrated at Acholi Ranch that with good management and practicable procedures of culling, a weaner crop of 80% can be obtained from Boran or Teso cows; preweaning mortality can be limited to about 2% and adult mortality to less than 1%.

Through model studies it has been shown that for each 1% increase in weaner crop, offtake expressed in liveweight from the biomass increases 1 to 1½% depending upon breed and age at sale of young stock. Increasing fertility has been singled out as one of the priority items for extension work on commercial ranches and other grazing areas.

1.9 Computer programmes have been developed to incorporate experimental data and study models of production systems under various situations. The efficiency criterion used for comparing the systems is liveweight offtake per unit metabolic biomass carried on a ranch through dry season. Seasonal calving (in late dry and early rainy season) and weaning before the dry would be necessary to allow sale of maximum numbers before the dry. The project has demonstrated management practices involved in seasonal breeding and obtaining high weaner crop. Model studies involving various factors affecting offtake have clearly indicated that production practices involving minimum additional investment can affect large increases in offtake and profits. Given adequate disease control, an increase in the weaner crop by 10%, seasonal calving, weaning before the onset of the dry season, the sale of bred heifers and steers at two years after weaning, and the use of improved bulls may bring about a total increase of 40 - 50% in offtake.

1.10 Growth pattern over the seasons within years and growth characteristics of various crossbreds has been studied but investigations need to be continued. Data up to finishing age of all the crossbreds will be completed by 1975 - 76. Model studies based on data generated so far indicate that compared to Boran bulls, the use of exotic bulls would increase offtake per unit biomass by about 6% after taking into account the reduction of overall animal numbers (by about 7%) that may be necessary if the biomass carried through the dry season is to remain constant. If the ranch is not stocked to full capacity and reduction in cow number is not necessary, the increased

offtake would be about 14%. The advantage of using improved Boran bulls on Teso cows compared to Teso bulls is more or less similar to that of exotic bulls compared to the Borans.

1.11 Studies on growth pattern over the season and supplementary feeding experiments have indicated that in normal years compensatory gains make up for a large proportion of dry season losses. In severe dry season, urea/molasses supplementation may have a slight economic benefit. The grazing potential and seasonal yields of the natural grass-over has been determined for Northern Uganda. The nutritive value in different seasons of various natural grass species and the nutrient intake through grazing of natural pasture have also been determined using oesophageal-fistulated steers and the chromic oxide feeding technique.

1.12 A flock of goats was established at Acholi Ranch and its productivity was studied. It has been shown that goats produce about 10% more offtake per unit metabolic biomass than cattle under the same grazing conditions; this is mainly due to the high weaner crop of the goats. There may also be a possible complementary grazing/browsing relationship of goats and cattle which needs investigation.

1.13 Carcass studies have been carried out to find breed differences in dressing percentage, fleshiness and fattiness. Results with pure Teso, Teso/Boran crosses and pure Boran carcasses were good. All three categories of animals, if well managed, apparently can produce a carcass of excellent quality. A certain disadvantage of these carcasses seems to be their small size which increases the handling costs per carcass and which may render them unacceptable to certain export markets. Experiences of the project with marketing of carcasses at Kampala has led to the conclusion that a well regulated carcass grading system at Uganda Meat Packers is necessary to ensure due payment to ranchers for quality of carcasses produced.

1.14 Investigations into pasture utilization and legume establishment were also initiated. They have shown so far that controlled heavy grazing has a definite beneficial effect on the composition of pasture species, increasing the proportion of the more palatable species and providing for a better ground cover over the years. Furthermore, that over-sowing with Stylosathes guanensis increases production per acre in the ratio of 1:2.5, and that this has a particularly beneficial effect on areas where unpalatable swamp grasses are abundant. Some of the ranch area has been over-sown with legumes almost five years ago and, despite no fertilizer treatment, shows no sign of deterioration.

1.15 Supporting document relevant to the Phase II proposal is the Interim Report of the Phase I of the Project.

Institutional Framework:

1.16 The Department of Veterinary Services and Animal Industry of the Ministry of Agriculture and Animal Resources will be the co-operating agency. The Departmental Headquarters in Kampala will be the operating base. The Ministry, in addition to the office of the Minister, has the following main departments:

- The Department of Veterinary Services and Animal Industry
- The Department of Agriculture
- The Forestry Department
- The Game Department
- The Fisheries Department, and
- The Uganda National Parks

The Veterinary Department receives a large share of the total budget of the Ministry and employs a large number of technical personnel. The staff of the Department includes 129 graduates (28 vacancies), 314 diplomates and technicians (25 vacancies) and 21 other officers (12 vacancies).

1.17 The Veterinary Department has recently been reorganized and now consists of the following Divisions:-

- i. Administration
- ii. Animal Production
- iii. Animal Health
- iv. Livestock Marketing
- v. Planning and Statistics
- vi. Tsetse Control
- vii. Research

It is proposed to intergrate the Phase II international staff in the Animal Production Division where their main work will be in the Beef Industry Section. The international staff will also be expected to collaborate with the Marketing and Planning Divisions. Ten senior officers have been appointed to the Animal Production, Marketing and Planning Divisions. The Project will be concerned with the following aspects fo the development of the beef cattle industry:

- i. Beef development planning and extension
- ii. Marketing and abattoir development
- iii. Development of pasture-based finishing systems
- iv. Development of feedlot finishing systems

Provision for Government Follow-up

1.18 The Government has made provisions in the third five-year development plan budget for improving marketing facilities, stock routes and quarantines, animal health, development of beef prcduction, expansion of ranching schemes and hides and skins development. Long-term legislation will be proposed to enable the sale of cattle by liveweight, to encourage the auction system for unfinished steers and to introduce generally attractive prices and grades for livestock and meat.

1.29 In order to follow-up the Project results, the Government realises the importance and accepts the responsibility of establishing

training facilities at various levels, strengthening extension services to promote the practices evolved, and making supervised credit available to producers in as much as is possible.

Other Related Activities

1.20 Disease control and eradication are vital factors in the development of the livestock industry in Uganda. A high standard of preventive work is being achieved by the Department in this respect. The Busoga District has been selected by the Veterinary Department as the most suitable area in Uganda to try to set up a quarantine area free of those diseases which make export of Uganda beef to Europe and other markets impossible at present. Government planning has scheduled this district for intensive cropping. The latter policy does not exclude substantial intensive livestock production in the area.

1.21 The project will be closely related to and will be able to use the findings of the following projects/studies/activities:

- i. PROJECT TITLE: Animal Production and Health
PERIOD OPERATIONAL: January 1964 to November 1970
TERMS OF REFERENCE: To advise the Government on diagnostic techniques in connection with contagious bovine pleuropneumonia both in the laboratory and in the field; to train technicians and to develop field diagnostic services.
The project was large-scale, UNDP/FAO assisted.
- ii. PROJECT TITLE: Karamoja Ground Water Supply
PERIOD OPERATIONAL: October 1965 to April 1968
PURPOSE: To conduct a preliminary survey of ground water resources in the Karamoja district and to ascertain to what extent it will be possible to develop water supplies from ground water source in this area. The project was large-scale, UNDP/FAO assisted.
- iii. PROJECT TITLE: Improvement in the Control of Ticks and Tick-borne Diseases
PERIOD OPERATIONAL: May 1972 to May 1976
PURPOSE: To assist the Government in the improvement of tick control methods by reinforcing the national dipping programme and studying tick physiology and genetics, tick ecology and the epizootiology of tick-borne disease with a view to

finding ways of making dipping less necessarily permanent, less onerous, less costly and more efficient as well as training national staff in related techniques.

iv. PROJECT TITLE: Joint Government/UNDP Interdisciplinary Team

PERIOD OPERATIONAL: August - December, 1971

TERMS OF REFERENCE:

(a) Evaluation of various strategies already prepared or under consideration for the North and South Karamoja districts.

(b) Formulation of the proposals for the most effective approach to establishing one or more land settlement projects as the first stage towards achieving the permanent settlement of an estimated 26,000 families

(c) In the light of the studies proposed under (a) and (b) to identify the prospects and restraints having relevance to the preparation of overall and long-term development planned for the North and South Karamoja districts.

Future UNDP Assistance

2.1 As recommended in the first annual review of the Country Programme Document No.UGA/CP/8, dated 15th October, 1973, pages 5 - 10, this project combines elements of the proposed Karamoja/Teso Livestock Development Study (UGA/72/006) and of the second phase of the Beef Cattle Industry Development Project (UGA/67/508). Both projects appear under Animal Production and Health in the Country Programme (Document No.UGA/CP/5) approved by the Governing Council in June 1972. The Project also covers the objectives and supplementary allocation made in the revised Country Programme (Document No.UGA/CP/8) for the Njeru Feedlot.

Long-Term Objective

2.2. The long-term objective of the project is to assist the Government of Uganda with the establishment of a stratified beef industry that would make intensified use of the land and livestock resources, in order to satisfy the domestic market and to provide increasing quantities of quality beef for the export market.

Immediate Objectives

- 2.3 The objectives to be achieved by the end of the project are: (a) To develop plans for the stratification of beef industry and for establishing disease-free zones.
- (b) To prepare plans that would stimulate further investment in ranch development, from both internal and external sources.
- (c) To prepare plans of a framework for extension work, within the Animal Production Division of the Department of Veterinary Services and Animal Industry, that would stimulate intensified production practices in ranches and pastoral areas.
- (d) To develop Bukaleba ranch for demonstrating pasture-finishing and feedlot finishing systems and for establishing a pilot pasture seed production unit.
- (e) To conduct feasibility studies of various systems of production and prepare investment plans.
- (f) To conduct a survey of Cattle surplus areas, e.g. Karamoja-Teso area, to determine possible marketable offtake and prepare plans for developing marketing and abattoir facilities in the country.
- (g) To develop a carcass grading system suited to the existing and possible market conditions.
- (h) To advise the Government on the follow-up of the Acholi Ranch activities initiated during Phase 1 of the Project.

III. WORK PLAN

Description of Project Activities

3.1 Project activities are of a continuing nature and may well extend beyond the end of Phase II. Phase I activities ended on 30th September, 1973, and Phase I budget has been extended upto 30th September, 1974, in order to initiate Phase II activities. Hence, work on Phase II objectives started on October 1, 1973. It is hoped that full Phase II operations will start earlier than October 1, 1974.

