Résumé
A. Waters-Bayer & W. Bayer — Relations entre éleveurs immigrants peuls et paysans autochtones dans la zone subhumide du Nigeria.
La diversité des formes d'utilisation du sol par les pasteurs peuls témoigne de la faculté d'adaptation de ce groupe ethnique à des environnements différents. Cet article traite de la dynamique historique et des stratégies communément utilisées par les éleveurs dans la zone subhumide du Nigeria, zone vers laquelle ils ont migré et dans laquelle ils s'installent depuis plusieurs dizaines d'années. Les auteurs attirent particulièrement l'attention sur les relations fructueuses qui se sont nouées entre les immigrants peuls et les paysans autochtones kaje et kamantan de la zone subhumide, relations qui se sont traduites par l'apparition d'une intégration de l'agriculture et de l'élevage. Les auteurs insistent également sur les accords conclus entre les Peuls et les autochtones en matière de partage des droits d'usage sur la terre et analysent les causes de conflits et les moyens de les résoudre. Enfin, les enseignements qui en sont tirés sur le plan des politiques de développement visent à encourager une utilisation rationnelle et pacifique de la terre à la fois par les éleveurs et les paysans.

Citer ce document / Cite this document :
http://www.persee.fr/doc/cea_0008-0055_1994_num_34_133_2048

Document généré le 02/06/2016
Spreading eastwards from the Senegambia region of West Africa, Fulani cattle nomads may have reached what is now northern Nigeria already in the 13th century. These migrations were accompanied by a gradual adoption of Islam. By the 15th century, a number of Fulani had become scholars or judges in Islamic centres, or counsellors in the courts of Hausa rulers. Some of the settled “town Fulani” abandoned herding completely, although many still owned cattle tended by kinsmen or hired herdsmen (Azarya 1978). However, most Fulani in Hausaland continued to move seasonally with their herds, often using “town Fulani” as mediators with local rulers to ensure rights to pasture or passage, usually in return for tribute paid in kind (St Croix 1944).

At the beginning of the 19th century, Usman dan Fodio led a group of Muslim Fulani scholars in a holy war (jihad) against the Hausa rulers. Some cattle-keepers gave their support in establishing Fulani supremacy,

* The findings presented in this paper are derived from several years of joint fieldwork in central Nigeria in the 1980s, within the framework of the Subhumid Zone Programme of the International Livestock Centre for Africa (ILCA), as well as from observations made during subsequent brief visits. Sources of historical information, besides those listed in the bibliography, were the National Archives in Kaduna (Nigeria), and oral historiography in the Abet case-study area of spontaneous Fulani settlement. The simultaneous investigations into land use in the grazing reserve case-study area were made by our colleague in the ILCA team, Ellen Taylor-Powell. We gratefully acknowledge her contribution to this work, as well as the contributions of the numerous Fulani pastoralists, Kaje and Kamantan farmers and village heads who explained and debated issues of land use in the case-study areas.

Dr Ann Waters-Bayer is consultant in rural sociology with ETC Foundation (Consultants for Development Programmes) and staff member of the Information Centre for Low-External-Input and Sustainable Agriculture (ILEIA), Leusden (Netherlands). Dr Wolfgang Bayer is consultant in tropical animal husbandry and forage management, and lecturer in pasture science at the University of Göttingen (Germany).

not only out of religious fervour but also as a means to maintain and extend their rights of access to water and pasture (Azarya 1978).

In the subsequent period of political instability, some wealthier Fulani cattle-owners sought shelter in or near walled towns, together with slaves who cultivated land for them and herded the cattle nearby. Special grazing areas (hurmi) were delineated near the towns. These were often the sole source of fodder during the cropping season. Other Fulani continued to move with their herds far from settled areas, but sought mutual protection in large clan groupings. This restricted the flexibility of individual herd management and the access of the herds to seasonally good pastures. As a result, nutritional levels declined and the animals became more susceptible to disease (Hopen 1958).

The high concentrations of livestock, whether around walled towns or in large mobile groups, favoured the spread of rinderpest at the end of the 19th century. This severely depleted the Fulani herds. Numerous families were forced to seek survival in cereal farming to such an extent that they could no longer migrate with their few remaining animals (St Croix 1944, Hopen 1958).

