

PN-AAG- 775
AUG 21 1975
(20)

To: Michael Horowitz

From: John Grayzel

Ref: Report on Animal Prices at the Market of Bussain

The report below concerning market prices and their determinants is incomplete in that the crucial period of September through December is not represented. However, this information has been specifically requested at this time for decisions being made vis-a-vis providing credit for cattle buyers, and "embouche paysan". Therefore submitted below is the data compiled so far and the tentative conclusions I draw from it.

THE MARKET

Bussain, written Bosse, on the Ke-Mecina map of the Institut Geographique National is a large town situated approximately 40 Kilms. south-east of Segou. It has a weekly market, on Tuesday, which draws large numbers of sellers of all types of animals, not only from the surrounding region, but at least as north as Niono and Tenekou. Large scale buyers come regularly from Bla, Koutiala, Segou, and Sikasso. Local buyers and sellers, especially Bambaras, will often work through Paul middle men who receive 500-1,000 F.M. for the services rendered.

There are also local traders who will buy animals on the village level and resell at the higher market prices. Usually these men buy the animal outright, but a few well known ones will agree upon a price to be paid the villager when the animal is sold at Bussain. The legal nature of these transactions are neither sales on credit or an agent guaranteeing a minimal price, but rather something in between. For example, the animal is never returned even if the traders must sell it at a loss. On the other hand, in the one case I know of an animal dying on the way to the market, the trader paid the villager only 60% of the prior agreed upon price.

The market is stretched over an extensive area, with specific sections for: sheep, goats, donkeys, horses, young cattle up to four years of age, and old cattle, five years and over. The market starts at around 8:00 A.M., is in full swing by noon, and is usually over by 4:00 P.M.. Cattle prices are arrived at through bargaining, often in Paul, with the payment almost always very consciously made in view of surrounding witnesses to the transaction. As a result, the going prices become fairly general knowledge early in the day, which serves to standardize and speed up further transactions. Once an animal is sold, it is moved to the fringes of the market.

As early as 10:00-11:00 A.M., large herds bought by "commercants" can be seen leaving the area on the hoof, or by truck.

In addition to the sales at the market, there are traders who go out to meet the sellers before they ever reach Bussain, often to resell the animal at the market itself. One reason a seller may be content to transact business outside the village, even at a loss of several thousand francs, is that his animal is part of the clandestine trade, having either been stolen from someone, or misappropriated from family stock. He thus may be willing to accept a lower price than risk being seen by someone who knows either him, or the animal.

THE STATISTICS :

Three local youths assist me on a day by day basis in collecting statistics on cattle movement, market costs, etc. One of these is assigned weekly to Bussain where he witnesses specific transactions, the money counted, and afterward asks the animal's age. I periodically visit the market, but find any continual presence more obstructive than valuable. However, I later check his findings with others acquainted with the market, and have found them to be generally accurate.

This information is assembled in the following attached appendix of graphs and charts.

Appendix 1: "Number of Cattle Counted at Noon at Bussain Market". Since it is impossible to keep track of every animal entering and leaving the market, I have a head count done of all animals present at 12:00 noon, which is usually the peak period. However, since trade starts at 8:00 to 9:00 A.M. and some animals have left by noon, while others have yet to arrive, it must be realized that the total number of animals traded exceeds these figures. Head counts at 4:00 P.M. usually reveal less than 5% of the animals remaining to be sold and these are almost always of poor quality.

Appendix 2 : This shows, only since April, the number of small animals represented, the majority of which are young bulls.

Appendix 3 : "The monthly average price for "boeuf castre" 7-10 years old, and "boeuf de labour" 7-10 years old." The difficulty in arriving at these statistics has been the lack of conformity in the sample available on a week to week basis. Since the statistics failed to show any significant difference in price between pure Zebu and Dama-Zebu mix, I have lumped them together. Likewise, since an exact

determination of age is not always possible, for averaging purposes. I have created three categories: 7-8 year olds, 8-9 year olds, and 9-10 year olds. I first found the average for each of these categories and then used the average of these categories to arrive at the monthly average. Several other averaging methods were tried and all produced a basically similar pattern.

Appendix 4 : "Prices for young bulls 2-3 years of age, and cows 2 years of age, and 3-5 years of age." The average price of cows 3-5 years of age was arrived at in a similar fashion as that of adult males, i.e. the average of two previous averages: 3-4 year old animals, and 4-5 year old animals.

Appendixes 5 and 6 : "Prices for large and small sheep and goats." Timewise it proved to be impossible to do an indepth analysis of the prices of these animals. Thus at each market, a single representative animal is chosen and the prices received for the four weekly animals is used to determine the monthly average..

Appendixes 7,8,9,10 : These represent the actual raw data itself. Each price shown is that received and recorded for a specific animal. I am including this data so that others can reach their own conclusions and because certain other interesting patterns are revealed in the distribution of the data itself.

IMPORTANT RELATED EVENTS

1. The month of February was tax time in the arrondissements of Katiene and Zinzana.
2. On January 28 and February 4, there were "Gendarmes" present at the market, whose appearance resulted in an immediate exodus of many sellers with their animals.
3. At the end of May, the roads to the Ivory Coast were closed for the exportation of cattle. No large scale buyers came to the market during June, and they only reappeared in mid-July, when they said the Upper Volta border was again passable, but that a backlog of animals remained at Sikasso.

OBSERVATIONS AND CONCLUSIONS

From the submitted information, I draw the following tentative conclusions, which have been discussed with local people, and, which,

so far, have gained their concurrence.

Observation 1 : Lowest cattle prices occur at tax time, which for the Bussain area was in February. The date for tax payment, does, however, differ throughout the country. Therefore when studying the prices at any market, this date for local tax payment is a crucial factor for consideration. People claim these prices are the lowest for cattle for any period during the year. This is not apparently true for sheep and goats, whose lowest prices are during the rainy season, when they are afflicted with disease.

at the end of the rainy season!

Observation 2 : Highest recorded prices and sales for "boeuf castré" occur in April. People claim this is because the animals are in good shape, and because at this time, the largest number of commercants come to the market. The differentiation between the April high price and the February low price is approximately 13,000 F.M. 7!

Observation 3 : The difference in price between a small male sheep and a large one is 12,500 F.M. (Appandixes 5,6) This means a farmer can earn virtually the same money on a 2,500 F.M. investment in sheep as on a 62,000 F.M. ^{short term} investment in cattle, and this does not even take into account the higher price for white rams available before Ramadan. While a sheep has to be held for a longer period of time, the work involved in fattening it is incomparably easier than that of fattening an ox, while at the same time the financial risk is so much less. This easily explains why one finds many small cultivators fattening sheep for resale, but never cattle, and brings into question whether it makes any economic sense for them to change.

Good point!

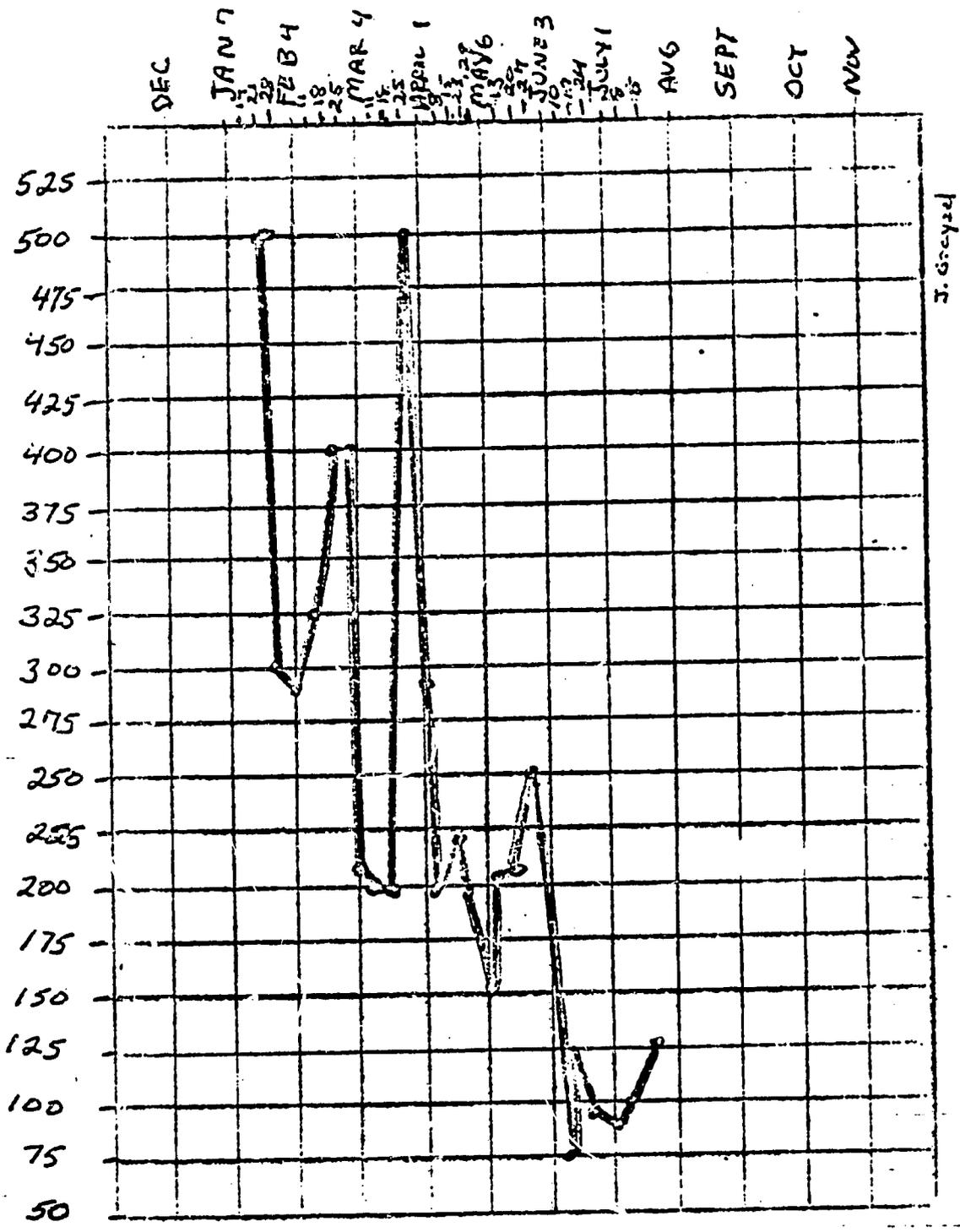
Observation 4 : The factors affecting price and quantity of cattle differs in the case of "boeuf castré", "boeuf de labour", older cows, and young bulls and cows. All are affected by the necessity to sell at taxtime. Apart from this, the export market is seemingly the largest determinant of "boeuf castré" prices. The local agricultural calendar is of utmost importance vis-avis "boeuf de labour". Older cows are almost always in poor condition-called "flelangolo" ("broken calabash")- and sold when their time is up. Younger animals seem to be largely designed for the local market. There is a large demand for them in April, but also in June and thereafter. One possible explanation I have received is that June is a time of year when taxes and marriages are usually through, and those with spare money buy young cattle for investment. On the other hand, the claim

is made that many people, especially Bambaras lose many younger animals during the period of lush vegetation and rain, when the herd doesn't return to the well to drink. Many young animals wander off and join other herds, never to be found. Thus they rather sell them, especially since sufficient buyers exist to obtain a high price.

5. Observation 5 : The closing of the Ivory Coast road had immediate effects on the market. Apparently the price of "boeuf castre" was already descending in early May before the border was closed. In any case, at least at Bussain, the result was not a lowering of price, but the virtually complete drying up of the supply, until the resolution of the Mali-Upper Volta dispute opened up the alternative routes.

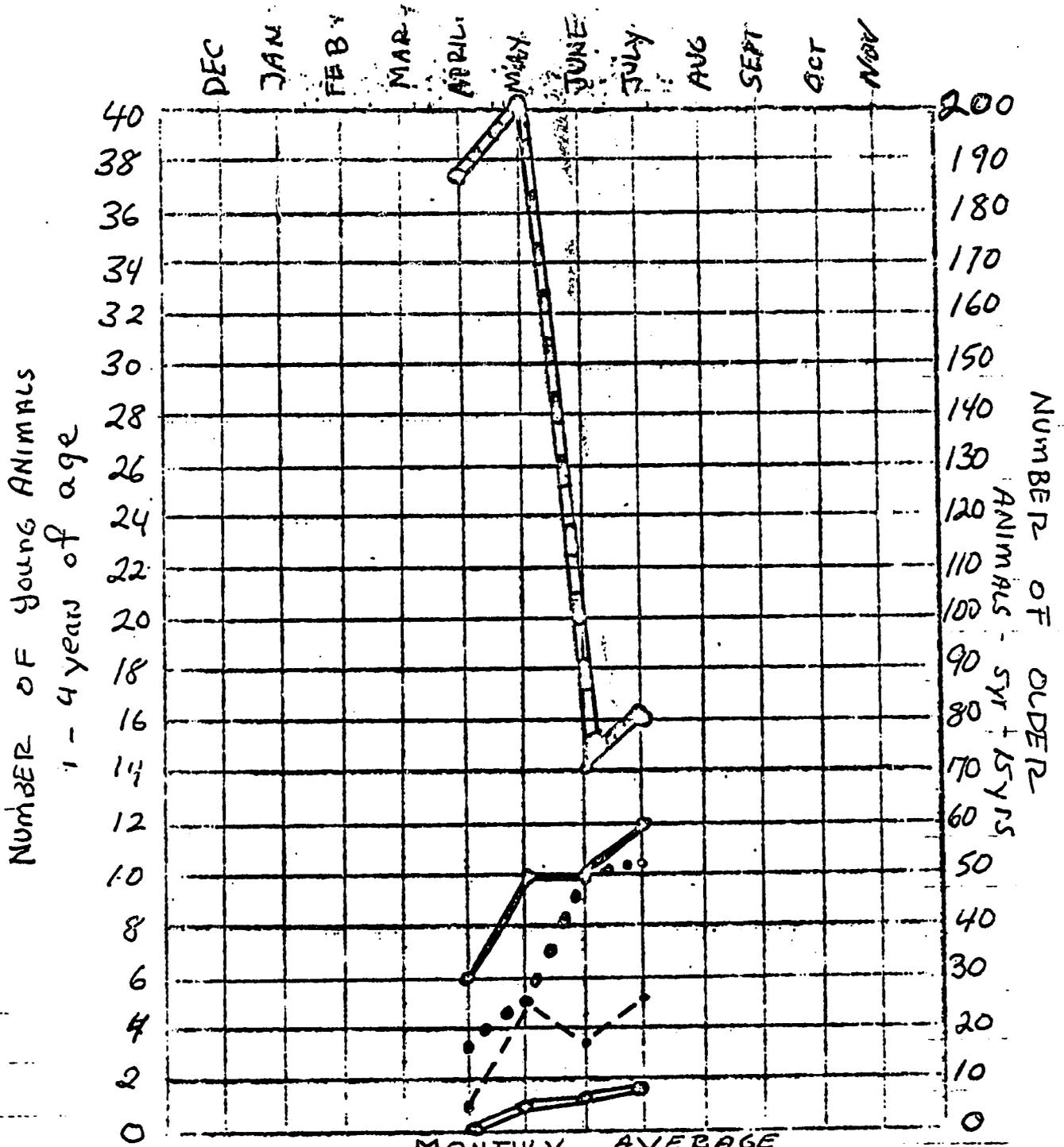
Observation 6 : Lastly, as shown in Appendix 7, in April and early May, another interesting phenomenon occurred. There appeared on the market a significant number of cattle in extremely good condition. This apparently is the best time to sell these animals since favorable traveling conditions insure a large number of export buyers, the price is high, and to hold them longer is just to increase the owner's costs and risks. Unfortunately due to the closing of the Ivory Coast Road, the June prices for quality "boeuf castres" are virtually non-existent. But, if, as seems indicated, the price for quality cattle in April is as high, if not, higher than May and June, one is faced with the question as to why additional cattle produced under the livestock program will not all be sold at this time and therefore fail to relieve the meat shortages in June. How to insure these animals sold during this crucial period for the domestic market remains to be solved.

In any case, as already noted, these incomplete statistics are being submitted because of immediate need. Further consideration of the problems will be discussed in my final report and recommendations.



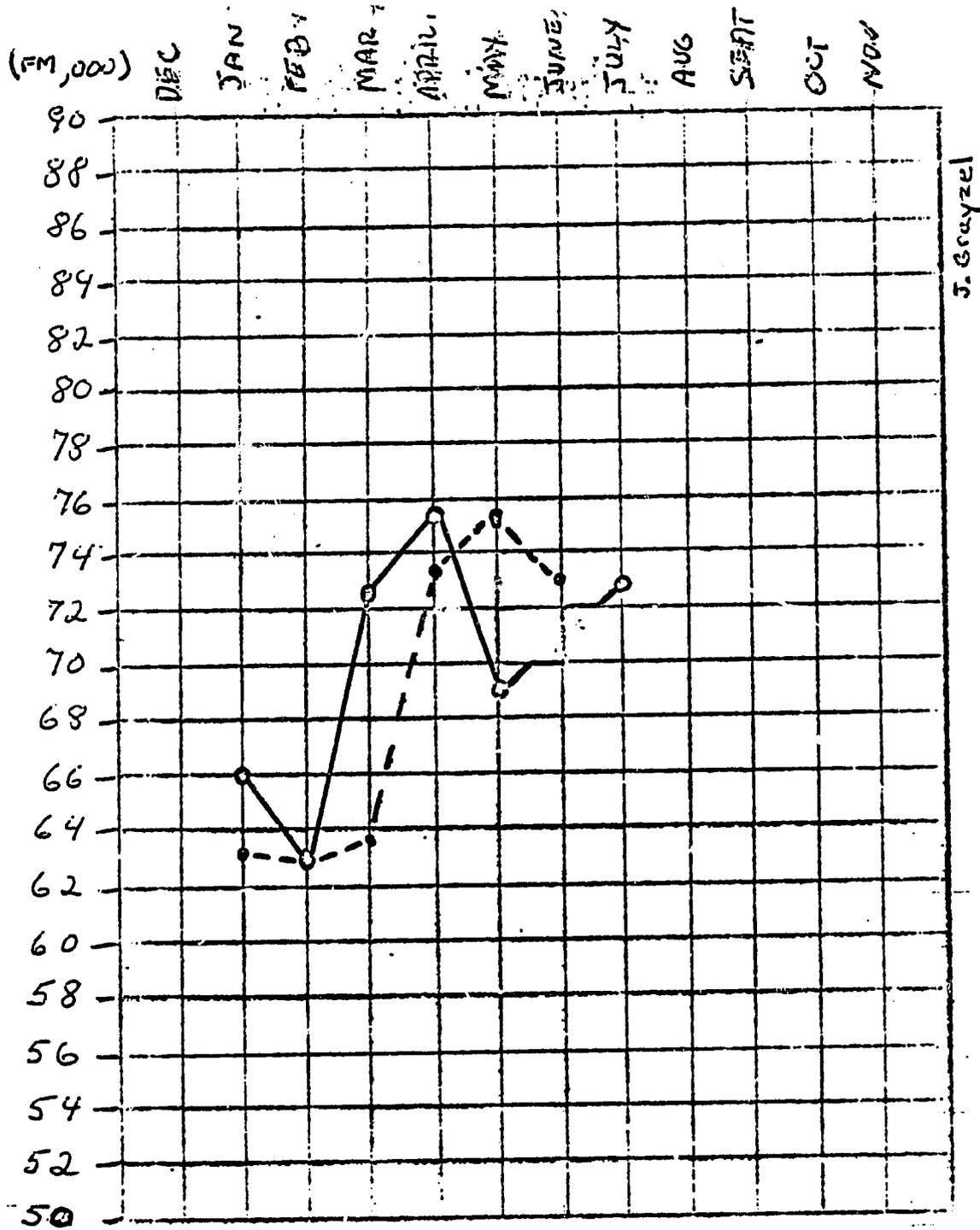
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NUMBER OF CATTLE COUNTED
 AT NOON AT
 BOSSAIN MARKET
 CERCLE DE SEGOU