Project Activities	Location	Starting date Duration
a) DEVELOPMENT PLANNING AND EXTENSION		
Recruitment of national and inter-national staff, its intergration with the Animal Production Division and the Planning and Statistics Division of the Department.	Kampala	October, 1973 3 months
Advise on Acholi Ranch follow-up: Investigations and breeding of superior stock	"	October, 1973 36 months
Model studies of existing and improved ranching systems in the light of work done at Acholi Ranch and elsewhere	"	October, 1973 15 months
Preparation of investment plans for further ranch development	"	September, 1974 6 months
Planning for the establishment of the extension framework that is needed for promoting efficient beef production	"	July, 1974 6 months
Study of disease incidence and planning for the establishment of quarantines/ disease-free zones that would satisfy the sanitary requirements of the export market.	"	October, 1974 12 months
Preparation of plans based on marketing survey and studies for cattle market and abattoir development in the country	"	October, 1975 6 months
Systems analysis of intensified finishing based on the results of the project and of the work done elsewhere.	"	January, 1976 8 months
Preparation of investment plans for the development of feedlots and other finishing enterprises	"	April, 1976 6 months

Project Activities	Location	Starting Date Duration
b) DEVELOPING PASTURE FINISHING SYSTEMS		
Recruitment of professional staff and organization of headquarters at Bukaleba Ranch, South Busoga	Bukaleba Ranch	October, 1973 3 months
Identification of production systems to be tried and the preparation of plans for developing the ranch	"	October, 1973 8 months
Perimeter fence and dips	"	January, 1974 6 months
Buildings and roads, Water reticulation	"	March, 1974 15 months
Introduction of promising pasture species and pasture establishment trials	"	March, 1974 18 months
Bush clearing and establishment of improved pastures for finishing trials	"	March, 1974 28 months
Large-scale pasture finishing trials		August, 1974 26 months
Establishment of a pilot pasture-seed production programme	"	March, 1975 18 months
c) DEVELOPING FEEDLOT SYSTEMS		
Identification of feeding regimes to be tried and planning of the feedlot. This will be carried out by the existing project staff with the help of consultants until an expert is appointed	Bukaleba Ranch	October, 1973 12 months
Construction of a small-scale, molasses-based feedlot unit	Njeru Farm	October, 1973 5 months
Molasses-based finishing trials	"	February, 1974 32 month
Recruitment of full-time professional staff soon after the project document is agreed upon	Bukaleba Ranch	May, 1974
Planning of the large-scale feedlot. Consultant services will be required for this purpose	"	March, 1974 6 months

Project Activities	Location	Starting date Duration
Construction of the large-scale unit	Bukaleba Ranch	July, 1974 14 months
Forage-grain based finishing trials	"	April, 1975 18 months
a) MARKETING		
Recruitment of professional staff as soon as the project document is agreed upon	Kampala	May, 1974
Organization of cattle purchases for the Bukaleba Ranch and for the Njeru Molasses feedlot	"	June, 1974 28 months
Marketing survey of the cattle surplus areas	"	October, 1974 16 months
Survey of existing abattoirs and meat plants in the country and the feasibility study of new abattoirs proposed, especially those near the feedlots and finishing areas	"	March, 1975 6 months
Feasibility study of developing various types of marketing systems and the facilities required	"	August, 1975 6 months
Study of carcass grading in the country and preparation of a practical grading system suited to the existing and possible market conditions	"	April, 1975 18 months
e) TRAINING		
Six fellowships of 12 months each in feedlot nutrition, feedlot management, pasture finishing, development economics, extension and marketing are proposed besides 6 months of inservice training/tours of counterpart personnel. Nominations for the fellowships would need to be submitted in the later part of 1974 so that the fellows complete their training during 1975 and early 1976 and return before the end of the project.		Early 1975 12 months each

Timing for the transfer of Project responsibilities
and reporting schedule

3.2 The technical responsibility for the activities, initiated during the terms of assignment of international staff, will be handed over to the trained counterpart staff after their return from fellowships. The activities of international staff will continue till December, 1976. Technical responsibilities will be transferred to national staff by September, 1976.

<u>Project Activities</u>	<u>Completion date & reporting schedule</u>
Acholi Ranch follow-up: Investigations and breeding of superior stock.	Ranch activities and investigations were taken over by national staff on 30th September, 1973. International staff of Phase II will work in an advisory capacity. Salient results of Acholi Ranch work will be included in the terminal report to be completed in December, 1976.
Planning for beef extension work	Technical report to be completed by December, 1974.
Studies of improved ranching systems and their investment potential.	Technical report and investment potential report to be completed by February, 1975.
Planning for the establishment of quarantines/disease-free zones.	Technical report to be completed by September, 1975.
Pasture-establishment at Bukaleba Ranch.	Technical report on adapted pasture species and pasture establishment methods by September, 1975.
Pasture-finishing at Bukaleba.	Technical report by September, 1976
Molasses-based finishing practices	Technical report by September, 1976
Forage-grain based finishing practices	Technical report by September, 1976
Studies on the efficiency of beef production through intensified finishing	Technical report and investment potential report by September, 1976
Marketing survey of cattle surplus areas.	Technical report by February, 1976

<u>Project Activities</u>	<u>Completion date & reporting schedule</u>
Study of marketing and abattoir facilities	Technical report and investment potential report by March, 1976
Study of carcass grading	Technical report by September, 1976
Pilot pasture-seed production programme	Technical report and investment potential report by September, 1976
Terminal report	To be completed by December, 1976
Inventory and disposition of equipment and other facilities	To be completed by September, 1976

Description of UNDP inputs

3.3 Major UNDP inputs are the provision of expert services, training of counterpart personnel abroad and the imported equipment.

<u>a) Assignment of International Staff</u>	<u>Location</u>	<u>Starting date, Duration</u>
Animal Production Officer (Beef development and extension) Responsibilities: To carry out activities listed in 3.1. (a) and also team leader. Coordination of the work of the experts, consultants and sub-contractors. Synthesis of the project work and that done elsewhere. Systems analysis of beef production at farm level as well as at national level. Job requirements: All-round knowledge of and experience in tropical beef production. High academic qualifications in the subject. Administrative experience in developing countries.	Kampala	October, 1973 39 months (12 months covered by the extended Phase I budget)
Animal Production Officer (Livestock marketing economics) Responsibilities: To carry out the activities listed under 3.1.(d). Work with the team leader on planning matters related to marketing. Job requirements: Academic qualifications in animal production and marketing. Experience in the marketing of beef cattle and beef in Africa.	Kampala	May, 1974 30 months (allocation prior to October 1974, covered by the extended Phase I budget)

Assignment of International Staff	Location	Starting Date Duration
<p>Animal Production Officer (Pasture finishing) Responsibilities: To carry out the activities listed under 3.1. (b). Work with the team leader on planning matters related to pastures and pasture finishing systems. Job requirements: Academic qualifications in animal production and pastures. Experience in tropical pastures and ranch development.</p>	Bukaleba Ranch, South Busoga	October, 1973 36 months (12 months covered by the extended Phase I budget)
<p>Animal Production Officer (Feedlot systems) Responsibilities: To carry out the activities listed under 3.1. (c). Work with the team leader on planning matters related to feedlot finishing systems. Job requirements: Academic qualifications in beef production and nutrition. Experience in feedlot development and management</p>	Bukaleba Ranch	May, 1974 30 months (allocation prior to October, 1974 covered by the extended Phase 1 budget).
<p>Consultants: Would be required in feedlot development, development of finishing ranches, investment planning of extensive ranches, finishing ranches, feedlots, markets and abattoir, and planning of disease-free zones.</p>	Kampala, Jinja	Various 24 m/m
<p>Four Associate Experts: one in each of the above subjects would be of great help in carrying out the project activities.</p>	Kampala, Bukaleba	Late 1974 24 m/m each
<u>b) Training of counterpart staff</u>		
Fellowship in feedlot nutrition	USA	December, 1974 12 months
Fellowship in feedlot management	USA	December, 1974 12 months
Fellowship in pasture finishing	Australia	February, 1975 12 months
Fellowship in Agriculture development economics	USA	December, 1974 12 months
Fellowship in Agricultural extension and mass communication methods	USA	December, 1974 12 months
Fellowship in marketing of livestock and beef	USA	December, 1974 12 months
In-service study tours	Kenya Nigeria Malagassy Ivory Coast	Various 6 m/m

c) Supplies and equipment	Location	Delivery date	Cost US.\$
Chemicals and drugs	Bukaleba	Various	10,000
Seeds and fertilizers	Bukaleba	Various	10,000
Animal Husbandry supplies	Bukaleba	"	5,000
Fencing material (imported)	Bukaleba	Various	10,000
Two cattle trucks	Bukaleba	September, 1974	36,000
One truck and trailer	Bukaleba	September, 1974	26,000
One Volkswagen-type vehicle	Bukaleba	September, 1974	2,650
Two Volkswagen-type Vehicle	Kampala	September, 1974	5,300
Four weightbridges	Bukaleba	September, 1974	10,000
Two tractors, trailers and implements	Bukaleba	September, 1974	20,000
Four water pumps and engines	Bukaleba	September, 1974	16,000
Other water supply equipment	Bukaleba	September, 1974	4,000
Animal Husbandry equipment	Bukaleba	September, 1974	5,000
Two Calculators	Bukaleba	December, 1974	1,000
Two Calculators	Kampala	December, 1974	1,000
Total			162,000
d) Sub-contracts			
Computer services for the analysis of data	Kampala	Various	2,000
e) Miscellaneous			
Operation and maintenance of certain equipment	Kampala, Bukaleba	Various	10,000
Preparation of reports	Kampala	Various	5,000
Sundry items	Kampala, Bukaleba	Various	2,006
Total			17,006

Description of the Government inputs

3.4. The general obligations of the Government include the provision of adequate office space and furniture for the project team, sufficient land at Bukaleba for establishing the demonstration feedlot and the finishing ranch and necessary buildings, access roads and other infrastructure in these units. The Government will finance the budget as is proposed and will provide counterpart staff of adequate qualifications. Necessary details of the Government inputs are given below. Take-over date for all national staff is September, 1976.