During the colonial period in the first half of this century, pacification (Pax Britannica) lessened the dependence of the nomadic Fulani on large kinship groups for security (Fricke 1979). Prohibition of slavery deprived the settled Fulani of their main source of farm labour. Successful campaigns against rinderpest permitted herd reconstruction. These factors favoured greater emphasis on pastoralism than crop production. In order to avoid the increased tax on cattle (jangali), many Fulani found it advantageous to move their herds more frequently and further (Hopen 1958).

At the same time, the Colonial government encouraged the traditional leaders (ardo’en) of Fulani herders to establish permanent settlements in their wet-season grazing areas (Stenning 1959). After Independence in 1960, the Nigerian government continued this policy and converted some forest reserves into grazing reserves for Fulani settlement. Abolition of the cattle tax in 1974 removed one reason for continued mobility. Nevertheless, the government programmes had far less impact on the settlement of nomads than did other changes in socioeconomic conditions.

Pacification and improved human medical care led to population growth, also among the arable farming peoples of Nigeria. The marketing opportunities for agricultural products improved. In the north, bush areas and low-lying riverine areas (fadama), which had previously been grazed by Fulani herds, were increasingly used for cropping. The hurmi pastures near the towns and the connecting burtali (cattle paths) almost completely disappeared (Federal Ministry of Agriculture 1978). Some farmers invested their earnings from crops into livestock which, wherever possible, were kept close to the farming villages throughout the year.

In view of the expansion of cropping in the semiarid north of Nigeria, some Fulani herd owners chose to settle there permanently, or at least to
establish wet-season homes, in order to secure land rights for cropping. This occurred from the 1920s onwards, and increasingly after mid-century (Tiffen 1976). Many of those who preferred to remain more mobile shifted their pattern of herd movement and began to move further south into the subhumid zone during the dry season, when tsetse-fly infestation was relatively low. At the beginning of the wet season, the herds were taken back to the semiarid north (Stenning 1959).

Case-study areas in the subhumid zone of Nigeria.
Even earlier, in the 18th and 19th centuries, small Fulani groups had penetrated into the subhumid zone in search of better conditions for their herds and as escorts of *jihad* conquerors. This southward migratory shift increased during the colonial period. At the same time, the *Pax britannica* led to an expansion of cropping in the subhumid zone. During the previous period of unrest, many of the indigenous ethnic groups had practised hill farming with terraces, green manuring and similar intensive techniques. When political conditions became more secure, the farmers largely abandoned these labour-intensive practices in favour of extensive shifting cultivation in the lower-lying plains (Netting 1968). Cropping in the subhumid zone expanded still further as a result of the immigration of farmers from the more densely populated areas in northern and southern Nigeria (Putt et al. 1980).

As the farmers cleared the bush cover and created patches of open parkland savanna for cropping, the tsetse flies' habitat was destroyed, and the risk of livestock disease reduced (Bourn, Milligan & Wint 1986). Many Fulani using the subhumid zone then began to adjust their food production strategies. Herds were moved shorter distances, often limited to the subhumid zone itself, particularly within the cleared areas. Some Fulani pastoralists settled spontaneously (without government assistance) close to farmers' villages and market towns in the subhumid zone, and began to diversify into cropping. They became agro-pastoralists.

Various production modes ranging from highly mobile pastoralism to fully settled agropastoralism are now being practised in the subhumid zone. The individuality and flexibility of the Fulani are evident in their different responses to similar environmental conditions and in their adjustment of mobility level and enterprise mix according to perceived needs and opportunities.

