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Land Tenure Study of the Dirol Plain

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Land Tenure Study of the Dirol Plain Executive Summary

The Dirol Plain is cultivated by Haal Pulaar (Toucculeur and Peul) and by Haratine communities residing in villages situated around the edges of the Plain. The primary mode of agriculture is recession agriculture. There are also a few irrigated perimeters and some recourse to rain fed cultivation on the higher lands around the plain. The development proposed for the plain would dramatically improve recession agriculture in the area and gradually develop more irrigated perimeters on the higher lands of the plain unlikely to be inundated by the annual flood.

The Haal Pulaar encompass four distinct groups; Irlabe, Hebeyabe, Nerenabe, and Bossea though the first two and the last two are closely linked together. The Satigui Dekle and Satigui Hebeyabe residing in Bagoudine have the highest authority among the Irlabe and Hebeyabe communities in the plain though their real authority is over a significant portion of Hebeyabe lands. The Nerenabe have their own central authority figure, the Elimane Nere, residing in Ouloum Nere. The Bossea are, however, entirely decentralized and authority rests with village chiefs and village councils.

Among the Haal Pulaar land is held by a lineage fraction called the liniol. Each liniol holds land in various areas of the plain (called collengal; pl. = collade). Each collengal has sections of land held by different liniol. Individuals have rights to "fields" in their liniol's holdings of land in one or more collade. These "fields" do not have fixed boundaries; rather, when the waters begin to recede the liniol estimates how much of their land has been inundated and divides this among all those with rights to "fields" in that collengal according to a fairly complex system of priority based primarily on age and the number of fields the individual's immediate ancestors held. This priority system means not only that an individual may actually cultivate a different field each year but also that the individual's right to land depends on his own age. Thus a son will not take over the relatively larger area due to his father on the latter's death - instead he will have to wait until he is himself a senior member to merit a relatively large portion of the area owned by his liniol.

The collective nature of land holdings discourages individual investment in land improvements and makes individual sale or purchase of land virtually impossible. Islamic property law also plays a role here because it generally acknowledges that investments in property improvements (water systems, trees, etc.) give the investor right to the investments and eventually to the land itself. Islamic property law is based on individual property rights (mulk) and as a result collective owners of property in the Dirol Plain do their best to prevent individuals

from making improvements to collective property - for fear this will lead to the individual's acquiring individual right to the collective property in question.

The collective nature of land holding has its own advantages in the context of recession agriculture. The annual flood inundates radically different amount of land in years of high, low, or intermediate flooding. Liniol holdings are spread across the plain at different altitudes. From a risk management perspective the liniol has a broader and less risky portfolio of lands than would be possible for the individual. If individual tenure were used the individual would run a very high risk of having no cultivable land several years out of ten and many more years out of one hundred than is the case with collective land ownership at the liniol level.

The Haratine are divided into two distinct groups; Hijaj and Tamoudek. Haratine communities are governed by village councils or assemblies and each village is now organizationally independent. Each village includes numerous lineage fractions but these have little collective authority. Collective authority resides at the village level. The lands held by the Haratine are, however, viewed as collectively held at the fraction level and the fraction serves much the same role as the liniol in cultivation from a risk management perspective. At the same time the village seems to exercise collective authority regarding ownership of lands - it sees that individuals may not alienate land and supervises measures taken to prevent individual investments being made that could lead to individual ownership taking place.

There is a potentially serious conflict between the Haratine and Haal Pulaar communities in the Dirol Plain. Each claim many of the same lands. This conflict has been largely dormant because little of the land has been cultivated since the drought (post 1970). The proposed developments would make these lands valuable again and well worth disputing. We encountered very intense emotions on this issue during our interviews in the plain and feel the conflict could become serious if measures are not taken to defuse it.

There is new legislation in Mauritania (1983) which specifies the procedures development projects should follow to develop land. This legislation requires land tenure studies to be done both to ascertain who owns the land to be developed and to evaluate the land in cases where compensation is necessary (all cases where the land is owned).

Our report reaches a series of recommendations based on our preliminary study. These are listed below:

1 STRATEGIES TO AVOID LAND TENURE CONFLICTS

1. Do as detailed a study of tenure in the Dirol Plain as the budget allows with particular emphasis on the specific areas of the plain likely to be significantly impacted by the most obvious features of the proposed developments: the areas discussed in Section 8.2
2. Use the procedures of the new legislation to deal with any serious potential tenure obstacles in a permanent way.
3. Have only the minimum amount of land declared Domain land - primarily land incorporated into the infrastructure of water containment systems. Compensate any former owners and concession the land to a local representative organization that will be responsible for the maintenance of the land and its investments/infrastructure.
4. Arrange to compensate people for loss of valuable land either with value added to other lands they have rights in or with plots in an irrigated perimeter to be developed in areas not now or in the future useful to recession agriculture. Compensation of land lost with land gained (in area or value) will take care of the rights of future generations.
5. Diversify the development plan for the Dirol to include several much smaller dikes further up the Dirol. These will benefit the Haratine communities and may be used to defuse the potentially serious confrontations which might occur between Pulaar and Haratine communities if only lands cultivated by Haal Pulaar, though in many cases claimed by Haratine, have their value increased by the development. In addition, such smaller water impoundment systems will dramatically increase the benefits to the area from runoff from the local watershed. With a single dike this water will be redundant and will not increase the area flooded beyond that reached by the Senegal flood. Containment structures higher up the water course will inundate higher lying lands and be complementary to the dike at the mouth of the river.
6. To the extent possible prioritize any additional smaller water containment structures to benefit communities or liniols which might benefit least from the main dike system. This will greatly facilitate the acceptance of the main system.
7. Include the local communities in the planning of all water impoundment systems and ask them to provide as much labor as they can for the construction of all such systems.

2 WAYS TO COMPLY WITH LAND TENURE LEGISLATION

1. Fund a detailed land tenure study of those areas of the Dirol likely to be included in infrastructure or irrigated perimeters or otherwise adversely affected by the development. Such a study should carry out as a minimum the tasks outlined in the attached Scope of Work. From the perspective of the legislation it is imperative that one be able to legally and justly compensate people for the value of land lost to the development. This requires confirmation of ownership and evaluation of the land lost to the development.

The preliminary study already completed could be used to dramatically reduce the amount of area for which a detailed study is required and the consequent costs of such a study. This is a matter on which some thought should be expended. If large areas of the plain are to be incorporated in irrigated perimeters it may be more cost effective to fund one full detailed study than to fund other tenure studies as each irrigated perimeter is developed. The results of other feasibility studies may make it possible to determine all areas potentially likely to be included in irrigated perimeters and these could be made part of the priorities of the detailed tenure study.

2. Follow the legislature's procedures (see the translation in the appendice) for getting all land on which major investments are to be made declared Domain land and then concessioned out to an organization charged with implementing and maintaining the investments. Make sure the process is fully carried out to the definitive concession stage.

3. Arrange to legally compensate those suffering losses from the development.

4. Ensure that procedures are started sufficiently in advance that construction only takes place after the land is provisionally concessioned.

5. The great advantage of following the legislature's procedures is that it sets limits (at most 32 months) from start to the last time any one has recourse in law to compensation for damages. This is a very short and finite period in practical terms.

3 OPTIMAL FARMING SYSTEMS TO ENCOURAGE

1. Encourage continuation of recession agriculture and make the transition to irrigated perimeters depend on their likelihood of success given costs of inputs, probable yields, and alternative uses of labor for the population.
2. Consider prioritizing the landless in some irrigated perimeters. This may make a dramatic difference in their success and one success may encourage those with an abundance of recession land to favor development of other perimeters.
3. Consider the possibility of including enough land in the Domain land used for infrastructure to plant trees for irrigation control, charcoal, and fodder for animals.
4. Assume livestock will have an important role in the economy of the dirol Plain and include them in calculations where ever possible.

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LAND TENURE STUDY OF THE DIROL PLAIN

1 PREFACE

This general survey of land tenure in the Dirol Plain was carried out by a team from the Land Tenure Center (University of Wisconsin-Madison) in February of 1986 under contract with USAID-Nouakchott (PIO/T 625-0929-3-60014). The team was made up of Dr. Thomas K. Park (COP), Glenn Rogers, and Tidiane Ngaide plus assistants hired in Mauritania. The team spent three weeks interviewing in the Dirol Plain.

Originally we planned to split our time between interviews of liniol heads, household heads, and surveys of fields but a complete lack of diesel fuel in Kaedi during this period severely constrained our mobility so we were unable to do systematic field surveys. In addition a misconception on the part of the population - that we were officially registering lands - led to us being inundated by liniol chiefs (mawdu) who all insisted that we record their land holdings.

As a result our study ended up much more heavily toward interviews of liniol mawdu and only a minor emphasis on the other two original goals of our study. This had some advantages of its own - we were kept late each night in the villages inventorying land holdings - and feel that we may have recorded 95% of the Dirol Plain lands held by Haal Pulaar resident in the plain.

We have certainly missed holdings by some residents of Senegal, though many Senegalese came to our village meetings to have their lands inventoried, and we must have missed others as well. Nevertheless, we feel we were very fortunate to have been exceptionally well received by the residents of the Dirol Plain and managed, despite some logistic problems, to obtain more land tenure data than we had actually expected.

We were greatly facilitated in our work by the staff of USAID-Nouakchott and in particular by Bud Lane and Joe Guardiano. An accident destroyed our project vehicle on our first day in Nouakchott but we were still able to leave for Kaedi four days later with a USAID vehicle and chauffeur. We can not thank the mission too much for this efficiency.

The Scope of Work for the survey is attached at the end of the report. Here let me briefly summarize which parts of the report correspond to each of its assigned tasks. Many tasks are addressed in several different areas and the concerned reader is advised to consult the table of contents for complementary information.

Item 1, a general survey, is fulfilled by our research and the report as a whole. Item 2, identify groups and classes of land owners and their types of rights, is done in Sections 3 and 5. Item 3, assess effect of tenure on proposed developments, is dealt with in Sections 5 and 7. Item 4, assess impact of water

impoundment systems, is dealt with in Section 8.2. Item 5, impact of small scale irrigation, is dealt with in Sections 7.1, 7.3, 8.21, and 8.22. Item 6, generally identify location of walo as modified by discussions, is done on the accompanying map. Item 7, identify number and location of plots as modified, is done in Sections 6 and 7 and the map. Item 8, provide minimum tenure data for compliance with legislation as modified, is provided for in Sections 5, 6, and 9.2. Item 9, recommend strategies to avoid tenure problems, is fulfilled by Section 9.1. Item 10, identify leaders, is done in Sections 3 and 4. Item 11 requires a Scope of Work for a more detailed study and this is provided in Section 10 of the present report.

2 INTRODUCTION

2.1 SUMMARY

This report attempts to summarize in as useful and accessible a fashion as possible the data we collected on land tenure in the Dirol Plain. We view land tenure as the customs, laws, and practices governing ownership and occupation of property. Thus to properly evaluate land tenure one needs to consider socio-economic practices and beliefs. In the case of the Dirol Plain we need to consider Islamic property law, the new Mauritanian legislation on land tenure, and customary practice in the area among Haal Pulaar and Haratine.

The proposed developments for the plain envisage continuation of recession agriculture and the gradual development of small irrigated perimeters. The latter imply a transition to individualized ownership on a western model and this is not only a radical change from the traditional system but in addition would probably be disadvantageous in the recession agriculture context. We will look at these and other questions in the sections to follow.

The core of this report is Section 6 which gives the tables of lands inventoried. Together with the map the tables can be used to discover the majority of land owners in the Dirol Plain. The basic land owning entity is a lineage corporation referred to hereafter as "liniol". Although our data is not complete it is fairly comprehensive and should provide the developer with the basic information needed to begin more detailed planning for the development of the plain.

We have been unable in the time available to do the sort of detailed study that would be needed to specify the exact location and shape of each named cultivable area (collengal/pl.collade) but we hope we have located each main area precisely enough that those planning to develop in particular areas will be able to look in up our tables and easily locate the probable owners of the cite in question. In addition the general level of data we have collected should prove indispensable for evaluating the relative merits of various development schemes.

We begin with a number of short introductions to the Dirol area meant to facilitate understanding of our main discussions of political structure and land tenure which follow. The latter part of the report is devoted to assessing the proposed developments in the context of our findings and the new tenure legislation as well as to making our recommendations. Finally we include a Scope of Work for a more detailed study of land tenure to be made in one of the early implementation years. Several useful documents are included as attachments: a translation of the new legislation and a translation of the sections of Vidal's 1924 report relevant to the Dirol Plain.

2.2 GEOGRAPHICAL BACKGROUND

The Dirol Plain is located about 25 km due West of Kaedi Mauritania (Latitude 16,10 North and Longitude 13,40 West) and occupies the northern bank of the Senegal River on either side of a small tributary the Dirol creek. The Dirol drains a fairly large watershed but the Plain is itself low enough that it is regularly inundated by the seasonal flood of the Senegal River which floods up the Dirol creek and from there into the various parts of the Dirol Plain attaining its maximum height in September or October of each year. Some areas of the plain are considerably lower than others and many are isolated from the Dirol creek and its adjoining low elevation lands by intervening areas of higher elevation. This situation is the key to understanding the distribution of the annual Senegal River flood and its implications for recession agriculture in the plain. Agriculture depends on three crucial factors; the level and duration of the flood, the level of intervening lands, and the level of the land to be cultivated itself. Thus, though the Eastern half of the plain has the majority of low lying lands, in years of very low flood levels it has far less inundated land than the Western half because the flood level is not high enough to rise over most of the intervening higher areas.

Lericollais' Peuplement et cultures de saison sèche dans la vallée du Sénégal provides data on the 1970-71 agricultural season in the Dirol Plain. Lericollais divides the Dirol Plain and areas immediately around it into two halves designated on his maps as KKA (part of Kaedi Ouest) and AMC (part of Mbagne).

These areas actually contain more area than we will consider in the Dirol Plain for the purposes of our study. He estimates the population of cultivators in his two regions at 8094 (AMC) and 4373 (KKA). Of these some are clearly cultivating outside of the Dirol Plain proper. I have tried to adjust these figures by excluding the area west of Dawelex and the area east of Rindao Belimodi which are clearly outside the area concerned by the project. My adjusted estimates for cultivators during the 1970-1 season would be 6186 (AMC) and 3925 (KKA) for a total of 10,111 cultivators.

Lericollais estimates the area under cultivation at this time at 2000 ha (AMC) and 3285 ha (KKA). Adjusted for the area of the Dirol Plain proper there would be about 1530 ha (AMC) and 2950 ha (KKA). There was a major difference between the amount of land cultivated per cultivator in the two halves of the plain; 0.247 ha/cultivator in AMC and 0.75 ha/cultivator (KKA). Farmers in the eastern part of the plain cultivated three times as much land per person though 66% of the cultivators were in the western part of the plain.

The difference in density of cultivators could be due to differences of soil but the available soil maps do not suggest any simple explanation. On the difference between the two areas Lericollais writes:

The average elevation of the KKA, 9.4m is relatively low because of the deepness of the gorges. The recession agriculture finds favorable conditions during years of low flooding; in 1970-71 the area cultivated estimated at 3285 ha is large in relation to the number of cultivators (4373). The average of 0.75 ha per cultivator is considerable for this part of the valley. But in years of high floods in these gorges without drainage the slow retreat of the waters retards planting and favors the development of weeds. Agriculture thus displaces itself towards the higher land in the basins of the tributary (Dirol) and the fonde lands where the conditions are less optimum for agriculture.

Thus Lericollais suggests the main differences are not intrinsic to the soil but rather derive from topography and the resulting flood patterns. One important point that it may be helpful to mention here is that we found land owning liniols in the Dirol Plain to be in most cases also owners of land in Senegal. This has major implications for evaluating density of cultivators per hectare because many people listed as cultivators in the core lands may only devote part of their time to these lands - being 25-75% cultivators elsewhere. Conversely, an unknown number of Senegalese may cultivate in the KKA area on a part time basis - as members of the land owning liniols. Our survey could only take this partially into consideration.

2.3 SURVEY OF VILLAGES

Our preliminary study of land tenure in the Dirol Plain was based on interviews in the principal villages of the plain - from the perspective of property rights in the areas that would be affected by the proposed development. We interviewed in Feralla, Mbahe, Niabina, Hijaj, Boubou Aoudi, Bagoudine, Debaye Doubel, Fondou, Ouloum Atar, Ouloum Nere, Rindiao, Silla-Rindiao, Gongane, Sintiou Boumaka and Nere Walo, Roufi Aoudi, and Kanyadi. In these village meetings we also interviewed delegations from Atene, Belel Gawdi, Dawelel, Lewe, and other areas. We did not, however, interview in Dawelel or Mbagne, Haimeidat or Belinabe for lack of time; all four are large towns on the periphery of the plain whose inhabitants have the majority of their land in areas that will not be directly affected by the proposed development. Inhabitants of each of these towns are likely, however, to have some land in the area of the Dirol Plain to be developed.

The population of the plain is distributed as in the table. This gives an average of 6.06 persons per household and suggests that in 1977 there were about 20,000 people resident in the plain. The 1986 figure could be larger or smaller due to outmigration or natural increase. It is highly probable that already in 1977 many people had migrated to find work elsewhere and it is a guess as to how many of these had relatives include them in the 1977 census and how many did not.

POPULATION OF THE DIROL PLAIN VILLAGES

Northern section

	Households	Pop.	Cultiv.	Herders	Merchants
Atene	60	323	91	2	
Bagoudine	328	1843	248	9	32
Belel Gawdi	63	310	80	24	
Boubou Aoudi	119	699	156	14	1
Dabaye Doubel	145	877	221	6	9
Dawelel	143	764	135	1	
Feralla	167	1194	278	12	11
Fondou	242	1432	305	8	30
Haimedat	130	697	116	7	3
Hijaj	62	416	102	13	
Lewe Demba Gouro	71	456	81	21	6
Mbagne	312	2081	217	12	26
Mbahe	183	914	164	3	8
Niabina	164	1043	144	17	13
Ouloum Hatar	73	438	77	15	
Roufi Aoudi	26	146	27	2	
Tempi Daro	14	102	16	10	
subtotal	2302	13735	2458	176	144
Southern section					
Bellinabe	185	1158	211	4	11
Ndiafane-Dioke	133	826	81	8	44
Nere Walo	102	661	61	3	11
Nereyel	56	418	90	4	24
Ouloum Nere	185	1045	213	10	8
Rindiao Belimodi	138	865	83	16	20
Silla Rindiao	117	750	101	7	9
Sintiou Boumaka	103	664	219	4	1
subtotal	1019	6387	1059	56	128
TOTAL	3321	20122	3517	232	272

2.4 PULAAR CASTES

Traditional Pulaar society is divided into castes. Today castes are clearly not as important as they used to be but it would be naive to think they have lost all relevance. In particular where land tenure is concerned there are major differences between the castes in terms of land holdings and these carry over into social and political life. In any case it is practically unheard of for a member of the non-noble classes to have significant political influence in a traditional Pulaar village. Although we do not have the sociological data to indicate the real relationship between the different castes in the Dirol Plain this relationship is undoubtedly an important one that exists as background to all political and economic decisions.

The Pulaar castes are as follows:

Nobles: (Rimbé)	Torodo (pl.Torobe); "literates" - the descendants of scholars Thiedo (pl.Sebbe); "warrior" - descendants of conquerors Thiouballo (pl.Subalbe); "fishermen"
Artisans: (Nieñbé)	Sake (pl.Sakebe); shoemakers Labo (pl.Laobe); carpenters Gaoulo (pl.Aouloube); griots using drums Bambado (pl.Wambabe); griots using guitars Bailo (pl.Wailubé); farmers and smiths
Slaves: (Jiabé)	Mathioudo (pl.Mathioubé); slaves Galunké (pl.Galunkobé); farmers, weavers, immigrants

We really have no idea what the exact proportion is between the castes in the Dirol Plain but if it follows the rest of the valley the noble castes will probably make up at least 75% of the population and own a much higher percentage of the land.

2.5 HOUSEHOLD SURVEY

We intended to do an equal number of household and liniol questionnaires but were inundated by requests to do liniol questionnaires because of the misunderstanding, which we could not abate, that we were registering liniol lands. We were able to do only a relatively few household surveys. In consequence our household consumption data is fragmentary at best. We had hoped to be able to discover links between levels of consumption and tenure practices but found that in general so little land was inundated in recent years that in most areas of the plain (and particularly the Eastern Bossea part) almost all cultivable land was cultivated by its owners. We did find indications, however, that people in higher consumption brackets were less ready to cultivate marginal lands.

The following three cases from Rogers notes illustrate this:

1) Ousmane Athie (Torodo)

Consumption: 2 kg sugar / day
 88 KG meat / month @ 150 UM/kg
 28 kg fish / month @ 100 UM/kg

Does not cultivate his land that is inundated for only 15 days

2) Mamadou Bocar (Torodo)

Consumption: 2 kg sugar / three days
 12.5 kg meat / month @ 100 UM / kg
 40 kg fish / month @ 50 UM / kg

Needed to obtain dieri land from another household to cultivate

3) Hamidou Demba Dieng (Sebbe)

Consumption: 2 kg sugar / two days
 5.0kg meat / month @ 160 UM / kg
 50 kg fish / 25 days @ 60 UM / kg

Two small pieces of land were inundated 25 and 30 days and he cultivated it: land obtained by family as a result of military service in one of World Wars.

This differentiation is all within the noble castes. Unfortunately we had to spend all of our time interviewing land owners and so we did not interview those at the bottom of the consumption scale. The drought conditions are such that this sort of differentiation in terms of decision to plant is fairly rare: in most cases people planted anything that could be planted - i.e. that had been inundated 10 days or more. One would expect, however, that if there was a lot of inundated land the wealthy would be even more discriminating in their choice of which lands to cultivate themselves and that the more marginal lands would be leased out to others on the various tenure arrangements discussed in the section on tenure.

2.6 HISTORICAL SUMMARY

The present population of the valley is descended from various groups who settled in or conquered this part of the Senegal valley during the last millenium. One of the fundamental justifications for land tenure has always been historical priority. Though this does not have priority in Islamic law (as we will see in a later section) it is still a very common justification in the Dirol Plain today. In consequence those who wish to understand the local arguments need a basic understanding of the historical context. The following is a thumbnail sketch of settlement in the Senegal Valley:

Sketch of Sengal Valley History

- 800-900 AD: the current ethnic groups present in the valley
900+ : the Kingdom of Ghana to the N.E. dominates Senegal valley
1000-1100 : Audaghost the main desert port of Kingdom of Ghana is Islamicised.
1200-1300 : Empire of Mali dominates the Senegal Valley
1515 : Koli Tenguella conquers the valley and establishes Denianke/Futanke dynasty. Satigui distributes land to lineage heads. Feudal like system.
1700-1740 : Satigui Soulay Ndiaye distributes large quantities of land.
1778 : Sulaymane Ball defeats Denianke and establishes Almamyat based on Torobe caste. At this point most of Haal Pulaar flee south to escape slave raids of Maures under Emirs of Trarza and Brakna. The Almamyat lasts until French occupation of Senegal Valley. Lots of land distributed to Torobe to put them on same level of wealth as old wealthy families.
1855 : Kingdom of Walo at Atlantic end of Senegal Valley declared French territory.
1859 : El Hadj Omar declares a sacred war against idolators of Kaarta, Cayor, and Sine Saloum and leads a great exodus from Senegal Valley to crush the idolators.
1870-5 : Ahmadou Cheikhou leads revolt against French.
1875 : Ahmadou Cheikhou leaves region but defeated at Boundou.
1881-91 : Abdoul Boubakar of Bosseabe joins with Bidan of Brakna to defeat French but defeated in Bossea territory and French take over the Senegal Valley.

When the Haal Pulaar (Toucouleur and Peul) fled to the left bank of the Senegal river to escape the slave raids and other levies of the Emirs of Brakna and Trarza (they were for the most part on the left bank from late 18th century to late 19th or early 20th century) they left a lot of cultivable land behind. The Bidan moors of Brakna and Trarza established their vassals the black Haratine in many of the lands vacated by the Haal Pulaar. Today there are two groups of Haratine still residing in the area who cultivated land in the Dirol Plain during the 19th century and continue to cultivate land there today. Though their historical claim to the land does not go as far back as that of the Haal Pulaar this is irrelevant as far as the legitimacy of their claim is concerned in Islamic (Maliki) law. The two Haratine groups claim that though they cultivated by permission and arrangement of the Bidan they themselves cleared the land while freemen and as such established their claim to the land as its rightful owners. If true, this would indeed be a legitimate claim under Maliki law.

Most of the area in the Dirol Plain belonged at one time or another to one of three basic groups of Haal Pulaar: the Irlabe/Hebeyabe, the Nerenabe, or the Bosseabe. Each of these groups has lands today distributed in roughly north-west to south-east fashion across the plain; from Irlabe to Bosseabe lands. The current distribution of Haal Pulaar holdings probably owes more to the events of the 20th century than to those of the 16th or 17th centuries but it is unclear whether any attempts to continue cultivation on the right bank were maintained while the Haal Pulaar resided on the left bank. It is also unclear what correspondence there is, if any, between land holdings at the liniol level today and those existing before the flight to the left bank.

The current Haratine lands are largely on the north and west outskirts of present day Haal Pulaar holdings and are unquestionably in part the result of Pulaar expropriations with the assistance of the French in this century. While it may be too difficult to reconstruct the exact course of even recent land settlement in the Dirol Plain it is clear a) that in most cases current land holdings (which overwhelmingly favor the Haal Pulaar) are quite legal both in modern Mauritanian law and Islamic shari'a and b) Haratine have quite legitimate historical claims both to lands they now cultivate and own and to others which they in law and fact have lost to the Haal Pulaar. The real difficulty is how to get each side to admit which lands fit into which category. This is particularly difficult since many lands in question have not been cultivated for 15 or more years.

2.7 RECENT LOCAL DIKES AND DAMS

In 1984 and 1985 villagers from the Western part of the Dirol Plain cooperated in the construction of two temporary dams designed to retain the waters from the local watershed flowing down the Dirol to the Senegal River. These two dams were only partial successes - but they did increase the cultivable area significantly. These attempts indicate both the local desire for a water management system and the degree of cooperation that can be expected.

One dam was built on the upper Dirol (above the Plain proper) by the villagers of Belel Gawdi and Aten. The other was built lower down (in the plain proper) by villagers from Bagoudine, Ferala, and Roufi Aoudi. The villagers of Mbahe benefitted considerably from this dam but did not assist in its construction and were generally disparaged as free loaders. Many landless from Roufi Aoudi contributed to the construction. Their motivation may have been twofold - without it there would be significantly less land for them to lease and being landless they may have felt it in their best interests to maintain as good relations with the land owners as possible. We also had indications that the landless felt that their contribution of labor would obligate the land owners to lease land to them.

The experience of these local efforts has convinced locals of the potential for water management and stimulated considerable local thought on just how it ought to be done. Abdullahi Alisane, a Ferala Arabic teacher, has thought a lot on this question and feels that a key to inundating the maximum amount of land with the minimum amount of water is a combination of dikes and canals; the canals would connect lower lying lands which are separated by higher intervening lands thus enabling low floods to inundate a larger area. He in fact advocates designing the dikes to make a major lake whose waters are then let out through canals to large areas of the plain and whose bed is planted when the water is let out.

It is unclear how workable such a scheme would be or how high up the Dirol such a main lake might be designed. One element that may be feasible, however, is the possibility of a variety of small scale water management constructions complementing the main dike. As we will see in later sections, such a diversified development may help resolve some serious tenure conflicts.

2.8 PROPOSED DEVELOPMENTS

The development of the Dirol Plain proposed by USAID/RBDO consists of two basic stages. The first involves, after detailed feasibility studies, the construction of a 14.7 km dike to assist in retaining water at its highest flood level for the full period needed to inundate land adequately enough to cultivate recession crops. The dike will improve agriculture on about 6,600 ha. The second stage involves the development of small irrigated perimeters on the higher elevations in the plain to be irrigated by pumps from the waters retained in the beds of the Dirol creek or in depressions throughout the plain. During this stage the lower elevations in the plain will still be cultivated by recession agriculture. Both stages also have extension components to improve the farming systems in the plain by encouraging fertilizer use and improving basic techniques.

The RBDO proposal (LeBloas 1984) for the development of the Dirol Plain needs to be understood in the context of the proposed plans for the development of the Senegal Valley. The latter include the construction of two dams (the Diama dam at the salt/fresh frontier and the Manantali near the Mali/Mauritania border) to stabilize the level of the Senegal River. Both dams may be operational by the end of the 1980's so the development of the Dirol Plain has to consider the near term and long term implications of the overall plans for the Senegal Valley. One of the key components of the Senegal Valley plan has been the long term transformation of the whole valley to pumped irrigation agriculture. Many studies have criticised this proposed scenario for the Senegal Valley as unrealistic and uneconomic. The fuel costs for the pumps would be a major burden for Mauritania and Senegal and the net increases in production are dubious (See WMS II). Every time the peasants have been consulted they have expressed their complete distrust and dislike for such a solution. The RBDO proposal has, in this context, the advantage that it envisages development of irrigated perimeters on higher lands while encouraging traditional recession agriculture on lower lands.

3 SURVEY OF POLITICAL FACTIONS

3.1 ETHNIC GROUPINGS

There are five main political/ethnic groupings in the Dirol Plain. These are the Irlabe/Hebeyabe, Nerenabe, Bosseabe, Hijaj Haratine and Tamoudek Haratine. The first three are Haal Pulaar groups (historically mixed Peul and Toucouleur groups). The historical sections above describe the general background for the presence of each group in the plain. Here we will look a little more closely at the current political relations between the groups.

In general we can say that there are complicated social and economic relationships between the Irlabe/Hebeyabe and the Haratine groups but much less complicated relationships between any of the other groups. When talking to the elders of the Irlabe/Hebeyabe one is given to understand that the whole plain is under the temporal and spiritual authority of the Satigui Dekle and Satigui Hebeyabe but when discussing with others one finds this completely denied by all members of both the Nerenabe and Bosseabe groups while the Haratine claim that while some Haratine families do pay some tithes to the Irlabe/Hebeyabe elders this is a small minority and does not concern the vast majority of Haratine lands. On this issue while there are understandable historical reasons why the Irlabe/Hebeyabe elders might make such a claim the subsequent political developments (see Vidal's report in the appendices) were such as to completely annul this wider authority. Thus one should see the authority of the Irlabe/Hebeyabe elders as principally confined to the core Irlabe/Hebeyabe lands north of Roufi Aoudi.

Vidal (see appendice) writes that the Nerenabe are originally an offshoot of the Hebeyabe. We found that almost all of the Nerenabe identified as Bossea and undoubtedly are numerically predominantly Bossea but some elders mentioned particular liniols as having land from the Satigui so while we can not confirm Vidal's origin it may have an element of truth. We probably should refer to the Nerenabe as Bossea because today, at any rate, they seem to identify exclusively as Bossea. The Nerenabe occupy the central lands south of the Irlabe/Hebeyabe and though they once occupied the other lands south and east toward Sintiou and Belinabe they lost these to Bosseabe conquest and no longer have claims to them. The Bosseabe conquered this part of the plain at the end of the 19th century and subsequently occupied the new lands.

One encounters a fair amount of hyperbole in the Dirol Plain today about each group's seniority on the land which may be in part due to the impending development. In Rindiao Belimodi we were told that the village had been continuously inhabited for many centuries but in Silla Rindiao elders admitted to founding Silla in about 1900 and subsequently sending members of their families to found Rindiao Belimodi.

The French records seem to indicate that both towns were founded in the 20th century. Yet, without accurate archaeological data it is difficult to know when sites were first inhabited by the ancestors of those now living there and the historical record even for the 19th century contains little detailed information about cultivation or habitation in this area. The record suggests the Dirol Plain was not inhabited by Pulaar speakers - other than migratory Peul - during the 19th century but there may have been a few settlements all the same. It seems fairly certain, at any rate, that 95% of the sedentary Pulaar population now inhabiting the plain settled in the 20th century. Many of these are, however, descendants of people who inhabited the area during the 16th and 17th centuries. We can only stress that in Mauritanian and Islamic law continuous free cultivation of land for 10 years is enough to establish ownership so the exact pattern of settlement in the plain prior to 1900 has no legal implications for ownership today. In practical terms I think it would be fair to say that events more than 10 years prior to the drought would have little legal implication for ownership today. In the decade prior to the drought matters are different because since the drought little of the land has been regularly cultivated (regular cultivation or exercise of proprietorship for 10 years being the basis of Islamic Maliki ownership - see Section 5.1).

The individuals in the Irlabe/Hebeyabe group have extensive ties of patronage with individual families in the two Haratine groups. These ties have been developed over time largely as a result of the variability of the seasonal floods and the location of the core Irlabe/Hebeyabe lands. The Haratine have lost a considerable amount of land to the Irlabe/Hebeyabe in this century. This has led to a general displacement of Haratine holdings toward the north and east away from the lowest and most fertile lands in the Dirol Plain. As a result, when the annual flood is low Haratine families have had to make arrangements with Irlabe/Hebeyabe families to cultivate plots of land using one of the contractual tenure arrangements described later in this report. Many of these arrangements continue over many years and so give rise to patron/client type arrangements.

