

UNITED STATES GOVERNMENT

Memorandum

686-203

Proj. No. 6860205-
②

PD-AAC-163-B1

TO : See Distribution

DATE: January 22, 1976

FROM : AFR/DP, ^{for} Robert G. Huesmann *RGH*

86p.

SUBJECT: AFR Executive Committee Meeting on Upper Volta PP - Village Livestock

The AFR Executive Committee for Project Review (ECPR) will meet at 10:00 AM, Wednesday, January 28, 1976 in Room 6944 New State to review the above project. Issues paper will be distributed separately.

The \$850,000 grant is to develop the capability of the Central Livestock Service and the three ORDs to plan and to implement village livestock management systems which maintain the integrity of the environment.

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PART 1. SUMMARY AND RECOMMENDATIONS

A. FACE SHEET DATA

Appendix 6A, Ch 6
Page 4 (TM 3:1)

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT PAPER FACESHEET TO BE COMPLETED BY ORIGINATING OFFICE		1. TRANSACTION CODE (X appropriate box) <input checked="" type="checkbox"/> Original <input type="checkbox"/> Change <input type="checkbox"/> Add <input type="checkbox"/> Delete	PP DOCUMENT CODE 3
2. COUNTRY/ENTITY Upper Volta		3. DOCUMENT REVISION NUMBER	
4. PROJECT NUMBER 686-0203	5. BUREAU a. Symbol AFR b. Code 1	6. ESTIMATED FY OF PROJECT COMPLETION FY 79	
7. PROJECT TITLE - SHORT (stay within brackets) <input type="checkbox"/> Village Livestock <input type="checkbox"/>		8. ESTIMATED FY OF AUTHORIZATION/OBLIGATION a. INITIAL 3^{mo.} 76^{yr.} b. FINAL FY 78	

9. ESTIMATED TOTAL COST (\$000 or equivalent, \$1 =)

J. FUNDING SOURCE	FIRST YEAR FY _____			ALL YEARS		
	b. FX	c. L/C	d. Total	e. FX	f. L/C	g. Total
AID APPROPRIATED TOTAL	412	200.7	612.7	586	264	850
(Grant)	(412)	(200.7)	(612.7)	(586)	(264)	(850)
(Loan)	()	()	()	()	()	()
Other	1. _____					
U.S.	2. _____					
HOST GOVERNMENT		113	113		360.7	560.7
OTHER DONOR(S)	_____					
TOTALS	412	313.7	725.7	586	824.7	1,410.7

10. ESTIMATED COSTS/AID APPROPRIATED FUNDS (\$000)

j. Approp-riation (Alpha Code)	d. Primary Purpose Code	c. Primary Tech. Code	FY <u>76</u>		FY <u>77</u>		FY <u>78</u>		ALL YEARS	
			d. Grant	e. Loan	f. Grant	g. Loan	h. Grant	i. Loan	j. Grant	k. Loan
FN	101	078	612.7				237.3		850	
		095								
		060								
		031								
		020								
TOTALS										
11. ESTIMATED EXPENDITURES			159		453.7		225.3			

12. PROJECT PURPOSE(S) (stay within brackets) Check if different from PID/PRP

The purpose of the project is to develop the capability of the Central Livestock Service and the three ORDs to plan and to implement village livestock management systems which maintain the integrity of the environment.

13. WERE CHANGES MADE IN BLOCKS 12, 13, 14, or 15 OF THE PID FACESHEET? IF YES, ATTACH CHANGED PID FACESHEET.

Yes No

14. ORIGINATING OFFICE CLEARANCE			15. Date Received in AID/W, or For AID/W Documents, Date of Distribution		
Signature _____					
Title _____			Date Signed		
			mo.	day	yr.
Country Development Officer/Ouagadougou					

PROJECT PAPER

VILLAGE LIVESTOCK

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VILLAGE LIVESTOCK

PROJECT PAPER

CONTENTS

	<u>Page</u>
PART I Summary and Recommendations	
A. Face Sheet Data	
B. Recommendations	1
C. Description of the Project	1
D. Summary and Findings	2
E. Project Issues	3
PART 2 Project Background and Detailed Description	
A. Background	4
B. Detailed Description	10
PART 3 Project Analysis	
A. Technical Analysis	18
Range Management - Background Statement	18
Overgrazing	18
Water Distribution	20
Burning	21
Range Management Objectives	23
Procedure for Achieving Objectives	23
Overgrazing	23
Water Improvement and Development	25
Burning	26
Livestock Management	27
Objectives	27
Procedures for Achieving Objectives	27
Vaccination and Parasite Control	27
Feeding	27
Animal Selection	28
Outputs	28
B. Financial Analysis and Plan	29
Financial Analysis	29
Financial Plan	31
Summary Cost Estimate and Financial Plan	33
Costing of Project Outputs/Inputs	33
C. Social Soundness Analysis	34
I. Sociocultural Feasibility	34
II. Spread Effects: The Diffusion of Innovation	38
III. Social Consequence and Benefits - Role of Women	39
IV. Needed Research-Analysis of Human Constraints	39
D. Economic Analysis	40

	Page
PART 4 Implementation Planning	42
A. Administration Arrangement	42
B. Implementation Plan	43
C. Evaluation Plan	43
D. Conditions, Covenants and Negotiating Status	44
 ANNEXES	
A. AID/FRP Approval Message	45
B. Itemized Technical Equipment List	46
C. Environmental Assessment	49
D. Project Area	50
E. Project Performance Tracking Network Chart	51
F. Grantee's Application for Assistance	54
G. Livestock Projects in Upper Volta	55
H. GOUV Livestock Personnel in Project Area	62
I. Relationship to Eastern ORD Project	63
J. Draft of Project Description to be Used in Project Agreement	65
K. Position Descriptions	69
L. People and Places Visited	76
M. Bibliography	78
N. Statutory Checklist	
O. Draft Authorizing Document	

B. RECOMMENDATIONS

Grant	\$850,000
Procurement	Code 935

A major constraint to the development of the livestock sector in Upper Volta is the lack of funding made available to the National Livestock Service. Consequently, it is proposed that A.I.D. assistance to this project be grant-financed. In view of the relatively small quantities and costs of commodities to be financed under this project, plus long lead times for delivery from the USA, it is recommended that Code 935 procurement be approved so that the project may be implemented in a timely fashion. Leadtimes notwithstanding, it is anticipated that a reasonable amount of commodities will be purchased in the U.S.A. For example, project technicians will be responsible for determining the particular equipment necessary for the various technical packages. It is likely that U.S. technicians will be familiar with and prefer U.S. equipment.

C. DESCRIPTION OF THE PROJECT

The project will be known as the Village Livestock Program and will consist of three phases. Phase I will run 2 years, Phase II will run 3 years, and Phase III is projected to run 20 years. It is recognized that neither the GOUV nor A.I.D. is considering Phase III at this time. This PP will deal primarily with Phase I; Phases II and III will be outgrowths of the design, implementation and findings of Phase I.

The purpose of Phase I will be to determine improved livestock capabilities in specific villages in three of the eleven Organizations for Regional Development (ORDs), the regional development subdivisions covering the entire country, and demonstrate possible methods of improving livestock techniques which, in turn, will increase income to the Voltaic people and the GOUV and improve the quality of rural life for Voltaic people while preserving or enhancing the fragile land/pasture resources. The ORDs involved will be those of Kaya, Koupela and Fada N'Gourma.

Specific objectives will include:

1. Assisting selected village leaders improve animal health through a concentrated program of vaccination and internal and external parasite control, improved feeding practices, and animal selection.
2. Assisting livestock owners explore methods of farm finishing and fattening livestock for special festival holiday markets and periodic markets.

3. Exploring with the indigenous village social power structures the possibility of developing a grazing reserve in the central part of the Fada ORD through the organization of grazing associations and programs such as taxation of outside cattle and the control of watering facilities.
4. Controlling grazing in one selected village area through the organization of a grazing association and programs such as taxation of outside cattle and control of watering facilities.
5. Assisting selected village leaders determine validity of present burning practices and devise methods to control excess burning of grass, shrubs and forbs.
6. Providing training opportunities in livestock production management for extension agents, future leaders of projects and village livestock people.

The responsibility for organizing and implementing the program will be that of a rural sociologist-community development specialist, a livestock specialist and a range management specialist. In addition, an agricultural economist will be employed under direct hire from USAID and will serve as the project manager. Also, a soil specialist and veterinarian will assist on a TDY basis. Hydrological assistance is available locally. The team will work closely with national livestock leaders, ORD directors and staff and the USAID Country Development Officer and staff.

The end product of the project will be a livestock program developed by village leaders and the livestock team in cooperation with the CDO, ORD directors and staff and GOUV. The two year project period for Phase I will clarify needed programs for livestock producers and suggest procedures for implementation and evaluation of the programs. Identified programs will then be implemented in other villages in the three year Phase II Program. As in other developing or developed nations, many of the identified programs will require two or three decades from the time the idea is introduced until farmers have actually accepted and implemented the program on a widespread basis. The team recommends that this be accomplished in Phase III.

D. SUMMARY OF FINDINGS

Development of the livestock sector has long been considered as one of the most logical steps toward realizing potential economic growth in Upper Volta. However, the approach which most nearly meets Upper Volta's needs and desires remains undecided. Past and current projects have included vaccination campaigns, treatment of internal parasites, ranching, research stations, cattle trails, feed lots, etc.

This project addresses the question of livestock development at the village level, an area which has been largely ignored, or at best, partially treated by the very thinly staffed livestock extension service.

The project aims at the village level in order to include the small rural livestock producer in the development process. It is contended (although it remains to be established) that such an approach may well require relatively less infrastructure over the long run than, for example, a large scale ranching operation. The reason for this is that, whereas certain infrastructure (such as extension services, vaccines, medicine, etc.) will be essential, the project will primarily seek to establish acceptable livestock practices as opposed to emphasizing improved livestock machinery.

The development hypothesis is that increased design and technical capabilities within the central livestock service and the participating ORDs will lead to a rational, feasible village livestock management system which, when implemented will increase net income to livestock producers, net livestock productivity and national income. This hypothesis is based on the contention that it is both possible and feasible, sociologically and economically, to improve animal health, animal selection and animal feeding.

Several areas of possible livestock activities have been identified in this project as having a potential to contribute to improved livestock practices and performance. During Phase I of the project, these activities will be examined with a view toward acceptability, replicability and costs/benefits. One of the immediate tasks will be the compilation of baseline data (of which there is remarkably little) against which results can be measured.

The GOUV contribution to the project (personnel and land) is readily available, and it is recommended that the project approval process be as short as possible to enable early recruitment of American technicians so that the project can begin before the end of the 1976 rainy season (i.e., by September).

The project meets all statutory criteria. See Annex F.

E. PROJECT ISSUES

Although not really an issue, a discussion of coordination with other donors, is appropriate. The PRP indicated that this project would be a joint GOUV-AID-FAC project. However, in view of the decision to split the project into Phase I and Phase II, and at the wish of the GOUV, it was decided to make at least Phase I a GOUV-AID project.

Several factors entered into this decision, the most important of which included an effort to minimize delays in the approval and implementation of the project, the desire of the GOUV to address the livestock issue in an integrated developmental framework (which they feel is A.I.D.'s focus), and the fact that they've made other requests for FAC assistance.

During Phase I, coordination with other donors' on-going and planned activities will be examined. This will provide a valuable input into the design of Phase II in terms of information gathered/analyzed and may lead to a multi-donor Phase II. Also to be examined during Phase I will be the on-going personnel requirements for Phase II. Subject to the success of Phase I, it is likely that some of the contract positions will be extended (perhaps with revisions) to provide an overlap between Phase I and II.

PART 2. PROJECT BACKGROUND AND DETAILED DESCRIPTION

A. BACKGROUND

Upper Volta, a land locked country of about 274,000 square kilometers, is situated north of the Ivory Coast and Ghana. Development is hampered by distances from overseas supplies and markets. Ouagadougou is linked to the nearest seaport, Abidjan, by the RAN railroad -- a distance of some 1,180 km. Upper Volta has one of the lowest per capita incomes in Africa and is variously estimated to be \$70 - \$100 per capita.

Agriculture is the most important sector of Upper Volta's economy; contributing about 40% of G.N.P., 100% of exports and employs 95% of the population. Lacking any currently exploited mineral exports and with only a small domestic oriented manufacturing sector, the agricultural sector must continue to provide the engine for economic growth for the immediate future.

Within the agricultural sector, crops provide an estimated 57% of the value of production and about 60% of exports in most years. Cotton and peanuts are the principal cash export crops. The livestock sub-sector provides an estimated 25% of agricultural production and 40% of total exports. The livestock product includes roughly 39% cattle/beef, 22% sheep/goats and 4% pigs, 21% milk (cattle, sheep and goats) and 14% poultry. Live cattle are by far the major livestock export accounting for 25% of total exports. Livestock production which had been increasing through the decades of the 50's and 60's, during a period of unusually favorable rainfall, leveled off between 1968 and 1971 and fell sharply in the drought years of 1972-73. The current livestock population is officially estimated to be 2,800,000 cattle, 4,500,000 sheep and goats, 200,000 donkeys, 60,000 horses, 5,000 camels and 150,000 pigs.

Climate and soil impose limitations on production potentials. Small scale subsistence farming is practiced on the better soil areas, where water for human and animal use is available, throughout the three ORDs. A shifting type of cultivation is practiced because of low fertility and fallow land is usually held near currently cropped land. Range lands, covered with grass and brush, include the lands lying between the cultivated areas and other broad areas that, because of soil/water limitations, are not suitable for cultivation. Annual grasses dominate the vegetative cover as grazing pressure has reduced perennial species. Trees and shrubs, largely unpalatable, are common.

Agricultural Regions

Upper Volta can be divided into three ecoclimatic zones: the Sahel, the Sudanian zone and the Guinean zone.

The Sahelian zone, where rainfall varies from 250-600 mm per year, occupies the extreme north of the country and is about 15% of the land area. The rainy season lasts about 3 months. Grasses are usually less than 1 meter in height and have relatively high feeding value. Scattered trees and shrubs are deciduous fine leaved and thorny. The zone is usually thought of as too dry for cultivation, but a considerable amount of subsistence food crop production occurs where conditions permit. These are usually the more sandy soils along depressions or seasonal water courses.

The Soudanian zone includes roughly 70% of the land area or about 19 million hectares. Rainfall varies from 600 to 1,100 mm per year, during a rainy season of 4 to 5 months. This zone occupies the middle belt of Upper Volta. Depending on the area, 50-75% of the land is suitable for cropping but large areas of shallow poor lateritic soils occur. Better soils which are not cultivated at the end of the rainy season are covered by tall savanna grasses ranging from 80 cm to 3 - 4 meters. Grass fires occur every dry season and most trees and bushes are fire tolerant. Locally, trypanosomiasis or African sleeping sickness limits livestock production.

The Guinean zone is about 4 million hectares and is limited to the extreme south western portion of the country. Because of higher rainfalls, 1,000 to 1,600 mm and a longer growing season, agronomic potential is somewhat greater.

Farming Systems

Livestock and crop production systems in Upper Volta have developed in response to climatic factors (rainfall and rainfall distribution), physical factors (soils, water, elevation, land use potential), economic factors (profitability, markets, availability of inputs) and social factors (population density, established husbandry patterns, inter-tribal relationships, land tenure). A successful development strategy must take into consideration a complex group of interrelated problems and the variability between areas.