<u>a) Assignment of National Staff</u>	<u>Location</u>	<u>Starting Date</u>
Officer-in-Charge, Animal Production Division: will be the Co-Team Leader and will provide general guidance to the project along with the Team Leader	Kampala	Mr. K.M. Kinani has been appointed to the post
Two animal production officers: will work with the beef extension programme of the project.	Kampala	Mr. B.B. Mayanja and Mr. J. Kakonge have been appointed
Pasture Agronomist: responsible for pasture extension work	Kampala	Mr. E.G. Bosa has been appointed
Animal Health Officer (quarantines): will work with the planning of the disease-free zones	Kampala	A senior Veterinary officer will be drawn from the Department
Senior Officer (marketing); will work with the marketing expert on activities listed under 3.1. (d).	Kampala	Mr. N.E. Masaba has been appointed
Meat Inspection Officer: will work the marketing team on meat inspection and grading.	Kampala	Mr. F.C. Okino has been appointed
Livestock Development Officer (statistics): will also work with the planning team	Kampala	Miss E.L. Mulungwa has been appointed
Animal Production Officer: responsible for the development of the Bukaleba Ranch.	Bukaleba	Mr. D. Wamai has been appointed
Ranch Manager	Bukaleba	To be drawn from the Ranch Management Diplomates.

<u>a) Assignment of National Staff</u>	<u>Location</u>	<u>Starting Date</u>
Animal Production Officer: responsible for the development of Feedlot	Bukaleba	Mr. F. R. Munyiga has been appointed
Feedlot Manager	Bukaleba	To be drawn from the ranch management diplomates
Animal Husbandary Officer, Feedlot	Bukaleba	To be drawn from the Ranch management diplomates
Animal Husbandary Officer, Ranch	Bukaleba	Mr. Lubandi has been appointed
Support personnel as listed in the Project budget covering Government contribution	Kampala, Bukaleba	To be appointed or drawn from the staff of the Department as and when required

b) Training of staff

Salary and allowances of trainees on FAO fellowships: 12 m/m each for 6 trainees and 6 m/m for in-service tours.	Abroad	December, 1974
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<u>c) Equipment and supplies</u>	<u>Location</u>	<u>Delivery Date</u>	<u>Cost Ug. Shs.</u>
Office equipment	Kampala	Various	50,000
Office supplies	Bukaleba	Various	20,000
Animal husbandary equipment	Bukaleba	Various	20,000
Animal husbandary supplies	Bukaleba	Various	30,000
Water supply equipment	Bukaleba	Various	80,000
Clearance, insurance, installation and related expenses incurred on UNDP or Government provided equipment	Bukaleba	Various	120,000
Livestock	Bukaleba	Various	5200,000
Animal feeds	Bukaleba	Various	2000,000
Chemicals and drugs	Bukaleba	Various	100,000
Seeds and fertilizers	Bukaleba	Various	150,000
Fencing material	Bukaleba	Various	60,000
Maintenance, repair and operating costs of vehicles, equipment and buildings	Bukaleba, Kampala	Various	400,000
Total			8230,000

<u>d) Land and buildings</u>	<u>Location</u>	<u>Delivery date</u>	<u>Cost Ug. Shs.</u>
Sufficient land for investigating and demonstrating the intensified stock finishing operations and for the pilot pasture seed unit	Bukaleba	October 1973	500,000
Contruction of access road and ranch roads. Building of office block, houses and labour quarters	Bukaleba	May, 1975	1700,000
Total			<u>2200,000</u>

<u>e) Miscellaneous</u>	
Postal and cable charges	4,500
Inland transport and travel of personnel	350,000
Electricity and other utilities	90,000
Total	<u>444,500</u>

WORK PLAN - BAR CHART

Country: Uganda
Project: UGA/73/014
Title: Development of Beef Cattle Industry

1973 1974 1975 1976
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- a) DEVELOPMENT PLANNING AND EXTENSION
Recruitment of professional staff
Consultants
Advise on Acholi Ranch follow-up
Systems analysis of ranching
Investment plans for ranch development
Plan for extension framework
Plan for disease-free zones
Plans for markets and abattoir development
Systems analysis of intensified finishing
Investment plans for feedlot development

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- b) PASTURE FINISHING AT BUKALEBA RANCH
Recruitment of professional staff
Consultants
Identification of systems and plans
Plan of site layout
Perimeter fence and dips
Buildings and roads
Purchase of equipment
Water Development
Pasture establishment trials
Bush clearing
Establishment of improved pastures
Pilot Seed Production
Review of developments and plans
Finishing Trials

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BAR CHART - Contd.

Country: Uganda
Project: UGA/73/014
Title: Development of Beef Cattle Industry

1973 1974 1975 1976
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c) FEEDLOT FINISHING SYSTEMS

Recruitment of full-time professional staff
Consultants
Identification of systems and plans
Construction of small-scale, molasses-based
feedlot at Njeru
Molasses-based finishing trials, Njeru
Plan of site layout - large scale feedlot
at Bukaleba
Purchase of equipment
Construction of yards and troughs
Forage-grain based finishing trials, Bukaleba
Review of developments and plans

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d) MARKETING

Recruitment of professional staff
Consultants
Organization of cattle purchases
Purchase of equipment
Marketing survey
Study of marketing facilities
Study of abattoirs and meat plants
Study of carcass grading

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e) NOMINATIONS FOR FELLOWSHIPS

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f) TERMINAL REPORT

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PROJECT BUDGET COVERING UNDP CONTRIBUTION

(in U.S. DOLLARS)

Country: Uganda
Project: UGA/73/014
Title: Development of Beef Cattle Industry

		Total		1974		1975		1976	
		m/m	\$	m/m	\$	m/m	\$	m/m	\$
10.	PERSONNEL								
11	Experts (Animal Production Officers)								
11.01	Beef development and extension/ Team Leader	27	67,500	3	7,500	12	30,000	12	30,000
.02	Pasture finishing system	24	60,000	3	7,500	12	30,000	9	22,500
.03	Feedlot systems	24	60,000	3	7,500	12	30,000	9	22,500
.04	Marketing economics	24	60,000	3	7,500	12	30,000	9	22,500
.05	Consultants	24	60,000	6	15,000	12	30,000	6	15,000
.09	Sub-total	123	307,500	18	45,000	60	150,000	45	112,500
13	Admin. support personnel		15,000		1,875		7,500		5,625
19	Component Total		322,500		46,875		157,500		118,125
20	SUB-CONTRACTS								
21.01	Computer time		2,000		500		500		1,000
29	Component total		2,000		500		500		1,000
30	TRAINING								
31	Fellowships								
31.01	Feedlot nutrition	12	9,000	12	9,000	1			
31.02	Feedlot Management	12	9,000			12	9,000		
31.03	Pasture finishing	12	9,000	12	9,000				
31.04	Development Economics	12	9,000	12	9,000				
31.05	Extension/mass communication	12	9,000			12	9,000		
31.06	Marketing	12	9,000	12	9,000				
32	In-service training/tours	6	6,000	2	2,000	2	2,000	2	2,000
39	Component total	78	60,000	50	38,000	26	20,000	2	2,000

PROJECT BUDGET COVERING UNDP CONTRIBUTIONS - Contd.

Country: Uganda
Project: UGA/73/014
Title: Development of Beef Cattle Industry

		Total		1974		1975		1976	
		m/m	\$	m/m	\$	m/m	\$	m/m	\$
40	EQUIPMENT								
41	Expendable equipment		35,000		16,000		15,000		4,000
42	Non-expendable equipment		127,000		114,000		12,000		1,000
49	Component total		162,000		130,000		27,000		5,000
50	MISCELLANEOUS								
51	Operation and maintenance of equipment		10,000		3,000		4,000		3,000
52	Reporting costs		5,000		500		1,000		3,500
53	Sundry		2,006		1,000		1,006		
59	Component total		17,006		4,500		6,006		6,500
99	Grand Total		563,506		219,875		211,006		132,625

PROJECT BUDGET COVERING GOVERNMENT CONTRIBUTION

(In Uganda Shillings)

Country: Uganda
Project: UGA/73/014
Title: Development of Beef Cattle Industry

		Total		1974		1975		1976	
		m/m	Shs	m/m	Shs	m/m	Shs	m/m	Shs
10	PROJECT PERSONNEL								
11	Professional Staff								
	<u>Headquarters</u>								
.01	Officer-in-Charge,								
	Animal Production Division	27	97,900	3	10,900	12	43,500	12	43,500
.02	Animal Production Officer	27	85,500	3	9,500	12	38,000	12	38,000
.03	Animal Production Officer	27	85,500	3	9,500	12	38,000	12	38,000
.04	Pasture Agronomist	27	85,500	3	9,500	12	38,000	12	38,000
.05	Animal Health Officer (Quarantines)	27	85,500	3	9,500	12	38,000	12	38,000
.06	Seinor Officer (Marketing)	27	85,500	3	9,500	12	38,000	12	38,000
.07	Meat Inspection Officer	27	85,500	3	9,500	12	38,000	12	38,000
.08	Livestock Development Officer								
	(Planning)	27	85,500	3	9,500	12	38,000	12	38,000
.09	Livestock Development Officer								
	(Statistics)	27	85,500	3	9,500	12	38,000	12	38,000
	<u>Bukaleba</u>								
.10	Animal Production Officer, Ranch	27	85,500	3	9,500	12	38,000	12	38,000
.11	Ranch Manager	27	45,000	3	5,000	12	20,000	12	20,000
.12	Animal Husbandry Officer, Ranch	27	45,000	3	5,000	12	20,000	12	20,000
.13	Animal Production Officer, Feedlot	27	85,500	3	9,500	12	38,000	12	38,000
.14	Feedlot Manager	27	45,000	3	5,000	12	20,000	12	20,000
.15	Animal Husbandry Officer, Feedlot	27	45,000	3	5,000	12	20,000	12	20,000
.99	Sub-Total	405	1,132,900	45	125,900	180	503,500	180	503,500
13	SUPPORT PERSONNEL								
	<u>Headquarters</u>								
.01	10 Group employees	270	108,000	30	12,000	120	48,000	120	48,000
.02	7 Executive and Clerical	189	193,500	21	21,500	84	86,000	84	86,000

PROJECT BUDGET COVERING GOVERNMENT CONTRIBUTION - Contd.

