Sharing a Valley. The changing relations between agriculturalists and pastoralists in the Niger Valley of Benin
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Co-existence in the Niger Valley until the 1970s

To understand how the modes of existence developed in the Niger Valley, it is necessary first to address the context. In this chapter the country and the region where the present study took place are introduced and detailed information is given on the research villages. In the second part of the chapter the different modes of existence until the 1970s are described, followed by a description of the linkages between both modes of existence.

National and regional context

Benin

Benin, situated in West Africa, is surrounded by Togo, Burkina Faso, Niger and Nigeria. It is shaped like a tree and is about 125 km wide at the root and near the top approximately 325 km at its widest point. The area of the country totals 112,622 km². Although Porto Novo is the official capital of the country, Cotonou, 35 km to the west, is the country's political and commercial centre.

According to the latest population census held in 1992, Benin has a rapid rate of population growth averaging 2.9 per cent par annum. The 1992 census recorded a population of 4,855,349. More than 40 ethnic groups live in Benin (Hetzel 1974). The largest groups are the Fon and the Adja in the south and the Bariba, Fulbe and Dendi in the north. Agriculture forms the main occupation, except for the Fulbe who are pastoralists. The population is unevenly distributed: about 60 per cent of the total population is concentrated in the coastal provinces of the south. The northern regions are sparsely populated although some pockets of land are densely populated (De Haan 1997). The country had a Gross National Product of US$380 per capita in 1998 (BNP total Sub-Saharan Africa in 1998: US$480 per capita); and ranks among the poorest in
the world (World Bank 2000).

In 1897 present-day Benin became part of French West Africa and was incorporated in the Colonie du Dahomey et Dépendances. When the country became independent in 1960 it was called Dahomey. After independence several coups d'état took place, and in 1972 Major Mathieu Kérékou seized power. renamed the country the République Populaire du Bénin, and introduced a new constitution based on Marxist-Leninist principles. Kérékou's period of government lasted until 1990 when general strikes took place following a long period in which civil servants' salaries had not been paid. The strikes forced him to 'bury the Marxist revolution'. Consequently the adjective populaire was dropped from the country's official name. During a national conference in February 1990, a large majority voted for the establishment of a multi-party democracy. After an interim phase, a new president, Nicephore Soglo was elected in 1992. During the second round of elections in 1996, Kérékou returned, this time having been democratically elected.

At the time of this study, the country was administratively divided into six provinces - Ouémé, Atlantique, Mono, Zou, Borgou and Atakora - which were subdivided into 48 districts. The research area is situated in Borgou Province. After 1992 the districts were regrouped but the provinces remained.

*Borgou Province*

Borgou Province covers the northern part of the country. Although its population increased from 490,669 inhabitants to 816,278 in the period 1979-1992, it is still sparsely populated. While it covers 45 per cent of the country, it only accommodated 17 per cent of Benin's population in 1992. The low population-density is partly due to the fact that protected forests occupy large areas. If the protected areas are excluded, the population density is 23 inhabitants per km², increasing to a population-density of more than 60 persons per km² in some pockets of land in comparison with about 250 inhabitants per km² in the south (De Haan et al. 1997: 29).

The province stretches out over several different agro-ecological zones. Gradually the climate changes from a semi-arid climate (with precipitation of 500-1000 mm) in the far north to a sub-humid climate in the south of the province (where precipitation is 1000-1200 mm). The modes of existence vary from transhumant pastoralism to sedentary agriculture with many mixed variants. Since the 1970s the government of Benin has actively been promoting cotton as a cash crop and the use of animal traction to increase cotton production for export (Kruithof 1989). Now the Borgou region is the main producer of cotton in Benin. Other important crops are sorghum, cowpea, groundnut and yam.

The second most important economic activity is livestock keeping. The number of livestock in the province in 1990 was found to be approximately 733,400 cattle, 269,383 sheep and 235,804 goats (MDR 1993). In 1988 Tyc estimated the number of cattle at 579,700, about 58 per cent of the national cattle population. The number of livestock is gradually increasing, probably due to an influx of transhumant pastoralists from the north following periods of drought and from incomes from cash crops being invested in animals.
In 1992, the population of Borgou Province consisted of the following ethnic groups: the Bariba (41.7%), the Dendi (11.5%), the Fulbe and their former slaves the Gando (27.6%), and small numbers of Yoruba, Gourmanche, Mokole and Fon (17.8%) (INSAE 1993). The Fulbe are traditionally pastoralists while many other groups are engaged in agriculture. The former slaves of the Fulbe and the Bariba are called Gando in the statistics. The Fulbe call them maccube (singluar: maccudo). The maccube created their own settlements after the abolition of slavery whereas the former slaves of the Bariba, were assimilated into Bariba villages. The maccube form a socio-cultural rather than an ethnic group, although they all speak the Fulfulde language.¹

A special feature of the province is that about one third of the territory is covered by protected zones. The most important is the ParkW.² Even before the park was established in the 1950s, this forest formed a barrier between the very northern part of the province and the rest. The settlement history of the main ethnic groups illustrates this by the concentration of Dendi in the north and the Bariba in the south. This division can also be found within the Fulbe groups, living either next to the Dendi or the Bariba. The Fulbe make the distinction between the Bargube in the south and the Dendibe in the north. The Fulbe living north of the park keep cattle breeds that are more resistant to famine and drought but which are not trypano-tolerant. To the south, the Fulbe keep the smaller trypano-resistant humpless Ndama cattle.

The Niger Valley

The area in which the research took place is situated in the most northerly part of Borgou Province. At a distance of about 700 km from the coast, there is a homogeneous region comprising two administrative districts: Karimama and Malanville. The River Niger that also forms the national border with the Niger Republic borders the region. The area is, therefore, generally referred to as 'the Niger Valley' (la vallée du fleuve Niger).

The river Niger³, which flows from north to south, stretches about 130 km of its total 4,200 km along the Benin border (Bio Bigou 1987: 36). Just before entering Benin, the river is quite narrow and has a W-like shape, hence the name of the forest reserve ParkW. Only in the Benin Valley does the river form a flood plain again. It floods twice a year, creating numerous small islands in the riverbed. It has shaped the history of the valley by offering a communication link with Niger and Nigeria. Until 1955 an official service existed connecting the Dahomey railway with a boat service on the Niger to Niamey from September until March (Hetzeli 1974: 16). Today small private boats maintain the service.

¹ Baldus (1977) and Hardung (1997) did extensive research into the special position of the Gando and the maccube.
² ParcW is pronounced 'parcddoublevee'.
³ Its name probably originates from the fact that the first Europeans thought that the river was a branch of the Nile and hence named it Nile des Nègres which was corrupted into the word 'Niger'.

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Administratively, the valley has changed name many times.\textsuperscript{4} For the present study, which covers the period 1970-1993, it is important to note that until 1972 the region was called the Subdivision de Malanville. From 1972-1978 it was renamed the District de Malanville. In 1978 the region was divided in two because the government wanted to bring the government closer to the people: it then consisted of the District de Malanville and the District de Karimama. Each of these districts was subdivided into five communities. The District of Karimama comprises the communities of Monsey, Kompa, Bogobogo, Karimama and Birnilafia. After 1992 because of the region's low cash-crop productivity and the structural adjustment plan, which forced the Beninese government to cut public expenses, the districts of Karimama and Malanville merged and were named the Sous-prefecture Malanville. At the time of this research project, the districts had not yet merged and the data were collected at the aggregate level of the District of Karimama. Hence the research area will be named the District of Karimama.

The resource base of the Niger Valley

The Niger Valley in Benin is situated in the semi-arid zone and has an average annual rainfall between 700 and 900 mm; with an average annual rainfall of 840 mm for the fifty years of observation (1943-1992). There is one rainy season from about May until October that is highly variable in space and time, a cold dry season from November until February and a hot dry season from March until May. The average daily temperature is between 21°C and 34°C but the measured variation between temperatures is high with a minimum of 8°C and a maximum of 45°C (ASECNA).

The valley forms part of the geomorphological Niger Basin. The meandering Niger deposits alluvium soils along its banks and the other soils vary according to the duration of inundation. There are sandy islands with brown clayish soils and sandy-clay soils. Most of the villages are situated on the slightly undulating plains of sandy-clay soils. In the river itself, blocks of pre-Cambrian gneiss are found. The flood plain is flat but in the valley there are hills, some of which have an altitude of 270m (Servoz 1987: 2). In the southeastern part of the valley around Madecali and Sende these hills are numerous. In places the flood plain is as wide as 8 km. The river itself flows at an altitude of 160m and its average slope is 6.5 cm per km (Beauvilain 1979: 69).

The band of forest reserves in the south was established by the colonial government to protect the three tributaries of the River Niger, the Mekrou, the Alibori and the Sota which all cross the region. These three rivers drain about one third of the total surface of Benin (Breukers & de Hon 1988: 21). The band of forest consists of the Parc National du W du Niger (563,000 ha), the Zône Cynégétique de Djona (188,000 ha) and the Forêt de Goungoun (73,200 ha).

Associated with the qualities of the soil, there are three zones of vegetation in the valley: the flood plain of the Niger River, the stagnant ponds in the flood plain and the area between the flood plain and the forest zone. In the past, the River Niger's flood plain was covered with all sorts of shrubs, the most common being the 

\textsuperscript{4} From 1906 onwards the valley was called Subdivision de Karimama and later on renamed Subdivision de Guene. In 1949 the valley was renamed Subdivision of Malanville. This subdivision consisted of two cantons: Guene and Karimama (Bogas 1981: 10).
Map 4.1
The District of Karimama in the Niger Valley and the research villages
prickly shrub which today only grows on the banks of the Mekrou River thanks to having been protected in the forest reserve. A wide variety of animals used to live under the shrubs of the flood plain: tortoises, lizards, wild boars, rabbits and snakes. Along the main stream of the river hippopotamuses and crocodiles were very common. In some places the River Niger is bordered with Borassus aethiopium giant palm trees, which can still be found in some elevated parts of the valley, especially towards Monsey. On the flood plain there are stagnant ponds filled with the floating grasses Echinochloa stagnina, also known as burgu, which are highly appreciated by cattle and Oryza Longistaminata (rice).

Beyond the flood plain the vegetation can be characterized as savannah, open grassland with scattered trees (Acacia sieberiana, Butyrospermum parkii, Andansonia digitata, Guiera senegalensis) and shrubs. More vegetation is the Andropogon, a large grass, which was used for many purposes, amongst others for Fulbe and fishermen's tents. Gradually towards Parc W the vegetation changes into a tree savannah. In this area cultivated and fallow fields can also be found.

The situation in the valley is largely influenced by the River Niger's regime. The most important feature in the past was the flooding of the river twice a year, supplying the flood plain and the stagnant ponds with fresh water. The first flooding took place about September/October and was called the crue locale or the local flood peak: the Niger's discharge (number of cubic metres passing the measuring point per second) started to rise at the end of the rainy season when the catchment area's soil became saturated and superfluous water flowed into the river bed. This water had a typical whitish colour because soil particles were washed away by running water. The people called this the period of hari kuarey (white water). During the period of hari kuarey the water entered the brooks and ponds, fish started to hatch and the floating grass, burgu, started to grow again (see Figure 4.2 for a calendar of all the periods).

In November/December a second, intermediate period started in which water decreased just a little while new water was added (hari nea). The discharge of local water diminished until gradually water from upstream was added. This water was blackish, crystal clear and very cold in contrast with the white water that was muddy and warm. The people called it literally black water: hari bi. The river was at its peak during February and was strong enough to inundate the whole flood plain of the river beyond the villages. The flood peak was called the crue Malienne, the Malian flood peak, because the water filling the river did not originate from its local catchment area but from places upstream.

The River Niger is Africa's third longest river with a length of 4,200 km. Before arriving in Benin 29 other rivers have already supplied the mainstream with water. The total drainage basin of the river from its origin in Guinea's Futa Djalon to Nigeria where it empties into the Atlantic Ocean is 1.5 million km² (Decalo 1987: 156). The delay of the flood peak is explained by Welcommte (1979 cited by Adams 1995: 13): it takes, for example, 100 days for the flood peak to travel the 1,760 km from Koulikoro near Bamako in Mali to Malanville in Benin. The Malian flood peak was the most important flood as it inundated the whole flood plain and the most important villages, Karimama and Kompa, could only be reached by boat at that time.
The Niger River Valley offered a variety of resources. The abundance of game, the richness of the fishing ponds, the fertility of the soil and the vast plains of burgu made the valley an attractive place to live, although at some times of the year people fled the flood plains because of the mosquitoes (Beauvilain 1979). The changes in the river's pattern following periods of drought are discussed more extensively in Chapter 5.