The GOUV has requested the assistance of A.I.D. in the evolution of a livestock development program for three ORDs located in Eastern Upper Volta. The three ORDs, Kaya, Fada and Koupela are largely within the Sudanian zone but grade into the Sahelian zone vegetation and conditions on the northern fringes.

Social and technical development problems and issues are discussed in more detail in Part III. Within the project zone, three distinct farming/subsistence patterns may be identified which are associated with, but not limited to, specific ethnic groupings. These farming/subsistence patterns include:

1. Sedentary farming with livestock as a minor enterprise;
2. Sedentary livestock farming with crop production as the minor enterprise; and
3. Migrating Patoralist Production

1. Sedentary farming with livestock as a minor enterprise:

The largest groups in the project zone are Mossi in the Kaya ORD, Mossi and Bissa in the Koupela ORD, and Mossi and Gourmantche in the Fada ORD. These groups are long term residents in the area and under native law and customs, the "owners" of the land. Most households own some sheep, goats and poultry and a few individuals, usually the chief and more prominent farmers, own some cattle. For the most part, small stock are scavengers but cattle, sheep and goats may be herded by a member of the family or confined to a Peuhl herdsman for grazing. These groups represent over 90% of the population of the project zone and own an estimated 30% of cattle and a somewhat greater share of sheep and goats.

In the Koupela and particularly Kaya ORDs, most land suited for crops is under nearly permanent cultivation and has been for some time. It is not know if the near disappearance of shifting cultivation is or has substantially reduced feed crop yields. A major effort is under way to resettle 10% of the farm families of the Mossi plateau, some 650,000 persons, on new lands in the Volta River Basin in southern Upper Volta.

One symptom of land pressure has been the enclosure of a small area of land near the household which is manured with farm, kitchen and human waste. Most vegetables and high value crops are grown on these lands.

A few farmers are increasingly turning to fattening cattle and sheep on farm residues during the dry season. Animals are penned or stocked, with the manure used on the farm garden. The potential to expand and programs necessary to encourage this type of enterprise will be investigated during Phase I of project activities. Some farm families

have adopted animal traction using either oxen or donkeys. The latter seems to be preferred because most of the soils used for cultivation have high sand content, suited to donkey plows and cultivators. The initial lower cost of donkeys, and the fact that donkeys can be used year round for packing or carting, add to their acceptance.

It is said that because many Mossi own livestock and because grass is in short supply, regulations to control burning have been quite effective. Little crop residue is burned on the land but because of wood/fuel shortages, sorghum stalks are often burned for fuel.

In the Eastern ORD, population is much more scattered with the average population density being some 5 persons per square kilometer. Shifting cultivation -- using fields for a few years followed by a long period of fallow -- is the rule. Yields appear to be greater and at the end of the rainy season, and on uncultivated land, large areas of tall grass are evident. For various reasons (see section on burning in Part III), much of this grass is burned reducing substantially potential range/forrage for grazing.

2. Sedentary livestock farming with crop production as the minor enterprise:

In the project zone, family units in this category are usually Peuhl who, in many instances, have been resident in the area for 40 to 100 years and possibly longer. They are a small minority of the population -- an estimated 7% of the total population -- but own 70% of the total cattle population. Households grow most if not all of substance food needs and not uncommonly cash crops. Some live in permanent savanna style mudblock thatched roof houses. Others have retained more temporary grass constructed dwellings. Because inter-marriage with Mossi, Bissa or Gourmantche is not common, few, if any, have acquired permanent cultivation rights to the land they occupy. As long as land suitable for feed cropping is not limiting, they have been welcomed into the community because they exploited, with their livestock, the fallow lands not needed for cultivation and land suited only to grazing.

Few village areas in the more densely populated Mossi plateau have enough range/forrage to support the entire livestock population. It is common in all parts of the zone for a majority of the village cattle herd to be moved out of cultivated areas during cropping season, to more marginal lands and returned to the area of the homestead immediately following harvest. They are again moved to outlying areas toward the end of the dry season to one of the limited areas with permanent water -- usually a dam or swampy location within 20-30 km of the village. Persons with cattle herds sometimes construct a small thorn bush corral where the cattle are held overnight, with grazing only during daylight hours. These corrals may be moved periodically

providing limited areas of manured and, through the urine, nitrogen fertilized soils which are preferred for more fertility level sensitive vegetable and food crops. Families owning cattle usually have higher family incomes from livestock and because of better yields. Various estimates place the income of sedentary livestock producers at 2 to 4 times that of the crop dependent majority. One of the more important sources of income (and food) is milk.

3. Migrating Pastoralist Production

Pastoralist or dependent households differ from those in categories 1 and 2 in two important ways. First, they tend to have larger flocks and herds and to be less dependent upon family grown food crops, and second, transhumance or migratory patterns tend to be much longer, often exceeding 200 km and may cross international boundaries. A common seasonal pattern begins with flocks and herds using Sahelian zone grasslands during the rainy season. After the cessation of the rains in the far north, (often in the Dori area of the Sahel ORD) flocks and herds are moved southward. They tend to pass through farming areas quickly with a common destination being the lightly populated areas of the Eastern ORD. Most have semi-permanent home base locations often in the Sahel near permanent wells or oases where older and younger members of the family unit live year round. It is frequently only the young men who make the long migration. However, following the 1968-1973 drought period, some are said to have settled permanently within the Eastern ORD, probably repeating the process which brought other Peuhl speaking groups to the area in earlier years. They may, if permission is granted, bed or corral cattle on sedentary farmers' land, who do not own cattle, thereby fertilizing the land in exchange for the sorghum stalks consumed. They often receive some sorghum or millet, or this may be purchased.

It is of considerable importance to note that the home area of the migratory producer -- the Sahelian ORD -- is badly over stocked. The cattle population of the ORD du Sahel was reduced by some 20% during the drought by deaths due to starvation and out migration "losses" are usually stated to be 20 to 40% with the decline in estimated population from over 600,000 to under 400,000 head. It is also important to note that the estimated human population of the Sahel ORD is over 270,000 people. It is clear that the comparatively open areas of the Eastern ORD are likely to receive an increasing flow of migrants with their herds.

Summary and Concepts of Project

The target groups for the activities of the project are the sedentary farming and sedentary livestock producing family units within the ORDs of Kaya, Fada and Koupela. Livestock (cattle, sheep, goats, poultry and pigs) are owned by most residents of the area. Cattle ownership is concentrated in the hands of Peuhl households who are a minority of the population. Because they have been only partly assimilated into the majority Mossi, Bissa and Gourmantche communities among whom they are settled, they remain "immigrants" and do not typically have recognition for land tenure rights under the native law and custom land tenure system.

While not specifically excluding the pastoralist groups who use the area -- they would benefit from water development, veterinary services and designation of transhumance routes -- the project will not be directed at their sedentarization. That type of activity, in the opinion of the design team, should best be addressed in a separate livestock project possibly in conjunction with activities in support of the Sahel ORD where most spend part of the grazing year. Nonetheless, the data and experience gained as part of this project would be invaluable to future activities directed at modernization of pastoralist production.

The evidence is that the current system of land use is reducing the long term carrying capability of the land to support both crop and livestock production. Damage is being caused by shifting (or continuous) cultivation which exposes the soil to erosion and the sun, burning to remove excess vegetation in some areas and overstocking of grasslands.

Basic constraints to development include physical constraints -- soils of low natural fertility, seasonal and variable rainfall; economic constraints -- low productivity of land and stock, modest price levels for products and high price levels of inputs; social constraints -- intergroup relations, land tenure, non-dynamic social structure; technical constraints -- imperfect knowledge of the farming system and viable alternatives, animal and plant disease, seasonal shortage of water for stock and irrigation; and organizational and financial constraints -- thin on-the-ground and undertrained extension staff, lack of support infrastructure and inadequate recurrent financing for livestock and land management activities.

B. DETAILED DESCRIPTION - LOGICAL FRAMEWORK

I. Goal

a. Goal Statement:

The project goal is to improve the quality of the life of the people in the affected area through the management of range resources and other feed supplies and through improved animal health and selection. Achievement of this goal will lead to increases in net livestock productivity and incomes of livestock producers. The project is specifically designed to address the needs of the small rural livestock producer and to allow him or her to participate in the process of economic development. An important condition of long term livestock development is maintenance, or better, improvement of the range ecosystem; this is also a project goal (see Annex C, Environmental Assessment). Finally, an additional goal at the national level is to increase government revenues and export earnings as a result of development of Upper Volta's livestock sector.

b. Objectively Verifiable Indicators:

- 1) range site condition evaluation
- 2) internal market and export statistics
- 3) income to producers derived from livestock activities

c. Means of Verification

Due to the paucity of available statistics, one of the first tasks of project personnel will be to establish and record baseline data including range site condition, herd condition, herd population, reproduction rates, selection practices, calf mortality, offtake and market data, etc. This information will be periodically updated during the life of the project to enable an on-going evaluation of project progress.

d. Assumptions

The major assumption of the project is in fact the development hypothesis that livestock production can be increased without ecological degradation. That is, there exist already livestock production methods or a method can be developed which will be adaptable and acceptable to Upper Volta and which will lead to increased livestock production without ecological degradation. It is further assumed that the components of such a package will include improved animal health, animal feeding and animal selection.

A second assumption is that increased livestock production can make a major contribution to national economic development. It is clear that the livestock sector has in the past contributed significantly to the national economy both in terms of local investment and internal and external markets. It seems equally clear that future increases will contribute similarly to increases in national economic development. In fact, the livestock sector is one of the very few areas where the inland countries of West Africa enjoy a comparative economic advantage over their coastal neighbors.

Finally, it is assumed that the GOUV will place a high priority on livestock production/development. Whether an indication of this priority is manifested through increased funds flowing into the development of the livestock sector from the GOUV or donors is of little importance in the short run. However, it is strongly recommended and believed essential that the GOUV must eventually increase its budgetary support of the livestock sector.

II. Purpose

a. Statement of Purpose

The purpose of the project is to develop the capability of the central livestock service and the three ORDs to plan and to implement village livestock management systems which maintain the integrity of the environment. In the short run this will be established by supplementing the livestock service and the ORDs with qualified technicians, who will test and develop an improved, feasible livestock production package in conjunction with appropriate Voltaic counterparts. In the longer run, this expertise will rest with the counterparts and Voltaiacs who are trained during this project.

b. Objectively Verifiable Indicators

- 1) national policy toward range and livestock development and soil conservation
- 2) successful development of an improved livestock program by project personnel
- 3) existence of other well designed livestock projects initiated by the central livestock service.

c. Means of Verification

The project will be periodically evaluated during Phases I and II. An in-depth evaluation of Phase I will be a component of the design of Phase II. (See Part 4, Evaluation Plan).

d. Assumptions

The most important assumption of the project (along with the assumption, already mentioned, that an improved package can be developed) is that for the people involved, livestock is of such economic significance to warrant the rather radical changes the project may propose; that is, the people involved will agree and respond to the project proposals and benefit from them. The livestock raisers and agents interviewed during the design of this PP indicated a strong willingness to accept and utilize improved animal health practices. Related to animal health is animal nutrition. Livestock raisers recognize the importance of feed and water but probably do not recognize the need for food supplements other than salt or other than on a small scale. It may be a more difficult task (than introducing new treatments, medicines, etc.) to establish a sociologically acceptable program for the development of pastoral resources and their utilization because this will necessitate agreement between different people (who may have different ideas concerning land use, burning grass, etc.).

A second assumption is that an adequate amount of new range can be made available or the existing range can be improved to permit participation without making severe reductions in herd numbers. Thirdly, the principles to be established and demonstrated in the project will be replicable in adjacent grazing areas. This last assumption is likely critical to the overall economic viability of the project. The objective is not to design six discrete projects in six discrete zones, but rather to test various approaches in six representative areas and to replicate the better approaches in other zones during Phase II.

Finally, it is assumed that increased livestock production will lead to increased offtake and exports, thereby adding to GOUV revenues through livestock taxation.

3. OUTPUTS

a. Items

1) Resource evaluation and plans

- i) resource inventory of project area (i.e., establishment of baseline data
- ii) pilot site agreement with users (i.e., contact with target population and selection of specific project sites)
- iii) pilot site plan (i.e., the development of activities to be undertaken at each site -- see below)

2) Personnel

- 1) Voltaic project director and counterparts appointed and familiarized with livestock development projects in Upper Volta and other countries
- ii) project personnel trained in U.S.A.
- iii) project personnel trained in third countries
- iv) project personnel trained in-country (on-the-job, periodic refresher courses, seminars)

3) Project Activities (for additional details, see sections entitled, Procedures for Achieving Objectives in Part 3, Technical Analysis)

- i) one center (village or village clusters) for farm finishing or fattening livestock to be established in each of the three ORDs. Selection will be dependent upon a number of factors including accessibility to major markets and availability of agricultural by-products. Possible actions include: haying, forrage crops, animal selection, and crops with valuable by-products.
- ii) establishment of a pasture reserve, most likely in the Eastern (Fada) ORD in the area between Ougarou, Matiakoali and Nassougou. Pasture area approximately 20,000 hectares (roughly 50,000 acres). Actions may include:
 - 1) organization of grazing association including Peuhl and Gourmantche residents;
 - 2) development of water resources (wells, water catchment areas;
 - 3) species trials
 - 4) taxation of transhumant herds for water use by grazing association. (Note: Transhumant herds which wish to traverse area without using water resources, as is currently the case, will be permitted to do so without taxation.)
- iii) establishment in either the Kaya or Koupela ORD of controlled grazing in one selected village area through the organization of a grazing association. This test will examine prospects for better pastoral resources utilization in a relatively densely populated area (i.e., an area which does not include a large uninhabited zone) and may include:
 - 1) a systematic rest-rotation grazing scheme
 - 2) water resources development

- 3) controlled access to water
 - 4) controlled access to pasture
- iv) in either the Kaya or Koppela ORD (whichever is not chosen in 3 above) assistance to people of a selected village or village cluster to determine the validity of present burning practices, devise methods to control excess burning of grass, shrubs and forbs. Actions may include:
- 1) vegetative inventory pre and post burning
 - 2) fire breaks
- v) organization of improved animal health, nutrition, and selected packages at each of the 6 project sites (2 per ORD). Actions may include:
- 1) disease and parasite control
 - 2) salt supplement
 - 3) phosphorous supplement
 - 4) livestock handling facilities
 - 5) supplemental feeding to calves and pregnant animals, also to traction animals
 - 6) branding, ear tags, tatoos
 - 7) record keeping system

4) Materials

- i) better equipped livestock extension agents in each of 6 project zones:
 - 1) molybdenum plus gas allowances
 - 2) back pack spray units for treating external parasites (also can be used agriculturally for treating cotton)
 - 3) scales
 - 4) Burdizza castrators
 - 5) elastrators
 - 6) microscopes
 - 7) medicine
- ii) better equipped central veterinary lab (equipment to be determined by lab director and livestock service).

b. Objectively Verifiable Indicators

- 1) item count
- 2) head count
- 3) baseline herd performance data and project livestock performance records

c. Means of Verification

- 1) PAR
- 2) College baseline data early in project followed by periodic updating/reporting

d. Assumptions

As is true of most projects including a sizable technical assistance component, an important assumption (and an essential condition) is that suitably qualified expatriate technicians and Voltaic counterparts will be assigned to the project. A second important assumption is that U.S., third country and in-service training of Voltaic personnel will prove successful in transferring needed and related skills. Finally, if additional ecologically sound village livestock projects are to be designed and implemented by Voltaiacs trained in this project, GOUV budget or other funding must be available.