Country: Uganda
Project: UGA/73/014
Title: Development of Beef Cattle Industry

		Total		1974		1975		1976	
		n/m	Shs	n/m	Shs	n/m	Shs	n/m	Shs
<u>Bukaleba</u>									
.03	2 Veterinary Assistants	54	37,100	6	4,100	24	16,500	24	16,500
.04	2 Field Assistants	54	37,100	6	4,100	24	16,500	24	16,500
.05	Executive Officer	27	27,000	3	3,000	12	12,000	12	12,000
.06	Stores Officer	27	27,000	3	3,000	12	12,000	12	12,000
.07	Clerk	27	13,500	3	1,500	12	6,000	12	6,000
.08	Typists	54	27,000	6	3,000	24	12,000	24	12,000
.09	Storeman	27	13,500	3	1,500	12	6,000	12	6,000
.10	Skilled staff, Ranch	270	135,000	30	15,000	120	60,000	120	60,000
.11	Herdsmen/Labourers, Ranch	1350	315,000	150	35,000	600	140,000	600	140,000
.12	Skilled Staff, feedlot	270	135,000	30	15,000	120	60,000	120	60,000
.13	Herdsmen/Labourers, Feedlot	675	157,500	75	17,500	300	70,000	300	70,000
.99	Sub-Total	3294	1226,200	366	136,200	1464	545,000	1464	545,000
19.	Component Total	3699	2359,100	411	262,100	1644	1048,500	1644	1048,500
20.	LAND AND BUILDINGS								
21.	Land		500,000		500,000		-		-
22.	Buildings and roads		1700,000		1000,000		700,000		-
29.	Component Total		2200,000		1500,000		700,000		
30.	TRAINING								
31.	Fellowships, Salary of trainees	78	234,000	50	150,000	26	78,000	2	6,000
39.	Component Total	78	234,000	50	150,000	26	78,000	2	6,000
40.	EQUIPMENT AND SUPPLIES								
41.	Expendable equipment(Feed & Supplies)		2880,000		680,000		1100,000		1100,000
42.	Non-expendable equipment		150,000		80,000		35,000		35,000
43.	Livestock		5200,000		1200,000		2000,000		2000,000

PROJECT BUDGET COVERING GOVERNMENT CONTRIBUTION - Contd.

(In Uganda Shillings)

Country: Uganda
Project: UGA/73/014
Title: Development of Beef Cattle Industry

49.	Component Total	8230,000	1960,000	3135,000	3135,000
50.	MISCELLANEOUS				
51.	Postal and cable charges	4,500	,500	1,2,000	1,2,000
52.	Inland transport and travel of personnel	350,000	50,000	150,000	150,000
53.	Electricity and other utilities	90,000	10,000	40,000	40,000
59.	Component Total	444,500	60,500	192,000	192,000
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99.	Grand Total	Uganda Shs 13467,600	3932,600	5153,500	4381,500
		U.S.\$ Equivalent 1951,826	569,942	746,884	635,000
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RESTRICTED
24 September 1973

UNITED NATIONS DEVELOPMENT PROGRAMME

Project Summary*, Government of

BRAZIL

Project title: Programme of Research and Training in Food Technology at CETEC

Number: ERA/73/017/A/01/12

Date of submission: 30 August 1973

Sector: Science and Technology

Sub-sector: Technical and Engineering
Education

Proposed starting date for full
project operations: November, 1973

Proposed duration: 18 months

Proposed Government Co-operating Agency: Fundação Centro Tecnológico de Minas
Gerais - CETEC

Amount requested from the UNDP:

US\$ 164,000

Proposed Government counterpart
contribution:

in kind: 3,600,018
(local currency
cruzeiros)

Total: US\$ 600,003

I. Background

1. The State of Minas Gerais has the largest cattle and swine herds in Brazil. The cattle herd is officially estimated at 20 million heads or 22% of this country's herd. Swine account for about 10 million heads. Poultry breeding in Minas Gerais is the second largest in the country, representing some 40 million fowls and presently undergoing fast expansion. Production of eggs amount to 123 million dozens per year. Notwithstanding the large cattle herd of the State, the meat industry lagged behind the technological advances in the field. The meat industry slaughter capacity is estimated at 2.5 million heads of cattle a year, although only about 1.2 million heads are actually slaughtered and 500,000 are exported alive to neighbouring states for slaughtering or fattening purposes. The bulk of the swine killing is done in farms and in small towns abattoirs where inspection and sanitary control are nonexistent. As far as poultry is concerned, the situation is about the same.

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* PLEASE NOTE THAT THIS DOCUMENT IS A SUMMARY OF THE PROJECT AS SUBMITTED AND DOES NOT REPRESENT THE VIEWS OF THE UNDP ON ITS MERITS.

2. Minas Gerais is also the Brazilian State which has the largest milk production: 2.5 million tons/year, or 35% of the national production. Apart from regional consumption, milk is exported to the States of São Paulo and Guanabara. The quality of the milk in Minas Gerais, in spite of some local unfavorable conditions, can be regarded as good. However, with the installation of new plants designed to produce more sophisticated goods (sterilized milk, special cheese, etc.), greater attention must necessarily be given to the milk production, as far as hygienic standards are concerned. Dairy processing mills in the State produce altogether some 47 thousand tons of cheese, 14 thousand tons of butter and 40 thousand tons of powdered milk on a yearly basis. This total represents, respectively, 80%, 45%, and 45%, of the total Brazilian production. A great deal of butter milk and fluid milk producers are of traditional kind, and therefore ignore more advanced technology. Due to this fact, per capita consumption is very low and the more sophisticated products come from abroad and are very expensive at the consumer end.

3. The Federal Government is presently doing its best to improve the existing production sanitary standards as well as meat and other animal products distribution channels. This has aggravated the need for specialized personnel, familiar with inspection, processing, management and marketing of animal products, mostly meat, eggs, milk and their by-products. Furthermore, the growing demand for food products both in the domestic and foreign markets brings about the need to improve these products qualitywise so as to increase Brazil's share in international trade and upgrade the home pattern of food consumption. This calls for the setting up, in Minas Gerais, of research laboratories and programmes for training personnel in the fields of Science and Food Technology.

4. Efforts presently put forth by universities in order to solve training and research problems emphasize mainly the preparation of professionals at the graduate level. At the moment, creation and adaptation of technological know-how, bettering of equipment, improving of the nutrient standards of industrialized foodstuffs and last but not least, ample market research are not being paid sufficient attention in order to foster adequate technological progress. The only way out seems to be the institution of post-graduate courses in Science and Food Technology, as well as the development of research programmes in this field. The State of Minas Gerais has channelled efforts and resources of many official institutions, to the creation of a Technological Centre, which includes amongst its many activities, training facilities and research work in meat and milk technology. The implementation and development of an industry capable of successfully competing in domestic and international markets will most certainly prove feasible via the creation of a Technological Food Centre, which should be able to provide instant solutions to problems akin to this kind of technology.

II. The project

5. The project is included under the sector "Technology and Industry" on page 103 of the Brazil Country Programme for the period 1972-1976 approved by the Governing Council at its fifteenth session in January 1973. This project has been assigned high priority by the Government of Brazil.

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6. The long-term objective of the project is to assist the Food Technology Programme to become self-sufficient technological and financially by means of service rendering with its own know-how by improving the Food Technology Sector of milk and meat, and to promote the industrialization in this sector through the improvement of quality standards, or through product diversification, engineering and marketing.

7. The immediate objectives of the project are:

(a) To train technical personnel capable of meeting the needs of research and teaching institutions, meat and milk industries and of the Inspection Service;

(b) To develop suitable expertise to serve various industrial activities and to back technical-economical research and then channel it to the milk and meat industries so that it can fairly compete in both home and foreign markets;

(c) To join the efforts of the Development Bank of Minas Gerais (BDMG) as far as the re-equipment and updating of the slaughterhouses and dairy industry are concerned.

III. Financial Data

1. Contribution requested from the UNDP

<u>Project Personnel</u>	<u>Total</u>	
<u>Experts</u>	<u>m/m</u>	<u>US\$</u>
Project Manager	18	45,000
Meat Expert	18	45,000
Milk Expert	18	45,000
Consultants	8	20,000
Component Total	62	155,000
Miscellaneous (6%)		9,000
GRAND TOTAL		164,000
		=====

2. Proposed Government Counterpart Contribution in kind

<u>Project Personnel</u>	<u>Total</u>	
<u>Technical assistance counterpart</u>	<u>h/m</u>	<u>Cr\$</u>
President	1	15,000
Superintendent	2	24,000
Research and Development Co-ordinator	4	36,000
Project Director	18	124,200
Senior Meat Expert	18	124,200
Senior Milk Expert	18	124,200
Junior Meat Expert (2)	36	167,400
Junior Milk Expert (2)	36	167,400
Component Total	133	782,400

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Support personnel counterpart

	Total	
	h/m	Cr\$
Bilingual Secretary	18	48,600
Secretary (2)	36	48,600
Clerk	18	21,600
Typist (3)	54	44,550
Component Total	126	163,350

Training Component

Scholarships

Trainee' Maintenance allowances (6)	108	54,600
Food Technology (6)		546,000
Component Total	108	600,600

Equipment Component

Expendable equipment		66,668
Non-expendable equipment		144,000
Premises		1,640,000
Component Total		1,850,668

Miscellaneous Component

Equipment operation and maintenance		127,000
Sundry		76,000
Component Total		203,000

GRAND TOTAL

3,600,018

RESTRICTED
24 September 1973

UNITED NATIONS DEVELOPMENT PROGRAMME

Project Summary*, Government of
BRAZIL

Project title: Programme of Research and Training in Food Technology at CEPEC

Number: BRA/73/017/A/01/12

Date of submission: 30 August 1973

Sector: Science and Technology

Sub-sector: Technical and Engineering
Education

Proposed starting date for full
project operations: November, 1973

Proposed duration: 18 months

Proposed Government Co-operating Agency: Fundação Centro Tecnológico de Minas
Gerais - CEPEC

Amount requested from the UNDP:

US\$ 164,000

Proposed Government counterpart
contribution:

in kind: 3,600,018
(local currency
cruzeiros)

Total: US\$ 600,003

I. Background

1. The State of Minas Gerais has the largest cattle and swine herds in Brazil. The cattle herd is officially estimated at 20 million heads or 22% of this country's herd. Swine account for about 10 million heads. Poultry breeding in Minas Gerais is the second largest in the country, representing some 40 million fowls and presently undergoing fast expansion. Production of eggs amount to 123 million dozens per year. Notwithstanding the large cattle herd of the State, the meat industry lagged behind the technological advances in the field. The meat industry slaughter capacity is estimated at 2.5 million heads of cattle a year, although only about 1.2 million heads are actually slaughtered and 500,000 are exported alive to neighbouring states for slaughtering or fattening purposes. The bulk of the swine killing is done in farms and in small towns abattoirs where inspection and sanitary control are nonexistent. As far as poultry is concerned, the situation is about the same.