The Haratine also have residual client relationships to some Bidan groups but so far in our interviews we did not meet any Bidan who came forward to claim to be owners of Haratine lands - as distinct from maintaining that the Haratine groups owe certain tithes as payment for the patron services rendered by the Bidan (protection, representation to government, and various sundry services). It is likely that nevertheless some Bidan groups might informally pressure the Haratine to make prestations on the basis that the Haratine were their former slaves and so they, the Bidan, were the real owners of the land. My impression is that such a claim would not hold up in courts for the Dirol Plain a) because it would have been put strongly to us during our interviews if the Bidan concerned felt it would hold and b) because the Haratine themselves have cleared and cultivated the lands in the Dirol Plain since being freed. This is, however, a question that needs to be addressed in a more detailed study.

3.2 POLITICAL STRUCTURE AND POLITICAL RELATIONS

3.2.1 IRLABE/HEBEYABE POLITICAL STRUCTURE

The elders of the Irlabe/Hebeyabe group maintain that they have been continuously cultivating their fields for many hundreds of years - some claim a thousand. We have seen in the historical section that the Hebeyabe ancestors established claims to lands in the area after time of Koli Tenguela or in other words in the latter part of the 16th century. Though these same ancestors had ancestors of their own who had land in the valley the claims of the Hebeyabe, as such, date from this time and took precedence over any earlier claims by right of conquest. By the end of the 18th century the Hebeyabe had fled to the left bank of the Senegal. Thus these claims are somewhat exaggerated. There is a lot of evidence that the Hebeyabe returned to the right bank after the French conquest of the Senegal Valley was complete - in other words during the early 20th century. In the interval it is entirely possible that some families maintained some form of cultivation in some of the lands intermitently - camping near the fields to cultivate during the agricultural season or otherwise maintaining a presence on the right bank. But I have found no hard evidence for such a practice on any scale.

The claims of the Irlabe/Hebeyabe elders seem, instead, to be based on political considerations of the moment - they are aware of the increased value development could bring to their lands and want to establish as clear a right to as much land as possible. It may be that they feel without such a claim their rights to the land they presently cultivate could be disputed. No such general dispute could in point of law have any validity since they have established their claim to the lands they presently cultivate for much more than the 10 years required by Islamic shari'a. Whether they cultivated these same lands in the 19th century is irrelevant to the validity of their current claims.

Bagoudine is the residence of the Satigui Dekle and Satigui Hebeyabe. Foundou and Ouloum Hatar are the other principle Hebeyabe villages. Niabina, Mbahe, and Ferala are the main Irlabe villages but all five of these take guidance from Bagoudine. There are as well some Hebeyabe fractions in Niabina, Mbahe, Roufi Aoudi, and Ferala. In dealing with the Irlabe/Hebeyabe it is advisable to start with Bagoudine but additional meetings must be held in the other principle villages as well.

The authority of the Satigui among the Hebeyabe is both spiritual and temporal. The Satigui Dekle traditionally delegates temporal power to the Satigui Hebeyabe who controls the collade. The Satiguis can be deposed if the community feels they are not fulfilling their duties properly but I know of no cases when this was done. The position of Satigui Dekle is hereditary within families but this should be understood as meaning that fairly large extended families provide the Satigui, who is chosen

from among them by elders of the core families, rather than implying any sort of father-son inheritance.

On the temporal side, with which we are principally concerned, the Satigui Hebeyabe serves as head of an economic structure which includes appointed tax collectors (Diagaraf: these are chosen in a similar way from within another family and caste - the Thiedo/Sebbe ("warrior") caste Diengdiengbe liniol) who are entitled to a portion of what they collect and a complete collection and distribution system that has an extensive welfare component despite its rigidly hierarchical structure. The Diagaraf collects assakal and ndioldi for the Satigui from Satigui lands cultivated by others.

In practice the majority of the Hebeyabe are land owners and pay no tithes themselves on their own land. But when they or others cultivate land not their own (which all except the wealthy may be forced to do by the variability of the seasonal flood) they pay various tithes and these are channeled through the traditional system today much as they were in the 16th or 17th century.

It is unclear from our data which collade (or liniol holdings) are normally cultivated by those paying tithes and which are normally cultivated by those who pay no tithes. This is due to several factors: a) we had to interview primarily at the liniol level and this is not the ideal level to discern who pays what because some members of a liniol may regularly cultivate lands on which they pay tithes without this appearing in our data because we were asking the head of the liniol which lands the liniol owned, b) the drought has kept the great majority of lands out of production for the last 15 years, and c) people are sensitive to the issue and tend to claim they do not pay tithes even when they do. The issue is an important one that merits much more thorough study than we could devote to it in our brief survey.

The Irlabe liniols listed below are incomplete from a political perspective. Each of the main liniol groupings has numerous fractions (also referred to locally as liniol) which though acknowledged as fractions were not included here for one of two reasons; a) they do not appear to have significant lands in the Dirol Plain or b) they are really subsidiary to a liniol of same name listed elsewhere. The dividing line between groups is somewhat fluid and small sub-liniols are frequently amalgamated to larger groups by marriage and residence. In our interviews such groups usually were included in the parent liniol when we interviewed it and then did not come forward again in the town in which they actually resided.

Our work in Niabina, Mbahe, and Ferala was very brief. We do not feel we have as complete data for the Dianankobe of Niabina, for example, as we have for most other liniols because those we interviewed suggested that only a few fractions of the the Dianankobe have land in the Dirol. Since we were short of time we did not have the time to fully investigate all liniols. Many liniols went to our meetings in Bagoudine from Daouelel, Ferala, Mbahe, and Niabina but a more thorough study should be

made of these liniols before concluding that we have listed all those with land in the Dirol. We are also undoubtedly missing numerous Senegalese who have land in the Dirol but do not belong to local Mauritanian lineages.

The main Hebeyabe and Irlabe liniols are listed below with the village residences of their heads (mawdu). The first three groups, Dekle, Harlawnabe, and Maloumnabe include the core Hebeyabe liniols. The place of the three most powerful positions Satigui Dekle, Satigui Hebeyabe, and Elimane are marked with an asterisk. There are other (Irlabe) liniols in Mbahe and Ferala not listed because we were told they did not have land in the Dirol Plain. The liniols are shown grouped under higher level divisions where ever appropriate. This was not, however, always appropriate and in consequence many of the liniols linked to Fondou and all those linked to Ouloum Hatar are shown alone without being subsumed within any higher grouping.

LINIOLS OF IRLABE AND HEBEYABE HOLDING LAND IN DIROL

IRLABE LINOLS	Village	Mawdu
Liniol		
BOLNABE		
Niengniengbe	Niabina Haimedat	Malal Seyidou
DABENNABE		
Bababe	Niabina	Samba Mbaya Ba
Diadiabe	Niabina	Samba Mbaya Ba
Kebenabe	Niabina	
Sarrebe	Niabina	
DIANANKOBE		
Dianankobe:Diallube	Niabina	Hamady Samba
Dianankobe:Sowsowbe	Niabina	Alassane Samba
Dianankobe:Welwelebe	Niabina	Hamady Aly
MALMALBE		
Bababe	Niabina Niabina Haimedat Dabbe	Amadou Boubou
Diadiabe	Niabina	Demba Abdoulaye
Salsalbe	Niabina	Boubou Daouda
Saosaobe & Dattdatbe	Niabina Dabbe	Demba Samba & Idi Mali
Syseybe	Niabina	
HEBEYABE LINIOLS		
Liniol	Village	Mawdu
BOGUELNABE		
Diadiabe Boguel	Mbahe	Mamadou Elimane
Kanehanbe	Mbahe	Ali Moussa Kane
Lydube Boguel	Mbahe Niabina Atene Gourel Selle	Amadou Demba Thiory
Mabube	Mbahe	Kalidou Malik Koumen Mamadou Salif Samba
Sowonabe	Mbahe	Atou Hamady
Syseybe	Mbahe Ferala	Thierno Sileye Hamidou
DEKLE		
Dekle:Sebbe	Bagoudine	Bassirou Demba A.Samba Boye
Diawanbe	Mbahe Bagoudine	Samba Demba Yero Boubou Saloum

Mabube Dekle	Dawelel	Abdoul Amadou
Ndiayebe	Niabina	Samba C. Aliou
Saibobe	Bagoudine	Dembel Thioukou
	Bagoudine	Demba Ndiaye
		Bassirou Demba
		Amadou S. Boye
Sebbe Ndiengndiengbe	Bagoudine	*Satigui Dekle: Boubou Boli
		Amadou Abdoul
		Salif Daouda
FOKOL		
Dembarabe	Ferala	Ali Saada
Diallube	Ferala	Diallo Pathe
		Cire Amadou
Hamatt Kewinabe	Ferala	Ali Samba
		Hamady Gorel
Welwelebe	Ferala	Abdulaye Abdul
Wonewonebe	Ferala	Mamadou Sisiye
HARLAWNABE		
Awawbe	Bagoudine	Abal Alfa
		Mamadou Abdoulaye
Galle Dialloubé	Bagoudine	Sadio Hamady
Galle Dow	Bagoudine	Abou Bocar
Galle Howa	Bagoudine	Amadou Serib Boli
Laminabe/Galle Lamine	Bagoudine	*Satigui Hebeyabe: Omar Sidi
		Kane Hamadi Satigui
		Mamadou Habi
Ngamngambe	Bagoudine	Bocar J. Abdoulaye
		Ngam O. Boubou
		*Elimane Mamadou Djiby Ngam
Pathenabe	Bagoudine	Amadou Demba Kadia
Sowsowbe	Bagoudine	Abdoul Jamba
	Ferala	Demba Ngewane
		Demane Nairane
		Mamadou Hebe
		Demaba Amadou Kodiafel
MALOUMNABE		
	Bagoudine	Hamidou Galal
Maloum Diaba	Bagoudine	Mamadou Lamine Mody
		Saada Pathe
Maloum Diamel	Bagoudine	Hamidou Gala
		Moussa Bodel
		Hamadel Samba Saly
NIOUKOL		
Diallube	Ferala	Elimane Nioukou
Hormankobe	Ferala	Omar Abdoulaye
Mbenguembenguebe	Ferala	Djibi Samba (Haratine)
Warwarbe	Ferala	Samba Abdul
		Abdul Mamadou
		Elimane Nioukol
		Amadou Abdul

The main Hebeyabe liniols linked to Fondou are listed below with the residence and name of their chief (mawdu)

HEBEYABE LINIOLS LINKED TO FONDOU

Liniol	Village	Mawdu
BABABE		
Fulbe Irlabe	Fondou	Sileye Samba Moudo
Fulbe Toro	Fondou	Yero Sileye
Saibobe	Fondou	Samba Amadou
	Niabina	Daoud Ba
Sowonabe	Fondou	Yero Hamadi
Tierno Fondou	Fondou	Oumar Baba
	Ore Fonde	
	Roufi Aoudi	
DIADIABE	Fondou	
Babu Boye	Fondou	Alassane Samba
Diambaldi Boye	Fondou	Mamadou Samba
		Samba Maham
Diamel Boye	Fondou	Samba Hamadi Baya
Hel Goli	Fondou	Abou Cire
Hel Hondel	Fondou	Djibi Kowri
Hel Malem	Lewe	Aliou Dia
	Ore Fonde	Abdoulaye Samba Dia
Ndoubourounabe	Fondou	Alassane Ali
Niawel	Lewe	Samba Demba
Samba Dembere	Fondou	Hamadi Abdul

OTHER HEBEYABE LINIOLS LINKED TO FONDOU

Liniol	Village	Mawdu

Awawbe	Fondou	

Diallube	Lewe Fondou	Abu Budi Seyidou Demba Salif Abdoulaye Musa Abdoulaye

Kanehanbe	Belel Gawdi	Ali Demba
Kanehanbe:Boubou Aoudi	Boubou Aoudi	Moussa Samba Kane
Kanehanbe:Boubou Hamadi	Boubou Aoudi	Sadia Hamady

Lydube	Belel Gawdi	Moussa Abdoulaye

Mbaybe	Fondou	Diagaraf Harane

Ndiayebe	Roufi Aoudi	Alassane Hamadi Abou Samba

Ndiayebe:Hamadi Boubou	Fondou	Hamadi Boubou

Niassbe	Roufi Aoudi	one household

Niengniengbe	Fondou	Alassane Idi Coumba

Sarrsarrbe	Roufi Aoudi	Moussa Sileye

Sowsowbe	Fondou	Baidi Samba

Sowsowbe:Sebbe	Fondou	Alassane Yero Sow

Syasybe	Fondou	Moussa Mamadou Si

Talltallbe	Fondou	Harouna Tall

Wadewadebe	Roufi Aoudi	Samba Sileye Dialtabe Sileye

Warwarbe	Fondou	Amadou Hamadi

Wonewonbe	Fondou	Moussa Samba

The main Hebeyabe liniols linked to O.Hatar are listed below with the residence and name of their chief (mawdu)

HEBEYABE LINIOLS LINKED TO OULOUM HATAR

Liniol	Village	Mawdu
Bailo Hatar	O.Atar	Hamady Cuto
Dialdialube	O.Atar	Salif Abdoulaye
		Moussa Abdoulaye
Deniankobe	O.Hatar	Samba Yero Padel
		Demba Yero Padel
Diopbe	O.Hatar	Boubou Demba
		Samba Amadou Budu N'Diop
Galle Dieri Sere	O.Hatar	Samba Yero Ba
		Demba Samba
Lambe Hatar	O.Hatar	Demani Amadou Fati
	Hatar Fondou	
Lamlambe	Lewe	Dialade Amadou
	O.Hatar	Ousmane Hamatt Lam
Lam Sagato Dado	O.Hatar	Boubou Yero
		Abou Hamadi
Lombe	O.Hatar	Samba Amadou
Lydube Funebe	O.Hatar	Tierno Mamadou Aly
		Tierno Ibrahima Omar
Lylybe	O.Hatar	Omar Mamadou Ly
		Abu Demba Ly
Ndiayebe	Hatar Fondou	Mustapha Ndiaye
	O.Hatar	Yunis Sere
		Seyidou Mrabet
Ndiengndiengbe	O.Hatar	Mica Djibi Tiedal
		Beidi Samba
		Hamadi Moudi
	Roufi Aoudi	Abdoulaye Hamadi
Sebbe Diagaraf Ndiaye	O.Hatar	Abdoulaye Yunis
		Amadou Fode
Sowsowbe Birass Yero	O.Hatar	Amadou Seyidou
		Demba Babaly
		Demba Omar Mody
Sowsowbe Diobu Yero	O.Atar	Sow Amadou Hamadi
		Diengudi Penda
Sowsowbe Hel Att	O.Hatar	Sow Semba Abdoulaye
		Demba Alassane
Sowsowbe Hel Soka	Belel Gawdi	Diaba Abu
Sowsowbe Itinabe	O.Hatar	Amadou Racine
		Ousmane Malik
Sowsowbe Wayburabe	O.Hatar	Alassane Samba Omar
		Amadou Hamadou Idi
Tioubounabe	O.Hatar	Moctar Yero
		Idrissa Amadou
		Samba Amadou Samba

3.2.2 NERENABE POLITICAL STRUCTURE

The chief of the Nerenabe Bossea is the Elimane of Ouloum Nere. The Nerenabe Bossea are divided into three core groups but include in these groupings a number of liniols which have been assimilated to the Nerenabe at later dates. The core groups (Basbe, Hirnangue Nere, and Wantianbe) receive and divide among themselves any tithes collected from other liniols or from other individuals who have made arrangements to cultivate Nerenabe lands. Tithes are not paid on all Nerenabe lands even by people who are not members of the core liniols. Payment of various tithes is often interpreted in Mauritania as proof of non-ownership, which it is not necessarily, so people are often reluctant to admit they pay any tithes. In addition, in the current context of drought, many who used to pay tithes have not done so for years, if only because they have not cultivated for years, and so they can and do honestly say they do not presently pay any tithes. This means that what data we have on who pays who tithes is somewhat suspect. Yet this is an important question for at least locally it is often understood to be the key difference between real owners (jom leidi) and those with lesser rights such as various forms of usufruct. This whole question will need to be studied in more detail in a later lengthier study of land tenure. Although all the liniols listed are in principle land holding units and also in principle assimilated as part of the Nerenabe many are patently of more recent membership and may pay tithes that others do not.

The Elimane Nere himself collects some tithes such as ndioldi (which is paid in kind) but has a Diagaraf of the Thiedo caste who collects other tithes such as assakal. The situation is in many respects similar to what occurs among the Hebeyabe and quite distinct from the situation among the other Bossea groups in the plain who have no comparable authority figure. The Nerenabe claim that among the Nerenabe Torobe caste everybody has land but it is unclear whether they mean all Torobe have rights to a share however small of some Nerenabe land holdings or that all Torobe have sufficient land to support themselves in years of good inundation.

They admit that this is not so for other castes (which include Laobe, Mabube, and Mathioudo) and point to the Mathioudo (slave) caste as people who have no land. Even this generalization is not likely to be absolute - in fact we interviewed Mathioudo in various parts of the plain who had some land - obtained in various ways - but in general the Mathioudo do seem to be landless (they lease land from others as sharecroppers).

The liniols for the Nerenabe are as follows with the village of residence for their chief (mawdu) and their mawdu:

NERENABE LINIOLS

Liniol	Village	Mawdu
BASBE		
Basbe	O.Nere	Kane Moussa
Bababe	O.Nere	Abdoulaye Sonadou
Bababe:Pocom Serembe	O.Nere	Mamadou Guido
Bababe:Thila	O.Nere	Ba Amadou Samba
Kanehanbe	O.Nere	Moussa Samba
		Hamadi Idi
		Amadou Elimane
Kanehanbe:Hel Ali Seyidi	O.Nere	Moussa Kane
Kanehanbe:Hel Kobu	O.Nere	Moussa Kane
Ndiayebe	O.Nere	Ndiaye Abdoul Doro
		Cuko Tatamo
		Demba Amadou
		Harouna Yero
		Mamadou Dia
Ndongobe	O.Nere	Baidi Ndongo
		Demba Seyidou
		Idi Demba
		Alhassane Samba
Sowsowbe	Kaedi	Abdoulaye Hamatt
		Sow Biri Ali
Sowsowbe	Dioke	Sow Moussa Samba
HIRNANGE NERE		
Bababe	O.Nere	Abdoulaye Sonadou
Diadiabe	Kanyadi	Dia Ali Mamadou
	O.Nere	Idi Samba Dia
Diadiabe Malebe	Kanyadi	Samba Hamidou Dia
Diadiabe Ranebe	Kanyadi	Seyidou Moussa Dia
Diadiabe Wodebe	Nereyel	Moussa Samba Dia
Diopbe	O.Nere	Diop Hamdy Yero
Gadiobe	Nere Walo	Samba Baidy Gouro
Hirnage Nere	O.Nere	Ba Abdoulaye Sauda
Mbayebe	Rindiao	Mamadou Samba
Ndiengndiengbe	O.Nere	Hamidou Demba Dieng
Sybybe	O.Hatar	Amadou Ousmane
Sybybe:Boubou Bali	O.Nere	Sy Ibrahima Amadou
Sybybe:Nere	O.Nere	al-Huseini Mamadou

(NERENABE LINIOLS CONTINUED)

Liniol	Village	Mawdu
WANTIANBE		
Ananbe	O.Nere	Mamadou Bocar
Datt	Nere Walo	Samba Alassane Datt
Diagobe	Nere Walo	Ismaila
		Amadou Ifra
		Demba Samba Djiby
Kanehanbe Modigidu	Dioke	Alassane Yero
	O.Nere	Seyidou Galle
	Dabiya	Moussa Galle
	Lexeiba	
Ndongobe	O.Nere	Baidi
		Demba Seyidou
		Idi Demba
		Alhassane Samba
Salsalbe	Nere Oualo	Samba Burta Sira
Tchimbonabe	Nere Walo	Dimba Pathe
		Amadou Sally Tchimbo
Toutoube	(Senegal)O.Nere	Abdoulaye Demba
Wantianbe	O.Nere	Kane Maissa Hawo
Yalibe	Senegal	Dewol Hamidou Ngengudi

3.2.3 BOSSEABE POLITICAL STRUCTURE

The principle Bossea liniols are listed below along with the name of their mawdu and his village of residence. No larger units of social organization were apparent. In fact, many of the Bossea seem to have substantial land holdings in Senegal and consider their Mauritanian holdings as secondary to their Senegalese holdings. We would have liked to have more time to interview in the Bossea area and are acutely aware of the little time we had to work in this part of the plain. We interviewed in each village and for lack of time asked to interview only those who had land in the Dirol Plain. We did not have time to do a thorough set of interviews.

BOSSEA LINIOLS HOLDING LAND IN THE DIROL PLAIN

Liniol	Village	Mawdu
Achachebe	Rindiao	Boubakar Seyidou
Attattbe	Sintou B.	Mamadou Demba Dioumo
Awawbe	Dioke	Yero Amadou Aw
Awawbe	Sintiou B.	Samba Foundo
Bababe	Sintiou B.	Demba Bocar Ba
Demdembe	Dioke	Seyidou Ali Dem
	Sintiou B.	Elimane Daouda
Diadiabe	Sintiou B.	Samba Diabu Diatt
Dionguebe	Sintiou B.	Mamadou Makka
Diopbe Wedhebe	Dioke	Demba Amadou
Ganguebe	Sintiou B.	Moctar Mamadou Gangue
Kanehanbe	Gongane	Mamadou Samba Kane
Kanehanbe	Dioke	Hamady Samba Bocar
		Daouda Ndialla
Kanehanbe	Sintiou B.	El Hadj Sileye Samba
		Hamad Mariam
		Tiello Sileye Kane
Kanehanbe Hel Koubiri	Dioke	Racine Djibi
Koundio	Sintiou B.	Moctar Malik Koundio
Lydube	Dioke	Mody Ly
	Gongane	Hamidou Amidou
	Sintiou B.	Sidi Denguel
	Sintiou B.	Amar My Ly
Mabube (Boguel)	Dioke	Hamadi Malik
Mabube Ndongndiongabe	Sintiou B.	Mamadou Makka
Ndiayebe	Sintiou B.	El Hadj Hamadi
Nioukanabe	Sintiou B.	Mamadou Nioukane
		Hamidou Amar
		Amar Abdoulaye
		Oumar Amadou
Sallsallbe	Sintiou B.	Demba Hamidou Sall
Sowsowbe	Sintiou B.	Diamere Sow
	Dioke	Alassane Demba
	Dioke	Moussa Samba
Sysybe	Sintiou B.	Seyidou Bocar Sy
		Hamadi Sidi
	Gongane	Seyidou Malik Sy
	Rindiao	Dora Sy
Tallbe	Sintiou B.	Mamadou Yero Tall
		Samba Tall
Waylube:Hamadi Coute	Rindiao	Coumba Rindiao

3.2.4 HIJAJ POLITICAL STRUCTURE

The Hijaj Haratine have an egalitarian social organization in which each nuclear family head participates in decision making at the village level in the village council. The Hijaj are divided into fractions (e.g. Hel -); to some extent land is managed at the fraction level though there are no liniols or liniol organization. Land is held at the fraction level but real collective authority is expressed at the village level. The fractions exercise collective control over cultivation; allocating fields each year and generally mitigating individual risk at the fraction level. Virtually all members of the community have land in some Haratine collade but all are not represented in the remaining collade. The Hijaj have a village chief, elected by the community, who can speak for the rest but all decisions are made by the collected elders and family heads.

During the early 20th century the Hijaj began to settle in the newly forming towns of the Dirol Plain - prior to this time they had lived in tents and cultivated in the Plain. They were among the first to settle in Mbahe and Niabina and founded Hijaj in 1902. Before the return of the Haal Pulaar all the walo land in the Dirol Plain was under the protection of the Bidan.

Within the memory of one old Haratine in Hijaj there were only a few tents in Bagoudine. Earlier in this century when there were large inundations the Haal Pulaar would come to the Haratine to contract for land. Over time the Haratine were pushed north and out of the prime lands. They recount numerous incidents of being forced off of the land.

Recently since the drought there has been so little land inundated that some Haratine families have had to go to the Haal Pulaar, who now have the lower lying lands, to contract for land to cultivate. As the Haal Pulaar became more numerous and more powerful on the right bank of the Senegal they began making demands on the Haratine - free labor (Dawanen) on Haal Pulaar fields and payments of various tithes. On occasion they would try to evict Haratine from land the Haratine were cultivating unless they paid tithes. Today the Hijaj claim they have paid tithes only on occasion and then only in years when their own lands were not inundated in order to cultivate lands now held by Haal Pulaar. They lay claim as a group to many of the prime collade in the Dirol Plain but actually cultivate today only a few of the prime areas - most of their remaining cultivating is on the northern and western edges of the Dirol Plain.

3.2.5 TAMOUDEK POLITICAL STRUCTURE

The Tamoudek Haratine came from further east in Mauritania to cultivate land in the Dirol Plain when it was under the protection of the Bidane. The arrival of the French permitted the Irlabe/Hebeyabe to come back across the Senegal river. Prior to their return there were only Haratine and Bosseabe cultivating in the plain. Though the historical sequence is a bit difficult to document it seems to have been approximately as follows. Around 1880 the Bosseabe defeated the Nerenabe en route to their own defeat at the hands of the French. In joining forces with the Maures to fight the French they had access to the right bank and took over the traditional eastern Nerenabe lands. The Tamoudek, Hijaj, and Bossea shared the plain for a number of years before the arrival of the Irlabe/Hebeyabe (which took place in the first half of the 20th century. The village of Fondou was founded by a Haratine (Sreiba) and three Peul herders.

The Tamoudek are divided into three main communities residing in Boubou Aoudi, Ouloum Hatar (along with the Haal Pulaar majority of that village), and Debaye Doubel. They trace their ownership of land to the fact that they cleared it of brush and trees and have cultivated it since. The Tamoudek of Dabaye Doubel recount many examples of being forced off land they had cultivated for years at the point of a gun by the Haal Pulaar as recently as the 1950's and 1960's. The usual scenario recounted was that they were first asked to pay assakal and when they refused gendarmes were called. They claim that 98% of the Tamoudek families own land.

They are divided into fractions such as Hel Sidiould Abeid and Hel Mobbe (like the Hijaj Haratine) and also have a chief who is elected by each community. Though they still consider themselves one community decisions are now all made at the village level. Fractions own and manage land as among the Hijaj Haratine. The fractions may be as fluid as liniols among the Haal Pulaar of Ouloum Hatar and at any rate nuclear families seem relatively free to make their own economic decisions.

They have no castes or slaves - all families are of equal status. They claim to pay no tithes to Bidan and though on occasion have paid tithes to Hebeyabe claim no one in the community has paid any tithes to the Hebeyabe on any land for five years. Within the community they often practice leasing out land to each other when the inundation is such that some need more land than they have inundated and others have more than they need.

4 LEADERS AND DECISION MAKERS IN THE DIROL

4.1 SUMMARY

In this section we list those people who appeared to be most influential and/or useful to contact from a development perspective. These include traditional authority figures such as village chiefs or the Satigui and officials in the national structures d'education des masses. The latter is an organization based on population that in most parts of Mauritania is the only representative based political organization. The country is divided into zones each headed by a Coordinateur de la Zone who coordinates the work of the lower level officials (the number of which in each village or community depends on the population). The organization is quite political but not homogeneous in its political outlook. Thus, in our talks in Boubou Aoudi a Haratine official of the structures d'education des masses was a primary speaker on the Haratine claims to large amounts of the land now occupied by the Haal Pulaar of Bagoudine. But on our return to Bagoudine the next day the local Pulaar Coordinateur de la Zone, along with the other influential people of Bagoudine, was quite upset by these "unfounded" (in the Pulaar view) claims. We also list a few people who though without extensive authority are worth contacting for various reasons.

4.2 IRLABE LEADERS AND DECISION MAKERS

The list of Irlabe decision makers or leaders is necessarily incomplete because we only spoke with those who had land in the plain. We may therefore have missed some important community leaders who are not themselves land owners in the Dirol Plain or even members of liniols owning land in the plain proper.

IRLABE DECISION MAKERS

Ba Amadou	Niabina:Coordinateur de la zone
Hamady Diallo	Dowelet:Coordinateur de la zone
Amadou Ba ("Ndiol")	Mbahe:leader
Abdullahi Alisane	Ferala:local Arabic teacher with absorbing interest in development of Dirol Plain
Malal Seyidou	Bolnabe:Niengniengbe liniol mawdu in Niabina
Samba Mbaya Ba	Dabennabe:Bababe mawdu in Niabina
Hamady Aly	Dianankobe:Wellewellebe liniol mawdu in Niabina
Amadou Boubou	Malmalbe:Bababe liniol mawdu in Niabina
Boubou Daouda	Malmalbe:Salsalbe liniol mawdu in Niabina

4.3 HEBBEYABE LEADERS AND DECISION MAKERS

The following list of Hebeyabe decision makers in the Dirol Plain includes leaders and traditional authority figures for all the main Hebeyabe villages. Please note that all decisions relevant to development will need to be made collectively - it will not do to simply consult with the "decision makers" though it is correct etiquette to approach them first.

HEBEYABE DECISION MAKERS

Mamadou Djiby Ngam	Bagoudine: Elimane: Chef du Village
Boubou Boli	Bagoudine: Satigui Dekle
Omar Sidi	Bagoudine: Satigui
Hamady Kane	Bagoudine: Satigui Hebeyabe
Abou Ba	Bagoudine: Satigui
Ba Abou	Bagoudine: Coordinateur de la zone (Structure d'education des masses)
Oumar Baba Ba	Fondou: Marabout Roufi Aoudi Ore Fonde (Senegal):real residence
Kadar Dia	Fondou:Elimane
Moustapha Ndiaye	Hatar Fondou:mawdu
Yunis Cere Ndiaye	Hatar Fondou:mawdu
Samba Amadou Tioub	O. Hatar:Spokesman for Community
Dialtabe Souleymane Waddu	Roufi Aoudi
Mamadou Sintiou Ba	Roufi Aoudi
Demba Hamadou Sow	Lewe - Hatar
Samba Hamadi Ba	Belel Gawdi
Alassane Samba Dia	Atene

4.4 NERENEBE LEADERS AND DECISION MAKERS

A list of decision makers among the Nerenabe who should be consulted about the proposed development of the Dirol Plain follows. The Nerenabe are a little less hierarchically organized than the Hebebye and this means that getting all the Nerenabe to meet in one place (Ouloum Nere) is a bit more difficult. Any decisions will be made collectively so this list is merely a starting point.

LIST OF DECISION MAKERS AMONG THE NERENABE

Baidi Ndongo	O.Nere:Elimane:Chef du Village and mawdu Wantianbe:Ndongobe
Isma Bocar	O.Nere: President Union des Cooperatives in Bossea area.
Abdoulaye Sonadou	O.Nere:mawdu Basbe:Bababe
Mamadou Guido	O.Nere:mawdu Basbe:Bababe
Ba Amadou Samba	O.Nere:mawdu Basbe:Bababe
Moussa Kane	O.Nere:mawdu Basbe: Kanehanbe
Ndiaye Abdoul Doro	O.Nere:mawdu Basbe:Ndiayebe
Samba Hamidou Dia	Kanyadi:mawdu H.Nere:Diadiabe Malebe
Diop Hamady Yero	O.Nere:mawdu H.Nere:Diopbe
Amadou Ifra	Nere Walo:mawdu Wantianbe: Diagobe

4.5 OTHER BOSSEA DECISION MAKERS AND LEADERS

The Bossea are fully decentralized and consultations really have to be carried out at the level of village meetings for each village. A list of decision makers in the Bosesa are of the Dirol Plain follows:

BOSSEA DECISION MAKERS

Ousmane Achie	Rindiao:Secretary General of Union des Cooperatives/ Bossea.
Boubakar Seyidou	Rindiao:mawdu Achachebe
Racine Djiby Kane	Dioke:mawdu Kanehanbe Hel Koubiri
Hamady Samba Bocar	Dioke:mawdu Kanehanbe
Alassane Demba	Dioke:mawdu Sowsowbe
Elimane Daouda	Sintiou B:Elimane and mawdu of Demdembe
Moctar Malik	Sintiou Boumaka
El Hadj Sileye Samba	Sintiou B:mawdu Kanehanbe
Mamadou Nioukane	Sintiou B:mawdu Nioukanabe
Mamadou Samba Kane	Gongane:mawdu Kanehanbe

4.6 HARATINE

The Haratine villages are run by village councils in which all mature men have a voice. Each village is today essentially independent from the others. Each has a village chief but he has no authority to decide for the village. The only appropriate procedure is to ask the village chief to call for an assembly to discuss matters. This is technically true for the Haal Pulaar as well but Haal Pulaar is much more structured and leaders tend to have more significance than among the Haratine.

HARATINE DECISION MAKERS

Hemowa ould Toumany
Daboyti ould Yargumbu
Mona

Hijaj: Chef du Village
Debaye Doubel
Hijaj: entrepreneur, farmer

The best procedure is to consult with the village chief and the whole village council in each village. We spent only a few days in the Haratine villages of Hijaj, Boubou Aoudi, and Debaye Doubel and did not try to break down ownership past the village level (the next relevant level down is the household and we had no time to inventory lands at the household level). Our only meetings were village level meetings plus one interview with Mona, an extraordinary Hijaj Haratine entrepreneur. There are also significant Haratine quarters in Mbage, Mbahe, Niabina, and Ouloum Hatar with their own chiefs and village councils.