### Cattle-Keeping in the Subhumid Zone

The subhumid zone is defined as the area under 1500 m elevation with an average of 900-1500 mm annual precipitation and a dry season of 3-6 months. The subhumid zone comprises about 25 % of sub-Saharan Africa and 45 % of the total area of Nigeria (see Map). In the subhumid zone of Nigeria, *ca* 70 % of the biomass of domesticated ruminants comprises cattle. About 85 % of these are kept by Fulani, who make up only about 5 % of the rural population (Waters-Bayer & Taylor-Powell 1986b). In the late 1970s, when ILCA (International Livestock Centre for Africa) began studying cattle-keeping systems and possibilities for their improvement in the subhumid zone of Nigeria, already more than half of the Fulani cattle-keepers were "settled" (occupied a permanent homestead close to which the herd was kept year-round). The remaining Fulani were predominantly "transhumant" (using certain wet- and dry-season grazing grounds on a regular basis but having a fixed home base). Only about 5-10 % were "nomadic", without a fixed home base (Van Raay 1975, Fricke 1979).
To gain a better basis for developing appropriate technologies in cattle-keeping, ILCA investigated how the existing pastoral systems functioned, the interactions between herders and farmers, and the constraints to livestock-keeping in case-study areas. Initially, upon the suggestion of the Nigerian government, the grazing reserve Kurmin Biri was selected as a case-study area. This, like many other reserves in northern and central Nigeria, was established to permit the settlement of nomads and to separate herders from farmers, so as to reduce conflicts between the two groups. The reserves were originally intended exclusively for grazing.

When ILCA started fieldwork in 1979, more than one hundred pastoralists were registered as users of the grazing reserve, but only five families actually lived there. Most of the registered Fulani lived in neighbouring cropping areas. A subsequent survey of land use in the entire subhumid zone of Nigeria revealed that the cattle density in both the wet and the dry season was higher in cropping areas than in the grazing reserve (Bourn, Milligan & Wint 1986). This suggests that cattle-keepers were seeking at least spatial proximity to crop farmers.

The Fulani in Abet

The Settled Pastoralists

To investigate this spatial proximity of herding and cropping and the relations between herders and farmers, a second case-study area was selected. This was an area from which the Fulani living on the reserve had moved. Those who had settled in the reserve had not been nomads; they were already settled Fulani who had merely shifted their place of residence. Their relatives still lived in the cropping area known as Abet. Characteristics of the two case-study areas are given in Table I.

<table>
<thead>
<tr>
<th>Case-study area</th>
<th>Arable farming area</th>
<th>Grazing reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Abet</td>
<td>Kurmin Biri</td>
</tr>
<tr>
<td>Coordinates (central point)</td>
<td>8°10'E/9°40'N</td>
<td>8°0'E/10°5'N</td>
</tr>
<tr>
<td>Precipitation (mm/annum)</td>
<td>1250</td>
<td>1200</td>
</tr>
<tr>
<td>Elevation (meters)</td>
<td>800</td>
<td>—</td>
</tr>
<tr>
<td>Length of wet season (months)</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Population density (persons/km²)</td>
<td>70</td>
<td>4</td>
</tr>
<tr>
<td>of these, Fulani (%)</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Cattle density (animals/km²)</td>
<td>Wet season 25</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Dry season 40</td>
<td>10</td>
</tr>
<tr>
<td>Cropping density (% of land)</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>Fallow (% of land)</td>
<td>30</td>
<td>No data</td>
</tr>
</tbody>
</table>

Almost all the Fulani living in Abet were born there or close by; the vast majority refer to themselves as Kacicere’en (from the Hausa: Kachichere). This is a Fulani group whose ancestors brought their herds already in the 18th century from northern Nigeria to the Kachichere Plateau on the western edge of the Jos Plateau. After the end of tribal warfare and slave raiding at the turn of the 20th century, some Kachichere Fulani shifted westwards to the lower plains, including the Abet Plains. As other herders who made long transhumant movements between the semiarid and subhumid zones saw that the Kachichere could keep their cattle year-round on the Abet Plains, an increasing number of transhumant Fulani also settled in the area. Although many Fulani in Abet cannot trace their family history directly back to the Kachichere Plateau, they refer to themselves as Kachichere if they belong to the same clans (lenyol) as the original Kachichere Fulani.

The most frequent reason given for settlement was that transhumance caused “too much suffering”: the families were “tired of moving”. However, it is of particular interest where the Fulani settled. Despite the possibility of conflict with crop farmers over land-use rights and crop damage by animals, the Fulani preferred to establish their homesteads in the more densely settled areas of the subhumid zone and not at sites far from farming villages or in grazing reserves.

The Fulani regard Abet is favourable area for cattle-keeping. The extended fadama areas offer good dry-season pastures. The stubble in harvested fields of sorghum, millet and rice provides considerably more and better fodder than the savanna vegetation at the same time of year. Indeed, the period of crop-residue grazing in the early dry season coincides with a peak in cow fertility and milk production. According to the Fulani, fallow land provides better pasture than natural savanna. Moreover, it is easier to herd animals in the cleared areas than in the “bush”. Schools, dispensaries and transport facilities are additional attractions of farming areas, and the Fulani women value easy access to numerous customers for milk products in the neighbourhood and at the weekly markets in the nearby villages and towns.