4. INPUTS

a. Item

- 1) A.I.D.
A.I.D. project inputs will include both technical and capital assistance in the form of U.S. technicians, training and commodities.
 - i) Personnel: Project personnel will include a direct hire project manager/ag economist (not project funded) plus a contract team consisting of a range management specialist, a livestock specialist, and a rural extension sociologist. These project personnel, along with the GOUV project director and appropriate GOUV counterparts, will be responsible for the on-going design and implementation of project activities. In addition, the project will make use of TDY services of a veterinarian (4-5 months) and a soils scientist (2-3 months). See Job Descriptions, Annex M.
 - ii) Training: U.S. participant training will include on a short term basis (3 months) a sociologist and on a long term basis (3 years) a range management specialist and a livestock specialist. These latter students will return to Upper Volta during the summers to work on project activities and to benefit from on-the-job training. It is thus hoped that the participants' training will be more relevant to actual project needs in Upper Volta. Furthermore, whereas Phase I is

scheduled to end March 15, 1978, Phase I funding will be used to continue the participant training until its scheduled completion during Phase II (approximately June, 1979). Also, additional short term training will be provided for GOUV project personnel in other African countries, plus there will be periodic in-country seminars and refresher courses offered to livestock extension personnel.

- iii) Commodities: Commodities provided under the project will include a range management package and a livestock package (see equipment lists, Annex B), equipment for the central veterinary laboratory, vehicles (4 Landrovers, one 3/4 ton truck with stock rack and 4-wheel drive, 6 mobylettes for livestock extension personnel), BOL, spare parts, office equipment and supplies. Project vehicles will be assigned as follows: the range specialist and livestock specialist will share the 3/4 ton truck and one Landrover; other Landrovers will be assigned to the project manager/ag economist, the rural extension sociologist, and the GOUV project director.

2) GOUV

The GOUV input will include land for the pasture reserve as well as for the other project activities, office space, and the following personnel:

- i) project director
- ii) central veterinary lab personnel in both Ouagadougou and Bobo-Dioulasso as needed for refresher training of livestock agents (Note: Lab or other appropriate facilities will be made available by the livestock service for this training.)
- iii) a sociologist counterpart
- iv) at least one counterpart to work with the range management specialist and the livestock specialist (Note: This person may also be the project director.) Ideally two counterparts will be available.
- v) 6 veterinary nurses to be assigned to each of the project activity sites
- vi) appropriate support from local and national livestock personnel
- vii) a national working committee

3) Other Donors/Projects

- 1) Peace Corps -- hydrological services will be required, particularly in terms of surveying pastoral areas and supervising the development of water resources (primarily wells). As there are existing volunteers and Voltaic counterparts working in this area in each of the 3 ORDs, each ORD will be called upon to provide this service. It is conceivable that additional volunteer services may be requested in the project area depending upon the work loads, inclinations, and expertise of volunteers already in Upper Volta. (Note: Some volunteers have only seasonal employment and are free to work on other projects during free time.)
- ii) UNDP/FAO -- USAID Eastern ORD Integrated Rural Development - Coordination will be established with this on-going project. See Annex L, Relationship to Eastern ORD Project.
- iii) CIDR (International Company for Rural Development) project in Koupela ORD - coordination will be established with this project which so far has not addressed the livestock sector other than animal traction activities.
- iv) FAC -- FAC is currently undertaking a land use/pasture resource study for the Sahel ORD. The study area, however, includes a large section of the village livestock project area (particularly in the Eastern ORD) and will provide valuable information to the project for the development of Phase II
- v) Others -- Use will be made of studies, statistics, experiences, etc. compiled and undertaken in the Voltaic livestock sector. (For a list of livestock activities in Upper Volta, see Annex G.)

b. Assumptions

Critical assumptions are that (1) required project personnel and funds are available and (2) a suitable technical/management package can be developed to increase net productivity of livestock and livestock products without damaging the environment.

PART 3 PROJECT ANALYSIS

A. TECHNICAL ANALYSIS

Range Management: Background Statement

Overgrazing

Intense and prolonged grazing by sedentary and nomadic herds has been recognized as a prime contributor to the overgrazed condition of the ranges in Central West Africa. Livestock numbers have at least doubled in the past 25 years (Tables 1 and 2). Estimations of cattle numbers in 1952 were about 1.3 million head and small ruminants (sheep and goats) were estimated at 1.8 million head. Present numbers are estimated at about 2.8 million and 4.5 million respectively. During this same period of time, the ranges have decreased in size (due, in part, to increased human population) and decreased in productivity (due, in part, to more intense grazing).

Table 1 - Estimated Increases in Cattle Numbers * (in millions)

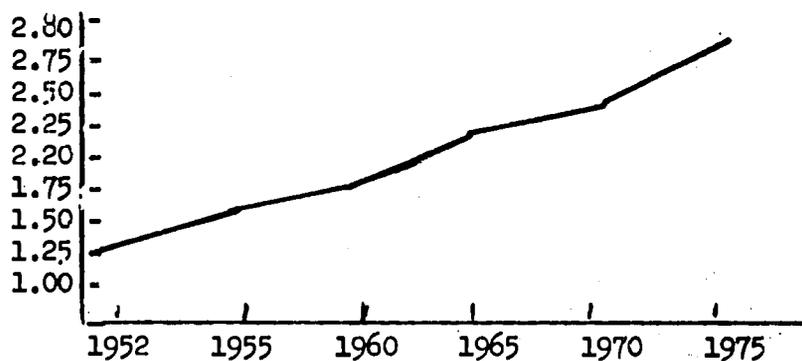
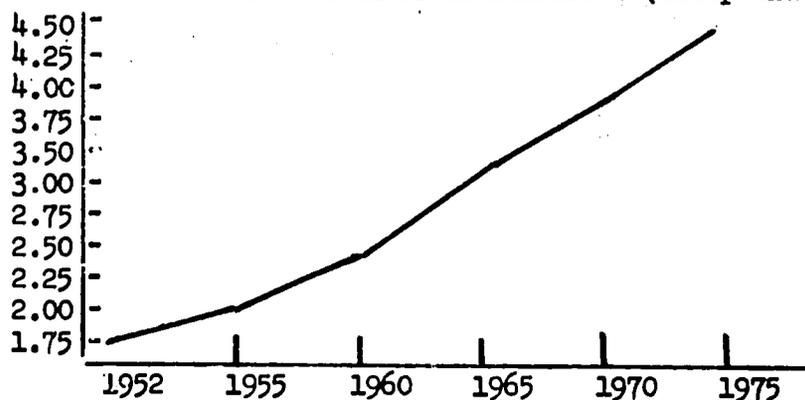


Table 2 - Estimated Increases in Small Ruminants (sheep and goats) *



* Values taken in part from: Bulletin annuel d'information statistique and économique, 16ème année. Nouvelle série, 1975. Institut National de la Statistique et de la Démographie. Ministère du Plan, du Développement Rural, de l'Environnement et du Tourisme.

The three ORDs chosen as pilot areas reflect three distinct conditions of ranges found in Upper Volta. Collectively, the three ORDs support over 25% of the cattle and over 25% of sheep and goats in the country.

Table 3. Livestock Number in the 3 ORDs of proposed Village Livestock Project as of 1972 *

ORD	Cattle (000)	% of total	Density	Sheep/Goats (000)	% of total	Density
Fada	283	11.3	5/km ²	350	8.8	7/km ²
Kaya	287	11.5	13	650	16.3	30
Koupela	105	4.2	11	100	2.5	11

* Values taken from SCET, 1972. Note de Synthese. La production animale voltaique, perspectives de developpement. Tome II.

Ranked according to degree of advanced condition of overgrazing, the Fada ORD would be regarded as least, closely followed by the Kaya ORD, and the Koupela ORD would be considered in the most advanced state of overgrazing.

Successional patterns in overgrazed areas tend to change from one of more palatable species to one dominated by non or less-palatable species. The dominance of the latter, found in the three ORDs, supports the assumption that regeneration of the more palatable perennial and annual species has been drastically altered or stopped.

Indications are that the nutritional qualities of the annual species found fall short of the demands of the grazing livestock. These annual grasses remain green for approximately 2-3 months, beginning shortly after the early rains of the wet season. Their growth is rapid during this time, after which all photosynthetic processes cease. During a major portion of the 7 month dry season, the annual component of the vegetative composition is dry, and affords the grazing ruminant a seemingly nutritionally inadequate diet of coarse roughage.

The perennial component of the composition, where it does exist, appears to be insufficient in quantity to support the nutritional needs of the animals at a maintenance level. This is so in spite of the fact that the longer life cycle of the perennial grasses permits the plant to remain green during a longer portion of the dry season. Generally, this causes a selective grazing by the animals of the perennial species, paradoxically diminishing its abundance and availability.

Vegetative cover found in the Fada ORD, described as Acacia-savanna, consist of brush, trees, mixed perennial and annual forbs and grasses. Annual grasses dominate the ground cover, interspersed in areas with the palatable perennial species Andropogon. Effects on overgrazing are evident in the species composition found in this area. Erosion is minimal because of the relatively flat terrain and the protection afforded the soil by canopy and ground covers. As in the other ORDs seen, some brush and tree species are grazed, although evidence indicates this use is minimal. Nutritional analysis of the availability of forage would give additional support to a range evaluation.

Grazing pressure in the Fada ORD does not appear to be, or have been, as intense as that in the Kaya and Koupela ORDs. More extensive pastures were observed than in the other ORDs and less use by man and/or animals was evident. The area is populated by about 5 persons per square kilometer as opposed to 26 and 21 in the Kaya and Koupela ORDs respectively.

Effects of overgrazing are more obvious in the Kaya ORD than either the Koupela or Fada ORDs as evidenced by visible soil erosion. Vegetation in this area described as Acacia-savanna-deciduous forest, consists of areas of restricted brush and tree cutting (enforced by the Dept. of Water and Forrestry) which appear to withstand the grazing pressure relatively better than those areas not so restricted. Evidence of erosion, probably due to wind and rain, is more apparent in the hilly regions than on the level terrain in the Kaya ORD. Nevertheless, canopy and ground cover in the restricted cutting areas seems to have had a stabilizing effect on the top soil which has allowed for greater natural vegetation of the area. In terms of quantity of forage available to the grazing ungulates, those areas protected by the Water and Forrestry Dept. appear far superior to those which are unprotected. A quality determination, on a nutritional basis, is necessary to complete such an evaluation. Brush and tree species are only lightly grazed.

The Koupela ORD has been described as a tall-grass savanna: It supports few forbs, shrubs and trees, and is dominated by non-palatable or less preferred grass species. Also, few perennial grasses are evident in the area. The successional pattern, as indicated by the species composition found, tends to indicate relatively more severe overgrazing than that in either the Kaya or Fada ORDs. Very little erosion is evident, most probably because of the relatively flat terrain and protection of the soil by the abundance of non-palatable species found.

Water Distribution

Livestock watering sites found are grouped into two categories: those that are man made and those that are natural.

A primary source of water for grazing livestock comes from man-made rain catchment water holes and areas initially used to provide landfill for road construction. These water holes are used as storage tank and water troughs for the animals. Unfortunately, the water supply held by these earthen structures is quickly depleted as the dry season begins. Numerous factors account for the rapidly depleted water including, at times, a low initial supply. Also contributing to the depletion would be the high rate of evaporation caused by high temperatures and low humidity acting on the large surface area created by these shallow depressions. Trampling by the animals in the water area would tend to hasten water loss through infiltration to the soil and possibly evaporation. Also, this intense use of the watering holes by local and nomadic livestock creates potential health hazards. Urination and defecation in the only source of drinking water make it possible for parasites and other disease carrying organisms to complete their life cycle. The distribution of these water holes does not seem to take full advantage of the range; some are grouped somewhat closely together and others quite far apart. A secondary use of these water holes is for making mud bricks. Villagers were observed using the water and clay soil in the areas to construct these building bricks. This practice further deteriorates the area around the water hole and also causes the water to spread out over a larger area, thus increasing the evaporation rate.

Man-made structures also include village wells, whose primary purpose is supplying potable water to the villagers and secondary purpose is to supply water to local livestock. It is contended that at times of severe drought, these wells are the only source of water for livestock in many areas.

Barrages (dams) and valley tanks serve a secondary function by providing a watering site for livestock. Although these barrages generally do provide a year around supply of water, they are few in number and not evenly distributed for effective use by livestock.

Natural watering sites are provided primarily by small streams and bas-fonds, or low lying areas that collect water. These are an important source of water, but their uneven distribution precludes an effective use of the range. Also, the availability of water over an extended period of time depends on the amount of precipitation received during the rainy season.

Burning

As the dry season approaches (November through May), vast areas of primarily dry annual grasses are burned. There are various reasons given as to why these fires are started, and many of the same reasons

were often repeated throughout the 3 ORDs. Categorized below, and not necessarily in order of importance, are reasons attributed to nomadic people, sedentary people and a miscellaneous category.

Peuhl herders are said to burn the dry grass selectively. This practice is aimed at promoting new and more palatable growth. Their justification was a claim that burning continued only until December, after which time new growth would not occur because of inadequate moisture availability. This, in theory, provides the grazing animals with a relatively higher quality diet and leaves enough forage on the ground to support them through the ensuing dry season.

Sedentary people burn as a means of clearing fields of rats, snakes and ticks, and eliminating crop residue in preparation for the next year's cultivation. This practice also provides an effective fire break to protect the village from uncontrolled fires of other sources and also to keep transhumants out. The concern with snakes is clearly a self-protection measure, whereas rats pose more of an economic threat because of their destruction of food stores and grains.

In the miscellaneous category, hunters burn the grass plains as a means to sighting game easily. Bee keepers, in their endeavor, also use fire as a tool. Furthermore, fires are attributed to the mischievous amusement of children. One should not discount the possibility of accidental fires, conceivably a tossed cigarette or match from a passing vehicle could account for a significant number of the fires.

Unfortunately, and irrespective of the cause, many of the fires continue to burn uncontrolled long after they have provided the intended result. There are currently no means of combating range fires; people rely mainly on natural barriers or roads to act as fire breaks.

Early in the dry season many of the grass fires are somewhat controlled by the moisture present on the soil and that retained in some plant species. As the dry season progresses, and evaporation has depleted this moisture, the fires tend to burn hotter and consequently faster. The burning of dry-grass plains has helped to establish seemingly fire resistant species of shrubs and trees in many of the areas. Indications are that these acclimated species are not preferred by the grazing animals and therefore contribute very little to their diets. Consequently, the establishment of these trees and shrubs constitutes an encroachment on the already limited supply of relatively preferred species.

Range Management Objectives

1. Exploring with the indigenous village social power structure the possibility of developing a grazing reserve in the central part of the Fada ORD through the organization of grazing associations and programs such as taxation of outside cattle and the control of watering facilities.
2. Controlling grazing in one selected village area through organization of a grazing association and programs such as taxation of outside cattle and control of watering facilities.
3. Assisting selected village leaders determine validity of present burning practices and devise methods to control excess burning of grass, shrubs and forbs.

Procedure for Achieving Objectives

Overgrazing

The extent of overgrazing caused by poor resource and livestock management techniques will be studied during Phase I of the proposed project. Modifications of or alternatives to present range practices will be explored with the idea of instituting an improved and continued range management scheme.