The first demographic data of the region go back to 1918 (ANB 1918). Then, around 5,000 people inhabited the District of Karimama, the part of the valley situated between the Alibori and Mekrou rivers. (The whole valley was inhabited by 8,767 people). According to the national census, the district's population rose to around 19,834 in Karimama and 36,442 in Malanville in 1979. Because of the fact that part of the area is flooded periodically and large tracts of land are protected areas, the region is densely populated. So although the total area covers approximately 5,900 km², only 2,213 km² were available for farming and grazing in 1979. The population-density of the area available for inhabitation is 25.5 inhabitants per km² (Rochette & Bogas 1981: 211).

Over time, the opportunities in the valley have attracted many groups of people engaged in different modes of existence, and often divided along ethnic lines.

**Historical view of settlement of different groups**

The Dendi came down the River Niger after the collapse of the old Songhay Empire in present-day Mali in 1592 (Trimingham & Spencer 1962: 237). They came at several stages between the sixteenth and the end of the eighteenth centuries. When the first Dendi arrived in the valley, other groups (Tchenga, Moulinke, Kumaté and Gourmantché) were already living there. When the Dendi arrived, they soon dominated the other groups politically because of their superior social organization and gradually the members of the old ethnic groups such as the Tchenga and Kumaté became assimilated into the Dendi group. However the chefferie de la terre was left to the inhabitants who had arrived before them (Bako-Arifari 1989: 66). Only the Gourmantché kept their own ethnic identity and language. They probably stayed apart because they did not accept Islam, which was brought to the valley by the Dendi. Mamassy Gourma is still not Islamized and it is the only village in the region which is partly Catholic; the other part is still animistic. The other Gourmantché villages have been Islamized more recently. Today there are four villages left in which the Gourmantché still form the majority: Mamassy Gourma, Kompanti, Kofonou and Loumbouloumbou.

During a famine in Niger in 1914, groups of Djermas also settled in the Niger Valley but they assimilated quickly with the Dendi (Bogas 1991: 130). In addition, Haoussa fishermen settled on the banks of the river. In 1979 when a census was held in Benin, about 58 per cent of the total population of the valley were Dendi and 13 per cent Fulbe. It did not provide details of other ethnic groups apart from labelling them as 'other ethnic groups' (15%) and 'other nationalities' (14%). Although the Gourmantché, the Fulbe and the Djerma speak their own language, the local language is Dendi, spoken by

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5 During the revolutionary government period, plans were made to transfer some of the population of the densely populated south to northern Benin. With these calculations, Rochette & Bogas (1981: 246) wanted to disprove the idea that the valley was part of the sparsely populated north.

6 Dendi' means 'descending the river'. The Dendi speak Dendi, a language derived from the Songhay language.
all the groups.

These groups are all primarily involved in agriculture except for the large group of Dendi who are also engaged in fishery. Oral history argues that they brought their fishing skills from Mali. The Dendi distinguish the fishermen as *sorko* and *ichèga sorko*. According to local beliefs, the *sorko* are the real fishermen because they inherited exceptional powers from their ancestors against dangerous animals in the water such as the giant crocodile, electric fish and water snakes, and possessed fishing materials such as a boat. Their exclusive domain for fishing was the main stream of the river because fishing there required special skills. Only very few of the Dendi population were *sorko* (an estimated 4%). The others were called *ichèga sorko*, small fishermen (literally: fishermen on foot). The *meroi*, the chief of the fishermen, estimated the number of Dendi who were full-time fisherman at about 40 per cent, the rest of the Dendi being agro-fishermen or agriculturalists. As soon as the fishing season started, the fishermen migrated to the flood plain. Monséy and Pekinga were supposed to be the best fishing grounds (see also Bio Bigou 1989: 489 for a map of the most important fishing zones in the valley).

Most villages are situated along the river at a safe distance from the dangers of flooding. The villages, which are situated closest to the banks of the river, were inhabited by the Dendi population because of their fishing. The Gourmantché, who engaged in agriculture and hunting, occupied inland areas.

Oral history recounts that the Fulbe arrived towards the end of the eighteenth century. There was no collective immigration of large groups of Fulbe into Benin but they arrived and settled in small groups, making the history of the Fulbe groups who are present in the valley today very diverse. The first to arrive and settle permanently in the valley were the Fulbe from Koko-Djingou along the Mekrou River, who later settled in Pekinga. They arrived from the Gourma region in present-day Burkina Faso. Halfway through the nineteenth century more groups arrived. One of these groups from Nigeria settled in the vicinity of Karimama and was later joined by groups from Bitinkooji near Niamey in present-day Niger. Some families had large herds, like the founder family of the most important Fulbe settlement Mamassy Péulh, who arrived with hundreds of cattle from the Gourma region. Others had lost their cattle as a result of looting during inter-village warfare or after an outbreak of bovine pest and came individually and without cattle to work as herdsmen for others (see also Bierschenk 1993: 4; Baldus 1977: 439). Most of the Fulbe migrated seasonally with their tents within a certain radius of the village boundaries to which they were socially and administratively attached. Some older family members, who were not in charge of a herd, lived permanently in Fulbe settlements near the villages of the fishermen and agriculturalists.

One of the colonial reports (ANB 1918) presented statistics on the Fulbe. Although colonial reports are not always accurate and no numbers were given on sheep, goats and horses, the data do give a good impression of the dispersion of Fulbe in the valley, who are nowadays regarded as autochthonous, and the numbers of cattle they were keeping. Table 4.1 shows the different cattle breeds the groups in the different villages possessed. For the location of the villages see Map 4.1.
### Table 4.1
Population of Fulbe and cattle in the Niger Valley in 1918

<table>
<thead>
<tr>
<th>Villages</th>
<th>Men</th>
<th>Women and children</th>
<th>Cattle</th>
<th>Cattle breed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pekinga</td>
<td>27</td>
<td>39</td>
<td>180</td>
<td>Keteeji</td>
</tr>
<tr>
<td>Kompa</td>
<td>7</td>
<td>5</td>
<td>300</td>
<td>Bororojoji</td>
</tr>
<tr>
<td>Kompantii</td>
<td>30</td>
<td>55</td>
<td>11*</td>
<td>Keteeji</td>
</tr>
<tr>
<td>Toura</td>
<td>25</td>
<td>45</td>
<td>500</td>
<td>Bororojoji</td>
</tr>
<tr>
<td>Mamassy</td>
<td>96</td>
<td>151</td>
<td>800</td>
<td>Keteeji</td>
</tr>
<tr>
<td>Kofonou</td>
<td>24</td>
<td>54</td>
<td>300</td>
<td>Keteeji</td>
</tr>
<tr>
<td>Tondikuaria</td>
<td>8</td>
<td>23</td>
<td>400</td>
<td>Bororojoji</td>
</tr>
<tr>
<td>Torozougo</td>
<td>12</td>
<td>20</td>
<td>300</td>
<td>Keteeji</td>
</tr>
<tr>
<td>Malanville</td>
<td>36</td>
<td>86</td>
<td>700</td>
<td>Bororojoji</td>
</tr>
<tr>
<td>Nomads</td>
<td>44</td>
<td>79</td>
<td>800</td>
<td>Varied</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>309</td>
<td>557</td>
<td>4,291**</td>
<td></td>
</tr>
</tbody>
</table>

* The small number of cattle left to the Fulbe of Kompantii was the result of a disease, *le charbon* (French) or *bocca* (Fulfulde), which had destroyed the herd earlier.

** In an earlier report (ANB 1914) the number of cattle is almost twice as high as in 1918 due to the outbreak of bovine pest in 1916.

*Source*: ANB (1918: 20) and interviews with elders for details on cattle breeds.

The different cattle breeds at that time indicate that the different groups did not originate from the same place. The *Bororojoji* breed carries the name of the sub-group of Fulbe in Niger who raise them and is also known as the Red Longhorn Zebu because their long horns are in the shape of a lyre and the animals are reddish brown. The *Bororojoji* are semi-wild and nervous and therefore cannot be used as draught animals but they do give about 3-4 litres of milk per day (Fricke 1979: 87). The *Keteeji* breed is a crossbreed of the Zebu and the small *Ndama* cattle from the more humid south Borgou. The *Ndama* is also called *Bos taurus* or the West African Shorthorn and is trypano-tolerant. The result of the cross-breeding is a humped white animal that can feed on straw as well as on green grass and which is trypano-tolerant to some extent but not as trypano-tolerant as the *Ndama* breed itself.

The nomadic Fulbe in the table were in the valley in the dry season. During the rainy season they returned to their home villages, which were located in the *dallols*, the Bosso and Maouri fossil valleys stretching north of the Niger Valley into present-day Niger (see Beauvilain 1979). The other groups mentioned in the table are later to be referred to as 'the autochthonous Fulbe' by the inhabitants of the valley. At that time very few cattle could be found towards Malanville and beyond. However, Fulbe from Nigeria (*Siwalbe*), Niger (*Bittinkoobe*) and south Borgou (*Bargube*) immigrated into the part of the valley near Madecali and Sende even before the droughts in the 1970s. The Fulbe subgroup of *Bittinkoobe* brought in other cattle sub-breeds such as the *Jaliiji* (a crossbreed of *Zebu Sokoto*) which give good amounts of milk. One of its characteristics is that they often have horns which point down.

In the valley the *maccube* (the Dendi call them *fulanbagnan*) are not numerous because most of the Fulbe arrived after the abolition of slavery by the French colonial
government at the end of the nineteenth century and left their *maccube* behind. A few can be found in the villages of Pekinga, Monsey, Kompani, Mamassy Peuh and Dangazori. They assisted the Fulbe in herding and farming. As soon as the rainy season started the cattle were left to the Fulbe sons and the *maccube* started to work in the fields. Cattle keeping remained the domain of the Fulbe as one of the older *maccube* explained. In censuses they are listed with the Fulbe but they all engage in farming. When they have cattle they confine them to the Fulbe. Some of the *maccube* became specialized weavers.

*A relatively isolated area*

Before the construction of the national road system at the end of the 1920s and the bridge near Malanville around 1930, Karimama had a strategic geographical position and was an important centre. Malanville, now the most important town in the valley, was only a small Fulbe settlement then. Captain Baud, who came from Gourma in Burkina Faso, arrived on the banks of the River Niger in Karimama in 1897 where, according to Tilho (1911:509), he was warmly welcomed by the then chief, Aliou Faram. A protectorate was signed with the Dendi chiefs and a garrison of Senegalese *tirailleurs* were quartered in the valley. In 1899 the French officially established their government in Karimama. The main route to Niger went from Kandi via Guene and Karimama to Say, an important town in Niger at that time. After a few years the administrative post was moved from Karimama to Guene because of the mosquito problem, but Karimama remained important because of the road. However, due to water shortages, the French colonial government in Niger moved from Say to Niamey in 1926. This move led to improvements on the Nigerian side as well as on the Dahomeyan side, to the road from Kandi to Gaya and via Dosso to Niamey. The construction of the international road and the bridge at Malanville deprived Karimama of its important historical role. In 1932 the French government, still residing in Guene, created the market in Malanville. Today it is a large international market and is a gateway to Nigeria and Niger. Karimama has no economic importance any more.

The main obstacle to regional development is bad infrastructure. Apart from the lack of a connection to the electricity grid and the absence of a telephone connection even for the *sous-prefect*, the road is of bad quality. In the east, the bridge over the River Sota is an obstacle for the transportation of agricultural products because it is not suitable for heavy trailers. To the west, the bridge over the River Alibori, which has existed since 1978, is in a reasonable state of repair but the laterite road is in an abysmal state. During the rainy season it is impossible to reach Karimama by any means of transport, let alone to proceed further into the valley towards Kompa and Monsey.

Another reason for the relative isolation of the region is that the population of northern Benin is more oriented northward than southward. Before colonial times the population regarded the Niger Valley as a homogeneous entity with the 'Niger side' as much a part of the entity as the 'Benin side'. Even after the demarcation of the borders,

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7 The then unimportant settlement of Fulbe called *Taasi* ('sand' in Dendi), was renamed Malanville in memory of a governor, Mr. Malan, who had arrived in Benin at the end of April 1909 and died in Porto Novo a month after his arrival (Direction des Archives Nationales 1993: 105). I.e.
the population did not consider themselves belonging to different nations. Many of the Dendi and Fulbe have kin on the other side of the river and extensive networks still exist. Nowadays the fact that 'Radio Benin' is more difficult to receive than 'Radio Niger' increases the population's orientation towards the north.