MONTHLY AVERAGE AGE DISTRIBUTION OF ANIMALS COUNTED AT NOON AT BUSSAIN MARKET

— = 4 year old cattle
 - - - = 2 year old cattle
 . . . = 3 year old cattle
 = = = = 1 year old cattle
THICK LINE = 5-15 year old cattle



J. Grayzel

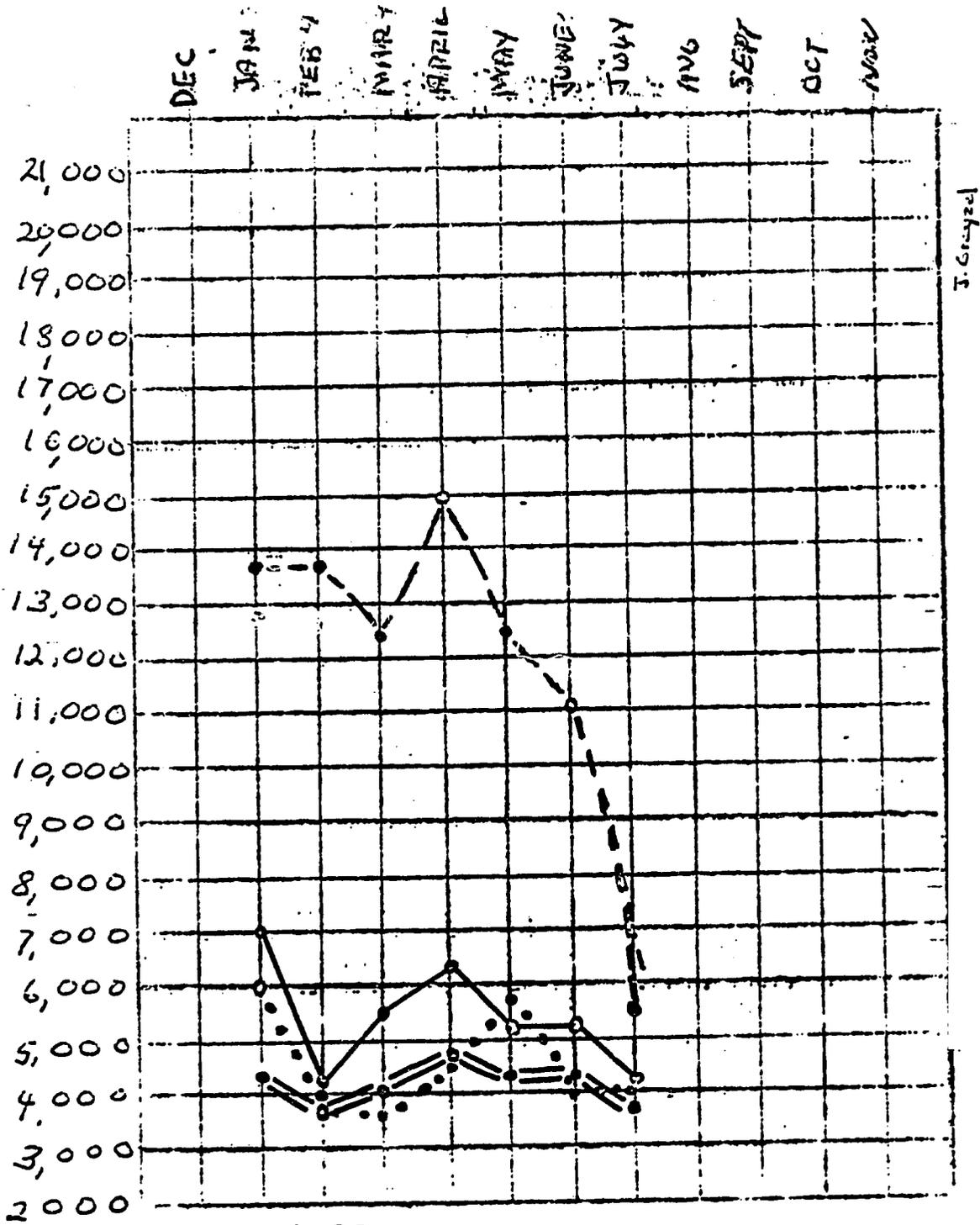
AVERAGE MONTHLY PRICE

BOSSAIN MARKET

BOEUF CASTRÉ — 7-10 yrs

BOEUF DE LABOUR - - - 7-10 yrs

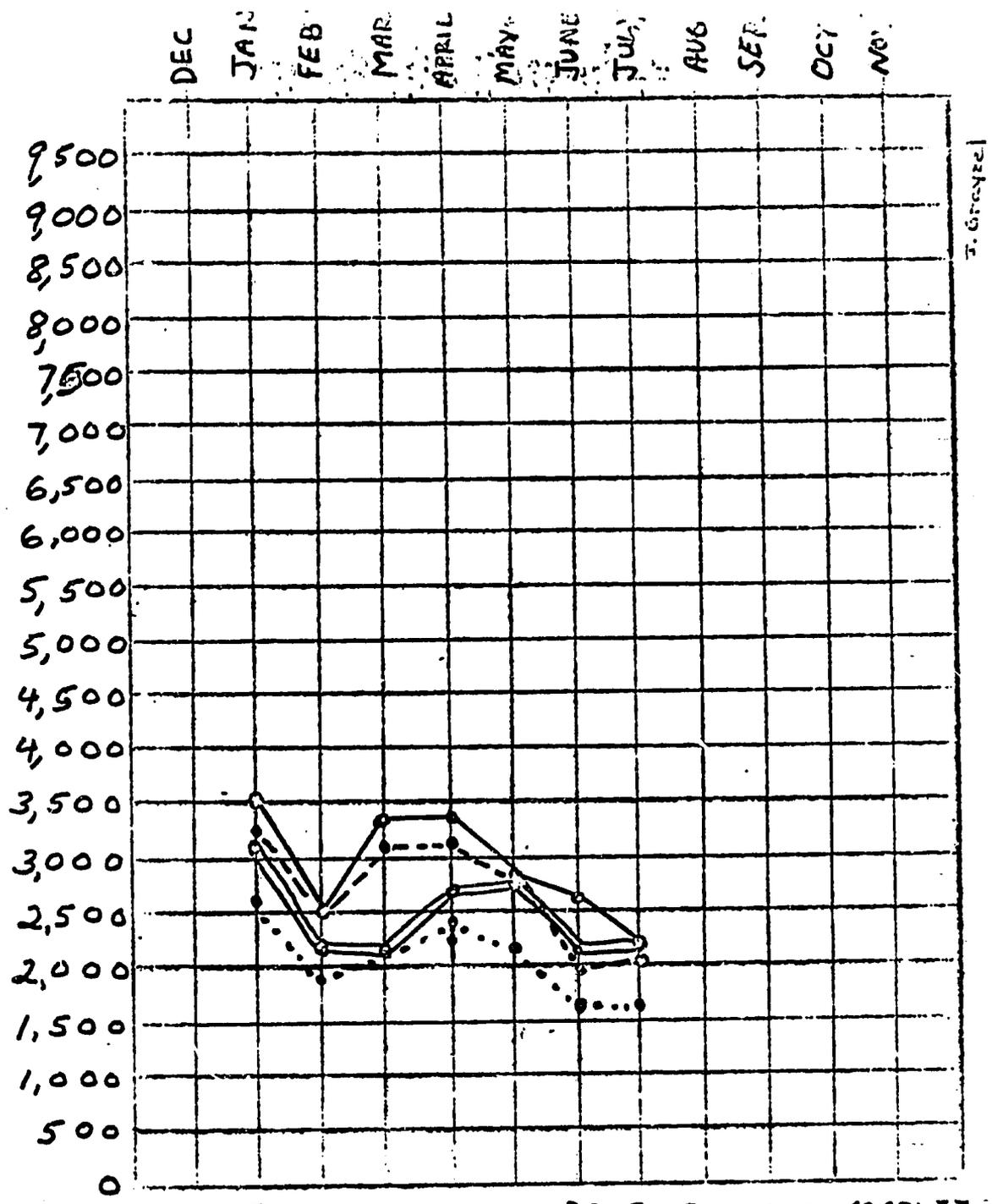
APPENDIX 5



J. Grayzel

AVERAGE MONTHLY PRICE BOSSAIN

- - - - - LARGE MALE SHEEP ···· ···· ···· LARGE MALE GOAT
 ————— LARGE FEMALE SHEEP = = = = = LARGE FEMALE GOAT

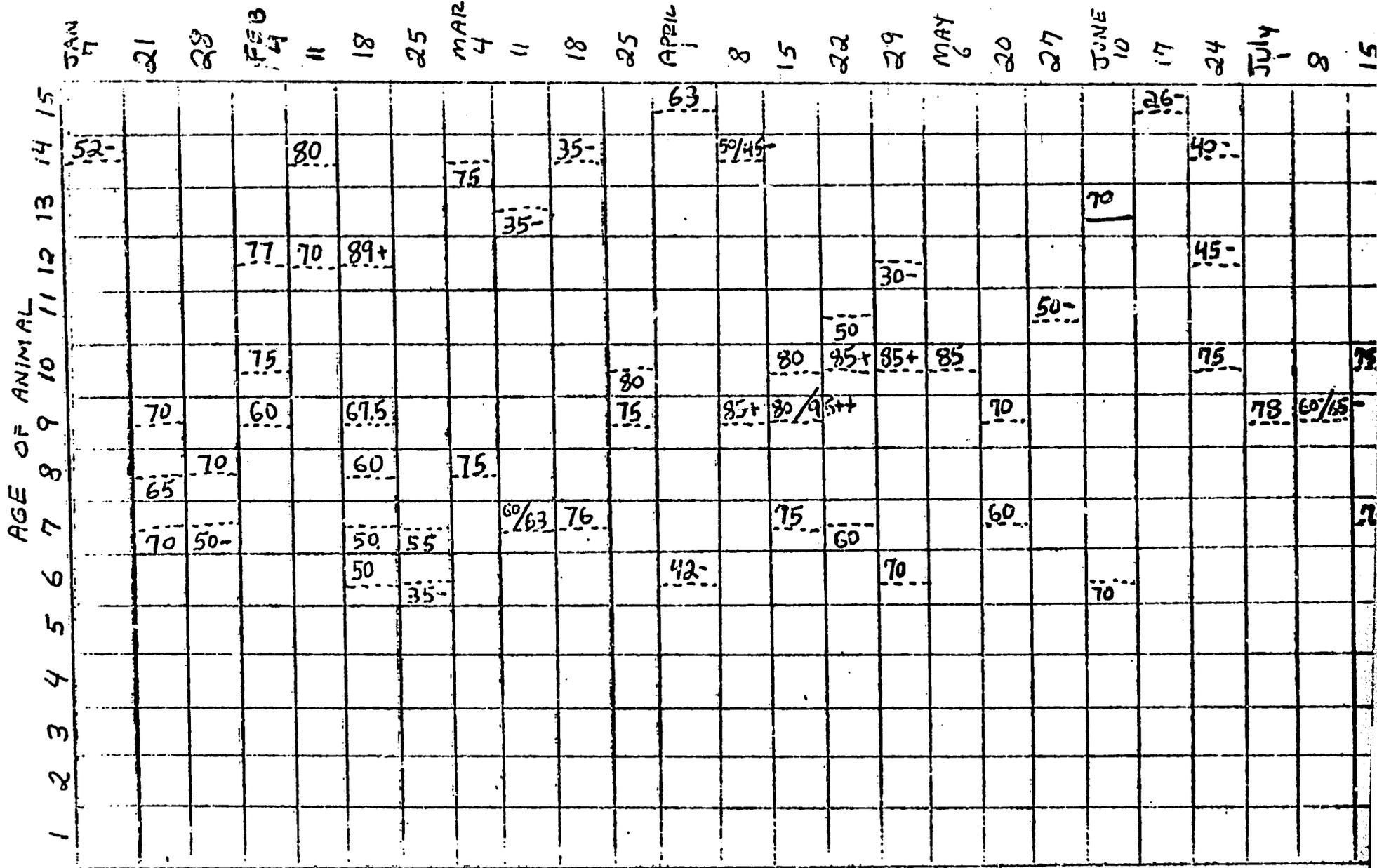


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AVERAGE MONTHLY PRICE BOSSAIN MARKET

- Small male sheep
- ==== Small female goat
- Small female sheep
- Small male goat

RECORDED PRICES OF BOEUF CASTRE - BUSSAIN MARKET



Jan 14 market missed



← Top box is for a "Gongo" (zebu)

← Bottom box is for a "Merewulso" (mixed zebu/Drinka)

MAY 13, JUNE 3 market missed

- = poor c
 No mark = good c
 + = very g
 † = very, very

Recorded Prices Bœuf de Labour - Bussain Market - Cercle de Segou

APPENDIX 2

AGE OF ANIMAL	JAN 7	21	28	FEB 4	11	18	25	MAR 4	11	18	25	April 1	8	15	22	29	MAY 6	20	27	JUNE 10	17	24	July		
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Jan 14 market missed

 ← Top box is for a "Gongo" (zebu)
 ← Bottom box is for a "merewulso" (mixed zebu/dama)

} = p
 MAY 13 No mai
 JUNE 3 + = v.
 market missed † = ve

Recorded Prices Cows - Bussain market - Cercle de Segou

AGE OF ANIMAL	JAN 7	21	28	FEB 4	11	18	25	MAR 4	11	18	25	April 8	15	22	29	MAY 6	20	27	JUNE 10	17	24	July	
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8	40																						45+
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5																							40
4																							4
3																							4
2																							38
1																							30
																							28
																							17.5

Jan 14 market missed

← Top box is for a "Gongo" (zebu)
 ← Bottom box is for a "merewuluse" (mixed zebu/dama)

MAY 13
 JUNE 3
 market missed
 No market
 +
 †

APPENDIX 1D

AGE OF ANIMAL

Recorded Prices Bulls Bussain Market - Cercle de Segou

AGE	JAN 7	JAN 21	JAN 28	FEB 4	FEB 11	FEB 18	FEB 25	MAR 4	MAR 11	MAR 18	MAR 25	APR 1	APR 8	APR 15	APR 22	APR 29	MAY 6	MAY 20	MAY 27	JUNE 10	JUNE 17	JUNE 24	JUL 1			
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3							30						35		30		30					25/31	35/31	50	45	40
2							24						32-		30		35					31	31	50	45	40
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CATTLE RAISERS AND CATTLE RAISING
IN
THE DOUKOLOMA FOREST AREA

OCTOBER, 1974 - SEPTEMBER, 1975

by

John Aron Grayzel
Department of Anthropology
University of Oregon

Funded by the Research Foundation of the State University of
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project "Mali Livestock" - on behalf of the United States Agency
for International Development and L'Office Malien de Betail et Viande.

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Conclusion I:

The classified forest at Doukoloma is an integral part of the economic life of a fairly easy to delineate surrounding area, bordered on the south by the Bani River; on the north by those villages adjacent to the main route from Zinzana to Katiena, (of which Ndiédougou and Falinbougou are the most northern); on the east by Bla and Goualabougou; and on the west by Sanogola and Nabougou.

While occasional individuals from outside this area make use of forest resources, no other communities, including the administrative centers of Zinzana and Katiena, have as significant an interest, or as established a dependency on it as those outlined. Neither will any others suffer any immediate appreciable loss through its reallocation as a managed grazing land. Present dependency includes the use of its grasses not only for grazing, but as building material for roofs, mats, and fences; the use of the area for containing cattle immediately preceding the harvest season; the use of the river as a watering source; the use of forest land for farming; and the use of forest paths and areas for river crossing during the transhumance.

Outside villages, including Katiena and Zinzana should not be allowed to usurp the rights of those already dependent on the forest, unless and until they themselves decline to participate. Particularly feared by local villages is the power and possible domination of the project by large herd owners of Kouna and Gweina. The initial inclusion of such outsiders can only lead to jealousy, disillusionment and lack of cooperation. On the other hand, because of complex established relationships and interdependencies between neighboring villages, such as the northern fringe village of NGakoro's traditional sovereignty over the forest, too great a limitation on project participation could also produce negative reaction.

Recommendations:

- A. Opportunities for project participation should be limited

to those inhabiting the area already exploiting the forest. Especially important are the Bambara villages of Doukoloma, Dofounou, Ngola (Nouola), Dangolola, Bouala, Ndiela, Balangokawere, Kelekewere, Ngakorc, Boiwere, Moussawere, Falinbougouwere, and Ndiédougou; the Peul hamlets at Falinbougouwere (Fulablenwere), Siguinawere, Botiewere and Diongokawere; and the Peul-Foroba Fula hamlets at Nabougou, Nyamakawere, Abdoulayewere, and AbdoulayeBariwere.

B. Two fundamental uses of the forest should be delineated:

1. As a long term grazing area, in connection with which it should be accepted that those villages nearest the forest are the most dependent on it and, therefore, deserve limited preferential rights.

2. As a holding area during October-November to avert excessive crop damage, in which case the larger herd owners are the most dependent on its use.

One suggestion as to how these two uses can be balanced is to experiment with allotting each herder a certain number of grazing days per year and, allowing him to determine whether it is more advantageous for him to graze many animals for a short time, or a few for many months.

C. Since some restraint must be put on the level of each individual's participation, and since 100 head is the normal size for a non-transhumance herd, and 200 the maximum single grazing unit even for pooled transhumance herds: to allow herders the possibility of most efficiently splitting their animals for partial inclusion in the project, it would seem desirable to confine any single owner to a maximum of 100 head, and to determine the quota for any single village or combination of hamlets in aggregates of 100 or 200.

D. A committee of representatives from the most important villages should be established. These villagers would participate with project personnel in determining the allocation of rights to use the

grazing land and would also act as project agents to explain to others the rationale behind each decision.

E. An entrance grate and path from the forest border to the traditional crossing area opposite Nani should be maintained for transhuming herds. Such a path could double as a fire break and there seems no inherent reason why it need be fenced, since, under supervision, the forest and river can be traversed in two or three hours.

Conclusion II:

Cattle raising as practiced by both Peul and Bambara, is an important factor in the high agricultural productivity of the region. Involved is not only the use of draught oxen and the provision of fertilizer, but also the reinvestment of wealth from animals to further production by hiring wage labor and investing in plows. Failure to adequately coordinate new innovations in herding with contemporary farming practices can easily negate the actual efficacy of such practices for the target population, and thereby encourage their rejection of the project.