In conjunction with improved livestock management, the following proposed initial steps are necessary for improving the range and its utilization, and ultimately the standard of living for the people of Upper Volta.

I. Project Area Base Line Data

- A. Physical characteristics and range condition survey
 1. Soil Survey
 - a) Description and characteristics of soils
 - b) Chemical analysis of soils
 2. Vegetative Survey with Indications of Past Burning
 - a) Species composition and cover (natural and burned areas)
 - b) Biomass estimates for all species (natural and burned areas)
 - c) Nutritive value of grazed species (natural and burned areas)
 3. Water Resources and Locations
 - a) Availability and utilization potential
 - b) Quality analysis

4. Topographic Survey
 - a) Site description
 - b) Runoff determination
 - c) Soil erosion by water and/or wind

- B. Land and Resource Use and Potential
 1. Determine present stocking rates
 - a) Grazing patterns used by sedentary and nomadic herds
 - b) Seasons and duration of use
 2. Determine carrying capacity of present range
 3. Determine present land use by sedentary villagers
 - a) Agricultural crops
 - b) Village sites

- C. Detailed climatic conditions of the area (These values should be obtained, where possible, for past years. Meteorological facilities must be erected for on-site recordings).
 1. Temperature ranges
 2. Precipitation
 3. Humidity
 4. Evaporation rates
 5. Wind speeds

Based on final analyses of the Base Line Data, the following steps are suggested as a progressive research approach. These are followed by a more detailed outline in the problem areas of water development and burning.

- II. Area Development Possibilities (if applicable, based on Base Line Data)
 - A. Range resources
 1. Development of research plots for experimental purposes.
 2. Soils
 - a) Fertilization trials/organic and chemical
 - b) Improved infiltration, absorption trials
 3. Vegetation
 - a) Species trials under different conditions (native and introduced grasses and legumes)
 - i. Natural and fertilized
 - ii. Natural and burned
 - iii. Burned-natural and burned-fertilized
 - b) Nutritive analysis of experimental species
 - c) Controlled burning
 - i. To establish fire breaks
 - ii. To promote vegetative growth and/or clear fields of existing dry grass
 - d) Establish permanent line transects

4. Water
 - a) Strategic development of water sites
 - b) Well development
 - c) Water hole development
 - d) Underground storage development (cisterns)

5. Topographic
 - a) Erosion control
 - b) Run-off control
 - c) Fire control

B. Climate Data

1. Development of area meteorological station

Water Improvement and Development

With the assistance of hydrology experts found in the host country, the Range Management Specialist can develop and strategically locate new watering sites. By improving the efficiency of the commonly used run-off catchment areas and the development of new wells, a better utilization of the range can be realized. Careful manipulation of these livestock watering sites can assure the sustained natural revegetation in the area and increase the supply of water.

I. Proposed Phase I/Livestock Water Improvement

- A. Limit livestock access within the immediate vicinity of the water site by fencing.
 1. Eliminate potential health hazards
 2. Decrease water loss caused by trampling.
- B. Increase the depth of the water catchments to increase the water supply.
 1. Allow for greater initial storage
 2. Decrease the evaporation rate by providing a greater volume to exposed surface area ratio.
- C. Line the catchments with either cement or plastic.
 1. Eliminate water loss due to infiltration
 2. Provide a cleaner source of water
- D. Construct watering troughs at each watering site.
 1. Water will have to be drawn from the catchment either by bucket or pump.
 2. Length and number of troughs will depend on intensity of use.
- E. Encourage the use of fencing around barrages and construction of watering troughs.
 1. Decrease the health hazard to humans and livestock
 2. Decrease trampling in immediate vicinity
- F. Discourage the practice of making mud bricks on actual watering sites.
 1. Provide alternate areas for this endeavor
 2. Suggest alternate methods

II. Livestock Water Development

- A. Provide new wells.
 - 1. Increase water supply during dry season.
 - 2. Help distribute grazing livestock more evenly.
- B. Construct watering troughs at each well site.
 - 1. Water will have to be drawn from the well either by bucket or pump.
 - 2. Length and number of troughs will depend on intensity of use.

Burning

The validity of present burning practices will be determined during Phase I of the proposed project. If it is found that burning indeed induces significant additional growth which adds to the grazing animals' nutritional needs, possible methods of improving this will be explored. Alternatives to augmenting the diets of animals will be researched should the practice of burning prove invalid.

I. Prior to Burning

- A. A vegetative inventory will be made at the beginning of the growing season to determine species composition, abundance, distribution and biomass in order to establish a research basis.
- B. Essential to the research basis are nutritional data on the available species to determine energy, nitrogen (protein), phosphorous, and possibly digestibility through in-vitro techniques. Ideally, these nutritive values would be determined at key intervals during the year.

II. After Burning

- A. Once the burning commences and new growth is established, a vegetative inventory of a burned and an unburned adjacent area will be made and compared, and these values will also be compared to the established base values for final evaluation.
- B. Nutritional analysis of the forage found in the burned and unburned areas will be compared. These values will also be compared to the established base values to complete the forage evaluation.

III. Improvements and/or Alternatives

- A. The results of seed trials, established to determine the adaptability of various grass and legume species, can be

used to improve favorably range forage. The extent of this improvement measure will be dependent on the range forage inventory and evaluation. Conceivably, a re-establishment of native perennial grass species would improve range conditions and provide grazing livestock with a nutritionally adequate diet.

- B. The construction of fire breaks around compounds, villages and fields will enable the sedentary villagers to clear fields within these breaks without endangering nearby areas.

Livestock Management

The purpose of the village livestock program is to determine improved livestock capabilities in specific Voltaic villages and demonstrate possible methods of improving livestock techniques which will enhance the quality of life for rural Voltaic people while preserving or enhancing the fragile land/pasture resources.

Objectives

Specific objectives include assisting village leaders and livestock owners:

1. Develop systematic methods for controlling contagious disease and internal and external parasites.
2. Develop improved methods of feeding.
3. Select quality animals for breeding stock.

Procedures for Achieving Objectives

- I. Vaccination and parasite control.
 - A. Immunization against major diseases on a scheduled systematic basis.
 - B. Regular monitoring of health status and treatment of sick animals.
 - C. Monitoring of internal parasite load through spot checking by fecal egg counts with flock treatment as indicated.
 - D. Monitoring of external parasite load with treatment as indicated.
- II. Feeding and Nutrition
 - A. Provide salt as needed throughout year.
 - B. Provide phosphorous supplement commencing at time forage composition indicates critical deficiencies.
 - C. Supplemental feeding of protein during periods of shortages on selective basis to young and pregnant animals.

- D. Selective supplemental feeding of traction animals.
- E. Feeding hay and/or other feeds, to animals selected for market, prior to the advent of new forage growth to obtain earlier market readiness.
- F. Test small scale fattening of cattle, sheep and goats for general market and special occasions.

III. Animal Selection

- A. Identify the animals by means of hot iron brands, tatoo, plastic and/or metal tags, as appropriate, and record their age, sex and reproductive status.
- B. Apply a record keeping system based on individual animal records and to include birth date, health treatments, reproductive accomplishments, sire and dam if available, date and reason for leaving herd.
- C. Weigh all animals at appropriate intervals to provide measures of growth, size potential and nutritional and thrift status.
- D. Apply a selection system based on animal growth and reproductive performance.
- E. Survey strains of disease resistant animals to determine their suitability for study areas.
- F. Survey sheep and goats populations and identify superior strains and test study the most promising strains and crosses.
- G. Test feasibility of castration and dehorning of animals destined for market at optimum stage of growth.
- H. Weigh milk production of livestock milked at monthly intervals.

In addition, improved methods of manure handling will be initiated such as:

- A. Restricting area allotted to animals being fattened or confined.
- B. Move overnight holding pens at proper intervals to obtain maximum sufficient land coverage and to avoid over-fertilization.

Outputs

Applying a herd health program and improved management practices will supply baseline data in Phase I on which adjustments and refinements can be made for Phase II. Application of these improved practices in Phase II and extended to other areas can give the following benefits:

1. Increased calf crop and decrease in calf mortality will result in an annual takeoff increase from present level of 11% to 15% on short time basis and to 18% on long time basis for cattle and increase to 35% for sheep and goats.
2. Increase in growth rate, giving a decrease in time required to be ready for market. Reduction of from present 6 to 8 years for cattle to 6-7 years in short time and 5-6 years on long time basis.
3. Increased soil fertility giving 25% increase in crop yields and decreasing amount of land left fallow.
4. Improved quality of livestock production.
5. Increased income and quality of life for village people.

B. FINANCIAL ANALYSIS AND PLAN

Financial Analysis

Development of the livestock sector in Upper Volta has been restrained by a lack of personnel (particularly extension agents) and a lack of funds (budgetary support). The percentage of the GOUV National Budget devoted to the livestock sector over the past several years has varied between 1 and 1.5%.

TABLE I
UPPER VOLTA: Budget for Livestock in National Budget 1974 - 1973
(Million CFA)

<u>Year</u>	<u>Total National Budget</u>	<u>Budget of Livestock Personnel</u>	<u>Material^{1/}</u>	<u>Services Total^{2/}</u>	<u>% for Livestock</u>
1964	9,320.9	107.1	33.3	140.4	1.51
1965	8,924.0	103.0	24.8	172.8	1.43
1966	9,157.0	110.0	21.2	131.2	1.43
1967	8,374.8	107.1	18.0	125.1	1.49
1968	8,563.6	110.0	16.5	126.5	1.48
1969	9,030.6	118.5	18.8	137.3	1.52
1970	9,756.9	115.3	11.0	126.3	1.29
1971	10,515.2	114.1	14.5	128.6	1.22
1972	10,833.5	107.3	18.2	125.5	1.16
1973	13,000.0	110.0	18.2	128.2	1.00

1/ Includes operations expense, vehicle maintenance, purchase and replacement of small items.

2/ Beginning with 1970, the budget total does not include costs of transportation of materials, travel fuel, telephone and telegraph increasing the effective budget for livestock services to about 1.2 percent of national budget expenditures.

The National Livestock Service is quick to recognize its lack of personnel and funds (see Annex G Part II "Major Problems" prepared by the National Livestock Service). Furthermore, it notes the problem of an imbalance in the allocation of funds between personnel and material. In 1973, roughly 85% of the livestock budget went to paying personnel costs.

Thus, there is an anomaly. The Livestock Service is attempting to undertake many new projects with the help of donor organizations. These projects create additional personnel demands and, already, the budget is overwhelmingly burdened with personnel costs.

The lack of working capital funds available to the Livestock Service clearly rules out the possibility of using the Fixed Amount Reimbursement (FAR) method of financing. Furthermore, the relatively low amount of the project budget devoted to construction is scattered among small units.

One might well ask how is it that livestock production, a recognized area of potential economic development, receives such little attention from the GOUV budget. The answer may be that the livestock sector has proven to be self sustaining in many respects. Even with the drought of the last several years, livestock numbers have not dwindled in Upper Volta. One reason is that the first investment that rural people in Upper Volta make upon saving even small amounts of money is in livestock. Livestock represents a traditional form of wealth and savings and brings prestige to the owner. Natural selection is also at work. Drought resistant breeds have survived and will continue to survive.

If livestock is self-sustaining, why then should external resources be devoted to this sector? Here lies the crux of the development hypothesis of this project. It is argued that by providing technical assistance and financial support to the livestock sector, acceptable improved methods of livestock production will be established which will yield a favorable economic return not only to the national economy but, most important, to the small rural livestock raisers.

In terms of financial or economic return, it is difficult to estimate at this time what impact the project will have. One of the tasks of Phase I is to establish baseline data against which progress can be measured. In any event, Phase I activities, while bringing benefits to people in the test/demonstration zones, will be limited in impact as the emphasis will be on tests, study, and a development package for improved livestock production which can be replicated on a larger scale during Phase II.

Should be increased GOUV contribution

The test activities will attempt to establish cost-effective improvements and further practices which rely on a minimal amount of external capital. For example, it is quite likely, given the importance of animal health to animal production, that for Phase II, a recommendation will be the establishment of a revolving fund for the purchase of medicine, food supplements, etc. This would insure a continual reflow of funds into the livestock sector. The current practice is that the money a farmer pays to vaccinate his animals reverts to the national treasury and may be reallocated to the livestock budget the following year.

Why a Cuss?

Through training, the project aims to provide the Livestock Service with technically qualified people to carry on the project, to improve it, and to design/implement other livestock projects even when A.I.D. technical and financial support is removed. The establishment of a revolving fund would help meet on-going financial needs, but it is likely that follow-on financing by the GOUV and other donors will be necessary, sought, and found.

What about levels of retention of trained personnel?

TABLE II

Financial Plan
(\$ 000)

<u>AID</u>	<u>FY 76 +IQ</u>	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>Total</u>
<u>Contract Personnel:</u>					
Range Management Specialist	-	72	36	- -	108
Livestock Specialist	-	72	36	- -	108
Rural Extension Sociologist	-	72	36	- -	108
Soil Scientist (TDY)	-	15	-	- -	15
Veterinarian (TDY)	-	15	10	- -	25
Sub Total.		<u>246</u>	<u>118</u>		<u>364</u>
<u>Training</u>					
Range Management Specialist (USA)	6	12	12	6 -	36
Livestock Specialist (USA)	6	12	12	6 -	36
Short term (3 mo) Training Sociologist (USA)	6	-	-	- -	6
Short term 3rd Country trng.		15	15	- -	30
Seminars, in-country trng.		10	10	- -	20
Sub Total	<u>18</u>	<u>49</u>	<u>49</u>	<u>12</u>	<u>128</u>

TABEL II (continued)

	<u>FY 76 +IQ</u>	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>	<u>Total</u>
<u>Commodities</u>					
Equipment for Central Laboratory	50	-	-	-	50
Range Management Package	10	40	20	-	70
Livestock Package	10	60	20	-	90
Vehicles, Mobylettes and gas allowance	3	.7	.3	-	4
4 Landrovers (or equiv.)	50	-	-	-	50
3/4 ton truck w/stock rack and 4-wheel drive	-	14	-	-	14
POI/Maintenance	5	20	10	-	35
Office Equipment, supplies	10	10	-	-	20
Sub total	138	144.7	50.3	-	333
<u>Other Costs</u>					
Local hire Personnel (secretary, chauffeurs, laborers)	3	14	8	-	25
Subtotal	3	14	8	-	25
A.I.D. TOTAL	159	453.7	225.3	12	850
<u>GOUV</u>					
<u>FY 76 - 78</u>					
<u>Personnel/Salaries:</u>					
6 veterinary nurses			26.2		
Sociologists			7.6		
Range Manager & Livestock Counterparts			12.8		
Training Personnel			.6		
Overseas Trainees			4.4		
Subtotal			51.6		
<u>Office Space and Land</u>					
Office space			9.1		
Land (50,000 acres x \$5/acre/yr.)			500.0		
Subtotal			509.1		
TOTAL GOUV Contribution			560.7	= 39.7%	
TOTAL AID Contribution			850.0	= 60.3%	
PROJECT TOTAL			1,410.7	100.0%	

Are they buying the land?