Modes of existence until the 1970s

In addressing the major forces of change which have influenced relations between agriculturalists and pastoralists since the 1970s, different modes of existence have to be distinguished prior to the 1970s: agriculture, fishery and pastoralism. This distinction is somewhat arbitrary because a variety of combinations of agriculture, fishery and animal husbandry are possible. In each section concerning a major mode of existence, the intermediate forms are discussed as well as their relevance to the present study.

Mode of existence of the Gourmantché and Dendi agriculturalists

Full-time farming was the occupation of the Gourmantché, Djerma, maccube and Dendi alike. Agricultural production takes place within the larger family unit on a collective basis. The family unit is a patriarchal and polygamous unit with several nuclei. Sometimes a married son establishes a unit elsewhere and leaves his father's holding. The responsibility of the management of the agricultural holding is held by the chief of the holding, generally the oldest man in the extended family. This chief decides how resources are employed. In the old days families were very large and cultivated common fields, but since the 1960s families have increasingly split up. The average number of persons per holding in 1972 was 16.3, in 1986 11.3 (MDRAC 1986: 14). Family members are allowed to have their own plot in addition to the communal fields to earn some extra personal income. Almost all households keep some goats, sheep and poultry.

The most important crops were pearl millet (Pennisetum typhoides) and sorghum (Sorghum bicolor). To protect themselves against an unpredictable climate, 'fall back' crops like yam (Dioscorea spp.) and cassava (Manihot esculenta) were cultivated. Other crops grown in small amounts included tobacco, watermelon, eggplant, groundnut, indigo, okra, sweet potatoes and maize. Some plots of rice were cultivated in the flood plains by people who had a boat at their disposal. Until the end of the 1960s a limited amount of indigenous cotton was cultivated. This cotton variety was different from the one that was to be introduced later by the government and was sown between the staple food crops. Furthermore in Garou on the river banks of the Alibori, off-season production of onions was already taking place in 1918 (ANB 1918: 11). According to colonial reports, the first successful experiment in cultivating potatoes was carried out in 1910 (ANB 1910).

The cropping system was based on a slash and burn system because at the time land was abundant. A field was cultivated for about five years and then left fallow for about 15 to 20 years. Crops were sown directly into the soil except for fields of

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8 Because the majority of the agriculturalists in the Niger Valley belonged to the Gourmantché and Dendi ethnic groups, in this study the agriculturalists are indicated as Dendi/Gourmantché.
groundnut and cotton, which were ploughed by hand first. The Dendi/Gourmantché recount how in the past they were able to build up sufficient reserves in case of a bad year. If stocks were not consumed within two years the farmer was obliged to sell, using the money for construction or investment in cattle which were handed over to the Fulbe.

However, before the arrival of the Fulbe in the valley, the Dendi/Gourmantché did not have any cattle although the valley was well known for its horses and donkeys. The French political administration regarded the horses as the main source of wealth of the 'Dendi land'. Horses played an important role in the history of the region for cavalry purposes and transport. Dowries were paid in the form of horses, proving that the sedentary population was not familiar with cattle. People were familiar with the extensive raising of animals (feeding them burgu and sorghum). At the end of the 1960s horses disappeared from the villages because they had lost their value after hostilities ceased and later with the introduction of bicycles and other means of transport.

Cattle keeping started with the arrival of the Fulbe in the valley near the agriculturalists' villages. The Dendi who were interviewed stated that the process of fattening cattle in the homestead was copied from fishermen in Niger. They were only interested in male cattle and obtained them by bartering cloth with the Fulbe. One of the older fishermen said that before their arrival they were only keeping horses and donkeys and that the practice of fattening cattle was just a continuation of horse and donkey keeping by the Dendi (see also Bogas 1981: 110).

A small bull would be fattened in the courtyard by giving it sorghum and burgu (easily gathered by fishermen with the help of their boats) and was sold after two or three years. The resale price was ten times higher than the purchase price. Most of the time the bulls were obtained from the Fulbe by bartering against another product such as millet or cloth but sometimes they were bought. According to the elders of Tondiakaria in the 1960s, 70 per cent of the families owned a bull that was fattened in the courtyard and sold later on. Especially in Gourouberi it contributed largely to the wealth of the village (Bogas 1981: 110). However, the Gourmantché of Kompanti were not as wealthy. They only started to invest in cattle in the 1970s. Although people were familiar with fattening cattle, they were not familiar with raising cattle because they had never kept cows. The breeding of cattle remained the exclusive domain of the Fulbe.

The contribution of women to the farming unit included taking care of young children, threshing cereals, fetching water, collecting firewood and cooking food for the whole group. These chores were done in rotation with other wives and they thus had time to carry out other activities such as cultivating their own fields (Gourmanché women), spinning (Dendi women) or collecting and processing forest products. The Gourmantché women were used to cultivating their own fields of millet for exchange or sale purposes besides working in the family field. The Dendi women did not cultivate

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9 The price of a horse was at that time 300-500 FCFA whereas the price of a cow was around 100-150 FCFA (Rapport Politique Mai 1900, Colonie du Dahomey, Cercle du Moyen Niger).

10 According to oral history, sorghum that had been in stock for over two years was given to the horses.

11 This practice occurred in other regions of the Soudan-Sahelian zones as well, e.g. in northern Nigeria and western Sudan (McCown et al. 1979: 300 and McIntire et al. 1992).
but were specialized in spinning cotton. Some of this cotton was cultivated in Tondikauria itself but most came from Birmilafia, Kargui, Koara Tegui and Torozougou. After spinning, the thread was taken to specialized maccube weavers. Each year a woman could spin enough thread for two to six 'wrappers', a piece of cloth of a standard dimension (called pagne in French). Some of these wrappers were bartered for cattle with the Fulbe. As one of the Dendi women stated: "It was through weaving that women acquired cattle".

Mode of existence of the Dendi agro-fishermen
The fishermen distinguished three periods associated with the discharge of the river: the local flood (hari kuarey), the Malian flood (hari bi) and the intermediate period of drawdown of the water in the river plain (hari kogaye).

The period of the local flood (hari kuarey) was a quiet period for the fishermen. After the flood plain had dried up, the water re-entered the brooks and ponds and little fishing was possible because the fish had not yet hatched. For the agro-fishermen this quiet period coincided with the harvest of the crops (August-October).

The time of the new water (hari nea) and the Malian flood (hari bi) coincided with the end of the sorghum harvest. The fishermen left their villages and settled on islands in the rivers or on elevations in the flood plain, where most of them stayed until April/May. The sorko, the fishermen who also fished in the main river and ponds, migrated to fishing grounds in Monsey and Pekinga. From there they went upstream with their boats to fish in the main river, which was now full of very big fish. Fishing here required all their skills due to the wild river. The fishermen who stayed in the flood plain stretched their nets out between the passages, which were closed off with reed mats to prevent fish from returning to the main stream, as soon as the water started to draw down again in March/April.

The period of drawdown of the water sets in the third period, distinguished by the fishermen as the period of hari kogaye (low water). The fishermen came back then from their migration upstream and settled next to the other fishermen who were still on the flood plain. The water, which was now confined to its main course, abandoned the flood plains leaving behind ponds full of fish that were caught with casting nets. The agro-fishermen started to go back to their villages to engage in agriculture because the period of hari kogaye coincided with the start of the rainy season. They prepared their fields and came back in June/July to engage in fishing again. Figure 4.2 shows the discharge of the River Niger and the seasonality of the local fishermen.

A traditional system of water-resource management worked on the basis of customary 'common property' control. According to oral history, this system was headed

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12 A wrapper was worth a bull of one year.
13 The fish species in the Dendi language were Zogo (Lates niloticus), Wassi (Mormyrops), Dinko (Bagrus), Sibi (Protoperus annectens), Garri (Alestes), Falia (Citharinus eburneensis), Desibi (Clarias sp.), Kouala (Heterotis niloticus), Korombo (Parophiocephalus obscurus), Cassia (Photopho), Fotofore (Tilapia), Koutoukoutou (Synodonthis sp.), Hannou (Pastochodus rostratus), Korombo (Parophiocephalus obscurus), Kakassa (Ctenopoma kingsleyae), Zawai (Hydroyon forskahlit), Daria (Distichodus) and the Goney (Gymnarcus niloticus) (Source: oral history, interview agent de pêche and Bio Bigou, 1987: 859).
by the *meroi*, meaning 'master of the water' in the Hausa language, who acted as the chief of all the fishermen in the valley. The function was not hereditary \(^{14}\) and after the death of a *meroi* the fishermen deliberated for days before choosing the fisherman who seemed to have the most power over the waters and their inhabitants and who could act as an intermediary with the river gods. The tasks of the *meroi* were manifold: to control the waters and its inhabitants by executing ceremonies, to resuscitate people rescued from drowning, to control the size of the meshes of the nets with the aid of his assistants, and to be the judge in case of theft of fishing materials.

A phenomenon worth mentioning here as it increased people's food security is the collective fishing day (*tam hanou*). Although most small ponds could be fished without the consent of the *meroi*, some could only be fished on a fixed date. An intricate network of representatives of the *meroi* guarded these ponds. \(^{15}\) When such an assistant caught someone fishing illegally he was immediately punished by the *meroi*. As soon as the assistants judged the pond ripe for fishing they gave the *meroi* a sign and the message was drummed around in the region and neighbouring villages and villages from the Nigerian side were invited to join in. People remember the collective fishing day as a great festive event in which the whole population took part. Only the Fulbe did not engage in fishing. People came with harpoons and casting nets or just chose a place around the lake because the fish were so abundant that they were distributed freely to the people who did not have the equipment to fish. The atmosphere was that of a market day and people came to sell food. The day after the festive 'opening' of the pond the number of people fishing decreased and the pond was returned to the people with fishing skills. It is interesting to note that the time when all the people were allowed to fish coincided with the *periode de soudure*. This was a great help to the population if the previous year's harvest had not been good. Also in times of famine people in the valley could fall back upon fishing because fish and crops were available in the 'counter season'.

The fisherman's family formed a joint enterprise. Before sunrise the fisherman went out in his boat to fish and as soon as he came back his wife would go to the river to empty the boat. As soon as all the fish had been collected, she started to clean and smoke the fish. The smoking would take most of the day, at least during the high season. On Thursdays and Fridays the pattern was different. The fisherman did not go out fishing but went instead to the woods to collect firewood in order to help his wife to smoke the fish. On these particular days the women were free to engage in other domestic jobs.

According to the present *meroi* (chief of the fishermen, aged about 60), the heydays of fishery lasted until 'a few years after the revolution' which took place in 1972. The smoked fish were retailed in Malanville and Karimama while some fish

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\(^{14}\) For other regions in West Africa similar functions have been described. See for the Inner Delta of the Niger in Mali, Moorehead (1988: 34) and for the Logone flood plain in Cameroon, Van Est (1999).

\(^{15}\) The *meroi* mentioned 17 ponds which were guarded in the valley. Two of those were situated on the flood plains of Tondikuaria, the ponds of Bankaraw and Kokoro. These ponds had fixed names but some of the others were named after the fishermen who guarded them and so changed their names now and then.
merchants went as far as Ghana to sell. This provided an important source of revenue to the region (Hetzel 1974: 69). With the profits, people bought millet, sheep and horses in the 1950s but later on they bought cattle. In the early 1970s trade with Ghana collapsed as a result of the devaluation of the cedi, the Ghanaian currency.

For the agro-fishermen farming was a sideline activity. They planted millet, sorghum, maize and cassava on small plots and cropping activities did not interfere with fishing because the period in which fish were in short supply coincided with the peak agricultural season, the harvest. At the end of the rainy season the elders of the part-time fishermen carried out the harvesting while the young men went fishing. The full-time fishermen exchanged or bought their stock of cereals at the farms of villagers specialized in farming.

As mentioned earlier, the fishermen also bought cows. Some fishermen in Tondikuaria had up to sixty cows, which they left in the care of the Fulbe. The present meroi stated that:

25 years ago we bought a two-year-old bull for 1,000 FCFA. I gave it sorghum, burgu and potassium. It was kept under a roof of straw and was let loose only to be washed. After two years you would have made a large profit because you could sell it for 10,000 FCFA. It was not only a fisherman's activity but if you didn't have a boat at your disposal, you would have too much trouble gathering enough burgu grass to feed the animal on. Almost all of the fishermen had such a bull in their courtyard. The sale of the animal took place at home, we did not take it to the market in those days.