Mona built with his own savings to buy cement and build a series of wells and used them to irrigate and grow 50 palms. He did this for 7 years until the other villagers suddenly cut them down. - To allow them to grow for 10 years would have been to accept Mona's private ownership of the land in question. Mona tried to have recourse to the law but the villagers fled the Prefet and there was no one to interview. Eventually Mona simply gave up this effort, built a garden and more wells in the dieri and last year built three small dikes across a valley in the dieri area and caught 5' of water from the run-off and harvested a large crop of sorghum. His earthworks are impressive and his ingenuity and enterprise seem unmatched in the plain by anyone with comparable means.

5 OUTLINE OF TENURE SYSTEM

5.1 ISLAMIC PROPERTY LAW

Islamic property law is fundamentally different from the legal tradition prevalent in western societies in several respects. Most generally, it places priority on the current muslim society to the disadvantage of past societies. In practice what this means is that priority of ownership does not establish legal right to property. On the contrary, oral testimony to the effect that one has exercised unhindered ownership rights for the last few years takes precedence over any prior written titles. In Maliki law, the school of Islamic law traditionally accepted in Mauritania, a period of ten years of uncontested occupation is sufficient to establish full ownership. This is based on the Shari'a concept of indirass which literally means obliteration and refers to the idea that when all traces of use disappear (are obliterated by the course of time) ownership disappears as well. Thus when the former owner, if any, does not maintain proof of ownership for ten years the use of the land by another occupant or the work of the elements obliterates his claim to ownership. Ownership can be maintained easily by requesting payment of rent in money or services each year. Ownership lapses in theory only when the former owner can not produce proof that the current occupant has paid for the right to use the land during the last ten years.

This has implications in the context of recession agriculture because liniols own land all over the plain in many different areas to minimize risk. Often they may not themselves cultivate a particular piece of land for many years either because it is not inundated at all or because it is not inundated as well as other lands they own. They may then let someone else use the land until such time as the pattern of the flood is such that they need it for themselves. In the meantime they may or may not request payment for the use of the land depending on who (a close relative or a stranger) is using it and how marginal the land is for cultivation each year. If they receive no payment and some one else cultivates it for ten consecutive years they in theory risk loosing the land according to the principle of indirass.

This is probably the main reason the Haal Pulaar of the Senegal River valley rarely make use of Islamic qadis (judges) in resolving tenure disputes and prefer to settle by customary law (which does not accept the principle of indirass). The ecology of the region requires a more flexible interpretation of the idea of the obliteration of all trace of ownership. Matters are not helped by large immigrations and outmigrations or repeated conquests of the area. Customary law simply allows those in power to maintain their lands whether they cultivate them or require that tithes be paid or not.

Nevertheless the whole idea of gaining ownership of land by clearing it is based on the principle of indirass because the idea is that if trees and brush have grown on the land the rights of any former owners have lapsed and so whoever clears the land and cultivates it establishes their own full ownership rights. The idea of having cleared land is appealed to by both Haal Pulaar and Haratine in the area as the justification of their land claims. This use and refusal to use the principle of indirass is at the basis of most tenure disputes in the area. The new legislation, however, gives clear priority to the shari'a over customary law just as it places national priorities ahead of individual appeals to the shari'a (see the section on the new legislation and the legislation itself in the appendices).

5.2 TENURE IN THE DIROL

There is great diversity of tenure in the Dirol Plain. In some areas there are strong tendencies toward individualizing tenure while in other areas collective tenure (diowre) is the only type of tenure for 95% or more of the land. The Hebeyabe lands are almost exclusively held as diowre while some areas of the Bosseabe lands the concept of diowre has devolved almost to the family level.

It would however be misleading to simply categorize one part of the plain as under collective tenure and another part as under individual tenure because these are only tendencies the reality is much more complicated. In Ouloum Hatar, a core Hebeyabe area, people admitted that land was really liniol land held in collective tenure (diowre) but said that in practice for them the liniol level of ownership had much less significance than it used to have and they more recently have tended to look at tenure as a family matter. They did provide us with tenure data at the liniol level, after some debate, but it was apparent that the term "liniol" was being used to define a somewhat lower level kinship than in Bagoudine. Similarly in Ferala the Fokol found identification of land at the liniol level a little problematic while the Nioukol were completely at ease with organizing land at the liniol level.

We had begun with the idea that a liniol was a well defined level of social organization based on historical claims to land tenure and modified only modestly by recent developments. We ended up with an understanding of the liniol as a much more flexible concept: as a fraction of a kin group having collective rights and responsibilities at the political and economic levels which might range from embracing many (90 or more) households to

including only a few (3 or 4). The basic elements of liniol ownership (collective/diowre ownership by a nominal kin group or elementary political unit) seem to exist throughout the Dirol Plain. What is problematic for each sub-area is to identify the level of ownership at which significant collective management of land tenure occurs. We found that this varied considerably across the plain. In consequence we have listed as "liniols" collective groupings of various sizes: on a pragmatic basis. We have used the units which seemed most appropriate by local standards in each village.

We do not have the data to explain why there is this variability but a number of possible reasons suggest themselves; In Bagoudine the Satigui Dekle and Satigui Hebeyabe represent a very high level of traditional authority and they have correspondingly broad authority over tenure - liniols are large and all in some way under the authority of the Satiguis. In the Hebeyabe lands liniols tend to be large and strong - with some exceptions. Ouloum Hatar the most dramatic exception has a resident Haratine minority, who practice individual family level tenure, and this may have influenced the dominant Haal Pulaar community.

In Ouloum Nere the Elimane Nere has similarly broad traditional powers and among the Nerenebe there also seem to be a fairly strong liniol organization. Elsewhere the gradual influence of modernization, introduced principally by the individual tenure in the small irrigated perimeters (despite their nominal collective organization individuals have specific individual plots in them), has had an influence.

Nowhere did we find true individualized ownership of recession land - in the sense accepted by Islamic and western law; with full rights to sell, develop, and purchase among the Haal Pulaar. We did come across a few cases of people who had sold or purchased recession land but they were special in many ways and it was unclear whether what had been sold or purchased was usufruct rights or full property rights. We suspect the former but this is a question we can not resolve on the basis of our short survey.

One example of apparent full alienation of land by a Haratine to a Peul resulted when the Haratine cut off the Peul's ear and as a result had to pay damages amounting to a field. The Peul's family still cultivates the field in the Beuli Tioli area today.

Although the examples we came across are not easily generalizable there appear to be occasions when the collectivities accept alienation of land but most of these are probably cases, as in the one just cited, where the cession of the land was forced upon the community. Other cases may be internal to a liniol or community. The Satigui, for example, had the theoretical right to give lands and to take them back if the owner transgressed the limits of acceptable behavior. We have been told that he still has this authority today.

5.3 TENURE TERMINOLOGY

Traditional Haal Pulaar society includes a variety of forms of ownership and various types of leasehold or rental arrangements. These have an economic value in that they make the exploitation of land more flexible while maintaining a hierarchical inflexible ownership structure. By inflexible I mean chiefly that there are no significant provisions for buying or selling land and hence no land market to speak of in the traditional system. This means that the various forms of lease, rent, and usufruct serve many of the same functions that a land market would in the western system. This flexibility is even more critical than in most areas of the world because recession agriculture depends on the variable yearly flood. Each year the potential land suitable for agriculture changes dramatically.

The consequences of this yearly variability are discussed further in Section 7.2. Here we can only say that it is difficult to overestimate the importance of the variety of tenure arrangements possible in the traditional Haal Pulaar recession system. In this section we present a list of the main terms in use and their meaning. Our data for the Dirol Plain suggests that all the terms presented are still much in use and represent actual practice except for the constraints of the drought - which has minimized the land available for cultivation and largely restricted cultivation in recent years to land owners.

TENURE ARRANGEMENTS IN THE DIROL PLAIN

TERM OR BASIS OF OWNERSHIP	DEFINITION
Caatal:	A gift of land to a sister or to a member of the artisan class.
diowre	collectively owned land.
Dokkal Pendugal:	A permanent gift of land or rather of the usufruct thereof.
jom leydi	land owner: originally referred to ownership by lineage but has been devolved to other levels of collective ownership in recent years: heritable.
jom jayngol	holder of usufruct rights: heritable.
jom levre	holder of usufruct in practice equal to jom jayngol though etymologically distinct.
jom jambere	ownership due to clearing of land: heritable.
lalaywoo	clearing of land which gives one ownership rights:
rematiqueie	partial clearing of land; clearing of thorns and recent growth which gives one usufruct rights for a limited number of years (maybe 10-12) but no ownership: assakal paid each year.
Youmandewmi:	inheritance as an uncle: when a man dies without a son the brothers inherit. This land may be passed on to nephews.
CONTRACTS	
sambaremoro	a form of sharecropping in which an owner lends the sharecropper one field for himself and in return the sharecropper cultivates the owners other fields for the owner.
rempetien	a sharecropping contract in which sharecropper usually gets half the harvest. Who pays inputs is variable.
loubel	rent paid for the right to cultivate land for a specified period of time but rent is usually only the assakal and so is considered a loan of property rent free.
thiougou	a lease for a fixed number of years; an initial sum is paid plus assakal (1/10) of harvest each year.

(TENURE TERMINOLOGY CONTINUED)

PAYMENTS

assakal	1/10 of the harvest paid by people in many tenure statuses. First, anyone who is not an owner usually pays this and Second sometimes people not descended from the original families will pay it but usually it is not mandatory in such cases. Traditionally, the assakal was collected and then redistributed among the major families. This is still done to the extent it is still collected.
doftal	payment by a farmer to landlord of some days labor plus some gifts
ndioldi	paid by a son to owner of the land his father cultivated to renew the son's right to cultivate that land
thioutigou	a payment by the owner of a plot to the collengal chief to renew his right to cultivate the plot.

OTHER TERMS

Satigui:	an hereditary head of an extended lineage system who serves as head at the discretion of the population: in principle he can be deposed if he does not perform his duties acceptably.
Diagaraf	a land tithe collector: essentially an inheritable post (within a family: in this case mandatorily a ceddo family) which brings with it certain rights to a share of the tithes collected.
Diambur:	the person who registers the tithes as they are received.

Land tenure terminology in the Dirol Plain is similar to other Haal Pulaar areas of the Senegal river valley but by no means identical. In Boghe we found considerable variation in the terminology used and the sense in which it was understood within a small geographical area. Our interviews in the Dirol paid too little attention to this point to ascertain how uniform usage is in the Dirol. It may, therefore, vary considerable from one area to another.

5.4 TENURE IN PRACTICE

The elders of the liniol decide how to cultivate the liniol lands each year. Ideally they send some one impartial out to survey the liniol land in each collengal (some one who has no land of their own in that collengal) to see how much of their land is adequately inundated. Then the adequately inundated land is divided into fields with priority in size and quality going to the eldest among the group having rights in each particular collengal. They arrange that however much is inundated everyone with rights gets a field - however small it might be. This might seem a little unfair but since lineage headship is not inherited - it is the eldest surviving member in good mental health - the advantage accruing to a family in one decade will be balanced by disadvantages in other decades. The key point to remember is that in the diowre or liniol- owned system of tenure individual fields are not the same each year though the boundaries of liniol property are fixed.

5.5 TENURE LEGISLATION

New legislation dealing with land tenure was decreed in Mauritania in 1983 and 1984. Ordinance 1983.127 of June 5 1983 and Decree 1984.009 are included in the appendices to this report. These two pieces of legislation abolish the legal priority of traditional tenure. Article 3 of the Ordinance declares that traditional tenure is abolished but the remainder of the Ordinance and much of the Decree are devoted to showing in which contexts traditional tenure is invalid and in which contexts it maintains some of its former validity.

Basically, the legislation gives priority to development efforts and to registered land. It sets up procedures whereby land can be developed and then registered legally and encourages individualization of ownership and registration of land. Traditional tenure is left a role in areas where development efforts are non-existent but this is seen as an interim role ideally superceded over the long term by individualized registered tenure. There is a specific structure set up by this legislation for modernizing land tenure in the context of a development project.

The basic procedure is to submit the necessary materials to request the declaration of particular land as Domain land. When all the materials are received the Prefet will post and broadcast a notice that the land in question is to be declared Domain land.

Then any who object are allowed one month to lodge a complaint and two months to produce proofs of ownership. Should proof of ownership be produced the land may still be declared Domain land if the state feels this is in the national interest but it must first be evaluated and the owner must be fully compensated at the land's value. If there are no objections or proof is not produced the land will be declared Domain land and then given to the developer as a provisional concession. The latter can be turned into a definitive concession when one fifth of the agreed upon investments have been made.

One of the special provisions (Article 73 of the Decree) may affect the timing of this procedure. It provides that the decree integrating land presumed vacant into the Domain land will only take place 6 months after the legal proceedings which conclude that it may be declared Domain land take place. This means a minimum delay of eight months from the date of submission of all the relevant documentation before the land in question can actually be Domain land - and hence before it can officially become a provisional concession. The same Article also provides that land can not be ceded to a private party or registered by such (i.e. a definitive concession can not be made) until two years after the land is integrated as Domain land.

As I read the law this means that if land to be concessioned is owned prior to the attempt to get it declared Domain land and proof of this is produced in the time allowed and the owners are duly compensated then concessions can proceed according to the two month schedule but if no owner is found (the land is presumed vacant) then procedures follow the schedule outlined in the special provisions - the owners being possibly absent have two and a half years from the start of proceedings to turn up and produce their proofs. The legislation is discussed in more detail in LTC Research Paper 90 (Park 1986).

The legislation has several implications for the Dirol Project. Ideally any land to be included in infrastructure or future small irrigated perimeters should be declared Domain land because then the procedures for modernizing tenure on it are cut and dry - within a well defined time frame ownership can be definitively settled for all time. No other method of definitively resolving ownership is available and traditional tenure does not fit well with either irrigated perimeters or simple compensation of those who lose land to the infrastructure (the latter would include all future generations in the traditional system).

6 SUMMARY OF LANDS INVENTORIED

6.1 DISCUSSION OF MAP

6.1.1 UTILITY

The accompanying map of the Dirol Plain was designed to complement this section of the report in particular. It is on a scale of 1/50,000 and tries to locate as accurately as possible the various villages and collade of the plain. The planner should find it a valuable aid in deciding who to contact (and assessing whose interests are affected) when development plans impinge on particular areas. This map is available at USAID's option on a scale of 1/10,000 but it should be stressed that our data based solely on interviews in villages does not warrent that level of supposed accuracy.

6.1.2 SOURCES AND METHODOLOGY

The principal sources for our map are the aerial coverage by Teledyne of December 1980, the soils maps established by FAO/OMVS "Carte d'aptitude culturale des terres de la Vallée du Fleuve Sènegal" feuille Kaedi 1B, and the cultivation maps for the 1970-71 season established by Lericollais. The first two are on a scale of 1/50,000 while the third is on a scale of 1/100,000. To this base we have added information obtained in questionnaires. We did not have time to survey the collade and so we resorted to various interview techniques to locate the collade. The most accurate technique, in retrospect, was to ask farmers to list in which collade they had fields and for each of these collengal to ask them to tell us what collengal was to the north, the south, the east, and the west. This resulted in a mosaic of names which I have tried to fit to the base maps in a non-contradictory manner. We have such a mosaic for the majority of the plain but not all. Other techniques, such as descriptions of collade locations or compass readings (used in most of our early interviews) did not produce useable results. The map was made on a photo reduction/enlargement table at the Arid Lands Center of the University of Arizona.

6.1.3 MAIN FEATURES

The main features of the map: Senegal River, Dirol Creek, and the villages can be accurately placed from our sources. Lericollais' location of the collade cultivated in 1970-71 agrees well with our interview data but represents only a small fraction of the collade in which farmers claim fields. The soil maps allow us to place accurately a few additional collade which are

actually well defined basins but the rest of the collade must be made to fit less obvious topographical subdivisions. The soil maps also make it clear that many collade are certain to have complex geometric shapes. This explains why in some cases our interview data gives several different versions of what is north, south, east, or west of given collade - each version may well be true for a different part of a complex but contiguous collengal.

6.1.4 LIMITS OF ACCURACY

The constraints of time and available topographic information mean that the map has some well defined limits in its accuracy. The borders of only a few of the collade can be hypothesized with any confidence. When this is possible (such as for Amos or Rous) this has been done. Otherwise I have placed the names on the map in such a way as to conform with the base maps and our interview data but made no attempt to guess at the boundaries. Clearly this is not sufficient and some may well be slightly misplaced. The only accurate way to locate all the collade is to survey them with the proper equipment. This is a task for a later and more detailed land tenure study.

6.2 TABLES OF LANDS INVENTORIED

6.2.1 HAAL PULAAR

The organization of liniols in this section follows that of Section 3. This makes it easy to locate the mawdu in Section 3 for any liniol mentioned in this section. The first table lists every collengal in which those interviewed owned land, the liniol in question and the number of fields owned. It is organized alphabetically by collengal so that should the map indicate development will impact a particular collengal it is possible to look up that collengal in this table and see who was inventoried as owning land there and how much they claimed to own.

It should be stressed that this lists an inventory only based on peoples claims to ownership - these are presumed to be accurate as far as they go - but may not be. The data should always be checked. In Section 6.2.2 we list the Haratine property claims. These are in many cases in conflict with some of the Haal Pulaar claims listed in this section.

The second table lists the land claims organized by liniol and includes the village of the mawdu and the number of households as well as the total number of fields claimed by the

liniol. This table can ideally be used in conjunction with Section 3 to ascertain which liniols are relatively more or less important in terms of land holdings.

Alphabetical list of collade with fields claimed by Haal Pulaar
Collengal-Liniol-#fields

Collengal	Land type	liniol	# fields	
Alangol Amos	Fo	Malmalbe:Garebe	2	
	w,Fo	Basbe:Bababe:Pocom Serembe	1	
		Basbe:Ndiayebe:N.Walo	5	
		Bossea:Mabube	2	
		Diadiabe:Hel Houndel	1	
		Diadiabe:Hel Malem	1	
		H.Nere:Diadiabe	1	
		Hirngue Nere:Diopbe	3	
		Kanhanbe:Hel Ali Seyidi:O.Nere	2	
		Wantianbe:Toutoube	2	
		Yalibe:Senegal (O.Nere)	1	
	Aqrish	Fo	Harlawnabe:Galle Dow	12
	Ayel	Fo	Malmalbe:Diadiabe	1
		Dianankobe:Dialloube	1	
Baiti		Basbe:Ndongobe	2	
		Wantianbe:Tchimbonabe	2	
Balta	w	Boguel:Lydoube	1	
Banda	w	Boguel:Diadiabe	16	
		Boguel:Lydoube	9	
		Boguel:Mabube	30	
		Boguel:Sawnabe	18	
		Boguel:Sysybe	14	
		Dekle:Saibobe	7	
		Fokol:Dialloube	2	
		Fokol:Hamatt Kewinabe	20	
		Lydoube Funebe	2	
		Malmalbe:Bababe	5	
		Malmalbe:Diadiabe	3	
		Malmalbe:Salsalbe	1	
		Malmalbe:Sysybe	1	
		Maloum Diamel	6	
	Bargo	fa	Bossea:Bababe	1
Fo		Rossea:Demdembe	5	
w		Bossea:Lydoube	3	
		Bossea:Kanehanbe:Gongane	2	
		Bossea:Kanehanbe:Sintiou	3	
		Bossea:Sysybe:Gongane	1	
		Bossea:Sysybe:Sintiou	1	
		Bossea:Tallbe	2	

Alphabetical list of collade with fields claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields		
Bari	w	Bababe:Fulbe Irlabe	3		
		Bababe:Seybobe	1		
		Bababe:Sowonabe	1		
		Bossea:Achachebe	5		
		Bossea:Bababe	1		
		Dekle:Sebe	1		
		Diadiabe:Diamel Boye	1		
		Diadiabe: Hel Goli	1		
		Harlownabe:Sowsowbe	4		
		Kanehanbe:Belel Gawdi	1		
		Mbaybe:Fondou	2		
		Sowsowbe:Sebbe:Fondou	1		
		Bari Dobabe	w	Harlownabe:Sowsowbe	2
				Bari Foundou	w
Bari Foundou	w	Bababe:Tierno Fondou	14		
		Diadiabe:Babou Boyi	1		
		Diallube:Fondou	1		
Bari Koundiobe	w	Bossea:Koundiobe	1		
Bari Kounel	Fo	Sowsowbe: Birass Yero	1		
Bari Moguel	w	Boguel:Diadiabe	1		
Bari Paladi	w	Bossea:Diadiabe:Sintiou	1		
Bari Sago	w	H.Nere:Diengdiengbe	2		
Bari Sago Falo	Fo	H.Nere:Diengdiengbe	2		
Bari Sago Fonde		Hiruangué Nere:Diopbe	1		
Barkeje	Fo	Sowsowbe:Wayburabe	1		
Barkewe Diamere	w	Bossea:Sowsowbe:Sintiou	3		
Barkewol	Fo	Sowsowbe:Wayburabe	1		
Barol Kel Irlabe	w	Harlawnabe:Galle Howa	4		
Barol Koylal	w	Lamlambe:Lewe	3		
Barol Nawel	fa	Bossea:Sowsowbe	3		
Barol Sawadiadi	w	Fokol:Diallube	1		
Barol Sembe	w, Fo	Bossea:Koundiobe	1		
Barol Soyi	w	H.Nere:Diadiabe Malebe	3		
Barol Sysybe	w	Bossea:Sysybe:Gongane	1		
Barol Wilame		Diadiabe:Hel Malem	1		
Barol Yow	w	Bossea:Demdembe	1		
Bele Boje	Fo	Basbe:Bababe Thila	5		
		Diadiabe:Hel Malem	1		
		H.Nere:Diengdiengbe	1		
		Wantianbe:Diagobe	2		
		Belel	w, Fo, Fa	Bababe:Sowonabe	1
				Basbe:Bababe	1
				Basbe:Ndongobe	1
				Basbe:Sowsowbe	1
				Diadiabe:Babou Boye	3
				Diadiabe:Diamel Boye	1
Diadiabe:Hel Hondel	1				
Diadiabe:Hel Goli	1				
H.Nere:Diadiabe:Malebe	3				
Kanehanbe:Belel Gawdi	1				
Wantianbe:Diagobe	2				

Alphabetical list of collade with fields claimed by Haal Pulaar
 Collengal Land type liniol # fields

Belel Bouldi	fa	Bossea:Kanehanbe:H.Koubiri	3
Belel Doulbi	Fo	Basbe:Kanehanbe:Hel Kobu	2
Belel Lamine	Fo	Bossea:Demdembe	1
		Bossea:Ganguebe	1
Bele Mbaldji	dieri	Wantianbe:Ananbe	1
Bel Fonde	Fo	Garebe:Niabina	2
Beli Hatar		Warwarbe	1
Beli Sowi	w	Harlawnabe:Sowsowbe	3
Bere	w	Bababe:Fulbe Toro	6
		Bababe:Sowonabe	2
		Bababe:Tierno Fondou	3
		Dekle:Saibobe	2
		Diadiabe:Baby Boye	1
		Diadiabe:Diambaldi Boye	2
		Diadiabe:Diamel Boye	1
		Diadiabe:Hel Hondel	2
		Diadiabe:Hel Malem	1
		Diadiabe:Miawel	2
		Diadiabe:Samba Dembere	3
		Diallube:Fondou	4
		Dianankobe:Sowsowbe	1
		Harlawnabe:Galle Dow	6
		Harlawnabe:Galle Lamine	6
		Harlawnabe:Ngamngambe	1
		Harlawnabe:Pathenabe	2
		Harlawnabe:Sowsowbe	2
		Kanehanbe:Belal Gawdi	2
		Kanehanbe:Boubou Aoudi	2
		Maloum Diaba	5
		Maloum Diamel	13
		Mbaybe:Fondou	1
		Ndiayebe:O.Hatar	3
		Sowsowbe: Birass Yero	5
		Sowsowbe:Hel Soka	2
		Sowsowbe: Itinabe	2
		Sowsowbe:Sebbe	2
		Susybe:Fondou	1
		Warwarbe	2
Bere Demba Belal	w	Harlawnabe:Sowsowbe	2
Bere Hatar	w	Harlawnabe:Sowsowbe	3
Bere Kellinabe	w	Harlawnabe:Galle Howa	4
Bere les Foundou	w	Awawbe:Bagoudine	1
Berel (near Dabbe)	Fo	Dianankobe:Sowsowbe	1
Bere Toguel	w	Harlawnabe:Galle Howa	4
Bereyel	w	Diadiabe:Diamel Boye	1

Alphabetical list of collade with fields claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields		
Beuli Tioli	w, Fo	Boguel: Mabube	1		
		Dekle: Sebbe	1		
		Diadiabe: Samba Demberere	1		
		Harlawnabe: Sowsowbe	3		
		H. Nere: Diadiabe	4		
		Kanehanbe: Belel Gawdi	1		
		Kanehanbe: Boubou Aoudi	1		
Bidal	w	Malmalbe: Diadiabe: Niabina	1		
		Bababe: Sowonabe	2		
		Dekle: Diawanbe	3		
		Dekle: Ndiayebe	1		
		Dekle: Saibobe	5		
		Diadiabe: Diambaldi Boye	1		
		Diadiabe: Hel Hondel	2		
		Diadiabe: Ndoubourounabe	2		
		Diadiabe: Samba Demberere	2		
		Harlawnabe: Ngamngambe	8		
		Harlawnabe: Sowsowbe	4		
		Lydube Funebe: O. Hatar	1		
		Maloum Diamel	5		
		Sowsowbe: Birass Yero	1		
		Bol (between mouth of Dirol and O. Nere)	w	Bababe: Irlabe	0.5
				Bababe: Seybobe	2
				Bababe: Sowonabe	2
Bababe: Tierno Fondou	2				
Basbe: Kanehanbe Hel Ali Seyidi	2				
Basbe: Ndiayebe	2				
Basbe: Ndongobe	3				
Bossea: Mabube	1				
Deniankobe: O. Hatar	9				
Diadiabe: Hel Goli	1				
Diallube: Fondou	1				
Hirnage Nere: Bababe	15				
H. Nere: Diadiabe Malebe	3				
Hirngangue Nere: Diopbe	2				
Kanehanbe: Belel Gawdi	1				
Lam Sagato Dado	3				
Lombe: O. Hatar	2				
Lydube Funebe	2				
Mbaybe: Fondou	2				
Nioukol: Warwarbe	1				
Sowsowbe: Diobu Yero	4				
Sowsowbe: Hel Att	1				
Sowsowbe: Itinabe	3				
Wantianbe	1				
Wantianbe: Diagobe	2				
Wantianbe: Kanehanbe Modigidu	1				
Wonewonbe: Fondou	1				
Bol Dianel	w	Maloum Diamel	1		
		Sowsowbe: Birass Yero	5		
		Sowsowbe: Diobu Yero	4		

Alphabetical list of collade with fields claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields
Bol Dianga		Hirngangue Nere: Bababe	1
Bol Diopbe		Hirngangue Nere: Diopbe	5
Bol Diouti	w	Wantianbe	1
Bol Fondou	w	Bababe: Sowonabe	1
		Diadiabe: Babou Boye	1
		Diadiabe: Diambaldi Boye	1
		Diadiabe: Hel Hondel	1
		Diallube: Lewe	2
Bol Gawdel	w	Diadiabe: Hel Hondel	1
Bol Hatar	w	Diadiabe: Diambaldi Boye	1
Bol Lidube	w	Diadiabe: Babou Boye	1
		Kanehanbe: Belil Gawdi	1
		Lydube: Belel Gawdi	12
		Sowsowbe: Birass Yero	1
Bol Subalbe		Hirngangue Nere: Bababe	5
Boliel		H. Nere: Diadiabe Malebe	3
		Sysybe: Fondou	1
Bolo	w	Boguel: Mabube	1
(between mouth of Dirol and Fondou)		Diadiabe: Babou Boye	2
		Diopbe Senegal(O. Hatar)	1
		Harlawabe: Galle Dow	3
		Lamlambe: O. Hatar	4
		Sowsowbe: Fondou	1
		Talltallbe: Fondou	1
		Wantianbe: Ananbe	1
Bolo Ouboudou	w	Fokol: Diallube	2
Bolo Tiougou	w	Nioukol: Warwarbe	1
Bong	Fo	Kanehanbe: Hel Ali Seyidi	1
		Kanehanbe: Hel Kobu	2
		Wantianbe	1
Boubdoubal	w	Bossea: Diadiabe: Sintiou	3
		Bossea: Kanehanbe Dioke	1
		Bossea: Kanehanbe: Gongane	3
		Bossea: Koundiobe	4
		Bossea: Ndiayebe	2
		Bossea: Nioukanabe: Sintiou	1
		Bossea: Sowsowbe	2
		Bossea: Sowsowbe: Sintiou	1
Boubidihit	w	Bossea: Nioukanabe	2
Boulang	w	Dianankobe: Diallube	1
Boulel	Fo	Dianankobe: Diallube	1

Alphabetical list of collade with fields claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields		
Boulel Bali	w	Bababe:Sowonabe	1		
		Bossea:Talltallbe	1		
		Diadiabe:Diambaldi Boye	3		
		Diadiabe:Diamel Boye	1		
		Diadiabe:Hel Hondel	1		
		Diadiabe:Ndoubourounabe	1		
		Diadiabe:Samba Dembere	1		
		Harlawnabe:Galle Dow	3		
		Harlawnabe:Sowsowbe	1		
		Kanehanbe:Boubou Aoudi	2		
		Lam Sagato Dado	2		
		Ndiayebe:O.Hatar	1		
		Niangniangbe:Fondou	3		
		Sowsowbe:Birass Yero	6		
		Sowsowbe:Diobo Yero	4		
		Sowsowbe:Hel Att	1		
		Tioubounabe:O.Hatar	2		
		Boulel Tiowgu	w	Bossea:Waylube Hamadi Coute	1
				Lam Sagato Dado	1
				Sowsowbe:Hel Att	2
Bourgou Dola	dieri	Kanehanbe:Belel Gawdi	1		
		Wantianbe:Ananbe	1		
Boyngal	dieri	Wantianbe:Diagobe	1		
		Wantianbe:Kanehanbe Modigidu	1		
		Wantianbe:Ndongobe	2		
		Maloum Diamel	11		
Chagara	w	Wantianbe:Diagobe	1		
Chambou	dieri	Wantianbe:Ndongobe	1		
Damel	dieri	Bossea:Diopbe Wedhebe	1		
Dandegueloba	w	Hirnangue Nere:Diopbe	5		
		Lam Sagato Dado	3		
		Lydube Funebe	3		
		Maloum Diamel	13		
		Ndiayebe:O.Hatar	3		
		Ndiengndiengbe	1		
		Sowsowbe:Itinabe	2		
		Sowsowbe:Wayburabe	1		
		Talltallbe:Fondou	1		
		Tioubounabe	4		
		Waylube:Hamadi Coute	1		
		Daniam	w	Kanehanbe:Sintiou	1
				Talltallbe:Sinthiou	1
		Daniam Koyalal	w	Bossea:Dendembe:Sintiou	2
		Dekle	Fo	Dekle:Diawanbe	4
Dempe	w	Harlawnabe:Sowsowbe	6		
Diabal	Fo	Basbe:Bababe	4		
		Basbe:Sowsowbe	5		
		Bossea:Kanehanbe: Dioke	1		
Diabe Ali Diallo	Fo	Bossea:Dendembe	2		
Diabou Gopa	Fo	Hirnangue Nere:Diadiabe Malebe	3		

Collengal	Land type	liniol	# fields
Diadialo	w	Boguel:Diadiabe	1
		Fokol:Dembarabe	15
Dialbouougou	w	Basbe:Bababe Thila	3
		Diadiabe:Hel Malem	1
		Hirnangue Nere:Diopbe	2
		Kanehanbe:Hel Ali Seyidi	1
		Kanehanbe:Hel Kobiri	1
		Kanehanbe:Hel Kobu	3
		Wantianbe:Ananbe	2
		Wantianbe:Tchimbonabe	1
Diamdoggi	Fo	Diadiabe:Babou Boye	1
Diamel	Fo,dieri	Basbe:Bababe	1
		Wantianbe:Ananbe	1
		Wantianbe:Diagobe	2
		Wantianbe:Ndongobe	1
Diamel Condesi	w	Wantianbe	1
Condeji	Fo	Wantianbe:Diagobe	4
Diamel Dodel	w	Bossea:Koundiobe	1
Diamel Gorel		Wantianbe:Kanehanbe Modigidu	1
Diayri	w	Hirnangue Nere:Diadiabe Malebe	3
Diaizi	w	Lydube:Belel Gawdi	12
Dianel Bouro	Fo	Bossea:Lydube	2
Diarra	Fo	Boguel:Lydube	1
		Malmalbe:Bababe	5
		Malmalbe:Diadiabe	2
		Malmalbe:Sallsalbe	1
		Malmalbe:Sowsowbe	most
Diawallo	Fo	Sowsowbe:Birass Yero	1
Diawbe	Fo	Dianankobe:Diallube	1
Dide	Fo	Bossea:Ganguebe	2
		Bossea:Lydube:Sintiou	1
		Bossea:Lydube:Gongane	1
		Bossea:Nioukanabe:Sintiou	1
		Bossea:Sallsalbe:Sintiou	1
		Bossea:Sowsowbe:Sintiou	1
Diediougol Lewe	w	Bababe:Seybobe:Niabina	2
		Bolnabe:Niengniengbe	3
		Fokol:Dembarabe	1
		Nioukol:Diallube	3
		Nioukol:Warwarbe	10