In addition, the settled Fulani frequently mention good-quality farmland as a favourable feature of the Abet area. The existing farm clearings save them the hard work of opening up new land. The indigenous farmers are a source of knowledge about crop-management techniques appropriate for the area. The local farming techniques have been adopted by the Fulani, who say they have learned through observation. The wealthier Fulani are attracted by the opportunities offered by an established farming area like Abet to hire skilled farm labour for ridging and weeding.

The basic foods of the Fulani are cereals, which they traditionally obtained from farmers in exchange for milk and butter. However, as the terms of trade changed to the detriment of milk products and the cash economy spread, many Fulani had to sell animals in order to obtain enough cereal
to ensure the subsistence of their families. Some of the Fulani who had grazed their herds only seasonally in Abet tried already in the 1940s and 1950s to reduce the financial burden of buying cereal by taking up cropping themselves. Family histories reveal that the time of initial settlement usually coincided with the time when the family first started cereal cropping, although the need to cultivate was seldom explicitly given as a reason for settling.

Almost all the Fulani now living in Abet are agropastoralists. They grow the major cereals of the region (sorghum, millet, maize, rice) and some sweet potatoes, yams, cocoyams, beans, acha (hungry rice), groundnuts and soybeans. The area cultivated per family averages 0.9 ha, about one third of the average area cultivated by an indigenous farming household (Powell & Taylor-Powell 1984).

Rights to Land Use in Abet

As immigrants, the Fulani must obtain permission to settle from the indigenous ethnic groups, the Kaje and Kamantan, who hold customary rights to adjacent and sometimes overlapping areas of land in Abet. Disputes occasionally arise between the Kaje and Kamantan over the ethnic and family ownership of specific plots of land. Individual families traditionally hold usufruct rights to former and present farmland, which is inherited patrilineally. Other land within the generally recognised ethnic territories is under the control of the village heads (Waters-Bayer & Taylor-Powell 1986a).

The land rights enjoyed by the settled Fulani agropastoralists depend, among other things, on the history of settlement. In Madauchi, near the town of Zonkwa, about 20 km from Abet (see Map), and also in the territory of the Kaje people, one clan of Kachichere Fulani holds customary rights of land occupancy, having settled there on previously uncleared land three generations ago. Similar rights to land are held by some Fulani in the Kachia area, about 40 km from Abet, where Fulani had settled already during the jihad period. Moreover, in recent years, a few Fulani cattle-keepers living in the Kachia area have managed to ensure their access to land by purchasing it or by applying for an official Certificate of Occupancy from the Nigerian government.

To our knowledge, neither the immigrant Fulani nor the indigenous Kaje and Kamantan have succeeded in gaining permanent rights to land in Abet by these "modern" means. Two Fulani families in Abet are known to have obtained inheritable land-use rights through traditional means: specific areas for dwelling and cropping were granted to them by village heads in the presence of witnesses. As a rule, however, the indigenous inhabitants regard the Fulani as only temporary occupants of any particular piece of land.
Whether or not they have managed to obtain rights to long-term use of land for dwelling and cropping, all Fulani agropastoralists depend on good relations with crop-farming families and communities for grazing rights within the areas under the traditional jurisdiction of the village heads.

In Abet, the Fulani homesteads are generally located on fields which farmers have left fallow for several years. Each time a settled Fulani family shifts its homestead, the household head makes new arrangements with a farmer or village head to obtain rights to use a specific area. In most cases, no time limits are set, but all parties expect that the Fulani family will move again after a few years. The farmers do not demand payment. However, in order to maintain amicable relations with the farmer whose land he is using, a Fulani household head makes the occasional gift of meat or even a calf and provides the farmer with manure either free of charge or at a reduced rate. A farmer who loans land to a Fulani household head may ask him to shift after a few years, but the same farmer or the village head commonly offers the Fulani the use of another plot of land in the village area.