Recommendation

A. An adequate agricultural extension program and sufficient personnel should be integrated into the project to encourage a balanced local development and increase the attraction of the project to the local population.

Conclusion III:

The practices and economics of cattle raising in the Doukoloma area are intricately interwoven with events and circumstances beyond its immediate boundaries.

The present animal population already seems to strain the year-round grazing capacity of the land, and is maintained only through the mechanism of the transhumance, which not only relieves

overgrazing, but seems to be beneficial in generating healthier more productive animals than those left behind.

Meanwhile, the time and place of cattle sales is significantly influenced by national and international conditions. Thus taxes in March means there is an additional pressure to sell animals during a month when conditions already favor extensive selling, rather than in May or June when sufficient sellers are lacking. The poor quality of animals available in May and June in most markets is not because no quality animals exist, but, partially, because most are in the south on transhumance, and are directed to the more lucrative Ivory Coast trade. The closing of the Ivory Coast frontier in Spring, 1975, however, did not result in a redirecting of these animals, but in a disastrous drop in market prices that forced people to hold back from selling, and convinced them that such proposals as investing money to fatten steers for sale during these months was unwarrantly risky.

Recommendations

A. The idea of establishing improved grazing areas should be expanded to incorporate the concept of a scientifically managed transhumance that would, through seasonal rotation, greatly increase the full utilization of a series of grazing lands at their peak periods.

B. OMBEVI should take a more active role in assessing the implications on cattle raising of independent governmental decisions, and should urge the government to consider such information prior to taking action on such issues. (i.e. tax time, the importation of salt, etc.)

C. The economic viability of intensive fattening of cattle should be reassessed and weighed against the cost of diverting already existing quality animals from the south to northern markets through better transport facilities and higher fixed prices.

Conclusion IV:

General suspicion of the ability and motive behind both governmental and foreign assistance projects is even present among the rural population. Rapid, effective response to a few immediate, technologically simple problems, would be more effective in overcoming such attitudes than any grandiose promises of future benefits. In the Doukoloma area the two most common complaints involve: the seasonal difficulty of obtaining adequate salt and water for the herds.

Recommendations

A. Strong governmental action must be taken to assure an adequate supply of salt at a fair price in the rural areas.

B. Present hydraulic improvement programs that are in operations, or soon to begin, should direct some of their activities to cooperative pilot villages in the Doukolomba project area.

Final Field Report

Introduction

A general background of cattle raising practices in the Doukoloma area has been provided in previous reports and responses to questionnaires. Some of the material has been repeated so that this report might be, to some minimal, extent self-contained. The emphasis, however, is on supplying more specific data on various processes and activities as observed from October, 1974 through December, 1975. As I, myself, left the field in October, 1975, information for the last two months was obtained by an assistant whom I retained for this purpose.

Methodology

The data here-in presented does not represent all information gathered, but rather those examples whose veracity has been tested through intense personal observation and repeated rechecks. The inaccuracy of official statistics, such as tax records (generally 20%-30% of actual herd numbers), makes recourse to such sources of dubious value. In the Doukoloma region this is especially true of the Peul, the majority of whom are not recorded in the records of their present villages, but are grouped together as a long-standing administrative unit which originated over twenty years ago in the neighboring arrondissement of Sanando. Efforts to correct such deficiencies through quick, extensive surveying tends to be met with characteristic suspicion and lack of success.

The only available alternative is standard participant observation, while relying for explanation on repeated discussions with people with whom a personal rapport has been developed. The result is a relatively small sample size, but, supported by a thorough understanding of circumstances, it remains more accurate and reliable than large scale random sampling. The format of this report is reflective of this approach. Specific data is presented in concise graphs and charts, while the commentary is predominantly

concerned with providing the specific circumstantial and methodological background.

However, as concentrated micro-socio-economic studies are no more self-sufficient than sweeping studies, any conclusions and recommendations made are based, not only on the information presented, but after consideration of previous reports by myself, John Lewis, Dangui Sissoko, and the OMBEVI-FAO report of R. Rochette, and Mme. Rupp.

Names and Places

Lack of standardization of geographic nomenclature in the Doukoloma area is prevalent not only in the literature, but among the local population, who are capable of offering several variations of the name of a village, none of which correspond to that on the IGN map. I have chosen to employ those geographic names that will be most helpful in allowing someone unfamiliar with the area to locate it on a standard map, and those terms for ethnic groups or categories which will best serve someone working in the area through a French speaking interpreter. Thus, sometimes, a French word is employed if generally understood- i.e. Peul (Bambara: "Fula", Peul: "Fulbe"), while at other times an indigenous term- i.e. "Foroba Fula" is used when no readily accepted translation exists.

Ethnic Identity:

Much of the data is broken down according to the ethnic identity of the people concerned: "Peul", "Bambara", or "Foroba Fula". Two points must be emphasized. Firstly, these are labels used by the local populous themselves and not the imposition of an outside observer. Secondly, while ethnic distinctions do have an historic basis, ethnic identity is somewhat flexible, and a small number of individuals do alter theirs, usual concomitant with a reorientation of their economic occupation. Therefore, ethnic patterns are a useful tool for analyzing and predicting economic behavior. However, in no sense should they be employed as the

sole reason for denying a specific individual a new economic opportunity.

The distinction between Bambara and Peul is fairly clear. While both groups farm and own cattle, the Bambara identity and emphasis is on agriculture, with cattle viewed as a secondary activity. The converse is true of the Peul. Between the two, there are also a series of stereotyped ethnic markers involving dress, housing, social structure, language, and behavior.

The Foroba Fula (translation: "Public Peul") are a group originating from slaves, of assorted background, who were herders for the Bambara kings. While they don't speak the Peul's language, in outlook and living style, they closely approach their ways. As a result, Bambaras usually refer to them as Peul, and it is only more traditionally established Peuls who are clear to make the distinction. Since they are only present in very small numbers in the Doukoloma area, it has not been practical to classify them separately for all statistical purposes. However, as will be seen, their separate identity is an important factor in explaining certain phenomena, and therefore cannot be completely disregarded.

The Area Studied:

Plate I is a section of the IGN Ke-Mecina detailing the general area surrounding the classified forest. Those villages pertinent to the study are underlined. This includes, in addition to those villages who regularly make use of the forest: the major local markets of Dicuna and Ndiedougou; the major cattle market of Bousse (Bussan); the Peul village of Weina (Gweina) which did not use the forest this year, but represents the largest single concentration of cattle in the area; the villages of Kouna, Sekourani, and Diourou which are not intricately connected with the area, but from which specific individuals send cattle to the forest, (largely because of long established personal relations); and those villages south of the Bani to which herds from the Doukoloma region traditionally transhume.

SECTION OF THE KE-MECINA MAP OF THE INSTITUT GEOGRAPHIQUE NATIONAL SHOWING DOUKOULOUMBA REGION

 underlined villages particularly germane to study

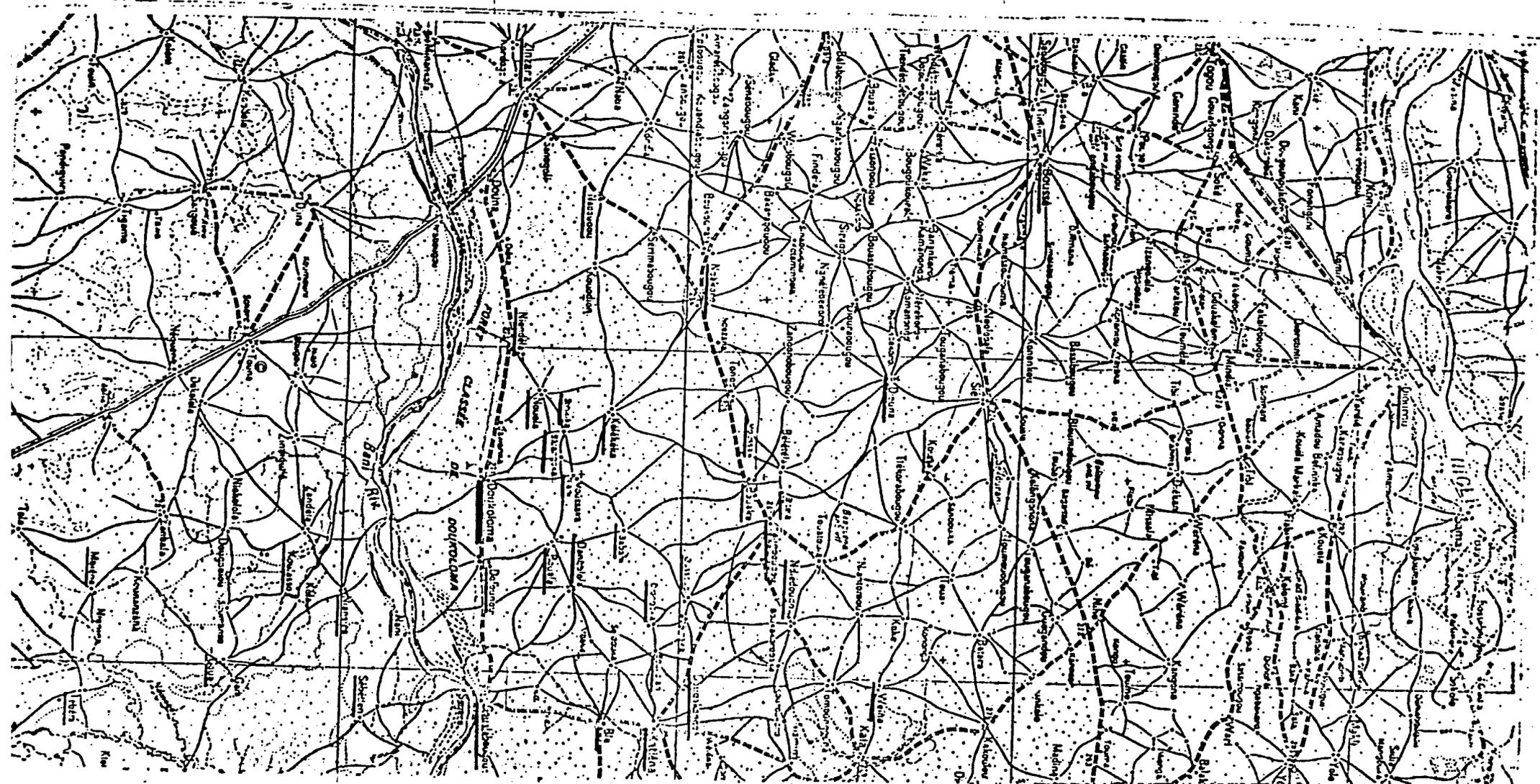


Plate I

Those villages that formed the nucleus of the study and whose herds were followed for 1974-1975, are detailed on Plate II. They were chosen based on daily surveys of the forest to determine the presence of specific herds. None used the forest every day of the year, and a few, namely Bitelawere, Tongo, Ndezana and Ngakoro made virtually no use of it at all this year. They are all, however, settlements to whom the forest is an important factor of consideration in choosing grazing for their cattle.

Basically, the area is bounded on the south by the classified forest; on the north by the Zinzana-Katiéna road; on the east by Goualabougou and Bla; and on the west by Sanogola and Nabougou. Generally, a village's dependency on the forest is in direct proportion to its proximity to it, but the larger herds, 100 plus head, throughout the area rely on it during the months prior to harvest.

Herd Demography

A breakdown of the herds in the region by numbers is recorded in Plate III. Plate IV compares the representative proportions of different size herds among different ethnic groups. The recorded animal population approximated 8,000, with 3,100 belonging to Bambaras, 3,100 to Peuls, and 800 to Foroba Fulas. Of the 8,000 total, approximately 500 were owned by Peuls and Foroba Fulas living outside the area. A random sample of villages within the area resulted in a per capita figure of 6.7 cattle for the Peuls, 3.5 for the Foroba Fula, and .6 for the Bambara.

Herding Patterns

Plate V through XVI trace cattle movements from October, 1974 through September, 1975. Arrows indicate the direction of the movement; the numbers in brackets represent those animals moving along that route. Unbracketed numbers represent the total population of animals found in the specific area for that month, including those newly arrived animals already recorded in the brackets.

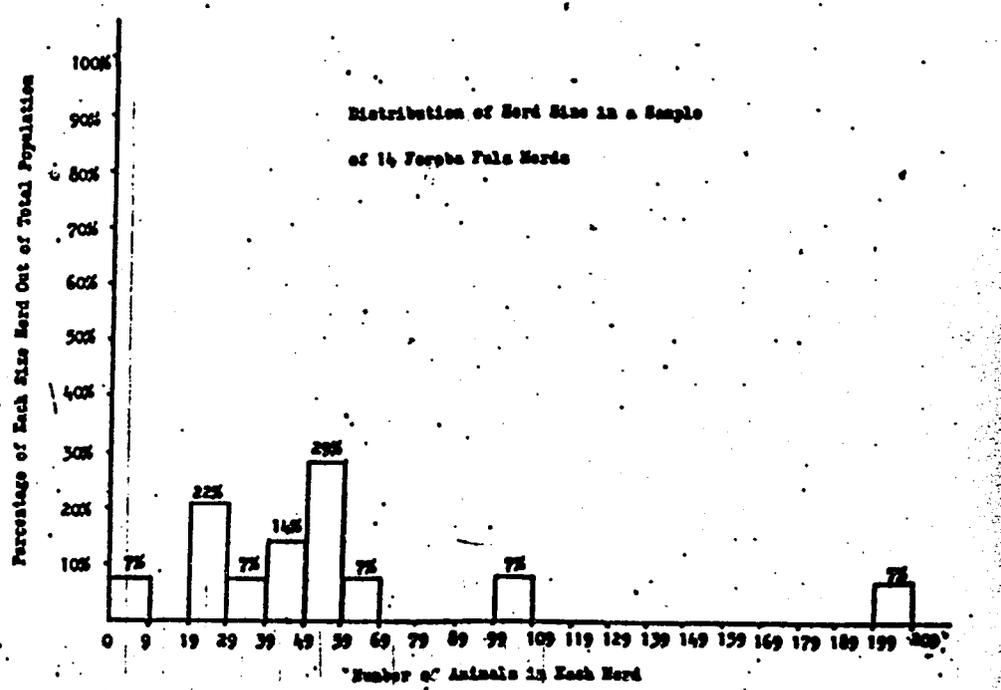
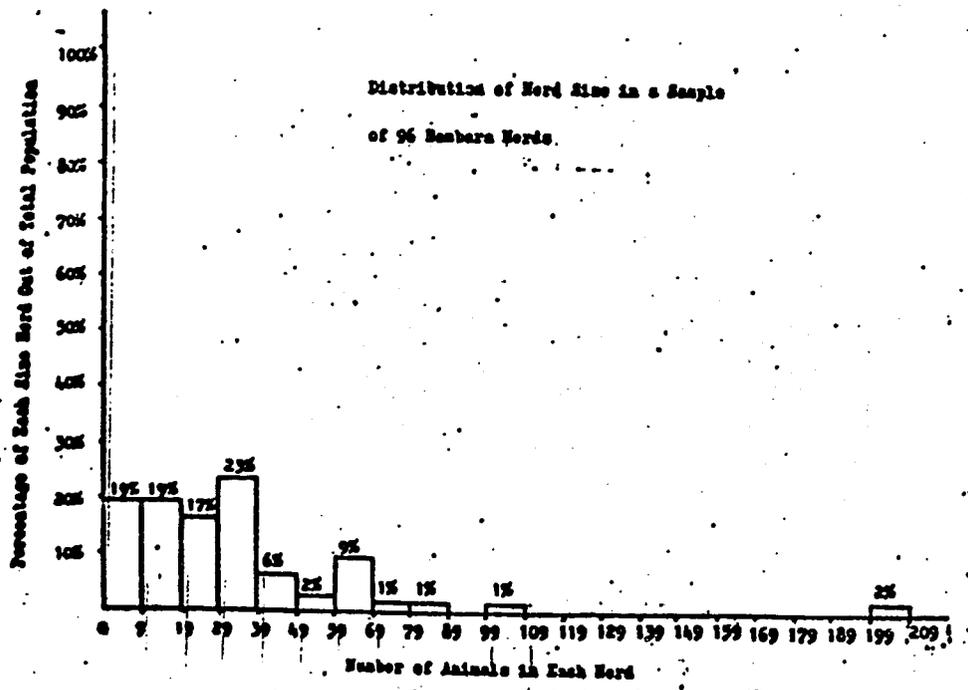
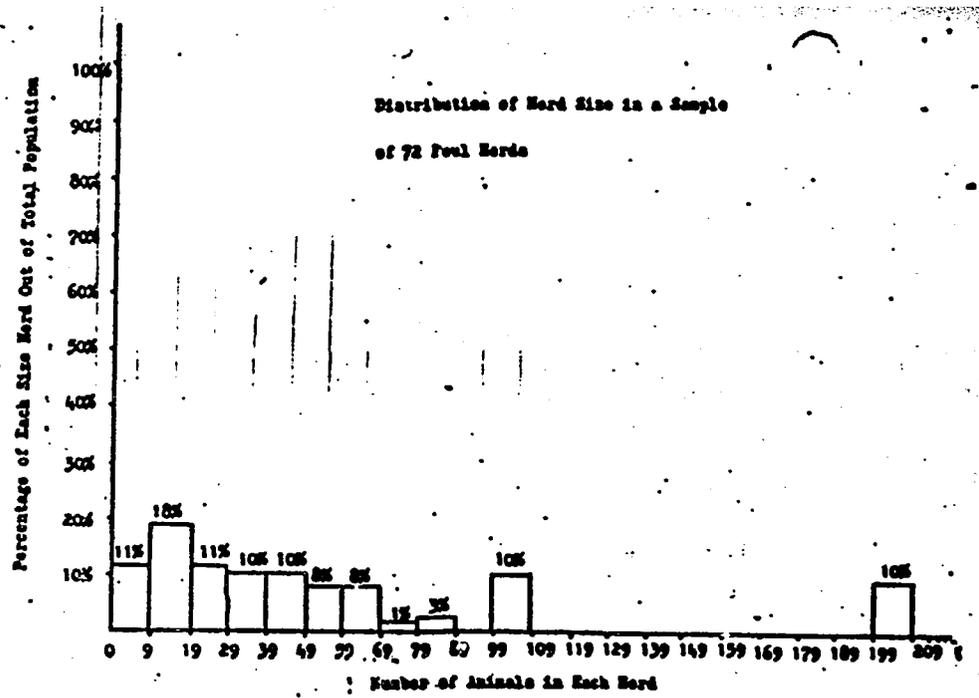
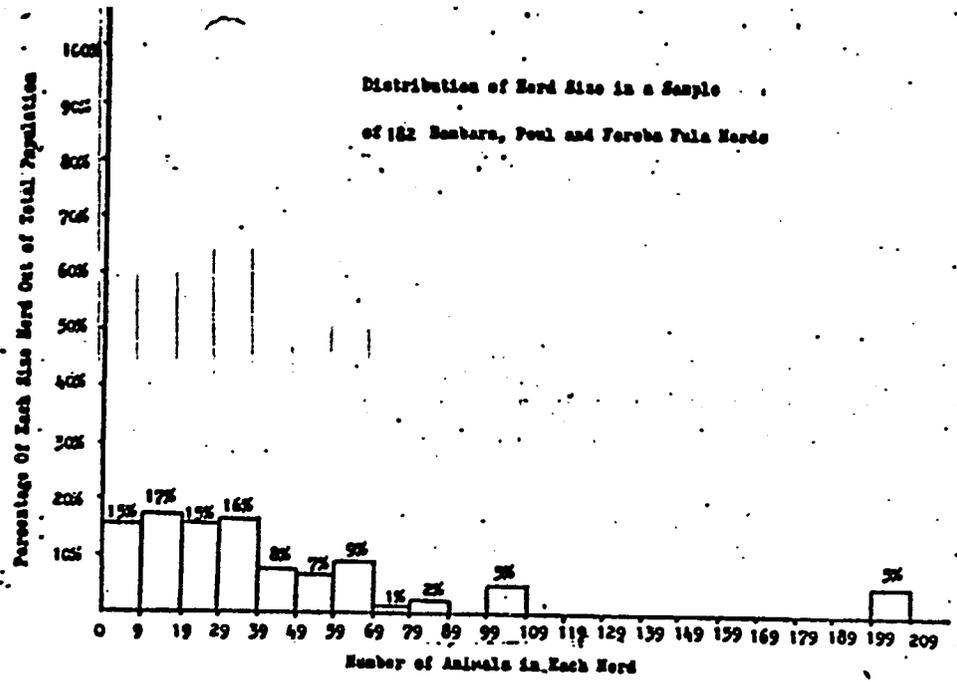
REPRESENTATION OF DIFFERENT SIZE DERDS
IN
DOUKOULUMBA AREA SAMPLE