Alphabetical list of collade with fields claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields		
Diediougol Hatar	w	Deniankobe	2		
		Lamlambe:Lewe	3		
		Lombe:O.Hatar	2		
		Lydube Funebe:O.Hatar	8		
		Maloum Diamel	14		
		Ndiayebe:O.Hatar	4		
		Ndiengndiengbe	1		
		Nioukol:Warwarbe	1		
		Sowsowbe:Birass Yero	5		
		Sowsowbe Diobe Yero	4		
		Sowsowbe:Hel Att	3		
		Sowsowbe:Itinabe	2		
		Sowsowbe:Wayburabe	1		
		Talltallbe:Fondou	1		
		Tioubounabe	12		
		Waylube:Hamadi Coute	1		
		Dierende	dieri	Basbe:Bababe	1
Wantianbe:Diagobe	3				
Dilimaya	Fo	Sowsowbe:Itinabe	1		
Diogne	Fo	Malmalbe:Bababe	3		
		Malmalbe:Debenabe	1		
		Malmalbe:Diadiabe	3		
		Malmalbe:Kebenabe	2		
		Malmalbe:Sawsawbe	most		
Diogodou	Fo	Basbe:Bababe	1		
		Bossea:Awawbe	2		
		Bossea Lydube	1		
		Diadiabe:Hel Malem	3		
		Hirngue Nere:Diadiabe:O.Nere	1		
		Wantianbe:Diagobe	4		
		Wantianbe:Kanehanbe Modigidu	1		
		Wantianbe:Ndongobe	2		
		Diomberon	w	Boguel:Lydube	1
				Dekle:Saibobe	3
Diadiabe:Boubou Boye	1				
Diallube	2				
Fokol:Welwelebe	2				
Harlawnabe:Sowsowbe	7				
Kanehanbe:Galle Boubou Hamady	2				
Kanehanbe:Mbahe	1				
Maloum Diaba	4				
Diomberon II	w			Dekle:Diawanbe	5
Diomlabbel	w	Kanehanbe:Mbahe	1		
Diomtobal	w	Fokol:Wonewonbe	1		

Alphabetical list of collade with fields claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields		
Diomyobi	w	Dekle:Saibobe	2		
		Deniankobe	16		
		Diadiabe:Niawel	1		
		Harlawnabe:Galle Dow	2		
		Lamlambe:Lewe	4		
		Lidube Funebe	1		
		Sowsowbe:Hel Att	1		
		Sowsowbe:Itinabe	2		
		Sowsowbe:Sebbe	2		
		Warwarbe	1		
Diope	w	Basbe:Bababe	1		
		Basbe:Ndiayebe:O.Nere	1		
		Basbe:Ndiayebe:N.Walo	1		
		Bossea:Kanehanbe:Sintiou	1		
Dioundu Bouro	w	Bossea:Lydube:Sintiou	1		
Diounne	w	Basbe:Ndiayebe:Diawdiawbe	1		
		Basbe:Ndiayebe Dieri	3		
		Basbe:Sowsowbe	3		
		Bossea:Kanehanbe:Hel Koubiri	1		
Diounne Yalibe	w	Bossea:Mabube	2		
		Yalibe:Senegal (O.Nere)	3		
Diouti I	w	Sowsowbe:Sebbe	1		
		Wantianbe:Diagobe	3		
		Wantianbe:Kanehanbe Modigidu	1		
		Wantianbe:Toutoube	1		
Diouti II		Wantianbe:Kanehanbe Modigidu	1		
Diouti Fonde		Hirngangue Nere:Diopbe	1		
Dirodje	w	Bossea:Demdembe:Sintiou	2		
Dirol	w	Boguel;Lydube	1		
		Dekle:Saibobe	2		
		Diadiabe:Ndoubourounabe	1		
		Fokol:Dembarnabe	4		
		Fokol:Hamatt Kewinabe	5		
		Fokol:Welewelebe	3		
		Fokol:Wonewonbe	1		
		Harlawnabe:Galle Lamine	5		
		Harlawnabe:Sowsowbe	3		
		Kanehanbe:Galle Boubou Hamady	2		
		Boguel:Kanehanbe:Mbahe	2		
		Malmalbe:Bababe	2		
		Maloum Diaba	1		
		Maloum Diamel	1		
		Sowsowbe:Birass Yero	1		
		Nioukol:Warwarbe	5		
		Disi	Fo	Lidube Funebe	2
				Maloum Diamel	13
				Sowsowbe:Birass Yero	1
		Djilou	dieri	Wantianbe:Diagobe	2
Djile	Fo	Bossea:Awawbe	3		

Alphabetical list of collade with fields claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields
Djile Yilodhe	Fo	Bossea:Demdembe	1
		Bossea:Kanehanbe:Sintiou	1
		Bossea:Nioukanabe:Sintiou	3
Doftere	Fo	Boguel:Kanehanbe:Mbahe	1
		Malmalbe:Sallsalbe	1
Dougue	w	Boguel:Sowonabe	3
		Bossea:Kanehanbe:Sintiou	1
		Lam Sagato Dado	1
		Malmalbe:Bababe	1
		Ndiengndiengbe	1
		Tioubounabe	1
Doulngel(Dloungel)	w	Malmalbe:Sallsalbe	3
Dounde Faram	w	Basbe:Sowsowbe	2
		Wantianbe:Ndongobe	2
Dounde Fele	itita	Bossea:Sowsowbe	2
Dounde Yera	w	Dekle:Sebbe	3
Doungogne	Fo	Boguel:Kanehanbe:Mbahe	1
Doungue	w	Basbe:Bababe:Thila	2
		Basbe:Ndiayebe	4
		Basbe:Ndiayebe:Dieri	3
		Bossea:Achachebe	7
		Wantianbe	2
		Wantianbe:Diagobe	1
Dounguel	Fo	Bossea:Nioukanabe:Sintiou	1
		Dekle:Saibobe	3
Dujguere Samba Omar	w	Harlawnabe:Sowsowbe	1
Dunkafa	w	Dekle:Diawanbe	2
Elimane	Fa	Bossea:Demdembe	2
Fago	Fo	Basbe:Ndiayebe:Diawdiawbe	2
Fago dow	w	H.Nere:Diadiabe Malebe	3
Falo	Fo	Bossea:Sallsalbe:Sintiou	3
Falo Diopbe		Hirngue Nere:Diopbe	3
Faram	w	Basbe:Bababe	5
		Basbe:Bababe:Thila	5
		Basbe:Ndiayebe	5
		Bossea:Kanehanbe:Dioke	2
		Bossea:Kanehanbe:Sintiou	2
		Hirngue Nere:Diengdiengbe	2
		Hirngue Nere:Diopbe	4
		Kanehanbe:Hel Kobu	1
		Lydube Funebe	1
		Sysybe:Boubou Beli	4
		Wantianbe	1
		Wantianbe:Ndongobe	2
Faram Hore Kofel	w	Basbe:Sowsowbe:O.Nere	3
Faram Hoylere	fa	Bossea:Kanehanbe:Dioke	1
Faram Mowbe	w	Bossea:Sysybe:Rindiao	4
Faram Ndiayebe	w	Basbe:Bababe:Thila	1
		Basbe:Ndiayebe:Dieri	3
Faram Pelemel	w	Bossea:Sysybe:Rindiao	4
		Sysybe:Fondou	1

Alphabetical list of collade with fields claimed by Haal Pulaar
Collengal Land type liniol # fields

Faram Sowa(na)be	w	Basbe: Bababe:	1
		Basbe: Ndiayebe: Dieri	1
		Basbe: Sowsowbe	1
		Bossea: Diadiabe: Sintiou	2
		Sysybe: Fondou	1
Ferala	w	Boguel: Sowonabe; Mbahe	1
Farigulel	w	Bossea: Lydube: Gongane	1
Fietiodji	w	Bossea: Talltalbe: Sintiou	3
Fonde	w	Fokol: Diallube: Sebbe	2
		Fokol: Hamatt Kewinabe	4
		Fokol: welewelebe	5
Fonde Araf	Fo	Harlawnabe: Galle Howa	3
		Harlawnabe: Sowsowbe	2
Fonde Bonde	Fo	H. Nere: Diadiabe: O. Nere	1
Fonde Bong	fa	Bossea: Kanehanbe: Hel Koubiri	3
Fonde Fokol	Fo	Fokol: Dembarnabe	5
Fonde Kelle I	Fo	Dianankobe: Welwelebe	1
		Malmalbe: Bababe	3
		Malmalbe: Diadiabe	1
Fonde Kelle II	Fo	Bossea: Ganguebe: Sintiou	1
		Bossea: Lydube: Dioke	1
		Bossea: Sowsowbe	3
Fonde Lamine	Fo	Fokol: Dembarnabe	5
Fonde Mabube	Fo	Boguel: Mabube: Mbahe	1
Fonde Pempe	Fo	Dekle: Saibobe	1
		Dekle: Sebbe	3
Gafake	w	Boguel: Diadiabe	1
		Fokol: Diallube: Sebbe	1
Gawdel	w	Dekle: Diawanbe	4
		Fokol: Dembarnabe	5
		Harlawnabe: Ngamngambe	8
		Harlawnabe: Pathenabe	5
		Harlawnabe: Sowsowbe	1
		Harlawnabe: Galle Dow	10
		Kanehanbe: Galle Boubou Hamady	2
		Boguel: Kanehanbe: Mbahe	1
		Maloum Diaba	2
		Maloum Diamel	3
Grielowdi		Bossea: Nioukanabe	2
Guidiwagno		Hirnangue Nere: Diopbe	1
Hairi Diogne	dieri	Wantianbe: Ndongobe	1
Hamadore	Fo	Wantianbe: Diagobe	3
Hamath Gnorri	w	H. Nere: Ndiengndiengbe	1
Harkolde	w	Lombe: O. Hatar	2
Hebere Diayobi	w	Sowsowbe: Sebbe: Fondou	2
Hore Kofel	w	Bossea: Sysybe: Sintiou	1
Hundou	Fo	Bababe: Fulbe Toro	7
		Diadiabe: Diambaldi Boye	2
		Sowsowbe: Hel Soka: Belel Gawdi	1
Kanyadi	Fo	H. Nere: Diadiabe: Malebe	3
Kanyoba	Fo	Bossea: Kanehanbe: Sintiou	1

Alphabetical list of collade with fields claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields		
Karufi Kedhe	Fo,w w,Fo	Harlawnabe:Sowsowbe	7		
		Basbe:Bababe	2		
		Bossea:Kanehanbe:Dioke	1		
		Bossea:Kanehanbe:Hel Koubiri	1		
		Bossea:Sowsowbe:Dioke	2		
		Wantianbe:Toutoube	1		
		Kofel	w	Basbe:Bababe	2
		Basbe:Bababe:Thila	4		
		Basbe:Kanehanbe:Hel Kobu	2		
		Bossea:Awawbe	1		
		Bossea:Kanehanbe:Sintiou	1		
		Bossea:Kanehanbe:Hel Koubiri	2		
		Bossea:Sallsalbe	1		
		Wantianbe	1		
		Wantianbe:Diagobe	2		
Kojenaidi	w	Dekle:Saibobe	1		
Korkulil	w	Maloum Diamel	8		
Koukounge	w	Bababe:Saibobe	1		
		Bababe:Sowonabe	1		
		Dekle:Saibobe	3		
		Diallube:Fondou	1		
		Diopbe:O.Hatar	2		
		Fokol:Wonewonbe	1		
		Lamlambe:O.Hatar	3		
		Lam Sagato Dado	1		
		Maloum Diamel	1		
		Ndiayebe:Hamadi Boubou	1		
		Ndiengndiengbe:O,Hatar	1		
		Niengniengbe:Fondou	3		
		Sowsowbe:Birass Yero	1		
		Sowsowbe:Wayburabe	1		
		Tioubounabe:O.Hatar	2		
		Warwarbe:Fondou	1		
		Wonewonbe:Fondou	1		
		Koylal	w	Basbe:Bababe	1
				Basbe:Bababe:Thila	2
				Boguel:Sowonabe	1
		Fokol:Dembarnabe	5		
		Fokol:Diallube:Sebbe	1		
		Fokol:Hamatt Kewinabe	13		
		Fokol:Wonewonbe	1		
		Harlawnabe:Sowsowbe	1		
		H.Nere:Diadiabe	1		
		Lombe:O.Hatar	1		
		Niukol:Diallube	2		
		Sowsowbe:Birass Yero:O.Hatar	6		
		Sowsowbe:Hel Att:O.Hatar	3		
		Wantianbe:Ananbe	1		
		Warwarbe:Fondou	1		
		Wonewonbe:Fondou	1		
		Yalibe:Senegal (O.Nere)	2		

Alphabetical list of collade Collengal	Land type	fields claimed by liniol	Haal Pulaar # fields
Koylal Wonwonbe	w	Kanehanbe:Mbahe	2
Koyli Malal	Fo	Sowsowbe:Hel Soka	1
Koyli Malam	w, Fo	Dekle:Saibobe	3
		Harlawnabe:Galle Howa	5
		Harlawnabe:Sowsowbe	1
		Kanehanbe:Galle Boubou Hamady	2
		Boguel:Kanehanbe:Mbahe	1
Koyli Samordi	w	Fokol:Welwelebe	1
Koyli Silodhe	Fo	Bossea:Nioukanabe:Sintiou	2
		Bossea:Talltalbe:Sintiou	1
Laborgue		Diadiabe:Hel Malem	1
Lacce Diaroguel	Fo	H.Nere:Diadiabe Malebe	3
Lade	Fo	Bababe:Fulbe Toro	1
		Basbe:Sowsowbe	5
		Bossea:Achachebe	1
		Diadiabe:Hel Hondel	1
		Diallube:Fondou	1
		H.Nere:Diadiabe	1
		Lam Sagato Dado	1
		Ndiayebe:Hamady Boubou	1
		Sowsowbe:Diobu Yero	2
		Sowsowbe:Hel Att	1
		Sowsowbe:Itinabe:O.Hatar	1
		Tioubounabe	2
		Wantianbe	1
		Wantianbe:Diagobe	4
Lade Wayburabe	Fo	Sowsowbe:Wayburabe	1
Lawlawbe	w	Bossea:Mabube	3
		Bossea:Dionguebe:Sintiou	1
Lerde Guerde	w	Basbe:Babe:Thila	2
Lewe		Wantianbe:Kanehanbe Modigidu	1
Lewel	w	Fokol:Dembarnabe	2
		Fokol:Hamatt Kewinabe	12
		Maloum Diaba	3
		Nioukol:Warwarbe	50
Lewel Bali	Fo	Dianankobe:Sowsowbe	1
Lewel Umrou	Fo	Lidube Funebe	2
		Maloum Diamel	5
Lewre (chamb sobi)	w	H.Nere:Diadiabe Malebe	2
Lewre Gide	w	Bossea:Achachebe	1
Lodiombe		Basbe:Bababe	2
Lotodou	Fo	H.Nere:Diadiabe	1
		Wantianbe:Diagobe	1
		Wantianbe:Ndongobe	1

Alphabetical list of collade with fields claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields		
Louguere (near Polimbawa)	w	Awawbe:Fondou	7		
		Basbe:Ndiayebe	1		
		Basbe:Ndiayebe:Dieri	3		
		Boguel:Lydube	1		
		Boguel:Sysybe:Mbahe	9		
		Dekle:Diawanbe	4		
		Dekle:Saibobe	3		
		Diallube:Fondou	1		
		Fokol:Dembarnabe	10		
		Fokol:Diallube	6		
		Fokol:Hamatt Kewinabe	5		
		Fokol:Welewelebe	6		
		Fokol:Wonewonbe	2		
		Harlawname:Galle Lamine	2		
		Harlawname:Sowscwbe	15		
		Kanehanbe:Boubou Aoudi	1		
		Kanehanbe:Galle Boubou Hamady	1		
		Kanehanbe:Mbahe	3		
		Malmalbe:Bababe	1		
		Maloum Diaba	3		
		Maloum Diamel	6		
		Nioukol:Diallube	18		
		Nioukol:Mbenguembenguebe	2		
		Nioukol:Warwarbe	2		
		Louguere (near Dialbougou)	w	Bossea:Diopbe Wadhebe	1
				Bossea:Kanehanbe:Dioke	2
				H.Nere:Ndiengniengbe	1
Sowsowbe:Dioke	2				
Wantianbe:Diagobe	1				
Louguere Makan	w	Dianankobe:Wellwellebe	3		
Louguere Modi	w	Diadiabe:Hel Hondel	1		
		Kanehanbe:Bele! Gawdi	1		
Louguere Nadel	w	Nioukol:Warwarbe	15		
Louguere Sadhi	w	Fokol:Diallube:Sebbe	2		
Mafodu	Fo	Fokol:Dembarnabe	4		
Magoyel	w	H.Nere:Diadiabe:Malebe	1		
Malal Ali	Fo	Wantianbe:Ndongobe	2		
Manga Ouloum	Fo	Basbe:Ndiayebe	1		
		Dianankobe:Wellewellebe	1		
		Hirngangue Nere:Diopbe	2		
		Lamlambe:Lewe	3		
		Lam Sagato Dado	1		
		Lombe:O.Hatar	2		
		Ndiayebe:Fondou:Hamadi Boubou	1		
		Niengniengbe:Fondou	3		
		Warwarbe:Fondou	1		
		Manga (near Dioke)	w	Bossea:Diopbe Wedhebe	1
				Bossea:Nioukanabe:Sintiou	5
				Boguel:Sowonabe	2
		Matoria	w	Fokol:Dembarnabe	4
				Malmalbe:Sallsalbe	1

Alphabetical list of collade with fields claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields
Mbaralou	w	Deniankobe:O.Hatar	1
		Ndiengndiengbe:O.Hatar	1
Mbayar	Fo	Maloum Diamel	25
Mbolo	w	Bossea:Kanehanbe:Dioke	1
(south of dike)		Bossea:Kanehanbe:Hel Koubiri	3
		Kanehanbe:Hel Kobu	3
		Wantianbe:KanehanbeModigidu	1
		Wantianbe:Toutoube	1
MBolo Yelo	w	Bossea:Sysybe:Rindiao	4
Natoria	w	Fokol:Welewelebe	1
Nawel Ouloum	w	Basbe:Bababe:N.Walo	1
(south of Roufi		Basbe:Ndiayebe	4
Aoudi)		Boguel:Lydube	1
		Boguel:Sowonabe:Mbahe	1
		H.Nere:Diadiabe:Malebe	3
		Sowsowbe:Diobu Yero	5
		Wantianbe	2
		Wantianbe:Toutoube	2
Nawel Sintiou	w	Bossea:Awawbe:Dioke	2
(near Dioke)		Bossea:Ganguebe	3
		Bossea:Kanehanbe:Dioke	2
		Bossea:Ndiayebe:Sintiou	1
		Bossea:Nioukanabe:Sintiou	1
		Bossea:Sowsowbe:Dioke	3
		Bossea:Sowsowbe:Sintiou	2
		Bossea:Talltalbe:Sintiou	4
Nawel Hirnangue	fa	Bossea:Kanehanbe:Dioke	1
Ndiayri	w	Basbe:Bababe	2
		Lydube Funebe	2
		Maloum Diamel	8
		Sowsowbe:Hel Att	1
		Tioubounabe:O.Hatar	2
		Wantianbe:Ndongobe	3
		Warwarbe:Fondou	1
Ohmous	Fo	Nioukol:Diallube	9
Olol (Feimadat)	w	Dianankobe:Sowsowbe	1
Ouloum	Fo	Ndiayebe:Hamadi Boubou	1
Ourbous	w	Boguel:Sowonabe	1
		Fokol:Dembarnabe	4
		Fokol:Diallube:Sebbe	1
		Fokol:Hamatt Kewinabe	7
		Fokol:Welewelebe	1
		Harlawnabe:Sowsowbe	1
		Kanehanbe:Mbahe	1
		Nioukol:Mbenguembenguebe	1
Ourmboussel	fa	Bossea:Kanehanbe:Hel Koubiri	3
		Bossea:Lydube:Dioke	1
		Bossea:Sowsowbe:Dioke	2
Pahool (Pawel?)	w	Bossea:Sallsalbe:Sintiou	2
Palugol	Fo	Fokol:Dembarnabe	8
		Fokol:Wonewonbe	1

Alphabetical list of collade Collengal	Land type	with fields claimed by Haal Pulaar liniol	# fields
Pale Badiungue	fa	Bossea:Kanehanbe:Dioke	1
		Wantianbe:Diagobe	1
Pale Boydji		Wantianbe:Ndongobe	1
Pantal		Wantianbe:Diagobe	all
Pawel	dieri	Wantianbe:Ndongobe	1
Pempi	Fo	Awawbe:Bagoudine	18
		Maloum Diamel	1
Petiou		Diadiabe:Hel Malem	3
		Hirngue Nere:Diopbe	2
		Nioukanabe:Sintiou	1
Pocom Diopbe	Fo	Bossea:Diopbe Wedhebe	1
		Hirngue Nere:Diopbe	10
		Lidube Funebe	2
Pocom Serembe	Fo	Basbe:Bababe	4
Poliboli	w	Fokol:Welewelebe	5
Polimbawa	w	Boguel:Sysybe	6
		Fokol:Dembarnabe	20
		Fokol:Diallube:Sebbe	3
		Fokol:Welwelebe	1
		Malmalbe:Bababe	1
		Mbaybe:Fondou	1
		Nioukol:Diallube	13
		Nioukol:Mbenguembenguebe	1
		Nioukol:Warwarbe	35
Ponguel	Fo	Boguel:Diadiabe	1
		Boguel:Sowonabe	1
		Fokol:Dembarnabe	15
		Fokol:Diallube:sebbe	6
		Fokol:Hamatt Kewinabe	7
		Fokol:Wonewonbe	1
		Malmalbe:Debenabe	4
		Nioukol:Warwarbe	6
Ponguel Douloubal	Fo	Fokol:Welewelebe	5
		Malmalbe:Bababe	1
		Nioukol:Diallube	10
Ponguel Jajallo	w	Nioukol:Diallube	1
Poura	w	Bababe:Saibobe:Fondou	1
		Diadiabe:Diambaldi Boye	1
		Diallube:Fondou	1
		Diallube:Lewe	1
		Diopbe:O.Hatar	2
		Lam Sagato Dado:O.Hatar	2
		Maloum Diamel	1
		Ndiayebe:Hatar Fondou	3
		Ndiengndiengbe	1
		Sowsowbe:Birass Yero:O.Hatar	5
		Sowsowbe:Itinabe	2
		Sowsowbe:Wayburabe	1
		Tioubounabe:O.Hatar	2
		Wonewonbe:Fondou	1

Alphabetical list of collade with fields claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields
Poura	dieri	Basbe: Bababe	2
		Wantianbe: Ananbe	1
Powel	w	Bossea: Lydube: Sintiou	1
Remodia	w	Fokol: Diallube: Sebbe	1
Roufi Awdi	w	Diopbe: O. Hatar	1
		Lamlambe: Lewe	2
		Ndiayebe: Hatar Fondou	3
		Ndiengndiengbe: O. Hatar	1
		Sowsowbe: Birass Yero	4
		Sowsowbe: Itinabe	2
		Tioubounabe: O. Hatar	2
Roufiel		Basbe: Ndiayebe: N. Walo	1
Rous	Fo	Basbe: Bababe	1
		Basbe: Bababe: Pocom Serembe	1
		Basbe: Bababe: Thila	3
		Bossea: Sallsalbe: Sintiou	1
Saba Lewre		Wantianbe: Ndongobe	1
Sabunde Lewre	dieri	Wantianbe: Diagobe	1
Sadane	w	Bababe: Niengniengbe	8
		Bababe: Fulbe Irlabe	14
		Boguel: Sowonabe	1
		Dekle: Diawanbe	7
		Dekle: Sebbe	7
		Diadiabe: Niawel	1
		Diallube: Fondou	2
		Harlawnabe: Galle Howa	4
		Harlawnabe: Ngamngambe	6
		Lidube Funebe	1
		Malmalbe: Diadiabe	1
		Maloum Diaba	3
		Maloum Diamel	4
		Sowsowbe: Hei Soka: Belel Gawdi	1
Sadane Ndiaybe	w	Dekle: Ndiayebe	2
Sadane Takosiou	w	Dekle: Ndiayebe	1
Sagana	w	Boguel: Lydube	1
		Fokol: Diallube: Sebbe	4
		Nioukol: Warwarbe	2
Sagareiiji	w	Boguel: Sowonabe	1
Sakajne	Fo	Diadiabe: Babou Boye	1
Sakobe	Fo	Dianankobe: Wellewellebe	1
Salori I & II	w	Dekle: Saibobe	4
Sandigui	w	Bossea: Diongouebe: Sintiou	1
		Wantianbe: Tchimonabe	3

Collengal	Land type	liniol	# fields
Sawalelo	w	Boguel:Mabube:Mbahe	2
		Dekle:Diawanbe	3
		Dekle:Saibobe	4
		Dekle:Sebbe	1
		Dianankobe:Diallube	1
		Harlawnabe:Galle Howa	1
		Harlawnabe:Galle Lamine	1
		Harlawnabe:Sowsowbe	2
		Kanehanbe:Belel Gawdi	1
		Malmalbe:Sowsowbe	2
Sawamo	w	Bossea:Sowsowbe:Bossea	1
Sawa Niebe	w	Fokol:Diallube:Sebbe	1
Sawa Tone	Fo	Wantianbe:Ndongobe	1
Saw sawe	deddal	Bossea:Kanehanbe:Hel Koubiri	3
Seonde	itita	Bossea:Awawbe	2
Seyidi	Fo	Bossea:Sowsowbe:Dioke	1
		H.Nere:Diadiabe:O.Nere	1
		Wantianbe:Toutoubé	1
Sio	w	Dekle:Ndiayebe	1
		Harlawnabe:Galle Dow	1
		Harlawnabe:Ngamngambe	3
Sobal (near Mbagne)	w	Nioukol:Warwarbe:Fondou	1
		Malmalbe:Kebenabe	3
		Malmalbe:Sallsalbe	23
Sur Mboti	Fo	Malmalbe:Diadiabe	1
Tako Teringuel	w	Sowsowbe:Sebbe:Fondou	1
Thilla	w	Bossea:Sowsowbe:Dioke	1
Tiachdi		H.Nere:Diadiabe	3
Tialtol	Fo	Kanehanbe:Hel Ali Seyid	1
Tiang Guerne	w	Kanehanbe:Hel Kobu	1
Tiangol	Fo	Diadiabe:Diambaldi Boye	1
		H.Nere:Diadiabe Malebe	3
		Sowsowbe:Birass Yero	1
Tiao Sawi	w	Bababe:Tierno Fondou	1
		Basbe:Bababe:O.Nere	2
		Bossea:Kanehanbe:Dioke	3
		H.Nere:Diadiabe	1
		Hirngue Nere:Diopbe	4
		H.Nere:Sisybe:O.Nere	3
		Wantianbe:Ndongobe	2
Tiao Seyidi		Diadiabe:Hel Malem	3
Tiao Sy	w	Bossea:Achachebe:Rindiao	1

Alphabetical list of collade with fields claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields		
Tiaski	w	Awawbe:Bagoudine	4		
		Bababe:Fulbe Toro	7		
		Bababe:Sowonabe	1		
		Boguel:Mabube:Mbahe	1		
		Bossea:Mabube	1		
		Dekle:Diawanbe	6		
		Dekle:Ndiayebe	1		
		Dekle:Saibobe	15		
		Diadiabe:Babou Boye	1		
		Diadiabe:Diambaldi Boye	2		
		Diadiabe:Diamel Boye	1		
		Diadiabe:Hel Hondel	1		
		Diadiabe:Hel Goli	1		
		Diallube:Fondou	1		
		Dianankobe:Diallube	1		
		Fokol:Dembarnabe	3		
		Fokol:Diallube:Sebbe	1		
		Harlawnabe:Galle Dow	7		
		Harlawnabe:Galle Howa	1		
		Harlawnabe:Ngamngambe	7		
		Harlawnabe:Sowsowbe	5		
		Kanehanbe:Belel Gawdi	1		
		Lydube Funebe	1		
		Maloum Diabe	12		
		Maloum Diamel	7		
		Mbaybe:Fondou	1		
		Sowsowbe:Sebbe:Fondou	2		
		Warwarbe:Fondou	1		
		Wonewonbe:Fondou	1		
		Tiaski dieri	Fo,w	Harlawnabe:Galle Dow	1
				Lamlambe:Lewe	3
				Lombe:O.Hatar	1
				Lydube Funebe	2
				Maloum Diamel	5
Ndiayebe:Hatar Fondou	3				
Niengniengbe:Fondou	3				
Niukol:Warwarbe:Fondou	2				
Sowsowbe:Diobu Yero	3				
Sowsowbe:Itinabe	1				
Tioubounabe:O.Hatar	2				
Tiaski doulgel	w	Harlawnabe:Galle Lamine	7		
		Sowsowbe:Birass Yero	1		
Tiay Sayel	w	Bossea:Sowsowbe:Dioke	2		
		Diadiabe:Samba Dembere	3		
		Harlawnabe:Galle Dow	1		
		Lam Sagato Dado	1		
		Niengniengbe:Fondou	3		
		Sowsowbe:Birass Yero	6		
		Sowsowbe:Hel Att	2		
Tioubounabe:O.Hatar	1				

Alphabetical list of collade with fields claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields
Tiede Gedi		Wantianbe:Ndongobe	3
Tiede Gelane	Fo	H.Nere:Ndiengndiengbe	1
Tiede Guerdel	w	Hirnangue Nere:Diopbe	1
		H.Nere:Ndiengndiengbe	1
		H.Nere:Sysybe:Boubou Bali	5
		Wantianbe:Ananbe	1
		Wantianbe:Diagobe	3
		Wantianbe:Ndongobe	1
Tijiba	w	Basbe:Bababe:Pocom Serembe	1
		Bossea:Kanehanbe:Hel Koubiri	3
		Bossea:Sowsowbe:Dioke	1
Tiofol	Fo	Diadiabe:Babou Boye	1
Tiogol	Fo	Bababe:Saibobe	2
		Fokol:Dembarnabe	1
Tode		Wantianbe:Tchimbonabe	1
Toguel	w	Bababe:Fulbe Toro	8
		Bababe:Sowonabe	2
		Diadiabe:Babou Boye	1
		Diadiabe:Diamel Boye	1
		Diadiabe:Diambaldi Boye	2
		Diadiabe:Hel Hondel	1
		Diadiabe:Hel Malem	2
		Diadiabe:Ndoubourounabe	1
		Diadiabe:Niawel:Lewe	2
		Diadiabe:Samba Demberé	2
		Fokol:Dembarnabe	1
		Lydube Funebe	4
		Sowsowbe:Birass Yero	1
		Sowsowbe:Hel Soka	2
		Ndiayebe:Hamadi Boubou	1
		Niukol:Warwarbe:Fondou	1
Toufde Wandé	Fo	Malmalbe:Bababe	1
Toulde	w	Awawbe:Bagoudine	17
		H.Nere:Ndiengndiengbe	1
Toulde Mbahe	Fo	Boguel:Mabube:Mbahe	2

Alphabetical list of collade with fields claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields		
Toule (near Fondou)	w	Bababe:Fulbe Toro	1		
		Bababe:Saibobe	2		
		Bababe:Sowonabe	3		
		Dekle:Saibobe	6		
		Diadiabe:Babou Boye	6		
		Diadiabe:Diambaldi Boye	1		
		Diadiabe:Diamel Boye	1		
		Diadiabe:Hel Goli	1		
		Diadiabe:Hel Malem	3		
		Diadiabe:Niawel:Lewe	2		
		Diallube:Lewe	2		
		Harlawnabe:Galle Dow	5		
		Diadiabe:Hel Hondel	3		
		Harlawnabe:Pathenabe	1		
		Mbaybe:Fondou	1		
		Sowsowbe:Birass Yero	1		
		Sowsowbe:Hel Soka	1		
		Sowsowbe:Sebbe	2		
		Wonewonbe:Fondou	1		
		Toulel	w	Harlawnabe:Sowsowbe	1
H.Nere:Diadiabe:Malebe	3				
Toulel Bowdi	Fo	Wantianbe:Diagobe	4		
Toule (near Dioke)	w	Bababe:Irlabe	1		
		Bababe:Tierno Fondou	1		
		Basbe:Bababe:Pocom Serembe	1		
		Bossea:Sowsowbe:Dioke	2		
		Kanehanbe:Belel Gawdi	2		
		Wantianbe:Diagobe	2		
		Wantianbe:Ndongobe	1		
		Wantianbe:Diagobe	4		
		Wantianbe:Kanehanbe:Modigidu	1		
		Walo Diane	w	Malmalbe:Debenabe	1
				Diadiabe:Samba Dembere	1
		Wendou Dief	w	Maloum Diaba	2
				Sowsowbe:Kel Soka	1
				Nioukol:Warwarbe:Fondou	1
Diadiabe:Samba Dembere	1				
Basbe:Sowsowbe	1				
Wendou Hebeyabe	w	Bossea:Awawbe	2		
		Sowsowbe:Diobu Yero	4		
		Wantianbe:Diagobe	4		
		Wantianbe:Kanehanbe Modigidu	1		
		Wantianbe:Tchimbonabe	1		
		Wende Bade	Fo	Harlawnabe:Sowsowbe	1
				Sowsowbe:Birass Yero	1
Wende Maham	Fo	Fokol:Dembarabe	5		
Yaboyi	Fo	Fokol:Diallube:Sebbe	2		
Yaladi	w	Hirnangue Nere:Diopbe	4		
		Wantianbe:Ananbe	1		
		Wantianbe:Ndongobe	3		