It is generally understood by both the Fulani and the farmers in Abet that livestock may graze any uncropped or harvested area, with the exception of certain village reserves, such as where grass for thatching will be collected. Until now, the farmers have been prepared to let the Fulani cattle graze their crop residues free of charge. Some farmers have heard that Fulani herders now pay for crop-residue grazing rights in other parts of the country, e.g. in the more densely populated area south of Kano. However, it has not yet been possible for these farmers to enforce this change in the Abet area.

Mobility of the Settled Fulani

Although the Fulani regard themselves as settled (in Fulfulde: jorde), they maintain considerable mobility with respect to place of residence and herd management. Some Fulani compounds in Abet have been on the same site for forty years, but most Fulani families live only about 3 to 5 years at a particular site and then move a few kilometers further. Some of the reasons given for these shifts are: to comply with the farmer’s requests to return loaned land, to avoid animal diseases and parasites, to create greater distance between cultivated fields and the wet-season kraal for the herd so as to reduce risk of crop damage, to join friends or relatives who have moved, or to gain better access to roads or markets. In many cases, the deserted site is then cultivated by Kaje or Kamantan farmers who wish to take advantage of the improved soil fertility where manure has been deposited in the wet-season cattle kraals.

The Abet Fulani try to graze their herds within about 5 km radius of the homestead, so that they can return there each evening. However, during the dry season, the herds are camped overnight not beside the Fulani dwelling but rather on farmers’ fields. The cattle camp is shifted every 5-7 days.
to distribute the manure over the field. Some Fulani bring their herds to manure fields up to 10 km from their homes. During the day, the herds graze forage resources, particularly crop residues, in and around the farm. Several members of the Fulani family accompany the herd and live in temporary huts on the fields or directly in the farm family's compound.

At the very beginning of the wet season, when the showers are scattered and irregular, most herds “follow” the rains and may graze even 20-30 km from the Fulani homestead for a few weeks.

The herds kept by the settled Fulani contain, on average, 60 cattle and 10 sheep (Otchere 1986). In farming areas, herds of this size can still be controlled by one herder. However, two or more herders are needed when the animals are grazing fallow fields directly adjacent to cultivated land. Larger herds are subdivided or, when herding labour is limited, are taken elsewhere during the growing season, e.g. to the grazing reserve near Kurmin Biri. Thus, the establishment of a grazing reserve, which was originally intended for settlement of “nomads”, has permitted settled Fulani to resume transhumance. The grazing reserve is also attractive because it is easier for Fulani to obtain land there for cropping (particularly since the official regulations have been altered to allow the Fulani to grow crops within the reserves).

Some Fulani who kept their animals throughout the year in Abet were able to build up unusually large herds (more than 150 cattle). The owners of these herds have resumed longer-distance transhumance but maintain their residence in Abet. They claim that the expansion of cropping in Abet has increased the risk of crop damage by large herds. Their herds are taken in the wet season to an area about 200 km northeast of Abet where the pasture is reportedly better than in the grazing reserve.

The Bororo

In addition to the Kachichere Fulani, transhumant Fulani commonly known as “Bororo” also use Abet as a grazing area. A first group passes through Abet already in November, just before or during the sorghum and millet harvest, travelling from the Bauchi area (northeast Nigeria) southwards to dry-season pastures near Abuja. A second group arrives in Abet in January/February from the Sumeila area (south of Kano), after having harvested their crops there. Most of them move on to the Kafanchan area (30 km south of Abet) but a few stay on the Abet Plains for several months. The Bauchi group passes through Abet again on the homeward journey in April/May, and the Sumeila group in late May or early June. The herds walk about 20-30 km per day during 3-4 days per week. Most of these Bororo travel with the entire family, follow the same route each year, and some even camp on the same farmers' fields each dry season, unless abnormal circumstances such as the outbreak of cattle disease force them to make a detour from their normal pattern.
The animals kept by the Boror are generally in better condition than those kept by the settled Fulani. Their daily grazing period is longer, and the Boror are reputed to have greater knowledge in traditional veterinary care. The transhumant herds also have a somewhat different composition than the settled ones. Older oxen are kept as pack animals; retaining experienced lead animals also facilitates the herding of livestock on the move. By contrast, castrated animals are rare in settled herds.