**Mode of existence of the Fulbe pastoralists**

To distinguish pastoralists from agriculturalists, several definitions were given in Chapter 2 ranging from nomadic pastoralists to settled agro-pastoralists. Most of the pastoralists present in the valley until the 1970s can be defined as 'semi-settled agro-pastoralists': they partially relied on farming, which they performed at a fixed farming base for part of the year. The other part of the year they lived in a mobile herding camp. The elders were left behind in the farming settlement. Usually some milk cows were left at the homestead while the rest of the herd was away with some of the male kin.

Adjudant Moretti, one of the colonial administrators who reigned around 1920, integrated the Fulbe into the official administration. At the time, Fulbe families were involved in disputes over access to the flood plains with the floating grass burgu, which sometimes led to casualties. This disturbed the colonial government and Moretti wrote to his superiors that 'lengthy discussions are being held over the use of the river banks and it has been necessary to designate a fixed pasture zone to each group'. So the flood plains were officially subdivided between the different Fulbe families. First of all he ordered them to choose a representative, and summoned them to Guene where he resided. There the flood plains were divided. According to information derived from oral history from the Fulbe elders of Kompanti (Dolewo) in March 1993 and Moretti's report (ANB 1918), the following division was reconstructed: (I) the Fulbe group of Tondikuaria got the island of Tondikuaria; (II) the Fulbe group of Mamasy Peulh got the region from the island of Tondikuaria to the settlement of Tin Tin near Gouroubéri; (III) the Fulbe of Kompanti got the region from Tintin to the island of Yaare Komba behind Kompanti;
Map 4.2
Division of the flood plain between different autochthonous groups of Fulbe and the location of Sabongari-Bara
(IV) a second group of Fulbe of Kompanti (elevation of Dolewo) got the region from Yaare Komba to Babako; (V) the Fulbe of Pekinga got the region from Babako to Pekinga. The division is indicated on Map 4.2.

There was no complex tenure system like the Dina in the inland Niger Delta in Mali where the fishing and farming-land tenure systems were incorporated into a larger regional government imposed by the pastoralists (Moorehead 1992: 103).

The above-mentioned groups of Fulbe were not only offered pasture but also farmland. Only a few Fulbe groups accepted the arrangement for farmland because, as the Torozougo chief stated "they thought they could arrange themselves with the Dendi", not realizing what struggles the future would bring. This explains why some 'autochthonous' Fulbe have land titles and others do not. For Mamassy Peulh, situated at the time near the village of Mamassy Gourma, Moretti reserved a region much nearer to the river where the Fulbe village is situated today.

Foreign Fulbe were scared off by high taxes (taxe de pacage) that had to be paid to the rugga of Mamassy Peulh. Nevertheless foreign groups frequently travelled in and out of the valley, much to the dismay of the colonial government in Kandy that advised the governor in Porto Novo to punish the Fulbe who left and returned later by making them pay the tax for the period they had been out of the country (ANB 1925). The parts of the valley towards the forest reserve were not considered as pasture at that time. All the Fulbe stayed on the flood plains and in the pastures between the villages. Except for the islands in the river, a situation of free access existed where the 'first come first serve' rule operated.

Although the Fulbe in the valley engaged in agriculture, they always considered livestock production their most important activity (even if they had very small herds) because farming was regarded as a low-status activity. The main aim of cattle keeping for the Fulbe was and still is the production of milk for human consumption. Apart from milk being a base of nourishment of the family, it was also the main source of income for women. Herd management was, therefore, aimed at maximizing the number of cows. Ideally, milk production would be sufficient in both the rainy and the dry season to feed the household. In the rainy season the milk could be sold or exchanged for millet. Only a few bulls are required to assure the continuity of the herd and any extra bulls are sold or exchanged. The fact that milk is the major product of the herd and meat a secondary product is reflected in the composition of the herd where the percentage of cows is about 80 per cent (MDRAC 1979). The male offspring are sold or exchanged with the money being used for marriage, to buy millet, for healthcare or travel.

To Fulbe herds the main threats were disease, the most feared of which were rinderpest, foot and mouth disease, pleuro-pneumonia and contagious abortion on the one hand and periods of drought on the other hand. Therefore they tried to build up a large herd with as many reproductive cows as possible, which could be moved around the region or be divided over several groups to be more manageable (Bierschenk &

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16 The Dina was established during the period of the theocratic empire of Sékou Amakou (1818-1862).
17 In other regions such as the Atakora and towards Nigeria theft by other pastoralists was also a threat.
Forster 1991). Before the long periods of drought an important sign of wealth was the *ujiri*, a phenomenon that has almost completely disappeared now. An *ujiri* is a castrated bull\(^{18}\) that is held in the herd for the sake of status. These bulls were castrated because the offspring were not considered beautiful enough. However, if the animal remained in the herd for many years, its dimensions became impressive. At the time of this research project, there was only one respondent rich enough to keep *ujiri*. Another phenomenon that is rare is the existence of *botoori*, the well-fed calves of cows which are not milked.

The herd is not a homogeneous entity owned by the family as a whole. The animals are owned individually and have an important function for maintaining social relations. In most cases, each family member owns some cattle. Most herds in the valley can be subdivided into the following units depending on the origin of the animals or the owner: When an independent household is first being formed, the young man becomes the owner of his *sukkamaaji* and its offspring, which has grown by natural reproduction. It forms the nucleus of his herd. Furthermore the father reserves some *sukkamaaji* from the offspring of his own cattle for each of his children after its seventh birthday. In due course, the father reserves some *sadakijji* for his sons in case they want to get married. Young men used to stay with their fathers as long as possible for two reasons. Firstly the number of *sukkamaaji* would increase in the meantime and secondly in a larger group the labour conflict during the agricultural season was not felt so strongly. The number of *coggituijji* (women's cattle) depends on the generosity of their fathers and the luck they have with their *sukkamaaji* cow (how many offspring it has produced).

The Fulbe are reluctant to sell cows as each cow has its own history and name. This is not the case with the animals belonging to the Dendi/Gourmantché for whom a cow is a means of production only.

When the animals are sent out with the young men to manure the fields, the older men, women and children remain at the homesteads and care for the smaller milk-providing herd. So the herd consists of two units: the *curi* (singular. *sure*: several cows which stay at home to provide the family with milk or who are too sick to move around) and the *hooreeji* (the larger part of the herd which is mobile).

The men's work is the management of the herd, including milking. Only when a labour shortage occurs do women stand in. The Fulbe very often combine their herds to enable others to engage in activities such as taking care of sick animals at home and selling animals at the market. There are no data about the amount of milk given per cow at that time. Moreover the amount of milk a cow can give per year is highly variable depending on climatic conditions and breed. Sources which report about other regions such as MDRAC (1989: 29) in southern Borgou measured the average amount of milk per day during the rainy season for the *Ndama* breed at 3.5 litres per cow and during the dry season at 1.38 litres per cow in 1989. However, the crossbreed *Keteeji* give more milk and were fed on the nutritious *burgu* for part of the year. According to oral history it could give up to 10 litres of milk during the rainy season and about half of that amount during the dry season.

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\(^{18}\) The bulls had to be castrated because otherwise the herder could not determine the parentage of his cows.
Categories of cattle ownership of the Fulbe in the research villages

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>sukkamaaji</td>
<td>the cattle and offspring which men receive from their father when they establish an independent* household;</td>
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<tr>
<td>donngu</td>
<td>the cattle and offspring inherited from a deceased father;</td>
</tr>
<tr>
<td>coggitaaji</td>
<td>the cattle and offspring brought in by the wife (her former sukkamaaji plus what her father gave her to take with her);</td>
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<tr>
<td>sadakiiji</td>
<td>the cow and offspring from the cow and bull from a husband's family paid as a dowry;</td>
</tr>
<tr>
<td>habbenaaji</td>
<td>cows and offspring on temporary loan from Fulbe friends**;</td>
</tr>
<tr>
<td>kalifaaji</td>
<td>the cattle another Fulbe gave to the herd; and</td>
</tr>
<tr>
<td>haabeeji</td>
<td>the cattle under herding contract from ethnic groups other than Fulbe</td>
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</tbody>
</table>

* A son can become independent at any given moment even if he is not yet married. Others leave their animals with their fathers even if they have their own family. In the last decade fathers often forced their sons to become independent and look after themselves after misbehaving.

** To have or give an habbenaaji (also called nannga-nai) fortifies ties of friendship. The borrower receives the first offspring of the cow only when he has returned the cow with its second offspring to the owner (see also Niamir 1990: 50).

Source: Own research

Besides milking, the task of the herder is to consider which direction to take so as to encounter as few other herds as possible during the dry season. In the wet season herding is easier because the pastures are abundant then. During the night the herds of the Keteeji breed are put in an enclosure (fulfulde: galbel) or tied to poles one by one to protect them from predators and from wandering off and causing crop damage. The others, the Bororoaji, cannot be put in an enclosure because they are too wild.

The maximum size that can be supervised as a unit is about 50 to 100 animals. If the number is larger, the herds are divided into separate camps. According to the autochthonous Fulbe one can speak of a 'herd' when the number of animals is more than fifteen. For pasture management, no official regulations are imposed except for those introduced by the colonial government. Unofficially a special role is designed for the chief of the herders, the garso. Herding units join together into larger cooperating groups under the guidance of the garso. He guides several herders to good grazing areas and serves as their mentor. In case of an emergency or illness he is the one who helps them out.

The Fulbe woman is independent to a certain extent because officially she controls her part of the herd, which can serve as a means of power in case of conflict. She can take her cattle out of the family herd and return to her father to show her disapproval. In normal circumstances however, the woman depends on her husband who manages the cattle. That is why a woman introduces her cows into the herd as late as possible, and never before she has given birth twice (see also Bierschenk 1991 & Forster: 16). Furthermore women are dependent on the generosity of their husbands regarding the supply of milk. Milk processing and marketing is under the control of women and it is their major source of income. The men judge how much milk is to be given to the calves or milked for human consumption. According to a complex distribution system that can differ from family to family, the milk of different cows of male owners is distributed between the women of the family. Sometimes it is done on an equal basis, sometimes it is
dependent on how many children each woman has (see Bierschenk & Forster 1987: 39, Kuhn 1997: 67).

Some of the milk is consumed by the family and some is bartered against cereals, which are used to prepare meals and thus return into the collective of the family as such. The remainder is for the women to keep and barter or sell for their own purposes.

The dairy products which are sold consist of churned milk and butter. Mixing butter with onions is the only way to preserve and store milk for a few months. Fresh milk is never sold, not even during the time when milk is abundant. It would mean a loss of income because if fresh milk is sold, the butter is 'lost' with it. In the valley, the Fulbe women are not used to making cheese.19 With the money the women buy ingredients for sauces, household utensils, clothes and jewelry, and they invest money in small stock, cattle and poultry. Women are additionally responsible for the domestic tasks such as looking after small children, fetching water and firewood, pounding millet, making household items, preparing food and watering small animals. Young girls help their mothers with domestic tasks but are also sent out with the herd. Besides the income from selling milk the women derive an income from the manufacturing of artisanal products, such as mats and calabash covers. The money made from artisanal products and small stock is for them to keep. Women also take care of the animals remaining at the homestead and are responsible for dismantling and erecting the temporary tents when the camp is being moved. Men build the more permanent huts.

The proximity of the river and the year-round availability of green grass made the mode of existence of the valley Fulbe somewhat different from the Fulbe in the rest of Benin. A real transhumance in the sense of seasonal mobility depending on rainfall was not carried out until the beginning of the 1970s (see Chapter 5). Most of the Fulbe migrate seasonally with their tents within a certain radius of the village boundaries to which they are socially linked.

The Fulbe have their own pastoral calendar based on minor climatic changes. They distinguish six periods: seetto, ndunngu, yaawol, lowle, dabbunne and ceedou. Because of the climatic variations from year to year it is hard to define the exact period within the monthly calendar.20 The periods in Figure 4.1 are presented as a rough indication.