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2. Minas Gerais is also the Brazilian State which has the largest milk production: 2.5 million tons/year, or 35% of the national production. Apart from regional consumption, milk is exported to the States of São Paulo and Guanabara. The quality of the milk in Minas Gerais, in spite of some local unfavorable conditions, can be regarded as good. However, with the installation of new plants designed to produce more sophisticated goods (sterilized milk, special cheese, etc.), greater attention must necessarily be given to the milk production, as far as hygienic standards are concerned. Dairy processing mills in the State produce altogether some 47 thousand tons of cheese, 14 thousand tons of butter and 40 thousand tons of powdered milk on a yearly basis. This total represents, respectively, 80%, 45%, and 45%, of the total Brazilian production. A great deal of butter milk and fluid milk producers are of traditional kind, and therefore ignore more advanced technology. Due to this fact, per capita consumption is very low and the more sophisticated products come from abroad and are very expensive at the consumer end.

3. The Federal Government is presently doing its best to improve the existing production sanitary standards as well as meat and other animal products distribution channels. This has aggravated the need for specialized personnel, familiar with inspection, processing, management and marketing of animal products, mostly meat, eggs, milk and their by-products. Furthermore, the growing demand for food products both in the domestic and foreign markets brings about the need to improve these products qualitywise so as to increase Brazil's share in international trade and upgrade the home pattern of food consumption. This calls for the setting up, in Minas Gerais, of research laboratories and programmes for training personnel in the fields of Science and Food Technology.

4. Efforts presently put forth by universities in order to solve training and research problems emphasize mainly the preparation of professionals at the graduate level. At the moment, creation and adaptation of technological know-how, bettering of equipment, improving of the nutrient standards of industrialized foodstuffs and last but not least, ample market research are not being paid sufficient attention in order to foster adequate technological progress. The only way out seems to be the institution of post-graduate courses in Science and Food Technology, as well as the development of research programmes in this field. The State of Minas Gerais has channelled efforts and resources of many official institutions, to the creation of a Technological Centre, which includes amongst its many activities, training facilities and research work in meat and milk technology. The implementation and development of an industry capable of successfully competing in domestic and international markets will most certainly prove feasible via the creation of a Technological Food Centre, which should be able to provide instant solutions to problems akin to this kind of technology.

II. The project

5. The project is included under the sector "Technology and Industry" on page 103 of the Brazil Country Programme for the period 1972-1976 approved by the Governing Council at its fifteenth session in January 1973. This project has been assigned high priority by the Government of Brazil.

6. The long-term objective of the project is to assist the Food Technology Programme to become self-sufficient technological and financially by means of service rendering with its own know-how by improving the Food Technology Sector of milk and meat, and to promote the industrialization in this sector through the improvement of quality standards, or through product diversification, engineering and marketing.

7. The immediate objectives of the project are:

(a) To train technical personnel capable of meeting the needs of research and teaching institutions, meat and milk industries and of the Inspection Service;

(b) To develop suitable expertise to serve various industrial activities and to back technical-economical research and then channel it to the milk and meat industries so that it can fairly compete in both home and foreign markets;

(c) To join the efforts of the Development Bank of Minas Gerais (BDMG) as far as the re-equipment and updating of the slaughterhouses and dairy industry are concerned.

III. Financial Data

1. Contribution requested from the UNDP

<u>Project Personnel</u>	<u>Total</u>	
	<u>m/m</u>	<u>US\$</u>
<u>Experts</u>		
Project Manager	18	45,000
Meat Expert	18	45,000
Milk Expert	18	45,000
Consultants	8	20,000
Component Total	62	155,000
Miscellaneous (6%)		9,000
GRAND TOTAL		164,000
		=====

2. Proposed Government Counterpart Contribution in kind

<u>Project Personnel</u>	<u>Total</u>	
	<u>h/m</u>	<u>Cr\$</u>
<u>Technical assistance counterpart</u>		
President	1	15,000
Superintendent	2	24,000
Research and Development Co-ordinator	4	36,000
Project Director	18	124,200
Senior Meat Expert	18	124,200
Senior Milk Expert	18	124,200
Junior Meat Expert (2)	36	167,400
Junior Milk Expert (2)	36	167,400
Component Total	133	782,400

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Support personnel counterpart

		Total
	h/m	Cr\$
Bilingual Secretary	18	48,600
Secretary (2)	36	48,600
Clerk	18	21,600
Typist (3)	54	44,550
Component Total	126	163,350

Training Component

Scholarships

Trainee' Maintenance allowances (6)	108	54,600
Food Technology (6)		546,000
Component Total	108	600,600

Equipment Component

Expendable equipment		66,668
Non-expendable equipment		144,000
Premises		1,640,000
Component Total		1,850,668

Miscellaneous Component

Equipment operation and maintenance		127,000
Sundry		76,000
Component Total		203,000

GRAND TOTAL

3,600,018

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RESTRICTED
24 September 1973

UNITED NATIONS DEVELOPMENT PROGRAMME

Project Summary*, Government of
BRAZIL

Project title: Programme of Research and Training in Food Technology at CETEC

Number: ERA/73/017/A/01/12

Date of submission: 30 August 1973

Sector: Science and Technology

Sub-sector: Technical and Engineering
Education

Proposed starting date for full
project operations: November, 1973

Proposed duration: 18 months

Proposed Government Co-operating Agency: Fundação Centro Tecnológico de Minas
Gerais - CETEC

Amount requested from the UNDP:

US\$ 164,000

Proposed Government counterpart
contribution:

in kind: 3,600,018
(local currency
cruzeiros)

Total: US\$ 600,003

I. Background

1. The State of Minas Gerais has the largest cattle and swine herds in Brazil. The cattle herd is officially estimated at 20 million heads or 22% of this country's herd. Swine account for about 10 million heads. Poultry breeding in Minas Gerais is the second largest in the country, representing some 40 million fowls and presently undergoing fast expansion. Production of eggs amount to 123 million dozens per year. Notwithstanding the large cattle herd of the State, the meat industry lagged behind the technological advances in the field. The meat industry slaughter capacity is estimated at 2.5 million heads of cattle a year, although only about 1.2 million heads are actually slaughtered and 500,000 are exported alive to neighbouring states for slaughtering or fattening purposes. The bulk of the swine killing is done in farms and in small towns abattoirs where inspection and sanitary control are nonexistent. As far as poultry is concerned, the situation is about the same.

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III. Financial Data

1. Contribution requested from the UNDP

<u>Project Personnel</u>	<u>Total</u>	
	<u>m/m</u>	<u>US\$</u>
<u>Experts</u>		
Project Manager	18	45,000
Meat Expert	18	45,000
Milk Expert	18	45,000
Consultants	8	20,000
Component Total	62	155,000
Miscellaneous (6%)		9,000
GRAND TOTAL		164,000
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2. Proposed Government Counterpart Contribution in kind

<u>Project Personnel</u>	<u>Total</u>	
	<u>h/m</u>	<u>Cr\$</u>
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	Total	
	h/m	Cr\$
Bilingual Secretary	18	48,600
Secretary (2)	36	48,600
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Component Total	126	163,350

Training Component

Scholarships

Trainee' Maintenance allowances (6)	108	54,600
Food Technology (6)		546,000
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Expendable equipment		66,668
Non-expendable equipment		144,000
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Component Total		1,850,668

Miscellaneous Component

Equipment operation and maintenance		127,000
Sundry		76,000
Component Total		203,000

GRAND TOTAL

3,600,018

RESTRICTED
24 September 1973

UNITED NATIONS DEVELOPMENT PROGRAMME

Project Summary*, Government of

BRAZIL

Project title: Programme of Research and Training in Food Technology at CETEC

Number: BRA/73/017/A/01/12

Date of submission: 30 August 1973

Sector: Science and Technology

Sub-sector: Technical and Engineering
Education

Proposed starting date for full
project operations: November, 1973

Proposed duration: 18 months

Proposed Government Co-operating Agency: Fundação Centro Tecnológico de Minas
Gerais - CETEC

Amount requested from the UNDP:

US\$ 164,000

Proposed Government counterpart
contribution:

in kind: 3,600,018
(local currency
cruzeiros)

Total: US\$ 600,003

I. Background

1. The State of Minas Gerais has the largest cattle and swine herds in Brazil. The cattle herd is officially estimated at 20 million heads or 22% of this country's herd. Swine account for about 10 million heads. Poultry breeding in Minas Gerais is the second largest in the country, representing some 40 million fowls and presently undergoing fast expansion. Production of eggs amount to 123 million dozens per year. Notwithstanding the large cattle herd of the State, the meat industry lagged behind the technological advances in the field. The meat industry slaughter capacity is estimated at 2.5 million heads of cattle a year, although only about 1.2 million heads are actually slaughtered and 500,000 are exported alive to neighbouring states for slaughtering or fattening purposes. The bulk of the swine killing is done in farms and in small towns abattoirs where inspection and sanitary control are nonexistent. As far as poultry is concerned, the situation is about the same.

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7. The immediate objectives of the project are:

(a) To train technical personnel capable of meeting the needs of research and teaching institutions, meat and milk industries and of the Inspection Service;

(b) To develop suitable expertise to serve various industrial activities and to back technical-economical research and then channel it to the milk and meat industries so that it can fairly compete in both home and foreign markets;

(c) To join the efforts of the Development Bank of Minas Gerais (BDMG) as far as the re-equipment and updating of the slaughterhouses and dairy industry are concerned.

III. Financial Data

1. Contribution requested from the UNDP

Project Personnel

Experts

Project Manager

Meat Expert

Milk Expert

Consultants

Component Total

Miscellaneous (6%)

GRAND TOTAL

	Total	
m/m		US\$
18		45,000
18		45,000
18		45,000
8		20,000
62		155,000
		9,000
		164,000
		=====

2. Proposed Government Counterpart Contribution in kind

Project Personnel

Technical assistance counterpart

President

Superintendent

Research and Development Co-ordinator

Project Director

Senior Meat Expert

Senior Milk Expert

Junior Meat Expert (2)

Junior Milk Expert (2)

Component Total

	Total	
h/m		Cr\$
1		15,000
2		24,000
4		36,000
18		124,200
18		124,200
18		124,200
36		167,400
36		167,400
133		782,400

/...