The relations between the settled Kachichere Fulani and the transhumant Boror are ambivalent. The Kachichere occasionally buy animals from the Boror and some have married Boror women. On the other hand, the Boror are competitors in the marketing of milk and animals, and their presence pushes down prices, especially of milk. Moreover, the Kachichere fear that the Boror herds will bring animal disease into Abet.

In recent years some Boror have settled in Abet and further south. The close contact between the transhumant Boror and their settled relatives suggests that the division between different Fulani groups is not primarily between settled and transhumant, but rather between different lenyol.

**Relations between Pastoralists and Crop Farmers**

**Mutually Advantageous Interactions**

The main occupation of both indigenous ethnic groups, the Kaje and the Kamantan, is arable farming. However, they also hunt, collect sylvan produce (e.g. locustbeans, honey) and keep some pigs, goats, sheep, and poultry. As mentioned above, the settled Fulani have chosen to live mainly in areas with a relatively high percentage of land under crops. The Kaje and Kamantan have long accepted the presence of the Fulani, and recognise various advantages in it:

- **Trade relations.** The farmers can buy milk products and animals from the Fulani, in the event of large ceremonies. Most cattle are bought up by locally-based butchers, who slaughter a few animals in the village and sell meat on the local market, but trek or transport most of the cattle to large town or city markets, usually on behalf of other livestock traders. Some of the local butchers and livestock traders are themselves crop farmers. In addition, because few Fulani grow enough crops to meet the food needs of their families, the Fulani are welcome customers of the farmers for crop produce.

- **Labour exchange.** The Fulani often hire members of local farm families to cultivate crops, to build clay structures for crop storage and sometimes also to build more permanent houses. This offers the farmers additional sources of income. In addition, some farmers' sons work for several years as herd-
ers for the Fulani. The hired herders receive room and board plus a young bull every year or a heifer every two years. However, this practice is diminishing with the increase of school attendance by farmers' children. Only in seldom cases does a Fulani family in Abet take care of cattle or sheep owned by farmers.

- **Manure exchange.** The use of cattle manure to improve soil fertility is widespread in central Nigeria. For this purpose, cattle are camped overnight during the dry season and early wet season on farmers' fields. The Fulani receive payment in cash or kind; the price depends on the time of year (in the early wet season, the manure contains more nutrients than in the dry season), herd size, and supply and demand. Payment in kind includes cereals, thatching grass or temporary land-use rights.

  In Abet, cattle manure is highly valued for ginger growing. The demand for manure rises with the price of ginger. Many farmers deliberately seek good relations with their Fulani neighbours in order to secure access to manure for ginger growing. For example, they invite resident Fulani to bring their herds for the first grazing of harvested cereal fields, or they approach transhumant Fulani in the marketplace and invite them to camp on specific fields. Some farmers supply sorghum stalks as hut-building materials or even offer huts in their own compounds as temporary dry-season homes for the Fulani.

  Certain types of manure are required for specific purposes. In the Abet area, millet is normally raised in nurseries fertilised with a mixture of goat manure and ashes, and is then transplanted into ridged fields during the course of the early wet season, depending on rainfall and labour time. The Fulani have adopted this millet-growing practice but, because they seldom keep goats, they obtain this manure from neighbouring farmers. Thus, even some direct exchange of cattle manure for goat manure occurs.

- **Further advantages.** Some farmers pointed out that grazing by Fulani herds helps to keep down grass growth on fallow land near the villages and thus reduces the danger of bushfires in the dry season. An advantage of allowing Fulani to settle on fields temporarily not being cultivated by the farmers, often because of family labour shortage, is that less bush encroachment occurs. This means that, when the farmers decide to use the land again, the labour required for clearing is reduced. In addition, some farmwomen said they welcomed the Fulani's lopping of larger trees for browse, since they could then easily collect the defoliated branches as firewood.

  The indigenous farmers are willing to share their land with the Fulani in order to enjoy the above-mentioned advantages. To ensure that they can continue enjoying the advantages of keeping animals in the farming area, the Fulani men sometimes offer farmers small gifts of cattle manure or meat, while the Fulani women offer gifts of milk and butter to the farmwomen. The farm families respond with gifts of seed, millet transplants, goat manure
and bundles of unthreshed cereal at harvest time. A few Fulani have even married farmers’ daughters, regarding these family bonds as a means of ensuring longer-term rights to use land in the Abet area.