During seetto (April and May) the herds stay on the flood plains. Older people stay in the Fulbe settlements near the villages. During ndunngu (from June until September) fodder becomes available in the interior and the water starts to rise on the flood plain. In the months of July and August when the water in the mainstream of the river starts to rise again, the Fulbe are ready with the harvest of their pearl millet. At this time the

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19 Cheese making is not performed by Fulbe women because it requires heating milk which is not allowed according to custom. For macccube women who live south of ParcW, cheese production was and still is very important. (Kuhn 1997: 63). The study of IJsendijk near Kandi in south Borgou (1999) showed that notwithstanding customs, Fulbe women are gradually engaging in cheese making because it generates profit.

20 Per region other intermediate periods can be distinguished. Van Raay (1975: 108) described the situation for northern Nigeria and Beauvilain for northern Niger (1979: 23). Van Raay reported for example that during the period of dabbunne, the Fulbe herds gradually finish crop residues and switch to grazing on dried grass. In the valley, however, the period of grazing of crop-residues is longer and towards the end the burgu is already emerging in the ponds of the flood plain of the Niger.
Figure 4.1
The pastoral calendar of the Niger Valley until the 1970s
(Source: Own survey and adapted from Van Raay (1975) and Rochette & Bogas (1981))

<table>
<thead>
<tr>
<th>April</th>
<th>May</th>
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<th>July</th>
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<td><strong>SEETTO</strong></td>
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<tr>
<td>A stormy intermediate period in which occasional rains break the heat of the dry season</td>
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<td>Herbs start to grow, trees start to have green foliage</td>
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<tr>
<td>Herds and families stay in the flood plains. Older people stay in the Fulbe settlements near the villages</td>
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<td><strong>NDUNNGU</strong></td>
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<tr>
<td>Wet season proper Water starts to rise in the flood plain</td>
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<tr>
<td>Water and pasture are available in the interior of the valley. On the flood plain the insects become a nuisance</td>
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<td><strong>YAAWOL</strong></td>
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<td>Hot season just after the rain</td>
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<td>Hot wind start to dry the grass Herbs are high and tough</td>
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<tr>
<td>Herds leave the floodplains for the interior of the valley or for the salt caves in Sabongari-Bara in Niger</td>
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<tr>
<td><strong>DABBUNNE</strong></td>
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<td>Period coinciding with the Harmattan winds; low temperatures at night, very dry dusty wind</td>
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<td>Period of manure contracts Dry pasture and crop-residues for the animals</td>
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<td><strong>CEEDU</strong></td>
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<td>Temperatures rise to over 40 degrees Dry and hot period</td>
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<td>Water retreats from the flood plains, just before the start of the rains herds in the fields to manure</td>
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<tr>
<td>Burgu grass available again Herds go onto the flood plains Social life with fishermen in the flood plains</td>
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situation is difficult for the cattle on the flood plain because of the many mosquitoes. Then the herds go up north to the salt cures of Sabongari-Bara in the Baloll Fogha in present-day Niger, about 45 km north-east of the Niger Valley (See map 4.2). There the animals have their salt cures by licking or eating salty earth they get a supply of necessary minerals, and are dewormed. For the herders, the stay in the area is an important social event because it is the period in which the Fulbe from Niger and Benin meet and exchange information. To reach Sabongari-Bara, the Fulbe herds have to cross the river during a period when the water level of the Niger is starting to rise. Therefore the Fulbe consult the meroi or a sorko to appease the water so they can get their goods and animals safely to the other side. Some herders take their whole family with them because there is no harvest to be done as they only cultivate pearl millet which matures very early. The elders in Mamassy Peulh stated that in their community there were herders who went without their families. Others left at the end of the millet harvest and came back when the sorghum had to be harvested. During yaawol, the herds arrive back from Sabongari-Bara into the valley again to feed on crop residues. The Bororoogi enter the flood plain during the period between hari nea and hari kuarey (the period called lowle in Fulfulde) to feed on burgu. For the Keteeji breed it is too early because they are not able to eat forage while swimming. The period of dabbunne is the period in which cattle are fed on crop residues and eventually on dry pastures until the water starts to retreat from the flood plain. During ceedu the burgu starts to emerge and the Keteeji herds can feed on burgu now so they return to the flood plain. In Figure 4.1 the mobility of cattle in relation to the discharge of the river and the cropping seasons is given. When the Fulbe stay on the flood plain they group together with their tents on the banks of the ponds in the regions assigned to them. The map shows that near the village of Tondikuaria there were very large burgu pastures and during the months of May, June and July, many herds gather there.

The location of the domestic units varies with the time of year but there are also fixed settlements like Mamassy Peulh and Kompanti where elders, women, children and some milk cows (curi) stay while the rest of the herd and the family are mobile. There are two sorts of settlements: a permanent one (runto or wuro) and a temporary one (hodorde). If the settlement is a temporary rainy-season settlement, it can also be called ruumirde.

Most of the families move twice a year. There are different forms of temporary homes depending on how long the family intends to stay. The most temporary home is the herder's tent, the kurgal. It is a low tent of straw mats spread over wooden slats. The tent is as large as a double bed and also serves as a place to put the milk calabashes. A more permanent shelter is the bukkaaru. It is a round hut made of wooden poles and a thatched roof kept up by a large pole in the middle. The diameter of the hut is about three metres and it is about 2.5 metres high. In the hut a shelf is made to place the milk calabashes. These kinds of huts can be found in the permanent settlements as well as in the temporary ones. In the permanent settlements such as runto Mamassy Peulh or runto Kompanti, Fulbe families also live in round brick houses called baade. In the rainy season a family lives in one or more of the kurgal and bukkaaru tents. The rainy season settlement is called ruumirde. When there are several of these ruumirde, it is called a
rainy-season camp or *duumirde*.

All Fulbe families in the valley cultivate small plots of land. This combination of pastoralism and agriculture has existed as long as the elders can remember. Cultivation enables the pastoralists to save animals they would otherwise have to sell, if they did not cultivate the cereals they need for household consumption. Furthermore they do not want to run the risk of being obliged to sell one of their cattle to buy millet. Only when the household's subsistence requirements are not met are they forced to sell an animal.21

The main crop is pearl millet, which has a very short cycle and makes harvesting possible as early as July or August. Although most of the Fulbe have to ask the Dendi's permission to use the land as they hold the original land rights, acquiring a field was never a problem. To make it clear that the land is not the users' property, a token payment in the form of a small portion of the harvest is given to the rightful owners.

The available labour force for cultivation is relatively small. Most male members are engaged in herding and Fulbe women never work in the fields. For this reason the family head often has to hire young Dendi or Gourmantché men to assist during the harvest. According to the older Fulbe, however, cultivation has not always been an absolute necessity because with a medium-sized cow one could buy enough millet to feed a family of five for a year. Furthermore, during some months of the year milk was so abundant that according to the women, "one could do without a cooking fire" for a long period of time. Fulbe families did not subsist on milk alone since Dendi visitors, coming to drink milk, often bring a meal with them in exchange. Nevertheless all Fulbe families cultivate some land. In the light of the available literature in which it has been suggested that only unsuccessful pastoralists resorted to farming (see for example McCown et al. 1979: 229), it is remarkable that the Fulbe in the valley have always engaged in agriculture even during periods when they owned a lot of cattle. Probably in the past the *maccube* did most of the heavy work (see also Van Dijk 1999: 258). The fields may be small but the yields are excellent in comparison with the yields from Dendi/Gourmantché fields because the Fulbe make use of manure in a systematic way.

The research villages

In Chapter 3 the selection criteria of the research villages were presented: the number of Fulbe households oriented towards the village; the presence of Fulbe who had immigrated recently and finally the situation of the village on satellite imagery. After visiting the villages during a reconnaissance survey, two villages were selected, Tondikuaria and Kompaniti. Most quantitative data presented in this study are derived from these villages. In this section both villages are described in terms of history, population and land use.

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21 The Fulbe tried at any cost to prevent an animal from being sold or bartered for food requirements; they only sold animals to pay taxes or to clothe the family by bartering cattle for a wrapper.
Tondikuaria

Tondikuaria means 'white rock' and refers to the outcrop of white rock that can be found on the village territory. The village is located in Karimama District some five kilometres to the south-east of Karimama, the district's main village. The village is situated close to the river flood plain and the centre of the village can be reached by boat during the Malian peak flood. Just before the River Niger reaches Tondikuaria it splits in two branches, a small branch (which is near the village) and a larger one. In between these branches is an island, the island of Tondikuaria, which is used for fishing and pastoralism.

Apart from arriving by boat the village can be reached along the Guene-Karimama dirt road which connects the district to the tarmac road to Malanville. Bogas (1981: 9) noted that the number of inhabitants totalled 350 in 1949. This number increased to 1,189 according to the national census in 1979. In 1990 the number of inhabitants was 1,303 according to the extension service but it did not include the 63 Fulbe households counted on the village territory during the survey in 1991 and which totalled approximately 400 persons. So in 1990 the total population of the village was approximately 1,700 persons.

Oral history recounts that the village was originally a Gourmantché settlement. But in the course of the eighteenth century the Dendi moved in peacefully on the side of the Gourmantché. Gradually the Gourmantché left for other villages or were 'Dendiified'. During the survey 98 per cent said they belonged to the Dendi ethnic group and the others were of Djerma origin, making the agricultural population quite homogenous. In the previous section it was noted that fishing was a specialization of the Dendi. Of the research population of Tondikuaria 40 per cent were full-time fishermen and the others engaged in fishing on a part-time basis. The specialized fishermen used to settle on elevated land on the flood plain during the period of 'black water' and the Malian peak flood in February and they stayed there until July. These settlements were referred to as tunga such as tunga Maligoungou and tunga Boyzeiya on the flood plains near Tondikuaria.

In Tondikuaria the Fulbe arrived later than the Dendi/Gourmantchés and do not have any land rights. They figured in the statistics of Moretti in 1918 (see Table 4.1, with 8 men, 23 women and children, and 400 Bodeeji cattle) and stayed on the island behind the village. Most of the Fulbe who stayed beyond the island, around Tondikuaria itself, came from Bittinkooji, a region near Niamey. Those who came first, in the 1960s, stated that they had left because of the high levy of taxes and high food prices in Niger. The families who came later arrived in more desperate circumstances. One of the most important Fulbe chiefs of Tondikuaria stated that he arrived in 1974 with only eight...
cows. A third wave of Fulbe arrived from Niger, driven by the failure of the rains in the 1970s. Until the 1970s the settlement of Fulbe near the main entrance of Tondikuaria village was small and only occupied during the dry season by transhumants from Niger. Now it has about thirty huts and round brick houses and is getting bigger every year. Table 4.3 indicates the period of arrival of the Fulbe households in the Niger Valley. It shows that most of the Fulbe households in the village of Tondikuaria arrived in the period 1990-1991.

Table 4.3
Period of arrival of Fulbe households in the Niger Valley (1991 survey)

<table>
<thead>
<tr>
<th>Born there</th>
<th>Total</th>
<th>Tondikuaria</th>
<th>Kompanti</th>
</tr>
</thead>
<tbody>
<tr>
<td>Born there</td>
<td>31.2</td>
<td>3.3</td>
<td>49.5</td>
</tr>
<tr>
<td>Before 1930</td>
<td>1.9</td>
<td>-</td>
<td>3.2</td>
</tr>
<tr>
<td>1930 - 1959</td>
<td>5.2</td>
<td>4.9</td>
<td>5.4</td>
</tr>
<tr>
<td>1960 - 1969</td>
<td>9.7</td>
<td>16.4</td>
<td>5.4</td>
</tr>
<tr>
<td>1970 - 1979</td>
<td>17.5</td>
<td>31.1</td>
<td>8.6</td>
</tr>
<tr>
<td>1980 - 1991</td>
<td>34.4</td>
<td>44.3</td>
<td>28.0</td>
</tr>
<tr>
<td>Total (N)</td>
<td>(154)</td>
<td>(61)</td>
<td>(93)</td>
</tr>
</tbody>
</table>

Source: Own survey 1991

Map 4.3 shows the fields, fallow lands and bush in Tondikuaria in 1975 when part of the village territory was covered by fields and fallow land. Along the River Alibori which forms the border between the village territory and the ParcW, a few areas of badlands are shown. Abandoning exhausted fields and cleaning fallow land is being carried out in an attempt to solve the problem of soil exhaustion. However most of the village territory is still covered with shrubs, trees and grassland but there is no dense woodland. A few granite outcrops stand out (two near the village from which it got its name) and a large rock outcrop on the edge of the neighbouring village.