<u>Number of Animals in the Herd</u>	All 182 Herds	9 Bam- bara Herds	72 Peul Herds	14 Foro- ba Fula Herds
200 - 209	10	2	7	1
110 - 199	0	0	0	0
100 - 109	9	1	7	1
90 - 99	0	0	0	0
80 - 89	3	1	2	0
70 - 79	2	1	1	0
60 - 69	16	9	6	1
50 - 59	12	2	6	4
40 - 49	15	6	7	2
30 - 39	30	22	7	1
20 - 29	27	16	8	3
10 - 19	31	18	13	0
1 - 9	27	18	8	1

AVERAGE HERD SIZE

All Herds 42.9
 96 Bambara Herds 32.5
 72 Peul Herds 56.9
 14 ForobaFula Herds 56.6

All Herds 0-89 Head 32.8
 Bambara Herds 0-89 Head 28.9
 Peul Herds 0-89 Head 41
 ForobaFula Herds 0-89 Head ... 53.3



This information was gathered with the aid of three local assistants. The total region was divided into three areas:

- 1) From the Bani, north to Dangolola
- 2) From Dangolola north to Ndiédougou
- 3) From the Bani, south to Mbiéna

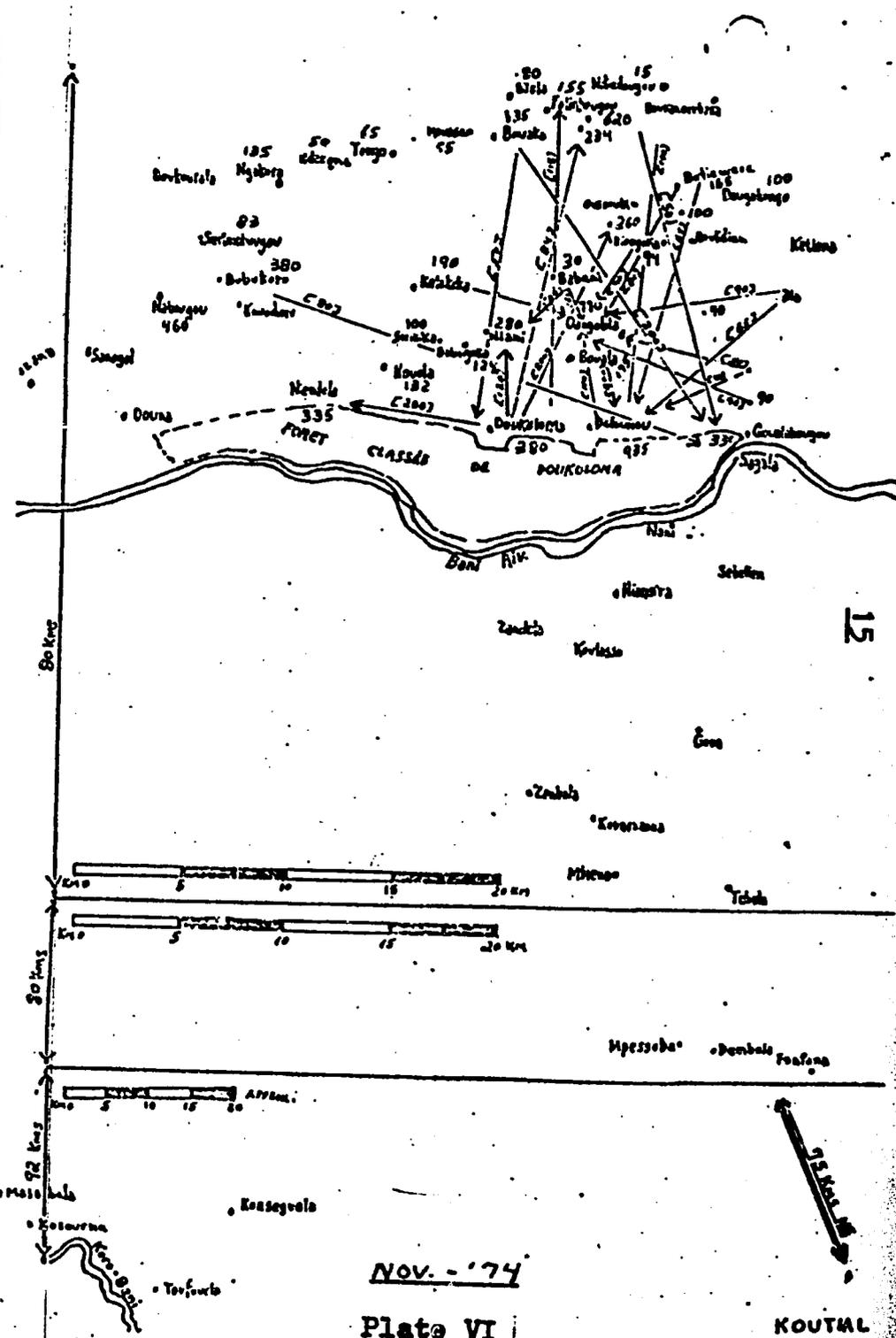
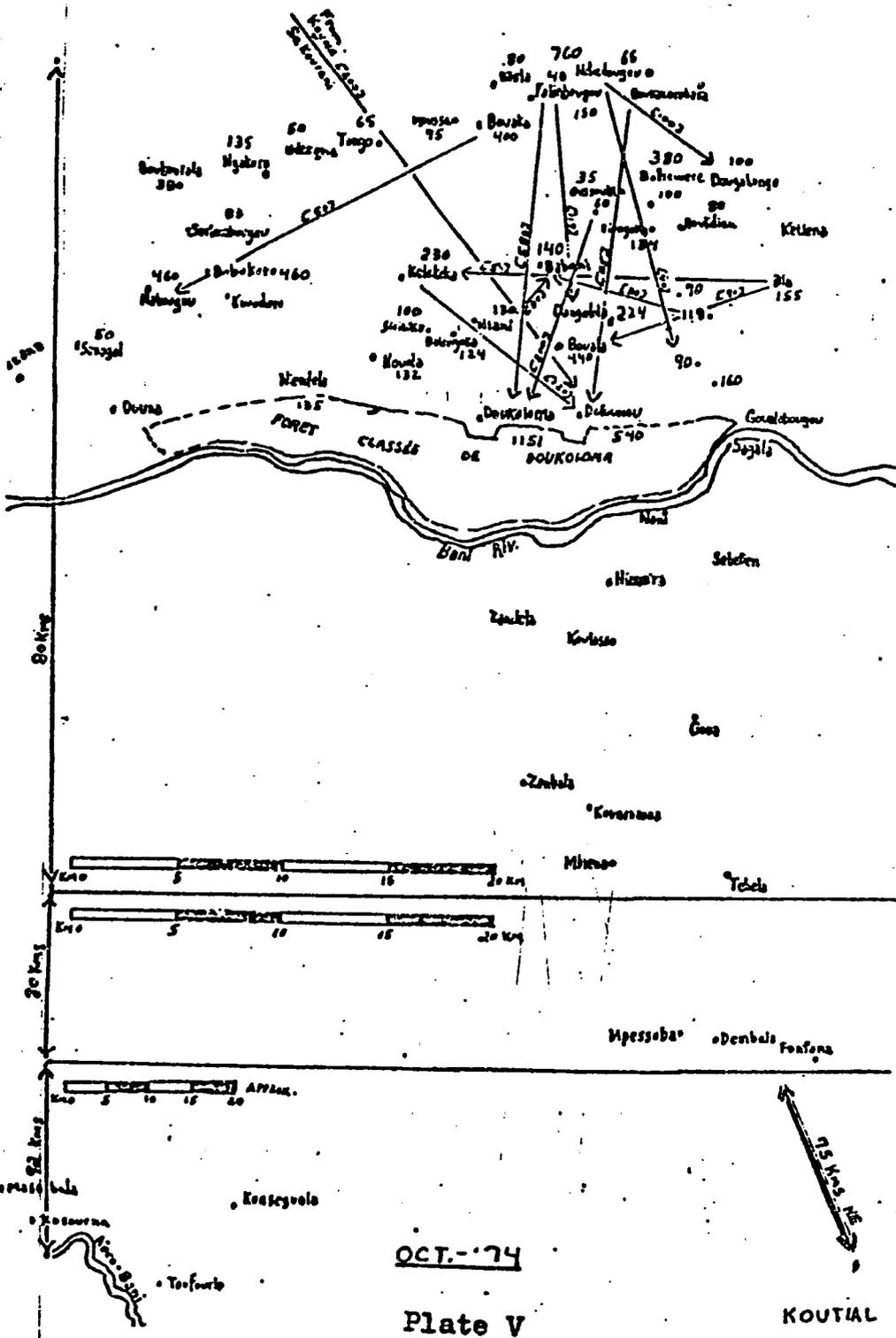
Continuous sweeps of these areas were made during which all animals seen were counted. An entire area could be covered in 5 to 10 days. Ownership of animals was established based on personal knowledge of the herder, and the identifying signs with which most cattle are marked. North of the Bani, all animals were recorded; south of the Bani only those from the Doukololma area were followed. Knowledge of movements into the far southern regions around Mpeçsoba and the Koro-Bani was obtained thru periodic visits, and information supplied by herder-friends from my village, whose cattle grazed there.

Numbers have been recorded precisely as counted and are indicative of the 5% plus monthly variation that was unavoidable under the circumstances. At the height of the transhumance, about 30% of the total cattle population is across the river. During the rainy season all are on the northern bank. The entire process as revealed in 12 monthly segments from October, 1974 to September, 1975 was as follows:

October, 1974: - Plate V- A significant movement of animals, especially large northern Feul herds, begins into the forest. During this, and the following month, the cattle population in the forest proper is at its yearly high, in an effort to avoid damaging the ripened millet fields. It is a period of tense relations between pastoralists and agriculturalists, stemming both from actual crop losses due to negligent herders, and the propensity of some field owners to exaggerate these losses in the hope of gaining added compensation

November, 1974 - Plate VI - Some of the fields have already been cleared and movement becomes crisscrossed as herds graze on the left over millet stalks in different villages. Now agriculturalists who previously complained of cattle trampling their crops, search for herds to fertilize their fields. A major concentration of animals is around Dangolola where a large supply of water exists till late in the season.

December, 1974 - Plate VII - With many millet fields already grazed



15

and grasses beginning to dry, the first movements of the transhumance begin. The major retarding factor is the permission of the villages south of the river where the wetter climate delays the harvest. Such permission becomes increasingly important the further from home one travels, and the more dependant one becomes on the hospitality of a local sponsor. Such hospitality is courted by bedding the animals each night on the sponsor's field, providing free milk, and, if the relation is well established since many years, by granting larger favors such as the loan of plow oxen during the rainy season.

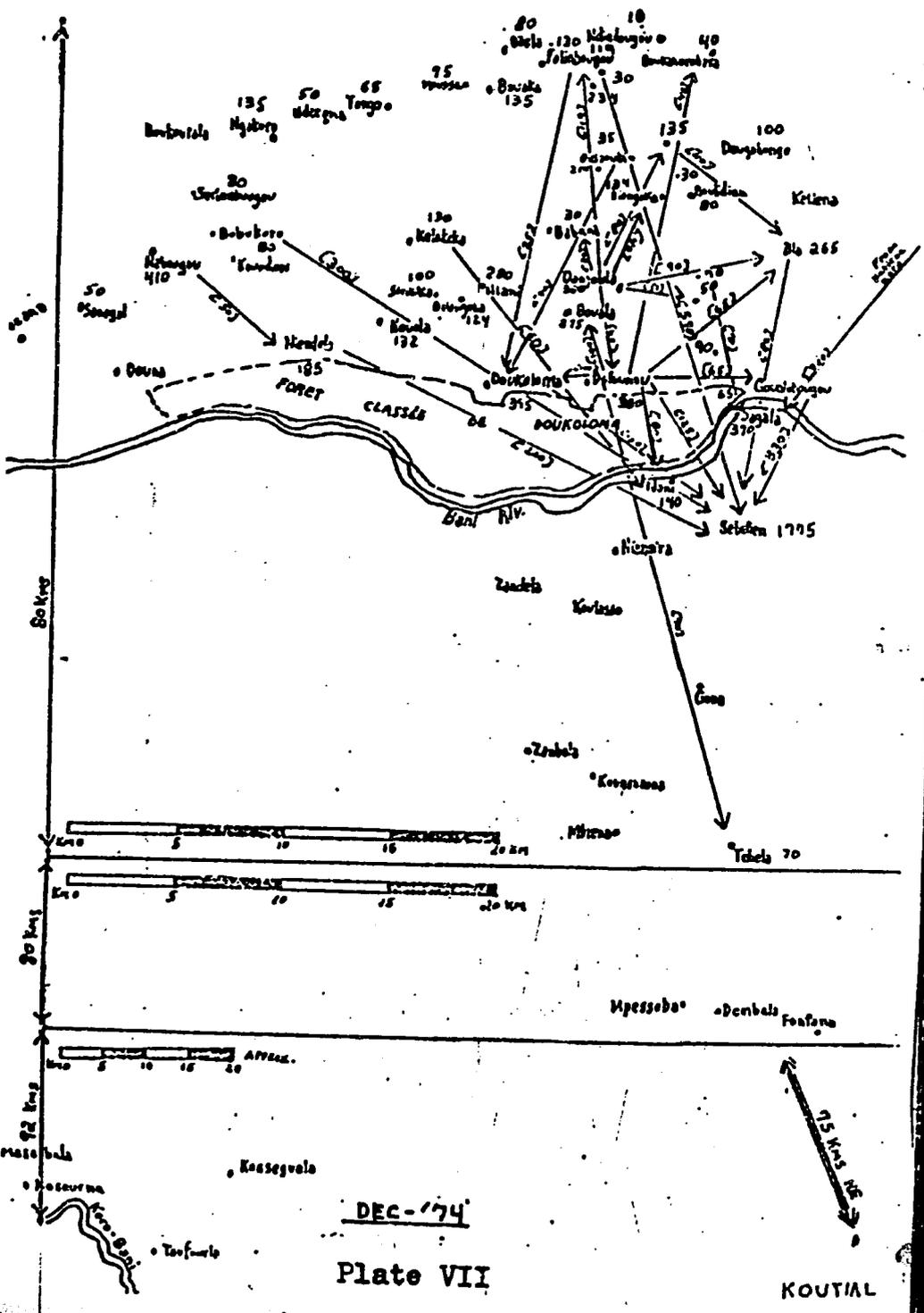
The river is crossed near the village of Nani where there is a break in the steeply inclined bank, and where the aid of Somono fishermen is obtainable to help control the herd and ferry across calves too weak to swim. There is also vested in the chief of Nani a ritual authority over the river that few wish to challenge by not seeking his permission to cross. No official fee exists for this consent and assistance, but "unofficial" expressions of gratitude, such as a young bull every few years, are periodically provided. In previous years, some of the traffic was diverted to the Bani bridge at Douna, but a serious auto accident discouraged further attempts.

The herds regroup at Sebetian which, prior to the recent drought, reportedly was lusher and better watered than at present, and capable of supporting a larger percentage of the migratory herds

January, 1975 - Plate VIII - An ongoing process is established where-in continuously arriving herds strain an area's grazing capacity, there-by causing the earlier arriving herders, (often the most concerned and demanding), to seek new pastures. The dispersion westward, and as far south as Mpressoba, follows the traditional pattern of pre-drought days. Last year several people went as far as Koutiala and returned highly satisfied. A small movement of 80 animals southwest to the Koro-Bani is the beginning of a similar migration this year.