Support personnel counterpart

	Total	
	h/m	Cr\$
Bilingual Secretary	18	48,600
Secretary (2)	36	48,600
Clerk	18	21,600
Typist (3)	54	44,550
Component Total	126	163,350

Training Component

Scholarships

Trainee' Maintenance allowances (6)	108	54,600
Food Technology (6)		546,000
Component Total	108	600,600

Equipment Component

Expendable equipment		66,668
Non-expendable equipment		144,000
Premises		1,640,000
Component Total		1,850,668

Miscellaneous Component

Equipment operation and maintenance		127,000
Sundry		76,000
Component Total		203,000

GRAND TOTAL

3,600,018

=====

RESTRICTED
24 September 1973

UNITED NATIONS DEVELOPMENT PROGRAMME

Project Summary*, Government of
BRAZIL

Project title: Programme of Research and Training in Food Technology at CETEC

Number: ERA/73/017/A/01/12

Date of submission: 30 August 1973

Sector: Science and Technology

Sub-sector: Technical and Engineering
Education

Proposed starting date for full
project operations: November, 1973

Proposed duration: 18 months

Proposed Government Co-operating Agency: Fundação Centro Tecnológico de Minas
Gerais - CETEC

Amount requested from the UNDP:

US\$ 164,000

Proposed Government counterpart
contribution:

in kind: 3,600,018
(local currency
cruzeiros)

Total: US\$ 600,003

I. Background

1. The State of Minas Gerais has the largest cattle and swine herds in Brazil. The cattle herd is officially estimated at 20 million heads or 22% of this country's herd. Swine account for about 10 million heads. Poultry breeding in Minas Gerais is the second largest in the country, representing some 40 million fowls and presently undergoing fast expansion. Production of eggs amount to 123 million dozens per year. Notwithstanding the large cattle herd of the State, the meat industry lagged behind the technological advances in the field. The meat industry slaughter capacity is estimated at 2.5 million heads of cattle a year, although only about 1.2 million heads are actually slaughtered and 500,000 are exported alive to neighbouring states for slaughtering or fattening purposes. The bulk of the swine killing is done in farms and in small towns abattoirs where inspection and sanitary control are nonexistent. As far as poultry is concerned, the situation is about the same.

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<u>Project Personnel</u>		<u>Total</u>	
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Component Total	62		155,000
Miscellaneous (6%)			9,000
GRAND TOTAL			164,000
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<u>Project Personnel</u>		<u>Total</u>	
	h/m		Cr\$
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President	1		15,000
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UNITED NATIONS DEVELOPMENT PROGRAMME

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6. The long-term objective of the project is to assist the Food Technology Programme to become self-sufficient technological and financially by means of service rendering with its own know-how by improving the Food Technology Sector of milk and meat, and to promote the industrialization in this sector through the improvement of quality standards, or through product diversification, engineering and marketing.

7. The immediate objectives of the project are:

(a) To train technical personnel capable of meeting the needs of research and teaching institutions, meat and milk industries and of the Inspection Service;

(b) To develop suitable expertise to serve various industrial activities and to back technical-economical research and then channel it to the milk and meat industries so that it can fairly compete in both home and foreign markets;

(c) To join the efforts of the Development Bank of Minas Gerais (BDMG) as far as the re-equipment and updating of the slaughterhouses and dairy industry are concerned.

III. Financial Data

1. Contribution requested from the UNDP

Project Personnel

Experts

Project Manager

Meat Expert

Milk Expert

Consultants

Component Total

Miscellaneous (6%)

GRAND TOTAL

Total	
m/m	US\$
18	45,000
18	45,000
18	45,000
8	20,000
62	155,000
	9,000
	164,000
=====	

2. Proposed Government Counterpart Contribution in kind

Project Personnel

Technical assistance counterpart

President

Superintendent

Research and Development Co-ordinator

Project Director

Senior Meat Expert

Senior Milk Expert

Junior Meat Expert (2)

Junior Milk Expert (2)

Component Total

Total	
h/m	Cr\$
1	15,000
2	24,000
4	36,000
18	124,200
18	124,200
18	124,200
36	167,400
36	167,400
133	782,400

/...

Support personnel counterpart

		<u>Total</u>
	<u>h/m</u>	<u>Cr\$</u>
Bilingual Secretary	18	48,600
Secretary (2)	36	48,600
Clerk	18	21,600
Typist (3)	54	44,550
Component Total	126	163,350

Training Component

Scholarships

Trainee' Maintenance allowances (6)	108	54,600
Food Technology (6)		546,000
Component Total	108	600,600

Equipment Component

Expendable equipment		66,668
Non-expendable equipment		144,000
Premises		1,640,000
Component Total		1,850,668

Miscellaneous Component

Equipment operation and maintenance		127,000
Sundry		76,000
Component Total		203,000

GRAND TOTAL

3,600,018

=====

UNITED NATIONS DEVELOPMENT PROGRAMME

Project Summary*, Government of

BRAZIL

Project title: Programme of Research and Training in Food Technology at CETEC

Number: ERA/73/017/A/01/12

Date of submission: 30 August 1973

Sector: Science and Technology

Sub-sector: Technical and Engineering
Education

Proposed starting date for full
project operations: November, 1973

Proposed duration: 18 months

Proposed Government Co-operating Agency: Fundação Centro Tecnológico de Minas
Gerais - CETEC

Amount requested from the UNDP:

US\$ 164,000

Proposed Government counterpart
contribution:

in kind: 3,600,018
(local currency
cruzeiros)

Total: US\$ 600,003

I. Background

1. The State of Minas Gerais has the largest cattle and swine herds in Brazil. The cattle herd is officially estimated at 20 million heads or 22% of this country's herd. Swine account for about 10 million heads. Poultry breeding in Minas Gerais is the second largest in the country, representing some 40 million fowls and presently undergoing fast expansion. Production of eggs amount to 123 million dozens per year. Notwithstanding the large cattle herd of the State, the meat industry lagged behind the technological advances in the field. The meat industry slaughter capacity is estimated at 2.5 million heads of cattle a year, although only about 1.2 million heads are actually slaughtered and 500,000 are exported alive to neighbouring states for slaughtering or fattening purposes. The bulk of the swine killing is done in farms and in small towns abattoirs where inspection and sanitary control are nonexistent. As far as poultry is concerned, the situation is about the same.

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2. Minas Gerais is also the Brazilian State which has the largest milk production: 2.5 million tons/year, or 35% of the national production. Apart from regional consumption, milk is exported to the States of São Paulo and Guanabara. The quality of the milk in Minas Gerais, in spite of some local unfavorable conditions, can be regarded as good. However, with the installation of new plants designed to produce more sophisticated goods (sterilized milk, special cheese, etc.), greater attention must necessarily be given to the milk production, as far as hygienic standards are concerned. Dairy processing mills in the State produce altogether some 47 thousand tons of cheese, 14 thousand tons of butter and 40 thousand tons of powdered milk on a yearly basis. This total represents, respectively, 80%, 45%, and 45%, of the total Brazilian production. A great deal of butter, milk and fluid milk producers are of traditional kind, and therefore ignore more advanced technology. Due to this fact, per capita consumption is very low and the more sophisticated products come from abroad and are very expensive at the consumer end.

3. The Federal Government is presently doing its best to improve the existing production sanitary standards as well as meat and other animal products distribution channels. This has aggravated the need for specialized personnel, familiar with inspection, processing, management and marketing of animal products, mostly meat, eggs, milk and their by-products. Furthermore, the growing demand for food products both in the domestic and foreign markets brings about the need to improve these products qualitywise so as to increase Brazil's share in international trade and upgrade the home pattern of food consumption. This calls for the setting up, in Minas Gerais, of research laboratories and programmes for training personnel in the fields of Science and Food Technology.

4. Efforts presently put forth by universities in order to solve training and research problems emphasize mainly the preparation of professionals at the graduate level. At the moment, creation and adaptation of technological know-how, bettering of equipment, improving of the nutrient standards of industrialized foodstuffs and last but not least, ample market research are not being paid sufficient attention in order to foster adequate technological progress. The only way out seems to be the institution of post-graduate courses in Science and Food Technology, as well as the development of research programmes in this field. The State of Minas Gerais has channelled efforts and resources of many official institutions, to the creation of a Technological Centre, which includes amongst its many activities, training facilities and research work in meat and milk technology. The implementation and development of an industry capable of successfully competing in domestic and international markets will most certainly prove feasible via the creation of a Technological Food Centre, which should be able to provide instant solutions to problems akin to this kind of technology.

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(c) To join the efforts of the Development Bank of Minas Gerais (BDMG) as far as the re-equipment and updating of the slaughterhouses and dairy industry are concerned.