Oral history recounts that the Fulbe did not pass the main road (Guene-Karimama) to the south-west because they had enough fodder for their animals on the flood plain. They did not even dare to come near the woodlands because they were frightened of animals in the uncultivated bush.

Kompanti
Kompanti, which means 'new settlement' in the Gourmanché language, is situated in Karimama District, some twenty kilometres to the north-west of the main village of Karimama. It can be reached along the Guene-Pekinga dirt road. Like most of the villages in the Niger Valley the village is situated close to the river. When the Malian peak flood arrives the village can only be reached by boat.

In 1949 the number of inhabitants was 423 (Bogas 1991: 9) and by 1979, according to the national census, the number had increased to 846 people. Unlike in Tondikuaria, in 1949 and 1979 some of the Fulbe were included because since their arrival in the village, most of the Fulbe had lived in a special ward. However, in 1990 the number of 1,166 inhabitants given by the extension service did not include the 85 Fulbe house-
Map 4.3
Dispersion of fields, fallow lands and bush in Tondikuaria in 1975
(Source: Aerial photographs 1975)
holds that had settled outside the village on the village territory and who totalled about 540 persons (during the 1991 survey). In total the village had about 1,600 inhabitants in 1991.

The village was founded at the beginning of the nineteenth century by two Gourmantché brothers from Natangou in present-day Burkina Faso. They had previously settled in a place called Bangou Yessa in the interior of the valley about 12 kilometres to the west of Kompanti. They had to leave after the village was looted by Bariba from Kandi. During the subsequent decades, other groups of people settled down in the village in wards according to ethnicity. People of the Dendi ethnic group from the villages of Bogobogo, Toyo and Loumbouloumbou settled in Kompanti because of water shortages in their own areas. Some Djerma arrived from Niger and settled in the western part of the village. A group of Haousa who were chased away by foresters from the village of Congo in the Parc W arrived in 1989. And finally a group of maccucube settled in the southwestern part of the village. They only arrived after the abolition of slavery but are not former slaves of the Fulbe of Kompanti themselves. Table 4.4 shows the heterogeneous composition of the village.

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<tbody>
<tr>
<td>Gourmantché</td>
<td>64.1</td>
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<tr>
<td>Dendi</td>
<td>11.7</td>
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<td>Djerma</td>
<td>8.7</td>
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<tr>
<td>maccucube</td>
<td>7.8</td>
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<td>Other</td>
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<tr>
<td>Total (N=103)</td>
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*Source: Own survey 1991/1992*

The autochthonous Fulbe of Kompanti live in a ward in the village itself. This was already the case in 1918 as the overview of the Fulbe in the report by Moretti (ANB 1918) proves. It was the only village in which he counted the Fulbe together with the Gourmantché (30 men, 55 women and children, 11 cattle). The Fulbe men arrived one by one to keep cattle captured during inter-village raids, just before the arrival of the French colonial government. They came alone and without cattle, and subsequently married women from Mamassy Peulh. Even today the links between the families in Mamassy Peulh and the Fulbe in Kompanti are numerous due to intermarriage. Another group of Fulbe arrived in the 1970s and settled in an area called Dolewo on the village territory. The Fulbe are part descendants of the Farmakoobe from Mali, the Bittinkoobe from Niger and the Gurmabe from Burkina Faso. The Fulbe of the Toleebe subgroup who arrived after the droughts in 1985 live a long way from the village itself on the fringe of the forest reserve, where they are constantly in conflict with the foresters. They originate from the region around Abala, a town about 800 km to the north in Niger.
Map 4.4
Dispersion of fields, fallow lands and bush in Kompanti in 1975
(Source: Aerial photographs 1975)
Map 4.4 shows the dispersion of fields, fallow lands and bush in Kompanti in 1975. A striking feature is that the people from Kompanti prefer to cultivate close to each other to prevent cattle from entering their fields. Directly around the villages there is hardly any fallow land and to the south on the edge of the forest reserve there is a huge rock outcrop. A large eroded area stands out, west of Kompanti, parallel to the Niger and stretching as far as Garbe Y Kwara. This area is an old terrace of the Niger and has eroded from one to several kilometres so that agriculture is not possible.

Linkages until the 1970s

The modes of existence of the different groups were not exclusively directed towards agriculture or livestock keeping, although all the groups had their specializations which have led to the evolution of a wide variety of arrangements and linkages over the course of time. To facilitate an analysis of these linkages, three categories of relationships were identified in Chapter 3:

- the exchange linkage of goods and services;
- the environmental linkage; and
- the institutional linkage.

In the following sections these linkages are considered with regard to the situation in Karimama until the 1970s.

The exchange linkage: exchange of goods

The exchange of goods took place in the homesteads in the form of bartering or at the market place. Because of the specialization of both groups, products such as milk, cereals and cattle from the different modes of existence were valued very highly by both the Fulbe and the Dendi/Gourmantché.

Because of the favourable ecological circumstances in the valley, milk was available throughout the year. According to the women, a Bororoogi cow could easily provide 10 litres of milk per day during the rainy season and 6 to 7 litres during the dry season. Fermented and skimmed milk was commonly sold or exchanged. Fresh whole milk was sold or exchanged only in the Fulbe homestead or given to visitors who happened to pass by at times when fresh milk was available. If fermented milk was sold to the Dendi/Gourmantché it was used for two dishes: furra and commandi. Furra, a dish of pounded and cooked pearl millet, was sold or exchanged at the market place. The Dendi/Gourmantché mainly consumed this dish at parties or on market days, which were also regarded as festive days. The other dish, commandi, which is made of sorghum and milk, was the main dish of the Dendi/Gourmantché.

If the milk was bartered for cereals, the exchange rate was 1:1, that is to say an amount of milk was exchanged for an equal volume of cereals. The unit was the louche or if larger quantities were concerned, the calebasse. In the 1970s, however, the exchange rate altered and one measure of grain was bartered for two measures of milk because milk was abundant until the drought and millet was expensive (Seur 1983: 54). Gradually commercialization took place and Fulbe women started to ask for money...
instead of bartering.

One of the sub-groups of Fulbe in the valley, the Bittinkoobe, are members of an Islamic group that has strict rules concerning the behaviour of women. Their women are not allowed to leave the homestead to barter milk so they give the milk to warwareebe, older women who act as intermediaries. They have more time because their daughters and/or daughters-in-law carry out the domestic tasks. They gather the surpluses of milk from several women and sell or barter it in the market and on their next visit to the women they give them their part of the revenue while keeping some for themselves in return for their efforts.

Cattle were also exchanged. The Dendi/Gourmantché got cattle from the Fulbe in different ways: by buying at the market, by bartering for cereals, by granting credit or by bartering for wrappers.

Only in the 1950s was a cattle market set up in Karimama. Before that time the Fulbe sold their cattle in villages or in their own camps. For an average cow a herder could buy enough cereals for a whole year. In the 1950s an average cow cost 5,000 CFA, the equivalent of 100 bundles\(^{24}\) of pearl millet (about 1,400 kg) which was enough to feed an average family of fifteen people bearing in mind that they also consumed a lot of milk. Because of their reluctance to sell cattle to buy cereals or other products, the granting of credit by the Dendi/Gourmantché was another way in which cattle officially changed owners. In practice however, the animals remained in the Fulbe herds as a sort of pledge. Another form of credit occurred between butchers and Fulbe. Islamic law prohibits the consumption of meat from an animal that has not been slaughtered but dies a natural death. A butcher is called as soon as an animal is not likely to recover from a disease because the Fulbe are extremely reluctant to kill animals themselves. The butcher is entitled to take the animal on credit and to sell the meat, and in due course is supposed to pay back the money.

Bartering cattle for wrappers was such an important bargain that the worth of a wrapper was expressed in the price of cattle in the valley. A one-year-old bull was worth a wrapper and the price increased from 250 FCFA in the 1930s to 1,000 FCFA just before cloth from Europe started to flood the markets in the 1950s.

The exchange linkage: Exchange of services

Three forms of services are distinguished: the lending of land, the entrustment of cattle and the manure contract.

The first form of exchange of service is the lending of land by the Gourmantché/Dendi to the Fulbe. Although the Fulbe were allowed to pasture wherever they wanted as long as they did not damage any crops, most were dependent on the Dendi/Gourmantché for fields for cultivation. Previously this was never a problem because land was abundant and the understanding between the two groups was mutual. Most of the time land was borrowed directly from a member of the founding families and in exchange for the usufructuary rights over the fields, every year when the harvest

\(^{24}\) Bundles are called botte\(s\) in French; the quantity in which cereals are usually measured in the field. The weight depends on the density with which the haulms are bundled. One bundle is about 5 kg of threshed grain.
was over, the Fulbe family had to give the the lender several bundles of pearl millet or whatever the field was used for. This served as quid pro quo to show that the borrower was well aware of the fact that the field was not his own property.\(^{25}\)

However, some autochthonous groups of Fulbe also have de jure land rights, such as the Fulbe of Pekinga who arrived in the area earlier than the other groups and got land rights by clearing previously unused land. The Fulbe of Mamassy Peuhl acquired land rights from the French colonial government around 1920. The French administrator Moretti gave them a well-defined part between Karimama and Gourouberi (Schmidt 1988: 20). These de jure land rights would play a crucial role in the development of their power over the region because it made them strong vis-à-vis the non-pastoral community.\(^{26}\)

The second form in exchange of services was the entrustment of cattle. Dendi/Gourmantché farmers, Dendi fishermen and their women invested their profits in cattle but did not look after the animals themselves. The Dendi/Gourmantchés viewed Fulbe herdsmen as competent cattle-keepers who knew the ‘secret of multiplication’.\(^{27}\) Moreover, the Dendi fishermen and Dendi/Gourmantché agriculturalists had no time to engage in the continuous activity of herding, especially during the rainy season when other activities required their attention. Most fishing families who owned cattle held one bull in their courtyards to fatten on mouldy sorghum or burgu grass, a pattern copied from fishermen in Niger long before the introduction of the ox-drawn plough. The rest of the cattle were entrusted to the Fulbe who integrated the animals into their own herds.

Some family heads stated that they had cattle entrusted to different Fulbe in order to maintain several friendships but, as one of them stated: "there was always one who I trusted most and to him I would give the majority of my cattle". The people of the village knew who entrusted cattle to whom but the number entrusted was a secret between the Fulbe friend and the owner of the entrusted cattle, an agreement to which there were no witnesses. This caused trouble when the owner died and others inherited the cattle and the number of cattle was 'left to the Pullo's conscience' as one of the Dendi stated during an interview. The women had their cattle entrusted with their 'own Pullo' who might be different to the one her husband had befriended.

Around 46 per cent of the households interviewed in 1991 had had cattle under contract with the Fulbe in the 1970s, the number of cows varying from one to sixty.\(^{28}\)

25 This is not a form of 'metayage' which exists in southern Benin where the payment is calculated according to the size of the harvest (e.g. one third); the fariba is only a symbolic gift. The Fulbe and all the other groups which borrow are obliged to give a symbolic gift.

26 Moretti offered to regulate land rights for other Fulbe as well. But they refused: "we thought we could arrange that with the Dendi," the former chief of the Fulbe of Torozougou stated during an interview in 1991.

27 Agriculturalists attributing mystical characteristics to the Fulbe when multiplication of their capital was concerned is also described by others (Müller 1967: 16,21; Jahnke 1982: 118). The agriculturalists did not understand the procreation process and were just glad that the animals stayed alive.

28 It is very difficult to estimate the number of cows under contract. As in western society, the people in Karimama are reluctant to give details about their savings and possessions in general. People who are 'poor' tend to add to their real wealth and people who are 'rich' tend to reduce the number of cattle they own somewhat.
The Gourmantché from Kompanti entrusted their animals to the Fulbe of Kompanti but the Dendi of Tondikuaria, especially the fishermen who stayed on the flood plain with the herdsmen for part of the year, had already established strong relationships with the Fulbe of Mamassy Peuhl when the Fulbe around Tondikuari arrived. Those who were settled on the island near Tondikuaria were then very mobile and could disappear for years at a time.

Before entrusting cattle to the Fulbe, both parties had to agree on the 'terms of entrustment': the compensation the herdsman would receive in return for his efforts. This compensation could be paid in various forms.

First of all, the herder was entitled to keep some of the milk and a number of the cattle's offspring. What he was entitled to varied from region to region. In Karimama, for instance, all the milk could be kept by the herder. Beauvilain (1977: 225) reported that agriculturalists in Niger in a region 100 kilometres to the north of Karimama claimed half the milk-production during the time that the pastoralists were camped near their villages. As for offspring in Karimama, the herdsman was allowed to keep a number of calves, in most cases the cow's second or third offspring.