TABLE III

Summary Cost Estimate and Financial Plan

(\$ 000)

Source	AID		Host Country		Total
	FX	IC	FX	IC	
U.S. Technicians	364				364
Participant Training	78				78
3rd Country Training		30			30
In-Country Training, seminars		20			20
Commodities	144	189			333
GOUV Personnel		25		51.6	76.6
Office Space & Land			509.1		509.1
Total	586	264		560.7	1,410.7

TABLE IV

Costing of Project Outputs/Inputs

Project Inputs	Project Outputs*				Total
	# 1	# 2	# 3	# 4	
AID Appropriated	**	492	298	60	850
Other U.S.		-	-	-	-
Host Country	**	51.6	509.1	-	560.7
Other Donors		-	-	-	-
Total	**	543.6	807.1	60	1,410.7

* See detailed description Logical Framework Outputs, pp 12-15.

** Undertaken by project personnel (charged to #2) and using project vehicles (charged to #3).

C. SOCIAL ANALYSIS

I. Sociocultural Feasibility

Prior Social Situation:

The prior social situation and life style of Voltaics in the three ORDs, Fada, Kaya and Koupela, is ingrained with ethnic traditions, French cultural influence, and donor agencies eager to assist the Voltaics enter the 21st century. Each of the above elements must be recognized in planning and implementing an improved village livestock/range program.

Ethnic values and attitudes based on tradition remain relatively stable. Suggested changes in livestock/range programs may be resisted as survival may be at stake. The villagers have adjusted to decades of French influence exemplified by the adoption of the French language, currency and improved farming practices. In addition French and German veterinary programs, Canadian traction programs, Chinese rice programs and various forestry programs, to mention a few, are available to assist Upper Volta as a developing nation. The village livestock/range program staff must be cognizant of the above programs and coordinate its efforts where applicable.

Approximately 1,094,000 rural people reside in the three ORDs.* Table V indicates the population of each ORD and the population density per km².

TABLE V

	<u>Population</u>	<u>People per km² approx.</u>
Kaya	558,000	26
Fada	202,750	5
Koupela	333,300	21

* Development Assistance Programs FY 76, Upper Volta & Niger State Department, March 1975.

Four major ethnic groups reside in sedentary villages in the area: Mossi, Gourmantche, Peuhl and Bissa. Table VI gives the relative population of each group in the three ORDs.

TABLE VI
Relative Population of Major Ethnic Groups

	Mossi	Gourmantche	Peuhl	Bissa
Kaya	high	----	low	----
Fada	med	high	low	----
Koupela	high	----	low	high

In addition, an unknown number of nomadic Peuhl graze their cattle between sedentary villages throughout the dry season.

Each of the above ethnic groups with the exception of nomadic Peuhls live in nucleated extended family villages. This is a result of the strong need for social interaction and protection from other people, wild animals and snakes. Cattle are herded either by the individual farmer/owner or consigned to be herded by Peuhl herders. Women often own sheep and goats and use the proceeds gained from their enterprise for household expenditures. With the approval of male adults, youth may own small animals, i.e., sheep, goats or chicken, and farm small plots of land on an experimental basis. 4-C clubs, similar to 4-H clubs in the United States, are active in each of the three ORDs.

The 4-C clubs are a result of the agricultural extension program organized through each of the three ORDs. The village livestock/range program should work with the extension agents and veterinary nurses in identifying and gaining access into the demonstration villages.

In Phase I of the program, village organizational patterns will be examined in a selected group of villages to determine ways in which village clusters may work together to control grazing. Efforts will be expanded so as not to disrupt traditional organizational procedures but rather work through traditional organizations and the indigenous power structure of the villages.

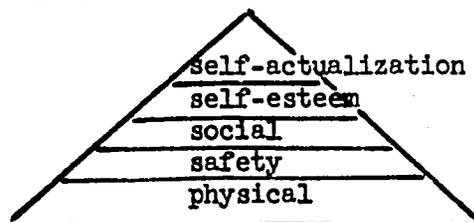
Traditions, Values, Beliefs

The village livestock/range project recognizes that problems identified by the donor may be rejected or adjusted by the Voltaics due to differing knowledge, skills and values. Klausmeier points out in Learning & Human Abilities * that people resist learning when the new knowledge threatens to change traditions, values, attitudes or feelings. Traditional methods of grazing cattle, controlling disease and parasites, and marketing would be firm and slow to change. The value of ownership of large herds and flocks is held in high esteem as with ownership comes prestige and the possibility of many wives and large families. Thus there would be security in old age.

At the same time, Klausmeier states that people will accept new knowledge and new skills if the new information does not threaten their security or values. Programs then that increase family income without a threat to survival or traditional beliefs would have a higher probability of acceptance. The challenge of the professional staff is to work with village leaders in developing and implementing programs that will build upon success. For example, the recent near eradication of Rinderpest disease was accomplished through a joint venture between Voltaics and national livestock leaders, ORD staff, veterinary nurses, and extension agents. Voltaics also recognize the value of other disease control as indicated by the strong demand for drugs to treat other diseases. Village leaders visited by the Design Team in the three ORDs exhibited keen interest in working with ORD directors and staff and A.I.D. professional livestock staff in planning and implementing improved livestock/range management programs.

Hierarchy of Need

Maslow's hierarchy of need ** states that man has five basic needs. The diagram below shows these needs in order of importance.



The physical need is basic and most important. Before the villager may enjoy any of the other needs, he must first satisfy his need for food, shelter and water. Considerable energy is expended by the

* Klausmeier, H.J. Learning & Human Abilities, Harper & Row, 1971.

** Maslow, A.H., New Knowledge in Human Values, Harper & Row, 1959.

Voltaic in this endeavor through the building of huts and granaries, planting, cultivating, harvesting crops, herding livestock and providing for water. Safety is provided by numbers of village people living together and firm grass or mud fences to keep snakes and other predators out of the village compound. The social life of the villager is a continuous process except perhaps for the small lone naked child out herding sheep or goats during the long hot day.

When the day is done there is little time, energy or resources left to help satisfy the other two basic needs, self-esteem and self-actualization. These can be satisfied only when the individual has an opportunity to reach his full potential.

Even though the village livestock/range program is largely designed to improve the first three basic needs (physical, safety and social) identified by Maslow, the final needs of self-esteem and self-actualization will also be partially satisfied. This will be accomplished by additional economic security and a feeling of success and accomplishment as the quality of rural life is improved.

Social Action Process

Thus far in the sociocultural feasibility study we have examined the prior social situation recognizing the many interrelated avenues that must be dealt with by professional change agents. This examination of prior information is the first step in the Social Action Process.*

The next step is clearly defining the problem(s). Until these problems are agreed upon or adapted by village leaders, they are academic. Therefore, the professional staff of the livestock/range program will meet with village hierarchy and ORD staff in an effort to:

1. redefine the problem based on local situations,
2. examine alternative solutions,
3. allow village hierarchy to assist in setting a priority for solution of the problem, and
4. devising a method(s) for implementation.

The professional staff must work with village legitimizers such as the chief, elders and members of the council of notables in carrying out the above process.

* Beal, G.M. & Bohlin J., "Social Action Process", Iowa State University.

Evaluation of the program is a continuous process. The professional staff will examine, on a daily basis, how well they have worked through the above process. Final evaluation will be based on change in behavior of village people, and increased livestock production and improved quality of rural life for Voltaics in the selected village areas.

II. Spread Effects; the Diffusion of Innovation

The end product of Phase I will be a village tested livestock/range program and will improve the lifestyle of Voltaics. Five major problems have been identified that need testing and analysis:

1. animal health
2. farm finishing/fattening
3. grazing reserves
4. controlled grazing
5. controlled burning.

As indicated in Table VII, two of these problem areas, animal health and farm finishing/fattening, will be tested in selected villages in each of the three ORDs. The other three problem areas, grazing reserves, controlled grazing and controlled burning will be divided among the three ORDs for detailed test demonstration analysis.

TABLE VII

Problem Areas Spread Among Three ORDs
Fada, Kaya and Koupela

ORD	Animal health	farm finishing/ fattening	grazing reserve	controlled grazing	controlled burning
I	X	X	X		
II	X	X		X	
III	X	X			X

Final evaluation of results in each of these five problem areas at the end of Phase I will give, after adjustment, a beginning point for Phase II. Field trips and seminars for livestock people and farmers from throughout the three ORDs will be held on the demonstration sites. Radio programs will be prepared to further diffuse the information.

III. Social Consequences and Benefits - Role of Women

A main objective of the proposed village livestock activities is to increase production and producer income regardless of whether the owner is a man, woman or child. The program will therefore provide equal opportunity for all segments of the village. For example, Peuhl women will continue to own chickens while Gourmantche women will continue to own sheep and goats. In addition, Gourmantche women will continue to own peanut crops and use the proceeds for personal and family expenditures which often includes the purchase of livestock. It is anticipated that all livestock owners will benefit from an improved village livestock management system. The project does not aim to change livestock ownership patterns.

IV. Analysis of Human Constraints - Needed Research

In addition to working with other team members, ORD staff and village hierarchy in problem identification, determining alternative solutions and devising methods of implementation and evaluation, the sociologist will carry out research in areas such as:

- A. the pattern of animal ownership, e.g., by individual, kinship group, communal, herders)
- B. the level of absentee ownership
- C. herder/owner concept of animal value
 1. social value
 2. asset value vs. commercial value
 3. religious value
- D. the relationship between risk and commercialization
- E. relationship between permanent village livestockmen and non-sedentary owners
 1. kinship relationship
 2. economic relationship
 3. sources of conflict (e.g., burning, crop grazing)
 4. grazing and water rights
 5. fallow land grazing
- F. land tenure and usage
 1. relationship between individual or group ownership and public ownership of the national domain
 2. present patterns of ownership
 3. degree of permanence of villages
 4. analysis of methods of land transfer including sale, barter, ceremonial (marriage, etc.)
 5. relationship between special interest groups (religious, caste).

D. ECONOMIC ANALYSIS

Production and marketing livestock from the national herd of Upper Volta is difficult to estimate. Domestic consumption and exports are influenced by both legal entries and smuggled cattle from Mali because of Malian export taxes and Voltaic transit taxes. Similarly many cattle are exported illegally in order to avoid Voltaic export taxes.

The Project area includes at least 25 percent of the cattle and 25 percent of sheep and goats, but as populations are estimated only for animals permanently resident in the district, dry season population, which would include migratory herds, would be greater.

Estimates of availability and consumption of meat and fish are less reliable because only a modest share of slaughter is recorded. Total slaughter and the fish catch must be estimated indirectly. The available data suggest that the percapita meat consumption is about 8.6 Kg./capita and that of fish 2-4 Kgs. These are low in relation to other African meat-exporting countries. Analyses of production and availability trends suggest that percapita consumption is declining. If consumption and export levels are maintained or improved, an improvement in the productivity of the national herd must be improved by better feeding and health care. This is a central objective of the Project.

Demand and Prices

Because of missing demand and stable or declining supplies in West Africa, cattle and meat prices are increasing. Over the pre-drought period and through early 1974, meat prices in coastal markets increased at about the same rate as cost of living indices. In the post-drought period, prices have increased rapidly as personal incomes recovered and herdsmen in the Sahelian Zone reduced sales to rebuild herds.

Prices for live cattle do fluctuate seasonally with the lowest prices generally occurring at the end of the rainy season when animals are in good condition and consequently meat supplied per animal and numbers of animals offered for sale are greatest. Prices are highest on average at the end of the dry season when owners are looking forward to improved range conditions and are reluctant to sell. In any season, cattle in good flesh bring the highest prices.

Current value of cattle within the project zone can be only an estimation. In October 1974, they were estimated to be CFA 85-95/Kg live weight for average animals. Prices in mid-1975 were said to be 25-50 percent higher but are declining seasonally in October 1975. Large (350 Kgs or 770 lbs) animals are recently said to be valued at CFA 130/Kg live weight or 42,500 (\$390).

It is generally believed that prices for live animals will continue to increase in relation to general price levels. Prices in coastal markets now reflect world price levels, with those in internal markets less by roughly the cost of marketing and transport. Prices are currently at levels which are believed to make feeding of selected steers and possibly sheep economically attractive.

Marketing Within the Project Area

No direct intervention in marketing in Phase I is planned. The Project area is a livestock surplus area and is also a transit area for stock from the Sahel ORD and a small number of animals from Niger and Mali. A major cattle trail links Dori with Puytenga (near Koupela) which is one of the largest cattle markets in Upper Volta. Most cattle are then walked to Ouagadougou where they are either slaughtered or railed to the Ivory Coast. Lesser numbers are trailed to Ghana, Dahomey and Togo. Sheep and goats are transported by truck, bus and taxi from the first market with a passable road. Principal trails have been marked so that cultivation is prohibited (and the farmer cannot claim crop damage from passing herds) and water is provided at reasonable intervals. Any required improvements to marketing infrastructure could be financed under other assistance programs. The existing indigenous marketing system is believed to be competitive and does provide the services of collecting animals from producers and transporting them at modest cost to consumers.

Two types of marketing related activities do require attention. First, programs have already been initiated within all three ORDs to provide credit to farmers for the purchase of cattle for animal traction. Other farmers are using their own savings or credit sources to purchase animals for feeding or traction. Steers are often available from their own herds for feeding or traction. Potential sources of stock should be investigated in Phase I for the most appropriate breed of cattle for feeding and traction. However, credit for purchase of animals for feeding or traction will not be included in this Project.

Second, the existing and potential markets for expended oxen and fattened animals should be investigated. However, as the existing marketing system is absorbing the current flow of such animals, the need for direct assistance for grouping cooperating farmers' cattle or sheep for joint sale is not anticipated.

Government Support of Livestock Sector

The Department of Livestock and Animal Industry is part of the Ministry of Plan, Rural Development, Environment and Tourism. The Department has been traditionally concerned with livestock development policy and services such as animal health, livestock marketing, meat inspection and animal production. Under the ORD structure, field veterinary services are to be ~~transferred to the ORDs~~ who would become responsible for providing agricultural extension, training, veterinary credit and

crop marketing services and rural infrastructure including roads, wells, dams and warehouses. The transfer which was to occur by January 1975, is not yet complete and budget support for veterinary field services remains with the Central Department through the current fiscal year.

When the decentralization is complete, the Central Department would be mainly concerned with policy formation, livestock planning and project monitoring as well as a limited number of specialized activities such as three livestock farms, a feed lot, a poultry center and presumably veterinary stores, pharmacy and diagnostic laboratory services.

PART 4 - IMPLEMENTATION PLANNING

A. ADMINISTRATIVE ARRANGEMENTS

The project will be administered and implemented by a GOUV project director, an A.I.D. Direct Hire Project Manager/Ag Economist, and a contract team consisting of a Range Management Specialist, a Livestock Specialist, and a Rural Extension Sociologist plus appropriate Voltaic counterparts and extension personnel.

It is anticipated that eventually (most likely in Phase II or late in Phase I) there will be a national advisory committee including members of various GOUV ministries and technical services. This committee may meet twice a year to review the project and make any broad policy recommendations which are deemed necessary. There will also be a smaller working committee at the national level which may include representatives of the National Livestock Service, the Permanent Secretariat, and the National Agricultural Service. This smaller committee will be organized prior to the beginning of Phase I activities.

At the ORD level, close cooperation and coordination will be maintained with the ORD directors and technical staff. Field work will involve the participation of both livestock and agricultural extension workers plus, most important, the rural people of the three ORDs.

An effort has been made to make project personnel relatively independent logistically to facilitate field work. Notably, vehicular support will enable all season access to project zones. Furthermore, each zone will be the responsibility of a livestock extension agent who will be equipped with a mobyette, a gas allowance, plus other materials which will increase outreach and technical capability.