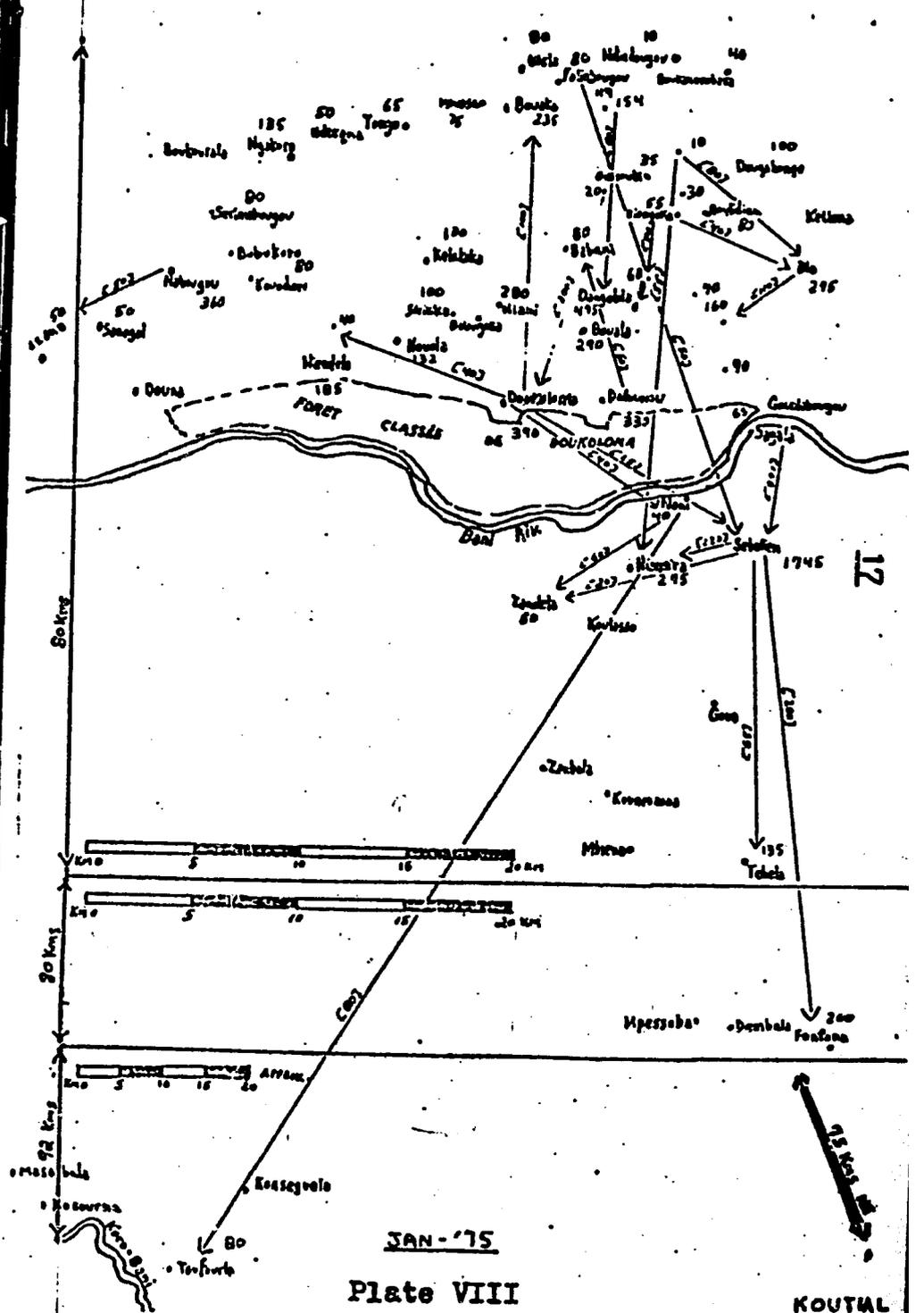
In the Doukoloma area itself, a process begins of continuously repositioning smaller herds, depending on alternations in the micro-environment of particular villages. Especially determinative is the descending water table, causing the large scale watering of animals to become progressively more difficult, and encouraging owners to delegate the care of some animals to people in villages with more favorable conditions.

February, 1975 - Plate IX - Movement south continues as more herds head for the Koro-Bani. Generally the search for good pasture is competitive, and the attempt is made to hide, at least for a while, any new discoveries. Here, however, because of distance and lack of familiarity, many people sought to travel and camp within a short distance of each other; thus demonstrating one unifying factor in an otherwise diversifying situation.



DEC-'74
Plate VII

KOUTIAL



JAN-'75
Plate VIII

KOUTIAL

March, 1975 - Plate X - Further continuation of the southern migration. One herder, due to an outbreak of disease among his cattle, is chased back across the river, from Tebela to Douna

April, 1975 - Plate XI - The situation stabilizes. One group of 40 animals left behind for milk, now crosses the river to join the main portion of the herd. The diseased animals at Douna are chased eastward to a secluded area.

May, 1975 - Plate XII - The situation remains basically static.

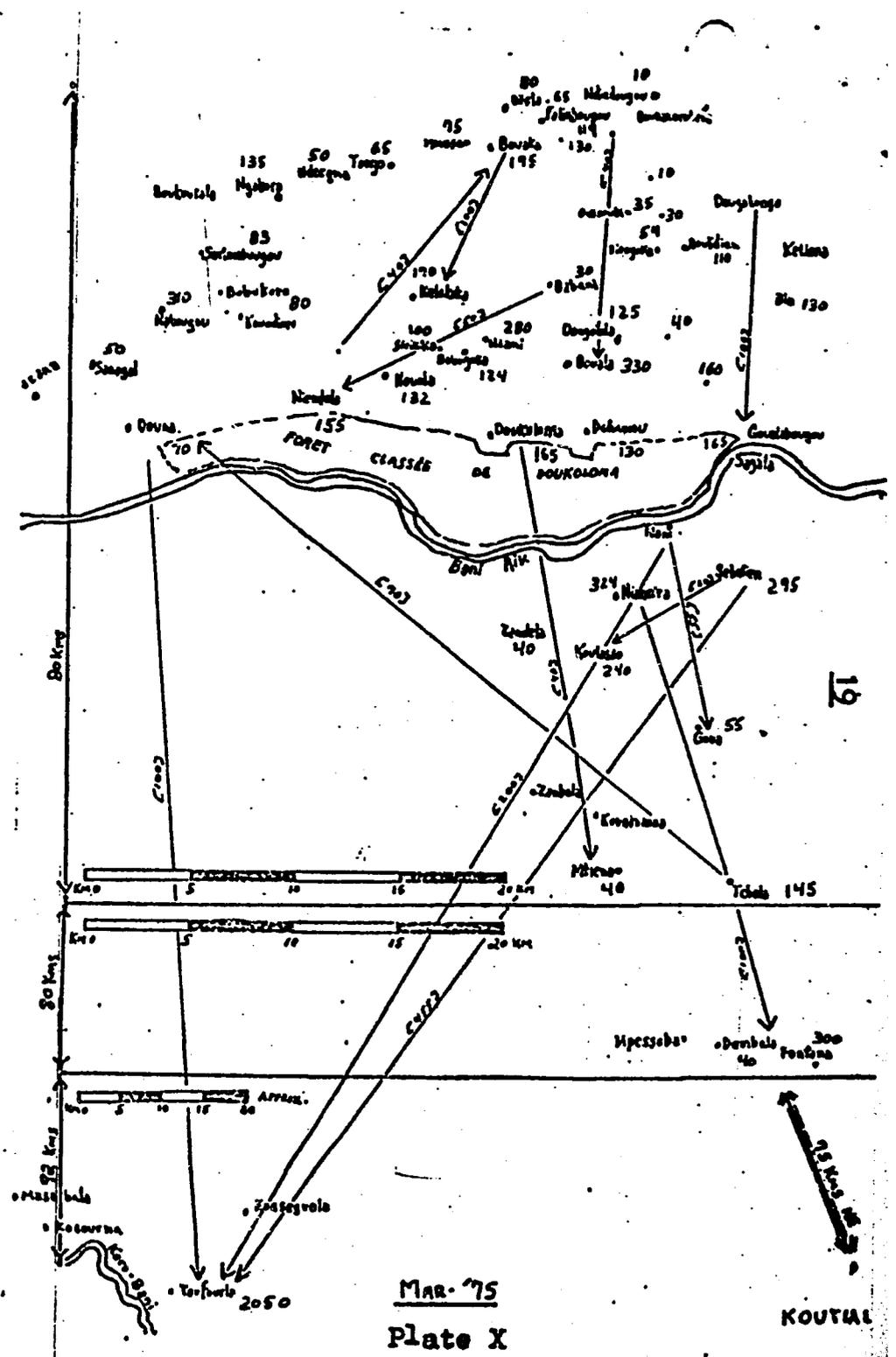
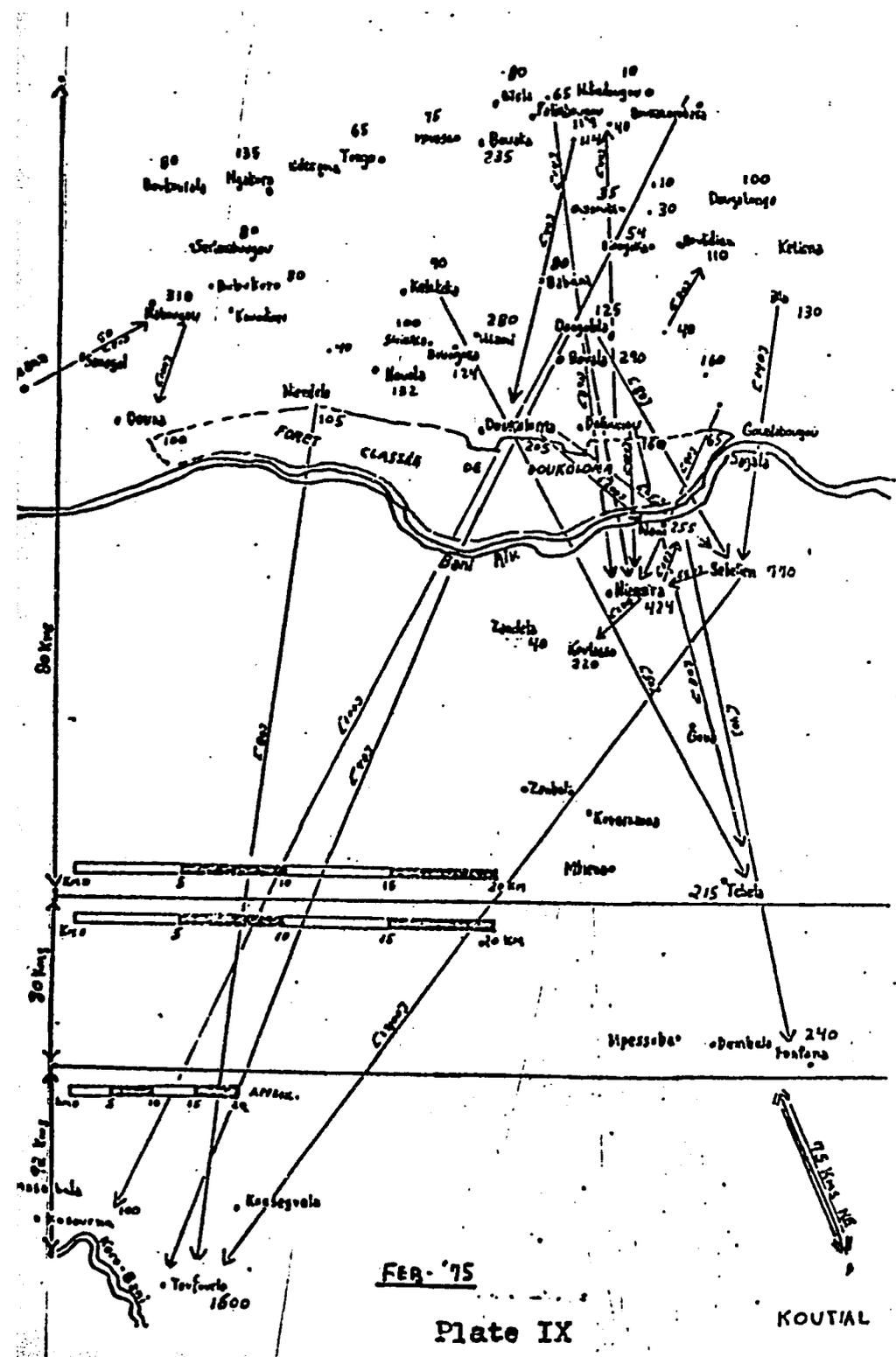
June, 1975 - Plate XIII - As a result of rain, beginning in late May, a new movement begins. (c.f. Plate XVII - Rainfall Statistics Douna, 1975). As the same time as transhumance herds begin leaving the Koro-Bani, to escape the mud and mosquitos, animals from northern villages, which are still dry, are sent to the classified forest to feed on the new sprouts. Sometimes this last decision is actually made by the animals who smell the fresh grass and escape during the night.

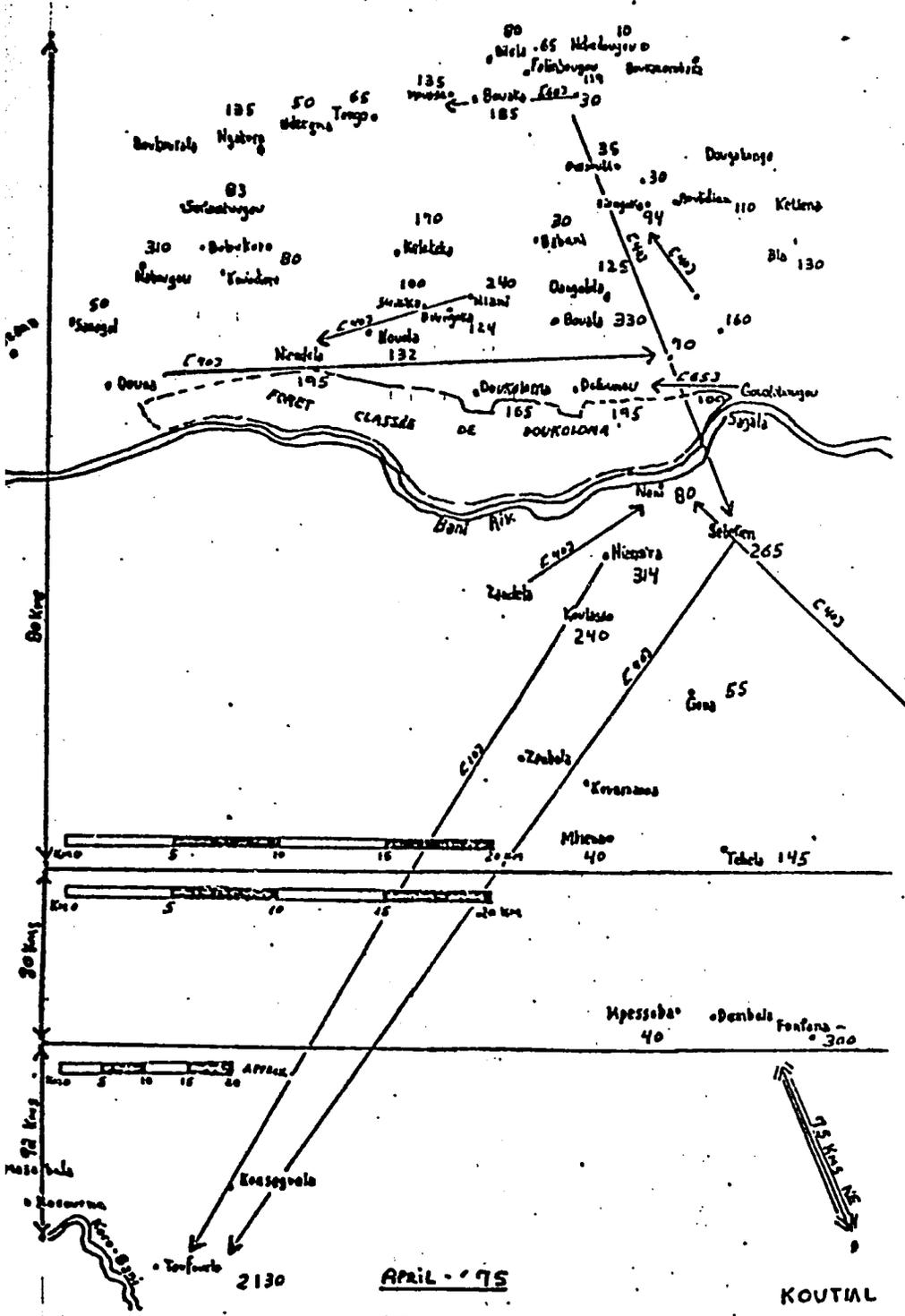
July, 1975 - Plate XIV - The need for plow oxen, plus fear of the rising river water, hastens the return of the herds to their villages. Most return during the first week; the last crossing is July 15th.

August, 1975 - Plate XV - The herds remain near their villages and are corralled at night to prevent their wandering into fields. The region north of Falinbougou is now lush and capable not only of supporting local animals, but also visitors from the north.

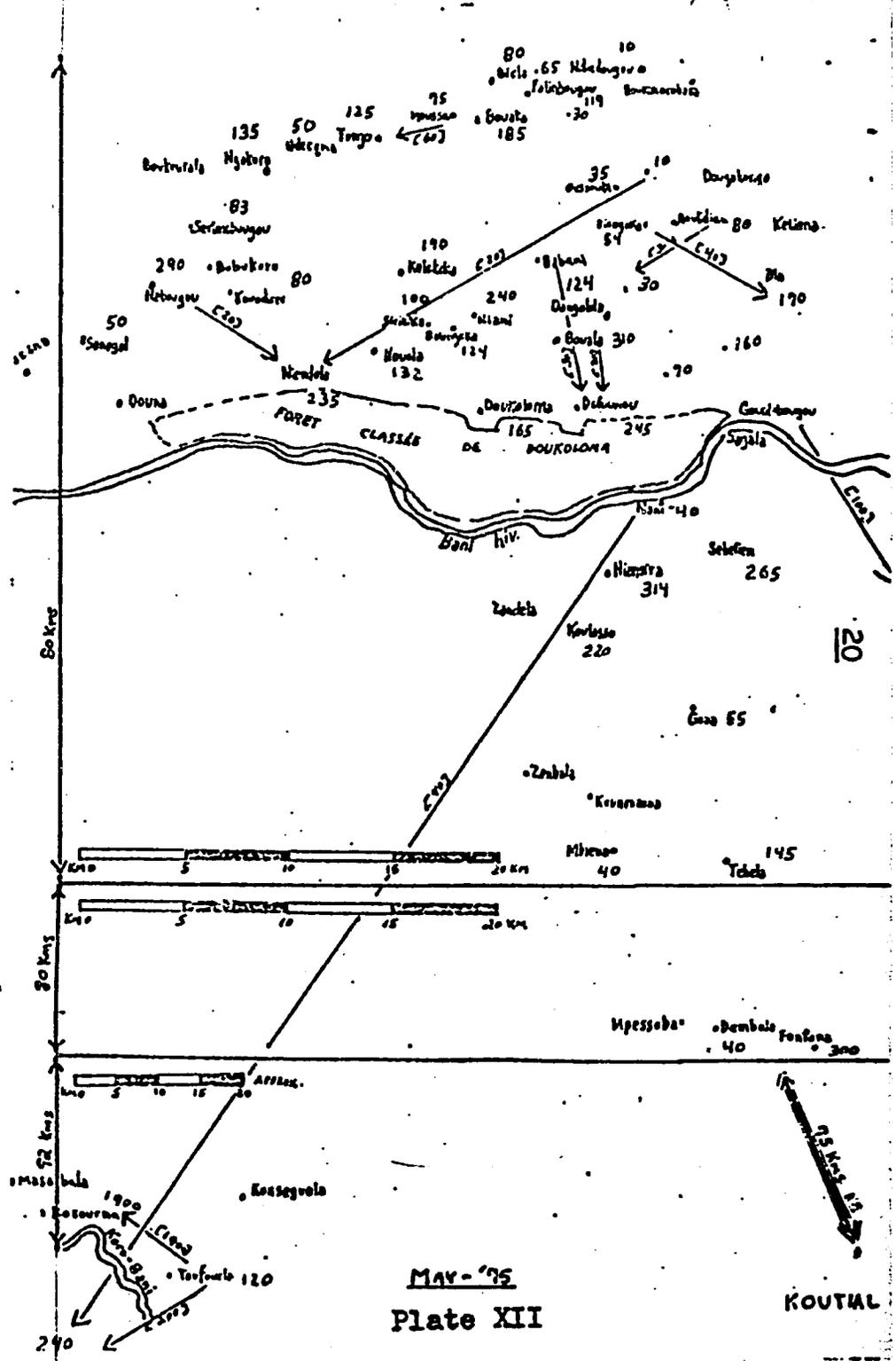
September, 1975 - Plate XVI - Same as August

October, 1975 - Research ended in the first week of October, 1975. At this time, various owners were preparing to move their herds southward, as in October of the previous year.