III. Financial Data

1. Contribution requested from the UNDP

<u>Project Personnel</u>	<u>Total</u>	
	<u>m/m</u>	<u>US\$</u>
<u>Experts</u>		
Project Manager	18	45,000
Meat Expert	18	45,000
Milk Expert	18	45,000
Consultants	8	20,000
Component Total	62	155,000
Miscellaneous (6%)		9,000
GRAND TOTAL		164,000
		=====

2. Proposed Government Counterpart Contribution in kind

<u>Project Personnel</u>	<u>Total</u>	
	<u>h/m</u>	<u>Cr\$</u>
<u>Technical assistance counterpart</u>		
President	1	15,000
Superintendent	2	24,000
Research and Development Co-ordinator	4	36,000
Project Director	18	124,200
Senior Meat Expert	18	124,200
Senior Milk Expert	18	124,200
Junior Meat Expert (2)	36	167,400
Junior Milk Expert (2)	36	167,400
Component Total	133	782,400

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Support personnel counterpart

	Total	
	h/m	Cr\$
Bilingual Secretary	18	48,600
Secretary (2)	36	48,600
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Component Total	126	163,350

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Expendable equipment		66,668
Non-expendable equipment		144,000
Premises		1,640,000
Component Total		1,850,668

Miscellaneous Component

Equipment operation and maintenance		127,000
Sundry		76,000
Component Total		203,000

GRAND TOTAL

3,600,018

=====

RESTRICTED
24 September 1973

UNITED NATIONS DEVELOPMENT PROGRAMME

Project Summary*, Government of

BRAZIL

Project title: Programme of Research and Training in Food Technology at CETEC

Number: ERA/73/017/A/01/12

Date of submission: 30 August 1973

Sector: Science and Technology

Sub-sector: Technical and Engineering
Education

Proposed starting date for full
project operations: November, 1973

Proposed duration: 18 months

Proposed Government Co-operating Agency: Fundação Centro Tecnológico de Minas
Gerais - CETEC

Amount requested from the UNDP:

US\$ 164,000

Proposed Government counterpart
contribution:

in kind: 3,600,018
(local currency
cruzeiros)

Total: US\$ 600,003

I. Background

1. The State of Minas Gerais has the largest cattle and swine herds in Brazil. The cattle herd is officially estimated at 20 million heads or 22% of this country's herd. Swine account for about 10 million heads. Poultry breeding in Minas Gerais is the second largest in the country, representing some 40 million fowls and presently undergoing fast expansion. Production of eggs amount to 123 million dozens per year. Notwithstanding the large cattle herd of the State, the meat industry lagged behind the technological advances in the field. The meat industry slaughter capacity is estimated at 2.5 million heads of cattle a year, although only about 1.2 million heads are actually slaughtered and 500,000 are exported alive to neighbouring states for slaughtering or fattening purposes. The bulk of the swine killing is done in farms and in small towns abattoirs where inspection and sanitary control are nonexistent. As far as poultry is concerned, the situation is about the same.

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III. Financial Data

1. Contribution requested from the UNDP

Project Personnel

Experts

Project Manager

Meat Expert

Milk Expert

Consultants

Component Total

Miscellaneous (6%)

GRAND TOTAL

Total	
m/m	US\$
18	45,000
18	45,000
18	45,000
8	20,000
62	155,000
	9,000
	164,000
=====	

2. Proposed Government Counterpart Contribution in kind

Project Personnel

Technical assistance counterpart

President

Superintendent

Research and Development Co-ordinator

Project Director

Senior Meat Expert

Senior Milk Expert

Junior Meat Expert (2)

Junior Milk Expert (2)

Component Total

Total	
h/m	Cr\$
1	15,000
2	24,000
4	36,000
18	124,200
18	124,200
18	124,200
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Support personnel counterpart

	Total	
	h/m	Cr\$
Bilingual Secretary	18	48,600
Secretary (2)	36	48,600
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Typist (3)	54	44,550
Component Total	126	163,350

Training Component

Scholarships

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Component Total	108	600,600

Equipment Component

Expendable equipment		66,668
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Premises		1,640,000
Component Total		1,850,668

Miscellaneous Component

Equipment operation and maintenance		127,000
Sundry		76,000
Component Total		203,000

GRAND TOTAL

3,600,018

=====

RESTRICTED
24 September 1973

UNITED NATIONS DEVELOPMENT PROGRAMME

Project Summary*, Government of

BRAZIL

Project title: Programme of Research and Training in Food Technology at CETEC

Number: ERA/73/017/A/01/12

Date of submission: 30 August 1973

Sector: Science and Technology

Sub-sector: Technical and Engineering
Education

Proposed starting date for full
project operations: November, 1973

Proposed duration: 18 months

Proposed Government Co-operating Agency: Fundação Centro Tecnológico de Minas
Gerais - CETEC

Amount requested from the UNDP:

US\$ 164,000

Proposed Government counterpart
contribution:

in kind: 3,600,018
(local currency
cruzeiros)

Total: US\$ 600,003

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III. Financial Data

1. Contribution requested from the UNDP

Project Personnel

Experts

Project Manager

Meat Expert

Milk Expert

Consultants

Component Total

Miscellaneous (6%)

GRAND TOTAL

	Total	
m/m		US\$
18		45,000
18		45,000
18		45,000
8		20,000
62		155,000
		9,000
		164,000
		=====

2. Proposed Government Counterpart Contribution in kind

Project Personnel

Technical assistance counterpart

President

Superintendent

Research and Development Co-ordinator

Project Director

Senior Meat Expert

Senior Milk Expert

Junior Meat Expert (2)

Junior Milk Expert (2)

Component Total

	Total	
h/m		Cr\$
1		15,000
2		24,000
4		36,000
18		124,200
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Bilingual Secretary	18	48,600
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Training Component

Scholarships

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GRAND TOTAL

3,600,018

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RESTRICTED
24 September 1973

UNITED NATIONS DEVELOPMENT PROGRAMME

Project Summary*, Government of

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Number: ERA/73/017/A/01/12

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Sector: Science and Technology

Sub-sector: Technical and Engineering
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Amount requested from the UNDP:

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1. Contribution requested from the UNDP

Project Personnel

Experts

Project Manager

Meat Expert

Milk Expert

Consultants

Component Total

Miscellaneous (6%)

GRAND TOTAL

	Total	
m/m		US\$
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18		45,000
18		45,000
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		9,000
		164,000
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2. Proposed Government Counterpart Contribution in kind

Project Personnel

Technical assistance counterpart

President

Superintendent

Research and Development Co-ordinator

Project Director

Senior Meat Expert

Senior Milk Expert

Junior Meat Expert (2)

Junior Milk Expert (2)

Component Total

	Total	
h/m		Cr\$
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Miscellaneous Component

Equipment operation and maintenance		127,000
Sundry		76,000
Component Total		203,000

GRAND TOTAL

3,600,018

RESTRICTED
24 September 1973

UNITED NATIONS DEVELOPMENT PROGRAMME

Project Summary*, Government of

BRAZIL

Project title: Programme of Research and Training in Food Technology at CETEC

Number: BRA/73/017/A/01/12

Date of submission: 30 August 1973

Sector: Science and Technology

Sub-sector: Technical and Engineering
Education

Proposed starting date for full
project operations: November, 1973

Proposed duration: 18 months

Proposed Government Co-operating Agency: Fundação Centro Tecnológico de Minas
Gerais - CETEC

Amount requested from the UNDP:

US\$ 164,000

Proposed Government counterpart
contribution:

in kind: 3,600,018
(local currency
cruzeiros)

Total: US\$ 600,003

I. Background

1. The State of Minas Gerais has the largest cattle and swine herds in Brazil. The cattle herd is officially estimated at 20 million heads or 22% of this country's herd. Swine account for about 10 million heads. Poultry breeding in Minas Gerais is the second largest in the country, representing some 40 million fowls and presently undergoing fast expansion. Production of eggs amount to 123 million dozens per year. Notwithstanding the large cattle herd of the State, the meat industry lagged behind the technological advances in the field. The meat industry slaughter capacity is estimated at 2.5 million heads of cattle a year, although only about 1.2 million heads are actually slaughtered and 500,000 are exported alive to neighbouring states for slaughtering or fattening purposes. The bulk of the swine killing is done in farms and in small towns abattoirs where inspection and sanitary control are nonexistent. As far as poultry is concerned, the situation is about the same.

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2. Minas Gerais is also the Brazilian State which has the largest milk production: 2.5 million tons/year, or 35% of the national production. Apart from regional consumption, milk is exported to the States of São Paulo and Guanabara. The quality of the milk in Minas Gerais, in spite of some local unfavorable conditions, can be regarded as good. However, with the installation of new plants designed to produce more sophisticated goods (sterilized milk, special cheese, etc.), greater attention must necessarily be given to the milk production, as far as hygienic standards are concerned. Dairy processing mills in the State produce altogether some 47 thousand tons of cheese, 14 thousand tons of butter and 40 thousand tons of powdered milk on a yearly basis. This total represents, respectively, 80%, 45%, and 45%, of the total Brazilian production. A great deal of butter, milk and fluid milk producers are of traditional kind, and therefore ignore more advanced technology. Due to this fact, per capita consumption is very low and the more sophisticated products come from abroad and are very expensive at the consumer end.

3. The Federal Government is presently doing its best to improve the existing production sanitary standards as well as meat and other animal products distribution channels. This has aggravated the need for specialized personnel, familiar with inspection, processing, management and marketing of animal products, mostly meat, eggs, milk and their by-products. Furthermore, the growing demand for food products both in the domestic and foreign markets brings about the need to improve these products qualitywise so as to increase Brazil's share in international trade and upgrade the home pattern of food consumption. This calls for the setting up, in Minas Gerais, of research laboratories and programmes for training personnel in the fields of Science and Food Technology.

4. Efforts presently put forth by universities in order to solve training and research problems emphasize mainly the preparation of professionals at the graduate level. At the moment, creation and adaptation of technological know-how, bettering of equipment, improving of the nutrient standards of industrialized foodstuffs and last but not least, ample market research are not being paid sufficient attention in order to foster adequate technological progress. The only way out seems to be the institution of post-graduate courses in Science and Food Technology, as well as the development of research programmes in this field. The State of Minas Gerais has channelled efforts and resources of many official institutions, to the creation of a Technological Centre, which includes amongst its many activities, training facilities and research work in meat and milk technology. The implementation and development of an industry capable of successfully competing in domestic and international markets will most certainly prove feasible via the creation of a Technological Food Centre, which should be able to provide instant solutions to problems akin to this kind of technology.

II. The project

5. The project is included under the sector "Technology and Industry" on page 103 of the Brazil Country Programme for the period 1972-1976 approved by the Governing Council at its fifteenth session in January 1973. This project has been assigned high priority by the Government of Brazil.

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6. The long-term objective of the project is to assist the Food Technology Programme to become self-sufficient technological and financially by means of service rendering with its own know-how by improving the Food Technology Sector of milk and meat, and to promote the industrialization in this sector through the improvement of quality standards, or through product diversification, engineering and marketing.

7. The immediate objectives of the project are:

(a) To train technical personnel capable of meeting the needs of research and teaching institutions, meat and milk industries and of the Inspection Service;

(b) To develop suitable expertise to serve various industrial activities and to back technical-economical research and then channel it to the milk and meat industries so that it can fairly compete in both home and foreign markets;

(c) To join the efforts of the Development Bank of Minas Gerais (BDMG) as far as the re-equipment and updating of the slaughterhouses and dairy industry are concerned.