It is difficult to assess at this time the managerial capability of project personnel whether they be American or Voltaic. However, an indication of the readiness to go forward with the project is the identification of a sociology graduate from Koupela (one of the project ORDs) who has recently finished his studies in France and has applied to the Livestock Service to do field work. A second Voltaic who may be available to be assigned to the project is a recent doctoral graduate of veterinary medicine who is currently on a participant training program in the U.S. to study, among other things, range management and feed lot operations. He is scheduled to return at the end of June 1976.

The A.I.D. Project Manager should be an agricultural economist and it is hoped that he or she will bring to the project not only managerial skills but also provide a technical input. This person will, among other things, be responsible for coordinating the design of Phase II.

B. IMPLEMENTATION PLAN

The proposed implementation schedule is as follows:

1. PP submitted to AID/W	January 10, 1976
2. Project authorization	January 31, 1976
3. Project Agreement Signed	March 15, 1976
4. PID prepared for Phase II	June 30, 1976
5. Contract personnel arrive Upper Volta	September 1, 1976
6. PMP prepared for Phase II	December 15, 1976
7. PP submitted for Phase II	January, 1978
8. Project authorization	February 15, 1978
9. Project Agreement signed	March 15, 1978
10. Phase II begins	March 15, 1978
11. End of Phase I training	June 30, 1979

A planned Performance Tracking Network Chart with a detailed implementation schedule, including critical performance indicators is included in Annex E.

C. EVALUATION PLAN

Evaluation of the Village Livestock Program will be of two types: formative and summative. Formative evaluation will be a continuous process. Team members will determine on a regular basis how well they are meeting agreed upon schedules and when adjustments need to be made. Baseline data developed by team members will also assist in evaluation and program adjustment. Project personnel will submit monthly progress reports and will meet at least quarterly to review and evaluate programs.

The final summative evaluation of the project will determine how well team members have met the overall purpose of the program as well as specific objectives. During the final stages of Phase I, the formative and summative evaluation will assist in preparing the Project Paper for Phase II.

D. CONDITIONS, COVENANTS AND NEGOTIATING STATUS

Before signing a Project Agreement, the GOUV must meet the following conditions:

1. The GOUV will designate/appoint a National Working Committee to review and advise the project periodically.
2. The GOUV will designate/appoint a project director.

DEPARTMENT OF STATE
TELEGRAM 5 SEP 1975 07 22

URGENT

UNCLASSIFIED

Classification

**AMB
DCM
ECON
CHRON**

ANNEX A

AID/W PRP APPROVAL MESSAGE

**R 041823Z SEP 75
FM SECSTATE WASHDC
TO RUEFJG/AMEMBASSY OUAGADOUGOU 8883
RUTALJ/AMEMBASSY ABIDJAN 5625
BT
UNCLAS STATE 210095**

AIDAC

E.O. 11652: N/A

TAGS:

SUBJECT: UPPER VOLTA VILLAGE LIVESTOCK PRP

REF: (A) OUAGADOUGOU 1692 (B) OUAGADOUGOU 1724

1. ECPR MEETING HELD AUGUST 21, 1975 TO DISCUSS SUBJECT PRP WHICH PREVIOUSLY ENDORSED BY PROJECT REVIEW COMMITTEE. ECPR APPROVED PROCEEDING IMMEDIATELY TO PROJECT DESIGN AND IMPLEMENTATION USING FOLLOWING PROCEDURE:

(A) RATHER THAN PROCEED WITH FULL-SCALE VILLAGE LIVESTOCK PROGRAM AS PROPOSED IN PRP, ECPR AGREED TO PHASED APPROACH. PHASE I WILL FINANCE PROGRAM DESIGN AND FEASIBILITY STUDY. PHASE II WILL FUND PROJECT IDENTIFIED AND PROPOSED BY PHASE I. WHILE IT IS EXPECTED THAT SOME TRAINING AND COMMODITY PROCUREMENT WILL BE INVOLVED IN PHASE I, BULK OF PHASE I EXPENDITURES WILL BE FOR TECHNICAL SERVICES;

(B) PROJECT DESIGN TEAM WILL BE FIELDED ASAP INCLUDING TEAM MEMBERS REQUESTED REFTELS. SEE PARA 2 BELOW. TEAM WILL BE FUNDED FROM BUREAU'S PROGRAM DEVELOPMENT AND SUPPORT PROJECT; NO CDO ACTION REQUIRED;

(C) BASED ON ADDITIONAL INFORMATION COLLECTED BY DESIGN TEAM, AA/AFR WILL CONSIDER APPROVAL OF PHASE I PRESENTED IN PROJECT PAPER (PP) FORMAT. PHASE I WILL INCLUDE ESTABLISHMENT OF RESIDENT TEAM IN UPPER VOLTA AND INITIATION OF PROJECT ACTIVITIES, AS FEASIBLE, IN COOPERATION WITH GOV. RESIDENT TEAM WILL ALSO PERFORM BASIC STUDIES ESSENTIAL FOR ESTABLISHING FEASIBILITY AND MODALITIES OF LONG-TERM AID EFFORT IN LIVESTOCK DEVELOPMENT AND RANGE

DEPARTMENT OF STATE
TELEGRAM

PAGE 2

UNCLASSIFIED

MANAGEMENT. PHASE I SHOULD BE COMPLETED IN TWO YEARS OR LESS.

Classification

(D) FOLLOWING COMPLETION OF FIELD WORK AND DEPENDENT ON DATA AND RESULTS OF PHASE I, PHASE II IMPLEMENTATION PLAN WILL BE AUTHORIZED ON BASIS PP. COMPOSITION OF RESIDENT CONTRACTOR TEAM WILL BE REVIEWED AND CHANGES IN STAFFING REQUIREMENTS MADE IF NECESSARY.

2. AID/W HAS PREPARED SCOPE OF WORK FOR PROJECT DESIGN TEAM. WILL DISCUSS WITH HOSKINS THIS WEEK. TEAM WILL INCLUDE LIVESTOCK SPECIALIST, AGRICULTURAL ECONOMIST, RANGE MANAGEMENT ADVISOR AND SOCIOLOGIST. EITHER REDSO OR AID/W DESIGN OFFICER WILL ALSO PARTICIPATE. WITH CDO AND GOUV CONCURRENCE, TEAM WOULD BE SENT TO UPPER VOLTA IN SEPTEMBER-OCTOBER FOR 3-5 WEEKS.

3. IN LIGHT PROPOSED IMPLEMENTATION PLAN ABOVE, FY 1976 FUNDING LEVELS OF DGLS 850,000 CONSIDERED IN EXCESS OF REQUIREMENTS. BUDGET LEVEL WILL NOT BE REDUCED, HOWEVER, UNTIL PROJECT DESIGN TEAM HAS PRESENTED RECOMMENDATIONS FOR PHASE I.

4. REQUEST CDO COMMENTS ON PROPOSED, PHASED IMPLEMENTATION PLAN OUTLINED PARA 1. KISSINGER
B

Classification

ANNEX B

ITEMIZED TECHNICAL EQUIPMENT LIST

ANALYZING KITS

Soil testing kits
Water testing kits
Miscellaneous

Total Costs

\$ 500.00

METEOROLOGICAL EQUIPMENT

Wet and dry bulb thermometer
Hygrothermograph
Actinograph
Anemometer
Rain gauge
Miscellaneous

2,000.00

NUTRITIONAL ANALYSIS LABORATORY (as per techniques
outlined in Harris, 1970.)

IN-VITRO ANALYSIS

Wiley mill
Hot water bath
Melter balance
Assorted glassware
Thermos bottles
CO₂ apparatus (tank and gauges)
Assorted tubing and stoppers
Assorted chemicals
Miscellaneous

7,000.00

ENERGY ANALYSIS

Bomb calorimeter w/accompanying apparatus
Oxygen (tank and gauges)
Miscellaneous

5,000.00

NITROGEN ANALYSIS (PROTEIN)

Kjeldhal Apparatus (micro-method)
Assorted glassware
Assorted chemicals

6,000.00

PHOSPHORUS ANALYSIS

Assorted glassware
Assorted chemicals
Miscellaneous

2,000.00

TECHNICAL DEVELOPMENT

Total Costs

SPECIES TRIALS

Fertilizer/chemical
Seed (grasses/legumes)
Spring scales (grams, kilometers)
Meter tapes
Seed drill (hand operated)
Fertilizer spreader

\$2,000.00

FIRE BREAKS

Plows
Miscellaneous

1,000.00

WATER DEVELOPMENT

HAND DIGGING TOOLS

Picks
Shovels
Buckets
Rope
Wheel Barrows
Cement
Cement forms (well molds)
Saws
Hammers
Blasting agents
Miscellaneous

2,000.00

TRIAL-SITE DEVELOPMENT AND CONSTRUCTION

Fence posts, metal
Fence posts, wood
Wire- barbed, baling
Wire stretchers
Post hole diggers
Fencing tools
Fence tracks
Miscellaneous

38,500.00

MISCELLANEOUS

Assorted hand tools
Pliers
Screw drivers
Wire cutters
Metric wrenches
Flashlights
Welding equipment

4,000.00

TOTAL

\$70,000.00

INFUTS

Animals Health Package

Part of costs of:

1. Vaccines, drugs, medicines, syringes, needles, scalpels, sutures, microscopes, etc.
2. Burdizza castrators
3. Elastrators
4. Nose tongs, ropes, miscellaneous
5. Squeeze
6. Metal holding pens, portable
7. Cattle scales
8. Platform scales and crate (sheep and goats)
9. Milk spring dial scales
10. Back-pack sprayer
11. Tattoo outfit, complete
12. Eartags
13. Record books
14. Wire and steel posts snow fence (does not include range pasture lot)
15. Salt - (20 lbs per cow, 4 lbs per sheep)
16. Phosphorus supplement (4 lbs per cow, 1 lb per sheep)
17. Miscellaneous feed supplements (part of herd only)
18. Hot iron brands
19. Mobylettes

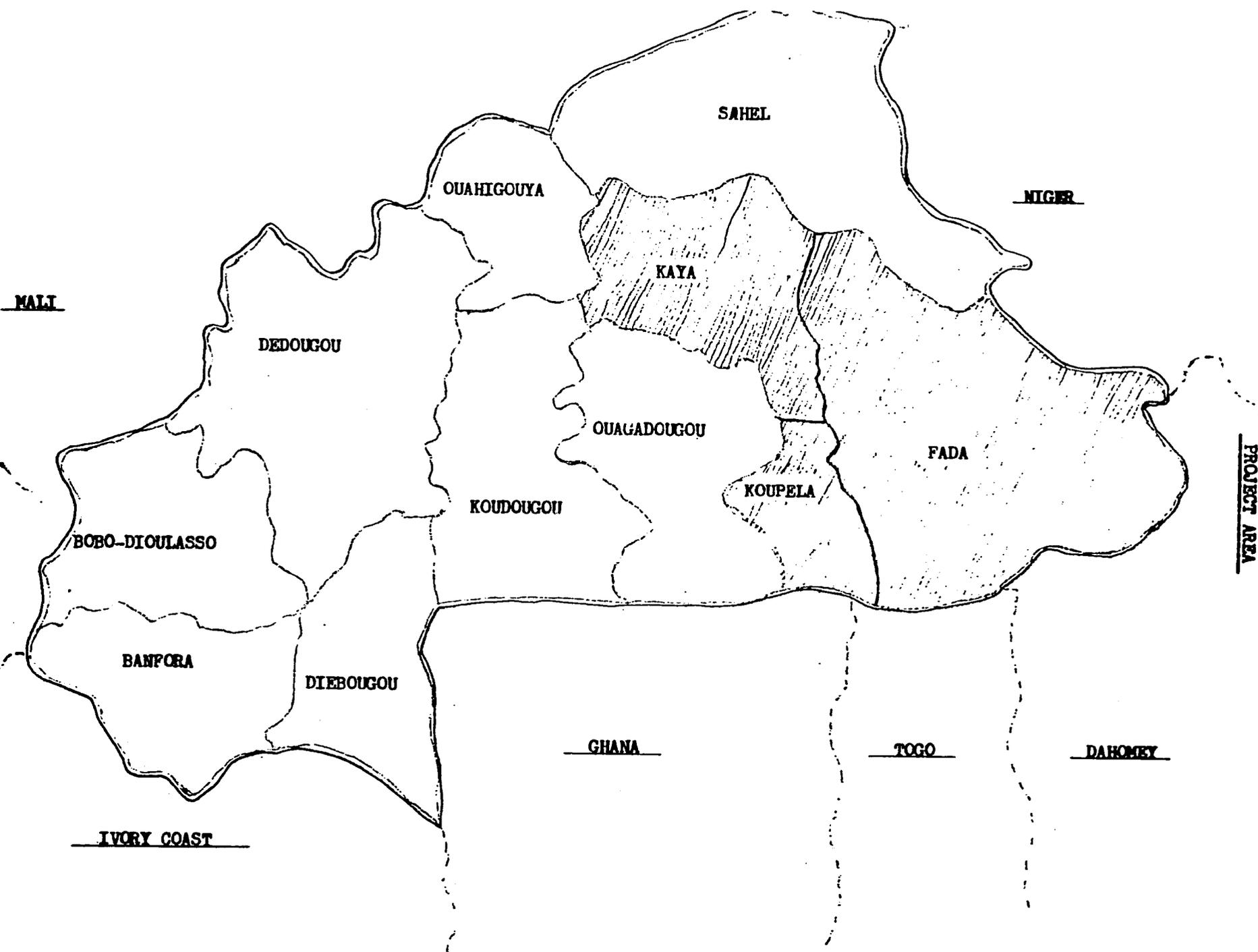
TOTAL COST: \$90,000.00

ANNEX C

C. ENVIRONMENTAL ASSESSMENT

By controlling grazing through establishing proper stocking rates, selected range reseeding, controlled burning, and development of watering sites, the current ranges of Upper Volta will profit as follows:

1. Land use potential will be more fully utilized.
 - a) In lieu of non-palatable or less preferred species, the cover will include a mixture of palatable perennials of high nutritional quality.
 - b) Increased water development will increase use of the range.
2. Stabilization of the range ecosystem will assure sustained yields over time.
 - a) Perennial ground cover in the form of grass and forbs will aid in retaining top soil and add to its organic content and moisture retention capabilities.
 - b) Increased perennial composition will lessen the danger of fire by retaining moisture longer than the present composition of predominantly annual species.



ANNEX D

PROJECT AREA

ANNEX E

DETAILED IMPLEMENTATION PLAN AND PPT

I. Detailed Implementation Plan

Project Paper submitted to AID/W	January 10, 1976
AID/W approval of PP	January 31, 1976
Begin contacts with contracting agencies and institutions	
ProAg signed by CDO and GOV	February 1
Direct Hire Project Manager arrives	March 15
Begin identifying GOV personnel for U.S. training	April
Short term training begins for Voltaic sociologist	April
Order vehicles and project supplies/equipment	May
Contract positions filled - language training	May
PID for Phase II prepared	June
Send 2 long term Participant Trainees to U.S.	June 30
Training of veterinary nurses	August
Arrival in country of contract personnel	September
Project personnel establish research sites, identify Voltaic assistants for training	September
Range Manager sets up analytical laboratory	October
Begin baseline studies, select test animals, order additional materials/equipment	October
Fence research plots, construct station, order test seed	November
FRP for Phase II prepared	November
Village research begins	December
Establish veterinary program with TDY Veterinarian (3 mos.), begin livestock tagging, weighing, mineral supplementation, fattening, etc.	December
Begin forage lab analysis, hydrological survey, soil survey (with TDY soil specialist 2-3 mos.)	January 1977
Refresher course for veterinary nurses	January
Organize village towns for village leaders to see parasite control, mineral supplementation, research plots, etc.	March
Begin well development, water catchment development	March
Assist village hierarchy examine range/livestock data	
Begin spring range survey, seed trials, fertilizer trials, grazing trials	June
Veterinary nurse refresher course	June
Participant trainees return to work on project during summer	June
In-Vitro analysis for livestock	June
Begin summer range survey	August
	August

Trainees return to U.S.	September
ProAg amendment obligating balance of funds	October
Controller burning trials	October
TDY veterinarian (2 mos.) to conduct training seminars	November
Phase II PP submitted to AID/W	January, 1978
Phase II PP approved	February
Phase II ProAg signed	March 15
Phase II activities begin, Phase I training continues	March

ANNEX F

GRANTEE'S APPLICATION FOR ASSISTANCE

Project has been discussed with GOUV in detail and an oral request for this project assistance has been received from appropriate GOUV authority. This will be followed by a written request to be received in January.