Secondly, the farmer owed his herdsman a more or less fixed amount of money for each head of cattle he sold. In the 1970s when the valley was fairly integrated into the market economy, the amount received was generally 1,000 CFA, about 3 per cent of the value of an average two-year-old bull (30,000 CFA). At the beginning of the 1980s this amount increased to 2,000 CFA (about 4% of the value of a two-year-old bull of 50,000 CFA).

Thirdly, the herder, depending on the degree of friendship, expected some additional gifts. If, for example the two were good friends and met on market days, the farmer would give his herdsman a token gift such as some cola nuts.29

Finally, the farmer's family would very often help the Fulbe family with ploughing and weeding and made a contribution towards the purchase of potash. If an animal died, the loss was suffered by the farmer only. To prove to the owner that it was really his or her cow, the herder was supposed to show him the head and tail for identification purposes.

According to the elders of Tondikuaria, the ties of friendship between the Fulbe and the Dendi in this village originated from the herding contract, suggesting that the Fulbe acted as the Dendi’s treasurers. Since the animals constituted the ‘savings’ of the other specialized groups, these groups had to put a lot of trust in the Fulbe as their ‘banker’. The relationship formed an important, often life-long, bond between individuals of both ethnic groups. It is obvious that those who entrusted their capital to the Fulbe had to trust the keepers of their treasure. As the Fulbe always stayed in the valley, except for a short period during the rainy season when the animals had their salt cures, it was not difficult for the farmer/fisherman to visit the herd now and then to see how his ‘savings’ were doing. If a farmer needed money for a big expense like a marriage or a naming ceremony, he would ask the herdsman to sell one of his cows. The herdsman would sell the animal and bring the money to the proprietor.

29 For the arrangements in other regions, see Beauvilain (1977: 225) for Niger and Kring (1980: 70) for Burkina Faso.
The third form of exchange of service was the manure contract. At the end of the harvesting season, the herds came back from Sabongari-Bara and went into the valley to enjoy the crop residues (stalks and cobs judged too small to be worth harvesting). On the flood plain the local flood would already have inundated most of the ponds in which burgu flowered, thus placing it beyond the reach of the animals.

The Dendi/Gourmantché stated that when the harvest took place the Fulbe used to be very modest. An older man came to ask if the farmer had finished harvesting his crop so that he could give permission to enter the field. Others helped to harvest quickly while the herd waited at a safe distance until they were allowed to enter the harvested field.

When the harvest was over the herders would corral their animals for several nights on a field, during which time the animals deposited their manure and urine. The surrounding areas had plenty of food to offer during the day. As soon as food was short in this grazing orbit the herder would move on, usually not more than a few kilometres away. The period of manuring was preferably in February so that the manure could be tilled in before the rains started.

As the Dendi/Gourmantché had almost all their cattle with the Fulbe, it was obvious that they asked the Fulbe to fertilize the fields. The herder stayed longer than he actually would have done considering the fodder resources in the direct area of his night camp. In return for the service of staying in the field longer than necessary, the farmer and herder came to an agreement about the reward, leading to a 'manure contract'. Originally, as a reciprocal gift, it was the duty of the farmer to take care of the nutritional requirements of the Fulbe who settled on his field, so the name 'manure contract' is somewhat exaggerated. Between one and three bundles of millet were involved for one week in the field. For the pastoralist it meant that he 'saved' millet from his own granary by manuring.

In most cases the contract was concluded with the herder with whom the farmer had entrusted his cattle but it also known for the herder to fertilize the fields of someone who had not entrusted cattle to him. The fact that the herder was rewarded for his stay on the field shows that the benefit of manure was more important to the Dendi/Gourmantché than the crop residues were for the Fulbe. This is not surprising considering the low number of Fulbe present at the time. Fulbe from Mamassé Peulh stated that they had the crop residues from their settlement as far as the village of Kargui at their exclusive disposal (see Map 4.1).

Manuring was not valued by everybody to the same extent. Only in about 18 per cent of the villages in the valley did this phenomenon occur (Bogas 1981). In the village north of Kompa, manure contracts were rare. Fertile land was abundant and the principal means of maintaining soil fertility was by rotational fallow and they even chased herds away saying that their manure created too much work at weeding time. The difference in crops can also explain why manure was differently valued. For example in Birni Lafia,

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30 For example the herds of Mamassé Peul moved around the valley, some in the direction of Kompa and others towards Tondikuaria. If farmers asked them to corral their animals on the field in order to fertilize the soil they agreed but not before the fields of the chief of the village were manured first.

31 A manured field requires more labour in weeding because seeds are mixed into the soil with the dung of the animals and germinate as soon as the rains start. The weeds look like small sorghum plants so one has to weed at an early stage in order to recognize the plants.
Kargui and Gourouberi where cotton was cultivated, the manure was highly valued but the people of Mamassy Gourma, a village situated not far from the other villages, did not want their fields manured as fields on which groundnuts were cultivated do not need nitrogen (see also McCown et al. 1979: 308). Although for the Fulbe who engaged in the manure contracts the weekly bundles of millet were welcomed by the family concerned, the importance was not paramount to the survival of the family.

The ecological side of the manure linkage involves the cycling of biomass through the animals of the Fulbe herds into excreta, which fertilizes the soil of the Dendi/-Gourmantché. Because of the division between both modes of existence, the danger is always present that by pasturing on the crop residues without manuring, the removal of biomass causes a decline in soil fertility. In this process not only is manure important but also urine, which has its own positive effect on the soil. In an experiment carried out by Powell and cited by Quilfen (1992: 5), it was shown that yields from a field on which animals were corralled (and deposited manure and urine) were on average 52 per cent greater than yields from fields on which just manure was applied. So the manure arrangement reduced nutrient losses. It can be regarded as a genuine 'ecological linkage' between the two production systems.

Another variety of the manure contract, which helps to compensate for the Fulbe labour shortage during the cropping season, is what the Fulbe call *baddinol* (sitting on the back). This phenomenon only occurred in the Malanville region in the villages around Guene (see Map 4.1) such as Koarateji, because more maize was cultivated there than in Karimama. When a herder had meticulously manured his field, a crop farmer came to labour it. Subsequently in the same field the farmer sowed maize and the Fulbe cattle-keeper sowed pearl millet or sorghum. Each party did half of the weeding and harvested their own crop.

Ties of friendship were closely interwoven with the services families of different groups rendered to each other. According to the Gourmantché/Dendi and Fulbe, 'friendship' means invitations for parties and funerals, regular visits and help in times of need. It especially involved friendship between the elders as the younger members of Fulbe families were engaged in herding all year.

Only between the younger Fulbe and fishermen who were together on the flood plain for several months were regular visits paid, especially during the evenings, and children played with each other. Food was exchanged: the Fulbe gave the fishermen milk and they got dishes made of cereal in return. Virtually no Fulbe ate fish. If a cow was very ill and not likely to recover, a butcher was called and the meat was distributed amongst the fishermen.

In the flourishing era of spinning and weaving in the 1940s and 1950s, many women from other ethnic groups visited the Fulbe settlement because it was also the place where the *maccube* weavers lived. Mutual visits were frequently paid. A woman from Tondikuaria stated that she sent her child to Koran school in Mamassy Peulh and a Fulbe family she befriended took care of her child. Especially during ceremonies, friendly relations between both groups were cemented by the giving of presents. Dendi, Gourmantché and Fulbe alike were hosted as if they were their own folk. The Fulbe gave sheep, goats or even little male calves to their farmer friends. In return the Dendi/-
Gourmantché went to Fulbe ceremonies and offered them millet, cloth and cola nuts.

On market day in Karimama people from all over the region gathered in town. This was the day to meet friends. The Dendi/Gourmantché always gave small presents like cola nuts or cigarettes to their Fulbe friends. As the day coincided with the Islamic holy day (Friday), the Fulbe and other ethnic groups attended the service in the mosque together, which also tightened social bonds.

In Kompanti where the Fulbe live in their own quarter in the same village as the Gourmantché, intermarriages occurred but were rare. Most of the time an intermarriage involved a Fulbe woman marrying a man from another ethnic group and not the other way round. The elders of Kompanti remember only one case of an old Pullo marrying an older Gourmantché woman. So although many relationships existed, the groups remained culturally distinct (see also Boesen 1997).

*The environmental linkage*

The use of the Niger Valley by agriculturalists and fishermen on the one hand and the Fulbe on the other was mainly determined by the seasonality of the River Niger and to a lesser extent by the land-use pattern of the agriculturalists.

The River Niger has two floods in contrast to the other rivers that cross the region. Having two floods is a major asset: they inundate the flood plains during the greater part of the year and offer an excellent opportunity for the much appreciated *burgu* grass to grow. It also means that there is green grass available almost all year round. As soon as water levels decline, the Fulbe go to the flood plains and group together in their tents at the edge of the ponds, which gradually release *burgu*. The fishermen enter flood plains as soon as some higher points are left dry (April/May). The fishermen make their tents of *Andropogon* grass just as the Fulbe did. Together they occupy the higher ground although they have their own 'fishermen's camps' and 'Fulbe camps'. During these months mutual friendships are formed.

Although Fulbe and Dendi fishermen occupied the same spatial unit, their use of resources was complementary. The Fulbe used the dried-out parts of the ponds to profit from the *burgu* and the fishermen used the deep parts of the ponds to fish. Cattle never went too far into the pond for fear of becoming stuck in the mud and also because the Fulbe were afraid of crocodiles. Sometimes however disputes arose between the Fulbe and Dendi about damage to fishing material caused by cattle.

As soon as water levels rose again, the herds went up north to the salty soils of Sabongari-Bara in Niger where the cattle had their salt cures, and the fishermen returned to their villages. As these movements coincided with the period in which the Dendi/Gourmantché's (and the Fulbe's) crops were ripening, any crop destruction by cattle was avoided. The herdsmen returned to the valley with their cattle just after the millet and sorghum harvests, allowing the animals to feed on crop residues. According to oral history, the *rugga* of Mamassy Peulh convoked all the Fulbe herds to the area of the village of Mamassy Peulh at a certain date. The village was the point of departure and the herds were divided into two waves: one going in the direction of Kargui, the other heading towards Kompa.
Figure 4.2
The environmental linkage in the Niger Valley in Benin until the 1970s

<table>
<thead>
<tr>
<th>Calendar Seasons</th>
<th>JANUARY</th>
<th>FEBRUARY</th>
<th>MARCH</th>
<th>APRIL</th>
<th>MAY</th>
<th>JUNE</th>
<th>JULY</th>
<th>AUGUST</th>
<th>SEPTEMBER</th>
<th>OCTOBER</th>
<th>NOVEMBER</th>
<th>DECEMBER</th>
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<tbody>
<tr>
<td>Rainfall</td>
<td>Dry season</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Rainy season</td>
<td></td>
<td>Dry season</td>
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<tr>
<td></td>
<td>mean mm/month</td>
<td>period 1943-1972</td>
<td>measured in Malanville</td>
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<tr>
<td>River discharge</td>
<td>Malian flood peak</td>
<td>Har bi (black water)</td>
<td>Hari koyoa (low water)</td>
<td>Hari kuay (white water)</td>
<td>Hari nea (new water)</td>
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<tr>
<td>Fishermen's seasonality</td>
<td>Migration upstream</td>
<td>Fishermen's camps on the flood plains</td>
<td>In the villages</td>
<td>Migration upstream</td>
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<tr>
<td>Pastoral mobility</td>
<td>In the harvested fields</td>
<td>Manure contracts</td>
<td>Fulbe camps on the flood plains</td>
<td>Salt-cures</td>
<td>In the harvested fields</td>
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<tr>
<td>Resource competition</td>
<td>Preparation of fields/Prep. of granaries</td>
<td>Tilling/Ploughing/Sowing</td>
<td>Harvest</td>
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<tr>
<td>Pearl millet</td>
<td>Preparation of fields/Prep. of granaries</td>
<td>Tilling/Ploughing/Sowing</td>
<td>Harvest</td>
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<tr>
<td>Sorghum</td>
<td>Preparation of fields/Prep. of granaries</td>
<td>Tilling/Ploughing/Sowing</td>
<td>Harvest</td>
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<tr>
<td>Agricultural calendar</td>
<td>Preparation of fields</td>
<td>Tilling/Ploughing/Sowing</td>
<td>Harvest</td>
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<tr>
<td>Rice</td>
<td>Preparation of fields</td>
<td>Tilling/Ploughing/Sowing</td>
<td>Harvest</td>
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<tr>
<td>Maize</td>
<td>Preparation of fields</td>
<td>Tilling/Ploughing/Sowing</td>
<td>Harvest</td>
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<tr>
<td>Local Groundnut</td>
<td>Preparation of fields</td>
<td>Tilling/Ploughing/Sowing</td>
<td>Harvest</td>
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It is clear that during the time that the Fulbe were grouping around the Dendi/Gourmantché villages, friendships were formed and products were exchanged. As soon as the falling water level of the River Niger revealed the burgu grasses again (around March/April) the pastoralists went back to camp on the flood plains, and the fishermen followed. Crop-livestock resource competition was limited although the valley was never subjected to complex ownership rules like the Malian Gourma.