Collengal	Land type	liniol	# fields
Yerino	w	Malmalbe: Bababe	3
		Malmalbe: Debenabe	1
		Malmalbe: Sallsalbe	1
Woli	w	Boguel: Mabube: Mbahe	1
		Fokol: Hamatt Kewinabe	19
		Sowsowbe: Ferala	1

Alphabetical list of Senegalese collade claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields
Alam	w	Bossea: Demdembe: Sintiou	2
		Bossea: Diadiabe: Sintiou	1
		Bossea: Lydoubé: Sintiou	2
		Bossea: Sallsalbe: Sintiou	3
Alameen	w	Bossea: Achachebe: Rindiao	1
	Fo	Bossea: Lydoubé: Sintiou	2
		Bossea: Sallsalbe: Sintiou	1
Alouki Fado	w	Bossea: Sowsowbe: Sintiou	3
Alouki Mamadi	Fo	Bababe: Sowonabe	2
Awdion	w	Fokol: Diallube: Sebbe	3
Baladji		Bossea: Bababe: Sintiou	?
		Bossea: Kanehanbe: Gongane	3
		Bolnabe: Niengniengbe	3
Bam	w	Malmalbe: Sowsowbe	1
Bam Ngorel	w	Dabennabe: Bababe	12
Bari	Fo	Dabennabe: Kebenabe	3
		Fokol: Diallube: Sebbe	1
		Malmalbe: Bababe	5
		Malmalbe: diadiabe	4
		Malmalbe: Sysybe	1
		Maloum Diamel	1
		Boguel: Kanehanbe: Mbahe	1
		Fokol: Dembarnabe	7
		Diallube: Fondou	2
		Harlawnabe: Galle Dow	2
Nioukol: Warwarbe	6		
Barol Ali Ballo	w	Boguel: Sowonabe	1
Barol Alouki	w	Malmalbe: Sallsallbe	1
Barol Hamadi	Fo	Bababe: Sowonabe	1
Barol Maiba	Fo	Bossea: Tallbe: Sintiou	1
Barol Sawatingulel	Fo	Harlawnabe: Galle Dow	2
Bele		Kanehanbe: Belel Gawdi	1
Bele Chindi	w	Bossea: Dionguebe: Sintiou	1
Bele Tiaski		Bababe: Sowonabe	3
Bele Tiowi		Fokol: Diallube	3
		Maloum: Diaba	2
		Sowsowbe: Sebbe	1
		Bababe: Sowonabe	2
		Dabennabe: Bababe	18
Belel	w	Dianankobe: Wellewellebe	1
		Nioukol: Diallube	3
		Diadiabe: Ndoubourounabe	1
Belel Bagnourou	Fo	Dianankobe: Wellewellebe	1
Berbal	w	Dianankobe: Diallube	1
		Harlawnabe: Sowsowbe	2
		Malmalbe: Diadiabe	2
		Malmalbe: Sowsowbe	12
		Dabennabe: Bababe	18
		Dianankobe: Sowsowbe	1
Bessini	w	Malmalbe: Sallsallbe	8

Collengal	Land type	liniol	# fields
Betigol	w	Fokol: Welwelebe	1
Beli Tiowi	w	Diadiabe: Hel Hondel	2
		Maloum Diamel	1
Beuli Tioli	Fo	Bababe: Tierno Fondou	3
		Diallube: Lewe	2
		Harlawnabe: Galle Dow	1
Bolo	w	Dekle: Sebbe: Mbahe	3
		Fokol: Dembarnabe	7
		Fokol: Wonewonbe	1
		Harlawnabe: Ngamngambe	1
		Nioukol: Mbengmbenguebe	1
Bolo Dadel	w	Maloum Diamel	1
Bolo Guesse	w	Boguel: Sowonabe	2
		Dabennabe: Bababe	6
		Fokol: Diallube: Sebbe	2
		Fokol: Hamatt Kewinabe	5
		Fokol: Wonewonbe	1
		Malmalbe: Sysybe	1
		Maloum Diamel	2
		Sowsowbe: Birass Yero	1
		Sowsowbe: Wayburabe	1
Bolo Wonwonbe	w	Boguel: Kanehanbe: Mbahe	1
Boubou Bawgne	w	Malmalbe: Sallsallbe	2
Boubou Dieri	Fo	Bossea: Sysybe: Gongane	2
Buirbal	w	Boguel: Sowonabe	1
		Boguel: Sysybe	2
Chalchal	w	Malmalbe: Sallsallbe	5
Charoja	Fo	Harlawnabe: Ngamngambe	2
		Harlawnabe: Pathenabe	1
Chassobal		Bossea: Kanehanbe: Gongane	1
Chekem	w	Bossea: Acheachebe: Rindiao	1
		Bossea: Bababe: Sintiou	3
		Bossea: Demdembe: Sintiou	4
		Bossea: Lydube: Sintiou	1
		Bossea: Nioukanabe: Sintiou	2
		Bossea: Tallbe: Sintiou	1
Dialimayo	w	Bababe: Sowonabe	1
		Boguel: Mabube: Mbahe	2
		Diadiabe: Babou Boye	1
		Diadiabe: Samba Dembere	2
		Diallube: Fondou	1
		Fokol: Dembarnabe	1
		Fokol: Diallube: Sebbe	2
		Harlawnabe: Sowsowbe	2
		Sowsowbe: Birass Yero	16
		Wonewonbe: Fondou	1
Diamidogue	Fo	Diadiabe: Ndoubourounabe	1
		Sowsowbe: Birass Yero	1

Alphabetical Collengal	Land type	Senegalese collade liniol	claimed by Haal Pulaar # fields
Djigui	Fo	Bolnabe:Niangniangbe	3
		Dabennabe: Bababe	6
		Dabennabe: Diadiabe	1
		Malmalbe: Sallsallbe	1
Djinde Boura	Fo	Bossea: Tallbe: Sintiou	1
		Sysybe: Fondou	1
Dobal	w	Bossea: Kanehanbe: Sintiou	6
Dogue Lobodou	Fo	Boguel: Kanehanbe: Mbahe	1
		Boguel: Sowonabe	1
Dougue	Fo	Boguel: Sysybe	3
		Diallube: Lewe	1
		Fokol: Dembarnabe	6
		Fokol: Welewelebe	1
Douguere	Fo	Bababe: Irlabe	1
		Diadiabe: Hel Goli	1
		Hirngue Nere: Diadiabe Malebe	3
Dougou	Fo	Diadiabe: Niawel: Lewe	1
		Fokol: Dembarnabe	1
		Sowsowbe: Birass Yero	1
		Wonewonbe: Fondou	1
Doungel Sakeidji	Fo	Maloum Diaba	2
		Maloum Diamel	3
Dunde	w	Fokol: Dembarnabe	16
Fakaya	Fo	Fokol: Dembarnabe	1
Falo Lobodou	w	Fokol: Hamatt Kewinabe	2
Falo Mamadi	Fo	Ndiayebe: O. Hatar	1
Fentou	Fo	Bossea: Dionguebe: Sintiou	1
		Bossea: Lydube: Gongane	2
		Bossea: Lydube: Sintiou	1
		Bossea: Nioukanabe: Sintiou	2
Filiwan	w	Boguel: Sysybe	3
Finma	Fo	Diadiabe: Samba Dembere	1
Fonde Eli	Fo	Diadiabe: Ndoubourounabe	1
Fonde Mabube	Fo	Bossea: Dionguebe: Sintiou	1
Fonde Ndiaye	Fo	Bababe: Sowonabe	3
		Diadiabe: Diamalboye	1
		Diallube: Lewe	2
Fonde Mouti	Fo	Malmalbe: Sallsallbe	7
Galgnadi	Fo	Diadiabe: Hel Hondel	1
		Diadiabe: Ndoubourounabe	1
Gawdi Tiowi	w	Maloum Diaba	2
Hunouko mayo	Fo	Harlawnabe: Galle Lamine	7
Kaye Lambe	w	Boguel: Sowonabe	2
Lobodou	Fo	Harlawnabe: Galle Dow	6
		Harlawnabe: Galle Lamine	6
		Harlawnabe: Ngamngambe	2
		Harlawnabe: Pathenabe	1
		Harlawnabe: Sowsowbe	1
Lobougal	w	Bossea: Kanehanbe: Sintiou	3
Lougue	Fo	Basbe: Bababe	1

Alphabetical list of Senegalese collade claimed by Haal Pulaar
 Collengal Land type liniol # fields

Collengal	Land type	liniol	# fields
Louguere	w	Dabennabe:Kebenabe	7
		Dianankobe:Wellewellebe	2
		Malmalbe:Sallsallbe	5
Louguere Wargo	w	Boguel:Sowonabe	2
Makam	Fo	Bababe:Tierno Fondou	1
		Wonewonbe:Fondou	1
Maham Foubi	Fo	Harlawnabe:Galle Dow	1
Mbolo	w	Fokol:Welewelebe	3
Nawel	Fo	Maloum Diamel	2
Ndagnam	w	Bossea:Sowsowbe:Sintiou	4
Ndagnam Rindiao	w	Bossea:Diadiabe:Sintiou	3
Oumar		Bossea:Kanehanbe:Gongane	1
		Bossea:Nioukanabe:Sintiou	1
Palde	Fo	Diallube:Fondou	1
Pattol	w	Bossea:Dionguebe:Sintiou	1
Peegnadi	Fo	Diadiabe:Hel Hondel	1
		Diadiabe:Ndo:bourounabe	1
		Diadiabe:Niawel	2
		Diadiabe:Samba Dembere	1
		Kanehanbe:Belel Gawdi	1
		Mbaybe:Fondou	2
		Sowsowbe:Birass Yero	1
		Sowsowbe:Hel Soka	2
		Wonewonbe:Fondou	1
Peegnadi Lolodji	Fo	Sowsowbe:Birass Yero	2
Sacague	Fo	Diadiabe:Hel Goli	1
Sawa Tienguelel	w	Harlawnabe:Galle Lamine	2
		Maloum Diamel	5
Sewol		Bossea:Bababe:Sintiou	1
Solial	w	Boguel:Sisybe	1
Tiapaton	w	Ndiayebe:Hatar Fondou	2
Tiaski Dioulki	w	Bossea:Diadiabe:Sintiou	1
		Bossea:Lydube:Gongane	2
		Bossea:Lydube:Sintiou	1
		Bossea:Nioukanabe:Sintiou	1
Tiekane	w	Bossea:Kanehanbe:Sintiou	1
		Bossea:Nioukanabe:Sintiou	3
Tienal		Bababe:Tierno Fondou	4
Tiofol	Fo	Bababe:Sowonabe	3
		Diadiabe:Diamel Boye	1
		Diadiabe:Niawel	2
		Kanehanbe:Belel Gawdi	1
		Mbaybe:Fondou	2
		Sowsowbe:Birass Yero	1
Toggal		Sisybe:Fondou	1
Toguel		Sisybe:Fondou	3
Toude Magam	w	Diadiabe:Hel Hondel	1
Toulde Sisybe	w	Bossea:Sisybe:Gongane	3
Touloumere	Fo	Bababe:Sowonabe	1
		Maloum Diamel	1

Alphabetical list of Senegalese collade claimed by Haal Pulaar
 Collengal Land type liniol # fields

Tordia	Fo	Dianankobe:Diallube	1
		Harlawnabe:Galle Dow	2
		Harlawnabe:Galle Lamine	3
		Maloum Diaba	5
		Maloum Diamel	5
Tulumel		Bababe:Tierno Fondou	3
Wali Modia	Fo	Maloum Diamel	4
Wanyi Bali Bolo	w	Diadiabe:Niawel	2
Winde Bade	Fo	Harlawnabe:Ngamngambe	3
Winde Ngabo	Fo	Diadiabe:Ndoubourounabe	1
		Kanehanbe:Belel Gawdi	1
Winde Palldi	Fo	Maloum Diamel	1
Yilam		Bababe:Tierno Fondou	1

Table of liniols-Fields-Households

This table lists the number of fields inventoried for each liniol and the number of households in that liniol. The main purpose of the table is to allow planners an easy way to assess the relative size of landholdings in each liniol. There are several reasons for blanks in this table. In some cases an interviewer failed to obtain information - such as how many households there were in the liniol because the person interviewed could not or would not estimate that number (sometimes the rate of outmigration may have been near 100% and the person interviewed may have been afraid admitting this would jeopardize liniol holdings). When we have neither data for land holdings or households this is because we did not actually interview the liniol.

Usually this was because the liniol did not actually own land - though it might even have heritable usufruct rights and so can not be ignored by planners - but in a few cases a spokesman for the liniol may not have been available. We were given a list of all the liniols at the main meetings and then tried to interview each liniol. We left no representatives uninterviewed and so assume that those liniols for which we have no data had no land of their own but there is no guarantee that this is so.

The liniols are listed alphabetically within geographical subsections as in Section 3. Thus we have included in one group all those who seemed to group together both ethnically and geographically; for example they came to Fondou to be interviewed not Ouloum Hatar (or vice-versa). In practical terms what this means is that those listed in the Fondou section can conveniently be contacted through the Elimane of Fondou whether they really live in Senegal or elsewhere. The same is generally true for the Ouloum Hatar grouping and to a lesser extent for the Bagoudine and Ouloum Nere groupings. This should not be exaggerated however; we were told that contacting people was quite simple and that all would come to their appropriate main village but found that only about 70% did in fact come and we had to pursue the others in their own villages.

Table showing Haal Pulaar liniols and their inventories

Liniol	Village	#fields	# Households
IRLABE/HEBEYABE			
IRLABE LINIOLS			
BOLNABE			
Niengniengbe	Niabina	14	43
	Haimedat		64
DABENNABE			
Bababe	Niabina	73	35
Diadiabe	Niabina	8	15
Kebenabe	Niabina	15	17
Sarrebe	Niabina	4	5
DIANANKOBE			
Diallube	Niabina	7	7
Sowsowbe	Niabina	5	11
Wellewellebe	Niabina	12	17
MALMALBE			
Bababe	Niabina	31	68
	Haimedat		
	Dabbe		
Diadiabe	Niabina	14	16
Salsalbe	Niabina	60	45(233)
Sowsowbe & Dattdatbe	Niabina	15	61
	Dabbe		
Sysybe	Niabina	7	
Irlabe subtotal		265	404
HEBEYABE LINIOLS			
BOGUELNABE			
Diadiabe Boguel	Mbahe	20	17[5]
Kanehanbe	Mbahe	18	
Lydube Boguel	Mbahe	16	60
	Niabina		
	Atene		
	Gourel Selle		
Mabube	Mbahe	41	115[28]
Sowonabe			
Sysybe	Mbahe	39	48
	Mbahe	38	48
	Ferala		

Table showing Haal Pulaar liniols and their inventories

Liniol	Village	#fields	# Households
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HEBEYABE

DEKLE

Bagoudine

Dekle:Sebbe	Mbahe	19	8(50)
Diawanbe	Bagoudine	38	66
Mabube Dekle	Dawelel		
	Niabina		
Ndiayebe	Bagoudine	6	6
Saibobe	Bagoudine	64	74
Sebbe Ndiengndiengbe	Bagoudine		

FOKOL

Dembarnabe	Ferala	153	110
Diallube	Ferala	47	[3]
Hamatt Kewinabe	Ferala	99	
Welwelebe	Ferala	34	(100)[1]
Wonewonbe	Ferala	9	18

HARLAWNABE

Bagoudine

Awawbe	Bagoudine		
Galle Diallube	Bagoudine		
Galle Dow	Bagoudine	65	29
Galle Howa	Bagoudine	26	25
Laminabe/Galle Lamine	Bagoudine	50	38
Ngamngambe	Bagoudine	50	48
Pathenabe	Bagoudine	10	12
Sowsowbe	Bagoudine	72	48
	Ferala		

MALOUMNABE

Bagoudine

Maloum Diaba	Bagoudine	59	
Maloum Diamel	Bagoudine	185	[79](1975)

NIOUKOL

Ferala

Diallube	Ferala	59	[5]
Hormankobe	Ferala		
Mbenguembenguebe	Ferala	5	37
Warwarbe	Ferala	131	180

Bagoudine Hebeyabe subtotal		1353	1922
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Table showing Haal Pulaar liniols and their inventories

Liniol	Village	#fields	# Households
HEBEYABE LINIOLS LINKED TO FONDOU			
BABABE			
Fulbe Toro (Bababe)	Fondou	30	33
Saibobe	Fondou	8	15
	Niabina	5	6
Sowonabe	Fondou	35	194
Tierno Fondou	Hore Fondou	33	30
BOLNABE			
Fulbe Irlabe	Fondou	19.5	14
DIADIABE			
Babu Boye	Fondou	22	27
Diambaldi Boye	Fondou	24	57
Diamel Boye	Fondou	10	45
Hel Goli	Fondou	8	17
Hel Hondel	Fondou	20	40
Hel Malem	Lewe	3	4
Ndoubourounabe	Fondou	13	54
Niawel	Lewe	15	11
Samba Dembere	Fondou	18	55
OTHERS			
Awawbe	Fondou	47	44

Diallube	Fondou	11	22
	Lewe	18	22

Kanehanbe	Belil Gawdi	17	36
Kanehanbe: Boubou Aoudi	Boubou Aoudi	6	9
Kanehanbe: Boubou Hamadi	Boubou Aoudi	9	16

Lydube	Belel Gawdi	24	40

Mbaybe	Fondou	12	[5]

Ndiayebe	Roufi Aoudi		

Niassbe	Roufi Aoudi		

Niengniengbe	Fondou	18	8

Sarrebe	Roufi Aoudi		

Sowsowbe	Fondou		
	Ferala	3	

Sowsowbe: Sebbe	Fondou	15	9

Table showing Haal Pulaar liniols and their inventories

Liniol	Village	#fields	# Households
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HEBEYABE LINIOLS LINKED TO FONDOU

Sybybe	Fondou	10	5

Talltallbe	Fondou	4	7

Wadewadebe	Roufi Aoudi		

Warwarbe	Fondou	17	[36]

Wonewonbe	Fondou	11	[21]

Fondou Hebeyabe subtotal		485.5	1068

LINIOLS LINKED TO O.HATAR

Liniol	Village		
Bailo Hatar	O.Hatar		
Diallube	O.Hatar		
Deniankobe	O.Hatar	27	23
Diopbe	O.Hatar	6	12
Galle Dieri Sere	O.Hatar		
Lambe .Hatar	O.Hatar		
	Hatar Fondou		
Lamlambe	O.Hatar		
	Lewe	25	21
Lam Sagato Dado	O.Hatar	16	17
Lombe	O.Hatar	10	15
Lydube Funebe	O.Hatar	34	15
Lylybe	O.Hatar		
Ndiayebe	Hatar Fondou	21	7
Ndiayebe:Hamadi Boubou	O.Hatar	8	4
Ndiengndiengbe	O.Hatar	7	34
	Roufi Aoudi		
Sebbe Diagaraf Ndiaye	O.Hatar		
Sowsowbe Birass Yero	O.Hatar	80	[36
Sowsowbe Diobu Yero	O.Atar	30	
Sowsowbe Hel Att	O.Hatar	15	30
Sowsowbe Hel Soka	Belil Gawdi	11	22
Sowsowbe Itinabe	O.Hatar	18	21
Sowsowbe Wayburabe	O.Hatar	8	29
Tioubounabe	O.Hatar	32	54
	O.Hatar Hebeyabe subtotal	348	448

Table showing Haal Pulaar liniols and their inventories

NERENABE LINIOLS

Liniol	Village	#	Fields	# households
BASBE				
Bababe	O.Nere		20	9(60)
Bababe:Pocom Serembe	O.Nere		19	(25)
Bababe:Thila	O.Nere		26	7
Kanehanbe	O.Nere			
Ndiayebe	O.Nere		25	61
	Nere Walo		16	20
Ndongobe	O.Nere		2	12
Sowsowbe	Kaedi		20	45
Sowsowbe	Dioke			

HIRNANGE NERE				
Bababe	O.Nere		21	23
Diadiabe	Kanyadi			
Diadiabe	O.Nere		16	6(18)
Diadiabe Malebe	Kanyadi		42	
Diadiabe Ranebe	Kanyadi			
Diadiabe Wodebe	Nereyel		?	
Diopbe	O.Nere		50	
Gadiobe	Nere Walo			
Mbayebe	Rindiao			
NdiengNdiengbe	O.Nere		12	(90)
Sysybe	O.Nere		12	22
KANEHANBE				
Hel Ali Seyidi	O.Nere		8	9
Hel Kobu	O.Nere		14	[2]
WANTIANCE				
Anambe	O.Nere		10	4[1](20)
Datt	Nere Walo			
Diagobe	Nere Walo		52+	[4]
	Dioke		5	9
Kanehanbe:Modigidu	O.Nere		10	
Ndongobe	O.Nere		36	[3](50)
Salsalbe	Nere Walo			
Tchimbonabe	Nere Walo		8	9(26)
Toutoube	(Senegal)		8	5
Wantianbe	O.Nere		11	
Yalibe	Senegal		6	3(25)
Nerenabe subtotal			449	299

Table showing Haal Pulaar liniols and their inventories

Liniol	Village	#fields	# Households
BOSSEABE			
Achachebe	Rindiao	17	6
Attattbe	Sintiou B.		
Awawbe	Dioke	12	14
Awawbe	Sintiou B.		
Bababe	Sintiou B.	8	5
Demdembe	Dioke	4	5
	Sintiou B.	18	20
Diadiabe	Sintiou B.	11	8
Dionguebe	Sintiou	6	4
Diopbe Wedhebe	Dioke	4	5
Ganguebe	Sintiou B.	7	
Kanehanbe	Sintiou B.	17	3+
Kanehanbe	Dioke	16	15
	Gongane	10	4
Kanehanbe Hel Koubiri	Dioke	23	[3]
Koundiobe	Sintiou B.	7	
Lydube	Dioke	4	9
	Gongane	14	2
	Sintiou B.	11	10
Mabube	Dioke	9	[3]
Mabube Ndiongndiongabe	Sintiou B.		
Ndiayebe	Sintiou B.	17	18
Nioukanabe	Sintiou B.	28	5+
Sallsallbe	Sintiou B.	13	7
Sowsowbe	Sintiou B.	14	
	Dioke	28	17
Sysybe	Gongane	9	15
	Rindiao	12	5
	Sintiou B.	2	
Tallbe	Sintiou B.	14	16
Waylube: Hamadi Coute	Rindiao	3	6
Bossea subtotal		338	223

6.2.2 HARATINE LANDS

The Hijaj and Tamoudek Haratine claim large amounts of land in the plain but they have no liniols and the only way to assess exactly how many fields they claim would be to interview each household - something we did not have the time to do. The Hijaj Haratine include the population of the village of Hijaj as well as a significant proportion of the populations of Mbahe, Niabina, Mbagne, and Heimedat. The Tamoudek Haratine include (in the Dirol area) the majority population of Boubou Aoudi, the population of Debaye Doubel, and a significant minority of the population of Ouloum Hatar. In each case the elders claim that virtually all families have land - and usually in several different places. We can not pretend to accurately evaluate their claims on the basis of the few interviews we made. Instead we simply list their claims below as we have them from our interviews:

HIJAJ

The Hijaj Haratine claim land in the following areas:

Collengal	location	Number of fields
Banda	see map	4
Dekle	east of Feralo by cemetary	5
Dloungal	next to Lamaissa	4
Lamaissa	East of Mbagne on piste	1
Ma'fisa	between Hijaj and Boubou Aoudi	5
Mbeyzigra	south of village of Hijaj	all
Najumri	east of ma'fisa	many
Sae Hourou	west of Heimedat	many
Yerina	West side of Mbagne	20

Plus lands not relevant to Dirol development. We only interviewed Hijaj Haratine in the village of Hijaj and may well have missed lands claimed by families living in Niabina, Mbahe, Mbagne, or Heimedat.

It is difficult to estimate how many fields this corresponds to but those interviewed indicated that when they claim many fields in a collade this means a significant proportion of all Hijaj Haratine have fields there. Certainly this must be significantly more than 20 fields. As a first estimate let us say 40 fields. Mbeyzigra is a large collengal and the main area in which the Hijaj have fields. The area is however Diediougol and this means that in practice they cultivate depressions in the area. Let us assume a conservative 40 fields - though if the area were properly inundated it could have many

more. This would give a rough total of 159 fields of which about 54 would be in the Dirol Plain. There were 62 families in Hijaj in the 1977 census and others living in Mbahe and Niabina who would be included in these fields so this does not seem exhorbitant though it is admittedly a rough estimate.

TAMOUDEK

The Tamoudek Haratine claim land in the following areas:

Collengal	location	Number of fields
Aqrisha	see map	all
Bere	see map	a few
Beuli Tioli	see Boundou Thiella	all
Bidal	see Tkeilat al-Bidan	half
Boundou Thiella	west of Bagoudine by Dirol	all
Dekle I	east of Ferala	all
Dekle II	east of Ferala	all
Diediougol	below Beuli Tioli	all
Diediougol Atar	see map below O.Hatar	less than half
Guelb Teichtaya	see Toule on map	all
Hassi Md Aimina	see Diediougol Atar	less than half
Koyli Malal	see map	all
Sawalelo	see Boundou Thiella	all
Tichilit Rgueib	same as Bouli Pehe?	less than half
Tkeilat al-Bidan	see map - Bidal	half
Toule	see Guelb Teichtaya	all

Plus all lands between Niabina and Aten (see map) and other lands outside the map area. We interviewed Tamoudek in Boubou Aoudi and Debaye Doubel and may have missed lands claimed by Tamoudek in other centers - principally Ouloum Hatar.

These claims amount to a large number of fields. If we use an estimate of 40 fields per collengal we get 277 fields. Of these, 156 may also be claimed by Haal Pulaar. The 1977 census gives about 254 Tamoudek in Boubou Aoudi and Debaye Doubel to which must be added the Tamoudek population of Ouloum Hatar and subtracted the Haal Pulaar families of Boubou Aoudi. These are very rough estimates and should be improved in a more detailed study.

6.3 SUMMARY OF TABLES OF LAND HOLDINGS

There are many sources of error in data collected quickly from interviews and though we feel our interviews were well received and taken seriously some errors undoubtedly crept in. The following table summarizes the land holding and household data by major group for those interviewed in the Dirol Plain:

GROUP	# OF FIELDS	# OF HOUSEHOLDS
Irlabe	265	404
Hebeyabe:Bagoudine	1353	1922
Hebeyabe:Fondou	485.5	1068
Hebeyabe:O.Hatar	348	448
	-----	-----
	2451.5	3842
Nerenabe	449+	299
Bossea	338	223
Total Haal Pulaar	3238.5	4364
*Hijaj Haratine	54	62
*Tamoudek Haratine	156	254
Total	3448.50	4680

*rough estimates of non-redundant claims in target area

N.B. When household figures are enclosed in parentheses () this figure was given as individuals and when enclosed in square brackets it was given as galle (several poy or households).

Our most reliable data for households is number of poy (nuclear households). In those cases where the interviewees knew the exact number of people as well as the number of poy we took both figures. From data of this sort we have an average of 6 people per nuclear household which is the same as the 1977 census figure calculated earlier. Using this figure we would have a total of 28,080 people recorded as having property rights in the Dirol Plain. If we include the Irlabe, Hebeyabe, and Haratine as well as 60% of the Nerenabe we would have about 26,000 probably directly concerned by the proposed development.

We focused on the area of concern to Development (north of the dike) and did a fairly superficial job interviewing people in the Bossea area - most of the land has not been cultivated in years and for lack of time we focused on people actively cultivating in the plain. In addition many people in Senegal have lands in the southern part of the Dirol plain below the proposed dike and these also were excluded. Thus there are

undoubtedly significantly more people with potential cultivation rights in the Bossea area than our survey suggests.

Our figures are significantly higher than those for the 1977 census but they include a number of families living in Senegal but cultivating in Mauritania as well as an unknown number of migrants who were included in our figures by their relatives. In many cases we have 40-50% migration rates admittedly included in our responses but the admitted rate may be lower than the real migration rate in many other cases.

It is difficult to estimate what hectareage our count of fields corresponds to but we can easily figure out what assumptions make it compatible with Lericollais' 1970-1 data. In the few fields whose area we did try to estimate we found ranges from half a hectare to well over two hectares. My adjusted figures for Lericollais' data (excluding area south of Ferala) was 1530 cultivable hectares (6186 cultivators) in the northern half (AMC) and 2950 ha (3925 cultivators) in the southern half (KKA) of the plain. If we take our household data for land owners and include the Haratine, Irlabe, Hebeyabe and 60% of the Nerenabe we get an estimate of about 4337 land owning households for the area most concerned by the proposed dike (roughly Roufi Aoudi to Dioke and north west). The same calculation for fields would give 2931 fields. These include, however, 472 fields in Senegal and a number outside the area proper. An estimate of 2400 fields in the area would be more likely to be an over-estimate than an under-estimate. Much more precision would be artificial because the real limits of the area depend on the full range of water impoundment systems eventually proposed and these have not yet been determined.

When we assume two cultivators per nuclear household for Lericollais' data we get 0.49 ha per household for the northern half and 1.54 ha per household for the southern half of the plain. Using our data and an estimate that the area includes 2500 cultivable hectares all reported to us this would give 0.58 ha per propertied household and somewhat less per cultivating household. The same assumptions would give an average field size of 1.04 hectares and an average of 0.55 fields per nuclear land owning household for the area most concerned by the proposed development.

This seems reasonable from the qualitative data in our interviews (in a number of cases there were as many as 5 households sharing a field) and fits well with Lericollais' data. Nevertheless it should be understood as a very rough estimate since we collected no statistically significant data on field size.

7 DISCUSSION OF FARMING SYSTEMS

7.1 IRRIGATED AGRICULTURE

7.1.1 SMALL PERIMETERS

There are a number of small perimeters on the periphery of the plain along the Senegal River which date from 1981 or earlier but none except small vegetable garden perimeters in the area directly affected by the proposed development. These perimeters average one to several hectares in size and produce vegetables such as onions, eggplant, tomatoes, peppers, carrots, beans, and lettuce both for the Kaedi market and home consumption and have been constructed within the last few years usually with the aid of Peace Corps. Our data on perimeter area is from interviews and has not been confirmed by scientific surveying. Since it differs in some respects from official Sonader data it should be checked by a more thorough investigation before being completely accepted. It is normal for Sonader data on perimeter areas to be seriously wrong - official plans for area to be developed regularly find their way into reports about the area actually developed - but the data needs further confirmation anyway.

The small perimeters on the periphery of the plain are the following (all administered by Sonader):

Roufi Aoudi has a 28.25 ha perimeter for maraichage of which 3.5 ha are used by women for vegetables and the rest for maize. It has 117 cooperative members. Developed in 1983 its maize yielded 2 tons per hectare in the hivernage season and 1.5 ha per ton in the contre saison froide.

Nere Walo has two perimeters: the first occupies 17 ha of which 15 are cultivated. Yields were about 4 tons/ha for the first two seasons (1980-81 and 1981-2). The second perimeter of 61 ha was developed in 1984 but cultivated for the first time in the 1985-6 season and yield data were not available at the time of our study.

Dioke has a 21 ha perimeter created in 1984 divided into 0.25 ha per cultivator. It was cultivated in hivernage of 1984 and yielded 1 ton per ha for mais.

Sintiou Boumaka has 16 ha in a perimeter created in 1979. This yielded 2 tons per ha for rice in the hivernage and 2 tons per ha for sorghum and mais in the contre-saison froide. Members feel soil is too light for rice cultivation.

Silla Rindiao has a number of perimeters in its vicinity: a seed farm (50 ha: 25 ha for locals 25 ha for state), a fruit tree farm (5 ha), and 106 ha (with 106 persons) in a cooperative rice perimeter with 1 ha allotted per cultivator. Hectarage established in 1970-2 yielded 3.5 to 4.0 tons per ha for rice in 1970 and now yields 2.6-3 tons. In 1970 they paid 500 UM for a sack of fertilizer and now pay 700 UM for a sack. In consequence they now can afford less fertilizer. Also soil is poorer now. They currently pay 720 UM for 20 liters of gasoil. Originally they also produced 2 tons per ha for mais during the contre saison froide. In all, they paid an average of 11672 UM

per hectare to Sonader as redevance each year.