ANNEX G

LIVESTOCK PROJECTS IN UPPER VOLTA +

I. Current Projects

Projects in progress or completed in 1975 concerning either studies or active programs of development.

1.1. Completed Studies

1.1.1. The Léo Ranch

- The agrostological studies have been completed: the pastures are of good quality and will be able to feed 16,000 A.U. on 40,000 hectares
- The socio-geographical studies have also been completed (C.V.R.S. Voltaic Center for Scientific Research report of June, 1975): the concerned populations are not hostile a priori to the ranch project. They sustain, nonetheless, certain damages. Compensation will have to be provided to them.
- The hydro-geological studies: we await the opinion of the H.A.E.R. Voltaic Hydraulic Service on the report of the experts. (August 1975). We feel that complementary research is essential; cost: 50 million CFA, funding to be located (F.A.C.). The project is thereby currently blocked by this problem.

1.1.2. Sahel O.R.D.

- Subject of a separate memo.

1.1.3. The Diéfoula Ranch (La Konga Ranch)

- In 1975 RFA (German aid) financed the agrostological study (it will be possible to raise 8,000 cattle on 27,500 hectares) and the hydro-geological studies: utilization of surface water and water from the Comoé and Konga rivers.
- The feasibility study, financed by the R.F.A., was completed in May 1975. The sum total of the necessary investments reaches 603 million, to be requested of the F.E.D.

1.1.4. The Banfora Feed-Lot

- The feasibility study was completed in May 1975, through R.F.A. financing: 6,000 head will be fattened per year, in groups of 2,000, during 3 months.
- The predicted investments reach 370 million. Projected financing R.F.A.. Completion planned for 1976-77

+ Prepared by the National Livestock Service.

1.1.5. Inter-State Center for Technical Anti-Tsetse Training

- The study for the creation in Bobo-Dioulasso of a training center of personnel specialized in the struggle against "glossines" was done in 1975, by experts of the R.F.A.
- The plan is to train 25 sanitary agents each year. Duration of training: 1 year.
- The project could be implemented in 1976 with joint R.F.A.-F.A.C. financing (for assistance in teaching personnel and educational materials).

1.1.6. Livestock Feed Factory

- The feasibility study, financed by the U.N.I.D.O., was done in 1975. Report published in September 1975.
- In a first phase (1978), the factory which will be built in Bobo-Dioulasso will produce 4,000 tons yearly of livestock feed (poultry pigs, cattle).
- The necessary investments total 55 million CFA. Projected financing: R.F.A.

1.1.7. Holding Zone and Restoration Park of Loumbila

- Feasibility study completed in June 1975 (report), through F.E.D. financing.
- The project includes the establishment, on 4,240 hectares, in Loumbila, of pastoral and hydraulic arrangements, of trials, of enclosures, and of the necessary infrastructure for 800 to 3,000 bovines and 500 to 3,000 small ruminants, permanently.
- Projected financing: 108 million, through F.E.D., in 1976-77.

1.1.8. Equipment project for the meat markets of the principal urban centers of Upper Volta (butchers' stalls, cold storage).

- The study and the preparation of the project, in collaboration with the HAER, were completed in 1975 by the National Livestock Service.
- For equipment for Ouagadougou and Bobo-Dioulasso, the investments total 158 million.
- The financing requested of U.N.D.P. has not been obtained. Another source must be located.

1.1.9. Study of Breeding in Upper Volta

- A commission (FAC - SEDES - CCCE) has worked out a development scheme for breeding in Upper Volta and has proposed certain orientations. The report which reached us in May 1975 recommends: complementary studies for the elaboration of animal production development projects, a policy of valorization of agro-industrial by-products, and a sanitary strategy.

1.1.10 Reconstitution of the Livestock of the Sahel

- An important project to reconstitute the bovine livestock of the Sahel decimated by the drought of precious years (1968-74) has been studied and worked out by the Livestock Service. Its goal is to reduce the mortality of young calves, which is considerable, through the distribution of protidic and mineral food complements.
- Financing: 807,5 million, over 5 years, sought from an external source (U.S.A.I.D. ?)

1.1.11.

Commissions of experts have been requested (by FAC) in 1975, to study:

- the development of milk production around urban centers (Ouagadougou and Bobo-Dioulasso).
- the breeding of small ruminants (sheep and goats), in furtherance of earlier studies
- the Léo Ranch project, and to prepare the technical, economic, and financial report (feasibility)

These commissions have not yet been established. They are projected for early 1976.

1.1.12 Struggle against animal diseases

Within the framework of the struggle against the effects of the drought in the Sahel, (C.I.L.S.S.), external assistance has been requested. A commission of experts is expected to intervene shortly on this subject (R.F.A. - F.A.C.). Reinforcement of the resources of the Livestock Service will be requested.

1.1.13 Development of Leather and Hides Production

Studies have been in progress since 1974, by a U.N.D.P. expert. They have been actively continued in 1975.

1.2. Completed Projects

1.2.1. Ouagadougou Slaughter-house

This industrial refrigerated slaughter-house, completed in 1974, (F.E.D., 625 million) opened in August 1975. It is currently operating satisfactorily.

1.2.2. Livestock market in Ouagadougou

Completed in 1975, with F.E.D. funding: 25 million, located near the new slaughter-house. Completed in August 1975. Currently in operation.

1.2.3. Creation of the National Office for the Exploitation of Animal Resources

- The National Office for the Exploitation of Animal Resources was created by decree number 75/139/Presidency/Plan of 17 April 1975.
- The necessary initial financing, 85 million, of which 50 is intended for buildings and equipment, has been requested from Dutch assistance.
- Technical assistance is being sought.

1.2.4. Development of Traditional breeding in the Banfora O.R.D.

- 212 million was obtained in 1975, under the 3rd F.E.D., for environmental action, sanitary infrastructure, pastoral hydraulics, genetic improvement, etc.
- Technical assistance (Italian) is being sought.

1.2.5. Complementary equipment of the Markoye Ranch

Aid totaling 22.5 million (95,000) was obtained this year from USAID for complementary equipment of the Ranch. The project is in the process of being completed.

1.2.6. Pastoral hydraulics

- hydraulic equipment for the pastoral reserve of Tin Arkachen: 130 million was obtained from the F.A.C. for an artesian well. Completion should be possible in 1976.
- Numerous wells in the Sahel O.R.D. have been completed, through diverse financing: I.B.R.D., U.N.D.P., F.D.R. (Rural Development Fund), B.N., F.E.D., etc. (cf. H.A.E.R.)

1.2.7. Mapping of the pasture-lands of the Sahel and the North of the Fada N'Gourma O.R.D.

The project (100 million F.A.C.), of 3 years' duration, is approximately 30% complete. It will be completed within the projected time.

1.2.8. Development of Breeding in the West (O.R.D.s of Lédougou and Bobo-Dioulasso).

Financing (I.D.A. - I.B.R.D.): 2.3 billion C.F.A., over 5 years, with the participation of the National Budget and the B.N.D. (National Development Bank)

- A General Director (Mr. Balima) has been named. The project, which is in the beginning stage, includes:
 - creating 9 collective ranches of 15,000 hectares each
 - reinforcing sanitary action
 - establishing a commercialization complex
 - organizing training programs.

1.2.9. Recovery station for by-products of the Bobo-Dioulasso slaughter-house

Completed in 1975, with F.A.C. financing (18,5 million). Operation has just started, after necessary training of specialized personnel.

1.2.10 Sanitary actions (Vaccinations)

- The final phase of the project (1975), begun in 1973 with F.E.D. financing (61 million), has obtained very positive results:
 - 2,461,000 immunizations have been performed: 1,238,000 against the plague, and 1,223,000 against peripneumonia. Whereas, with the same resources, only 1,500,000 immunizations were predicted (750,000 plague and 750,000 peripneumonia).
 - No sources of plague or peripneumonia have been observed since the beginning of the year, for the first time.

1.2.11 Treatment of internal parasitoses of the livestock of the Sahel

- Aid from U.N.D.P./O.S.R.O. (40,000) for the deparasitization of the livestock of the Sahel, in the form of vermifuges (T.B.Z. and Ranide anthelmintics) and antiseptic-anti-diarrheic products, permits effective treatment of more than 3000,000 bovines and small ruminants. The treatments are in progress, with excellent results and the financial participation of the breeders concerned. (Veterinary pharmacy account).

1.2.12 Livestock trials in the East

- This project (F.A.C.), which comes under the direction of the H.A.E.R., is not yet completely finished (since 1972), the contracting party having had certain difficulties. It has been unanimously proposed by F.A.C., H.A.E.R., the Livestock Service, and the Ministry of Plan (P.V. meeting of 22 April 1975) to cancel the contract, and to turn over to the HAER the management of the work as yet uncompleted (the Marketplace of Markoye, in particular).
- The contract has not yet been canceled; and the work has thus been at a standstill for several months (18million out of 36).

1.2.13 Provision of the principal markets with livestock weigh-scales

- For the provision of 6 principal livestock markets: Ouagadougou, Bobo-Dioulasso, Kaya, Puytenga, Ouahigouya, Markoye, scales have been furnished by the F.A.C.
- They will be installed (except in Markoye) in the coming weeks, with financing by the Entente Guaranty Fund.

1.2.14 Development of Aviculture

- 15 million has just been released from the Treasury account 30119 (Veterinary pharmacy) for the extension of and equipment for the Avicultural Center of Upper Volta, in Ouagadougou.
- This will be used for the construction of technical buildings and the acquisition of materials and equipment.

1.3 Solicited Projects

	Millions of C.F.A.
1.3.1. Livestock trails of the Center	92
1.3.2. Treatment of parasitoses in the Sudanese zone	232.5
1.3.3. Reconstitution of the Livestock of the Sahel	807.5
1.3.4. Development of Pig Breeding	35
1.3.5. Peasant cattle fattening, Vallée du Kou	56
1.3.6. Meat markets	158
1.3.7. Bush slaughter-houses	100
1.3.8. Yatenga pastoral hydraulics	400
1.3.9. Breeding laboratory	?
1.3.10 Central veterinary pharmacy	
1.3.11 Division of breeding in Koudougou	25
1.3.12 Breeding infrastructure in the Sahel ORD	

II. The Big Problems

2.1. Lack of resources of the Livestock Service

2.1.1. In personnel:

- The completion and the operation of these many projects require an increased technical personnel.
- Recruiting is insufficient at all levels: higher staff, middle staff, lower staff.
- For example, for veterinary nurses the 72-76 Plan called for the recruitment of 20 agents yearly; only 10 are recruited each year. Retirements taken into account, the effective force remains stationary (or is even regressing).

2.1.2. In operational credits

- The credits granted to Livestock by the National Budget are decreasing regularly as compared to the global aggregate: only 1%, approximately, in 1975, as opposed to 1.5 in 1964 and 1.8 in 1959.
- The operational credits ("material") are many times inferior to the "personnel" credits, which is an anomaly: the personnel is underemployed for lack of work resources. A better balance needs to be established between the titles "Personnel" and "Material".

2.1.3. In basic infrastructure (Veterinary posts)

2.2. Insufficiency of basic extension work at the peasant level

2.2.1. Quantitative

The promotion of the peasant (and of the breeder) depends essentially on popularization, and thus on extension work. However, the latter is not sufficiently dense: within the O.R.D.s at least one extension worker per 100 families is needed. We're still very far from there.

2.2.2. Qualitative

This extension work should be polyvalent: the peasant should not deal with 2 different extension workers, one for plant production and one for animal production. Yet until now, the agricultural extension workers of the O.R.D.s have received practically no training on the subject of breeding (except in animal traction...?). It is hoped that the reforms in progress in Matourkou will rapidly fill this serious gap.

ANNEX H

GOUV LIVESTOCK PERSONNEL IN PROJECT AREA

FADA ORD

Fada N'Gourma	1 Doctor of Veterinary Medecine
	1 Livestock Assistant
	9 Veterinary Nurses
Diapaga	2 Veterinary Nurses
Kantchari	1 Veterinary Nurse
Bogandé	2 Veterinary Nurses

KAYA ORD

Kaya	1 Livestock Assistant
	4 Veterinary Nurses
Boulsa	2 Veterinary Nurses
Pissila	1 Veterinary Nurse
Tougouri	1 Veterinary Nurse
Barsologho	1 Veterinary Nurse
Tema	1 Veterinary Nurse
Kongoussi	1 Veterinary Nurse

KOUELA ORD

Tenkodogo	1 Livestock Assistant
	2 Veterinary Nurses
Koupela	2 Veterinary Nurses
Pouytenga	1 Veterinary Nurse
Garango	1 Veterinary Nurse
Ouargaye	1 Veterinary Nurse

ANNEX I

RELATIONSHIP TO EASTERN ORD PROJECT

There is considerable overlap between activities proposed under the on-going Eastern ORD project and those proposed under the Village Livestock Project. This is not seen as a weakness or duplication but rather as complementary and reinforcing because the two projects address somewhat different aspects of the overall livestock development question.

The focus of the E. ORD Livestock component is, at least in the short term, on traction animals. The Village Livestock Project would contribute tangentially to animal traction through improved animal health in project zones and also through livestock fattening/finishing operations which quite conceivably will include retired draft animals. However, the Village Livestock addresses all animals in the area rather than focussing on traction animals.

Other differences of emphasis between the two projects are the attention that the E. ORD livestock and range specialist (one person) is expected to focus on overall livestock marketing data and nomadic/transhumant systems. It is expected that Village Livestock and range and livestock specialists (2 people) will benefit from this information and will focus more on development/exploitation of animal feeding (including pasture, haying, agricultural by-products, mineral supplements, etc.) and health.

It is anticipated that the Eastern ORD project will also focus on a number of issues which will be addressed by the Village Livestock project. These include: range site capability and condition classification, fixed base large animal herd systems, small animal and poultry systems, health and management practices against major diseases and parasites, improvement of herd efficiency through selection/culling and marketing, reduction of young animal mortality, supplemental feed using local by-products, training, haying, livestock records systems, etc.

It should be recognized that the Eastern ORD project includes a limited amount of funds, for livestock activities. Other than financing for one specialist who will be equipped with a vehicle, there is essentially money only for a portable feed grinder and four refrigerators. The Village Livestock project is expected to supplement these funds, particularly during Phase II, to enable an extensive livestock development project. Phase I adds to the studies/experimentation/demonstration activities of the E. ORD. One particular interface between the two projects is a proposed pasture reserve of 50,000 acres within the Matiakoali/Nassougou intensive development zone of the E. ORD project. Not only will this activity contribute to intensive livestock development in the area, but it will also test the feasibility of the pasture reserve as a livestock development package which might be replicated elsewhere in any or all of the 3 ORDs.