III. Financial Data

1. Contribution requested from the UNDP

Project Personnel

Experts

Project Manager

Meat Expert

Milk Expert

Consultants

Component Total

Miscellaneous (6%)

GRAND TOTAL

	Total	
m/m		US\$
18		45,000
18		45,000
18		45,000
8		20,000
62		155,000
		9,000
		164,000
		=====

2. Proposed Government Counterpart Contribution in kind

Project Personnel

Technical assistance counterpart

President

Superintendent

Research and Development Co-ordinator

Project Director

Senior Meat Expert

Senior Milk Expert

Junior Meat Expert (2)

Junior Milk Expert (2)

Component Total

	Total	
h/m		Cr\$
1		15,000
2		24,000
4		36,000
18		124,200
18		124,200
18		124,200
36		167,400
36		167,400
133		782,400

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Support personnel counterpart

	Total	
	h/m	Cr\$
Bilingual Secretary	18	48,600
Secretary (2)	36	48,600
Clerk	18	21,600
Typist (3)	54	44,550
Component Total	126	163,350

Training Component

Scholarships

Trainee' Maintenance allowances (6)	108	54,600
Food Technology (6)		546,000
Component Total	108	600,600

Equipment Component

Expendable equipment		66,668
Non-expendable equipment		144,000
Premises		1,640,000
Component Total		1,850,668

Miscellaneous Component

Equipment operation and maintenance		127,000
Sundry		76,000
Component Total		203,000

GRAND TOTAL

3,600,018

UNITED NATIONS DEVELOPMENT PROGRAMME

Project Summary*, Government of

BRAZIL

Project title: National System of Agricultural Information and Documentation

Number: BRA/72/020/B/01/02-9?

Date of submission: 1 September 1973

Sector: Agriculture, forestry and
Fisheries

Subsector: Agricultural Institutions

Proposed starting date for full
project operations: 1 January 1974

Proposed duration: four years

Proposed Government Co-operating Agency: Ministry of Agriculture

Amount requested from the UNDP:

US\$ 393,850

Proposed Government counterpart
contribution:

in kind: 11,854,000
(local currency
cruzeiros)

Total: US\$ 1,942,300

I. Background

1. The efforts of the Brazilian Government to attain a certain level of social and economic development which are based on various studies and research, have produced an amount of information which is highly valuable for the country. It is very important that the data thus accumulated may be sorted and treated in the most complete way possible, so that those who may use it, and specially the authorities responsible for the agricultural sector, national technicians, foreign consultants and experts, may have rapid access to it. However, there is no organization, institution or centre in the country capable of assuming the responsibility for collecting, selecting, analysing and divulging documents concerning agricultural development. The existing libraries are not organized to play this role which calls for modern methods of treating information, quite distinct from the traditional ones employed by the libraries.

2. The Scientific and Technological policy as defined in the first National Development Plan for 1972-1974 comprises the establishment of the National System of Scientific and Technological Information (SNICT). Among the main components

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of this system a high priority has been assigned to the creation, in the Ministry of Agriculture, of a National Centre of Agricultural Documentation.

3. The studies carried out during a preparatory mission led also to a recommendation for the establishment of a "National System of Agricultural Information and Documentation". This system approach implies a whole composed by units or elements which must co-operate actively in the task of collecting, treating and making available information, each in accordance to its specific field, and taking into consideration the actual needs of the users of each region. The idea of a system - or network - does not exclude the need to create a co-ordination unit responsible for the good functioning of the whole.

4. In a developing country, and more particularly in Brazil, work on the subject can not be limited to purely academic information which deals exclusively with research. The information should reach the country-side and be translated into production and new cultures. In this respect, agricultural information and rural extension cannot be separated from the high scientific level aspect. The system should rest on the structures needed to ensure the transfer of knowhow in a vertical direction, from the top downwards, from the researcher down to the farmer, and reverse, so that the problems and preoccupations of the farmer may reach the researcher. In this way research may be geared to the solution of the real problems of the country, according to the priorities set out by planning authorities. The liaison to be established between the various producers and users of information is a point of extreme importance, and the functional success of the system will greatly depend from the correct solution of this problem.

5. The co-ordination of Rural Information (CIR), is proposed by the Ministry as head of the system. While emphasizing rural information, it should "promote the transfer of technology through an articulation with research institutes", have a central library conceived and organized in a modern way, and adopt the most advanced methods for dealing with information.

6. A certain number of measures are indispensable to strengthen the attributions of the co-ordinating centre of the system, to ensure co-ordination of efforts and to provide maximum facilities for the recovery, treatment and divulgation of information. For a better adaptation to project objectives, which aim at a considerable enlargement of the present activities of CIR, this entity should be converted into the "Co-ordination of Agricultural and Rural Information and Documentation" (CIDAR) which is to be assisted by an advisory council integrated by representatives from the various organs affected by the creation of the agricultural information and documentation system. The co-ordinating centre should ensure co-operation and co-ordination between its different units, so as to make available the necessary information to all regions of the country.

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II. The project

7. The request for UNDP assistance for the establishment of a National Centre of Agricultural Documentation has been described in detail on page 104 of the Country Programme of Brazil (1972-1976) approved by the Governing Council in January 1973.

8. The long-term objectives of the project aim at assisting the Government in establishing and making operational a system of agricultural information and documentation in order to collect, analyse, treat and divulge information concerning the agricultural development of Brazil. At the national level, the system should be integrated in the framework of the future National System of Technical and Scientific Information (SNICT) ensuring the compatibility of its methodology with the other existing systems or those to be created. Within the Inter-American Framework, the system should function in close co-operation with the Centre of Agricultural Information and Documentation (CIDA), the Inter-American Institute of Agricultural Sciences (IICA) of the Organization of American States (OAS). At the international level the system should be integrated, as soon as possible, to FAO's project ACRIS (International Information System for Agricultural Science and Technology), in order to become a unit of the world chain of agricultural information and documentation.

9. The immediate objectives of the project are:

(a) assist the Government of Brazil in providing the Co-ordination of Rural Information with the necessary structure for the creation of a system of agricultural information and documentation;

(b) carry out a survey of documents published or not, resulting from studies, research, projects, etc., carried out in Brazil, or on Brazil, analyse and index this information, install central files for all this information using micro-records or other, make available the necessary equipment, and assist the Government in establishing and keeping up-to-date an inventory of current research concerning agriculture;

(c) re-organize the central library of the Ministry of Agriculture to adapt it more effectively to needs of the users;

(d) assist the Government in establishing telecommunication terminals, enabling the creation of a network between the institutions, centre or organs which will be designated to integrate the agricultural information and documentation system;

(e) training local personnel at all levels to ensure in the shortest possible time the accomplishment of the tasks needed to carry out the project, and the continuity and/or development of action within the framework of an agricultural information and documentation system.

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III. Financial Data

A. Contribution Requested from the UNDP

1.	<u>Project Personnel</u>	<u>Total</u>	
		m/m	US\$
	<u>Experts</u>		
	Consultant (prep.assistance)	3	7,500
	Project Manager	48	120,000
	Library Organization and Management	4	10,000
	Documentation (3)	22	55,000
	Audio-visual	2	5,000
	Communications (2)	4	10,000
	Information Systems	2	5,000
	Consultants (6)	6	15,000
	Component Total	97	242,500
2.	<u>Sub-Contracts</u>		
	Perforation and treatment		30,000
	Component Total		30,000
3.	<u>Training</u>		
	Co-Manager	1	1,450
	Informatics	2	1,900
	Communications	2	1,900
	Operation and documentation services	2	1,900
	Network activation	2	1,900
	Documentation (level 2)	2	1,100
	Documentation (level 2)	2	1,100
	Documentation (level 2)	2	1,100
	Librarian (level 2)	1	800
	Librarian (level 2)	1	800
	Component Total	19	15,850
4.	<u>Equipment</u>		
	Non-expendable		84,000
	Component Total		84,000
5.	<u>Miscellaneous</u>		
	Maintenance of equipment		7,500
	Reports		5,000
	Sundry		6,000
	UNDP Direct Costs		3,000
	Component Total		21,500
	GRAND TOTAL		393,850

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B. Proposed Government Counterpart Contribution

1. Project Personnel

	Total	
	m/m	C\$
Project Co-Manager	48	720,000
Chief Informatics	48	480,000
Chief Communications	48	480,000
Assistant Systems Methods	42	126,000
Chief Operations and Documentation Services	48	360,000
Documentation (3)	144	432,000
Director Library	48	192,000
Graded Librarians (4)	192	480,000
Chief services questions and answers	39	195,000
Assistant Co-Manager	48	240,000
Network Activation	48	240,000
Assistant Activation	36	108,000
Library assistant (3)	126	189,000
Documentation assistants (3)	126	189,000
Library clerks (4)	192	230,400
Employees network diffusion	168	201,600
Perforators (3)	135	243,000
Library Typists (2)	90	108,000
Photographers (2)	92	276,000
Translators	48	240,000
Library Secretary	48	96,000
Temporary staff (students)	60	48,000
Component Total	1874	5,874,000

2. Sub-Contracts

Data collection, cataloging and indexing	240,000
Perforation and treatment	420,000
Printing	720,000
Component Total	1,380,000

3. Training

Maintenance - fellowships for probationers	10,000
Teaching contracts national level	100,000
Component Total	110,000

4. Equipment

Expendable	750,000
Non-expendable	885,000
Buildings (4... sgm)	1,800,000
Land 1250 sgm	720,000
Component Total	4,155,000

5. Miscellaneous

Maintenance of equipment	245,000
Sundry	90,000
Component Total	335,000
GRAND TOTAL	11,854,000

PROGRAMME DES NATIONS UNIES POUR LE DEVELOPPEMENT

Projet du Gouvernement du

BRESIL

Titre: Système National d'Information et de Documentation Agricoles

Numéro: BRA/72/020/B/01/02

Durée: quatre ans

Secteur: Agriculture, sylviculture et pêche

Sous-secteur: Institutions agricoles, services et formation rurales

Organisme coopérateur
du Gouvernement: Ministère de
L'Agriculture

Organisme chargé
de l'exécution: Organisation des Nations Unies
pour l'Alimentation et l'Agriculture (FAO)

Date de soumission: 1er octobre 1973

Date de mise en route: 2 janvier 1974

Contribution du
Gouvernement: 11 854 000
(cruzeiros)

Contribution du PNUD: 393 850
(dollars des Etats-Unis)

Approuvé: _____
au nom du Gouvernement
(signature)

Date: _____

au nom de l'Organisation chargée
de l'exécution
(signature)

Date: _____

au nom du PNUD
(signature)

Date: _____