Conflicts and Competition

Conflicts over resource use fluctuate in intensity but are generally at a surprisingly low level, considering the great differences in agricultural specialisation between the farmers and the Fulani and the fact that the latter are an immigrant ethnic minority. Moreover, the crop farmers are mainly Christian, while the Fulani are Moslem.

The religious differences recently came to the forefront. Clashes throughout northern and central Nigeria between the Moslem Hausa and various Christianised ethnic groups also affected relations between the Fulani and farmers in the Abet case-study area, to the extent that many Fulani moved their cattle away from the settled areas during the height of bloodshed in the early wet season of 1992. However, the economic links between cropping and animal-keeping appear to be predominating over the religious differences, and the herds were brought back “home” in time for crop-residue grazing and dry-season manuring of fields.

Aside from this recent religious unrest, there have always been occasional conflicts directly related to use of natural resources, e.g. when the Fulani bring their herds to graze fallowland close to farmhouses where the farm families want to tether their goats. More frequent are the cases of crop damage. The herd owner generally has to pay compensation, except when a farmer has tried to provoke crop damage by planting beside or across a traditional cattle track. Nowadays payment is usually made in cash, but sometimes also in the form of manure for the farmers’ fields.

The tensions between the farmers and herders are generally greater in the wet than in the dry season. The farmers are more favourably disposed to transhumant Fulani who bring their herds to Abet only for dry-season grazing and who depart again when the land is cultivated. As cropping density has increased in Abet, so has the practice of short-distance transhumance during the growing season by Fulani settled in Abet, in an attempt to avoid crop damage by their cattle.

Most land-use conflicts can be solved relatively efficiently within the traditional structures, either directly by the farmers and herd owners concerned or through the mediation of the traditional leaders of the two groups. An analysis of land-use conflicts and court records revealed that crop damage by farmers’ pigs and goats was more frequent than damage by Fulani livestock and that most cases of crop damage—also those involving Fulani—were settled out of court (Van der Valk 1981).

Interventions from outside can severely undermine the relations between farmers and herders. For example, in the second half of the 1970s, the
Nigerian government promoted mineral fertiliser as an alternative to organic manure and subsidised the fertiliser as much as 75%. Some farmers (who did not grow ginger) thought that they need no longer tolerate Fulani presence. However, in a year when the fertiliser was scarce and arrived late and when the rains were somewhat shorter than normal, these farmers suffered yield losses of up to 60%, while the farmers who had maintained manure agreements with the Fulani achieved almost normal yields (J. M. Powell, personal communication, 1984). Even if mineral fertiliser were available, it cannot completely replace the use of livestock manure and other organic matter in cropping, which is essential for maintaining soil structure. Moreover, a combination of manure and mineral fertiliser can increase the efficiency of the latter. Misguided fertiliser policy in Nigeria has thus promoted inefficient use of local resources for soil fertility maintenance.

Also the creation of grazing reserves by the Nigerian government gave rise to strong opposition from indigenous farmers who had been promised compensation for their land. When the farmers who claimed traditional rights to land in the grazing reserve near Kurmin Biri did not receive compensation, tensions and hostilities arose between the farmers, on the one side, and the grazing reserve staff and the Fulani who had moved into the reserve, on the other side. Some Fulani from Abet who had contemplated moving to the reserve and had even begun to build huts there, then decided to remain in Abet at least until the land-use conflict in the reserve was resolved. Eventually, the government decided to shift the border of the grazing reserve to the north so as to exclude the contested land.

In Abet, the position of the Fulani is fairly clear: as long as they recognise the claims of the indigenous farmers to ownership of the land, they can negotiate rights to use the land at least temporarily without having to expend capital to purchase it, or labour to clear it. Moreover, they retain the flexibility to move herd and homestead whenever the need or desire arises. In view of the benefits which the farmers and the Fulani are gaining from each other, each group makes an effort to come to terms with the other. The Fulani may not have long-term security of tenure on free land (as promised but seldom realised by Nigeria's Grazing Reserve Law), but they and the indigenous landowners have at least evolved a system of relatively low-conflict and mutually beneficial co-existence.