Belinabe has nominally two perimeters (the official Mauritanian data gives one perimeter of 10 ha and another of 75 ha). Our enquiries suggest a problematic 36 ha total having yielded during two seasons 1.5 tons of rice per ton but now having serious canal problems.

7.1.2 VEGETABLE GARDENS

Vegetable gardens have been developed in many of the villages in the plain. Vegetables are usually planted from the beginning of November until February and begin to be harvested from late February and through the next few months. Generally men take care of the enclosures and initial construction while women do the cultivation. We noted the following gardens.

Mbahe has a 0.50 ha vegetable garden created in 1984. There are 150 women members and 130 plots. As the women are more numerous than the plots they would really like to increase the area under cultivation.

Feralla has a 1 ha vegetable garden cultivated by women and divided into 420 plots. The garden was created in 1983 and has 140 female members aged from 15 to 64 years old. Men maintain the enclosure. The garden was started under the initiative of a Peace Corps volunteer named David. The members would like to increase the area to 2 hectares.

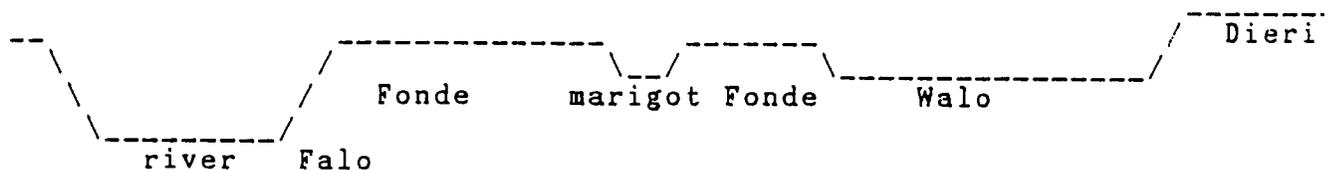
Ouloum Nere has a market garden of 1 ha started in November 1985 and is in the process of developing another 1 ha garden on the other side of the village. There are 108 women aged from 12 years to 59 years old cultivating a plot each in the original garden. The garden is watered by water from two wells - drawn by hand and distributed to the plots in buckets or cans. The head of the cooperative (the wife of Elimane Nere) indicated that the village has at least another 108 women interested in vegetable gardening and that each woman in the village could with current technology cultivate twice as much as they are now doing (within the constraints of other demands on their time). Thus the village would like to have at least 4 ha of vegetable gardens and even more if pumps and mechanized mills were available.

Roufi Aoudi has a vegetable garden 55 m by 26 m (0.133 ha) begun in 1977 maintained by 25 men and cultivated by 42 women who each cultivate a plot. They would like to have a 1 ha garden but do not have the means to construct one. Planted 17 February.

7.2 RECESSION AGRICULTURE

7.2.1 ECOLOGICAL CONSTRAINTS

The main ecological constraints are of course the drought and traditionally the variations in the level of the annual flood. Haal Pulaar in the Dirol Plain divide the land according to soil quality, elevation, and probability of inundation (which depends not only on the elevation of the land in question but also on the elevation of any lands between it and the flood). The classical Senegal valley classification of land is shown in the following sketch:



The basic schema is a four-fold categorization of land as Falo (river bank), Fonde (higher land rarely inundated), Walo (lower regularly inundated land where main recession activity occurs), and Dieri (higher land where only rainfall agriculture is possible). The different areas of walo are linked by channels (French:marigot). This classification is generally expanded to include a differentiation between different types of walo soil (Holalde) - varying from light sands to heavy clays.

The inhabitants of the Dirol Plain refer to several types of walo soil by local terms which seem to fit into a schema some what as follows:

Diediougol - Ititi - Dedal

Diediougol is high land almost Dieri land but marginally cultivable - we were not able to discover from interviews what the real difference between Diediougol and the classic soils was but at a rough guess I would say it refers in a general way to walo like soils (as opposed to Dieri soils which in principal are more sandy and are never inundated) which are now so high that they are rarely inundated or are only inundated by local rainfall run off - people largely cultivate depressions in the Diediougol areas. Dedal appears to refer to the best soils (though under what conditions it is best is unclear). Ititi appears to be soil that is a bit marginal. This classification really needs to be

worked out by a soils expert in the context of a more detailed tenure study.

Dedal is the category of land most cultivated at current low levels of flooding while Fonde land is preferred when the flood goes to higher levels. The standard Toucouleur categorization substitutes "Walo" for the two central terms. The standard system defines "Walo" land as a series of Hollalde soils running from heavy to light. We found the farmers in the Dirol Plain understood the term Hollalde but did not tend to use it. We did not have time to do work in the collade themselves and feel that the whole question of local classification of soils should be pursued further in a more detailed follow up study.

We found numerous examples of land planted after much less than 40 days inundation. In fact some land was planted with good results after only 10 days inundation while planting after 20 to 40 days inundation was common. Farmers indicated that the length of inundation required depends on the type of soil - and the crop to be planted; in general niebe is left out if the land is inundated less than 25 days. Our data on seed rates is too thin for firm generalization but we have indications that the likelihood of insect infestation, whether intercropping with niebe is planned, the soil type, and the length of inundation combine to determine how much seed to plant how close together. The details of these relationships should be worked out in a further study. Rogers guess is that for walo soil of 25-60 day inundation the average seed rate would be 10 kg per hectare with an objective of attaining a plant stand of 1-2 stalks about 0.75 meters apart.

7.2.2 ADVANTAGES OF DIOWRE TENURE

It might seem that there is a trend toward individualization (to family level) at work in the plain and that this should be encouraged. This would be a bit simplistic. We need to distinguish between recession agriculture and irrigated agriculture. Both are expected to be important in the short term future of the Dirol Plain. Diowre tenure at the liniol level has several obvious advantages over individual tenure in traditional recession agriculture. These are linked to its role in what ecologists refer to as risk management.

The variability of the annual flood means that different areas are flooded different amounts each year and this in turn means that an optimal adaptive strategy would be to spread ones holdings across the plain to include land of many different types and at many different elevations. Individuals do not have enough land to spread themselves very far and would run enormous risks over the long term - several years out of ten most of them would have no agricultural revenue if land were all individual tenure. The liniol system allows the land owning unit to have, as it were, a much larger and broader portfolio of lands expressed as

holdings in numerous collade. The collective risk is, consequently, much smaller. As the size of the liniol decreases this advantage disappears.

Another liniol practice which diminishes risk is the division of liniol land into fields only at planting time. The liniol land is surveyed after the flood to see which lands are cultivable and only then is it allocated as individual fields to those who have rights in each collengal. The ruling principle is that everyone with rights gets some land however little it may be. Even so when a particular collengal is not inundated, or otherwise not cultivable those with rights in it can not transfer those rights into claims in other collade. If they have no other rights to land they must throw themselves open to the community welfare system or make use of one of the various tenure arrangements listed in Section 5.

The liniol diowre system goes hand in hand with a system of tithes. This system has in part been assimilated to one of the classical Muslim duties: the requirement to give 1/10 of one's income to the poor. This in classical Arabic is referred to as zakat. Along the Senegal river it is called assakal and though it is paid to the rich by the poor instead of the other way it is paid with the understanding that the rich will then manage the community welfare system and take care of the poor with the tithes received. Assakal is paid to liniol heads who save it in a community grainery to be distributed to the poor or spent on communal expenditures. Some of the other tithes (such as ndioldi) also have their communal component. These community collections provide further insurance against the vagaries of the flood and its effect on individual families.

7.3 COMPARISON OF IRRIGATED AND RECESSION AGRICULTURE

7.3.1 LABOR REQUIREMENTS

We did not ourselves have the manpower and time to adequately assess the labor requirements of recession agriculture or irrigated agriculture in the plain but we did collect a small amount of information relevant to this question. The literature suggests several possibilities about the relationship between labor requirements in irrigated and recession agriculture and we attempted to include in our interviews questions which would help to clarify this issue.

Recession agriculture is a form of extensive agriculture in which there are high returns to labor as well as fairly high returns per hectare (for extensive agriculture). In contrast, irrigated agriculture is designed to compensate its labor requirements with high returns per hectare. This suggests that in the Dirol plain there might be a tradeoff between returns to labor and production per hectare. Clearly, if there is not

enough flooding for traditional recession agriculture the irrigated agriculture in the Senegal valley will also give higher returns per hour of labor. Thus, depending on the rainfall there is a continuum at one end of which irrigated agriculture is preferable both for its returns to labor and for its returns per hectare while at the other end though irrigated agriculture may be preferable from the standpoint of its returns per hectare it will not compete with recession agriculture in terms of return per hour of labor.

We set out to see if farmers in the Dirol were aware of this potential trade-off and found that they indeed perceived recession agriculture as preferable to irrigated agriculture when conditions were good for recession agriculture. Everyone questioned viewed irrigated agriculture as an inferior substitute for traditional recession agriculture.

It is difficult to disentangle all the reasons for this unanimous view but at least the following seemed important: a) in good years there is more than enough land and the traditional constraint is labor not hectareage so a family can produce more in recession agriculture than they could expect in irrigated agriculture, b) traditional authority structures and elites depend on the traditional recession agriculture for their livelihood, c) most of the irrigated perimeters known to the people of the Dirol plain are not management successes, and d) people are afraid encouragement of irrigated agriculture will lead to state expropriation of their traditional tenure rights.

One example shows the interplay of credit, recession agriculture, irrigated agriculture, and labor supply rather well. Ouloum Nere has a 1 ha. irrigated perimeter for vegetables cultivated by the women's cooperative. Roughly half of the women in the village work in the cooperative. The head of the cooperative (the wife of the Elimane Nere) claims that these same women could, with the present level of technology, cultivate another hectare and the village is in the process of building a second perimeter on the other side of the village. This means that the whole female labor force of the village could manage 4 hectares. The head of the cooperative claims as well that the main present constraints on women cultivating even more irrigated land are credit: for the initial construction costs, and the amounts of female labor presently required for hauling water and pounding grain for meals. These two tasks take up the majority of womens' daily labor. If they were mechanized there would be almost twice as much female labor available.

Recession agriculture also plays a role because the main reason women's labor is currently available to be used in irrigated vegetable perimeters is because so little land was inundated this year that it does not even require the full male labor force to cultivate it. The women in Ouloum Nere were quite firm in maintaining that should there be more demand for their labor in recession agriculture this would take priority over work in the irrigated perimeters.

One issue which we tried to get some information about in our interviews was that of the relationship between marginal land

and excess labor. We wanted to know whether, given that land ownership is for practical purposes fixed, families which had surplus labor from older children could expand the area they cultivated by making use of the various tenure arrangements to cultivate marginal land (land perhaps not optimally inundated that year) that would produce significantly less per hour of input than that sufficient to attract heads of households. We did find a number of people who indicated that this was in fact a common practice in the past but not recently because since the drought there has been so little land inundated that the minimum requirements of the resident household heads have not been met. In consequence whatever potential excess labor there might be has migrated to find work.

The migration issue is important in its own right. On many occasions liniol heads indicated that more than half of the liniol's households were resident elsewhere having migrated to look for work. It is likely that such alternatives to employment in the Dirol Plain will continue to exist.

The development goal must therefore be seen as developing alternative income opportunities in the plain which can compete with migration opportunities. If irrigated agriculture ends up offering high costs and low yields plus high labor requirements it may not entice many to return and others may leave. The local view is that everyone would return if there were excellent recession agriculture opportunities.

The near universal aversion to rice cultivation suggests that, however exaggerated the former view is, there would be few people returning to cultivate rice unless the benefits were substantially greater than they are thought to be locally. It is difficult to ascertain, however, but much of the aversion to rice may actually be a simple fear of expropriation. If this is so, profitable rice perimeters might be more successful than conversations with the local populace would lead one to think.

7.4 LINKS TO PASTORAL GROUPS

All groups in the Dirol Plain have strong ties with nomadic groups. Many of the Haal Pulaar are in origin Peul and all have strong ties with other Peul who are either nomadic or would be if the rainfall allowed. The Haratine lived largely in tents until quite recently, and are still in part transhumants, and certainly have strong ties with various nomadic Bidan groups. The latter undoubtedly have fairly strong claims on the Haratine. Thus in all cases it would be misleading to view the villagers of the Dirol Plain as sedentary with little or no animal herding proclivities.

Beyond this in Mauritania there are few opportunities for investment and in the rural areas livestock are the most profitable available investment. In the near, and perhaps

distant, term we can expect people in the Dirol to continue to invest in livestock at every available opportunity. The constraints diowre ownership put on private investment only make livestock seem even better.

One can, therefore, expect all groups to want to maintain traditional ties with nomadic groups even as they try to improve the outlook for agriculture. Livestock and agricultural production are viewed as complementary. Potential crop devastations by livestock are a serious threat that is dealt with in various ways (enclosures, uniform harvests so livestock can eat the stubble without eating someone else's harvest, and compensation for damages). No one we interviewed was antagonistic to herders as such because all viewed themselves as potential or actual livestock owners. Anger is expressed at particular crop deprivations but never, in our experience, at herding per se.

Livestock should be included in any model which attempts to predict expected behavior as agriculture in the plain is improved. The returns to labor for livestock are probably higher than those of irrigated agriculture (as is the case for recession agriculture) and it may be that if the conditions are right many Peul will opt for herding rather than irrigated rice agriculture. This will undoubtedly depend in part on what the costs of inputs are and what the production is as well.

8 ASSESSMENT OF OBSTACLES TO DEVELOPMENT OF THE DIROL PLAIN

In this section we summarize the obstacles to development noted in the earlier sections. This section is divided into two parts; economic obstacles and tenure system constraints. The former summarizes briefly our observations on labor and investment incentives. The latter looks in more detail at tenure constraints to development of recession and irrigated agriculture.

8.1 ECONOMIC OBSTACLES

Traditional tenure imposes a disincentive to investment to the extent that cultivation is done by sharecroppers or holders of usufruct or even joint collective (diowre) owners. Individual investment in land infrastructure of crops such as tree crops would give the individual rights to the investments and in consequence in practice greater rights to the land itself. In the diowre case this would elevate one individual's rights over that of the others and this is not accepted by the traditional system. In the case of holders of usufruct or sharecroppers their investments would give them permanent rights in the land in

question and this conflicts directly with the rights of the owner to evict them should it be necessary or desirable.

The lack of a land market and the virtual lack of a long term labor market (in good years there is too little labor to go around and in bad years the potential excess labor migrates elsewhere) and the nature of recession agriculture also minimize the incentive to improve land under recession agriculture. It can not be sold or consistently rented out at a higher price and the variable nature of the flood means that with or without improvements it still may be good or poor in a given year entirely depending on the flood.

In sum there may be a collective incentive for major improvements which will increase the general productivity of land (the example of the Ferala and Lewe dikes) but there is little incentive at the individual level except for land cultivated by its owner as an individual devoid of ties to any collective entity (the example of Mona's dikes).

There appear to be a number of labor constraints to development in the Dirol Plain though none of them seem insuperable. Recession agriculture is perceived as preferable to irrigated rice cultivation because of its greater returns to labor under normal conditions (pre-drought). This is likely to affect the labor supply available for both irrigated perimeters and vegetable gardens if recession agriculture improves dramatically as a result of the proposed dike.

If the infrastructure requires extensive maintenance there may be difficulty in obtaining a regular labor supply (the example of Mbahe freeloading on the Ferala dike is the most obvious reason to suspect this as a possible problem). In the long term sharecroppers or usufruct holders may feel that their contributions to the infrastructure maintenance entitle them to ownership rights and so may refuse to contribute unless given such rights.

A significant improvement in the extent and reliability of the flood may entice people away from sharecropping at 50% on core lands to doing so under a less onerous burden (ndioldi or assakal) on newly available but slightly marginal lands. This could also affect the labor supply willing to cultivate in perimeters or work on maintenance.

8.2 TENURE SYSTEM CONSTRAINTS

8.2.1 IMPACT OF WATER IMPOUNDMENT SYSTEMS

The water impoundment systems so far proposed can be divided into two parts; a) the main dike and weir and b) other smaller dikes or canals whose location is not yet clear. Since the location of the latter is not clear we can only make general remarks about their impact. For the main dike we can be more specific.

Let us begin with the main dike and weir system (the 14.7 km dike from south of Ferala past the mouth of the Dirol to just east of Dioke). The eastern half of this dike goes along high ground which appears to be called locally Fonde Diounne. This is rarely if ever cultivated though there may be adjacent areas or pockets of lower land that might be covered by the dike. In general, for this section of the dike there should be few if any tenure problems resulting from the construction of the dike. It should be easy to reach an agreement with those few who actually lose land to the dike infrastructure. There may be many more who lose water cut off by the dike than lose land directly to the dike.

From north east of Roufi Aoudi to Ferala the proposed dike passes through fertile cultivable areas where its impact may be much more serious. A marigot that flows to the Senegal near Roufi Aoudi comes from farther east and may be crossed by the dike. This marigot inundates a whole series of collade (Koylal, Mol Diakudo, Tako Teringuel etc.) which generally produce well. The route for the dike from the mouth of the Dirol to Ferala also goes through numerous cultivated collade. There may be significant impacts on agriculture by fields lost to the dike in this area as well.

The main negative impact of the dike will be that it cuts some areas off from water or retains water so long in other areas that they become infertile and unusable. The disadvantages should of course be offset by the dike's main advantage that it will retain water long enough to inundate adequately many times the area currently adequately supplied with water. Yet since in many cases it will be one group that will reap the advantages and another that is disadvantaged it is imperative that a thorough assessment of those who will be disadvantaged be made. This will require a detailed tenure study of those areas most likely to be disadvantaged (cut off from water or inundated too long) based on good topographical mapping and the most up to date plans for water impoundment systems.

The most obvious areas that may be cut off from their water source by the dike are the areas immediately south of the dike (Dialbougou, Sawamo, Toule, and Boubdoubel) though these areas like those a little further south such as Kofel probably get their main inundation from the Roufi Aoudi marigot and so would be little affected by the dike. The dike may also negatively impact collade immediately south and east of Dioke (such as Nawel or Manga).

One representative area that may be seriously disadvantaged by the dike lies further up the Dirol: the marshy area apparently referred to as Louguere. This area includes over 150 claimed fields from our interviews (and Lericollais claims 300 cultivators in 1970-71) though it is classified as not irrigable with deficient drainage and high saline content on the FAO/OMVS soils maps. The dike would quite possibly make this area less cultivable than it is because it would not drain out the Dirol until appreciably later each year. There are several other areas that fit into this category: the two main ones are east of the Dirol mouth near Ouloum Hatar and Ouloum Nere and normally drain into the east branch of the Dirol.

Most of the Falo land (the banks of the Dirol channels in this case) in the northern half of the Dirol plain might be rendered unusable as well - though it is difficult to estimate how much land this encompasses.

In both cases the amount of damage from too lengthy inundation undoubtedly depends on several factors; type of soils and their water retentiveness, the speed with which the water leaves the area (this might be improved by some minor dredging), and the date at which the water leaves (the crops need to mature before the hot summer winds arrive). These factors may indicate significant differences between superficially similar areas as far as indemnification is concerned.

It may be that by careful planning and discussion 90% or more of potential indemnifications can be officially waived as greater or equal benefits will be made available to those impacted negatively by the development. It is primarily in those cases where a liniol's only land holdings in the area impacted by the development are negatively impacted that indemnification really becomes an issue.

8.2.2 SMALL SCALE IRRIGATION

One of the goals of the Dirol Plain development plan is to construct a series of small irrigated perimeters in the plain. In principle these perimeters are to be built on higher lying lands not liable to inundation from the seasonal floods. The past experience of irrigated perimeters suggests that new perimeters may have similar mixed success depending on soil types, the resulting yields, costs and timeliness of inputs and the alternatives available to the plot holders.

It is certain that all lands suitable for such perimeters will be already owned and there is a high probability that the owners of most areas suitable for a perimeter will come from several or numerous liniols. If this involves turning formerly diowre land into individual freehold the establishment of perimeters may encounter serious obstacles. I questioned the Elimane of Dioke on this subject. He recounted how a member of

the lineage who is one of the Colonels in the ruling military committee in Nouakchott wanted to set up an irrigated perimeter and tried to buy land for it. The land was high fonde land rarely inundated and belonging entirely to the liniol. As head of the liniol the Elimane had to tell the Colonel that he could not sell liniol land - it was diowre land and belonged to the whole liniol; past, present, and future.

The real obstacle to selling diowre land is that it deprives future generations of their claims to land. If the land were given to all the individual families with claims to the land this might not be an insuperable obstacle but it would still be a major social constraint that needs to be considered. If the Elimane of Dioke could not arrange to sell land to a member of the ruling junta who was a liniol member, alienation of diowre land is not easy. In consequence construction of irrigated perimeters will require careful study of the traditional tenure for the site and resolution of tenure problems if the transition is to be successful.

It should be noted that hitherto perimeters have primarily been established by government fiat without recourse to legislation or explicit compensation. In many cases they have also given rise to serious objections and may yet end in serious litigation (should a civilian government take over).

A potential problem that would need to be resolved is that of the difference between current rights and heritable rights. Traditionally, the eldest members of a liniol with property rights have larger fields than younger members such as their own children. When the elders die the new elders - not the former elders' children - take over the larger fields by right of seniority - and so it goes generation after generation. If current rights are turned into permanent perimeter rights the current elders will obtain a share of the land in perpetuity to which they are not traditionally entitled - to the disadvantage of other members of the community. Leadership does not circulate through all families but it is not confined to individual nuclear families either. The number of disadvantaged in such an arrangement would thus be considerable.

An attempt should be made to see that irrigable land is distributed more equally among the liniol members than it might occur in traditional recession agriculture. The moral justifications for such a proceeding would be the lower risk of irrigated agriculture, the permanence of tenure and the lesser need for communal risk management provisions and hence the lessened role of elders in providing for others in the irrigation context. On the economic side, the lower productivity of sharecropping in the perimeter situation, with virtually no free market for plots, would argue for trying to encourage owner productivity. Though this has proved impossible to guarantee in other perimeters in Mauritania a complete lack of concern with this issue could be damaging in the long run.

8.2.3 POLITICAL CONSIDERATIONS

The potentially most significant obstacle to development of the Dirol Plain is the conflict between Haratine and Haal Pulaar claims to land in the core Hebeyabe area. These claims have been listed in detail in Section 6. There should be real concern on USAID's part to mitigate this potentially serious conflict if at all possible.

The Haratine, after centuries of being third class citizens (to glorify their former status quite a bit) have begun to be politically active and will only become more and more politically aware in the years to come. Though we have not investigated the legal details of their claims to tenure the following is a reasonable hypothetical summary: in numerous cases they may have cultivated land for over 10 years which they first cleared from the brush which had grown on it after its former cultivators abandoned it (possibly for as much as a century). They, therefore, feel that in Islamic law they are entitled to full rights as property owners on this land. Given the hypothetical situation I, and probably all qadis, would concur with their evaluation of the situation.

There are a couple obvious possible complications to this scenario: a) they may have paid tithes to Bidan as protection during this period and this could, though it is not clear that it ought, be stretched to infer they were not owners of the land - which had been acquired by the Bidan by right of conquest and b) they may have recently been forced off the land by Haal Pulaar and or paid some form of tithes recently to Haal Pulaar on some of the lands in question.

On the first point, in the Fom Gleita area Haratine have paid tithes to Bidan and are still considered by the local Bidan qadi to be land owners - the deciding point being that they cleared the land as free men. The tithes are interpreted as merely protection money - payments still made by many holding plots in the perimeter.

The second point is more sticky because everything would depend legally on how long payments were made, why they were made, and how long it has been since they were made. These are matters that might need to be established for every individual plot in question. We think this would be virtually impossible to do and consequently something that should be avoided at all costs. Any events more than ten years prior to the drought should be viewed as legally irrelevant - though they may help to explain current attitudes.

Some simple generalities about this politically sensitive situation should be underscored. The great majority of lands are firmly in the hands of one or the other party, lands still always cultivated exclusively by Haratine should be viewed as in their hands while lands (the vast majority) cultivated by Haal Pulaar should be viewed as in their hands.

The path most likely to lead to a resolution of this conflict, it seems to us, lies in a) making an effort to get the

status quo accepted firmly as such and b) trying to develop the plain in such a way that both communities benefit and neither, therefore, has anything substantial to complain about. If the development brings significant advantages to the Haratine they can almost certainly be relied upon to accept the situation. If only the Haal Pulaar benefit from the development and they do so on lands claimed by the Haratine there is almost certain to be lengthy and continuing confrontation on this issue. The Haal Pular can probably also be persuaded to accept the status quo in terms of occupation of lands (which is entirely in their favor though they would like us to believe that Haratine are intrinsically incapable of owning land - a simple matter of definition) if the development stipulates this explicit recognition as a condition of development.

This leaves the question of just what is the status quo (in detail at field level) and this is something that a more detailed land tenure study needs urgently to address.

Another political issue that could be an obstacle to development is the general fear of expropriation. This is centered around a belief that the raison d'etre of the new legislation is to provide a way for Bidan to acquire lands in the Senegal Valley now that the drought has rendered their traditional territory less valuable. This local belief is expressed in a general mistrust of Sonader and a concomitant reluctance to consider anything but recession agriculture - which requires no major tenure modifications.

8.2.4 SUMMARY OF TENURE CONSTRAINTS

In summary the main constraints traditional land tenure poses to the development of the Dirol Plain are the following:

1)The political problem of a potentially serious conflict between Haratine and Haal Pulaar communities.

2)Diowre or collective ownership includes rights of those yet unborn and this makes monetary compensation of the living for loss of land generally inadequate.

3)Diowre or collective ownership has advantages in recession agriculture from the point of view of risk management so everyone with collective rights may have reason to resist attempts to convert them to individual ownership as envisaged long term by the new legislation.

4)The elite who reap profits along with their communal responsibilities from the traditional system of tithes may resist any attempt to incorporate large areas into individualized tenure (as proposed in the idea of putting significant areas into irrigated perimeters).

5)The traditional system, complete with share-cropping and tithes provides incentives for owners to lease out land which they choose not to cultivate themselves each year (perhaps because that year it is more marginal than other land they own) and this adds flexibility and adaptability to the system along with its inherent propensity for hierarchy. The advantages might outweigh the disadvantages in the traditional context but in the modern context it is doubtful if this is still the case.

There is no land market at all and the incentives to improve land that might work in a market situation do not exist. The unequal distribution of land ownership is likely to continue to discourage investment in the land and improvement of its productive capacity. The sharecroppers can go elsewhere if yields go down and can not insist on a right to stay on should they improve or maintain the land.

Further, Islamic law gives rights to the land to those who make investments in it. This has traditionally implied that owners do not let usufruct holders make improvements in the land because their usufruct would then turn into ownership. The same is true for part owners of diowre land. There is no reason this prohibition would be lessened in the modern situation. Mona's loss should serve as an example to developers. Should the development involve channels and other elements needing maintenance it may be difficult to reach an acceptable long term agreement about who does the maintenance. Thus, the traditional hierarchical tenure system may make modernization of recession agriculture significantly more difficult.

8.3 LEGISLATIVE CONSTRAINTS

The constraints to the development of the Dirol Plain posed by the new legislation are twofold:

- 1) The politically derived animosity toward the legislation due to fear that it is a cover for expropriation of land.
- 2) A series of time constraints which need to be met and paper work that must be filled out in order to get land declared Domain land in time for it to be developed on time and within the budget.

9 RECOMMENDATIONS

9.1 STRATEGIES TO AVOID LAND TENURE CONFLICTS

1. Do as detailed a study of tenure in the Dirol Plain as the budget allows with particular emphasis on the specific areas of the plain likely to be significantly impacted by the most obvious features of the proposed developments: the areas discussed in Section 8.2.

2. Use the procedures of the new legislation to deal with any serious potential tenure obstacles in a permanent way.

3. Have only the minimum amount of land declared Domain land - primarily land incorporated into the infrastructure of water containment systems. Compensate any former owners and concession the land to a local representative organization that will be responsible for the maintenance of the land and its investments/infrastructure.

4. Arrange to compensate people for loss of valuable land either with value added to other lands they have rights in or with plots in an irrigated perimeter to be developed in areas not now or in the future useful to recession agriculture. Compensation of land lost with land gained (in area or value) will take care of the rights of future generations.

5. Diversify the development plan for the Dirol to include several much smaller dikes further up the Dirol. These will benefit the Haratine communities and may be used to defuse the potentially serious confrontations which might occur between Pulaar and Haratine communities if only lands cultivated by Haal Pulaar, though in many cases claimed by Haratine, have their value increased by the development. In addition, such smaller water impoundment systems will dramatically increase the benefits to

the area from runoff from the local watershed. With a single dike this water will be redundant and will not increase the area flooded beyond that reached by the Senegal flood. Containment structures higher up the water course will inundate higher lying lands and be complementary to the dike at the mouth of the river.

6. To the extent possible prioritize any additional smaller water containment structures to benefit communities or liniols which might benefit least from the main dike system. This will greatly facilitate the acceptance of the main system.

7. Include the local communities in the planning of all water impoundment systems and ask them to provide as much labor as they can for the construction of all such systems.

9.2 WAYS TO COMPLY WITH LAND TENURE LEGISLATION

1. Fund a detailed land tenure study of those areas of the Dirol likely to be included in infrastructure or irrigated perimeters or otherwise adversely affected by the development. Such a study should carry out as a minimum the tasks outlined in the attached Scope of Work. From the perspective of the legislation it is imperative that one be able to legally and justly compensate people for the value of land lost to the development. This requires confirmation of ownership and evaluation of the land lost to the development.

The preliminary study already completed could be used to dramatically reduce the amount of area for which a detailed study is required and the consequent costs of such a study. This is a matter on which some thought should be expended. If large areas of the plain are to be incorporated in irrigated perimeters it may be more cost effective to fund one full detailed study than to fund other tenure studies as each irrigated perimeter is developed. The results of other feasibility studies may make it possible to determine all areas potentially likely to be included in irrigated perimeters and these could be made part of the priorities of the detailed tenure study.

2. Follow the legislature's procedures (see the translation in the appendice) for getting all land on which major investments are to be made declared Domain land and then concessioned out to an organization charged with implementing and maintaining the investments. Make sure the process is fully carried out to the definitive concession stage.

3. Arrange to legally compensate those suffering losses from the development if at all possible by giving them land in exchange - from a new area to be cultivated or in an irrigated perimeter.

4. Ensure that procedures are started sufficiently in advance that construction only takes place after the land is provisionally concessioned.

5. The great advantage of following the legislature's procedures is that it sets limits (at most two initial months, six waiting months and two years for the statute of limitations to run out on claims for compensation or 32 months) from start to the last time any one has recourse in law to compensation for damages. This is a very short and finite period in practical terms.

9.3 OPTIMAL FARMING SYSTEMS TO ENCOURAGE

1. Encourage continuation of recession agriculture and make the transition to irrigated perimeters depend on their likelihood of success given costs of inputs, probable yields, and alternative uses of labor for the population.

2. Consider prioritizing the landless in some irrigated perimeters. This may make a dramatic difference in their success and one success may encourage those with an abundance of recession land to favor development of other perimeters. Despite the low regard in which locals have viewed the Kaedi Gorgol perimeter it should be remembered that the only initial takers of Sonader's offer of plots in the perimeter were the landless who had been traditional sharecroppers and it was their convincing success over several years which persuaded land owners to take parcels as well. The perimeter is now an apparent complete success.

3. Consider the possibility of including enough land in the Domain land used for infrastructure to plant trees for erosion control, charcoal, and fodder for animals.

4. Assume livestock will have an important role in the economy of the dirol Plain and include them in calculations where ever possible.

Some Methodological Remarks

Background

The key to collecting worthwhile data in a short period of time is having a locally comprehensible and acceptable reason for wanting that data. Without such a reason the odds are high that significantly accurate data will not be collected. If those to be interviewed do not think the researcher's goal is a worthy one they will simply try to divest themselves of the researcher in as short a period of time as possible and may have excellent reasons for not answering truthfully. This has to be understood as a normal and reasonable situation by researchers. Beyond this the actual questions asked must be easily seen to fit into the context of the acceptable purpose for the interviews. In general, it is highly unlikely that statistically accurate data on income can be gathered during a very short term of research. People everywhere have excellent reasons for not wanting to reveal full income data and it is therefore likely that in any population, not residing in a full democracy in which there is a well understood separation between tax collection and the collection of production statistics, there will be significant proportions of the population who will not answer questions about income completely accurately.

Beyond the initial need to make the research locally acceptable researchers in Mauritania face several minor problems. We have mentioned the logistic problems encountered in an earlier section of the report (Preface). In order to complete the large amount of interviewing required in the short time at our disposal we hired several local assistants. With one exception none of these assistants were adequately trained in interview techniques. They had, therefore, to be regularly stimulated to achieve greater accuracy and to strive for more objective answers. These issues were most important in the area of our questioning which concerned the different tenure arrangements practiced on the plain. The main part of our questioning which focused on who owned fields where was very straight forward.

One issue which we spent considerable time clarifying was that of the purpose to which our inventory of lands would be put. We stressed that we would be very clear to all concerned that it was not an official registration of lands but merely a working inventory which, as a first step, would help others contact the appropriate persons when any particular development was envisaged. Nevertheless, this distinction between official registration and working inventory did not prove to be particularly helpful in practice because all concerned by the proposed development were insistent that we record their lands. We were, thus, deluged by requests from heads of liniols to record the liniol lands. The only real problem this caused was that people had a tendency to define the liniol at many different levels of collective ownership and we had, therefore, to

exercise continual diligence to not record the same people and the same lands at several different levels.