A specific E. ORD study to be under taken by a local Voltaic consulting organization (CVRS, the Voltaic Center for Scientific Research) will focus on relationships among the nomadic Peul, the sedentary Peul, and the Gourmantche. One study area will include the pasture zone, and an analysis of the attitudes towards creation of a pasture reserve will be a part of the final report. This should provide very valuable information to the Village Livestock Project.

An important difference in the two projects is that the Village Livestock project area is comprised of the Kaya and Koupela ORDs as well as the Eastern (Fada) ORD. There are three main reasons why these 3 ORDs were chosen:

- 1) the GOUV requested that the project take place in all three ORDs;
- 2) in neither the Kaya nor the Koupela ORD is there a livestock program as such, other than the regular national livestock facilities and support for traction animals;
- 3) the 3 ORDs are contiguous and possess similar climactic zones (but considerably different population densities).

Finally, it is anticipated that in view of common goals for development of the livestock sector, there will be considerable coordination and cooperation between Village Livestock project personnel and the E. ORD range/livestock specialist as well as with other E. ORD project personnel (economist, extension specialist, etc.).

ANNEX J

DRAFT OF PROJECT DESCRIPTION TO BE USED IN PROJECT AGREEMENT

The project goal is to improve the quality of the life of the people in the affected area through the management of range resources and other feed supplies and through improved animal health and selection. Achievement of this goal will lead to increases in net livestock productivity, incomes of livestock producers, and government revenues and export earnings. The project is designed to address the needs of the small rural livestock producer and to allow him or her to participate in the process of economic development. An additional project goal and an important condition of long term livestock development is maintenance, or better, improvement of the range ecosystem.

More specially, the purpose of the project is to develop the capability of the central livestock service and the three ORDs (Fada, Koupela, Kaya) to plan and to implement village livestock management systems which maintain the integrity of the environment. In the short run this will be established by supplementing the livestock service and the ORDs with qualified technicians, who will test and develop an improved, feasible livestock production package in conjunction with appropriate Voltaic counterparts. In the longer run, this expertise will rest with the counterparts and Voltaics who are trained during this project.

Personnel

Project personnel will include a direct hire project manager/ag economist (not project funded) plus a contract team consisting of a range management specialist, a livestock specialist, and a rural extension sociologist. These project personnel along with the GOUV project director and appropriate GOUV counterparts will be responsible for the on-going design and implementation of project activities. In addition, the project will make use of TDY services of a veterinarian (4-5 months) and a soils scientist (2-3 months).

Training

U.S. participant training will include on a short term basis (3 months) a sociologist and on a long term basis (up to three years) a range management specialist and a livestock specialist. These latter students will return to Upper Volta during the summers to work on project activities and to benefit from on-the-job training. It is thus hoped that the participants' training will be more relevant to actual needs in Upper Volta.

Additional short term training will be provided for GOUV project personnel in other African countries, plus there will be periodic in-country seminars and refresher courses offered to livestock extension personnel.

Commodities

- i) better equipped livestock extension agents in each of 6 project zones:
 - 1) molybdenes plus gas allowances
 - 2) back pack spray units for treating external parasites (also can be used agriculturally for treating cotton)
 - 3) scales
 - 4) Burdizza castrators
 - 5) elastrators
 - 6) microscopes
 - 7) medicine
- ii) better equipped central veterinary lab (equipment to be determined by lab director and livestock service)
- iii) range management package
- iv) livestock package
- v) vehicles
- vi) POL/maintenance
- vii) office equipment, supplies

Project Activities

Project activities will initially establish a resource inventory of the project area (i.e. baseline data) with periodic updating to provide project evaluation. Another initial activity will be reaching an agreement with pilot site users (i.e. the target population). Contacts will be made with the rural people of the project area. Site selection will be based on local acceptance, technical factors, and geographic/administrative considerations.

Project test/study/demonstration activities will include the following:

- i) one center (village or village clusters) for farm finishing or fattening livestock to be established in each of the three ORDs. Selection will be dependant upon a number of factors including accessibility to major markets and availability of agricultural by-products. Possible actions include:
 - 1) haying
 - 2) forrage crops
 - 3) animal selection
 - 4) crops with valuable by-products
- ii) establishment of a pasture reserve, most likely in Eastern (Fada) ORD in the area between Ougarou, Matiakoali and Nassougou. Pasture area approximately 20,000 hectares (roughly 50,000 acres). Actions may include:

- 1) organization of grazing association including Peul and Gourmantche residents
 - 2) development of water resources (wells, water catchment areas)
 - 3) species trials
 - 4) taxation of transhumant herds for water use (note: transhumant herds which wish to traverse area without using water resources as is currently the case, will be permitted to do so without taxation) by grazing association.
- iii) establishment in either the Kaya or Koupela ORD of controlled grazing association in one selected village area through the organization of a grazing association. This test will examine prospects for better pastoral resources utilization in a relatively densely populated area (i.e. an area which does not include a large uninhabited zone) and may include:
- 1) a systematic rest-rotation grazing scheme
 - 2) water resources development
 - 3) controlled access to water
 - 4) controlled access to pasture
- iv) in either the Kaya or Koupela ORD (which ever is not chosen in iii) above) assistance to people of a selected village or village cluster to determine the validity of present burning practices, devise methods to control excess burning of grass, shrubs, and forbs. Actions may include:
- 1) vegetative inventory pre and post burning
 - 2) fire breaks
- v) organization of improved animal health, nutrition, and selected package at each of the 6 project sites (2 per ORD). Actions may include:
- 1) disease and parasite control
 - 2) salt supplement
 - 3) phosphorous supplement
 - 4) livestock handling facilities
 - 5) supplemental feeding to calves and pregnant animals, also to traction animals
 - 6) branding, ear tags, tatoos
 - 7) record-keeping system

Upper Voltan Government

The Government input will include land for the pasture reserve as well as for other project activities, office space, and the following personnel:

- i) project director
- ii) central veterinary lab personnel in both Ouaga and Bobo as needed for refresher training of livestock agents (note: lab or other appropriate facilities will be made available by the livestock service for this training)
- iii) a sociologist counterpart
- iv) at least one counterpart to work with the range management specialist and the livestock specialist (note: this person may also be the project director)

Ideally two counterparts will be available.

- v) 6 veterinary nurses to be assigned to each of the project activity sites
- vi) appropriate support from local and national livestock personnel
- vii) a national working committee.

The Government will permit complete access to all project sites at all times to all project technicians and to supervisory U.S. Government personnel stationed in Upper Volta. Transportation costs provided by AID for project use shall also be available for project inspection by appropriate Government of Upper Volta personnel.

ANNEX K

POSITION DESCRIPTIONS

Title: Livestock Specialist

Duration: 1½ year minimum

Qualifications:

- 1) minimum of a masters degree in Animal Science with emphasis on animal husbandry and nutrition
- 2) experience in livestock handling
- 3) experience in basic veterinary techniques (preferred)
- 4) French speaking
- 5) professional experience in French speaking country (preferred)

Duties:

- 1) construct a baseline survey to determine numbers of animals in project area in both sedentary and nomadic herds as a basis for a Village Livestock Project
- 2) develop a livestock production scheme on improved husbandry practices, nutrition, and veterinary care.
- 3) with the aid of TDY veterinarian, identify the most prevalent livestock program for the continued treatment of afflicted animals
- 4) initiate a pilot village livestock fattening project to explore the possibility of expanding the marketing practices
- 5) assist the Range Management Specialist in carrying out his duties where possible
- 6) train and advise local counterparts in all pertinent aspects of improved livestock management
- 7) work with village, local government, ministry and expatriate individuals in demonstrating the need for, and the gain from, improved livestock practices
- 8) in carrying out his objectives, the Livestock Specialist must be acutely aware of the sociological, religious and economic constraints of the developing country.

Title: Range Management Specialist

Duration: 1 1/2 year minimum

Qualifications:

- 1) minimum of a masters degree in Range Management
- 2) experience in livestock handling
- 3) experience in range laboratory and field techniques (preferred)
- 4) French speaking
- 5) professional experience in a French speaking country (preferred)

Duties:

- 1) conduct a baseline survey to determine present condition and utilization in preparation for an extended resource development demonstration of a Village Livestock Pattern
- 2) design and implement sound management practice scheme including reseeding, water development, grazing patterns, stocking rates, controlled burning, (as determined by the data), in support of the overall project
- 3) design and set up range nutrition analytical laboratory (to include facilities for energy, nitrogen, phosphorous, and in-vitro analyses)
- 4) conduct nutritional analysis of the forage in order to establish a research basis and to support experimental research
- 5) train and advise a local counterpart in all pertinent aspects of range management
- 6) assist the Livestock Specialist in carrying out his duties where possible
- 7) work with village, local government and expatriate individuals in demonstrating the need for, and the gain from, improved range practices
- 8) in design, conducting and implementing the resource development demonstrations, the Range Management Specialist must be acutely aware of the sociological, religious, and economic constraints of the developing country.

Title: Soil Specialist

Duration: TDY 2-3 months in-country with possible continual consulting
Qualifications:

- 1) minimum of a masters degree in Soil Science
- 2) experience in soil survey and analysis
- 3) French speaking (preferred)
- 4) university connected (preferred)
- 5) professional experience in French speaking country (preferred)

Duties:

- 1) assist the Range Management Specialist in conducting a baseline survey by implementing a detailed soil survey of the project area
- 2) conduct chemical analysis of soil samples to aid in detecting possible deficiencies. The analyses will probably be done outside of Upper Volta, preferably at a U.S. university
- 3) there exists the possibility that the individual described will be asked to return periodically to conduct similar or supporting surveys and experiments.

Title: Rural Sociologist

Duration: 1 1/2 years minimum

Qualifications:

- 1) minimum of a masters degree in rural sociology
- 2) experience in working with community leaders in community development type programs (preferred)
- 3) French speaking
- 4) professional experience in French speaking country (preferred)

Duties:

- 1) assist team members and GOUV select villages and village complexes where the livestock program will have high degree of success
- 2) assist team members work with the indigenous social power structure in redefining the problems areas based on local traditions, values and conditions
- 3) assist team members and village legitimizers identify alternatives solutions to the identified problems and set priority for solutions
- 4) assist team members and village hierarchy devise practical methods for program implementation
- 5) conduct studies in the selected villages and village complexes that will further clarify the complexity of land tenure, livestock ownership and grazing patterns
- 6) assist in training ORD staff (directors, veterinary nurses and extension agents) in community development procedures.

Title: Veterinarian

Duration: TDY +/- months in-country with possible continued consulting

Qualifications:

- 1) degree in Veterinary Medicine, with emphasis in livestock area
- 2) experience in diagnosis and treatment of livestock maladies
- 3) French speaking (preferred)
- 4) professional experience in French speaking country (preferred)

Duties:

- 1) assist the Livestock Specialist in instituting a continuing program directed at treating and controlling livestock disease and disorders
- 2) train local veterinary assistants in identification and treatment of livestock's diseases and disorders
- 3) work with government level individuals in the Department of Veterinary Services in designing and implementing the livestock health program
- 4) return periodically to conduct seminars or supporting work in the veterinary discipline

Title: Agricultural Production or Livestock Economist -

Duration: 2 years

Qualifications:

- 1) Direct hire
- 2) Background of economics
- 3) Agricultural project manager experience
- 4) French speaking
- 5) professional experience in French Speaking country (preferred)

Duties:

- 1) Conduct studies of current production management, feeding and marketing practices and alternative packages in different parts of the three ORDs, taking into account physical, social, economic and technical constraints characteristic of the various ecological zones and production/management systems. Conduct similar studies of range management practices current and proposed.
- 2) Advise, assist and coordinate economic aspects of field trials and demonstrations including animal feeding, internal and external parasite control, disease control eradication and assist in land classification/use studies.
- 3) Prepare recommendations as needed to other technical and field offices of the Department of Veterinary Services and Animal Production giving particular attention to the development of low cost animal health and productive input delivery systems appropriate for Upper Volta. Determine whether the "retail" marketing system has potential for delivering productive inputs.
- 4) Acquire an in-depth understanding of marketing practices and market demand and prices for animals of various grades and qualities on an annual and seasonal basis in support of animal purchasing activities (traction and feeding) and their subsequent disposal.
- 5) Determine the potential availability and delivered cost of agro/industrial by-products for potential use in small scale animal feeding and seasonal supplemental feeding activities.
- 6) Serve as a staff economist or principal advisor for programs and activities related to animal production and marketing.
- 7) Collect statistics on case studies, animal census and marketing and establish a system for their future collection and use
- 8) In collaboration with other technical staff, contribute to the design, economic analysis and costing of phase II Project Activities.
- 9) Maintain liaison with other professionals conducting surveys and

.../...

analysis of similar nature throughout the three CFCs and on a national basis.

10) Serve as project manager.

ANNEY L

People and Places Visited:

OUAGADOUGOU

Dr. Diallo, Director of National Livestock Service
Dr. Pere, Deputy Director of National Livestock Service
Cire Pa, Director of Markoye Fanch
Zongo Head of Personnel, National Livestock Service
Patriat, Country Director of FAC
Dr. Kherkox, FAC Veterinarian
Dr. Nicolas, FAC Veterinarian
Dr. Delbe, Director of School for Veterinarian Nurses
Barry, Assistant to the Permanent Secretary
Dr. Garcia, Entente Livestock Community
Loridan, Entente Livestock Community
Arnaud, Entente Livestock Community
Dr. Tall, Director of Entente Livestock Community
Diawara, Sociologist at Voltaic Center for Scientific Research
Barry, Director of Water and Forrestry
Fobichaud, Director of Peace Corps
Luche, Director of AID Eastern ORD Integrated Rural Development Project
Wafflaert, FEF
Fanft, German Embassy
Cauvreau, Canadian Embassy
Canadian Director of CJDF
Canadian Field Coordinator of CJDF Project in Koupéla ORD

KAYA

Savadogo, Director of OPD
Bado, Chief of Livestock Services in OPD
Veterinary nurse at Kongoussi
ORD Agricultural Extension Agent at Kongoussi

SAHEL

Prefet of Dori
Prefet of Gorom-Gorom
Fanch and Personnel at Markoye

EASTERN ORD

Thiombiano, Director of OPD
Dr. Badio, Chief of Livestock Services, Fada and Koupéla ORDs
Assistant to Chief of Livestock Services, Fada and Koupéla ORDs
Tapoa pasture area between Ougarou and Matiakoali
Lompo, Veterinary nurse at Kantchari
Combary, Ag Agent in Namounou

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Veterinary Nurse at Diapaga
Peul Chief in Matiakoali
Préfet of Fada N'Gourma
Sous-préfet of Bogendé
Peul Chief and Gourmantché Chief at Kouri
Villagers, Livestock raisers throughout

KOUPELA OFD

Savadogo, Director of OFD
Kafando, Assistant to Director of OFD
Chief Ag Agent for Koupéla sector
OFD staff
Djigma, Head of Livestock Service in OFD
Préfet at Tenkodogo
Secretary to the Préfet at Tenkodogo
/-H Club at Naftenga
Villagers, Livestock raisers in several villages south of Tenkodogo,
including Sela and Rittou

ANNEX M

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