APRIL '75
Plate XI



MAY '75
Plate XII

Rainfall Statistics Douna 1975

<u>Date</u>	<u>Millimeters</u>	<u>Date</u>	<u>Millimeters</u>
March:		August:	
25	1.01	5	24.50
April:		7	11.00
10	.05	10	11.30
May:		11	5.00
7	47.00	14	15.50
9	6.50	18	31.00
22	11.00	22	16.00(AM) 3.30(PM)
23	25.00	24	50.00
June:		26	21.00
4	5.70	28	11.00(AM) 11.00(PM)
9	14.50	30	5.00
11	43.00	31 8	2.00
17	11.00	September:	
18	3.00	4	5.00
20	3.50	7	2.00(AM) 3.00(PM)
25	10.90	9	32.00
July:		10	25.00
4	4.60	14	15.00
5	1.00	17	8.00
7	20.00	21	10.00
12	7.00	23	13.00
16	9.00(AM) 5.70(PM)	October:	
18	36.30	5	8.50
21	2.00		
23	27.00		
24	4.00		
25	6.00		
27	77.00		
28	10.50		
29	15.90		
30	15.60		

.....

Monthly Totals: March 1.01 April .05 May 89.50 June 91.60
 July 241.60 August 217.60 September 113 October 8.50

Seasonal Total: 762.85

Date VIII

Consistency and Variation in Cattle Raising

As indicated by the recorded cattle movements of 1974-75, significant variation exists within two predominant patterns: that of sedentarized herding, where cattle are kept within close proximity of the owner's village; and that of the transhumance, where the herd seasonally voyages to distant areas. Since all cattle move about, the dividing line between the two is as much qualitative as quantitative.

Sedentary Versus Migratory Herding. - The Basic Choice

For purposes of this paper, a herd is considered within close proximity of the owner's village if communications between the two is possible on a daily basis. Conversely, the transhumance begins when the herder moves to an area sufficiently distant that significant effort must be made for information to be conveyed to the home community. In the Doukoloma area, the presence of the Bani simplifies the differentiation.

Within the area north of the river as shown on Plate II, inter-village communication is simple and regular. People often make one day round trips between Falinbougou and Doukoloma or Zinzana and, usually, you can find without difficulty someone already on his way to wherever you wish a message sent. In contrast, the river presents a significant barrier to movement. Traversing it requires the assistance of a canoe from Nani, and a wait of an hour or two is not unusual, if people are away elsewhere. From there, one must proceed further south to the major communities. While a round trip in a single day is possible, except for market day, it is rarely attempted.

Geographic realities contribute to the more intense personal and economic relations between villages on the same side of the river. There a man is still at home sleeping or eating at a

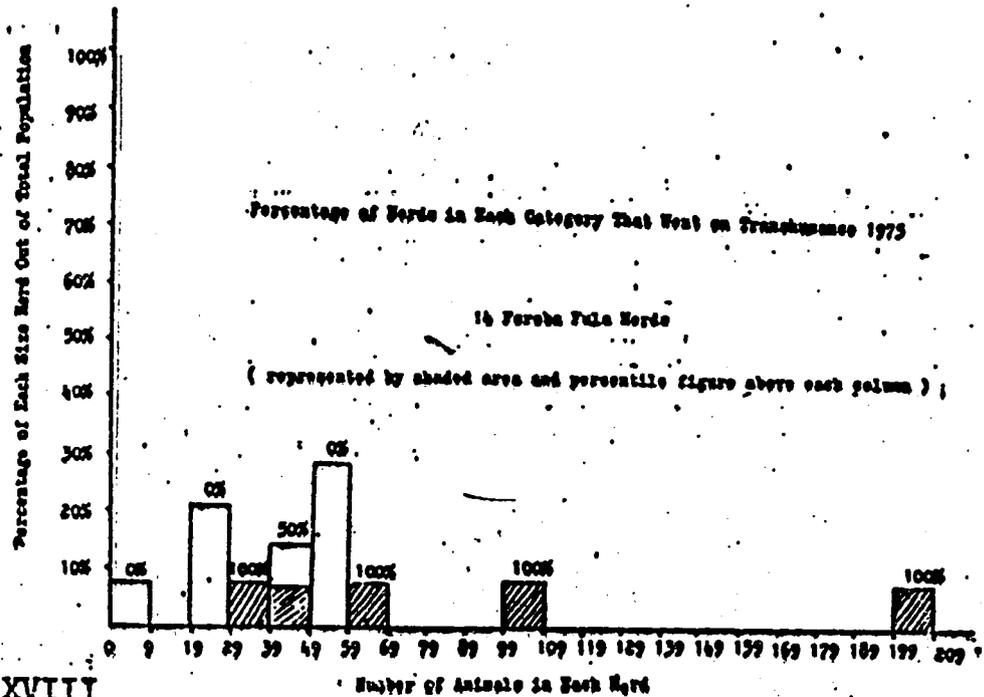
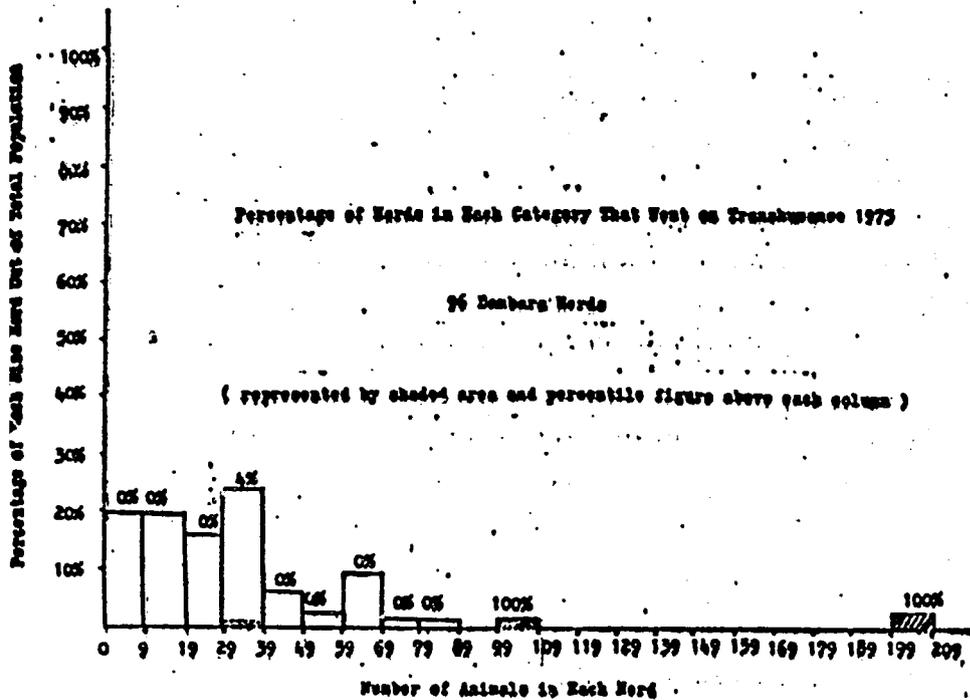
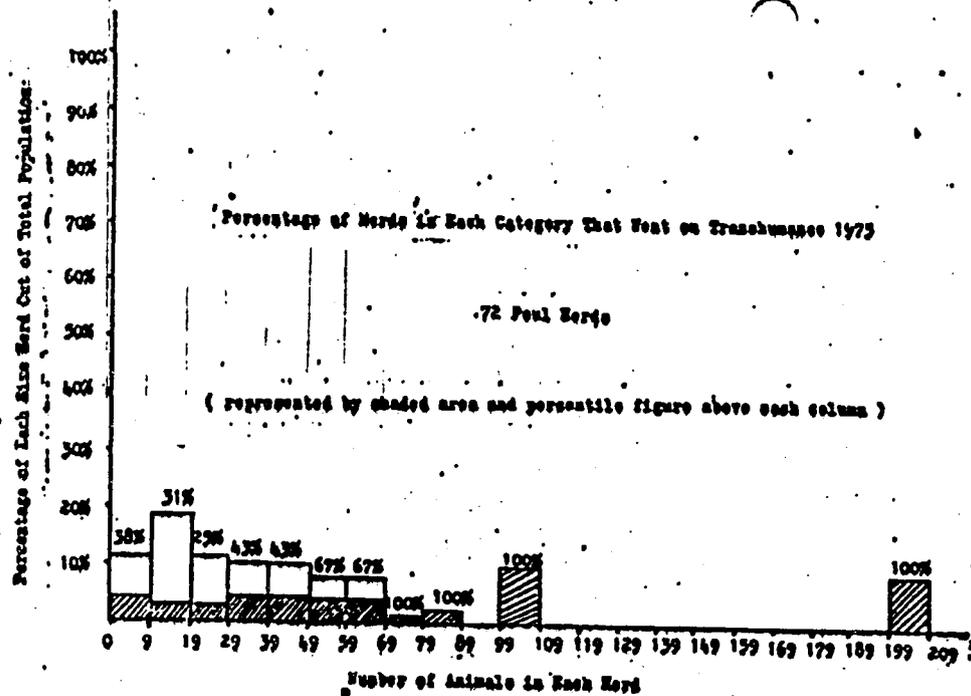
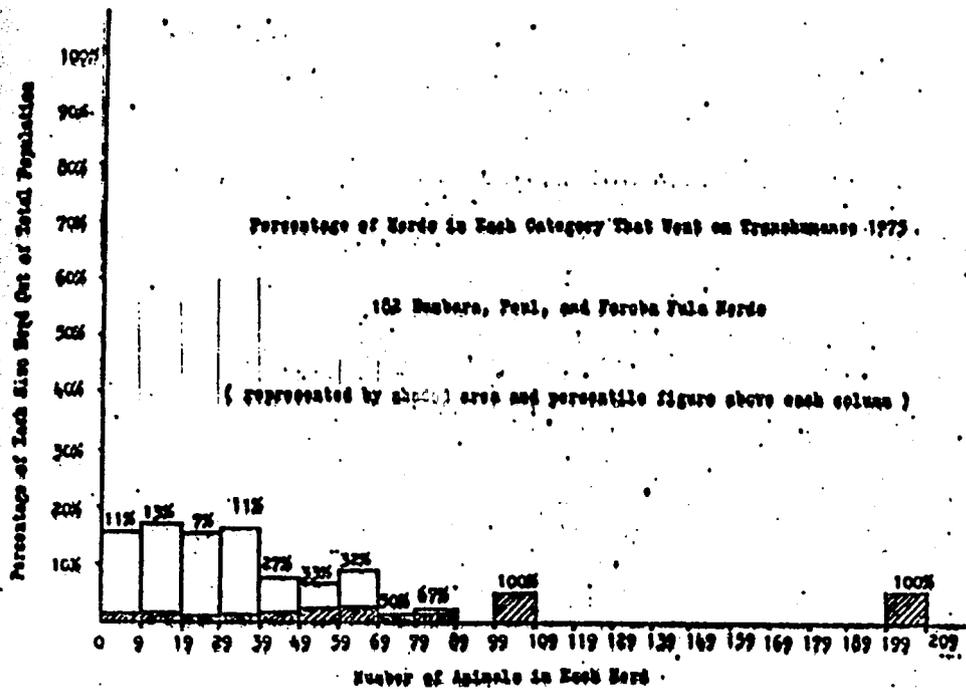
friend's house, while hospitality across the river is more formal and, therefore, represents an emotional as well as physical separation from home. Generally a Peul is more willing to make such a break than a Bambara, whose personal identity is more closely tied to his own land and community.

Of course Bambaras travel, often as far as the Ivory Coast, but usually to some other community where a relative, friend, or at least friend of friend, is to be found. This is not to be equated with the quite solitary life of a migrant herder, who, even when he attaches himself to a strange village, fundamentally lives and sleeps in the bush with his herd.

"Crossing the river" is a well established symbol for Peul pastoralists and, prior to the decimations of the drought, signalled the return of the animals and a time for celebration. It is both a convenient and culturally consistent criterion for establishing the occurrence of a transhumance and, at the same time, an important factor in determining whether or not to actually undertake it.

Plate XVIII indicates the percentage of herds in different size categories, that went on the transhumance in 1975. As already noted, 100 head is the normal limit for a single grazing unit. During the day a sole herder can graze this number, though his task is generally made easier since calves being weaned are left to wander on their own in a different direction. For the transhumance, itself, an assistant to share work is required, with whom 200 head can be managed. Occasionally seen herds of 400 are composites, with sufficient man power always present to split them for local grazing, as usually occurs. The total number of herds is not synonymous with the total number of owners, since some people have more than one herd, while other herds contain the animals of several friends or relatives.

As can be seen by Plate XVIII, the number of herds migrating varies greatly according to the owner's ethnic identity. The disinclination of a Bambara to partake in a semi-nomadic life



has been mentioned. However, the situation is partially one of definition. Any Bambara who was willing to do so, would actually be opting for the Peul way of life. There are, in fact, two cattle owners in the area, though not in the sample, who though originally Bambara, have adopted the prevalent Peul name of Diallo.

Most Bambaras, however, reject such a solution, and if they decide to send their animals across the river, entrust them to a Peul. Unfortunately, those who did so in the past claim they suffered higher than normal losses, implying that some animals had been misappropriated. The result, as Plate XVIII demonstrates, is that most have discontinued the practice.

The "100 Plus" Head Threshold

At approximately 100 head, an owner's problems qualitatively change. The guarding of his herd is now a full time job and usually too large to combine with other activities. This, added to those problems that increase directly with herd size, such as the searching for sufficient pastures, the difficulty of drawing well water, and the need to be minimized group, and jealousy of other villages, make it expedient for the owner to find a particular individual to be charged with caring and moving with the herd.

For Bambaras, one solution is to find a Peul from outside the area who may actually settle in the village. One such relationship between a Peul family and a large herd-owning Bambara household has been in existence almost 20 years.

The availability of such "stranger Peuls" is largely the consequence of the acute status consciousness of Peul society, and the general high status afforded being Peul by all ethnic groups. Non-Peuls, including not only other ethnic groups, but casted and slave members of traditional Peul society, naturally find it easier establishing a new identity in a region where they aren't known. In addition, the actual Peul word for "Peul" is "Pullo" (plural: "Fulbe") and really means a free man. Consequently,

it is considered a disgrace for a "Pullo" to be a paid laborer of another, and as a result, if one must work, he prefers to do so far away among strangers. What results is the ironic situation that Peul, as well as Bambara, families, have hired stranger herders, at the same time that a neighboring Peul has gone to another region seeking similar work. The situation is not, however, economically irrational since the near total dependency of such strangers on their host is seen as conducive to the conscientious fulfillment of their duties.

Cattle As Savings Vs. Cattle As Investment

While the "100 plus" cattle threshold would also apply to Peul and Foroba Fula herds, in practice the decision to go on the transhumance is made well before this limit. (c.f. Plate XVIII). This divergence in practice is best understood by accepting as fundamentally different, the economic orientation towards cattle of the various ethnic groups.

As will be demonstrated, to the Bambara a herd of cattle is a savings account; a place to guard surplus funds for either special future outlays or unforeseen circumstances. Since it yields some interest in the form of offspring and is less fluid than cash, and therefore less easily spent, it is preferable to keeping money under the bed.

For the Peul, cattle are capital, like stocks; something to be carefully watched and manipulated in the hope of accumulating sufficient wealth to live off the dividends. What exactly represents "sufficient wealth" is somewhat relative. As a general rule, Peuls in the Doukoloma area would say 40-50 head is the beginning of a herd, called "hoore"; less than this is called a "sewre" and is just a beginning. "One hundred plus" cattle is required for a man to really be considered a significant owner, and, as a rule of thumb, 8-10 animals per family member is required to begin living off the herd. (The average Peul family unit in a typical Peul hamlet had 8.5 family members - see Plate XIX).

COMPARISON OF ANIMAL OWNERSHIP 2 NEIGHBORING VILLAGES

Village #1 - Peul - Pop. 94 - 11 Family Units - Average Family Size 8.5
 Village #2 - Bambara - Pop. 147 - 16 Family Units - Aver. Family Size 9.3

Number of Animals Per Capita

	Goats	Sheep	Cattle
Village #1	2.8	.71	6.4
Village #2	1.7	.53	.87

Male - Female Ownership

	Goats	Sheep	Cattle
<u>Village #1</u>			
Number of Male Owners	14	6	•
Average Number Owned	6.7	7.4	•
Range of Herd Size	2-15	3-16	•
Number of Female Owners	19	3	•
Average Number Owned	9.3	7.7	•
Range of Herd Size	1-33	4-12	•
<u>Village #2</u>			
Number of Male Owners	29	17	•
Average Number Owner	4.8	4	•
Range of Herd Size	2-11	1-12	•
Number of Female Owners	12	3	•
Average Number Owned	9.7	3.3	•
Range of Herd Size	2-36	1-7	•

*SEE PAGE 37-39

The Peuls see the transhumance as beneficial to the herd, both as far as growth, mortality, and calving rate. My own sampling, shown on Plate XX, reveals only small deviations from the over-all average of a 52.7 % calving rate and a 24.3% mortality rate during the first year of life. The differences indicate slightly better survival and calving rate for Peul over Bambara herds. However the birth rate of animals on the transhumance is below the general average. One possibility is that these figures are for four years, three of which were during the drought. At that time all the herds still went to Sebetian, where, especially during 1973, conditions were poor, and losses were high; thus indicating how the transhumance, per se, is not always beneficial, but is only a strategic option to be considered. As evidenced in the sample, some Peul owners decided not to send their animals, and seemingly benefited by this decision.

Ultimately such suggestions are merely speculative. Given the sample size, the deviations shown are not statistically relevant and in reality show no appreciable difference in any of the categories between ethnic groups, or migratory versus non-migratory herds. Based on my own observations, I am inclined to feel that this is an accurate indication of reality.

The Peuls are more successful, not because their animals migrate annually, but because they are more concerned about their animals. The fattened condition of the animals that return from the south in June is reward enough, for the yearly effort. However, ultimately this concern, including a willingness to uproot oneself at the spur of the moment, can be crucial. That this crucial point has not been reached in the Doukouloma area, is because the land is not yet so overgrazed that on a daily basis, animals have begun to starve. However, under present conditions such a situation seems not that distant in the future, at which time, those cattle who migrate, will survive, and those who don't will suffer.

RECORDED BIRTH AND DEATH RATES FOR CALVES 1971-1975

Random Sample of 19 Herds

- I All 19 Herds
 II 10 Bambara Herds
 9 Peul Herds
 11 No Transhumance Herds
 8 On Transhumance Herds

	I	II	III	IV	V
Average Birth Rate	52.7%	51%	55%	55%	50%
Average Death Rate 1st year of life	24.3%	27.5%	22.2%	25%	23.7%

Plate XX

COMPARISON OF ESTIMATED HERD COMPOSITION

IN
DOUKOULOUMBA AND DILLY REGIONS

	All *	Bam- bara *	Peul 0-99 head *	Peul 100+ head *	Dilly **
<u>FEMALES</u>					
Cows	29.9%	27%	31.2%	34%	36%
Heifers 1-4 yrs.	30.5%	29%	30.3%	32%	22.5%
Calves	9%	9%	12.5%	7.5%	7.3%
<u>MALES</u>					
Bulls	2%	2%	2%	1.5%	3.6%
Males 1-5 yrs & Steers	23%	26%	19%	19.5%	24.6%
Calves	6%	7%	5%	5.5%	6%

* Doukouloumba Region Sample Plate XXI

** Dilly Region - Source IBRD-IDI - Mali Livestock Grant Proposal

Thus the Peul inclination to transhumance is a result of long term experience during which, at critical moments, it has saved him, not only from the decimations of nature, but, perhaps even more often, the ravages of the plundering conqueror, and his heir, the tax collector. The Peul is, in a way, prejudiced towards the transhumance and, in contrast to the Bambara, the question is to determine under what conditions he isn't willing to make this annual migration.