Scope of Work

Fortunately, the scope of work for this research focused on issues which, in the context of the impending development, were easily made comprehensible to the local population and we therefore had only minor difficulties making people feel our interviews were worth answering.

The scope of work entailed several distinct areas of research. The first involved summarizing land tenure in the Dirol Plain. The second involved appraising constraints to the proposed development of the Dirol Plain. The third involved evaluating the Mauritanian land tenure legislation and its implications for the proposed development. The fourth involved formulating recommendations to be followed for the proposed development of the Plain.

Each of these four tasks has components which require particular care. The key to collecting accurate information in the first area is to provide the appropriate hypothetical or historical context for questions. In the context of the drought, it is ill advised to simply ask about current practices since the drought has eliminated all but the most basic agricultural practices. Should the plain be developed as proposed it is certain that most of the traditional tenure practices will be revived in the new, more normal, conditions of relatively plentiful water and cultivable land. This implies that questions should be phrased accompanied by a hypothetical context; if there were historically normal levels of land adequately inundated, if most of those who have emigrated should return to cultivate the lands they have rights to, if you had several children old enough to do agricultural labor, if most of the land to which you have rights should not be adequately inundated, if there were improved markets for vegetables, if a series of perimeters were constructed on the plain, and etc. In contrast, simple questions about current practice can provide only minimal information relevant to the proposed development.

Assessing the potential constraints to the proposed development involves an additional series of hypotheticals; relating to labor availability, labor preferences, attitudes toward sale of land and investments in land, as well as attitudes toward macro level issues such as marketing, transport, and potential relationships with Sonader. Most of these issues need to be investigated in greater depth than would be possible in a brief closed questionnaire format. Most of our questions in these areas were therefore open ended - the formal question was intended as no more than a starting point which could be pursued in several directions as appropriate.

Evaluating the potential value of the Mauritanian land tenure legislation to the proposed Dirol Plain development involved two distinct components. At the theoretical level the

legislation provides some very valuable procedures which could greatly facilitate investments by non-national organizations such as USAID; in particular the legislation establishes procedures for establishing land tenure that include finite deadlines after which no further recourse to the law is allowed. These procedures can, therefore, greatly facilitate investments in such things as infrastructure and water management structures. The second component, is more political and involves the attitude of the local population toward the new legislation. On the one hand, much of the population views the legislation as primarily intended to facilitate access by Mauritania's dominant ethnic group, the Bidane, to lands in the Senegal River Valley. Questions aimed at eliciting people's reactions to the new legislation had to try to elicit information relevant to both aspects.

Cultural and Practical Issues

Mauritanian society is fairly hierarchical by world standards and this has some rather simple implications for interviewing. Permission to interview on particular topics has to be obtained from the top of the local hierarchy. Since the social structure in the Dirol Plain is actually rather decentralized, this means that there are actually many different people who must be contacted before interviewing in particular places. In practice we found that this did not entail any serious problems as long as we began with those who were locally considered the most important individuals and then worked our way down. It does no harm to go first to an individual who is highly ranked, even if his permission does not in the end prove necessary in a particular case, whereas it is a serious error to try to circumvent the individual if his permission and acceptance is actually required. Interviewers should keep in mind that the view from the top is not necessarily the same as the view from the bottom. In several cases, individuals claimed jurisdiction over areas while the local inhabitants of those areas denied any form of subservience to the individuals and turned out to be quite willing to talk based on acceptance by their own village authorities with or without the acceptance of the higher ranked individuals. In other cases, it turned out to be very fortunate that we had started at the top.

Training of Encadreurs

Interviewing about land tenure requires intelligence, tact, patience, and careful forethought. These qualities are not always all in abundance in encadreurs employed for short-term interviewing. The better trained individuals are usually more fully employed. Yet, because land tenure research deals with issues of critical importance to the interviewed population, it is critical that any encadreurs employed be properly briefed. In

Mauritania we have found that people tend to think that Pulaar society is everywhere the same when in fact there are significant variations from area to area. This causes great problems for encadreurs who have a strong tendency either not to want to hear that things are different than expected or even to want to correct the local population and suggest that matters are not actually as they describe. In addition, land tenure research employs a specialized vocabulary which is usually not known or at least well understood by young encadreurs, even when they are Pulaar who speak Pulaar quite well. Terminology is not static and we have noticed significant variations in the use of terminology even within quite discrete areas (such as the Boghe region or the Dirol Plain). Untrained encadreurs will usually gloss over or not pick up on these differences - though the differences are usually quite significant and often important to be aware of. In addition, when the encadreur does not fully understand the vocabulary he has been asked to use he is quite at a loss to add the sort of context that discussion of land tenure issues absolutely requires.

Modifications made in the field

The main modification made to our questionnaire after arrival in the Dirol Plain was to restructure the two questionnaires into one questionnaire which emphasized tenure at the liniol level but incorporated some of the information from our household level questionnaire. This was done for purely pragmatic reasons - we had so many liniol level questionnaires to administer (basically a complete inventory as opposed to the representative sample we had initially envisaged) that we did not have enough time to administer a separate household questionnaire to a significant sample of individual household heads.

Weighting toward liniol data

The weighting of research toward inventorying liniol level holdings had some advantages as well as disadvantages. The advantages included greater comprehensiveness than initially envisaged, a better understanding of the political and social structure of the Plain, a better understanding of the variation in the collective size of liniols in the different parts of the Dirol Plain, and greater immediate utility of the research for later researchers. The disadvantages included paucity of data on differences in productive behavior at the level of the household, too little attention to household tenure practices (at the liniol level everyone tends to appear as a land owner and this structural bias tends to conceal the fact that in practice many people even if they own some land must make arrangements to cultivate land which they do not own), and the inevitable problems associated with administering what amounts to a census.

Well thought out samples are likely to be more accurate than a hastily done census which is understaffed to begin with and has to be completed within severe time constraints. This is why we initially planned to interview a well thought out sample of people and why we were not over joyed when we were forced, by universal local opinion, to spend our time on an inventory of lands. However useful such an inventory might end up it sacrificed a number of important issues by consuming all of our time. Perhaps most important was that it focused almost exclusively on land owning and cultivation by land owners of their own lands at the expense of all the other agricultural activities and forms of tenure which are traditional in the Senegal River Valley and the Dirol Plain in particular.

Suggestions for future researchers in the region

Future research on land tenure in the region should be based on a detailed and accurate map of the collade in the Dirol Plain. Using this as a basis it should be possible to get a much more precise idea of local Pulaar social structure. This in turn would make it possible to properly model the economy of the Dirol Plain. Just as there are no farms in the Dirol Plain, so there is no way of modelling the economy without taking the complicated inter-group relationships into account. In Boghe, the irrigated perimeter provided land only to mawdu leniol. In consequence, all those who had other sorts of rights in lands lost out. Further, the allocation used in Boghe has serious defects because it does not make provisions for the rights of all those whom the mawdu leniol represents in the traditional system. Traditionally, brothers, relatives, and some others have as legitimate claims as the mawdu leniol - the rights of this group are to be taken care of by the mawdu leniol and at the latter's death or the coming of age of the former neither the mawdu nor his nuclear family have any further jurisdiction over these rights. By individualizing the current rights of the mawdu leniol serious injustice is done to others. The preliminary study suffers from a similar defect in so far as it, due to circumstances described above, devoted most of its time to the rights of mawdu leniol. I hope future researchers will correct this deficiency.

Questionnaires Used

Household Questionnaire

No. of Questionnaire ___

Location of interview: _____

Ethnicity: _____

Caste: _____

Age: _____

Number of adult cultivators in the household (who eat regularly with the household).

men _____ women _____

Number of adult non-cultivators in household (who eat regularly with the household).

men _____ women _____

	Consumption	Price	Location of purchase
Sugar:			
Meat:			
Fish:			

History of your lands; how have you aquired your lands?

Explain how your lands are managed (fill in the Matrice; ask about the Diom Leydi, Diom Lewre, Dioom Dalo, et Samba Remorou).

Do you have any lands you had someone else cultivate this year?
If yes, fill in blanks for type of contract: Repetien, Dokal, Caatal in the Matrice.

When did you decide which of your lands should be cultivated this year?
-before the end of the flood?
-after the waters began to recede?
-other.

Do you have any diowré land?

Do nomads graze their flocks on you fields after the harvest?

Describe the types of contracts which regulate the activity by Peulh, Haratine, Bidane, Toucouleur, and members of your family.

Who is it who is supposed to resolve conflicts which occur in the Niaynga period (after the harvest)?

Do you have any flocks yourself?

Questionnaire for the liniols

Name of liniol: _____
Name of the mawdo liniol: _____
caste of mawdo: _____
residence of mawdo: _____
location of the interview: _____

Population of the liniol: _____
number of poy (galle): _____

Ethnicity of liniol: Peulh: _____
Toucouleur: _____
Haratine: _____
Other: _____

Principal Villages:
Residence: _____
Number of poy: _____

Professions excercised in liniol:

Number of poy
artisan _____
merchant _____
agriculture _____
nomad _____
migration _____
Other _____

Which of your lands were inundated in:

1973 _____
1982 _____
1985 _____

Were there any fields which were not cultivated this season?

_____ If yes, how many _____

If yes, Why??

too much inundation _____
too little inundation _____
Other _____

How many households in the liniol seasonally exchange lands they own in Senegal for lands owned by Senegalese households in Mauritania?

Have the lands of out-migrants been taken over by others?

Has the return of migrants brought about land tenure conflicts?

Which liniols have lands along the roads?

11 SCOPE OF WORK FOR DETAILED SURVEY OF LAND TENURE

A more detailed land tenure study should be undertaken - possibly in the first year of the implementation phase of the project. This study should:

- 1) Verify or correct all major features of the Dirol map and verify or improve the land inventories of the preliminary tenure study.
- 2) Locate the shape and contour of the collade on the Dirol Map on a scale of 1:10,000.
- 3) Evaluate exactly what land would be affected by the infrastructure of the dikes most likely to be constructed at the time of study and assess the land's productivity, value, and owners.
- 4) Evaluate what land will be lost to cultivation due to too long a presence of water in the post-dike period and what land will be likely to be put into irrigated perimeters in the near future and assess the productivity, value and ownership of this land.
- 5) Attempt to assess how much and what land in the Dirol is owned by Senegalese citizens.
- 6) Accurately evaluate traditional and current cropping patterns in the Dirol Plain.
- 7) Assess maximum and normal yields in recession agriculture on the plain for all major recession crops for one year and 10 year periods for both the pre-dike period and the post-dike period.
- 8) Discuss questions of indemnification with the owners of land to be affected in (2) or (3). In particular discuss following the procedures of the new legislation to indemnify those who will lose land and discover what forms of indemnification would be acceptable to the local population.
- 9) Use data from (7) plus tenure data to propose reasonable and just levels of compensation - in terms of new land to be developed for recession agriculture or in terms of plots in perimeters to be developed. Develop for USAID suitable indemnification procedures both acceptable to the population and acceptable to USAID from a cost benefit perspective.
- 10) Identify which lands are currently cropped by Haratine, how long they have been cropped and what, if any, tithes have been paid on such lands.

11) Attempt to find out what lands were acquired from Haratine by Haal Pulaar in the 10 years prior to the drought and how they were acquired.

12) Evaluate the current status quo of land occupation in areas claimed by both Haratine and Haal Pulaar and using data from tasks (10) and (11) and discussions with the local population and USAID come up with the minimum set of additional water containment structures that would bring both sides to accept the current status quo in the area.

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ATTACHMENT 1

SCOPE OF WORK FOR PRELIMINARY LAND TENURE STUDY
PIO/T No. 625-0929-3-60014

1. Survey the villages on and adjacent to the Plain and determine the prevailing land tenure situation.
2. Identify the various groups and classes who have land tenure rights on the Dirol Plain, and identify the differing types of user rights which they enjoy.
3. Assess the effect of and potential constraints arising from current land tenure practices on water systems and their use, with particular attention to the types of systems under consideration for the MRVD Project.
4. Assess the potential impacts of the construction of water impoundment systems, as proposed in the RBDO and WMS-II reports, on the land tenure situation.
5. Assess how the introduction of small-scale irrigation might affect the land tenure situation, particularly in regard to those areas identified in the RBDO and WMS-II studies.
6. Generally identify the location of walo cultivated by village or major group, on a base map at a scale of 1:10,000. This was modified in Nouakchott in conversations with USAID to be a map on the scale of 1:50,000 with enlargement to 1:10,000 at USAID's option.
7. Identify the number and location of plots being worked on the Plain and what is being produced thereon. This was modified in Nouakchott to not include detailed studies of crop production since this is best done by aerial photography and on site field verification not by a small team of people interviewing in the villages. A complete lack of diesel fuel during our research in the area also left us no leeway to survey the collade in person.
8. Provide basic minimum information on land tenure as required for compliance with GIRM legislation on land utilization and development.
9. Recommend strategies to avoid or minimize land tenure problems and constraints which might impede the MRVD Project and the development of the Dirol Plain as a natural development unit.
10. Identify leaders and decision makers whom USAID and other project planners should be dealing with and procedures to be followed for ensuring resolution of tenure problems.
11. Prepare a scope of work for mapping detailed, individual land holdings and the tenure system applicable to such holdings, and any other work or topics which the Contractor recommends to be addressed in a subsequent study phase.

ATTACHMENT 2

MAURITANIAN LAND TENURE LEGISLATION

ISLAMIC REPUBLIC OF MAURITANIA

Honor - Fraternity - Justice

LAND TENURE LEGISLATION

1. ORDINANCE No. 83.127 OF 5 JUNE 1983
CONCERNING LAND REFORM AND ORGANIZATION OF DOMAIN LANDS
2. DECREE No. 84.009 OF 19 JANUARY 1984
CONCERNING APPLICATION OF ORDINANCE No. 83.127 OF 5 JUNE 1983
ON LAND REFORM AND ORGANIZATION OF DOMAIN LANDS

translated by

Dr. Thomas K. Park
Land Tenure Center
University of Wisconsin-Madison

Ordinance 83.127 of 5 June 1983 concerning land reform and the organization of Domain lands

The military committee for National Preservation has deliberated and adopted;

The President of the Military Committee for National Preservation, Head of State, promulgates the following ordinance;

First Article: Land belongs to the nation and every Mauritanian, without discrimination of any kind, can, in conformity with the law, own land.

Article 2: The state recognizes and guaranties private property which must, in conformity with the shari'a, contribute to the economic and social development of the country.

Article 3: The traditional land tenure system is abolished.

Article 4: Any property right which is not directly linked to a human being or a legal corporate entity and which does not result from a legally protected due process is non-existent.

Article 5: Land registrations made in the name of chiefs and notables are understood to have been granted to their traditional associated collectivities.

Article 6: The collective rights legitimately acquired under the former regime, initially confined to agricultural lands, benefit all those who have either participated in their initial development or contributed to their continued exploitation.

Individual ownership is normal. When there are no arrangements for division, and when the social order requires it, redistribution will be arranged by the administration.

Article 7: Collective lawsuits concerning property are legally inadmissible. Such lawsuits now pending before the courts and tribunals will be struck off the roles by special decisions of the jurisdiction concerned. The decisions or judgments to strike such lawsuits off the roles are not appealable.

Article 8: Any form of leasing land not in conformity with the shari'a is prohibited; the parties can not, by mutual agreement, circumvent this intention which is for the public good.

Article 9: Dead lands (terres mortes) are the property of the state. Lands which have never been developed or whose development has left no trace are considered dead.

Extinction of property rights by indirass (the obliteration of any traces of development) can be opposed by the original proprietor and by his heirs, but not in the case of properties which have (since) been (officially) registered (by someone else).

Article 10: Lands which have belonged to the state, by virtue of the intentions of Law 60.139 of 2 August 1960, remain Domain lands and

the prescriptions of Articles 12 and 13 below are applicable.

Article 11: Real estate left vacant and without owner is acquired by the state under the conditions defined by the shari'a.

Article 12: Whoever wishes to acquire land categorized as Domain land must obligatorily first obtain a concession; this only becomes definitive and only implies a transfer of property rights after the development of the property according to the conditions imposed by the schedule of expenditures (cahier des charges) and by, if relevant, the concession deed.

Article 13: The development of Domain lands without prior concession confers no rights of ownership to the developers. In such cases, the state can either repossess the land or normalize the occupation.

When the plot includes no cultivation, construction or works, the repossession opens the way to no indemnity. In the opposite case, the irregular occupant will be reimbursed for his expenses, unless he prefers to remove at his own expense his plants, constructions or works.

In either case, and in conformity with the shari'a, the reimbursement applies uniquely to the materials which could be recuperated after removing or destroying the fixed structures.

In case no amiable agreement about the amount of reimbursement is reached, the amount will be established by the competent civil jurisdiction with authority over the evicted occupant.

Article 14: The state proceeds by administrative means to preserve its rights over Domain lands. It is up to whoever contests these rights to obtain legal council and to prove that the lands are not Domain lands.

The contestation must obligatorily be introduced, under pain of forfeiture, within a delay of one month after notification of the formal demand to vacate the premises.

The litigant has only two months to produce his proofs; this delay in the resolution of the case can not be extended. The decisions reached about the litigation are not appealable. Contest of the decision does not have the effect of delaying its execution.

Article 15: The state is obligatorily called as intervening party in any case involving the official recognition of individual property rights.

This rule is not applicable, and the state is not to be called, when the real estate has already been the object of a Domain concession which has become definitive.

Article 16: Tribunals must declare themselves incompetent whenever litigation involves Domain lands.

Article 17: Exception of lands from litigation (before a tribunal) on the grounds they are Domain lands, may be proposed by the administration, or by the defendant; the judge may also base his decision on this principle.

In the absence of agreement, the tribunal must defer ruling on the claim itself and refer the parties to the competent

authorities for resolution of this fundamental question.

Such authorities are empowered to make decisions about Domain status by an explicit request by the administration, defendant or judge.

Article 18: The judge of disputes over Domain status must confine himself to pronouncing whether the land is Domain land or not. He is forbidden, in this case, from deciding anything about the property rights or from designating, even indirectly, the legal owner.

Article 19: The decisions reached by applying Articles 14 and 17 above can not be interpreted as contradicting the state's claim to lands unless the Administration has been represented or has registered written conclusions.

Article 20: Concessions of large tracts of land are not made unless the proposed investments involve an appreciable economic and social impact and only to the extent that the legitimate interests of the small land holders are preserved.

Article 21: Property rights can not prevent the realization of a project of national or regional importance and can not in particular, interfere with the harmonious expansion of an urban area.

No one, however, will be forced to give up rights except when it is in the public interest and in return for just compensation.

Article 22: All wells and bore-holes situated outside of private property are declared of public utility and for public use.

Article 23: The essential (vital) space of rural areas is protected. The details of this protection will be developed in legislation.

Article 24: Individual rights traditionally based on property holdings of any kind may optionally be defined through the system of registration.

Registration becomes obligatory, however, for certain transfers of property restricted by land tenure legislation.

Article 25: Rights which do not result from a definitive concession are subject, before their registration, to an administrative verification procedure.

Article 26: Disputes over Domain lands come under the exclusive jurisdiction of the mixed courts of the tribunals (chambres mixtes des tribunaux).

The rules of ordinary civil procedure apply whenever they are not contrary to those enunciated above.

Article 27: The juridical system for real estate remains set by the shari'a for anything that is not regulated by the present ordinance.

Article 28: The decrees passed in the council of Ministers clarify, in so far as necessary, how to apply this ordinance; which abrogates and replaces the Law no.60.139 of 2 August 1960.

Article 29: The present ordinance will be published according to the procedure for urgent matters and put into execution as law of the land.

Done in Nouakchott, on 5 June 1983

For the Military Committee for National Preservation

President:

Lieutenant-Colonel Mohamed Khounaould Haidalla

Decree 84.009 providing the implementation of Ordinance 83.127 of 5 July 1983 concerning land tenure reform and organization of Domain lands.

President of the Military Committee for National Preservation,

On the report of the Minister of the Interior;

Given the Constitutional Charter of the Military Committee for National Preservation of 25 April 1981;

Given Ordinance 83.127 of 5 June 1983 concerning land tenure reform and organization of Domain lands;

Given Decree 133.80 of 17 December 1980, concerning the fundamental rules relative to the Ministers' portfolios;

Given Decree 91.83 of 29 September 1983 establishing the Composition of the Government;

Given Decree 50.81 of 8 May 1981, delegating power to the Prime Minister;

The unanimous Council of Ministers

DECREES

First Article: The state is the juridical incarnation of the Nation. It ensures the administration of the national patrimony.

Article 2: To be legally protected, the development of a plot must include constructions, crops, or dikes for retaining water.

This development must be in conformity with Ordinance 83.127 of 5 June 1983 and the present Decree.

Article 3: For every rural community (agglomération rurale), the essential lands (espace vital) will be set by decree of the Interior Minister following the advice of the Governor of the Region concerned.

The advice, tendered, is to be based on the information provided by the regional security, agriculture, and hydrology services.

Article 4: A rural community (agglomération rurale) consists of any group of at least 50 permanent habitations installed in a viable zone.

The criteria of viability are established by a circular of the Minister of Interior on the advice of the Ministers of Hydrology and Rural Development.

Article 5: Wells and bore-holes, situated outside private property but built by private parties can not be reserved for their exclusive use.

Those who have built them enjoy only a right of priority.

The implications of this right of priority will be detailed by a circular of the Interior Minister.

Article 6: Sedentarized collectivities, or those located near wells or bore-holes which they have built and regularly maintain, enjoy a priority in their use.

Individualization of Property

Article 7: Registrations of lands made in the name of Chiefs or notables in their official roles benefit all members of the associated collectivities who have participated either in the initial development of the lands or in their on-going development.

Article 8: All those who by their work or assistance have helped the land be productive are considered to have participated in the initial or on-going development of the land.

Article 9: Informal or friendly subdivision of land intended to promote individualization of land must, to avoid being nullified, be supervised and approved by the administrative authorities and registered in a special land register.

Article 10: A land register is to be established in each département to record the agreements and decisions over subdivision of collective lands.

The regulations covering the maintenance of this register will be established by decree of the Interior Minister.

Article 11: Subdivision agreements are to be registered as soon as the deal is closed and are then immediately binding.

Article 12: Before any division is made a reserve of land at least equal to one tenth of the surface to be divided must be established by the local authorities.

This reserve is intended in the first place to guarantee the rights of people who are not present, or are not represented in the above division, for a period of two years from the date of registration.

At the expiration of the delay referred to in the above clause, the reserve can either be used for a local, regional, or national project or be divided to complement the initial division.

Article 13: When amicable division can not be arranged, if the social order requires it, and if the redistribution does not compromise the profitability of the plots, the division will be arranged in the presence of members of the collectivity concerned by a commission presided over by the Prefet and including;

- a magistrate of the departmental tribunal,
- the Commandant of the local militia (Brigade de Gendarmerie),
- the Head of the regional agricultural service,
- a Representative of the Extension Service (Structures d'Education des Masses).

Article 14: On advice of the Prefet concerned, the Governor decides by decree that the said commission must intervene and reports back to the Interior Minister on a weekly basis.

Article 15: The Prefet convenes the commission and fixes a place for assembling the collectivity as well as the date of the division which must be no more than a month after he receives the decree.

He assures the greatest diffusion of the news through the official channels - posting announcements and broadcasting announcements on the radio.

Article 16: A report of the proceedings, which must be in conformity with Article 13, is written into the land register after approval by the Governor.

The clauses of Article 12 are also binding.

Article 17: The division is to be between individuals without any discrimination and in an equitable way.

The interests of those having rights and of those who might benefit from Article 8 are to be preserved in conformity with the shari'a.

Article 18: Transfers, exchanges, and reallolements are not authorized until after the division is registered.

Any transfer of property occurring after the completion of the initial division must be notarized by the clerk of the departmental court (Greffier du Tribunal) and registered in the land register.

If this is not done the transfer is null and void.

Article 19: In cases where recession agriculture is practiced the individual plots are perpendicular to the water course or dam.

Article 20: The requirements of the social order are understood by the Interior Minister who can order territorial authorities to start a process of land division.

Article 21: Any collectivity which wishes to retain lands undivided must transform itself into a regularly constituted cooperative in which the members have equal rights and equal duties.

The same is true for collectivities whose lands can not be divided among individuals for economic or technical reasons noted by the Commission referred to in Article 13 of the present decree.

Concessions of Domain lands

Article 22: Concessions of any kind, provisional or definitive, are made according to the following forms:

by decree issuing from a Council of Ministers when the area of the land is greater than two thousand square meters in an urban zone and greater than thirty hectares in a rural zone;

by decree of the Finance Minister:

a) in a rural zone; for areas greater than five hectares but not exceeding thirty hectares,

b) in urban zones; for areas less than two thousand square meters in residential, commercial, industrial, and artisanal developments,
for areas between one thousand and two thousand square meters in zones reserved for future expansion (habitat évolutif).

by decree of the Governor for areas not exceeding:
one thousand square meters in zones reserved for future expansion (habitat évolutif) and in non-subdivided zones.
two hectares or five hectares for rural concessions awarded respectively to individuals or corporate entities.

The expiration of provisional or definitive titles to concessions is pronounced by decree of the Council of Ministers for areas greater than two thousand square meters in urban zones and thirty hectares in rural zones and by the Finance Minister in other cases.

Article 23: The provisions which follow concern only the concession (alienation) of Domain lands. The administration reserves the power to grant leases on special conditions decreed for individual cases, to delegate power of sale or exchange in all cases where it is desirable to assign such power to the public services provided that the assumption of responsibility for the properties which are the object of such delegation is immediate and effective.

Rural Concessions

Article 24: Provisional rural concessions are made according to the normal clauses and conditions of the annexed schedule of expenditures (cahier des charges) and according to those specially mentioned in the deed of concession.

Article 25: Whoever wishes to obtain a provisional concession for a rural property must deposit in the hands of the district authority (Chef de la Circonscription) concerned, to be addressed to the Governor or by the intermediary of the governor to the Finance Minister, a request mentioning:

1. civil status, if a corporate entity the name, capital and registered office.
2. a declaration of decision to reside in the State.
3. as complete a description of the plot as possible; location, what is included, and its limits.
4. the use to which the land is to be put - including a technical dossier detailing the developments intended and their socio-economic impact.
5. a declaration of awareness of the laws, decrees, and opinion regulation Domain concessions and of intent to respect those prescriptions.

To any request for a provisional concession must be annexed:

1. authorization of proxy if the person making the request acts in the name of another - individual or corporate entity.
2. a duly notarized copy of the requestor's identity papers.
3. for foreigners, an attestation from the Interior Minister verifying that the interested party has fulfilled all the immigration requirements.
4. For corporate entities a copy of the company charter or constituting acts.
5. a map in three copies signed by the requesting party, stamped by the Chief District Administrator and endorsed by the appropriate technical services giving the location of the plot with respect to permanent and easily identifiable markers, its limits and approximate area, and the distance to the nearest settlement.

Article 26: Any request for a rural concession, which must be referenced in the accompanying documentation, will be registered under an order number on its date of reception in a register established for that purpose and maintained by the offices of the administrative district concerned. This registration must include mention of the names and qualifications of the requesting party.

A receipt is to be given to the requesting party.

If the request for a concession concerns several administrative districts, the Head of the District which receives the request must send a copy of the request to his colleagues by the intermediary of the Governor concerned. Mention of sending these copies is to be made on the original request.

Article 27: The submission of a request for a Domain concession confers by itself no right of any sort on the requesting party which must absolutely refrain from occupying the plot or undertaking any action on the plot before obtaining the concession.

If this provision is not observed, the unauthorized occupant can only be considered as acting in bad faith and Article 13 of Ordinance 83.127 of 5 June 1983 must be applied.

Article 28: The Chief District Administrator, after having verified if the request is established in conformity with Article 25 above, makes the request known to the public:

by radio broadcasts

by posting notices in the places reserved for this inside the district administrative offices and in the villages located in the immediate vicinity of the plot requested.

These notices will make known the names of the requesting parties, the nature of the projected development, and the designation of the plot requested with a description of its location, limits, and area.

Article 29: At the expiration of a delay of one month from the date of posting, and if no contest of the Domain status of the plot has been received, the Chief District Administrator is to send to the Governor or to the Finance Minister the dossier of the case including:

the request and the attached documents,
a copy of the public notice,

- a report giving an account of the information in his possession concerning the plot requested and the financial capacity of the requesting party,
- a technical dossier for the project as well as the pledge of the requesting party to furnish all information required by the appropriate services responsible for seeing that the approved development is carried out and maintained,
- an assessment of the economic and social impact of the project and the affect of this last on the interests of the small property owners.

Article 30: When the Domain status of the requested plot is challenged within the delay mentioned in the preceding Article, the administrative authorities must postpone sending the dossier on until the Domain status of the plot is decided according to the provisions of Article 14 of Ordinance 83.127 of 5 June 1983.

Article 31: The decision of provisional concession is communicated to the interested party after all prescribed formalities have been fulfilled and all fees and expenses have been paid.

Article 32: Provisional concessions terminate:

1. by expiration of the standard delay when no extension is granted,
2. by voluntary renunciation,
3. by decease of the concessionaire if the heirs do not request renewal within six months of the date of death or do not obtain authorization to transfer the concession to their benefit or to the benefit of someone else acquiring their rights.
4. by dissolution of the corporate entity holding the concession unless the right to request a transfer of the concession is granted, as part of the dissolution, to an associate,
5. by cancelling of the concession by the granting authority,
6. by transformation of the provisional concession into a definitive (permanent) concession.

Article 33: Cancellation is decided by decree of the Council of Ministers or by Ministerial order according to the provision of Article 22 above in the following cases;

1. non-completion within the time limits prescribed of all the developments promised in the schedule of charges (cahier des charges) and the concession deed,
2. non-payment of assessed fees and taxes,
3. cessation of activities or renting, without prior authorization, of the existing plants, buildings, or plot.

In the last case cancellation is immediate, in the other two cases it is only declared after an investigation.

The administration reserves the right to try to recover any assessable unpaid fees.

Article 34: When cancellation of a provisional concession takes place and existing orchards, cultivation, construction or developments are noted, the former concessionaire, the heirs, or creditors may;

- a) either proceed, within six months of the decree or order announcing the cancellation, to remove the investments,
- b) or present a take-over candidate agreeable to taking over the concession under the same conditions and obligations as the initial concession.

The take-over candidate must be approved by the authority granting the concession and the latter, if it rejects a candidate, is under no obligation to justify its decision to reject.

When the concessionaire has not removed the material investments within the delay allowed, if no take-over candidate is accepted and the state does not make use of its right to purchase the investments, the provisional concession will be auctioned off in a public auction;

- a) specifying the original as well as any special supplemental conditions required,
- b) the auctioneer will be obligated to arrange that the former concessionaire, the heirs, or the creditors, are indemnified for the improvements made to the property as evaluated by the commission referred to in Article 38.

Article 35: After one fifth of the investments agreed upon have been made the concessionaire may obtain, on demand, the definitive concession of the property in return for paying the title price, and the associated fees; surveyor's fees, registration fee, fee for change of land tenure status, registration taxes, and notarization stamps.

The definitive concession will be granted by decree of the Council of Ministers or by decree according to the provisions of Article 22.

Either decree is the equivalent of a property title.

Article 36: The decree of definitive concession will contain a written commitment guaranteeing the fulfilment of the development objectives within the specified periods of time and forbidding, unless this clause is cancelled, any abandonment or partial abandonment of development without authorization of the appropriate authorities.

Article 37: The party taking over a rural concession, having satisfied the development conditions imposed by the act of concession and the schedule of expenditures (cahier des charges) may obtain a definitive concession for the property either by decree of the Council of Ministers or by decree according to the provisions of Article 22.

Either decree will not be made until the title price stipulated in the provisionale deed of concession (acte de concession provisoire), and the associated fees enumerated in Article 35 are paid.

Article 38: The certification of the development of a provisional concession as well as the evaluation of the material investments referred to in Article 34 will be made by a commission presided over by the Chief District Administrator and including the heads of the appropriate technical services.

Article 39: Before any provisional concession, the land in question must be registered in the name of the state.

Urban Concessions

Article 40: The Habitat and Urbanism services establish plans for subdivisions based on the studies of the Topography and Cartography services, taking into consideration the permanent constructions built on the subdivided properties, the property titles held by individuals and the concessions already granted, or developed, and those not yet titled.

Article 41: After notarization (stamping) by the appropriate technical services the subdivision proposals are submitted to the Minister in charge of urbanism.

Article 42: The project dossiers must include, besides the opinions of the services referred to in the preceding Article, the list of obligatory expenditures defining the intended zoning of the different areas, the minimum investment required, the easements (servitude de reculement), the percentage and area to be constructed on, and in a general sense the urban regulations applicable.

The project is approved in the Council of Ministers on the initiative of the Minister charged with Habitat.

The decree approving the subdivision development states its public utility and stipulates that the plans will not impede the public right of way.

Article 43: The plan of the subdivision must be followed on the land and each lot must be delimited by markers of the standard type.