Figure 4.2 shows the seasons, the water levels of the river and the mobility of the different groups in Benin's Niger Valley. The figure strikingly shows that the monthly discharge of the river and the monthly rainfall are mirrored: The Malian flood peak coincides with the dry season. As a result of the professional specializations and the fact that the river was low when the crops were growing, the lands in the region could be used in a complementary way. During certain months the Fulbe were together with the fishermen on the flood plain while at other times of the year they camped with their herds around the Dendi/Gourmantché villages allowing friendships to be formed between specialized groups. Thanks to the seasonality of the river, the danger of resource competition was minimized.

The institutional linkage
The institutional linkage is the third linkage distinguished in Chapter 3. It was defined as forms of social control, tension management and conflict containment. Regulation of access to and control over resources is embedded in the valley's political and social life. From colonial times until the revolution in 1972, both groups were represented by their own traditional chiefs.

Before the arrival of the French, the valley was ruled by a regional Dendi chief, the labukué; and the villages were ruled by the Dendi village chiefs, the kuarakué. Both were hereditary functions of members of founding families. The kuarakué and the labukué could administer justice with the aid of their advisors. Matters regarding fishing were put before the meroi who had an influential position, as was described earlier. The Fulbe had their own spokesman who was subordinated to the kuarakué at a village level and the labukué at a regional level.

The situation in the valley changed considerably when the French imposed their government on the territory by introducing several important measures such as the prohibition of raiding and warfare and the abolition of slavery. They also imposed administrative changes: the valley became part of the Cercle de Moyen Niger that stretched out into present-day Niger and Burkina Faso. It was subdivided into the Subdivision Kandy and the Subdivision Guene, the latter covering the whole Niger Valley in present-day Benin. The headquarters for the Subdivision Guene was located in Karimama from 1898 till 1912 when it was moved to Guene due to administrative and

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32 The burgu appointed by the colonial government regulated the use of pastures on the islands (ANB 1918: 11). For a description of the use of the Malian Inner Delta see Van Dijk (1999).
33 The northern part of present-day Benin was divided into two cercles, Moyen-Niger and Borgou. The headquarters of Moyen Niger was Kandi and the headquarters of Borgou was Parakou. (Crowder 1975: 100)
34 From 1898 until 1912 the post was occupied by officer Bretonnet and from 1912 until 1926 by officer Moretti, a Frenchman from Corsica. Even today the Fulbe speak with much respect about Moretti
health reasons.

The Subdivisions were divided into Cantons that were administered by indigenous chiefs. The Subdivision Guene consisted of two Cantons: the Canton Karimama and the Canton Guene. The Dendi labuké were appointed as Chefs de Canton Dendi: one was appointed for the Canton of Karimama which covered the valley from Pekinga to Kargui, the other for the Canton of Guene covering the region from Molla to Sendé.

The French were interested in the pastoralists because their cattle constituted the wealth of the region. In addition, cattle from the north would have to meet the demand for meat of the population in the coastal zone in the future when the projected railway would facilitate transport (ANB 1902 and 1906). The French were always afraid that the mobile Fulbe would leave the country for their British neighbour, Nigeria, where taxation was lower, the demands for forced labour infrequent and there was no compulsory military service (Crowder 1975: 114). 35 To keep the Fulbe in their realm of governance the French appeased them by giving them their own headmen and preferential treatment to enable them to continue their pastoralist lifestyle. However, the French were mindful not to favour any group: "as the Fulbe are weak and nice, so are the Bariba rude but one should not be influenced by these facts, one should keep an equal balance between the two races" (ANB 1902).

The Fulbe were not organized above village level, so Adjutant Moretti ordered them to choose a representative to be called Chef Canton Peulh. The Fulbe themselves called him rugga (see also Bierschenk 1993).

Although the Fulbe of Pekinga stayed in the region for longer and already had an influential chief, the rugga was not appointed there. His power had already waned because pillage and warfare were not allowed any more but more importantly, they were too far-removed from the residence of the colonial government. 36 The rugga was appointed in Mamassy Peulh which accounts for Mamassy gradually becoming the centre of Fulbe political activity and giving the village its supra-regional function, which still exists today.

As the Fulbe were not numerous enough to merit the appointment of one Fulbe chief (rugga) for each existing canton, only one was appointed to cover the whole region from Pekinga to Sendé. Although his jurisdiction overlapped that of the Bariba and Dendi Chiefs de Canton 37, it only concerned the Fulbe. During interviews with Dendi elders they strongly deny that the Chief of Canton Peulh had as much power as the other chiefs of canton but colonial reports demonstrate that they were in fact created to match each other (ANB 1917).

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35 For example an exodus to Nigeria of 200 Fulbe and 2,000 cattle took place in 1907 in protest against the ban on slavery and fear for recruitment ('La question peulh' report 1918). This number was large enough to alarm the colonial government. There were other dangers too such as bovine pest. For example from 1908 to 1925 the number of cattle in the Cercle Moyen Borgou halved (from 70,000 to 35,000) due to bovine pest and emigration (ANB 1925: 2).

36 The Fulbe of Mamassy Peulh attribute it to the fact that they outnumbered the Fulbe of Pekinga.

37 The French created five other Peulh cantons (Kandi, Zougou, Bajou, Banikoara, Diapeau) and eight Bariba cantons in the Cercle Moyen Niger (ANB 1917)
The main function of the chief of canton was to facilitate the levying of taxes and to regulate disputes but they also had to assist the government in a more general way. For example the Fulbe chief of canton had to ensure that taxes were paid and that the French officer was provided with a constant supply of fresh milk. To facilitate the levying of taxes, the *rugga* went along the islands to appoint *minor ruggas* (a sort of advisor to the major *rugga*, analogous to the *kuarakué*) who mainly reigned on the islands in the flood plain the Fulbe occupied during the rainy season.

At a higher level near the headquarters of the *Cercle* Moyen Niger in Kandi, the French appointed a *major rugga* (Bierschenk 1993). Now the Fulbe of the valley who were mainly oriented towards the north and west, the regions they originated from, were subordinated to the *rugga* in Kandi in the south. That the Fulbe valued the fact that they had their own chiefs is illustrated by a quote from one of the colonial reports. The colonial government was very much concerned with the continuous in- and out-migration of large groups of Fulbe in the valley because they could lose income from taxes. When another exodus was imminent in 1925 and it seemed that the Fulbe chiefs were not able to control their subjects, the colonial government called together the Fulbe chiefs to express their dissatisfaction. They threatened to change the government to one based on ethnic groups in a regional government in which the Fulbe would be placed under the rule of other ethnic groups. The advice to the governor read: "one should not have recourse to this policy only when the chiefs of the Peulh collectivity are unable to assure a regular administration of their contribution" (ANB 1925: 9). The threat was never carried out.

After the Second World War an administrative reorganization was launched. The *Cercle* de Borgou and part of the *Cercle* Moyen Niger became the *Département* of Borgou, the *Canton* of Karimama became one *Arrondissement*. The *Canton* of Guene was subdivided into four *Arrondissements*. The five *Arrondissements* together formed the new *Canton* of Malanville. The *rugga* remained the Fulbe's representative and intermediary. The regulatory/administrative situation remained unchanged from independence in 1961 until the revolution in 1972. The period after 1972 is discussed in Chapter 7.

As the environment was used in rotation, crop-livestock resource competition was limited. If the two parties were unable to reach an agreement, a third party would be called in to prevent any escalation of the dispute. There were two periods when tensions could rise and confrontations were a real possibility. (See also figure 4.2).

The first was at the time of harvest. During this period the already harvested fields were exploited by herds profiting from the crop residues whereas other fields were not yet harvested. Cattle could wander off and cause damage to standing crops.

The second period came when the descending water level of the River Niger revealed the *burgu*. The pastoralists went back to camp on the small dry elevations in the flood plains, the fishermen soon following. In the same ponds in which the *burgu* emerged, the fishermen installed their fishing materials (nets, hooks and fykes), which sometimes got damaged.

If a farmer or a fisherman noticed damage, he would try to find the culprit. This was not such a problem because before the large waves of immigration in the 1980s, the Fulbe were easy to recognize and identify according to their ties with agricultural
villages. Subsequently both parties had to reach an agreement on how the damage would be compensated for. Having amiable relationships or having cattle under contract with the herder helped to settle the case between the parties concerned. So if the herder and the farmer did not reach an agreement they went to their respective traditional leaders. These were the rugga and the kuarakué or if fishermen were involved the meroi who took over negotiations and tried to settle the problem.

These traditional leaders were greatly respected and there were no attempts at bribery or corruption. Since no large sums were involved (as would be the case later, see Chapter 7), dishonest behavior was prevented. As the Dendi elders of Tondikuaría stated: "During the époque of the ruggas and kuarakué the cases were judged properly, whether the farmer was wrong or the Peuhl, they were confronted with their responsibilities". If agreement still could not be reached, there was a final solution which all parties tried to evade: "the recalcitrants who did not want to obey were taken to the chefs de canton where they had to pay double the amount of money that they would have had to pay in the village itself".

In conclusion, it can be stated that problems, especially damage to equipment or crops, certainly occurred and that they were part of the interrelationships between the Fulbe and other groups. However, these problems hardly escalated into conflicts due to the effective resolving of issues by traditional chiefs.

Conclusion

In the period described, the resource base of the Niger Valley offered an excellent opportunity for groups of people with different specializations to live in relative harmony. The flood plain offered high grass biomass and fish that were available at strategic times of the year. Three modes of existence developed: agriculture, (semi-)settled agro-pastoralism and (agro-)fishery. Although the agro-pastoral Fulbe left the area for Niger for a few months to find salt cures for their cattle, the valley can be regarded as a sort of closed entity in which people with different modes of existence lived in reasonable harmony.

A complex land-tenure system did not exist because the different groups did not use the same spaces at the same time. Nevertheless there were institutional arrangements which defined the conditions of access to the collectively used natural resources: access to fishing grounds was regulated by the meroi and his assistants, while access to the flood plains was regulated by the French government which assigned specific areas of the flood plain to particular Fulbe groups.

Agriculturalists, fishermen and pastoralists depended heavily on local resources for their subsistence. Although the area had a place in a larger context, the only important external influence originated from the policy of the French colonial government which instituted changes. The most important change with regard to the relations between Dendi/Gourmantché and the Fulbe was that the Fulbe were allowed their own headmen. At first the French government tried to comply with traditional institutions but the Fulbe were not used to being organized above village level. So the colonial government
ordered the Fulbe to choose new headmen as their representatives. In the whole of Borgou Province the new structure was based on ethnicity. In the valley in general, Fulbe power increased. The basis for consolidation of the strategic position of Mamassy Peuhl was created in the 1920s when they received land rights and by the choice of the first rugga among their inhabitants.

The different modes of existence within this resource setting propelled products and services that could be offered to each other. The measure in which these products and services were exchanged was dependent on their appreciation by the other party. Tension and confrontations did occur, especially during the rainy season (crop damage) and during the co-habitation of Dendi fishermen and Fulbe on the flood plain (damage to fishing material). However, these tensions never escalated into conflicts and were settled by the traditional chiefs. According to the different linkages in Table 3.1, the situation in the valley, in human ecological terms, could be called proto-cooperation because both groups benefited from linking to each other but linkages were not crucial for the survival of one or both groups, which was emphasized by both groups during the research project. If co-existence were crucial to the survival of both groups, the situation would be one of symbiosis. The outcome of relations in the valley (proto-cooperation) was, however, a situation of complementarity.