To begin with, everyone agrees that life on the transhumance is physically hard. A man may therefore feel he is too old to undertake it, and not have any sons of suitable age, not any friends or relatives he trusts, to assume the responsibility. Usually, however, the final decision not to go is based on countervailing economic pressures which in the Doukoloma area consist of one of two possibilities. Firstly, since all the Peuls farm, and since they don't rotate fields as do the Bambara, they are dependent on large amounts of manure for fertilizer. Therefore, they will, occasionally, decide to keep their animals at home for the year to thoroughly enrich their fields. Secondly, the large cattle market at Busan (Bosse) affords several men with significant weekly earnings based both on speculative buying and selling, and by acting as agents for Bambaras, either by just bringing an animal to the market for 500 FM, or by also acting as broker for 1,000 FM. However, as Plate XVIII reveals, at around "70 plus" animals, the economic value of the herd seems to preempt all other considerations that might mitigate the assumed advantages of seasonal migration. Not surprisingly, based on an average 8.5 members per family unit, (Plate XIX), this number conforms to the 8-10 head per family member (68-85 head per family) quoted by the Peul as necessary to begin "living off the herd".

As regards the Foroba-Fula, statistically, (c.f. Plate XVIII) their decision to go or not to go on the transhumance falls midway between that of the Bambara and the Peul. Unfortunately the sample size is reflective of their small presence in the local population. Logically, however, such an outcome seems quite understandable.

Given their extreme minority position, there is no inherent advantage in possessing this ethnic identity. Those without cattle, therefore, rapidly assume Bambara identity. Those who attempt to imitate Peul ways remain Foroba Fula to the extent that established Peuls make a point of noting the difference. However, those truly successful in the Peul way of life can work towards erasing the distinction. For example, the two largest Foroba Fula cattle owners in the area have already united their families to more established Peuls through marriage. The Peuls' rationale for consenting to such a marriage will be expanded upon later, but clearly, once it occurs, they wish to conveniently forget their new relative's old identity. Thus he who is a Foroba Fula is a social, as well as statistical middleman.

The Family Milk Herd

There is, however, another phenomenon that is hidden amidst the graphed information in Plate XVIII. By the time a man has a really significant number of animals—i.e. 150-200, he often begins to feel capable of taking some luxuries with his herd. Mostly to please his wives who sell milk for income, he will leave some animals behind while the majority cross the river. Plate XXII records precisely how this occurred in two instances. The luxury itself is rather minor, since, as indicated, these herds leave the homestead area when the dry season becomes more advanced.

Acquisition and Ownership of Cattle

Returning to the polar positions: Bambara vs. Peul, it can be shown that the already discussed dichotomy: Bambara cattle equals savings, Peul cattle equal investment, is applicable not only to an understanding of decision making vis-a-vis the transhumance, but as an ever present orientation that influences all cultural activities of which cattle are a part, including their acquisition, ownership, exploitation and divestiture.

There are six fundamental ways cattle are acquired by members

COMPARISON IN 2 PEUL HERDS OF ANIMALS SENT ON TRANSHUMANCE
 EARLY IN THE SEASON AND THOSE KEPT NEAR HOME VILLAGE
 TILL LATER IN THE DRY SEASON

Herd of 211 Animals

Herd of 185 Animals

Those leaving village region

Those leaving village region

in

in

December

March

December

April

FEMALES

Kecheni	2	6	1	6
Jakoro	28	0	23	0
Gnele	25	12	24	0
Missigre	25	0	16	0
Hange	50	12	49	11
Flungoro	0	0	0	1

MALES

Kecheni	0	5	1	5
Jakoro	17	0	13	0
Twaboro	13	0	9	0
San4/6tura	6	0	5	1
Jetura	2	1	2	1
Foroba	2	0	2	0
Mbujiri	5	0	15	0

TOTAL

175

36

160

25

34

of Peul society:

1. At birth, the father and often the mother's brother will give a cow ("nagge bingé") to the child.

2. When a girl marries, she receives from the groom several animals ("futte") which provide her with an independent financial base. A typical "futte" given in my village consisted of: one large bull- 5 years, one young bull- 2 years; three cows-5-6 years; and 2 calves.

3. Someone in need of animals may receive a loan, usually milk cows and usually from his mother's brother. Occasionally, a man may lend another a large bull, an act which is considered a sign of wealth and honor.

4. In return for being another's herder, one or two animals, 1-2 years of age, will be given annually.

5. Animals may be purchased with money obtained through any means.

6. One may inherit cattle. Sometimes it is the owner himself who determines the heirs, by either actually giving the animals away as he gets old; or verbally passing them on but retaining physical control till he dies; or nowadays, he may even have a written will. Those animals left upon a man's death are distributed by a third party and, while, in theory, a Marabout is preferred, and the dictates of Islam quoted, it is often a family member who is not himself an heir, who performs the function, with a great deal of discretion. For example, one herd of 27 animals was divided by a deceased man's brother as follows:

To a 24 year old son - 5 animals - (3 cows, 1 small bull, 1 small cow) - "Because he had spent years herding the animals and was ready to benefit from them"

To a 21 year old son - 5 animals - (2 cows, 2 young cows, 1 small bull) - for the same reasons as the oldest son.

To a 13 year old son - 2 animals - (1 cow, 1 young cow) because he had not herded the animals and by the time he was as old as the first two sons, G-d willing, his would multiply to at least equal the number the others had received.

To an 11 year old son - 2 animals - (1 cow, 1 young-cow) - same reason as for the 13 year old.

To a 6 year old son - 2 animals - (2 young cows) - same as last two.

To the first wife - 8 animals, of which 5 (2 cows, 2 young cows and 1 bull) were her original "futte", and 3 (1 cow, 1 young cow, 1 small bull) were her husband's.

To the second wife - 3 animals - (1 cow, 1 young cow, 1 small bull), since she had received no futte, because she had been previously married.

Common to all six means of acquisition, and demonstrated in the preceding example of how an inheritance was divided, is the personal nature of cattle as property. Even a 6 year old son has his own cattle, and a father can theoretically be poorer in animals than his young children. However, there are certain qualifications on the nature of private ownership of cattle.

Firstly, while those animals given the mother as "futte" are her's, unless sold, they and their off-spring are automatically inherited by children, and, should she leave her husband without cause, they revert to him, in trust for the children. Basically, the rule seems to function primarily as a mechanism for protecting the children's rights, and the forfeiture for desertion is not as much a limitation on property as a confiscation of property in revenge for a wrong.

Secondly, a father with no animals can sell one of his children's animals in the way that any adult can usually siphon off the inheritance of a minor child. However, a youth can also and frequently does, steal one of his relative's animals and quickly sell it for cash. Husbands are also known to occasionally partake of what is rightfully their wives. Such behavior, again, is not so much a limitation on ownership as an expropriation against which the injured party is hampered in seeking legal redress because of close kin ties. This does, however, lead to heated family arguments and, mostly significantly, a Peul will often entrust his animals to a friend or stranger rather than a relative because

compensation can be sought from such a third party, if he causes the owner an unjustifiable loss.

Lastly, a true hazing of property rights exists where a family's animals are all herded together and where no prior clear delineation of ownership has been made. An outstanding example of this existed in one village, in the case of a large family in which the first wife of the "chef de famille" died 28 years ago, leaving some animals. However, it was not until last year, 27 years later, and after the father had sold 7 animals that his children felt were theirs; that they called upon the deceased mother's brother to divide the inheritance. The division was as follows:

3 brothers received 5 animals each.

1 brother received 4 animals "Because he had already sold 2 from the herd."

1 brother received 4 animals "Because he had already accumulated 16 animals as a herder and was therefore much richer than the others."

1 (the only) sister received 2 animals. based on the formula:

$$\text{a daughter's share} = \frac{1}{\text{Number of Sisters}} \times \frac{\text{entire herd}}{\text{number of brothers}}$$

$$\frac{2}{2}$$

At present, the family still lives together and the herd usually moves together, but a previous state of limbo as to property rights in specific animals has been erased. However, such a state of limbo exists within many herds and therefore creates a problem if one wishes to specify which individual rather than which family owns how many cattle.

Among the Bambara, acquisition is appreciably different. While occasional gifts may occur, there is no standardized practice of giving animals to a child, or to a bride, or for lending them to a friend or nephew. For the Bambara, the two established means of acquiring cattle are: 1) Purchase, and 2) Inheritance, but both take forms somewhat different from that existant among the Peuls. For example;

the five herd owners in one Bambara village gave the origin of their cattle as follows:

1. The "chef de famille's" father bought cattle with money he had earned selling baobab leaves and tamarind at Diouro.
2. The owner hunted and brought cattle with his profits from selling meat and skins.
3. A bride-to-be's family reneged on a marriage agreement and the groom's family decided to buy cattle with the returned bride price.
4. The owner bought animals with money earned as a laborer in the city.
5. With money from millet sales, the family invested in goats and sheep, which eventually became so numerous, that some were sold for cattle.

It is noteworthy that in four of the five preceding examples, the money for purchasing cattle came from secondary sources of income and not from millet production which is the foundation of Bambara life and the major economic activity of all these men. Even in one case where millet was indirectly involved, the immediate source of capital is the surplus of sheep and goats. Thus, in contrast to the Peul, for whom the acquisition of cattle is intrinsically interwoven with basic cultural institutions; for the Bambara, it is a side product of extraneous accumulated surplus and is neither to be derived from nor confused with the fundamental productive activity of the group as millet growers, except in the most tenuous fashion.

If the animals, especially plow oxen, are purchased by family resources, i.e. the returned bride price or the sale of family grown millet, they are held for the household in the name of the "chef de famille". When the animal is bought with money clearly earned by an individual, himself, it is considered his. Even here, however, private property is an extremely limited concept within the context of the communally oriented Bambara family, and an individual can rarely preserve personal wealth in the face of need by the household.

In matters of inheritance, cattle are generally passed to brothers in their role of "chef de famille". Thus, if a man dies, the new chef de famille inherits the herd. If the family has split, the herd will be split and each new family head given his share. This procedure sharply contrasts with Peul inheritance, where the wealth is dispersed and the number of individual owners increased. In fact, Bambara inheritance tends to level differences in wealth by converting much personal property upon its owner's death to the somewhat less personal property of a "chef de famille"

The Exploitation and Divestiture of Cattle

Plates XXIV through XXVIII compare the specific composition of 21 Peul and Bambara herds. A few methodological explanations are needed to aid in the interpretation of this data. While in Plate XXII, I have attempted to provide an estimate of herd composition that could be compared to another source, (i.e. Herd composition in the Dilly Region), in actual practice, asking herders to break down their animals by age proved unsatisfactory, even given their good intentions.

The cultural custom is to ascribe both animals and people a status according to stages in their lives. These, of course, roughly correspond to certain ages which I have provided in rough translation on Plates XXIII to XXVI. They are, however, at best, approximations. Thus young bulls are castrated around 3-4 years of age; cows give birth when they are between 3-5 years old; calves are weaned approximately 6-8 months after birth. However, despite this inherent variation, for inter-herd comparison, local terminology seems preferable to artificially manipulated age categories.

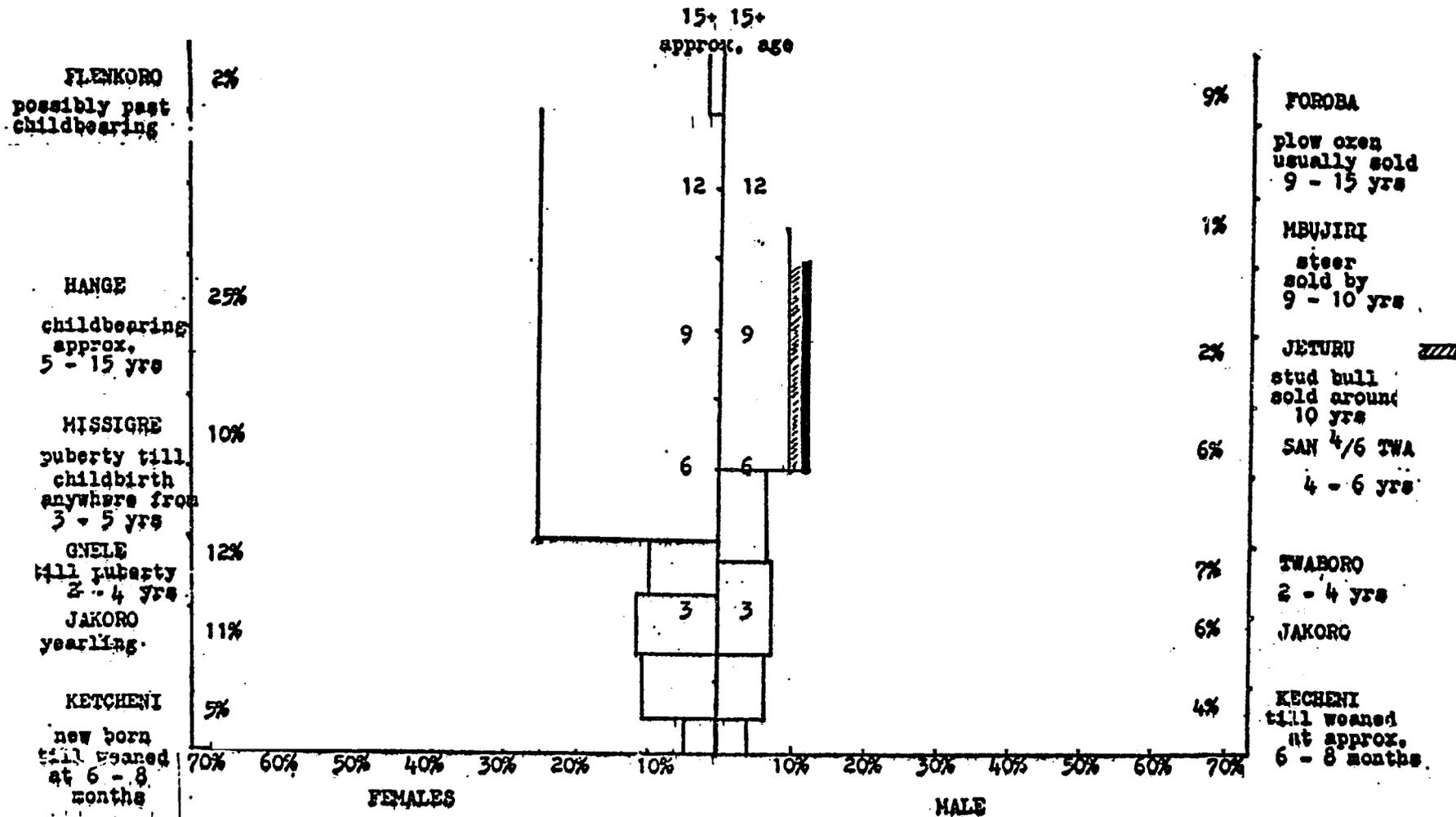
The terms chosen are a mixture of Peul and Bambara, but all are commonly used by both groups. The greatest vagueness involves the terms "Gnele" and "Twaboro", since some people ignore the status "Jakoro". Therefore, for more precise comparisons, the total percentage of animals in the first three female categories and first four male categories, is a more accurate reflection of reality than

HERD COMPOSITION

	24 Babbers Herds												3 Foroba Fula Herds					5 Foul Herds				2 Large Foul Herds			
<u>FEWALS</u>																									
Kecheni	1	0	1	0	2	0	5	1	3	1	4	1	3	3	2	1	3	5	3	3	1	1	8	7	
Djokoro	5	2	4	4	1	7	6	0	7	4	10	3	5	5	5	2	5	5	14	1	1	2	28	23	
Gaely	6	4	5	6	2	2	10	0	5	3	6	2	3	10	3	3	7	5	3	2	0	0	37	24	
Vissigra	8	4	4	2	3	1	3	1	10	2	5	1	7	5	4	1	5	10	4	3	1	2	25	16	
Hange	5	6	7	5	3	5	10	3	14	10	15	6	10	30	8	5	6	20	18	9	2	3	62	60	
Flungoro	1	3	3	2	0	1	0	0	0	0	0	0	1	0	0	1	2	0	0	1	2	0	0	1	
<u>MALES</u>																									
Kecheni	1	0	1	0	0	0	3	2	5	1	3	0	2	2	1	1	3	2	0	2	0	1	3	6	
Djakoro	2	1	1	1	1	2	3	0	6	1	4	1	4	5	2	1	0	3	4	1	0	2	17	13	
Tyaboro	0	0	2	3	0	1	6	0	6	1	3	2	4	10	3	1	4	2	5	3	0	0	13	9	
San ture	0	1	1	1	1	4	6	0	4	0	2	2	2	9	2	5	3	2	0	0	0	2	6	6	
Jetura	0	1	1	0	0	0	1	0	1	0	2	0	2	2	1	1	2	1	2	1	0	0	3	3	
Foroba	2	5	2	4	4	2	4	0	10	3	4	2	4	3	2	2	3	0	4	0	1	1	2	2	
Mujiri	0	0	0	0	0	0	3	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	5	15	
TOTAL	25	27	32	28	19	20	60	7	71	26	60	20	47	86	33	24	43	55	61	26	8	14	211	185	