In areas such as Abet, where Fulani have settled spontaneously amidst crop farmers and where the two groups have managed to maintain crop-livestock linkages despite misguided interventions, the land-use system functions to the advantage not only of both groups but also of the national economy. The (at least seasonal) spatial integration of crops and livestock means that animal production complements cropping, allowing more food to be produced per unit area of land than through either animal production or cropping alone. In addition, synergetic effects of integrating these two sectors are achieved through the use of manure for cropping and of crop residues for animal feed.
Such on the whole positive relations between farmers and herders are not restricted to Fulani, nor to Nigeria. Particularly the use of manure from pastoral herds on farmers' fields is reported from several countries in Africa, e.g. Sudan (Haaland 1977), Burkina Faso (Delgado 1979) and Côte d'Ivoire (Bernardet 1984, Schleich 1985). In Mali, farmers even have wells dug in their fields to attract pastoral herds (Toulmin 1992) and, also in Mali, Grayzel (1990) describes the negotiations between farmers and transhumant herders regarding use of crop residues. The sale of milk and milk products by Fulani women to local farmers is widespread in West Africa and reinforces the socioeconomic links between the different ethnic groups (see overview in Waters-Bayer 1988).

Implications for Development Projects

The history of Fulani cattle-keepers in Nigeria shows that good relations between farmers and herders are possible. It bears witness to the great adaptability of Fulani pastoralists to changing conditions and to their flexibility in shifting between more settled and more mobile forms of livestock-keeping. In part, this flexibility has been a response to changes in farming conditions, in an effort by the Fulani to gain the most advantages and avoid the greatest disadvantages of close interactions with farming communities. Conflicts between the two groups occur, but are often initiated or exacerbated by external influences.

The specific case of Abet illustrates that pastoralists can settle peacefully among arable farming communities and negotiate access to resources in a way that allows them to maintain flexibility in herd management.

Four major conclusions can be drawn from this study:

In research and policymaking for agricultural development, the advantages of integrating the use of land for grazing and cropping must be given more attention. In this connection, the advantages of combined use of manure and mineral fertiliser should be more greatly emphasised.

The traditional institutions for conflict management which have been developed by indigenous farming communities and immigrant pastoral groups are often incapable of dealing with government interventions such as fertiliser subsidies or externally imposed land-use regulations which aggravate conflicts between the two groups. Policymakers need much greater knowledge of existing resource-use agreements between farmers and herders, so that serious disturbances can be avoided and the local systems of sharing resources and resolving conflicts can be strengthened.

Development interventions must be designed so that the groups concerned can choose between different options and can integrate these into their production systems. Specifically in the case of grazing reserves, these should be conceived in such a way that cropping is possible and allowed. In
addition, the pastoralists themselves should decide whether they want to use the reserve year-round or only seasonally, and they should be able to change its use depending on prevailing climatic, socioeconomic and political conditions. In other words, the use of land resources should remain negotiable.

In planning agricultural projects, all groups using the local natural resources should be involved, and the consequences and risks of proposed changes should be discussed by all concerned. In projects designed for pastoralists, crop farmers should not be excluded. Similarly, in projects designed for crop farmers, pastoralists should not be excluded, if the proposed measures will affect pasture or other forage resources. It is the task of project planners to contact all groups concerned and to initiate discussions between them, with a view to both peaceful negotiation and joint planning of changes in resource use.

_Göttingen, 1993._

**REFERENCES**

AZARYA V.

BERNARDET P.

BOURN, D., MILLIGAN, K. & WINT, W.

DELGADO, C. L.

FEDERAL MINISTRY OF AGRICULTURE (FMA)

FRICKE, W.
Grayzel, J. A.

Haaland, G.

Hopen, C. E.

Netting, R. McC.

Otchere, E. O.

Powell, J. M. & Taylor-Powell, E.

Putt, N. et al.

Schleich, K.
1985 *Ansätze zur Integration von Ackerbau und Viehhaltung in der Savanne Westafrikas* (Gießen: Zentrum für regionale Entwicklungsforschung).

St Croix, F. W. de

Stenning, D. J.

Tiffen M.

Toulmin, C.

Van der Valk, P.
Van Raay, H. G. T.
1975  *Rural Planning in a Savanna Region* (Rotterdam: Rotterdam University Press).

Waters-Bayer, A.

Waters-Bayer, A. & Taylor-Powell, E.