Article 44: The Domain administrative services (services des Domaines) set in motion the procedure for registering, in the name of the state, the lands intended to be subdivided;

1. excluding;
 - lots already registered,
 - lots on which rights already exist permitting the holders of those rights to obtain, for themselves, a property title,
2. after purging all other rights.

Article 45: The main types of subdivisions include;

1. residential, commercial, industrial and artisanal subdivisions each subject to special development conditions,
2. subdivisions reserved for future development (habitat évolutif) or for Mauritanian retail trade.

A - Residential, Commercial, Industrial, and Artisanal Subdivisions

Article 46: Whoever wishes to acquire a lot should submit to the Finance Minister, by the intermediary of the appropriate Chief District Administrator, a request containing;

- a) family names, first names, nationality, profession
- b) all the (relevant) information on financial situation and the proposed investments

c) the designation of the lot desired and the use to which it will be put

To this request should be annexed:

- a) a copy of identity papers certified to be correct by the Chief District Administrator,
- b) if appropriate, a copy of the statutes of the corporate entity requesting the lot,

The Chief District Administrator must add to these documents his own recommendation and all useful details on the financial status of the interested party.

Article 47: Requests concerning subdivisions located in the District of Nouakchott must be submitted to the Director of Domain Lands (Directeur des Domaines) who will check them and send them on, with his own remarks, to the District Governor.

A consultative commission is responsible for examining these requests and for providing a considered opinion. This commission is to be composed of:

- The District Governor of Nouakchott (President)
- The Economic Assistant of the Governor
- The Director of Domain Lands
- The Director of Habitat and Urbanism
- A representative of the Extension Service (Structures d'Education des Masses).

The President may call any official or any person capable of providing information useful to the work of the Commission.

The secretarial services of the commission are provided by the Director of Domain Lands.

The conclusions of the commission are set down in the minutes and forwarded to the Finance Minister for decision.

Article 48: Authorization to occupy is sent by the Finance Minister after payment of the base price of the lot and of the surveyors fees.

The authorization must be signed by the beneficiary who, in so doing, commits himself, at the risk of cancellation, to enclose the lot within two years of the date of authorization and to complete within five years of the same date, constructions in conformity to the plans (submitted) and the urban regulations having a value at least equal to the minimum investment which was specified in the schedule of expenditures (cahier des charges).

Article 49: Authorizations to occupy are given with priority to industrial and commercial establishments that are unarguably linked to the development of the country, and, to organizations whose services are of social benefit.

The prior consent of any Ministers concerned is required.

Article 50: Authorizations to occupy are individual, they can neither be sold nor given away nor can they be transferred for any reason whatever; disregard of this will cause immediate loss of the concession, reversion of the land and any existing construction to Domain status.

In all cases when the beneficiary of the authorization dies, the heirs, if provided with a certificate notarized by the Tribunal or a notary, may request to have the rights of the deceased transferred to them.

Article 51: After delivery of a construction permit and the fulfilment of the minimum development specified in Article 48, the holder of the authorization to occupy, will obtain, on demand, the definitive concession for the plot in return for payment of the fees and taxes not specified in Article 48.

At the expiration of the period prescribed for development the administration must obligatorily give up its duties as title holder.

The definitive concession is made by decree issuing out of a Council of Ministers or by ministerial decree, according to the distinctions provided for in Article 22.

The decree is the equivalent of a property title

The provisions of Article 36 of the present decree are applicable.

Article 52: The certification that sufficient investments have been made will be done by a commission composed of;

1. the Chief District Administrator or his representative,
2. the Chief of the Division of Public Works

The Commission must decide one of the following:

to make a definitive concession

to remove a title holder's rights to a title

to extend the time period for at most an additional year if this extension has been requested by the interested party and appears justified

to withdraw the resolvent clause written into or to be written into the property title.

Article 53: The removal of a title holders' rights to a definitive concession must be done by decree issuing from a Council of Ministers or by ministerial decree according to the provisions of Article 22.

The abolishment of someone's authorization to occupy and the abolishment of the resolvent clause is to be done by decree of the Finance Minister.

The extension of the time period is to be made by decision of the authority granting the extension.

Article 54: When such rights are removed, the price of the land and the fees and taxes already collected are acquired by the Public Treasury.

B - Subdivisions reserved for future development (habitat evolutif)

Article 55: Citizens who wish to establish themselves in areas reserved for future development or for retail trade must submit, to the Chief District Administrator, a request to obtain an authorization to occupy.

Those who are already living in the area but would not be able to obtain a property title are to have priority.

The same person can not legally receive more than one authorization to occupy.

Article 56: Those receiving authorizations to occupy will be selected by a commission named by the Governor and presided over by the Chief District Administrator.

Article 57: Authorizations to occupy are drawn from a counterfoil book with three detachable copies and are to be initialized and noted (on stubs) by the Chief District Administrator. Of these copies one is to be given to the recipient of the authorization and one to the Office of Domains (Direction des Domaines) for entering into the index of subdivided developments.

An index of subdivided developments must also be kept in the District Administrative office.

During the course of periodic verifications, agents of the Office of Domains must check that the two indexes are in agreement.

Article 58: On obtaining an authorization to occupy a fee has to be paid whose amount is established in the schedule of expenditures for each subdivision or by the Regional Council (Conseil Régional).

Article 59: Authorizations to occupy are personal and can not benefit anyone other than the person designated.

They can not be sold, given away, or transferred for any reason whatsoever and are completely forfeited if this is attempted.

Article 60: To avoid the consequences mentioned in the preceding article, the designated person may present for the approval of the appropriate authorities a substitute candidate to whom the material investments already made may be turned over on the following conditions;

1. If the investments already made are at least equal to the minimum prescribed in the schedule of expenditures (cahier des charges).
2. If the person originally authorized is prevented making the prescribed investments by unforeseen events beyond his control or by any other factor indicating the absence of a speculative motive.

Exceptions of this sort can under no circumstances be made within less than one year from the date the original authorization was received.

Article 61: The turning over of material investments must take place according to the following procedure;

The original party authorized submits to the appropriate authorities a request setting forth the reasons why the proposed development can not be completed.

He attaches to his request:

- the original of his authorization to occupy
- three copies of a bill of sale for the material investments conforming to Annex 2.

The appropriate authorities, after having decided on the legitimacy of the request, send the bills of sale to the Registrar (Receveur de l'Enregistrement).

The Registrar goes ahead with the formalities of registration, after receiving any fees due for the changes in conformity with the tax code (Code des Impôts).

Upon receipt of the two copies of the bill of sale returned with acknowledgement of the registration, the authorities annul the old permit to occupy and establish a new permit in the name of the purchaser (of the material investments).

Article 62: If the authorized occupant dies, the heirs after obtaining a notarization of the death from the Tribunal or a notary may request the transfer of the rights of the deceased.

Article 63: Authorized occupants are required to enclose their lots, in conformity with the provisions of the schedule of expenditures (cahier des charges) within two years from their receipt of the authorization.

To obtain a definitive concession, they must complete the stipulated developments in no more than five years.

Article 64: Authorized occupants are required to conform to the regulations for orientation and leveling provided by the offices of Habitat and Urbanism.

Article 65: Failure to enclose within two years combined with failure to complete development within five years will mean forfeiture of the lot.

When forfeiture occurs the fees already paid remain the property of the Treasury as a form of penalty.

Article 66: The investments made will be evaluated by the Commission formed as specified in Article 38.

This evaluation may be requested at any moment by the authorized occupant, but will otherwise be made by the Administration at the expiration of the five year period, though in exceptional cases the period may be extended to a maximum of one additional year.

Article 67: After agreement that the investments have been made, the authorized occupants may obtain, on demand, the definitive concession for the land. This concession is made by decree issuing out of a Council of Ministers, by Ministerial decree, or by decree of the Governor according to the distinctions provided for in Article 22 upon receipt, by the Office of Domains (Bureau des Domaines), of the registration taxes, stamp taxes, real estate taxes, and surveying costs.

Article 68: Any litigation arising out of concessions are the jurisdiction of the appropriate regional mixed tribunals (chambre mixte du tribunal régional territorialement compétant).

Any important information concerning the execution of these Articles should be communicated

1. By the interested parties to the Finance Minister,
2. By the Administration, to the interested parties at the residence appearing on the requests submitted and on the deeds of concession.

Even if residence changes, notifications will be sent to the address first listed by the interested parties.

Article 69: The authorization, referred to in Article 36 of this Decree, concerning the transfer of urban or rural lands before fulfilling the final conditions, is to be granted on the following conditions;

1. If the investments already made are at least equal to one fifth of the total required.
2. If the concession holder is prevented from completing the developments for a reason that suggests the absence of speculative motivation.

Special Provisions

Article 70: All leasing agreements which imply division of the profits of the enterprise are prohibited.

The same is true of any (such) agreements whose object is the rent of agricultural materials and draught animals or supplies of seed or fertilizer.

In all cases the payment should be in national currency (not shares of the profits).

Article 71: Vacant lands without masters, except those belonging to minors with legitimate rights or lands which are registered, can be absorbed into the Domain lands by the state with a Decree from the Finance Minister.

Vacancy is ascertained by legal proceedings arranged by a commission designated by decree of the Governor and including:

- The Prefet of the appropriate Département (President)
- A Magistrate of the appropriate regional tribunal
- The Chiefs of the appropriate technical services
- The local Police Chief (Commandant de la Brigade de Gendarmerie du département)

Two people of irreproachable character.

Article 72: The decree of the Governor must mention:

- The composition and character of the real estate property.
- Its geographical location with respect to permanent land marks.
- An estimation of its value.

The decree must be posted and broadcast over the radio in all the national languages.

Article 73: The decree integrating a property into the Domain Lands will be issued six months after the date of the legal proceedings determining the vacancy of the land.

Properties which have been integrated, can neither be registered nor ceded to a private party before two years from the date of integration have elapsed.

During this period of delay, if ownership is claimed by a party producing proof of ownership and acceptable reasons for abandonment of the property, the party may recover ownership of the property after paying fees incurred for integration of the land and its administration.

Article 74: The Finance Minister must return integrated properties to their owners when the conditions of the last paragraph of the preceding Article are met by a decree issued in consultation with the appropriate Governor.

Article 75: In order to be registered, property rights not acquired by a definitive concession must be submitted to the procedure below.

Article 76: On receipt of a request to register, the Chief District Administrator opens an inquiry to establish the type of rights held in the property.

Article 77: When the concession was derived from an administrative authorization conforming to the provisions of Law 60.139 of 2 August 1960, the requesting party must produce the deed of concession as support for his request to register the property.

The Chief District Administrator checks the legitimacy of the documents submitted and then checks the investments referred to in Articles 38 and 52 above.

Article 78: When investments were made prior to the law referred to in the preceding Article, they must consist of constructions, cultivation, plantation, or dikes to retain water as described in Article 2 of the present decree.

After a public inquest, the Chief District Administrator prepares the minutes of the inquest setting forth the rights the requesting party has in the property.

The evaluation of the investments must be made in conformity to Article 38 and 52 above.

Article 79: Lands referred to in the preceding Article are to be registered up to the following maximum levels:

1. construction: 1,000 square meters
2. cultivation: the area actually and regularly cultivated.
3. perennial cultivation (fruit trees including date palms): the area exploited by an average of 100 units per hectare.
4. gardens (cultures de case): the area actually cultivated.

Article 80: For a transitional period, parties who have by purchase, exchange, or gift acquired an authorization to occupy, granted initially to someone else, may normalize their situation free of charge and without penalty for one year from the date of publication of this decree:

After this delay, the provisions of Article 50 are applicable.

Article 81: The procedure to be followed to normalize a situation referred to in the first paragraph of the preceding Article will be detailed in a joint circular of the Interior and Finance Ministers.

Article 82: All regulations contrary to the present decree are abolished.

Article 83: The Interior, Justice, Finance, Rural Development, Equipment, and Hydrology Ministers are responsible, each for what is in their purview, for the execution of the present Decree which will be published in the Official Journal (Journal Officiel).

Nouakchott, 19 January 1984

Lt.Colonel Mohamed Khouna o/ Haidalla

Interior Minister

Colonel Ahmedou O/ Abdallah

Minister of Justice and Islamic
Orientation

Colonel Cheikh O/ Boidda

Finance and Commerce Minister

Sidi O/ Ahmed Deya

Minister of Equipment

Lt.Colonel Gabriel Cimper

Rural Development Minister

Mohamed O/ Amar

Minister of Energy and Hydrology

Mohamed Fadel O/ Dah

P.C.C.C.

Minister and Secretary General of the Government

Mohamed Ould Amar

ANNEX 1

SCHEDULE OF EXPENDITURES (CAHIER DE CHARGES)

Clauses and conditions under which
rural concessions will be granted

Article 1: The exercise of rights to use property are granted for three years, unless extended, and are subject to the clauses and conditions of this schedule of expenditures (cahier des charges).

INVESTMENTS

Article 2: The concessionaire must under penalty of cancellation: enclose the land granted within twelve months from the date of notification of the concession with living or dead hedges install within three years from the same date installations consisting of rural improvements and equipment, planting of trees, and buildings subject to the reservation that they must be acceptable to the appropriate Ministers in accordance with the development plan.
respect the technical regulations in vigor for rural development, reforestation, hygiene, public health, and urbanism as well as any other regulations which may be decreed.

PROPERTY TAXES

Article 3: In return for the usage rights granted to him the concessionaire must, on penalty of cancellation, pay annually and in advance a property tax to the treasury of the Domain Cashier (Caisse du Receveur des Domaines). The advice of the Minister of Rural Development is required to establish the amount of the annual tax.

This tax is payable in the first three months of each year; the first payment being due in its entirety within 15 days of being granted the concession.

Registration and stamp taxes must be paid at the same time as the first property tax is paid.

SPECIAL RESERVATIONS

Article 4: The concessionaire takes the lands in the condition in which they are found without claim for indemnity or diminution of the property tax for any reason whatsoever.

The concessionaire may not use the water courses which border or traverse the concession to take water or use in irrigation works, or perform any work whatsoever if it is not in conformity with the regulations governing the public domain and use of public utilities.

The concession includes the soil and subsoil except for mines or deposits of any concessionable material.

The concessions remain subject to any indispensable right of ways duly noted when the provisional concession was granted.

In addition the concessions remain, during the period of their provisional concession, subject to any rights of way the state deems essential.

In all cases the concessions are only made subject to the needs of the Public Domain.

The concessionaire must also accept any reduction in the area of the concession that is due to the state taking back lands it deems are needed by the public services or works in the public interest.

Such repossession of lands by the state is the basis for an indemnification agreed upon between the two parties.

When agreement is not reached, it will be decided by the appropriate Tribunal.

Consultation of experts is necessary if one of the two parties requests it.

TRANSFER OF RIGHTS

Article 5: It is forbidden for the concessionaire to transfer his provisional rights without authorization from the granting authority. Non-observation of this provision nullifies the concession and returns it to the state without any indemnification for the provisional concession.

CANCELLATION

Article 6: The concessionaire may have his rights taken away by a decree issuing out of a Council of Ministers or by decree of the Finance Minister.

One month after a warning notice which has had no effect

1. if the required investments have not materialized or this deficit has not been justified before the expiration of the provisional concession.

2. if the annual property tax has not been paid one month after the due date.

Without notice, if the concessionaire cedes without prior authorization either his provisional rights or rights to his installations.

DEFINITIVE CONCESSIONS

Article 7: After the three years specified for the provisional concession, or in less time, the concessionaire can obtain the definitive concession for the granted property if he shows that he has carried out all the required developments.

Article 8: The price of a rural concession is determined by the Rural Development Minister, based on estimates made by the commission provided for in Article 38 and approval of the Finance Minister.

APPROPRIATE JURISDICTIONS

Article 9: All litigations having to do with the execution of the clauses and conditions of this schedule of expenditures (cahier des charges) are the jurisdiction of the regional mixed tribunals (chambres mixtes des tribunaux régionaux).

Article 10: Notification of significant information should be made:

1. By the concessionaire, to the Finance Minister or the appropriate Governor,
2. By the Administration, to the concessionaire at his elected place of residence in Mauritania.

ELECTION OF PLACE OF RESIDENCE

Article 11: The concessionaire must elect a place of residence in order to fulfil the clauses and conditions of this schedule of expenditures (cahier des charges).

CONCESSIONAIRE

GRANTING AUTHORITY

ISLAMIC REPUBLIC OF MAURITANIA

FINANCE MINISTRY

ANNEX 2

OFFICE OF DOMAIN LANDS

BILL OF SALE

BETWEEN THE UNDERSIGNED

	(Family name, Given name
PRIOR	(Profession
LEGAL	(Residence
OCCUPANT	(Date and place of birth

	(Family name, Given name
NEW	(Profession
LEGAL	(Residence
OCCUPANT	(Date and place of birth

IT HAS BEEN AGREED THAT

MR. _____

CEDES TO

MR. _____

The following constructions: (summary description of the constructions).....

 built on lot no.....of subdivision.....
 Granted Authorization to occupy no.....of.....
 for a price of.....

DONE ON the.....

SIGNATURE	SIGNATURE
Valuation of the constructions by	Sale authorized by the
Chief of the Division of Public	Chief of the District
Works or his representative	At (hour) the (date)
equal.....	

To be made in triplicate, stamped and sent to the Registrar (Receveur de l'Enregistrement) in Nouakchott with the taxes due calculated at 10% of the price or 10% of the value if former is higher.

ATTACHMENT 3

Translation of Vidal on Hebeyabe and Nerenabe

(M.Vidal Rapport sur l'étude de la tenure des terres indigenes au Fouta dans la vallee du Senegal. 1924 pp.45-56)

Residence of Boche; Canton of the Irlabe-Elvabe

5.Ebiabe Group (Hebeyabe)

The Hebeyabe are a confederation of family groups of diverse origins having in common only political ties based on the authority of a chief granted voluntarily more than a century ago, but consisting today of no more than a common name.

The first kernel of the confederation was an important group of the Bababe-Dialboube who, after the dispersal of their ancestor Koli Tenguela at Guimie (Mauritania) settled in the land of the Dekle between Mbagne and Kaedi. The insecurity to which they were exposed by the incursions and incessant attacks of the Moors led them to sollicite the protection of the Saldigui Sawa Doudou. The latter sent his son Boubou Aoudi, giving him the responsibilities of Viceroy charged with ruling the territory on that bank (the right bank of the Senegal) and the title of Dekle. Boubou Aoudi rapidly re-established security and in order to increase his power and importance he attracted many families of the Fouta in search of land and favors.

Among the groups who came to settle under his protection and received lands to cultivate, local history has particularly preserved the names of two groups of Kanhanere (Kanhane) Peul one from the region of Demette and the other from Dimaaw (Toro) and two groups of Lidoube descendants of Diam Ly mentioned in section (2) above one coming from Cascas (Podor) and the other from Thyola (Mauritania) the cradle of the Lidoube. The other groups of less important families coming to join the Saltigui Dekle were assimilated into one of the three clans; Bababe, Kanhane, and Lidoube which constitute today the three principal branches of the Hebeyabe.

Later when the Moors expelled the Hebeyabe from the Dekle territory, the latter settled on the left bank and founded Dekle villages where the Bababe Dialiloube and their chief Souli Samba descendants of Boubou Aoudi settled, in Diaba Lidoube settled the Lidoube originating from Cascas with their chief Amadou Bawa, in Haloum Diaba settled the Kanhane originating from Demette with their chief Betal Ebi, in M'Bogoulou settled the Lidoube originating from Thyola with their chief Sawa Gama, and in Harlao settled the Kanhane originating from Diamar with their chief Ahmet N'Doki.

The Hebeyabe stayed quite a long time on the left bank where they survived on the produce of lands that the Saltigui Dekles had confiscated from the inhabitants of the region or which were given to them by the Saltigui Souleyman N'diaye, sovereign of the Fouta.

In the time of the Almamy Abdoul a schism appeared, between the three branches of the confederation consequent to the nomination, as Saltigui Hebeyabe, of the chief of the Kanhane

(Maloum Diaba) by the Almamy Abdoul. These and their relatives of Harlao declared themselves independant of the Saltigui Dekle who maintained control of the Bababe Dialloubé: the Dialloubé also liberated themselves and settled in the Bosa and lands of the Salde.

After the return of security on the right bank new divisions appeared in each of the groups. Some stayed where they were, others crossed over the river again with the authorisation of the Almamy Abdoul and reoccupied their former lands and founded the villages of Dekly Niokol and Fokol Hatar; each with its independant chief.

Today the titles of Saltigui Dekle and Saltigui Hebeyabe have only an honorific character.

Because of these same successive divisions, their diverse ethnic origins, and the absence of any solidarity between members and the chiefs of the federation, the cultivators of lands formerly under the authority of the Saltiguis have been free for a long time of any obligation to pay tithes to the Saltiguis. At most they consent to give a few baskets of grain to the heads of their families each year and this custom is disappearing little by little. Only their Haratine and strangers are still forced to pay assakal and ndioldi to the owners of the lands they cultivate. Each descendant of the first occupant considers himself the owner of his fields.

List of the Hebeyabe Collade

- I. Saltigui Hebeyabe, Oumar Guiede, chief.
 1. Bere (in part), 2. Tiaski, 3. Dioborone, 4. Toule, 5. Sadane, 6. Sagane, 7. Gawdel, 8. Dare Foundou, 9. Falo M'Bayar, 10. Bilal, 11. Mbahe, 12. Yera (in part): cultivated by the Malounabe, Harlawnabe, Haratine, Touabire: Tiaskonabe, Tioubalo, Mbagne, and Daoualel.
- II. Elimane Niokol, chief.
 13. Lewel (in part), 14. Founge (in part), 15. Louguere (in part), 16. Polimbawa (in part), 17. Sagana (in part), 18. Dirol (in part), 19. Oumbous, 20. Diadialo, 21. Falem Galo, 22. Yabohie, cultivated by the Niokolnabe and Haratine Hijaj.
- III. Diagaraf Fokol, chief.
 23. Dirol (in part), 24. Louguere (in part), 25. Lewel (in part) 26. Sagana (in part), 27. Polimbawa (in part), 28. Pounquet (in part), 29. Fonde Oko, 30. Gawdel, 31. Koukounge, 32. Ferala, 33. Falo Gambo, 34. Fonde Doumar, 35. Gaylal, 36. Yoli; cultivated by the Pocolnabe, Haratine Hijaj and Tamoudek.
- IV. Diagaraf Hatar, chief.
 37. Roufi Aoudi (in part), 38. Lade, 39. Koukounge (in part) 40. Bel (in part), 41. Ouli Ihali, 42. Poura, 43. Tiaysaye, 44. Diediougol (in part), 45. Bere (in part), 46. Tiaski Dieri (in part), 47. Louguere Modi, 48. Bolo; cultivated by the Rastanabe.
- V. Elimane Ali, of Pete, chief of the group levying assakal.
 49. Bel (in part), 50. Koukounge (in part), 51. Roufi Aoudi (in part), 52. Poura, 53. Orcolde, 54. Dande Gueloba, 55. Toguel; cultivated by the Elyabe.

VI. Diverse

56. Dirol Cacabe, 57. Polimbawa: cultivated by the Elyabe,
58. Banda, 59. Mbahe (in part), 60. Yere (in part) cultivated
by the Mboquelnabe.

Cercle of Kaedi Canton of Nere

The first group of Nerenabe formed a branch of the Irlabe Hebeyabe composed of several families of which the most ancient which formed the kernel of the clan were the Kanhanbe (Peulh) and the Diagobe (tiedo Wolof) originating from Dimar; from this group the Elimane Nere is still chosen. To this original group were successively added the Sababe (Peulh), the Ndongobe (tiedo), the Sosobe (Peulh), the Ndiayebe (Wolof), and the Diadiabe (Peulh) originating from the lands of the Dia). These five families preserve today the privilege of electing the Elimane Nere.

To these families which constituted the first group of Nerenabe when it was formed by separation from the main group of Elyabe were added (assimilated) the following families who inhabited the land of Nere before the immigration of the Elyabe: Salsalbe (Tiedo Wolof), Sisibe (Wolof), Mbayabe (Wolof), Toutoube (?), Yalibe (Wolof), Gadiobe (Sousalbe) and Sasabe (tiedo).

The most ancient chief known of the Nerenabe was Boubou Boli, nephew of Hebe, chief of the Elyabe; both descendants of Boubou Aoudi, Saltigui of the land of the Dekle, and through him of Saltigui Samba Dondi, son of Saltigui Bokar Tabakali.

It was Saltigui Boubou Koli who made the distribution of Nere lands between the different families placed under his authority. These lands extended from the marigot of Dibribel, between Daouelal and Nere, to the current cite of Kaedi. At the time of the Almamys, the Saltigui of Nere who had converted to Islam took the title of Elimane which he keeps to this day.

From the period of anarchy following the death of Saltigui Soulay Ndiaye to the time of Almamy Abdoul, the Nerenabe, who had killed the son of the chief of the Bosseabe, were attacked by the latter. The Bosseabe took over the whole Eastern part of the Nere lands and have held these lands up to the present by right of conquest. These lands belong today to the families of the Bosseabe and Salsalbe who reside in the villages of Rindiao, Sinthiou, Ndiafane (Dioke), and Belinabe on the right bank.

Tithes: formerly the lands of the Nerenabe were considered the personal property of the Saltigui (and then of the Elimane Nere). Consequently, all cultivators owed assakal and ndioldi which were divided into two parts; one for the Elimane and his Diagaraf, and the other for the notables of the families.

Later and more particularly after the (French) conquest, the authority of the Elimane Nere being very weak, each family freed themselves from paying tithes on the lands they had been distributed or had cleared.

Today only the cultivators of the lands belonging directly to the Elimane continue to pay assakal and ndioldi.

As far as the lands conquered by the Bosseabe, Rindiaonabe, Salsalbe, and Belnabe is concerned, each family considers itself owner of the lands acquired by conquest. The cultivators (only those who consent) pay assakal; in whole or in part to the chief of the family. Only the large collade of Ouaudame situated near Kaedi had to feel the effects of our conquest and be divided by us, two thirds of it that is, between the people of Gattaga and Toulde who are exempt from any claims on them.

Canton of Nere
Nomenclature of land of the Nerenabe

- | | |
|------------------|--|
| 1.Fago | Diadiabe, each cultivator gives what he thinks appropriate to chief of this fraction. |
| 2.Tiamquel | Same as 1. |
| 3.Modi Diokoudo | Kanhanbe; same as 1. |
| 4.Manga | Bababe; same as 1. |
| 5.Koyol | Bababe and Diadiabe; same as 1. |
| 6.Amos | Become in part bayti by escheat and cultivated by diverse groups paying assakal and ndioldi to Elimane Nere. The other part is cultivated by the Ndiayebe. |
| 7.Diogodou | Diagobe, Salsalbe, Ndougobe, and Ndiayebe; same as 1. |
| 8.Welingara | Diagobe; same as 1. |
| 9.Dialbigou | Mbayebe; same as 1. |
| 10.Sandigui | Simdobe of Dabia (Bosseabe); same as 1. |
| 11.Ndafri | Ndongobe, Bababe, Diadiabe; same as 1. |
| 12.Dibribel | marigot cultivated by descendants of Moussa Lewel to whom it was given by an ancient Saltigui Nere upon payment of assakal and toutigou still levied by the Elimane Nere. |
| 13.Bol | Divided into six parts, two for Elimane Nere who levies assakal on Laobe who cultivate them, and the four other parts for the Kanehanbe, Diopbe, and Bababe, where assakal is paid to the eldest of each fraction. |
| 14.Tiaydi Guerdo | Belongs to Elimane Nere and cultivated by Bababe, Ndongobe, Sisibe, and Diadiabe who refuse today to pay assakal saying that they cleared this collengal. |
| 15.Diouti | Belongs to Elimane Nere and cultivated by Bababe, Sisibe, Toutoube, and Kanehanbe who pay assakal and by Diagobe who refuse to pay assakal because of the rivalry between them and the current Elimane Nere. |
| 16.Tiaski Damel | Divided into 3 parts, one for Elimane Nere who levies assakal and ndioldi on its Maboube and Sorbe cultivators, the two other parts cultivated by Diadiabe and Arbelnabe who refuse to pay any tithes. |
| 17.Louguere | One part to Elimane Nere who levies tithes on various people who cultivate it and other parts to Ndiayebe, Diopbe, Diadiabe, and |

- Arbelnabe who refuse to pay tithes.
18. Diounne One part to Elimane Nere, other parts to Sosobe and Yalibe who refuse to pay tithes.
19. Touli One part to Elimane Nere, others to Diagobe, Sosobe, Bababe, Gadiobe, and Ndongobe who refuse to pay tithes.
20. ?
21. Tiao Sawi As in 17. Elimane Nere plus Salsalbe, Kanehanbe, Diagobe, Gadiobe, Diopbe.
22. Kofel Divided into 4 parts; 1. Bayti on which Elimane Nere levies assakal and ndioldi, 2. Kofel Dagbe with no tithes, 3. Orkofel cultivated by Kanehanbe, Bababe, Salsalbe, and Ndongobe without tithes, 4. Kofel Warawarbe cultivated by Kanehanbe and Ndiayebe without tithes.
23. Mbolo Sosobe, Simbobe, and Kanehanbe.
24. Lotodou One part for Elimane Nere cultivated by Databe who pay assakal and ndioldi, other parts to Salsalbe, Gadiobe, and Diagobe who pay no tithes.
25. Hamadore Diagobe who refuse to pay any tithes.
26. Tialtal A part for Elimane Nere, others for Sosobe, Bababe, and Kanehanbe as in 17.
27. Lodo A part for Elimane Nere, rest for Sosobe, Salsalbe, Bababe, Simbore, and Datebe as in 17.
28. Lewe Laobe Laobe and others paying assakal and ndioldi to Elimane Nere.
29. Faram Large collengal divided into 11 parts:
 1. Bababe, 2. Sisibe, 3. Diopbe, 4. Ndiayebe, 5. Dialoube strangers paying assakal and ndioldi to Elimane Nere, 6. Sowebe strangers paying ndioldi to Elimane Nere and assakal to chief of their family Abdoul Ali of Bossea, 7. Hoylere: Kanehanbe and Datebe, 8. Dodi: Ndongobe and Sisibe, 9. Togobel: Ndongobe, 10. Pelemel: Sisibe, Kanehanbe, and Ndiayebe, 11. Modi Diougue: belonging to Elimane Nere and in part cultivated by various groups paying assakal and ndioldi, in part cultivated by Sebe and Ndiayebe paying assakal and ndioldi and in part cultivated by Kanehanbe and Bababe who refuse to pay any tithes.
30. Yaladi Ndongobe, Diopbe, Kanehanbe; refusing to pay any tithes.
31. Lougue A part for Elimane Nere cultivated by various paying assakal and ndioldi and in part cultivated by various refusing to pay any tithes.
32. Ngorodara Same as 31.
33. Nawel Diadiabe, Ndiayebe, Toutoube, Sisibe, Diopbe, Lidoube of Bossea, Kanehanbe; refusing to pay tithes.
34. Petiou Datebe, Diopbe, Diagobe; pay no tithes.
35. Labargue Salsalbe and Ndongobe; pay no tithes.

36. Diopsabel Depression rarely inundated cultivated by various under authorization of Elimane Nere to whom assakal paid.
37. Tidjiba Personal property of Elimane Nere cultivated by Kanehanbe who pay assakal and ndioldi and by Sisibe who pay no tithes.
38. Kede A part for Elimane Nere cultivated by various who pay assakal and ndioldi, another part cultivated by Simbobe and Sosobe who pay no tithes.
39. Seyidi Leguemare Part for Elimane Nere which various cultivate and pay tithes on and part for Toutoube and various paying no tithes.
40. Rous Two part for Elimane Nere cultivated by various paying tithes and other parts for Bababe and Saosaobe paying no tithes.
41. Diabal One part for Elimane Nere and another part for Sosobe, Kanehanbe, and Bababe same conditions as 40.
42. Belel Diaba One part for Elimane Nere and another part for Diopbe and Bababe same conditions as 40.
43. Belel Kodali Ndongobe paying no tithes.
44. Houserou Ndongobe paying no tithes.

Fields of Rindiao
Rindiaonabe and Salsalbe Bosseabe

Tithes paid voluntarily to chiefs of families without there being specified quantities, each collengal or fonde being cultivated by two families owning their own parcels there except for number 55 cultivated by Rindiaonabe alone.

45. Dide
46. Bargo
47. Boubdoubel
48. Nawel
49. Kadhia
50. Velde Boye
51. Fonde Kelle
52. Fonde Manga
53. Fonde Guille Jilodhe
54. Bolalde
55. above
56-7. ?
58. Fari Gollo
59. Soutouba
60. Tiasbourli

Fields of the Belnebe (Bosseabe)
Fraction of the Ananbe

All cultivators owe in principle assakal to Elimane Belnabe.

61. Palo Ker

62. Dougue

63. Collengal Sisibe (Bosseabe)

64. Ouandama: large collengal immediately adjacent to the port of Kaedi to the West. In part abandoned before our occupation in the post, it had been in large part cleared by the people of Toulde an Gataga (villages of Kaedi). Was the object on 3 September 1923 of a convention between people of Kaedi and Belnabe which divided it into three parts more or less equal for the inhabitants of Gataga, Toulde, and Belnabe, the last pay assakal to chief of village of Belnabe.

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