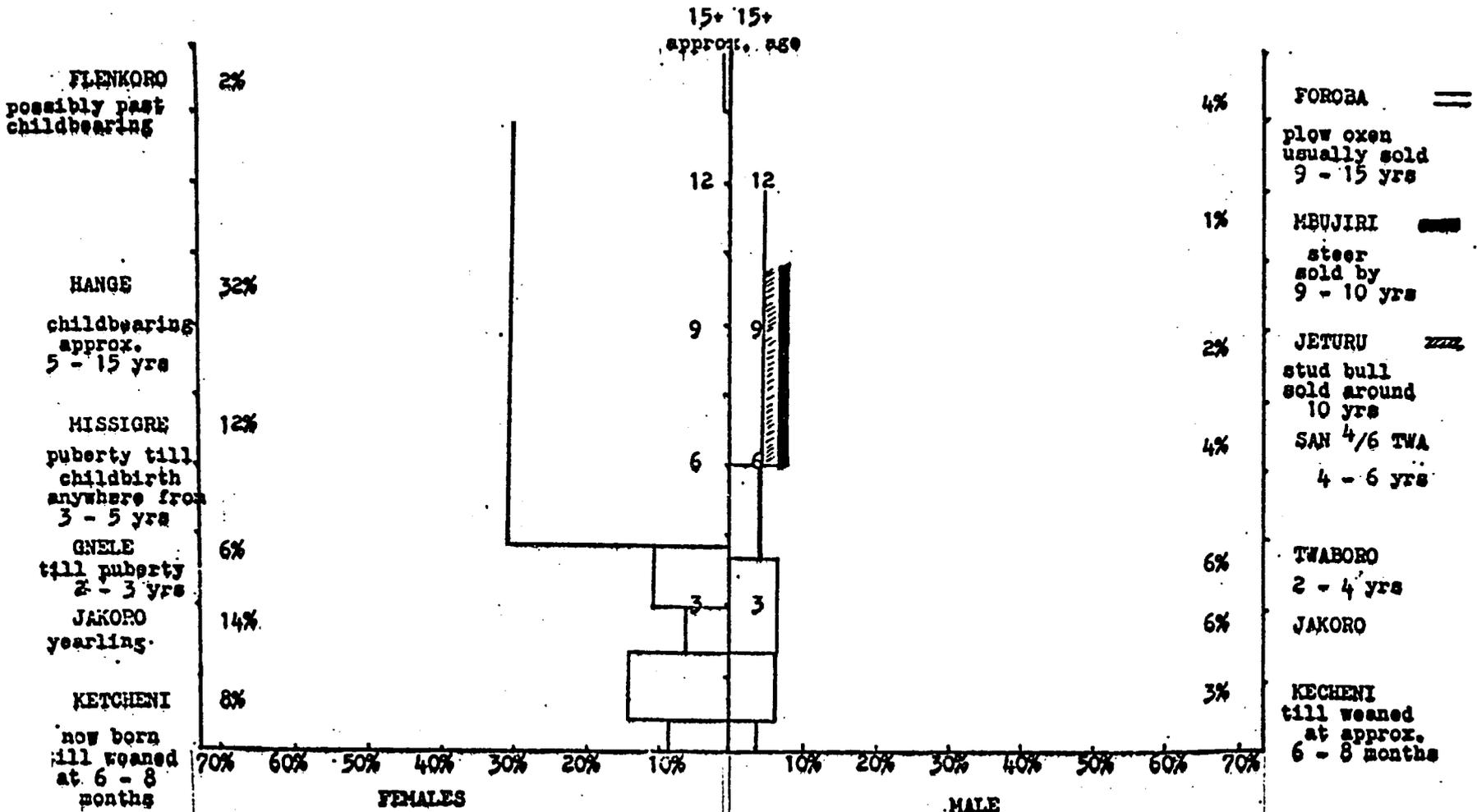
* note: 2 of these herds were on transhumance and therefore do not include possible milk cows left in home village

107



FEMALE - MALE RATIO IN 14 BAMBARA HERDS
 Total population 526 head
 Herd size range 7 - 86 head

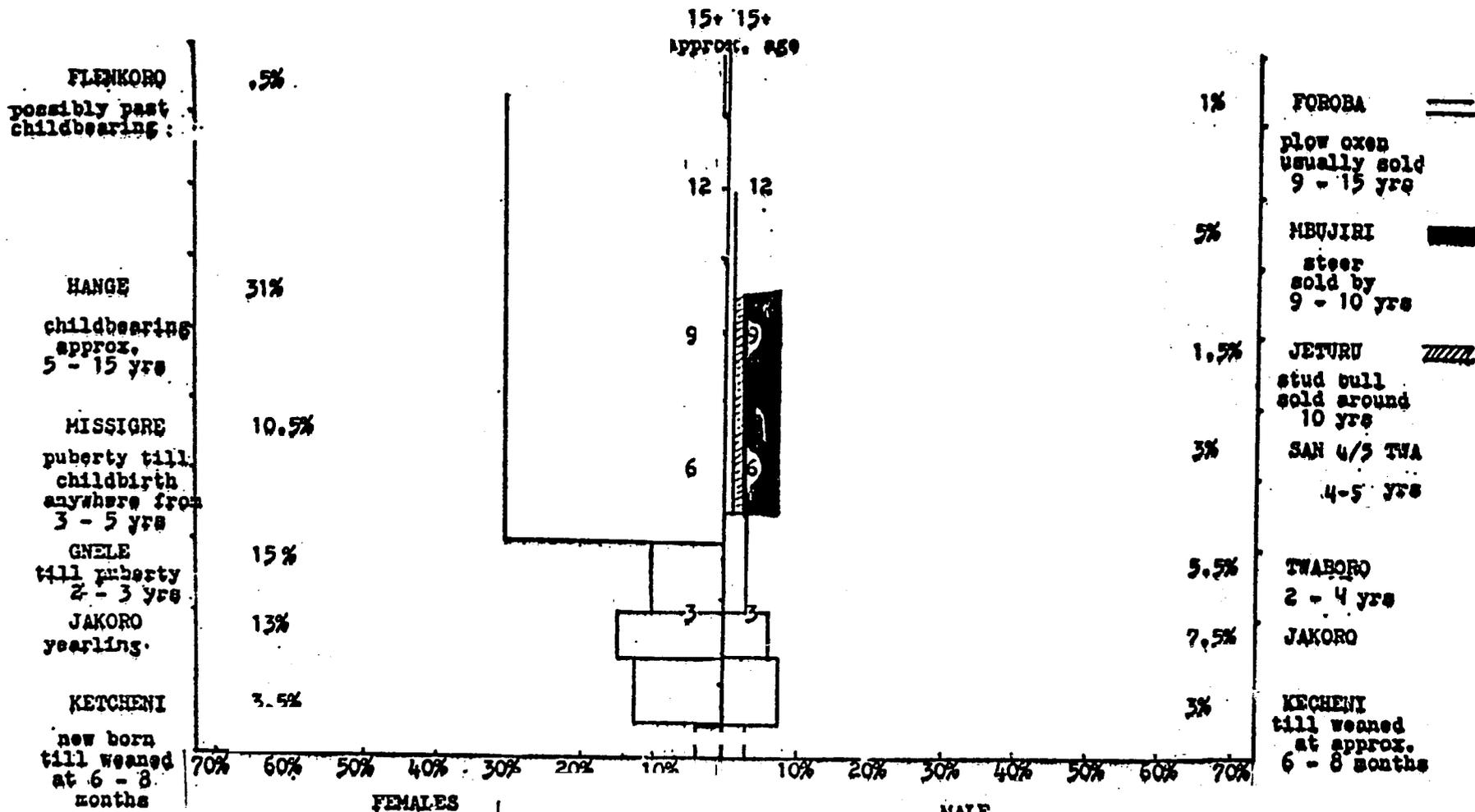
Plate XXIV



FEMALE - MALE RATIO IN 5 PEUL HERDS

Total population 164 head
 Herd size range 8 - 55 head

12



FEMALE - MALE RATIO IN 2 LARGE PEUL HERDS

Total population 396 head
 Herd size 185 head, 211 head:

43

the smaller sub-divisions there-in. All the animals were counted at one time in the presence of the owners, except for the two large Peul herds whose composition could only be obtained piecemeal, both by counting and through the reports of others.

Given the above qualifications, the most significant difference between herds is in the percentage and type of adult males:

Bambara Herds - 7-88 head - 12% adult males (9% plow oxen, 1% steers, 2% bulls) - Plate XXIV .

Peul Herds - 8-55 head - 7% adult males (4% plow oxen, 1% steer, 2% bulls) - Plate XXV .

Peul Herds - 185-211 head - 7.5% adult males, (1% plow oxen, 5% steer, 1.5% bulls) - Plate XXVI .

Clearly evidenced is the emphasis on agricultural productive plow oxen in Bambara herds, while the Peuls' more limited agricultural involvement, is reflected in a more limited number of draught animals and a corresponding increase in steers destined to be sold for cash. This is particularly true of large herd owning Peuls, who do not increase their agricultural productivity much beyond that of many smaller herd owners. In contrast, cattle rich Bambaras will often prefer to amass a surplus of plow oxen rather than steers and rent these to others for 5,000 FM each a season, or 2,000 FM for 10 days.

Commercial Sale and Social Obligations

Some causes and consequences of these divergent practices are seen in Plate XXVII, which details the "take-off rate", both as to numbers and types of cattle, in 8 Peul and 10 Bambara herds. The "take-off rate" is indicative of those animals sold for cash plus those given as "Jaka", the annual Moslem tithe. While many agriculturalists give a tithe of their millet, usually it is only the wealthy Peuls who give from their herds. While the millet tithe is spread among religious figures, the poor, the old, and visiting social scientists who are incapable of growing their own,

SALE OF CATTLE, NUMBER AND TYPE, IN 8 PEUL AND 10 BAMBARA HERDS

Size of Herd	Sold between Jan. & Dec. '75 = 12mos.										-Oct.74 to Sept.75 = 12mos.							
	50	211	50	15	185	50	60	60	30	60	20	32	25	15	10	27	25	15
Owner's Ethnic Identity	P	P	P	P	P	P	B	B	B	B	B	B	B	B	B	B	P	P
FEMALE																		
Kecheni																		
Jakoro																		
Gnele		4	2	4	1	1	1		1	1								
Misaiigre	1		2		1			2			1		1					
Hange	1	1	3		1		1	3		2							1	
Flungoro										1	1			1				
MALES																		
Kecheni																		
Jakoro		1																
Twaboro	2	2	2		2	2	2			1	1	1						
San4/6tura						2				1		1	1		1			
Jutura		1										1						
Poroba	1	1	1		1		1		2									
Mtufiri					6	2								1				
Recorded Total	5	10	10	4	12	7	5	5	3	6	3	3	2	2	1	0	1	0
Percentage of Herd Sold	10%	4.7%	20%	26.7%	6.5%	14%	8.4%	8.4%	10%	10%	15%	9.3%	8%	13.3%	10%	0%	4%	0%
JAKA *																		
Gnele - female		1	1		1													
Jakoro - male		1			1													
Twaboro - male		1			1													
Total Yearly Take-off Rate																		
Total Number	5	13	11	4	15	7	5	5	3	6	3	3	2	2	1	0	1	0
Percentage of Herd	10%	6.2%	22%	26.4%	8.1%	14%	8.4%	8.4%	10%	10%	15%	9.3%	8%	13.3%	10%	0%	4%	0%
AVERAGE:	All Herds Sampled 86 out of 940 Head		9.1%		Estimate Miscellaneous Take-offs**		1%											
	All Peul Herds 56 out of 601 Head		9.3%		Estimated % of Total-off Recirculated into other Herds		20%											
Take-off Rate	All Bambara Herds 30 out of 339 Head		8.8%		FOR FURTHER EXPLANATION SEE: * page 44 ** page 46 *** page 46													
	All Peul Herds 100+ Head 28 out of 396 Head		7.1%															
	All Peul Herds 0-99 Head 28 out of 205 Head		13.7%															
	All Bambara Herds 0-99 Head 30 out of 339 Head		8.8%															
	All Herds 0-99 Head 58 out of 544 Head		10.7%															

the cattle tithe goes to representatives of important marabouts, who later sell it for cash.

As shown on Plate XXVII, there is an additional irregular "miscellaneous take-off" which I estimate to be approximately 1% a year. These would include gifts to important guests or griots; the futte; the occasional use of cattle as a substitute for monetary payment; and those animals secretly taken by stranger or kin and sold on what is commonly called the "clandestine market". Also important to note is that not all those animals "taken off" are destined for slaughter. Some, mainly young plow oxen, young bulls, and young cows, are bought by others for incorporation into their herds. (Plate XXVII "recirculation rate"). Lastly, one should be aware that the year studied, 1974-1975, was one of high cattle price (c.f. J.Grayzel, "Report on Bussan Market"), in contrast to the preceding several years when, because of the drought and the corresponding poor condition of animals, high risk of ownership, and lack of cash, prices were severely depressed. As a result, cattle selling may have experienced an abnormal burst of activity.

Within this given context, the average take-off rate of the entire sample was 9.1% annually. This, itself, breaks down to three distinct categories:

1. Bambara herds under 99 animals - 8.8% annual take-off
2. Peul herds under 99 animals - 13.7% annual take-off
3. Peul herds over 100 animals - 7.1% annual take-off

The first indication of importance is that among Peul and Bambara owners with comparative size herds, Peuls sell a significantly greater number of animals: 13.7% versus 8.8%. Once again an explanation presents itself in the dichotomy of Bambara cattle savings, versus Peul cattle = investments.

As savings, the Bambara draw upon their cattle wealth mainly to meet occasional major family expenditures that exceed their normal income. This would include bride price, taxes, and emergency food.

purchases after a poor harvest. The Peuls share all these expenses but, in addition, will attempt to use the dividends of their investment in cattle to increase their personal enjoyment of life, by purchasing such materially costly items as quality bicycles, mobylettes, radios, and cassette tape recorders, and through the pursuit of women for both long and short term liaisons. Of course any of us, including a Bambara, finds any of the preceding, equally as desirable as does the Peul. However, (as more precisely explained in the Doukaloma field reports of J. Lewis), among Bambaras the dependency upon family and community cooperation and, concomitantly, the fear of arousing jealousy among one's peers, serves as a brake on most forms of conspicuous consumption. In contrast, the Peuls, coming from a more competitive, individually oriented situation, see wealth as an important factor determining one's status, and are not immune from the temptation of flaunting it before others.

However, when one looks at the second indicator: namely the 13.7% take-off rate of small Peul herd owners versus 7.1% annual take-off rate of the larger Peul owners, we encounter an example of the important limitation on rural economic productivity caused by the limited needs of the rural inhabitant for cash.

Even given the willingness to spend, little opportunity exists to do so beyond a limited level, and thereafter, profits are continuously poured back into capital by increasing the number of animals owned. That the problem is in many cases mainly due to the lack of availability of goods is exemplified by the perpetual difficulty herders have procuring salt for their animals, even at inflated prices of 5,000 FM for 25 kilos.

The Dynamics of Cattle Ownership and Individual Variations

Perhaps more important than averages, for understanding the individual decision making process, are the specific take-off rate for each owner, (recorded in Plate XXVIII). These range from a base low of 0%, which bespeaks an owner rapidly increasing his herd, to an annual high of 26.6%, which forewarns a herd destined to

disappear. The extent of variance shown is far from unusual and emphasizes the fallacy in portraying a process as some form of standardized behavior. In reality, a dynamic situation exists, comprised of a spectrum of strategies and consequences, ranging from conservative cattle owners who carefully guard their wealth, to newly enriched heirs already wasting their inheritances.

For example, in one typical Peul hamlet, three out of eleven "chefs de famille" have no cattle, though they once had, and though, through relatives, they are still part of a cattle economy. In all three cases, excessive spending on women was the commonly attributed cause of their losses. One, as a teenager, had inherited approximately 60 head, only two of which remained 7 years later. A somewhat similar possibility is that occurring in the herd listed with a 26.6 % take-off rate.

The Peul herd with a reported 22% take-off rate provides a different, but culturally enlightening example. Here a 10 year old feud has been going on with another Peul from another area who claims he was cheated out of an inheritance due him. As revenge, he has resorted to protracted litigation, not with any expectation of recovering any animals, but to force his adversaries to deplete their herd in order to pay the extensive costs of a legal defense. During 1974-1975, the case went as far as Bamako, required the hiring of an attorney, and cost 300,000 FM, not including the Jaka given a religious figure whose assistance was sought. Illness in the family, that required a major operation, added another 165,000 FM to the expenses of a single year for the household.

In the neighboring Bambara village, where there are at present 5 herd owners, there are at least 6 others who had cattle, but no longer do. Their explanations for the loss of their herds were as follows:

- #1: 7 animals; all used for bride price for family members
- #2: 4 animals; 2 sold for medicine, 2 for food.
- #3: 3 animals: 1 died, 1 lost, 1 sold for taxes.

- #4: 18 animals: a few sold for taxes, the rest for bride price.
- #5: 5 animals: 3 sold for bride price, 1 lost, the last one sold after the "bourrgide" (a form of dividing through line drawings), said it was wrong for him to have cattle.

This last instance is particularly poignant in demonstrating an underlying Bambara suspicion that cattle and the Bambara way of life may not always be compatible. It is unimaginable that a Peul would ever express a similar belief vis-a-vis being a Peul.

Reasons for Success

Yet, given the higher Peul take-off rates, it might seem puzzling why they, and not the Bambaras, are the largest and most extensive cattle owners. While these are not, I'm sure, the only reasons, there are four fundamental explanations I would advance, all of which act together, in favor of the Peul.

1. Previous attention was drawn to the general willingness of the Peul to migrate for his herd's sake, while the Bambara is more attached to his land and community. No doubt many times in the past, faced with a severe environmental or political threat, a quick escape has saved many a herd.
2. The Peul take better care of their animals. For example, while the Peul always herd their animals and round them up at night, many Bambara let theirs wander alone during the height of the dry season, when the extensive distances the cattle cover in search of food makes following them most arduous. Such owners rely on the animals returning to the village to drink at the well. In May, however, when occasional rains create temporary watering holes, an animal may disappear for a week or two, and occasionally forever. Thus 2 out of 5 of the "previous" cattle owners quoted had simply lost some of their animals.
3. Because of the Bambara concentration on agriculture, a greater percentage of males are retained as plow oxen, thereby reducing the relative number of cows in Bambara herds as compared to Peul herds (c.f. Plate XXIII-XXII) Thus Peul herds produce more calves per year, than Bambara herds of comparative size.
4. Indications are that most Bambara herds are depleted when unavoidable family demands are made that exceed reasonable yearly take-off rates. Of these, the most common is bride price (now often 150,000-200,000 FM) plus other wedding expenses. In a close knit cooperative kin group such family obligations are more important

than the accumulation of surplus wealth. For a Bambara father to be without cattle is of no great significance; for him to be unable to provide wives for his sons is a disgrace.

A Peul, too, must obtain wives for his sons, but he is provided due to his membership in a high status group, with a mechanism to escape a truly ruinous burden. Repeated instances exist in the Doukoloma area of Peuls avoiding heavy marriage costs by contracting an otherwise socially disadvantaged match with a wealthy family, such as a ForobaFula claiming Peul identity. Such a union may not only avoid forcing the family to exhaust its limited means, but may also provide an infusion of new economic resources to regenerate the herd.

Summation

In the area surrounding the Doukoloma Classified Forest, there exists a complex system of cultural practices, economic activities, and environmental realities that all exert an influence on the acquisition and exploitation of cattle by the local population. The purpose of this report has been to focus on some of the more significant factors, and to provide some background from which the actions and decisions of future potential project participants might be better anticipated and understood in light of their particular situation.

My specific conclusions and recommendations vis-a-vis the proposed managed grazing land are found at the commencement of this report. A broader and extremely generalized summation is as follows:

To the extent cattle owners in the Doukoloma area are already dependent on the forest, they will be pressured to adapt to its new regulation as a private grazing land. As an innovation, however, the Bambara agriculturalists will resist it to the extent that it threatens their agricultural production based on close family and community ties, or requires the investment of large sums of money as a financial speculation. In contrast, the Peuls are economically more capable of participating, but their greater mobility provides them with more freedom of choice, and they will be attracted only if it offers them a significantly greater financial benefit than that to be gained by not cooperating. Both groups will require

considerable time to observe and judge the possibilities before reaching any final decision.

The attitude of the small number of Foroba Fula in the area will fall somewhere between the Bambara and Peul, and, as such, they might well represent the most flexible population for initial trial participation.